dimension

500-677

DIMENSION® 100/400 PBX
ADMINISTRATION AND MAINTENANCE

Volume 1

SYSTEM ADMINISTRATION AND MAINTENANCE PROCEDURES

WESTERN ELECTRIC - DENVER

The Sounds of Dimension

	Dial Tone
	Recall Dial Tone
	Ring
	Special Ring
	Busy
	Reorder
	Intercept
	Confirmation
	Distinctive Rings & Tones
	Station Call
	Outside or Attendant
	Automatic Callback Call Outgoing Trunk Queuing Priority Call
	Executive Override
	This Book Belongs to Station:

HOW TO USE THE SPECIAL CALLING FEATURES

WHAT TO DO WHEN YOU:	SPECIAL SERVICE
are leaving your desk or do not want to be disturbed	Call *Forwarding* All Calls
want your phone answered when it is busy or not answered	Call *Forwarding* Busy & Don't Answer
encounter a busy signal	Call Waiting Originating or Automatic Callback Calling
are on the phone and get another call	Call Waiting Terminating
want to answer another telephone within your group	Call *Pick-Up*
need to transfer a call	Transfer
want to consult with a party	Conference
want to add another party to your call	Threeway
misdial on Outgoing Trunk Queing	Retry Code
need to hold a call	Call *Hold*
want to answer another call when the console is in night mode	Trunk Answer Any Station
want to override an existing telephone conversation	Executive Override

Call Waiting/Terminating
If you are talking on a call, a spurt(s) of tone will alert you that another call is waiting. The person calling you will hear a special ring until you answer.

1 spurt of tone:
Another station is calling.
2 spurts of tone:
A caller from outside your company or the attendant is calling.
3 spurts of tone:
A priority call is waiting.

When you hear the tone(s):
1. Conclude conversation and hang up.
2. Wait for your phone to ring.
3. Answer; you're connected to the waiting caller.

If you don't want to conclude the first call:
1. Depress receiver button (first party is temporarily excluded).
2. Hear recall dial tone.
3. Dial answer hold code *3.
Answer immediately.
When conversation ends:
4. Hang up. Wait for your phone to ring.
5. Answer and continue first conversation.

If after answering the second call, you want to continue this conversation and end the first one:
1. Depress receiver button.
Hear recall dial tone.
2. Dial answer hold code *3.
You are reconnected to the first party.
3. Conclude conversation.
4. Hang up. Wait for your phone to ring.
5. Answer and continue conversation with the second party.

If you encounter intercept tone, the calling party has hung up. Depress the receiver button, you're reconnected to the original party.

Outgoing Trunk Queuing
Allows your call to be placed in "Queue" if all outgoing trunks are busy. A Queue is a line of calls waiting to be completed.
If you dial the access code for an outgoing call, and all trunks are busy, you will:
1. Hear confirmation tone.
2. Hang up *within five* seconds.
Your call is in Queue.
If you *do not* wish to place your call in Queue, *wait five seconds* before hanging up.
When a trunk is available, your phone will ring three short rings:
1. Lift receiver within 15 seconds.
Hear dial tone.
2. Dial phone number. (Do not dial the Access Code)

If an error is made before you. finish dialing the phone number:
1. Depress receiver button.
Hear recall dial tone.
2. Dial retry code ✱6.
Hear dial tone.
3. Dial number.
To cancel a call in Queue:
1. Hear dial tone.
2. Dial deactivate code ✱0.
Hear confirmation tone.
3. Hang up.

If you encounter:
Reorder
All trunks are busy and the Queue is full — try later.
Intercept
You have dialed an incorrect access code.

Call Hold
Enables you to hold a call and if desired, use your phone while the call is being held.
To place a caller on *Hold* (while looking up information):
1. Depress receiver button.
Hear recall dial tone.
2. Dial call hold ✱4.
3. Lay receiver down (dial tone will stop after four seconds).

To return to held party:
1. Hang up.
2. Wait for your phone to ring.
3. Answer phone and continue conversation.

To put the first party on *Hold* and dial a second party:
1. Depress receiver button.
Hear recall dial tone.
2. Dial call hold ✱4.
Hear dial tone.
3. Immediately dial number.

To alternate between parties:
1. Ask second party to wait.
2. Depress receiver button.
Hear recall dial tone.
3. Dial call hold ✱4.
4. Connection is reestablished with first party.

You can alternate between parties as often as necessary.
To end either call:
1. Complete conversation.
2. Hang up.
3. Wait for your phone to ring.
4. Answer and begin talking with held party.

Feature Access Codes

*9	Automatic Callback Calling
*0	Deactivate
	Call Forwarding
#2	All Calls
#8	Busy and Don't Answer
#0	Deactivate
*4	Call Hold
*7	Call Pickup
	Call Waiting
*1	Originating
*3	Terminating
*2	Executive Override
	Outgoing Trunk Queuing
*0	Deactivate
*6	Retry
*8	Trunk Answer Any Station

Michigan Bell

Forwarding

Call Forwarding
The procedure to activate *Call Forwarding-All Calls and Call Forwarding-Busy and Don't Answer* is the same with the exception of the access codes.

All Calls
Enables you to route all of your calls to another telephone within the Dimension system.
ACCESS CODE #2.
Deactivate #0.

Busy And Don't Answer
Routes your calls to another telephone within the Dimension system, only if your line is busy or not answered within ___ rings.
ACCESS CODE #8.
Deactivate #0.

1. Hear dial tone.
2. Dial appropriate *Call Forwarding code.*
Hear dial tone.
3. Dial station number where your calls are to be forwarded.
4. Hear confirmation tone.
5. Hang up.

To cancel *Call Forwarding:*
1. Hear dial tone.
2. Dial deactivate code.
Hear confirmation tone.
3. Hang up.

Activating *Call Forwarding* while you have a call in progress:
1. Depress receiver button.
Hear recall dial tone.
2. Dial appropriate *Call Forwarding code.*
Hear dial tone.
3. Dial station number where your calls are to be forwarded.
4. Hear confirmation tone.
5. Hang up.
6. Wait for your phone to ring.
7. Answer and continue conversation with held party.

If you encounter intercept tone:
after calling the Call Forwarding code, you have already forwarded your calls, or your telephone is not equipped with call forwarding.

after dialing the station number, you have reached a telephone that has another feature in use, and your calls cannot be forwarded at this time.

When call forwarding is activated, you can still use your phone to make outgoing calls. Your phone will "ping" each time a call is forwarded.

Transfer

Threeway Conference Transfer
Lets you transfer an incoming, intra-company, or outgoing call to another telephone.

1. Depress receiver button.
Hear recall dial tone.
2. Dial number.
3. Announce call; first party is excluded.
4. Hang up.

If you encounter no answer,
reorder,
intercept,
busy:
Depress the receiver button once; you will be reconnected to the first party. If the consulted party is not on the Dimension system, depress the receiver button twice.

Pickup

Call Pickup
Lets you answer other telephones within your "pickup" group.

1. Lift your receiver and listen for dial tone.
2. Dial call pickup code *7.
3. Answer immediately and identify yourself.

If you have a conversation in progress and you wish to answer a call in your pickup group:

1. Depress receiver button.
Hear recall dial tone.
(First party is excluded.)
2. Dial call pickup code *7.
The call is transferred to your line.
3. Identify yourself and handle as required.
4. Hang up.
5. Wait for your phone to ring.
6. Answer and continue first conversation.

If you encounter
busy,
intercept:
Depress the receiver button once; you'll be reconnected to the first party.

Automatic Callback Calling

Automatic Callback Calling
When the station you are calling is busy, you are automatically called back when that station becomes available.

1. Hear busy tone.
Hang up.
2. Lift receiver.

Hear dial tone.
3. Dial automatic callback code *9.

4. Hear dial tone.
5. Dial station number.

Hear confirmation tone.
6. Hang up.

1. Hear special ring.
The called party has been signaled.
2. Wait for answer.

When the number you are calling is available, you will hear three short rings. As soon as you answer your phone, the telephone you are calling will start to ring.

To cancel Automatic Callback Calling:

1. Lift receiver.
Hear dial tone.
2. Dial deactivate code *0.

3. Hear confirmation tone.
4. Hang up.

Conference

Threeway Conference Transfer
Lets you temporarily exclude a person while you call and confer with another person.
1. Depress receiver button.
Hear recall dial tone.
2. Dial person you want to confer with.
Party answers; first party is excluded.
3. Consult privately.
Consulted party hangs up.
4. Continue conversation with first party. (You're reconnected automatically if the consulted party is within the Dimension system.)

If the party you consulted with is not on the Dimension system, depress the receiver button, and you'll be reconnected to the first party.

If you encounter no answer,
reorder,
intercept,
busy:
Depress the receiver button once; you will be reconnected to the first party. If the consulted party is not on the Dimension system, depress the receiver button twice.

Threeway

Threeway Conference Transfer
Lets you add a third party to an existing call.
1. Depress receiver button.
Hear recall dial tone.
2. Dial number.
Party answers; first party is excluded.
3. Announce call.
4. Depress receiver button.
5. Begin *Threeway* conversation.

If you encounter no answer,
reorder,
intercept,
busy:
Depress the receiver button once; you will be reconnected to the first party. If the consulted party is not on the Dimension system, depress the receiver button twice.

Telephone Trouble

Telephone Trouble
To report telephone trouble:
1. Hear dial tone.
2. Dial 0.
Give your name, location, station number and a brief description of the trouble.

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DIMENSION® 100/400 PBX
ADMINISTRATION AND MAINTENANCE

Volume 1

SYSTEM ADMINISTRATION AND MAINTENANCE PROCEDURES

THIS VOLUME REPLACES PREVIOUS VOLUME 500-376 AND ADDENDA 500-972 AND 500-396

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PREFACE

This manual has been prepared as a job aid for use with the DIMENSION® 100/400 PBX. It is directed at experienced craftspersons, and is intended to supplement existing BSPs and TOPs. Current information is included for Feature Packages 1, 2, 3, 4, 5, 10, and 15. This information will be updated and reissued as future changes warrant.

The material is presented in two volumes:

Volume 1. System Administration and Maintenance Procedures contains the instructions necessary for running and interpreting procedures via the Maintenance and Administration Panel (MAAP) and for using the Alarm Panel.

Volume 2. Maintenance Support Information covers other areas of the equipment such as test points, wiring data, and power, and includes references to other documents used in maintaining the system.

Section 1

INTRODUCTION

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1. PURPOSE

The information contained in this document has been prepared for the experienced DIMENSION® 100/400 PBX craft personnel who are responsible for adding, removing, or changing service features at customer request (these operations are referred to as administrative procedures) and for isolating faults (maintenance procedures). As the first volume in a 2-volume set planned for the administration and maintenance of the system, this volume tells craft personnel how to:

- Interrogate the DIMENSION 100/400 PBX translation memory.
- Add, change, or remove translation data from memory.
- Write translation memory data onto the program tape.
- Execute maintenance procedures stored on the program tape or run the microdiagnostic tests.
- Respond to Maintenance and Administration Panel (MAAP) and Alarm Panel error indications.

2. ORGANIZATION

The information presented in Volume 1 and Volume 2 is organized into the following sections as summarized below.

Volume 1

Section 1 explains the purpose of the manual and the organization of material presented. It also contains a brief system overview introducing the main functions and feature packages available.

Section 2 begins with a brief description of the flip charts and controls and indicators available on the MAAP. Generalized operating procedures and guidelines for administering customer services, features, and restrictions follow. Corrective actions for any error response also are included.

Section 3 contains a description of each administrative procedure that can be run via the MAAP. Each description includes the purpose of the procedure, encode requirements for the translation data, and instructions and explanatory information to help the craftsperson call in and execute the procedure. An itemized list of the administrative procedures and their applicability to each feature package is included.

Section 4 begins with a brief description of the controls and indicators on the Alarm Panel. Instructions for running the microdiagnostic tests and for responding to a "fail" indication are included. Each maintenance procedure that is accessible via the MAAP is described together with the test procedure for the multibutton electronic telephone set. Each description includes the purpose of the procedure, encode requirements for initiating a test and interpreting results, an explanation of what each test does, and instructions and repair guidelines for isolating faults to the circuit pack level.

Volume 2

Section 5 contains line diagrams with callouts identifying the various equipment of the system. The figures show the location of connectors, fuses, option switches, etc, which are applicable to that particular piece of equipment. The location of all circuit packs are shown in tabular form on the same page as the carrier.

Section 6 contains information on system testing by means of test points, test jacks, and indicators (LEDs) located on the front, or faceplate, of the various circuit packs with a description of, and procedures for using, these aids.

Section 7 contains wiring and cabling diagrams designed to illustrate specific circuits and interfaces. These diagrams are arranged functionally and combine various elements of the SDs, CDs and EDs to show the key elements of a particular circuit.

Section 8 begins with a synopsis of the power system description. The power supply, fuses, and circuit breakers are presented in detail in this section.

Section 9 contains references to all other applicable documents such as J-drawings, SDs, CDs, and BSPs. Also included is a list of available operating/maintenance publications for commercial equipment used.

Section 10 contains a physical and functional description of the system.

3. SYSTEM OVERVIEW

The DIMENSION 100/400 PBX is an electronic switching system that uses stored program control and time division switching for call processing and system diagnostics. The actual number of lines and trunks for a particular installation is a function of the hardware configuration (memory size, and number of line and trunk circuits) supplied to the customer.

The basic equipment cabinet is divided into carriers. Each DIMENSION 100/400 PBX consists of line carriers, trunk carriers, and control carriers. Each carrier houses plug-in circuit packs that use solid-state electronics for system control and network implementation. Additional system equipment is described below:

- A minirecorder and program tape (tape cartridge) for backup storage of the call processing (generic) program and the customer translation information.
- Maintenance and Administration Panel (MAAP) for administering customer services, features, and restrictions and for running maintenance procedures.
- An Alarm Panel for system monitoring and maintenance functions such as running microdiagnostics.
- Special hardware for certain features, eg, Station Message Detail Recording (SMDR) and DIMENSION PBX Electronic Custom Telephone Service (ECTS).

The system achieves a high degree of flexibility through the modularity of the hardware and the use of stored program control. This later technique permits the tailoring of services and features to meet the needs of a business customer. Once these features have been specified on the program tape (which contains the translation information for features ordered by the customer) and the necessary hardware is installed, each feature can be selectively enabled to meet specific requirements as needed.

4. FEATURE PACKAGES

Various combinations of services and features have been developed to produce a comprehensive line of feature packages (see Fig. 1-1). Each feature package contains:

- Features and services common (or standard) to all feature packages.
- Features and services that are oriented to specific business applications.

As shown in Fig. 1-1, feature packages have been developed from a common starting point of standard features available to all machines. These features are incorporated into Feature Package 1 along with additional features to create the minimum software package available to a customer.

Feature Package 2 is considered to be the basic configuration and building block of the DIMENSION 100/400 PBX. It contains the features from Feature Package 1 plus other features for the general PBX user. Included, for example, are additional attendant functions, verification capabilities, and access to a wide range of communications facilities such as tie trunks and common control switching arrangements.

The remaining feature packages are developed using various combinations of Feature Package 2 with other features designed for particular business applications. Thus, for hotel/motel, selected features from Feature Package 2 are combined with others made for that particular application. Similarly, all of the features from Feature Package 2 are combined with various custom features in building Feature Packages 4 and 5. For Feature Package 10, all of Feature Package 4 is used together with features such as centralized attendant service and direct department calling that are applicable to a retail business application. Feature Package 15 combines the merits of retail features with intercity and ECTS features that are offered in Feature Packages 10 and 5. Additional hardware is required with Feature Package 15 (eg, Trunk Control Carrier-J58879CC, CAP and MAAP interface ABC-1, 64K memory circuit packs LC366, etc).

A list of all the DIMENSION 100/400 PBX features, procedures, and the feature packages to which they apply is given in Section 2 (see Tables 2-1 and 2-2). In addition, the indexes of administrative and maintenance procedures in Sections 3 and 4 show the relationship of individual procedures to all available feature packages.

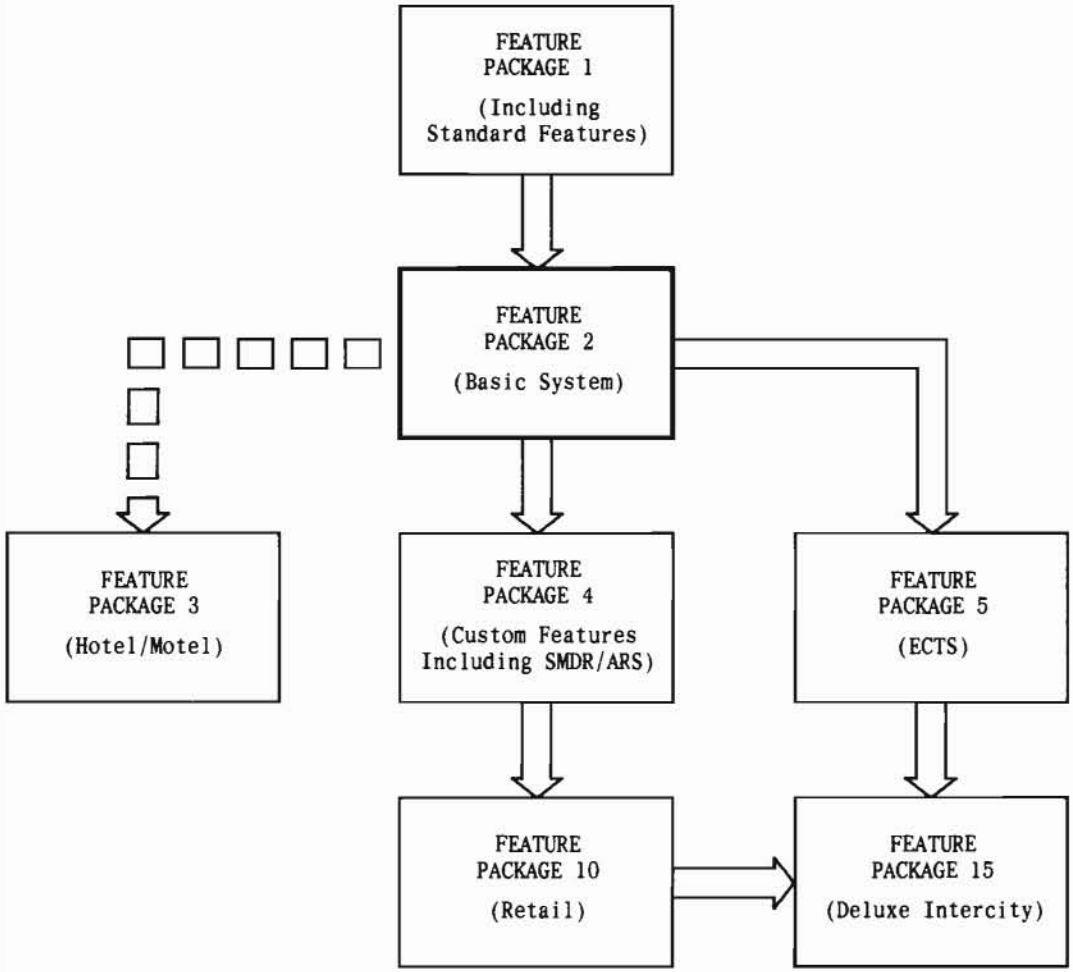

Fig. 1-1 - Feature Package Overview

Section 2

MAAP FUNCTIONS AND SYSTEM ADMINISTRATION

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2 MAAP FUNCTIONS AND SYSTEM ADMINISTRATION

1. INTRODUCTION

For the craftsperson, two of the more important differences between the DIMENSION 100/400 PBX and electromechanical PBXs are the procedures used for administration and maintenance.

Administration

In the DIMENSION 100/400 PBX, nearly all customer services, features, and restrictions are made active with changes to translation memory (limited, of course, by what is available in program memory). This has two effects:

- The same piece of hardware can be used in several ways. For instance, either or both trunk circuits on LC08 can be used as a 1-way in, 1-way out, or 2-way central office (CO) trunk depending only on the encode assigned to the equipment location of that LC08. (An encode is a number that indicates which features, trunk types, etc, assign a particular item, eg, line, trunk.)
- There are no option blocks in the system. Instead, the assignment of an extension line number to a line class of service, the features and restrictions making up a particular line class of service, the function of the various buttons on the attendant console and multibutton electronic telephones, the dialing plan, and other customer features are done by changing translation memory.

The craftsperson can use the Maintenance and Administration Panel (MAAP) shown in Figure 2-1 to display what is in translation memory (ie, find out what features, service, etc, are assigned) as well as make changes in response to customer requests.

Maintenance

With the DIMENSION 100/400 PBX, the trouble analyzing methods used are machine-aided. It is not possible to watch relays operate, make dc continuity checks, or trace circuits in the usual manner. Instead, the craftsperson can use the MAAP to run diagnostic programs that enable the craftsperson to "see" the state of the system and gather the information needed for isolation of faults.

The MAAP contains a 12-button data entry pad, three rows of control keys, indicators for alarm and operational status, a MAAP display (digital readout), and a set of flip charts.

RMATS-1 provides the capability to remotely administer nearly all DIMENSION 100/400 PBX features and restrictions. The system provides the capability to perform maintenance polling which automatically records alarms (trouble conditions) at the PBX. ***NOTE:*** When maintenance polling indicates a MJ or MN alarm and PROC 66 at the RMATS center displays no alarm condition, the probable cause is a blown fuse or over-temperature condition. These trouble conditions can be verified and analyzed, and corrective action, in many cases, can be accomplished without dispatching a craftsperson to the PBX site. Traffic polling schedules may be established and automatic polling thereafter conducted without the use of traffic measurement equipment at the PBX. Data collected from the PBX is summarized and made available in a variety of reports. Further reduction of the traffic data is not necessary, althouth raw data can be made available for external processing if desired.

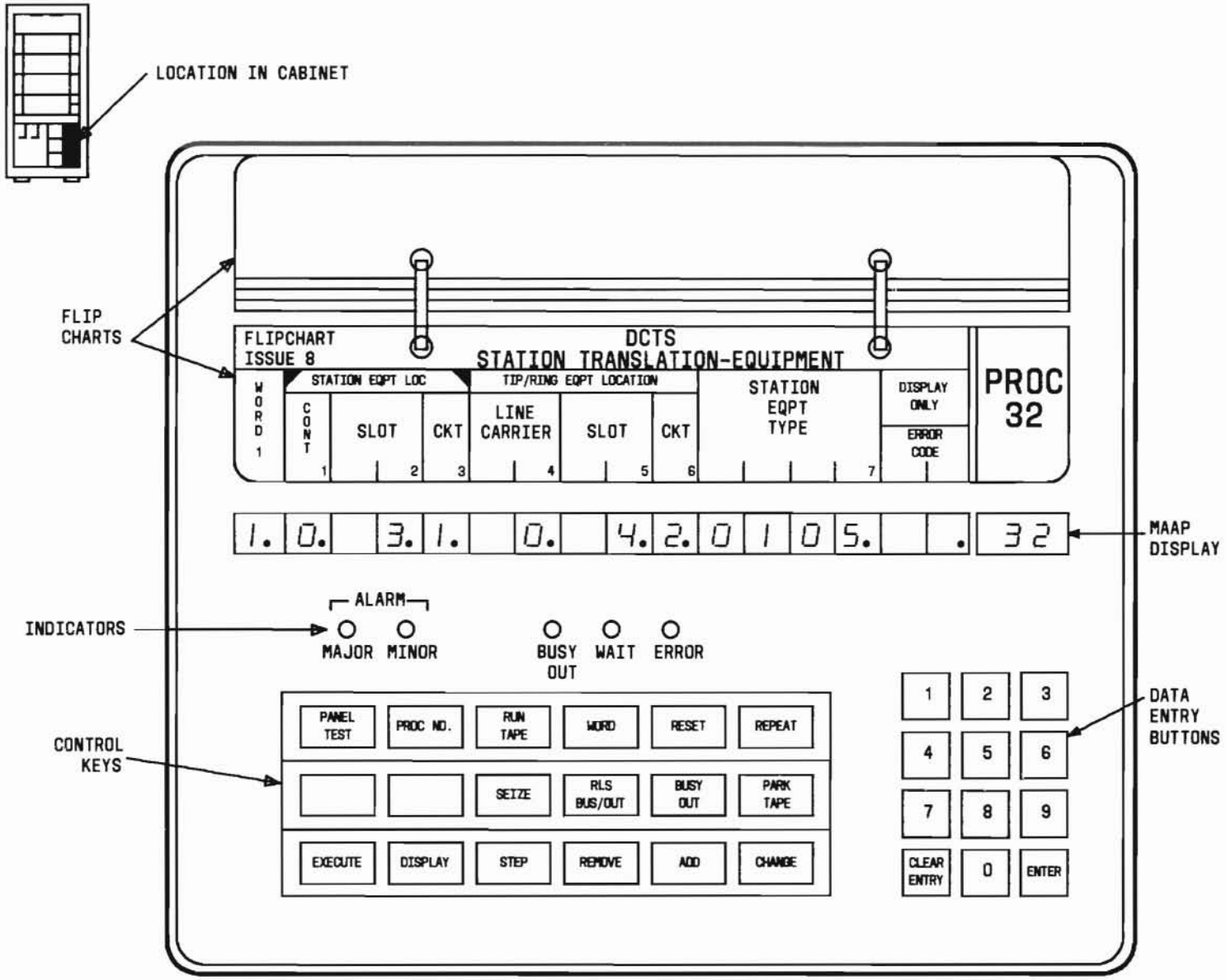


Figure 2-1. Maintenance and Administration Panel (MAAP)

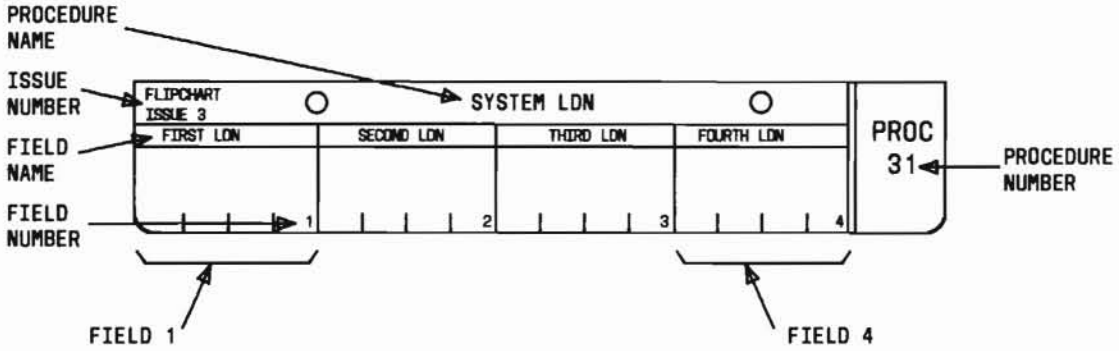
2. MAAP FLIP CHARTS

Each administrative and maintenance procedure contained on the program tape and accessible via the MAAP is represented by one or more flip charts (Figure 2-2). Each flip chart is used to:

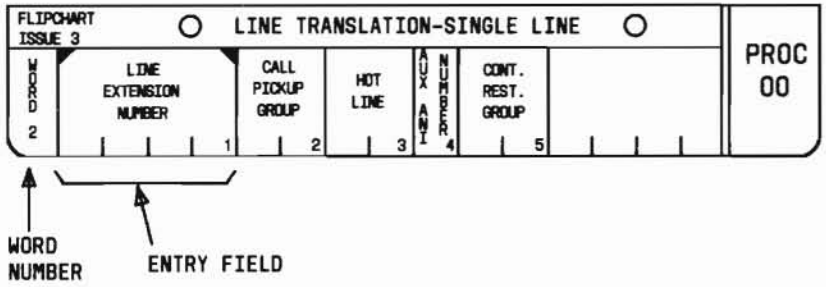
- Determine the information that must be entered for a particular procedure.
- Interpret a 16-digit data display provided by a particular procedure.

As shown in Figure 2-2a through c, flip charts are identified by the function of the procedure (procedure name) and a 2-digit procedure (PROC) number from 00 through 99. The 16-digit data portion of each flip chart is segmented into a number of fields. Each field is identified by a number and/or a name. Unless a field is specified for display purposes only, data can also be entered into the field.

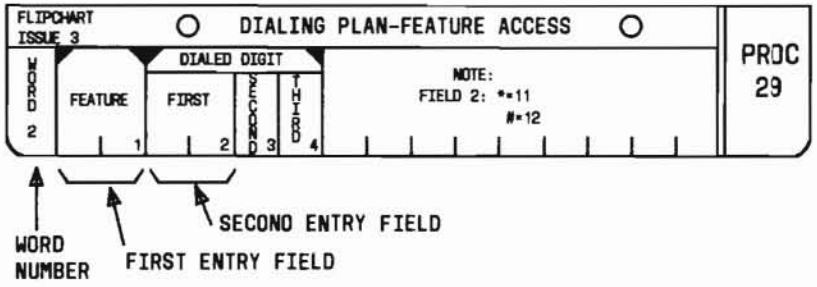
A procedure may encompass one or more flip charts. Figure 2-2a is an example of a single flip chart (or word) procedure. Note that field 1 is the left-most segment. For those procedures requiring two



a. Single Word Procedure, No Entry Fields



b. Multiword Procedure, Single Entry Field



c. Multiword Procedure, Multientry Fields

Figure 2-2. Typical Flip Charts

or more flip charts, an additional identifier is provided – the word number. As shown in Figure 2-2b and c, the first segment of a multiword procedure flip chart is reserved for the word number; field 1 immediately follows the word number.

When performing an administrative task, it may be necessary to interrogate the system to acquire certain translation data. For example, you may want to determine the call pickup group associated with a particular line. You do this by:

- Calling in Procedure 00, Word 2 (Figure 2-2b).
- Entering the line extension number in field 1.
- Performing a display operation that causes the system to read a line translation table and display the associated translation data.

Because the Line Extension Number field is used to enter the table, it is called an "entry field." Note that black triangles mark the beginning and end of an entry field. As shown in Figure 2-2c, a flip chart may contain more than one entry field. In this example, the dialing plan feature access table may be entered using either entry field.

Each flip chart also contains an issue number in the upper left corner (see Figure 2-2a). As new features are made available, new flip charts are designed and/or existing flip charts are modified to accommodate the new features. The new and modified flip charts are assigned the next highest issue number. Do not worry if the flip charts on your MAAP have a lower issue number than those in this manual. If they differ, remember:

- The ERROR lamp will come on if you try to call in a procedure that applies to a feature not installed in your machine.
- For those procedures that have limited applicability to your machine, dashes will appear in any field that applies to a feature not installed in your machine.

The feature package that has been installed as well as the memory size is indicated on the tape cartridge label (Figure 2-3). The software comprising a feature package is contained on the program tape under change control. When changes are made to the software, a new tape is generated and identified to indicate the revision level of the feature package. The following example illustrates how a Feature Package 2 tape is identified through successive software changes.

Revision Level	Tape ID
Issue 1 (basic software)	PG1E002-1
Issue 1 plus first change	PG1E002-1.1
Issue 1 plus first and second changes	PG1E002-1.2
Issue 2 (new software incorporating Issue 1 and all of its changes)	PG1E002-2
Issue 3 (new software incorporating Issue 2 and all its changes)	PG1E002-3

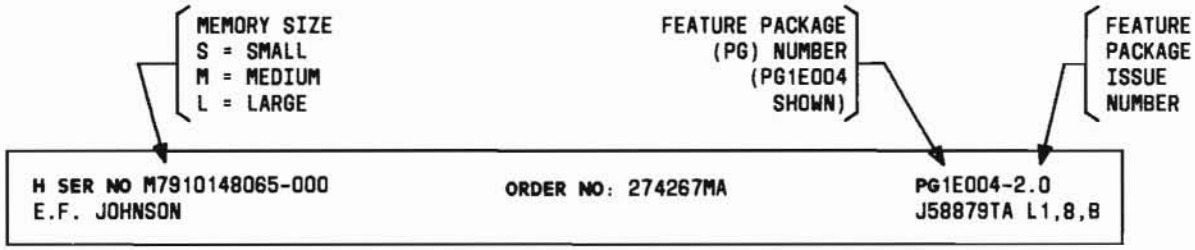
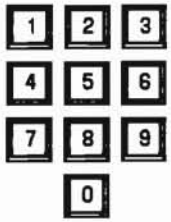


Figure 2-3. Tape Cartridge Label

3. MAAP CONTROL AND INDICATOR FUNCTIONS

A. DATA ENTRY BUTTONS



Use the pushbutton dial (TOUCH-TONE® dialing pad) to "dial" the procedure you wish to call in or the number you wish to enter into a particular field. When a button is depressed, the corresponding digit appears in the appropriate segment (field) of the MAAP display. For a multidigit field, when a button is depressed, the digit appears on the right-most position of the field. As additional buttons are depressed, the digits are automatically shifted to the left.

ENTER

Use this button to tell the program that all digits have been dialed into a field. Depressing this button also lets you dial data into the next field to the right without having to do anything else.

CLEAR ENTRY

Use this button to:

- Correct a dialing error before the ENTER button is depressed.
- Blank a field.

B. CONTROL KEYS

PANEL TEST

Unassigned.

PROC NO.

Use this key along with the pushbutton dial and ENTER button to call in a procedure. When a multiword procedure is called in, Word 1 is automatically called in first.

RUN TAPE

Use this key to copy the contents of translation memory onto tape.

NOTES:

1. After all translation changes have been made, the translation memory data must be copied onto all tapes.
2. The RUN TAPE key must be followed by the EXECUTE key in all Feature Packages, except FP1, Issue 1; FP2, Issue 2; FP3, Issue 1; where only the RUN TAPE key needs to be depressed.

WORD

For multiword procedures, use this key along with the pushbutton dial to call in a word other than the displayed word.

RESET

Use this key:

- For administrative procedures, to start the procedure over again.
- For maintenance procedures, to
  - Clear the fault software record.
  - Turn off alarm indicators.
  - Return display to original display (Procedures 61 and 62 only).

REPEAT

Unassigned.

SEIZE

Unassigned.

RLS BUS/OUT

Use this key with Procedures 54 and 70 to return a selected busied-out trunk or line to service.

BUSY OUT

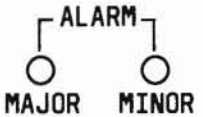
Use this key with Procedures 54 and 70 to busy out a selected trunk or line.

PARK TAPE

Use this key with the EXECUTE key to rewind the tape to load point. (Replaces SEARCH key starting with Feature Package 2, Issue 1.11.)

EXECUTE	Use this key to initiate an administrative action (ie, add, change, remove, or display translation memory), to begin a test (maintenance procedure), to initiate RUN TAPE (except in FP1, Issue 1; FP2, Issue 2; FP3, Issue 1) or to initiate PARK TAPE.
DISPLAY	Use this key along with the EXECUTE key to display data for a particular procedure and word, if applicable, stored in translation memory. The data is displayed in the 16-digit segment of the MAAP display.
STEP	Use this key to advance certain diagnostic programs to the next test or display.
REMOVE	Use this key along with the EXECUTE key to remove the displayed data from translation memory. Be sure to check the procedure description (Section 3) before using this key.
ADD	Use this key along with the EXECUTE key to add the displayed data to translation memory. Make sure that all applicable data fields either contain data or are blank. Dashes are not acceptable.
CHANGE	Use this key along with the pushbutton dial and the ENTER button to access a field. The accessed field will be blanked.

C. INDICATORS



The MAJOR and MINOR ALARM lamps are in parallel with the MAJOR and MINOR ALARM lamps on the alarm panel.

The MAJOR ALARM lamp comes on along with another fault indicator on the Alarm Panel when a machine failure prevents call processing, removes a significant number of stations from service, or removes a basic feature (eg, dial tone).

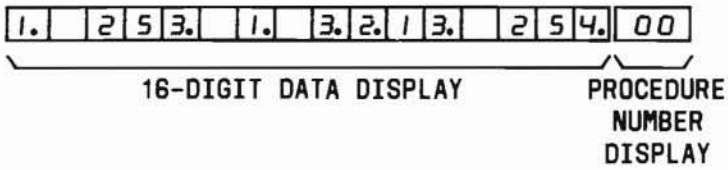
The MINOR ALARM lamp comes on along with another fault indicator on the Alarm Panel when a fault occurs that would prevent calls from being completed by a limited number of stations, when several trunks fail, or when machine features that could affect all stations are lost.

BUSY OUT — This lamp comes on when a line or trunk has been busied out.

WAIT — This lamp comes on to indicate that a procedure is being called in (tape is running), a diagnostic test is being run, or an administrative procedure has not been completed.

ERROR — This lamp comes on to indicate that control keys were depressed in an improper sequence, erroneous data (ie, dashes, out-of-limit encodes, blank data fields) was entered, or an illegal operation (eg, adding an extension already in translation memory) was attempted.

D. MAAP DISPLAY



The MAAP display shows the number of the procedure currently being run and the memory translation data that is associated with that procedure (administrative procedures) or diagnostic information for a particular test (maintenance procedures). Decimal points are used in the 16-digit display as field delimiters.

4. HOW TO USE THE MAAP

A. CONNECT THE MAAP AND CALL IN A PROCEDURE

(1) If the MAAP is plugged in, go to Step (4). Otherwise, go to Step (2).

(2) Carefully remove the MAAP from the storage compartment in the lower right corner of Cabinet 0.

(3) Plug the MAAP cable into the MAAP CONN C22 receptacle.

> ***NOTE:***
>
> The most likely display at this point will be all zeros, and the BUSY OUT, WAIT, and ERROR lamps will be on and all decimal points will be displayed. However, do not worry if a different display comes up.

(4) Turn the flip charts to the procedure number and word, if applicable, to be used.

(5) Depress the PROC NO. key. The procedure number fields will go blank, and dashes will appear in the data fields.

(6) Dial the procedure number. Both digits must be dialed.

(7) Depress the ENTER button. The WAIT lamp will come on. If it flashes and the ERROR lamp comes on, the procedure is not on the tape. (Refer to Administrative Procedure Index, Section 3, for the correlation between feature package and procedure availability.)

(8) After the WAIT lamp has gone off, the decimal points showing the field limits will appear. The procedure is ready to be used.

> ***NOTE:***
>
> While performing a display, add, remove, or change operation, consult Section 3 (Administrative Procedures) or Section 4 (Maintenance Procedures) to:
>
> - Determine the coding requirements for a particular procedure.
> - Interpret a MAAP display.
> - Determine the exceptions and limitations to the generalized operating procedures given in this section.

B. DISPLAY A WORD

(1) Call in the procedure and word, if applicable, to be used.

> ***NOTE:***
>
> For multiword procedures, Word 1 is automatically called in first.

(2) If the procedure and word need entry field data, go to Step (3). Otherwise, go to Step (6).

(3) If the procedure and word contain more than one entry field, go to Step (4). Otherwise go to Step (5).

(4) Depress the CLEAR ENTRY then the ENTER button until all fields to the left of the desired entry fields are blank.

(5) Dial the data for the entry field, then depress the ENTER button.

(6) If you called in an administrative procedure, go to Step (7). Otherwise, go to Step (8).

(7) Depress the DISPLAY then the EXECUTE keys.

(8) The selected word is displayed and ready for use.

NOTES:

1. If you are using any of the non-ECTS procedures listed below, you can depress the DISPLAY then EXECUTE keys repeatedly to display all the data.

Procedure	Word	Procedure	Word
00	3	43	All
04	2	44	2
05	3	45	All
06	4	46	–
19	2	84	All
20	–	87	2,3
25	2	88	2
30	–		

2. If you are using any of the ECTS procedures listed below, you can depress the DISPLAY and EXECUTE keys to obtain the first display and then the EXECUTE key repeatedly to display the remaining data.

Procedure	Word	Procedure	Word
32	2,4,5	37	–
33	All	38	–
35	All	39	1,2
36	–	40	1,3

C. CALL IN ANOTHER WORD OF THE SAME PROCEDURE

(1) Turn the flip charts to the desired word.

(2) Depress the WORD key.

(3) Dial the word number.

(4) Dashes will appear in the data fields and the decimal points showing the field limits will appear. The word is ready to be used.

D. ADD A WORD TO TRANSLATION MEMORY

(1) Call in the procedure and word, if applicable, to be used.

(2) If you are using a procedure listed below, go to Step (7). Otherwise, go to Step (3).

Procedure	Word	Procedure	Word
00	1	25	2
04	3	30	–
05	2,4	35	3
13	–	38	–
16	–	40	2
21	3	83	1,5
22	1,3		

(3) Display the word.

(4) Depress the CHANGE key.

(5) Dial the number of the first field to be added. On the flip chart, the field number is in the lower right corner of the field (Figure 2-2a).

(6) Depress the ENTER button.

(7) Dial the data for the first data field, then depress the ENTER button.

(8) Dial the data for the next data field, then depress the ENTER button. (Notice that depressing the ENTER button lets you dial data into the next field to the right without having to do anything else.)

(9) If there is more data to be entered, go to Step (8). Otherwise, go to Step (10).

(10) If any data fields to the right of the last entry contain dashes, go to Step (11). Otherwise, go to Step (12).

(11) Depress CLEAR ENTRY then the ENTER keys. Go to Step (10).

(12) Check to make sure all entries are correct.

(13) If you are using a procedure listed below, go to Step (14). Otherwise, go to Step (15).

Procedure	Word
00	1
10	–
11	–
22	2
29	1,2,3

(14) Depress the REMOVE then the EXECUTE keys.

(15) Depress the ADD then the EXECUTE keys.

> ***NOTE:***
>
> If you need to do another add operation using the same procedure and word, you can go directly to Step (2) after having depressed the EXECUTE key.

E. CHANGE DATA IN A FIELD(S)

(1) Display the procedure and word, if applicable, to be changed.

(2) If field 1 is to be changed, go to Step (6). Otherwise, go to Step (3).

(3) Depress the CHANGE key.

(4) Dial the number of the field to be changed. On the flip chart, the field number is in the lower right corner of the field (Figure 2-2a).

(5) Depress the ENTER button. The field goes blank.

(6) Dial the new data, then depress the ENTER button.

(7) If you need to change field, go to Step (8). Otherwise, go to Step (9).

(8) If you are to change the adjacent field, go to Step (6). Otherwise, go to Step (3), or repeatedly depress the ENTER button to access the nonadjacent field to be changed; then go to Step (6).

(9) If you are using an administrative procedure, go to Step (10). Otherwise, go to Step (13).

(10) If you are using a procedure listed below, go to Step (11). Otherwise, go to Step (12).

Procedure	Word
00	1
10	–
11	–
22	2
29	1,2,3
88	2

(11) Depress the REMOVE then the EXECUTE keys.

(12) Depress the ADD then the EXECUTE keys.

(13) The changed word has been reentered into translation memory.

F. REMOVE A WORD FROM TRANSLATION MEMORY

> ***NOTE:***
>
> Always read the detailed procedure including reference notes and cautions (Section 3) before removing data from translation memory.

(1) Display the procedure and word, if applicable, to be removed.

(2) If you are using a procedure listed below, go to Step (3). Otherwise, go to Step (4).

Procedure	Word	Procedure	Word
00	1,3	23	–
03	–	26	2
04	All	27	1
05	All	28	1
06	All	29	All
10	–	30	–
11	–	34	–
12	–	36	1
16	–	37	1
18	–	40	2
19	1,2	83	2
20	–	87	1
22	2,3	88	2

(3) Depress the REMOVE key, then go to Step (13).

(4) If you are using a procedure listed below, go to Step (5). Otherwise, go to Step (9).

Procedure	Word	Procedure	Word
00	2	22	1
09	–	24	1
13	–	25	1
14	–	26	1
17	1,2,3	27	2
19	3	31	–
21	1,2,3	88	1

(5) Depress the CHANGE key.

(6) Dial in number of field to be changed, then depress the ENTER button.

(7) Dial a 0 (zero), then depress the ENTER button.

(8) Repeat Step 7 until all except entry fields contain zeros. Go to Step (12).

NOTE:

Steps (9) through (12) apply to Word 3 of Procedures 25 and 83.

(9) Depress the CHANGE key.

(10) Dial in 2, then depress the ENTER button.

(11) Depress the CLEAR ENTRY then ENTER buttons.

(12) Depress the ADD key.

(13) Depress the EXECUTE key. The word has been removed from translation memory.

G. TURN OFF AND DISCONNECT THE MAAP

(1) If translation changes were made go to Step (2). Otherwise, go to Step (7).

(2) Make sure that there are no more changes to translation memory needed and that the translation changes work.

NOTE:

In Feature Packages (FP) 1, 2, 3, 4, 5, and 10, the following alarms are set if the MAAP is disconnected before the translation changes have been written on both tapes (two RUN TAPE operations). In FP15, only one RUN TAPE operation is required.

- Alarm Panel
  The MINOR ALARM and TAPE-50 lamps will come on.
- Procedure 50
  An administrative alarm (encode 1XX) is written into field 1.

Use Procedure 50 to reset the alarm after the tapes have been updated.

(3) Depress the RUN TAPE key followed by the EXECUTE key in all Feature Packages (FP), except in FP1, Issue 1; FP2, Issue 1; FP3, Issue 1, where only the RUN TAPE key needs to be depressed.

(4) Wait for the WAIT lamp to go out.

(5) Replace the tape in the minirecorder with the spare tape.

(6) Repeats Steps (3) and (4) to write the translation changes on the second tape.

(7) Unplug the MAAP and store it carefully.

(8) Wait for approximately 10 minutes for all audits to be validated.

5. HOW TO ADMINISTER CUSTOMER SERVICES, FEATURES, AND RESTRICTIONS

A. DIALING PLAN – LINE EXTENSION NUMBERS

Add Operation

(1) Use the words of Procedure 29 listed below to add the first dialed digit and the number of digits to be dialed.

All But Feature Package 3	Feature Package 3 (PG1E003)
Word 1	Words 1 and 3

(2) Use Procedure 30 to add line extension number groups.

Remove Operation

(1) For Feature Package 3 (PG1E003), use Procedure 29, Word 4 to remove all 1- or 2-digit dial access codes.

(2) Use Procedure 00 to remove all extensions.

(3) Use Procedure 30 to remove the line extension number group.

(4) Use the words of Procedure 29 listed next to remove the first dialed digit data.

All But Feature Package 3	Feature Package 3 (PG1E003)
Word 1	Words 1,3

B. DIALING PLAN – TRUNK DIAL ACCESS/ATTENDANT ID CODES

Add Operation

(1) Use Procedure 29, Word 1 to add the first dialed digit and number of digits dialed.

(2) Use Procedure 12 to assign the code to the trunk group.

Remove Operation

> ***NOTE:***
> When all trunks in a group are removed using Procedure 10, the data for Procedure 13 is lost. If you will need this information, be sure to record it before using Procedure 10.

(1) Use Procedure 10 to remove all trunks and Procedure 12 to remove all trunk groups.

(2) Use Procedure 29, Word 1 to remove the first dialed digit data.

C. DIALING PLAN – FEATURE ACCESS CODES

Add Operation

(1) Use Procedure 29, Word 1 to add the first dialed digit and number of digits dialed.

(2) Use Procedure 29, Word 2 to assign the feature access code to the feature.

Change Operation

(1) Use Procedure 29, Word 2 to remove the multidigit feature access code.

(2) Use Procedure 29, Word 1 to change the number of digits and call type (fields 2 and 3).

Remove Operation

(1) Use Procedure 29, Word 2 to remove the feature access code to feature assignment.

(2) Use Procedure 29, Word 1 to remove the first dialed digit.

D. EXTENSION LINES

Display Operation

Use Procedure 00, Words 1 through 3 to display line translation data.

Add Operation

(1) Use Procedure 30 to check that the line extension number is in the dialing plan.

(2) Use Procedure 00 to check that the Equipment Location (Word 1, fields 2 through 4) is idle. Check that an LC02 circuit pack is in the specified slot.

(3) Use Procedure 02, Words 1 through 4 to check the class of service and restrictions.

(4) Use Procedure 00, Words 1 through 3 to add the extension line.

(5) For Feature Package 3(PG1E003), use Procedure 29, Word 4 to assign the single-digit dial code.

(6) Use Procedure 03 to assign the hot line, if required.

(7) Cross-connect and test.

Remove Operation

(1) For Feature Package 3(PG1E003), use Procedure 29, Word 4 to remove the single-digit dial code.

(2) Use Procedure 45, Word 3 to find all the extensions hunting to the extension to be removed.

(3) Use Procedure 00, Word 1 to change the Hunt To data for all extensions found in Step (2).

Change Operation

(1) Do a remove operation.

(2) Do an add operation.

E. TRUNK GROUPS

Display Operations

To find all trunks in a particular group:

(1) Use Procedure 12 to find the trunk group number associated with a particular dial access/attendant ID code.

(2) Use Procedure 44, Word 2 to find all trunks in the group. (Do not use Word 1 since it is used only with trunk verification by customer and flexible night service.)

Add Operation

(1) Use Procedure 10 to check that the equipment location is idle. Check that the proper circuit pack is in the specified slot.

(2) If the trunk group will have a dial access/ attendant ID code, use Procedure 29, Word 1 to check the first dialed digit.

> ***NOTE:***
> If a 6-way attendant and conference trunk is being added, perform Step (4) before Step (3).

(3) If the trunk group will have a dial access/ attendant ID code and/or route advance, use Procedure 12 to add the necessary data.

(4) Use Procedure 13 to add the trunk group features; then use Procedure 10 to add all the trunks.

(5) If necessary, use the procedures listed below to add the followng data:

Data	Procedure
Code Restriction	19 and 20
DID, Trunk to Trunk, Tandem Tie, AIOD, Remote Access	21, Words 1 and 2
Direct Trunk Group Select	27, Word 1
Incoming Call Identification	28
Listed Directory Number	31
Miscellaneous Trunk Restriction Group	15
Outgoing Trunk Queuing	11
Special Trunks (Remote Access, Paging)	16
Trunk to Trunk and Tandem Tie Trunk Restrictions	17

Remove Operation

(1) If necessary, use the procedures listed in Step (5) of the Add Operation to remove the related data.

> ***NOTE:***
>
> When all trunks in a group are removed using Procedure 10, the data for Procedure 13 is lost. If you will need this information, be sure to record it before using Procedure 10.

(2) Use Procedure 10 to remove the trunks.

(3) If the trunk group had a dial access/attendant ID code and/or route advance, use Procedure 12 to remove them.

(4) Use Procedure 13 to remove the associations between trunk type and trunk group.

F. FEATUES

Tables 2-1 and 2-2 list the presently available features in alphabetical order, cross-referenced to the applicable feature package. Table 2-1 also lists the required hardware for each feature, if any, and the sequence required for adding, changing, and removing the feature. Table 2-2 lists the optional custom calling and key service feature provided in Feature Package (FP) 5 and FP15 and the procedures required for adding the feature. Further information concerning the order, exceptions, and limitations are contained in the individual procedures presented in Section 3 (ADMINISTRATION PROCEDURES) of this volume.

All features listed in Tables 2-1 and 2-2 are feature package dependent. Some earlier feature package issues may not include a feature provided in a later feature package. Refer to the Feature Document Reference Guide (Section 554-191-100) for this information.

G. ECTS CONTROLLERS

Add Operation

(1) To determine an unassigned controller port location, consult engineering records or check the cross-connect field to determine the LC34 or LC366 circuit pack that is currently dedicated to the existing ECTS Controller.

(2) Check that:

- An LC34 or LC366 circuit pack is in the specified control carrier slot.
- The DIP socket option block for the selected circuit on LC34 or LC366 is strapped for low-speed data (see option figure for LC34 or LC366 in Section 6, Volume 2).

(3) Use Procedure 40, Word 2 to add the controller to service.

(4) Connect the controller.

Remove Operation

(1) Use Procedure 40, Word 2, to remove the controller from service.

(2) Disconnect the controller.

Change Operation

(1) Do a remove operation.

(2) Do an add operation.

Table 2-1
Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Advanced Private Line Termination (APLT)	2, 4, 5, 10, 15	LC11	29, WD1 12 13 10 11 17, WD1, 2, 3, 4 14 00, WD1 02, WD1, 2 21, WD2 31 28, WD1, 2	21, WD2 02, WD1, 2 14 17, WD1, 2, 3, 4 10 11 12 13 28, WD1 31	10 13 11 12 29, WD1 14 17, WD1, 2, 3, 4 21, WD2 02, WD1, 2 31 28, WD2, 1
Alphanumeric Display for Attendant Position	1, 2, 3, 4, 5, 10, 15	Appropriate Console	28, WD1, 2	28, WD1	28, WD1, 2
Attendant Conference	4, 10, 15	LC06	29, WD1 12 13 10 27, WD1	10 12 13 27, WD1	10 13 12 29, WD1 27, WD1
Attendant Console	Standard	LC45, LC34, LC366	29, WD1, 2 26, WD1	29, WD2 26, WD1	29, WD2, 1 26, WD1
Attendant Control of Trunk Group Access	1, 2, 3, 4, 5, 10, 15		29, WD1, 2 27, WD1	29, WD2 27, WD1	29, WD2, 1 27, WD1
Attendant Direct Station Selection/Busy Lamp Field (DSS/BLF) Group - Select Keys	1, 2, 3, 4, 5, 10, 15	Appropriate Console	26, WD2	26, WD2	26, WD2
Attendant Lockout	2, 4, 5, 10, 15		26, WD1	26, WD1	–
Attendant Release Loop	15		21, WD4 27, WD2 29, WD1, 2	21, WD4 27, WD2 29, WD2	21, WD4 27, WD2 29, WD2, 1
Attendant Transfer - All Calls	Standard		None	–	–
Automatic Callback Calling	2, 4, 5, 10, 15		29, WD1, 2 00, WD1 02, WD3 26, WD1 (FLD 4)	29, WD2 02, WD3	29, WD2, 1 26, WD1 (FLD 4)

Table 2-1 (Contd)

Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Automatic Identified Outward Dialing (AIOD)	2 (DIMENSION 400 PBX only), 4, 5, 10, 15	LC31, LC32	21, WD3 13 10 00, WD2 (FLD 4) 31 (FLD 1)	00, WD2 (FLD 4) 10 13 21, WD3	10 13 21, WD3 31 (FLD 1)
Automatic Route Selection (ARS)	4, 10, 15		29, WD1, 2 21, WD5 24, WD1, 2, 3 25, WD1, 2, 3 02, WD1	02, WD1 29, WD2 25, WD3, 2, 1 24, WD3, 2, 1 21, WD5	29, WD2, 1 24, WD1, 2, 3 25, WD1, 2, 3 21, WD5 02, WD1
Busy Verification of Station Lines	2, 3, 4, 5, 10, 15		27,WD2	27,WD2	27, WD2
Call Forwarding – All Calls	1, 2, 3, 4, 5, 10, 15		29, WD1, 2 00, WD1 02, WD3	29, WD2 02, WD3	29, WD2, 1
– Busy and Don't Answer	2, 3, 4, 5, 10, 15		29, WD1, 2 00, WD1 02, WD3 26, WD1 (FLD 4)	29, WD2 02, WD3	29, WD2, 1 26, WD1 (FLD 4)
– Don't Answer	2, 3, 4, 5, 10, 15		29, WD1, 2 00, WD1 02, WD3 26, WD1 (FLD 4)	29, WD2 02, WD3	29, WD2, 1 26, WD1 (FLD 4)
Call Hold	1, 2, 3, 4, 5, 10, 15		29, WD1, 2 00, WD1 02, WD3 26, WD1 (FLD 4)	29, WD2 02, WD3	29, WD2, 1 26, WD1 (FLD 4)
Call Park	2, 3, 4, 5, 10, 15		29, WD1, 2 12 13 (Encode 54) 10 14 00, WD1 02, WD2 16 21, WD2	29, WD2 21, WD2 16 14 02, WD2 10 12 13	29, WD2, 1 12 10 13 14 02, WD2 16 21, WD2
Call Pickup	1, 2, 4, 5, 10, 15		29, WD1, 2 00, WD2	00, WD2 29, WD2	00, WD2 29, WD 2,1

Table 2-1 (Contd)

Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Call Waiting – Attendant	1, 2, 3, 4, 5, 10, 15		21, WD2	21, WD2	–
– Originating	1, 2, 3, 4, 5, 10, 15		29, WD1, 2 00, WD1 02, WD3 21, WD2	29, WD2 02, WD3 21, WD2	29, WD2, 1
– Terminating	1, 2, 3, 4, 5, 10, 15		00, WD1 02, WD3 21, WD2 26, WD1 (FLD 4)	02, WD3 21, WD2	26, WD1 (FLD 4)
Calling Number Display to Attendant	1, 2, 3, 4, 5, 10, 15	Alphanumeric Console	None	–	–
Calling Number Display to Station	3, 4, 10, 15	Calling Number Display Equipment and LC34 or LC366 as Required	23 00, WD1 02, WD4	23 02, WD4	23
Central Office (CO) Trunks	Standard	LC08	29, WD1 12 13 10 11 14 00, WD1 02, WD1, 2	02, WD1, 2 14 11 10 12 13	10 13 12 29, WD1 14 02, WD2 11
Centralized Attendant Service (CAS) - With Separate Attendant Concentrator	10, 15	Centralized Attendant System Equipment, LC15	29, WD1, 2 12 13 10 00, WD1 02, WD3 (FLD 13) 21, WD5 (FLD 9) 86 88, WD1, 2 00, WD3	29, WD2 10 12 13 00, WD3 86 88, WD2 21, WD5 (FLD 9) 02, WD3 (FLD 13)	29, WD2, 1 12 10 13 86 88, WD 1,2
Class-of-Service Display to Attendant	1, 2, 3, 4, 5, 10, 15	Alphanumeric Console, Unused Control Key and Indicator Lamp	26, WD1 27, WD2	27, WD2	27, WD2 26, WD1

Table 2-1 (Contd)

Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Code Calling Access (Chime Paging)	10, 15	LC17 and Chime Paging Equipment	29, WD1, 2 12 13 (Encode 53) 21, WD5 (FLD 7) 14 00, WD1 02, WD2 27, WD1	29, WD2 14 12 13 21, WD5 (FLD 7) 02, WD2 27, WD1	29, WD2, 1 12 21, WD5 (FLD 7) 14 02, WD2 27, WD1
Code Restriction	2, 3, 4, 5, 10, 15		19, WD1, 2, 3 20 18 00, WD1 02, WD1	20 19, WD3, 2, 1 02, WD1 18	19, WD1, 2, 3 20 02, WD1 18
Common Control Switching Arrangement (CCSA) Access	2, 4, 5, 10, 15	LC11	29, WD1 12 13 10 11 14 17, WD1, 2 00, WD1 02, WD1, 2 21, WD2	02, WD1, 2 14 10 11 12 13 17, WD1, 2	10 13 11 12 29, WD1 14 21, WD2 17, WD1, 2 02, WD2
Controlled Restrictions – Outward Restriction	3, 4, 10, 15		29, WD1, 2 00, WD2	29, WD2 00, WD2	29, WD2, 1 00, WD2
– Station-to-Station Restriction	3, 4, 10, 15		29, WD1, 2 00, WD2	29, WD2 00, WD2	29, WD2, 1 00, WD2
– Termination Restriction	3, 4, 10, 15		29, WD1, 2 00, WD2	29, WD2 00, WD2	29, WD2, 1 00, WD2
– Total Restriction	3, 4, 10, 15		29, WD1, 2 00 WD2	29, WD2 00, WD2	29, WD2, 1 00, WD2
Custom Intercom	4, 10, 15		29, WD1, 2 04, WD3, 1, 2	29, WD2 04, WD2, 1	29, WD2, 1 04, WD1, 2, 3
Customer Administration Panel (CAP)	15	ABC-1, MAAP Conn. Applique, CAP Panel	None	–	–

Table 2-1 (Contd)
Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Data Communications Access	2, 3, 4, 5, 10, 15	LC361	29, WD1 12 13 (Encode 33 or 37) 10 11 14 00, WD1 02, WD2	02, WD2 14 10 11 12 13	10 13 11 12 29, WD1 14 02, WD2
Data Privacy	2, 3, 4, 5, 10, 15		29, WD1, 2	29, WD2	29, WD2, 1
Data Restriction	2, 3, 4, 5, 10, 15		00, WD1 02, WD1	02, WD1	–
Dial Access to Attendant	Standard		29, WD1, 2	29, WD2	29, WD2, 1
Direct Department Calling (DDC)	10, 15	LC13, LC15	29, WD1, 2 00, WD1, 3 02, WD4 13 10 86 87, WD1 28, WD2	29, WD2 87, WD1 86 10 13 02, WD4 00, WD3, 1	29, WD2, 1 87, WD1 86 00, WD1, 3 10 13 28, WD2
Direct Inward Dialing (DID)	2, 4, 5, 10, 15	LC09	29, WD1 12 13 10 14 00, WD1 02, WD1, 2 21, WD 2	02, WD1, 2 14 10 12 13	10 13 12 29, WD1 14 21, WD2 02, WD2
Direct Outward Dialing (DOD)	Standard	LC08	29, WD1 12 13 10 11 14 00, WD1 02, WD1, 2	02, WD1, 2 14 11 10 12 13	10 13 12 29, WD1 14 02, WD2 11

Table 2-1 (Contd)

Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Direct Trunk Group Selection	2, 4, 5, 10, 15	Spare Trunk Group Select Key	26, WD1 27, WD1	27, WD1 26, WD1	27, WD1
Distinctive Ringing	Standard		None	–	–
Executive Override	2, 4, 5, 10, 15		29, WD1, 2 00, WD1 02, WD3	29, WD2 02, WD3	29, WD2, 1
Flexible Numbering of Stations	Standard		29, WD1 30 00, WD1	00, WD1	00, WD1 30 29, WD1
Flexible Numbering of Stations - Mixed Numbering	3		30 00, WD1 29, WD3, 4	29, WD4, 3 00, WD1	00, WD1 29, WD4, 3
Foreign Exchange (FX) CO Access	Standard		29, WD1 12 13 10 11 14 17, WD1, 2 00, WD1 02, WD1, 2 21, WD2	21, WD2 02, WD1, 2 17, WD1, 2 14 10 11 12 13	10 13 11 12 29, WD1 14 17, WD1, 2 21, WD2 02, WD1, 2
Fully Restricted Station	1, 2, 3, 4, 5, 10, 15		00, WD1 02, WD1	02, WD1	–
Hot Line Service	3	LC02	00, WD1 02, WD4 00, WD2 03	03 00, WD2 02, WD4	03 00, WD2
Incoming Call Identification (ICI)	Standard	Appropriate Console	28, WD1, 2	28, WD1	28, WD1, 2
Intercept Treatment – Recorded Announcement	2, 4, 5, 10, 15	LC13	21, WD2 13 (Encode 52) 10	21, WD2 10 13	10 13
– Tone and Attendant	Standard		21, WD2	21, WD2	21, WD2

Table 2-1 (Contd)

Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Inward Restriction	1, 2, 3, 4, 5, 10, 15		00, WD1 02, WD1	02, WD1	–
Listed Directory Number (LDN) Service (DID/CCSA)	Standard		31 28, WD1, 2	28, WD1 31	31 28, WD2, 1
Loudspeaker Paging – Basic	1, 2, 3, 4, 5, 10, 15	LC13 and Paging Equipment	29, WD1 12 13 10 14 00, WD1 02, WD2 16 27, WD2	16 02, WD2 14 10 12 13 27, WD2	12 29, WD1 10 13 14 02, WD2 16 27, WD2
– Deluxe	2, 3, 4, 5, 10, 15	LC13 and Paging Equipment	29, WD1, 2 12 13 10 14 00, WD1 02, WD2, 3 16 27, WD2 21, WD2 26, WD1 (FLD 4)	29, WD2 21, WD2 02, WD3 27, WD2 16 02, WD2 10 12 13 14	29, WD2, 1 12 10 13 14 02, WD2 16 27, WD2 26, WD1 (FLD 4)
Manual Originating Line Service	3		00, WD1 02, WD3	02, WD3	–
Manual Terminating Line Service	1, 2, 3, 4, 5, 10, 15		00, WD1 02, WD3	02, WD3	–
Message Waiting Service	3	Message Waiting Console or Inquiry/Display LC34, LC366, LC03, and LC41	27, WD2 22, WD2	27, WD2 22, WD2	27, WD2 22, WD2
Miscellaneous Trunk Restriction	1, 2, 3, 4, 5, 10, 15		14 00, WD1 02, WD2	02, WD2 14	02, WD2 14

Table 2-1 (Contd)
Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Multiple LDN – DID	4	LC09	31 28, WD1, 2	28, WD1 31	31 28, WD2, 1
– Non-DID	1, 2, 3, 4, 5, 10, 15	LC08	31 28, WD1, 2	28, WD1 31	31 28, WD2, 1
– DID & Non-DID	4, 10, 15	LC09, LC08	31 28, WD1, 2	28, WD1 31	31 28, WD2, 1
Music-On-Hold Access	2, 3, 4, 5, 10, 15	LC13	13 10 21, WD3	21, WD3 10 13	10 13
Night Console Position	Standard	6017-Type Key, or Equivalent, and 609A Transfer Panel	None	–	–
Night Station Service – Fixed Service	Standard		27, WD2 10 21, WD1	27, WD2 21, WD1 10	27, WD2 10 21, WD1
– Full Service	1, 2, 4, 5, 10, 15		27, WD2 29, WD1, 2 12 21, WD1	27, WD2 29, WD2 12 21, WD1	27, WD2 29, WD2, 1 12 21, WD1
Off-Premises Stations	Standard		None	–	–
– With Call Control	2, 3, 4, 5, 10, 15	LC361	29, WD1 12 13 (Encode 37) 10 11 14 00, WD1 02, WD2	02, WD2 14 10 11 12 13	10 13 11 12 29, WD1 14 02, WD2
Origination Restriction	1, 2, 3, 4, 5, 10, 15		00, WD1 02, WD1	02, WD1	–
Outgoing Trunk Queuing	1, 2, 4, 5, 10, 15		29, WD 1,2 26, WD 1 (FLD 4) 11	29, WD2 11	29, WD2, 1 11 26, WD1 (FLD 4)

Table 2-1 (Contd)

Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Outward Restriction	Standard		00, WD1 02, WD1	02, WD1	–
Power Failure Transfer	Standard		None	–	–
Privacy and Lockout	2, 4, 5, 10, 15		26, WD1	26, WD1	–
Radio Paging Access	Standard	LC08 and Radio Paging Equipment	29, WD1 12 13 10 14 00, WD1 02, WD2 27, WD1	10 14 12 13 02, WD2 27, WD1	12 29, WD1 10 13 14 02, WD2 27, WD1
Recall Dial Tone	Standard		None	–	–
Recorded Telephone Dictation Access	2, 4, 5, 10, 15	LC13 and Dictation Equipment	29, WD1 12 13 10 14 00, WD 1 02, WD 2	14 02, WD2 10 12 13	12 29, WD1 10 13 14 02, WD2
Remote Access to PBX Services	2, 4, 5, 10, 15	LC08	29, WD1, 2 12 13 10 16 21, WD2	21, WD2 16 10 12 13 29, WD2	16 10 13 12 29, WD2, 1
Remote Access to Traffic Studies (RATS)	1, 2, 3, 4, 5 (Issue 1 Only)		29, WD1 30 21, WD2 47	47 21, WD2 30 29, WD1	29, WD1 30 47 21, WD2

Table 2-1 (Contd)

Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Remote Maintenance, Administration and Traffic System (RMATS)	1, 2, 3, 4, 5, 10, 15 (Except Issue 1 of FP1, 2, 3, 4, and 5 where RATS is provided)	LC171 and RMATS Data Set	83, WD5	83, WD5	83, WD5
– Administer Traffic Measurements		LC34	83, WD5, 1, 2, 3, 4 84, WD1, 2, 3 85	85 84, WD1, 2, 3 83, WD1, 2, 3, 4, 5	84, WD1, 2, 3 83, WD1, 2, 3, 4, 5
Reserve Power	Standard		None	–	–
Rotary Dial Calling	Standard		–	–	00, WD1 02, WD3 (FLD 14)
Route Advance	Standard		12	12	12
Serial Call	2, 3, 4, 5, 10, 15		None	–	–
Single-Digit Dialing	3		29, WD3 30 00, WD1 29, WD4	29, WD4,3 00, WD 1	00, WD1 30 29, WD4, 3
Speed Calling	4, 10		29, WD1, 2 05, WD4, 1, 2, 3	29, WD2 05, WD3, 2, 1	29, WD2, 1 05, WD1, 4, 2, 3
	15		29, WD1, 2 06, WD5, 1, 2, 3, 4	29, WD2 06, WD4, 3, 2, 1	29, WD2, 1 06, WD1, 5, 2, 3, 4
Splitting One-Way Auto/Manual	Standard		27, WD2	27, WD2	27, WD2
Station Hunting – Circular	Standard		00, WD1	00, WD1	00, WD1
– Terminal	Standard		00, WD1	00, WD1	00, WD1
Station Message Detail Recording (SMDR)	4, 10, 15	LC171, LC34 or LC366, LC374 and SMDR Equipment	29, WD1, 2 12 21, WD5	29, WD2 12 21, WD5	29, WD2, 1 21, WD5
Station Message Register Service	3	LC16, LC34 or LC366, LC38, LC39, LC40, and Message Register Equipment	13 (Encode 59) 10 22, WD3, 1, 2	22, WD2, 1, 3 10 13	22, WD1, 2 10 13 22, WD3
Station Rearrangement and Change	15	Customer Administration Panel	None	–	–

Table 2-1 (Contd)

Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Station-to-Station Calling	Standard		None	–	–
Straightforward Outward Completion	Standard		None	–	–
Switched Loop Console Operation	Standard		None	–	–
Tandem Tie Trunk Switching	2, 3, 4, 5, 10, 15	LC11	17, WD3, 4 21, WD2 14 00, WD1 02, WD2	21, WD2 14 02, WD2 17, WD3, 4	17, WD4, 3 14 02, WD2
Termination Restriction	1, 2, 3, 4, 5, 10, 15		00, WD1 02, WD1	02, WD1	–
Three-Way Conference Transfer	1, 2, 3, 4, 5, 10, 15		00, WD1 02, WD3	02, WD3	–
– W/Trunk-to-Trunk Transfer	2, 3, 4, 5, 10, 15		00, WD1 02, WD3 21, WD5	21, WD5 02, WD3	–
Through Dialing	Standard		None	–	–
Tie Trunk Access	2, 3, 4, 5, 10, 15	LC11	29, WD1 12 13 10 11 14 17, WD3, 4 00, WD1 02, WD2	02, WD2 14 17, WD3, 4 10 11 12 13	10 13 11 12 29, WD1 14 17, WD3, 4 02, WD2
Timed Recall on Outgoing Calls	4, 10, 15		09 00, WD1 02, WD4	02, WD4 09	09
Timed Reminder	Standard		None	–	–
– With Audible Signal	2, 3, 4, 5, 10, 15	Appropriate Console	None	–	–

Table 2-1 (Contd)

Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Toll Restriction – Battery Reversal	Standard		13	13	–
– 0/1	1, 2, 3, 4, 5 10, 15		13 18	13 18	18
– For Tie Trunks	2, 3, 4, 5, 10, 15		14	14	–
Toll Terminal Access	3	LC08	29, WD1 12 13 (Encode 60) 10 11 14 00, WD1 02, WD2	02, WD2 14 10 11 12 13	10 13 11 12 29, WD1 14 02, WD2
TOUCH-TONE Calling	Standard	LC10B, LC54B, or LC10C	13 10 00, WD1 02, WD3	10 13 02, WD3	10 13
TOUCH-TONE Dialing Senderized Operation	4, 10, 15	LC12	13 10	10 13	10 13
TOUCH-TONE Dialing to Dial Pulse Conversion	Standard		13 10	10 13	–
Trunk Answer From Any Station (TAAS)	1, 2, 3, 4, 5, 10, 15	LC02	29, WD1, 2 21, WD1	29, WD2 21, WD1	29, WD2, 1 21, WD1
Trunk Group Busy Indicators on Attendant Console	1, 2, 3, 4, 5, 10, 15		27, WD1	27, WD1	27, WD1
Trunk Group Warning Indicators on Attendant Console	1, 2, 3, 4, 5, 10, 15		27, WD1	27, WD1	27, WD1
Trunk-to-Trunk Connections and Restrictions	2, 3, 4, 5, 10, 15		17, WD1, 2 21, WD2	21, WD2 17, WD1, 2	17, WD1, 2
Trunk Verification by Customer	2, 4, 5, 10, 15		27, WD2 26, WD1	26, WD1 27, WD2	27, WD2

Table 2-1 (Contd)

Administration of DIMENSION 100/400 PBX Features

Feature Name	Feature Package Number	Hardware Required	MAAP Procedures Listed in Required Sequence		
			Add	Remove	Change
Trunk Verification by Station	2, 4, 5, 10, 15		29, WD1, 2 21, WD3 13 (FLD 9)	29, WD2 21, WD3 13 (FLD 9)	29, WD2, 1 21, WD3
Two-Party Hold on Console	2, 3, 4, 5, 10, 15		26, WD1	26, WD1	–
Uniform Call Distribution (UCD)	10, 15	LC13 (With Recorded Announcement Equipment) and LC15 (With Status Indicator Equipment)	29, WD1, 2 00, WD1, 3 02, WD4 13 10 86 87, WD1 28, WD2 21, WD5	29, WD2 87, WD1 86 10 13 02, WD4 00, WD3, 1	29, WD2, 1 87, WD1 86 00, WD1, 3 10 13 21, WD5 28, WD2
Visually Impaired Attendant Service	2, 3, 4, 5, 10, 15	Appropriate Console With Visually Impaired Equipment	None	–	–
Wide Area Telephone Service (WATS) Access	Standard	LC08	29, WD1 12 13 10 11 14 00, WD1 02, WD2	02, WD2 14 10 11 12 13	10 13 11 12 29, WD1 14 02, WD2
Wide Frequency Tolerant Power Plant	Standard		None	–	–
3A Code Call Access	Standard	LC08	29, WD1 12 13 10 14 00, WD1 02, WD2 27, WD1	10 12 13 14 02, WD2 27, WD1	12 29, WD1 10 13 14 02, WD2 27, WD1

Table 2-2

ECTS Custom Calling and Key Service Features
to Procedure Index (Feature Packages 5 and 15)

Feature Name	MAAP Procedures
Custom Calling Features	
Automatic Callback - Calling	35, WD 5
Call Forwarding - All Calls	35, WD 5
Call Forwarding - Busy and Don't Answer	35, WD 5
Call Hold	35, WD 5
Call Pickup	35, WD 5
Call Waiting Services	35, WD 5
Executive Override	35, WD 5
Last Extension Called	35, WD 5
Key Service Features	
Abbreviated and Delayed Ringing	32, WD 2 38, WD 1 39, WD 3 35, WD 4
Automatic Intercom	39, WD 1, 3
Bridged Call	None
Common Audible Ringing	None
Dial Intercom	39, WD 2, 3
Exclusive Hold	32, WD 4
Hold	32, WD 4
Idle Line Preference	32, WD 3
I-Hold	32, WD 4
Incoming Call Preference	32, WD 3
I-Use Indication	None
Last Line Preference	32, WD 3
Line Ringing	32, WD 2
Line Status Indication	None
Manual Exclusion	35, WD 2
Manual Intercom	39, WD 1, 3
Manual Signaling	39, WD 3 33, WD 1
Music on Hold	32, WD 4
No Line Preference	32, WD 3
PBX Line Access	32, WD 1, 2

Feature Name	MAAP Procedures
Personal Central Office (CO) Line	32, WD 5
Power Failure Transfer	None
Preselection	None
Prime Line Preference	32, WD 3
Priority Hold	32, WD 4
Recall Button	None
Ringing Line Preference	32, WD 3
Ringer Transfer	32, WD 2 35, WD 1 38, WD 1
Ringing Transfer	35, WD 4 38, WD 1
Station Busy Indication	36, WD 1
Station Direct Station Selection (DSS)	35, WD 6
Station Message Waiting	33, WD 2, 3
Station Ringer Cutoff	35, WD 3
Three-Way Conference Transfer	None
Controller	
Add	40, WD 2
Remove	40, WD 2
Enable	40, WD 3
Disable	40, WD 3
Repack	40, WD 4
Station	
Add a Station	32, WD 1
Remove a Station	34
Remove a Button (Feature)	37
Add or Remove a Station Line	00, WD 1, 2 02, WD 1-4 32, WD 2
Add or Remove a CO Line	12 13

H. ECTS TELEPHONES

Multibutton Electronic Telephone Button Administration

The multibutton electronic telephones that are provided with ECTS are available with 5, 10, 20, or 30 buttons for accessing lines and/or features. The 10-button telephones may also be equipped with a 2-by-5 array of direct station selection (DSS) buttons located directly above the dial.

As shown in Figure 2-4 (representative of multibutton electronic telephones), line, and feature buttons are numbered bottom to top, left to right. The DSS buttons are numbered top to bottom left to right, starting with number 11. Table 2-3 lists the button labels and encodes for each line and feature assignment.

Add Operation

(1) Use Procedure 46 to locate an unassigned tip and ring equipment location. Check that an LC02 circuit pack is in the specified line carrier slot.

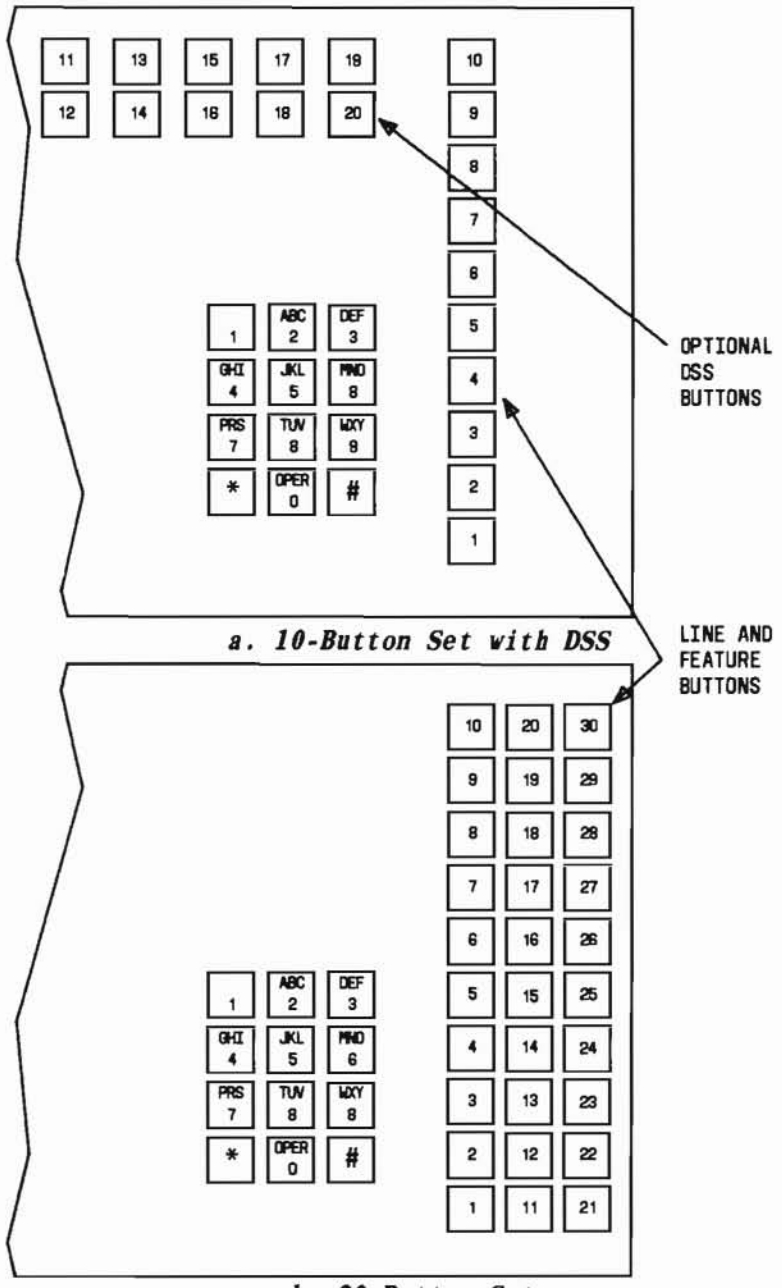
(2) If a straight line set is to be added, go to Step (4). Otherwise, go to Step (3).

(3) Use Procedure 40, Word 1 to locate an unassigned steering circuit. Check that an LC55 circuit pack is in the specified controller carrier.

(4) Use Procedure 00, Word 1 to check that each PBX extension assigned the telephone has been defined as an ECTS extension.

(5) Use Procedure 02, Words 1 through 4 to check the class of service associated with each PBX extension.

(6) Use Procedure 32, Word 1 to add the telephone to service.



a. 10-Button Set with DSS

b. 30-Button Set

Figure 2-4. Button Numbering

Table 2-3

Button Encodes and Label vs. Feature Name

Button Type Encode	Custom Calling Button Type Encode	Button Label	Feature Name
0			Unassigned
1		2-, 3-, or 4-digit number	PBX extension line pickup
2		MAN ICOM	Manual intercom
3		ICOM (Note 1)	Automatic intercom
4		ICOM NO (Note 2)	Dial Intercom
5		7-digit number	Central office pickup (Personal line)
6		HOLD	Hold
6		I HOLD	I-Hold
6		EXCL HOLD	Exclusive hold
6		PRI HOLD	Priority hold
7		MAN SIGNAL	Manual signaling (Note 5)
8		MAN EXCL	Manual exclusion
9		MSG WAIT	Message waiting (signaling)
10		MSG WAIT	Message waiting (signaled)
11		RING CUT OFF	Station ringer cutoff
12		RING TRFR	Ringer transfer (Note 4)
13		ABBR RING	Ringing transfer (Note 4)
14	0	CALL HOLD	Call hold
14	1	CALL WAIT ANS	Call waiting – answer
14	7	CALL PICK UP	Call pickup
15	2	CALL WAIT ORIG	Call waiting – originating
15	5	OVER RIDE	Executive override
15	6	AUTO CALL BACK	Automatic callback – calling
16	3	CALL FWD ALL	Call forwarding – all calls
16	4	CALL FWD BY/DA	Call forwarding – busy and don't answer
17		(Note 3)	Direct station selection
17	8	LAST PBX CALL	Last extension called

NOTES:

1. Name or initials of called party.
2. 1- or 2-digit dial code.
3. Name or initials of called party (direct station selection feature) or feature name or code (feature access)
4. Line-oriented feature.
5. Station-oriented feature.

(7) Use Procedure 32, Word 2 to add each line (PBX extension) to the telephone.

> ***NOTE:***
>
> Electronic custom telephone and straight line sets provide single line service. The PBX extension should be assigned to button 0.

(8) If the telephone is a multibutton electronic telephone, go to Step (12); otherwise, continue.

(9) If a station busy feature is assigned the straight line set, go to Step (10). Otherwise, go to Step (13).

(10) Use Procedure 32, Word 1 to check that station equipment has been assigned to the signaled telephone.

(11) Use Procedure 36, Word 1 to define the signaling and signaled telephones, then go to Step (13).

(12) Use the procedures listed in Table 2-2 to assign feature(s) to the telephone.

(13) Connect the telephone and test.

Change Operation

Perform the procedures listed in Table 2-4 for the change desired.

Table 2-4

Change Operation to Procedure Index

To Change:	Perform:
Line ringing options – transfer encode	Procedure 38, Word 1 (change field 3)
Station equipment	Procedure 37 (remove all button assignments) Procedure 34 (remove telephone) Procedure 32, Word 1 (add telephone with new station equipment location)
Tip/ring equipment	Procedure 37 (remove all button assignments) Procedure 34 (remove telephone) Procedure 32, Word 1 (add telephone with new tip/ring equipment location)
Button assigned to an existing feature or delete an existing feature and add a new feature	Procedure 37 (remove existing feature-button assignment) Applicable procedure (add new feature-button assignment)
Central office pickup - CO line	Procedure 37 (remove button assignment) Procedure 32, Word 5 (change fields 5-7)
Central office pickup-ring encode	Procedure 37 (remove button assignment) Procedure 32, Word 5 (change field 8)

Table 2-4 (Contd)

Change Operation to Procedure Index

To Change:	Perform:
Custom calling feature	Procedure 37 (remove button assignment) Procedure 35, Word 5 (change field 5)
Custom telehpone dial intercom-dial code	Procedure 39, Word 2 (change field 6)
Custom telephone intercom number	Procedure 37 (remove the button assignment) Procedure 39, Word 1 (add the new appearance of the intercom number)
Direct station selection (Preassigned PBX extension or feature access code)	Procedure 35, Word 6 (change field 5)
Exclusion	Procedure 35, Word 2 (change field 5)
Hold type	Procedure 32, Word 4 (change field 5)
Line Preferences	Procedure 32, Word 3 (change fields 4-6)
Manual signaling - signaled station	Procedure 33, Word 1 (change fields 5-7)
Manual signaling-signaling station	Procedure 37 (remove existing signaling station button assignment) Procedure 33, Word 1 (define new manual signaling arrangement)
Message waiting	Procedure 37 (remove button assignment for station being changed) Procedure 33, Words 2 and 3 (define new message waiting feature arrangement)
Ringer transfer (RING TRFR)	Procedure 35, Word 1 (change field 5)
Ringing transfer (ABBR RING)	Procedure 35, Word 4 (change field 5)
Station busy-signaled station	Procedure 36, Word 1 (remove the existing signaled station) Procedure 36, Word 1 (add the new station busy appearance)
Station pickup - PBX line	Procedure 37 (remove existing station pickup assignment) Procedure 32, Word 2 (add new station pickup assignment)
Station pickup - ring encode	Procedure 37 (remove button assignment) Procedure 32, Word 2 (change field 6)

Remove Operation

(1) If the telephone is associated with a station busy feature, go to Step (2). Otherwise, go to Step (3).

(2) Use Procedure 36, Word 1 to remove all station busy appearances if the telephone is the signaling station, or to remove a single appearance if the telephone is the signaled station.

(3) Use Procedure 37 to remove all other feature and line button assignments.

(4) Use Procedure 34, Word 1 to remove the telephone from service.

6. HOW TO RESPOND TO ERROR CONDITIONS

Three broad classes of errors or mistakes and suggestions for correcting them are discussed below.

- Dialing errors discovered by the MAAP user while entering data (refer to paragraph A).
- Errors detected by the MAAP program which turn on the ERROR lamp after the EXECUTE key is depressed (refer to Table 2-5).
- Errors in translation memory which in most cases are discovered when a feature or restriction is tested (refer to paragraph B).

A. DIALING ERRORS

If a dialing error is discovered:

- Before the ENTER button is depressed (Note 1)
  - Depress the CLEAR ENTRY button.
  - Redial the correct information.
- After either the ENTER button or the EXECUTE key has been depressed (Note 2): Use the change operation.

NOTES:

1. The ERROR lamp will come on if too many digits are dialed into a field or an invalid control key is depressed.
2. If the EXECUTE key has been depressed, the ERROR lamp may come on.

B. TRANSLATION MEMORY ERRORS AND TROUBLES WITH FEATURES AND RESTRICTIONS

Occasionally, one or more error indications may occur after one or more changes have been made to translation memory:

- The ERROR lamp comes on after the EXECUTE key has been depressed, even though all the information has been entered correctly.
- One or more features or restrictions do not work the way they should. For instance, a service order calls for installing a new extension with class of service 12. The order also states that this extension will be toll restricted, will be able to use the call hold feature, and will be a rotary dial station. After the station set has been installed and Procedure 00 has been used to make the necessary translation memory change, it is found that when the call hold code is dialed, intercept tone is returned by the system.

Table 2-5

ERROR Lamp Comes On After EXECUTE Key Is Depressed

Possible Causes	Corrective Action
• The ENTER button was not depressed after the last field was dialed into. • Some of the fields [eg, Circuit (field 4) of Procedure 00, Word 1] which require data were left blank or with a dash. • A field(s) [eg, a restriction in Procedure 02, or Night Station (field 5) of Procedure 10] contains a dash instead of a zero or a blank. • A field(s) contains out of limits data. For example: – Trunk Type (field 2) of Procedure 13 contains a 6, or Class of Service (field 1) of Procedure 02, Word 1 contains a 33. – Dialing errors. If 512 was dialed into the Hunt To (field 6) of Procedure 00, Word 1 when 152 was the desired number and line extension 512 is not in the dialing plan.	• Correct the field(s) containing the error with the change operation. After the correct data has been entered, continue. or • Depress EXECUTE key to return the MAAP program to the beginning of the word. Then re-enter the correct data from left to right without first depressing any other keys.
• Failure to depress the REMOVE, EXECUTE keys before depressing the ADD, EXECUTE keys when making translation changes with Procedure 00, Word 1; Procedure 10; Procedure 11; Procedure 22, Word 2; Procedure 29, Words 1 through 4; or Procedure 88, Word 2.	• Depress the REMOVE, EXECUTE, then ADD, EXECUTE keys.
• An illegal operation. For example: – Trying to add an extension already in translation memory. – Trying to add a feature code using Procedure 29, Word 2 when the first digit has not been assigned in Procedure 29, Word 1. • An attempt to exceed the limits of any particular system feature.	• Check the display for dialing errors and correct those you find. Otherwise, write down the displayed data and refer to "Trouble With Features, Restrictions, and Translation Memory".

In either case, a logical series of checks should clear the trouble. Continuing with the call hold example, the steps to follow would be:

(1) Use Procedure 00 to make sure that class-of-service 12 has indeed been assigned to the extension.

(2) Use Procedure 02, Word 3, to check that the call hold field contains a one. If it does, go to Step (3). Otherwise, go to Step (4).

(3) Use Procedure 29, Word 2, to check the dial code for call hold (feature encode = 4). It may be possible that the wrong dial code was used for testing. If so, test again. On the other hand, it may be that the dial code either has not been assigned or that it uses the * or #, which are possible only with TOUCH-TONE sets. If either of these cases is true, use local procedures for verifying the service order.

(4) Check the other class-of-service numbers to find one that has the required restrictions and features. (Procedure 45, Word 2 can be used to find the used class-of-service numbers.) It may be that the order should have read class-of-service 21 instead of 12, or some similar mistake was made. Use Procedure 00, Word 1 to make the change, and test again.

It is also possible that none of the used class-of-service numbers provide for the right combination of restrictions and features. If there are any unused class-of-service numbers (Procedure 45, Word 2), use one of them to establish the right combination, and assign it to the extension. If either of the above changes works, follow local procedures for changes made to the service order. If there are no unused class-of-service numbers, follow local procedures for verifying the service order.

Although it it not likely that the trouble given in the example will be found exactly as given, the steps suggested should give an idea of what can be done when troubles like this are found. The index of features and procedures (Tables 2-1 and 2-2) can be used as a starting point, keeping in mind that there can be many different items in translation memory for a single function or restriction.

7. HOW TO RESPOND TO MAAP PROBLEMS

Three broad classes of MAAP problems and suggestions for correcting them are listed.

A. CONTROL KEY PROBLEMS

- Check the MPT lead (pin 89 of LC44) with a logic probe. This is a 2-kHz clock.
- Check that the MPRD* lead (pin 85 of LC44) goes low periodically to enable either a read or write function on the MAAP.
- Check that the MPE* lead (pin 59 of LC44) goes low periodically to enable either a read or write function on the MAAP.
- Address leads AD0* through AD5* (pins 20, 19, 72, 73, 71, 69 on LC44) are used to send button address to LC44.
- AP7* lead (pin 7 on LC44) is low whenever both MPE* and MPRD* leads (pins 59 and 85 on LC44) are low, enabling a MAAP read cycle.
- AD6* (pin 68 of LC44) low indicates that above condition is present, and that a button is down.

B. INDICATOR PROBLEMS

- MAJOR and MINOR ALARM Lamps
  AMJ* and AMN* leads (pins 4 and 57 of LC18) are directly wired to the MAJOR and MINOR ALARM lamps. A ground on these leads turns the lamps on.
- BUSY OUT, WAIT, or ERROR Lamps
  If AD8*, AD9*, and AD10* leads (pins 67, 66, 65 of 44) are not all zero, then BUSY OUT is on when ADI* lead (pin 72 of LC44) is low, and ERROR is on when AD3* lead (pin 73 of LC44) is low. These states are stored in a register, and therefore, the indicators will remain in the last state set as described above.

C. MAAP DISPLAY PROBLEMS

- Check that the MPWRT* lead (pin 82 of LC44) goes low periodically to write MAAP.
- Check that the MPE* lead (pin 59 of LC44) goes low periodically to enable either a read or write function on the MAAP.
- Address leads AD5* through AD10* (pins 69, 68, 70, 67, 66, 65 of LC44) control the location of the digit to be displayed.
- Address leads AD0* through AD3* (pins 20, 19, 72, 73 of LC44) specify the digit to be displayed.
- Address lead AD4* (pin 71 of LC44) controls the decimal points.

8. 23-HOUR TAPE UPDATE

A. FUNCTIONS

The tape is exercised every 23 hours to retension the tape. A comparison of the tape to the memory is made of all translations. Attendant-alterable system and user translations that have not been previously entered on the tape will be entered at this time.

B. TRANSLATIONS ENTERED AND LOST

During a power failure and system reinitialization, some translations (see Table 2-6) are lost.

C. NOTES

1. If MAAP is plugged in when the 23-hour clock triggers off the tape update routine, the update will be passed until the next 23 hours.
2. If tape runs continuously or any other physical problems on the tape cartridge are evident, see Procedure 50.

9. CUSTOMER ADMINISTRATION PANEL

The Customer Administration Panel (CAP) (Fig. 2-5) is like a DIMENSION 100/400 PBX Maintenance and Administration Panel (MAAP) allowing the DIMENSION PBX customer the ability to perform certain administrative and information gathering functions on the PBX. For a list of procedures the CAP has access to, refer to BSP 554-191-257.

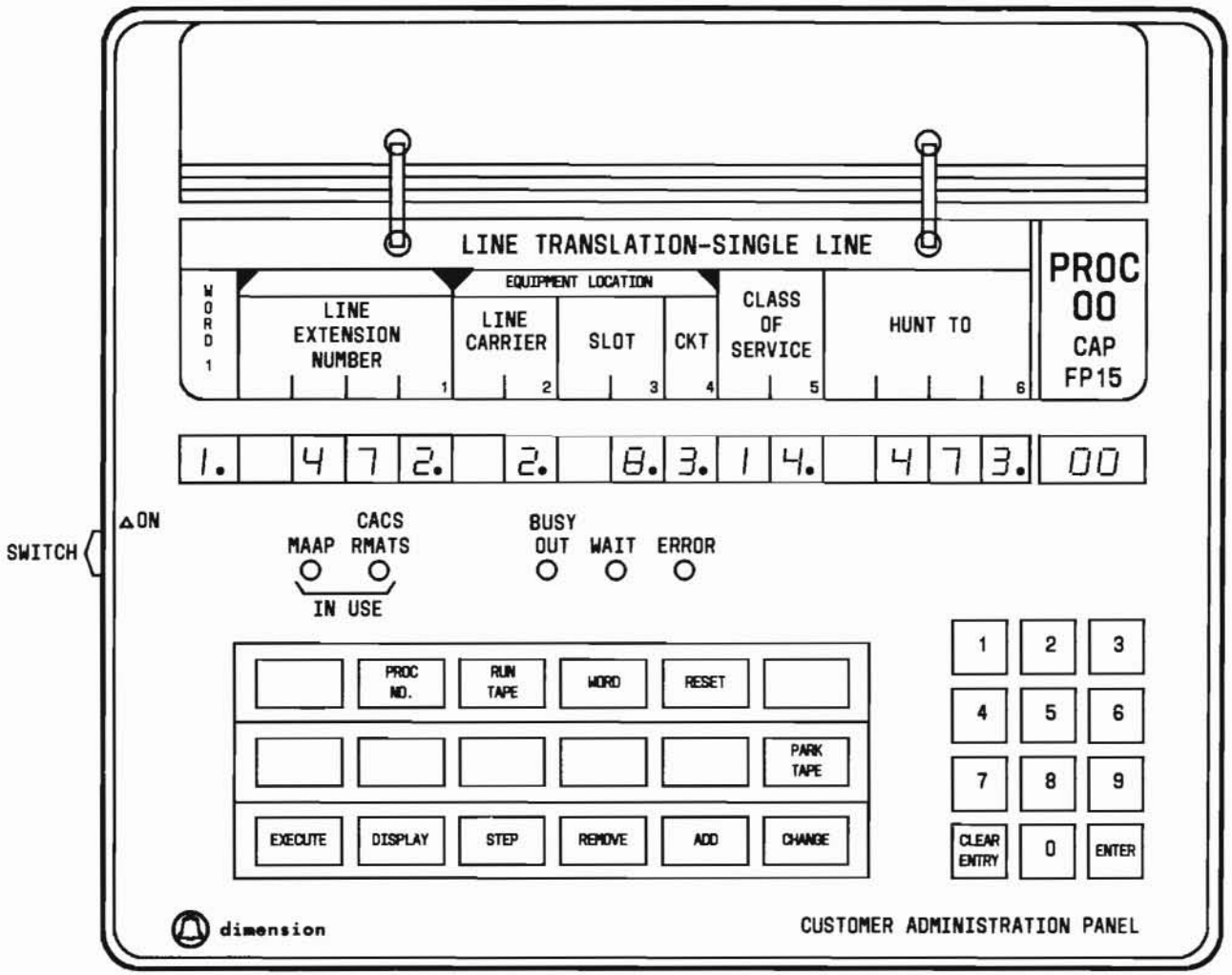


Figure 2-5. Customer Administration Panel (CAP)

Table 2-6

Features Lost During Reinitialization

Feature	Attendant-Alterable Translations (Saves Status as of Last 23-Hour Tape Run)	Other Tanslations (Always Lost)
Flexible Night Station	X	
Common Night Station		X
Control Restrictions	X	
Attendant Control of Trunk Group Access		X
Message Waiting		X
Message Register		X
Maintenance Alarms		X
Data Privacy		X
Call Forwarding	X	
Call Hold		X
Automatic Callback		X
Outgoing Trunk Queuing		X
RMACC Authorization Code	X	
ECTS – DSS	X	
ECTS – SP Call	X	
ECTS – Custom Intercom	X	
ECTS Feature Active		X
Speed Calling List	X	
Traffic/RMATS Connections		X
SMDR Trunk Group Monitoring	X	
UCD Maintenance Busy Status		X

SECTION 3
ADMINISTRATIVE PROCEDURES

	Page
1. Introduction	3-1
A. System Administration	3-1
B. Procedural Format and Content	3-1
2. Administrative Procedure Index	3-2

A. SYSTEM ADMINISTRATION

For the initial installation of the DIMENSION 100/400 PBX on a customer's premises, a program tape is produced reflecting the customer's configuration and the particular feature package ordered. The translation information (eg, class-of-service, dialing plan, and system features) on this tape is then read into system memory. This information corresponds to the features requested on the original customer order form and documented in the Customer Order Document.

As the customer's needs change, the Maintenance and Administration Panel (MAAP) is used for adding or revising the translation information on an in-service basis at the customer's premises. Changes to translation memory are made by calling in and running the appropriate administrative procedures.

As described in Section 2, each administrative procedure accessible via the MAAP is represented by one or more flip charts. A complete set of these flip charts is provided with each MAAP. Because an administrative procedure and its corresponding flip chart(s) may apply to one or more feature packages, it is important to know which procedure(s) can be called in and run at a particular DIMENSION 100/400 PBX installation. This can be done by referring to the administrative procedure index (Part 2) which lists the administrative procedures and the applicable feature packages.

3 ADMINISTRATIVE PROCEDURES

B. PROCEDURAL FORMAT AND CONTENT

Each administrative procedure description presented in this section is divided into six parts:

A. PURPOSE – States the purpose of the administrative procedure and illustrates the related flip chart with a typical MAAP display.

B. PREREQUISITES – Lists any actions that must be taken prior to calling in and executing the procedure.

C. CAUTIONS – If applicable, lists any important aspects of the procedure that must be observed to avoid service interruptions.

D. FIELD DEFINITIONS AND CODES – Defines the fields and the allowable values that may be entered into them.

E. OPERATION – Contains the MAAP key sequences for calling in and executing the procedure. Each MAAP key sequence is presented in the following short hand form:

NAME OF KEY TO BE DEPRESSED; (Encode to be entered); NAME OF KEY TO BE DEPRESSED;...

Note that semicolons are used as delimiters.

F. NOTES – Contains additional explanatory information helpful to running the procedure and observing results.

2. ADMINISTRATIVE PROCEDURE INDEX

Proc.	Word	Feature Package	Title	Page
00	1	1,2,3,4,5,10,15	Line Translation – Single Line	00-1
	2	1,2,3,4,5,10,15	Line Translation – Single Line	00-4
	3	10,15	Line Translation – Multiple Extensions	00-6
02	1	1,2,3,4,5,10,15	Line COS – Restrictions	02-1
	2	1,2,3,4,5,10,15	Line COS – Miscellaneous Trunk Restrictions	02-4
	3	1,2,3,4,5,10,15	Line COS – Features	02-6
	4	3,4,10,15	Line COS – Features	02-9
03	–	3	Hot Line	03-1
04	1	4,10,15	Custom Intercom	04-1
	2	4,10,15	Custom Intercom	04-3
	3	4,10,15	Custom Intercom	04-5
05	1	4,10	Speed Calling	05-1
	2	4,10	Speed Calling	05-3
	3	4,10	Speed Calling	05-6
	4	4,10	Speed Calling	05-8
06	1	15	Speed Calling	06-1
	2	15	Speed Calling	06-4
	3	15	Speed Calling	06-7
	4	15	Speed Calling	06-9
	5	15	Speed Calling	06-11
09	–	4,10,15	Timed Recall	09-1
10	–	1,2,3,4,5,10,15	Trunks – Night Service – AIOD	10-1
11	–	1,2,4,5,10,15	Outgoing Trunk Queuing	11-1
12	–	1,2,3,4,5,10,15	Trunk Group – Dial Access Code, Route Advance and SMDR	12-1
13	–	1,2,3,4,5,10,15	Trunk Group Features	13-1
14	–	1,2,3,4,5,10,15	Trunk Group Restriction	14-1
15	–	1,2,3,4,5,10,15	Miscellaneous Trunk Restriction Group	15-1
16	–	1,2,3,4,5,10,15	Special Trunks	16-1

Proc.	Word	Feature Package	Title	Page
17	1	2,3,4,5,10,15	Trunk-to-Trunk Restrictions	17-1
	2	2,3,4,5,10,15	Trunk-to-Trunk Restrictions	17-3
	3	2,3,4,5,10,15	Tandem Tie Trunk Restrictions	17-5
	4	2,3,4,5,10,15	Tandem Tie Trunk Restrictions	17-7
18	–	1,2,3,4,5,10,15	0/1 Toll Non-Restricted Codes	18-1
19	1	2,4,5,10,15	Code Restriction – Trunk Group & Type	19-1
	2	2,4,5,10,15	Code Restriction – Digit Absorption	19-4
	3	2,4,5,10,15	Allowed Codes – Home NPA	19-6
20	–	2,4,5,10,15	Allowed NPA & Office Codes – CO & FX	20-1
21	1	1,2,3,4,5,10,15	System Class of Service – Night Service	21-1
	2	1,2,3,4,5,10,15	System Class of Service – Features	21-3
	3	1,2,3,4,5,10,15	System Class of Service – AIOD	21-6
	4	1,2,3,4,5,10,15	System Parameters	21-8
	5	2,3,4,5,10,15	System COS – Miscellaneous	21-10
22	1	3	Station Message Register	22-1
	2	3	Station Message Register	22-3
	3	3	Station Message Register	22-5
23	–	3,4,10,15	Calling Number Display	23-1
24	1	4,10,15	Automatic Route Selection	24-1
	2	4,10,15	Automatic Route Selection – NPA & Pattern No.	24-3
	3	4,10,15	Automatic Route Selection – NPA & Office Codes	24-5
25	1	4,10,15	Automatic Route Selection – Trunk Groups	25-1
	2	4,10,15	Automatic Route Selection – Office Code Data	25-3
	3	4,10,15	Automatic Route Selection – Tie Trunk Access	25-5
26	1	1,2,3,4,5,10,15	Consoles	26-1
	2	1,2,3,4,5,10,15	BLF/DSS Group Select Keys	26-6
27	1	1,2,3,4,5,10,15	Console Direct Trunk Group Select Keys	27-1
	2	1,2,3,4,5,10,15	Console Control Keys	27-4
28	1	1,2,3,4,5,10,15	Console ICI	28-1
	2	1,2,3,4,5,10,15	ICI Alpha Message	28-3

2. ADMINISTRATIVE PROCEDURE INDEX (Contd)

Proc.	Word	Feature Package	Title	Page
29	1	1,2,3,4,5,10,15	Dialing Plan – First Digit	29-1
	2	1,2,3,4,5,10,15	Dialing Plan – Feature Access	29-4
	3	3	First Dialed Digit – Station to Station	29-8
	4	3	One/Two Digit Station to Station Codes	29-11
30	–	1,2,3,4,5,10,15	Extension Dial Code Groups	30-1
31	–	1,2,3,4,5,10,15	System LDN	31-1
32	1	5,15	ECTS – Station Translation Equipment	32-1
	2	5,15	ECTS – Line Pickup	32-5
	3	5,15	ECTS – Automatic Line Connection Preferences	32-8
	4	5,15	ECTS – Hold Buttons	32-11
	5	5,15	ECTS – CO Line Pickup	32-14
33	1	5,15	ECTS – Manual Signaling	33-1
	2	5,15	ECTS – Message Waiting (Control Station)	33-4
	3	5,15	ECTS – Message Waiting (Signaled Station)	33-7
34	1	5,15	ECTS – Station Remove	34-1
35	1	5,15	ECTS – Ringer Transfer	35-1
	2	5,15	ECTS – Exclusion Button	35-4
	3	5,15	ECTS – Station Ringer Cutoff	35-7
	4	5,15	ECTS – Abbreviated and Delayed Ringing	35-10
	5	5,15	ECTS – Custom Calling Buttons	35-13
	6	5,15	ECTS – DSS Button	35-16
36	1	5,15	ECTS – Station Busy	36-1
37	–	5,15	ECTS – Feature and Line Button Remove	37-1
38	1	5,15	ECTS – Line Ringing Options	38-1
39	1	5,15	ECTS – Manual and Automatic Intercom	39-1
	2	5,15	ECTS – Dial Intercom	39-4
	3	5,15	ECTS – System Signaling Tones, Ring Rates, and Abbreviated Ringing Transfer	39-7

Proc.	Word	Feature Package	Title	Page
40	1	5,15	ECTS – Search for Unassigned Steering Circuit Port	40-1
	2	5,15	ECTS – Controller Equipment	40-3
	3	5,15	ECTS – Equipment Location Status	40-6
	4	5,15	ECTS – Controller Repack	40-9
43	1	4,10,15	Search ARS Pattern for NPA	43-1
	2	4,10,15	Search ARS Office Codes	43-3
44	1	1,2,3,4,5,10,15	Trunks – Access Code and Numbers	44-1
	2	1,2,3,4,5,10,15	Search Trunk Group Equipment Location	44-3
45	1	2,4,5,10,15	Call Pickup Groups	45-1
	2	1,2,3,4,5,10,15	Search On Line Class of Service	45-3
	3	1,2,3,4,5,10,15	Search Hunt From	45-5
	4	3,4,10,15	Controlled Restriction Group	45-7
46	–	1,2,3,4,5,10,15	Search for Unassigned Equipment Location	46-1
47	–	1,2,3,4,5,15	R.A.T.S. Result	47-1
48	–	1,2,3,4,5,10,15	Program Patch	48-1
49	–	1,2,3,4,5,10,15	Patch Display	49-1
83	1	10,15	Traffic Measurement Number of Measurement Values	83-1
	2	10,15	Traffic Measurement Trunk Group Combinations	83-4
	3	10,15	Special Measurement Groups	83-6
	4	10,15	Traffic Clock	83-9
	5	10,15	Traffic Measurement Special Parameters	83-11
84	1	10,15	Traffic Measurement Peak Values	84-1
	2	10,15	Traffic Measurement Time Coincidence	84-4
	3	10,15	Traffic Measurement Search Time Coincidence	84-7
85	–	1,2,3,4,5	Traffic Measurement	85-1
86	–	10,15	Trunk Group Termination	86-1

2. **ADMINISTRATIVE PROCEDURE INDEX** (Contd)

Proc.	Word	Feature Package	Title	Page
87	1	10,15	Uniform Call Distribution/Direct Department Calling	87-1
	2	10,15	Search Uniform Call Distribution/Direct Department Calling	87-4
	3	10,15	Search Uniform Call Distribution/Direct Department Calling	87-6
88	1	10,15	Centralized Attendant Service	88-1
	2	10,15	Centralized Attendant Service	88-3

PROCEDURE 00, WORD 1 – LINE TRANSLATION – SINGLE LINE

A. PURPOSE

Procedure 00, Word 1 is used to:

- Add a line to service.
- Change or display a line extension number, equipment location, class of service (COS), and hunt to extension number.
- Remove a line from service.

B. PREREQUISITES

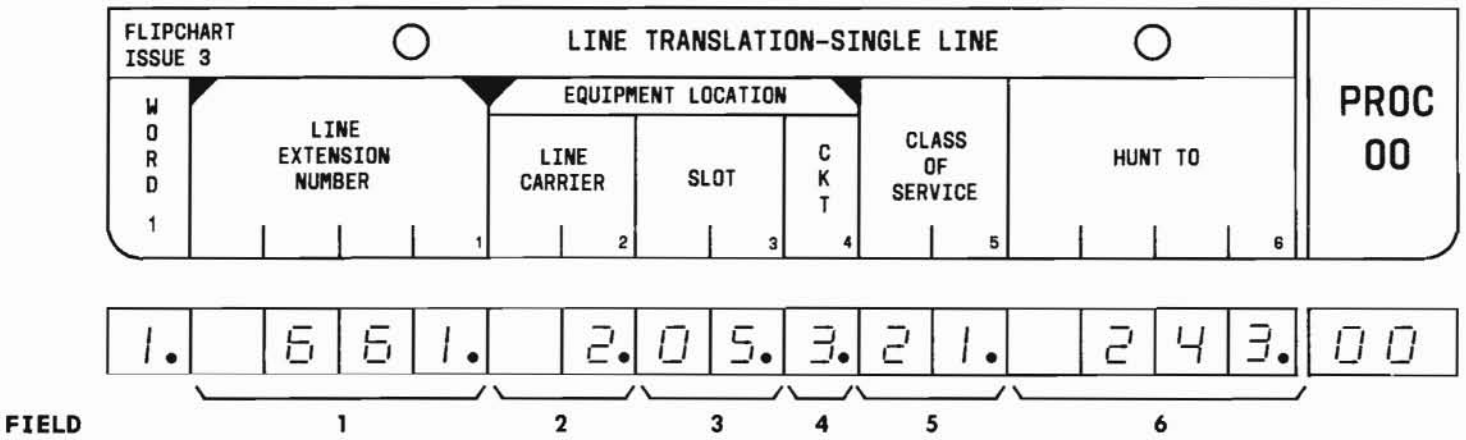
- The line extension numbers in fields 1 and 6 must be in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number assigned in Procedure 30.
- Fields 2 through 5 of Procedure 00, Word 2 must be made zero using the change operation before using Procedure 00, Word 1 to remove a line.
- Before a line extension is removed, all associations and features previously assigned to the line must be removed. Check the following procedures:

– Automatic Number Identification (ANI)	Procedure 21, Word 3
– Calling Number Display	Procedure 23
– Centralized Attendant Service (CAS)-Backup Line Extension Number	Procedure 88
– Custom Intercom	Procedure 04
– Default Extension, Common Extension	Procedure 21, Word 1
– Hunt To Numbers of hunting extensions (found using Procedure 45, Word 3). See Caution 4.	Procedure 00, Word 1
– Search Uniform Call Distribution/ Direct Department Calling (UCD/DDC)	Procedure 87
– Speed Calling	Procedure 05
– Uniform Numbering	Procedure 00, Word 3

- Verify that the line is idle before removing it.

C. CAUTIONS

1. Failure to remove all associations and features may result in unwanted or unauthorized features being assigned to the line equipment location if it is restored to service at a later time. Removing a line from service does not automatically remove the associations and features established by other procedures.
2. If an FP15 PBX has been administered for an LC02 in slot 07 and either CAS or chime paging is to be added, the lines assigned to slot 07 must be removed first, then the CAS or chime paging administered and the circuits 00-07-00 through 00-07-03 should be displayed individually. (This will enter a class-of-service 31 for each circuit in turn and display an error indicating circuits 00-07-00 through 00-07-03 are no longer available for assignment). An LC17 board can then be placed in slot 07 and any alarm that may have occurred during this transition should not recur.
3. All stations to be part of a UCD/DDC group should be identified as such in their class-of-service assignment (Procedure 02, Word 4). Failure to do so could produce the following results:



C. CAUTIONS (Contd)

- Incoming calls may beat a hard held call back to a controlling station.
- These stations can forward their calls, and the restrictions normally placed on UCD/DDC stations do not apply.

4. When a call to a busy station hunts to a station which has been removed from service, the call will receive intercept tone. Therefore, when a station is removed from service, all other stations which hunt to the removed station must have their hunt-to number changed or removed.

D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	Any 2-, 3-, or 4- digit number	Line extension number. See Part F, Notes 1 and 4.
2	0-6	Line carrier location. Range Memory Size / DIM 100 / DIM 400 A: 0,1 / 0,1 B: 0,1 / 0-3 C: 0,1 / 0-6
3	02-09 11-18	Location of circuit pack associated with the line. See Caution 2 and Part F, Notes 5 and 6.
4	0-3	Circuit dedicated to the line.
5	1-31	COS number. See Caution 3 and Part F, Note 2.
6	Any 2-, 3-, or 4-digit number	Hunt to line extension number. See Part F, Note 1.

E. OPERATION

Display equipment location:

PROC NO.; 00; ENTER; (Line Extension Number); ENTER; DISPLAY; EXECUTE

Display line extension number:

PROC NO.; 00; ENTER; CLEAR ENTRY; ENTER; (Line Carrier No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; DISPLAY; EXECUTE

Add a line extension (See Part F, Note 3):

Display equipment location; ENTER; (Line Carrier Number); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; (COS); ENTER; either CLEAR ENTRY or (Hunt To No.); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a line extension (See Caution 1):

Display equipment location; REMOVE; EXECUTE

Change COS or hunt to number:

Display equipment location; CHANGE; 5 or 6; ENTER; (New COS or Hunt To data); ENTER; REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE

Change line extension number or equipment location:

1. Display equipment location.
2. Manually record data for reference.
3. Perform remove operation.
4. Perform the add operation using the new data.

F. NOTES

1. The first digit of a line extension number cannot be a 0, #, or *. Fields 1 and 6 cannot be single digit access codes.
2. Features associated with a COS (field 5) are defined using Procedure 02. Other extensions with the same COS can be found using Procedure 45, and gong line Word 2.
   Line class-of-service 31 is reserved for the remote access, ECTS personal CO line pickup, and gong line features (also CAS or chime paging when the LC17 board is present). COS 31 may be shared with other extensions when the feature assignments are compatible.
3. Unassigned equipment locations (fields 2, 3, 4) can be found using Procedure 46.
4. Line extensions which hunt to the line extension number in field 1 can be identified using Procedure 45, Word 3. These associations can be removed using Procedure 00, Word 1 for each of the hunting lines.
5. The following shows the slots available for line circuit packs for the different carriers:

Carrier	"DIMENSION" PBX	Slots
J58881CB	100	2-9,11-14
J58879AA	100/400	4-9,11-18
J58879AC	400	2-9,11-18

6. In the basic carrier, slot 07 is not available with FP10. With FP15, however, slot 07 is available unless CAS or chime paging is ordered, in which case slot 07 is reserved for an LC17 board (see Caution 2).

END

A. PURPOSE

Procedure 00, Word 2 is used to:

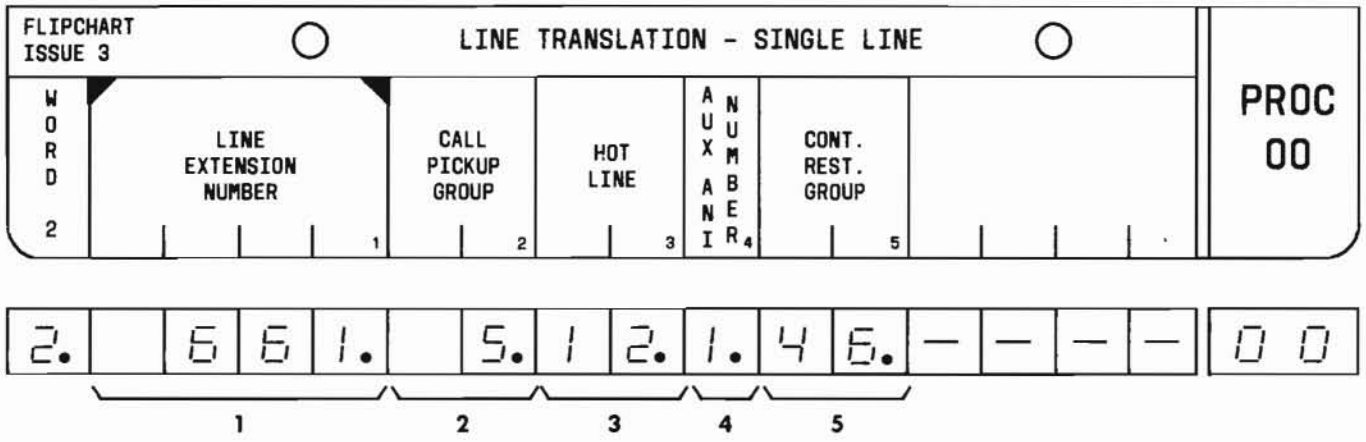
- Display the call pickup group, hot line, auxiliary automatic number identification (ANI) number, and controlled restriction group associated with a line extension.
- Change the line extension's call pickup group, hot line, auxiliary ANI number, and controlled restriction group.

B. PREREQUISITE

The line extension number in field 1 must be in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number must be assigned in Procedures 30 and 00, Word 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	Any 2-, 3-, or 4-digit number	Line extension number (same as Procedure 00, Word 1, field 1). The first digit of line extension numbers cannot be 0, #, or *.
2	0 1-31	Line extension does not belong to a call pickup group. Encode specifies the call pickup group for the line extension identified in field 1. See Part F, Note 1.
3	0 1-15	Hot line feature is not enabled. Hot line number associated with the preassigned called number. Only one line extension per hot line is permitted.
4	0 1	Toll calls will be billed to the line extension number in field 1. Toll calls will be billed to the auxiliary ANI number.
5	0 1-63	The line extension does not belong to a controlled restriction group. Encode specifies the controlled restriction group for the line extension in field 1. See Part F, Note 2.

E. OPERATION (See Part F, Note 3)

Display Word 2:

PROC NO.; 00; ENTER; WORD; 2; (Line Extension Number); ENTER; DISPLAY; EXECUTE

Change Word 2:

Display Word 2; CHANGE; (Field No.); ENTER; (New entry); ENTER; ADD; EXECUTE

F. NOTES

1. The number of extensions in a call pickup group is limited only by the number of extensions in the PBX system. To find other extensions in the same group, use Procedure 45, Word 1.
2. Other members of the same controlled restriction group may be identified using Procedure 45, Word 4.
3. The remove operation cannot be used with Procedure 00, Word 2. (The remove operation is allowed with Procedure 00, Words 1 and 3).

END

PROCEDURE 00, WORD 3 — LINE TRANSLATION — MULTIPLE EXTENSIONS

A. PURPOSE

Procedure 00, Word 3 is used in centralized attendant service (CAS) and uniform call distribution/direct department calling (UCD/DDC) applications to:

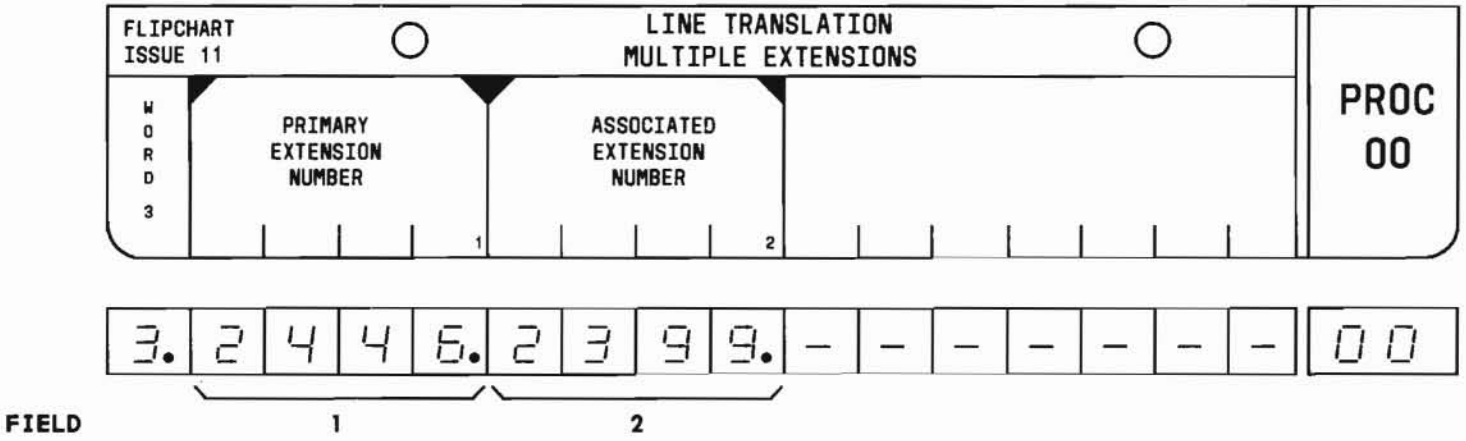
- Display primary and associated extension numbers.
- Add, remove, or change associated extensions.

B. PREREQUISITE

The line extension numbers in fields 1 and 2 must be in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number must be assigned in Procedure 30. The line extension number in field 1 must also be assigned in Procedure 00, Word 1.

C. CAUTION

Removing the primary line extension from service using Procedure 00, Word 1 does not automatically remove the associations in memory between the line extension number and the data in Words 2 and 3.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	Any 2-, 3-, or 4-digit number	Controlling extension of a UCD/DDC group and/or the primary extension in a CAS complex. The primary extension number must be identical to the number in Procedure 00, WD1, FLD1.
2	Any 2-, 3-, or 4-digit number	Additional extension number(s) associated with the primary extension.

E. OPERATION

Display associated extension number (See Part F, Note 1):

PROC NO.; 00; ENTER; WORD; 3; (Primary Extension Number); ENTER; DISPLAY; EXECUTE

Display primary extension number:

PROC NO; 00; ENTER; WORD; 3; CLEAR ENTRY; ENTER; (Associated Extension Number); ENTER; DISPLAY; EXECUTE

Add associated extension number:

Display primary extension; CHANGE; 2; ENTER; (Associated Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove associated extension number (See Caution):

Display associated extension; REMOVE; EXECUTE

Change associated extension number:

1. Perform remove operation.
2. Perform add operation.

F. NOTE

1. To display other associated extension numbers, use the sequence DISPLAY; EXECUTE repeatedly after displaying the first associated extension.

END

PROCEDURE 02, WORD 1 - LINE CLASS-OF-SERVICE - RESTRICTIONS PROC 02, WD 1

A. PURPOSE

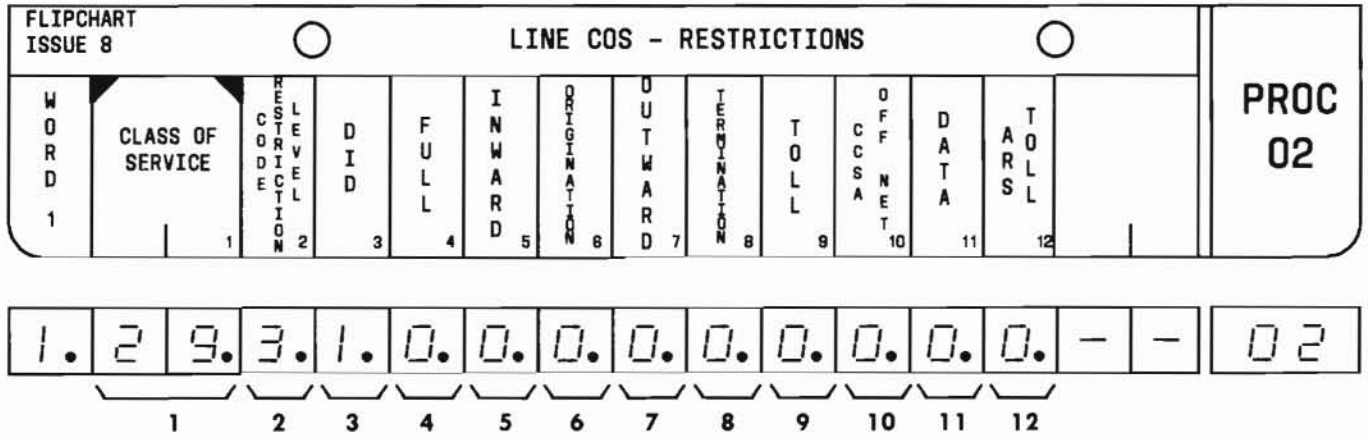
Procedure 02, Word 1 is used to administer restrictions applicable to a class-of-service (COS) number. In the text, "station" implies a line extension with the COS number specified in field 1. Only change and display operations are allowed in this procedure.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-31	Line class-of-service (COS) number. See Part F, Note 1.
2		See Part F, Note 2.
	0	No code restriction level.
	1-3	Code restriction level.
Note: In fields 3 through 12, 0=no restriction		
3	1	Restricts stations from receiving DID calls.
4	1	Restricts stations from placing or receiving other than station-to-station calls.
5	1	Restricts stations from receiving incoming CO/DID calls that are either direct dial or attendant completed.
6	1	Restricts stations from originating calls at any time.
7	1	Restricts stations from access to the exchange network without attendant assistance.
8	1	Restricts stations from receiving calls at any time. See Part F, Note 3.
9	1	Restricts stations from completing toll calls or calls to the toll operator without attendant assistance.
10	1	Originating line COS restricts off-network calls, ie, DID via CCSA.
11	1	Protects data transmission from intrusion by denying requests to call wait (including attendant call waiting), executive override, busy verify or trunk verify of any connection including a line and/or trunk having a data line COS.
12	1	Restricts automatic routing of calls placed by stations to toll facilities.

CCSA – Common control switching arrangement
CO – Central office
DDD – Direct distance dialing
DID – Direct inward dialing

E. OPERATION (See Part F, Note 4)

Display line class-of-service restrictions:

PROC NO.; 02; ENTER; (Class-of-Service); ENTER; DISPLAY; EXECUTE

Change a line class-of-service restriction:

Display line class-of-service restrictions; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Procedure 45, Word 2 can be used to find unused COS numbers.
2. The code restriction level assigned determines whether lines are allowed to dial designated office, HNPA (home numbering plan area), ect, codes. The code restriction level is also used to restrict automatic route selection routing.
3. When the remote access to PBX services feature is assigned to COS 31, Word 1, field 8 and Word 3, field 14 must equal 1.
4. The REMOVE key cannot be used in this procedure. In order to remove a restriction, set the applicable field to 0.

END

PROOCEDURE 02, WORD 2 – LINE CLASS-OF-SERVICE – MISCELLANEOUS TRUNK RESTRICTIONS

A. PURPOSE

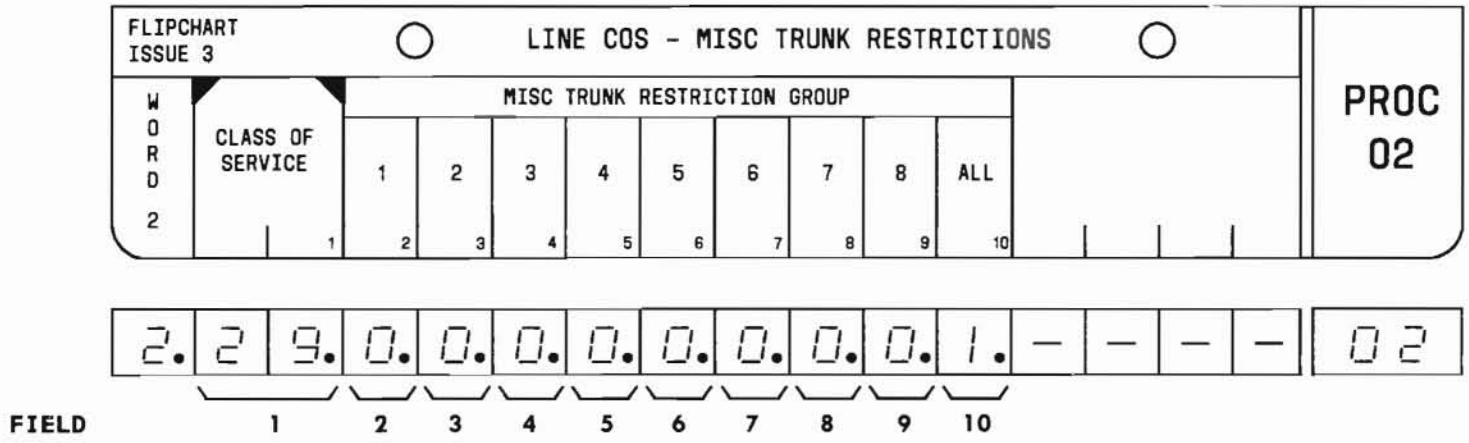
Procedure 02, Word 2 is used to administer miscellaneous trunk restrictions applicable to a class-of-service (COS) number. In the text, "station" implies a line extension with the COS number specified in field 1. Only change and display operations are allowed in this procedure.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-31	Line class-of-service number. See Part F, Note 1.
2-9 (See Part F, Note 2)	0	Enables free access to all trunks.
	1	Denies stations access to preselected miscellaneous trunk groups.
10	Blank or 0	Restrictions determined by fields 2 through 9.
	1	Denies stations access to all preselected miscellaneous trunk groups.

E. OPERATION (See Part F, Note 3)

Display line class-of-service miscellaneous trunk restrictions:

PROC NO.; 02; ENTER; WORD; 2; (Class-of-Service); ENTER; DISPLAY; EXECUTE

Change line class-of-service miscellaneous trunk restrictions:

Display line class-of-service miscellaneous trunk restrictions; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Procedure 45, Word 2 can be used to find unused COS numbers.
2. Procedure 14 defines miscellaneous trunk restriction groups. The configuration of each preselected miscellaneous trunk group can be displayed using Procedure 15.
3. The REMOVE key cannot be used in this procedure. In order to remove a miscellaneous trunk restriction, set the applicable field to 0.

END

PROCEDURE 02, WORD 3 — LINE CLASS-OF-SERVICE — FEATURES

A. PURPOSE

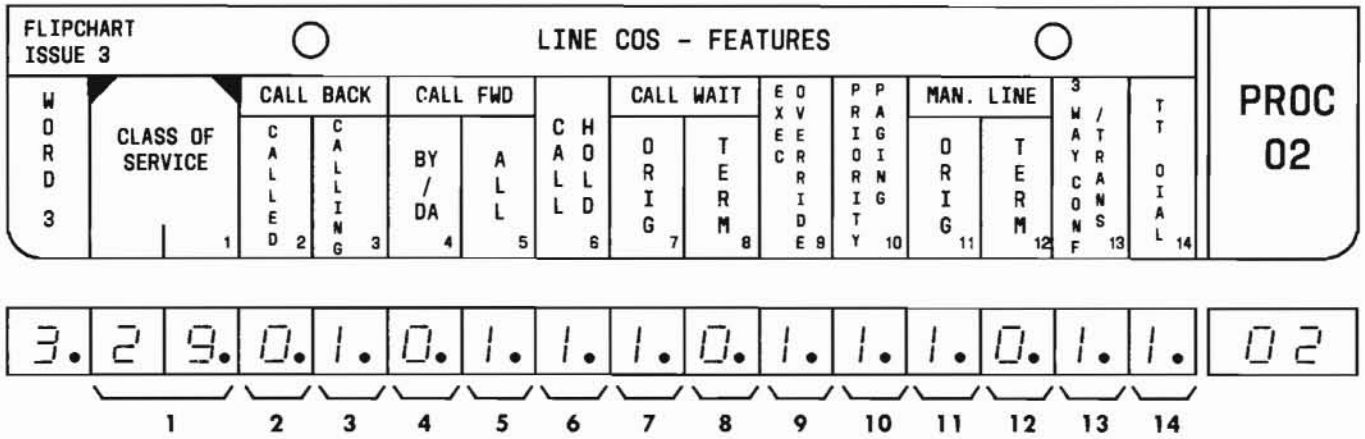
Procedure 02, Word 3 is used to administer features applicable to a class-of-service (COS) number. Only change and display operations are allowed in this procedure.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-31	Line class-of-service number. See Part F, Note 1.
2	–	Reserved for future use.
Note: In fields 3 through 13, 0 = not enabled.		
3	1	Enable callback calling.
4	1	Enable call forwarding-don't answer only.
	2	Enable call forwarding-BY/DA.
5	1	Enable call forwarding-all calls. See Part F, Note 5.
6	1	Enable call hold.
7	1	Enable call waiting originate.
8	1	Enable call waiting terminate.
9	1	Enable executive override.
10	1	Enable priority paging.
11	1	Enable manual line originate.
12	1	Enable manual line terminate.
13	1	Enable 3-way conference transfer.
14	0	Rotary dial.
	1	TOUCH-TONE dialing. See Part F, Notes 2 and 4.

E. OPERATION (See Part F, Note 3)

Display line class-of-service features:

PROC NO.; 02; ENTER; WORD; 3; (Class-of-Service); ENTER; DISPLAY; EXECUTE

Change a line class-of-service feature:

Display line class-of-service features; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Procedure 45, Word 2 can be used to find unused COS numbers.
2. When the remote access to PBX services feature is assigned to encode 31, Word 1, field 8 and Word 3, field 14 must equal 1.
3. The REMOVE key cannot be used in this procedure. To remove a feature, set the applicable field to 0.
4. Rotary dialing can be used over extension lines with a TOUCH-TONE dial COS (field 14=1) under the following conditions:
   (a) Can be used for making calls within the PBX.
   (b) Cannot be used with features that include * or # in their dial access code.
   (c) May not successfully complete calls going outside the PBX.
5. If call forwarding-all calls is active on a line and call forwarding-all calls feature is removed from the class-of-service for that line, the call forwarding-all calls feature cannot be cancelled.

END

PROCEDURE 02, WORD 4 – LINE CLASS-OF-SERVICE – FEATURES PROC 02, WD 4

A. PURPOSE

Procedure 02, Word 4 is used to administer features applicable to a class-of-service (COS) number. In the text, "station" implies a line extension with the COS number specified in field 1. Only change and display operations are allowed with this procedure.

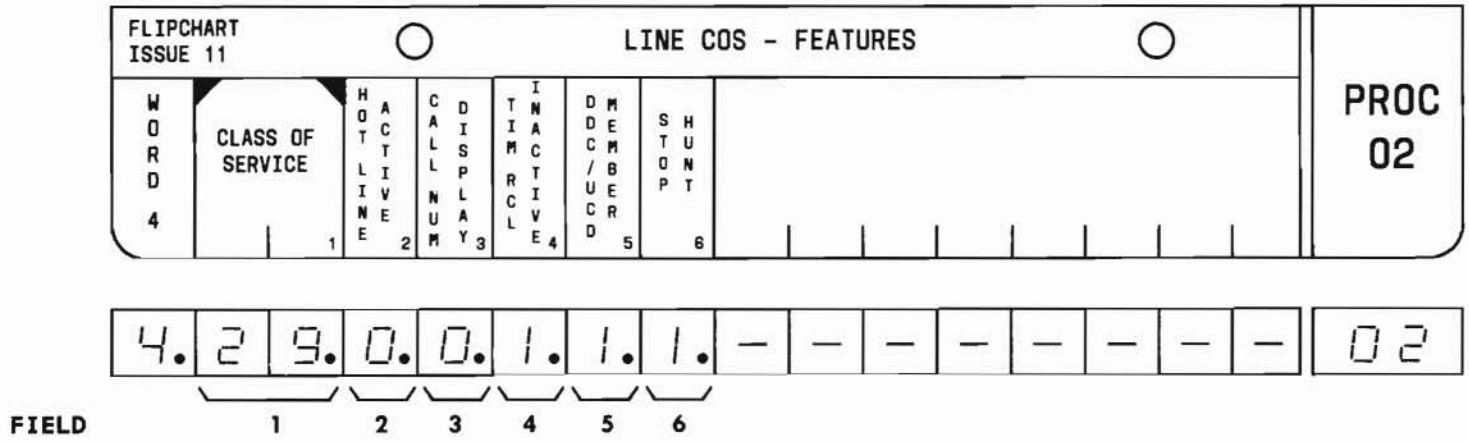
B. PREREQUISITE

If the hot line feature (field 2) is used:

- First, Procedure 03 must be used to define the hot line.
- Then, Procedure 00, Word 2, field 3 must be used to assign all lines having the field-1 COS to a hot line number.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-31	Line class-of-service number. See Part F, Note 1.
2	0 1	Disables feature. Enables hot line service feature.
3	0 1	Disables feature. Enables calling number display-to-station feature.
4	0 1	Enables timed recall on outgoing call feature. Disables feature.
5	0 1 2	Stations with COS shown in field 1 are not UCD/DDC group members. Station is a DDC group member. Station is a UCD group member.
6	0 1	Calls forwarded to or hunting to these lines continue to do so. Calls forwarded to or hunting to these lines do not hunt any further unless the call is a UCD/DDC call and the station is a UCD/DDC station.
DDC – Direct department calling UCD – Uniform call distribution		

E. OPERATION (See Part F, Note 2)

Display line class-of-service features:

PROC NO.; 02; ENTER; WORD; 4; (Class-of-Service); ENTER; DISPLAY; EXECUTE

Change a line class-of-service feature:

Display line class-of-service features; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Procedure 45, Word 2 can be used to find unused COS numbers.
2. The REMOVE key cannot be used in this procedure.

END

PROCEDURE 03 — HOT LINE

A. PURPOSE

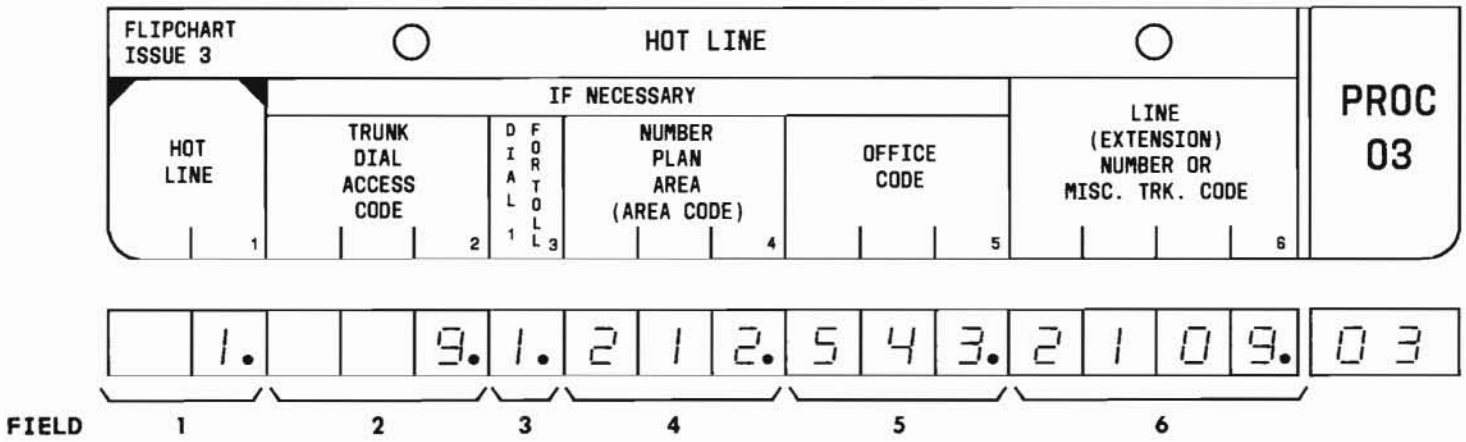
Procedure 03 is used to make the association in memory between a hot line number and the number to be called.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-15	Hot line number. See Part F, Notes 1 and 5.
2	1-, 2-, or 3-digit number	Trunk dial access code. See Part F, Notes 2 and 4.
3	Blank	No digit dial to access toll network.
	0	TSPS call.
	1	Toll call.
4	Blank	Called number is in home NPA.
	3-digit number	Any valid NPA (area code).
5	Blank	Called number is in PBX system or a service code.
	3-digit number	Any valid office code.
6	Any 1-, 2-, 3-, or 4-digit number	A line extension number or a miscellaneous trunk code. See Part F, Notes 2 and 3.

NPA - Numbering plan area
TSPS - Traffic service position system

E. OPERATION

Display hot line:

PROC NO.; 03; ENTER; (Hot Line No.); ENTER; DISPLAY; EXECUTE

Add hot line (See Part F, Notes 1, 2, 4, and 6):

Display hot line; CHANGE; 2; ENTER; (Trunk Dial Access Code) or CLEAR ENTRY; ENTER; CLEAR ENTRY or (Toll Encode); ENTER; (NPA) or CLEAR ENTRY; ENTER; (Office Code) or CLEAR ENTRY; ENTER; (Line Extension Number or Miscellaneous Trunk Code); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove hot line:

Display hot line; REMOVE; EXECUTE; DISPLAY; EXECUTE

Change hot line:

1. Perform remove operation
2. Perform add operation.

Change hot line assignment:

Display hot line; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Only one line extension number can use a particular hot line.
2. If the trunk dial access code in field 2 is for a paging trunk, field 6 must contain the paging zone number.
3. The encodes for field 6 depend on the particular hot line use. The uses and encodes may be one of the following:
    - Hot line call directed to a station within the PBX or to a distant PBX via a tie trunk: a 2-, 3-, or 4-digit line extension number.
    - Hot line call directed to a station via the direct distance dialing (DDD) or common-control switching arrangement (CCSA) network: a 4-digit extension number.
    - Hot line call directed to loudspeaker paging via a miscellaneous trunk: a 1-digit number, 1 through 6.
    - Hot line call directed to the deluxe loud-speaker paging feature via a miscellaneous trunk; a 1-digit number, 1 through 6 (Zone) and a 1-digit answer channel code (0 = no answer back, 1 = priority page, and 2 through 6 = answer back channel).
    - Hot line call directed to a service code (911, 411, etc): a 3-digit number.
4. If hot line service is being directed by a trunk circuit, an entry is required in field 2.
5. Hot line numbers are assigned to line extension numbers using Procedure 00, Word 2.
6. The hot line feature is enabled in a line class-of-service (COS) using Procedure 02, Word 4.

END

A. PURPOSE

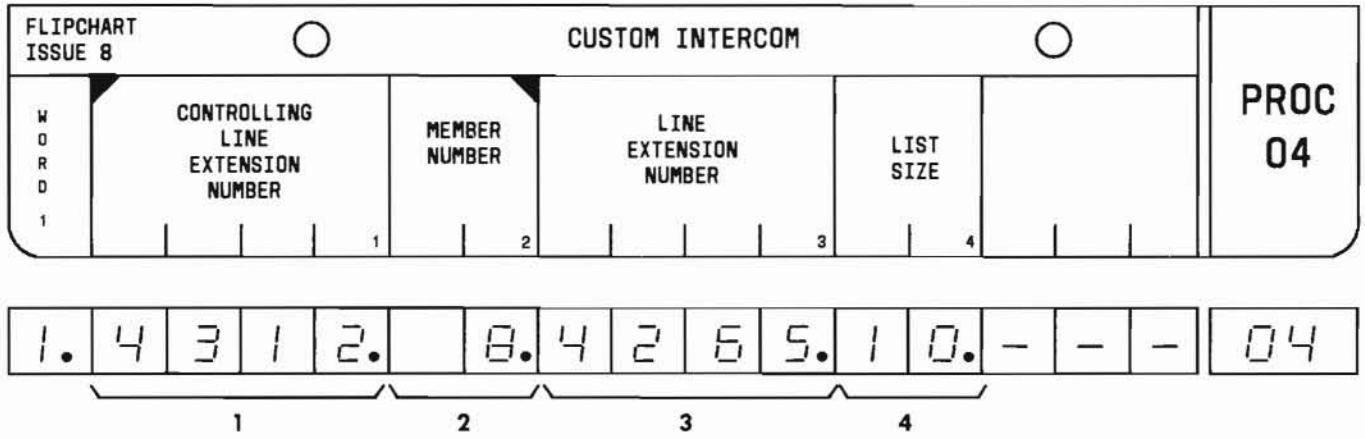
Procedure 04, Word 1 is used to assign the controlling line extension number, the member number, the line extension number of list member(s), and the list size applicable to the custom intercom feature. See Part F, Note 4.

B. PREREQUISITES

- If the mix within the system is being changed from 10- and 20-member lists to 10- and 30-member lists, or vice versa, Word 3, field 1 must be changed to indicate the proper mix before the list can be changed in Word 1.
- The line extension numbers in fields 1 and 3 must be in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number assigned in Procedure 30 and Procedure 00, Word 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	Any 2-, 3-, or 4-digit number	The controlling line extension number. See Part F, Note 1.
2 (See Part F, Note 2)	0-9 10-29 10-39	Member number for a 10-member list. Member number for a 20-member list. Member number for a 30-member list.
3	Any 2-, 3-, or 4-digit number	Line extension number of a member station on a custom intercom list.
4	10, 20 30	List size for specified controlling extension. See Part F, Note 3.

E. OPERATION

Display Word 1:

PROC NO.; 04; ENTER; (Controlling Line Extension Number); ENTER; (Member Number); ENTER; DISPLAY; EXECUTE

Add line extension number to list:

PROC NO.; 04; ENTER; (Controlling Line Extension Number); ENTER; (Member Number); ENTER; (Line Extension Number); ENTER; (List Size); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change line extension number:

Display Word 1; CHANGE; 3; ENTER; (New Line Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove line extension number (See Part F, Note 5):

Display Word 1; REMOVE; EXECUTE

F. NOTES

1. The controlling station may add or remove lines from its list within the limits of the list size. The controlling extension may be a member of its own list but is not required to be one.
2. The member number (field 2) is an index to the member's line extension number (field 3).
3. The list size (field 4) is the maximum number of members that a controlling station can have on its custom intercom list.
4. The custom intercom feature is enabled by a custom intercom dial access code defined in Procedure 29, Words 1 and 2.
5. If a custom intercom list is being removed, each member number must be removed individually using Procedure 04, Word 1. When the last member number is removed, the controlling line number and all the data in Word 2 are automatically removed from memory.

END

A. PURPOSE

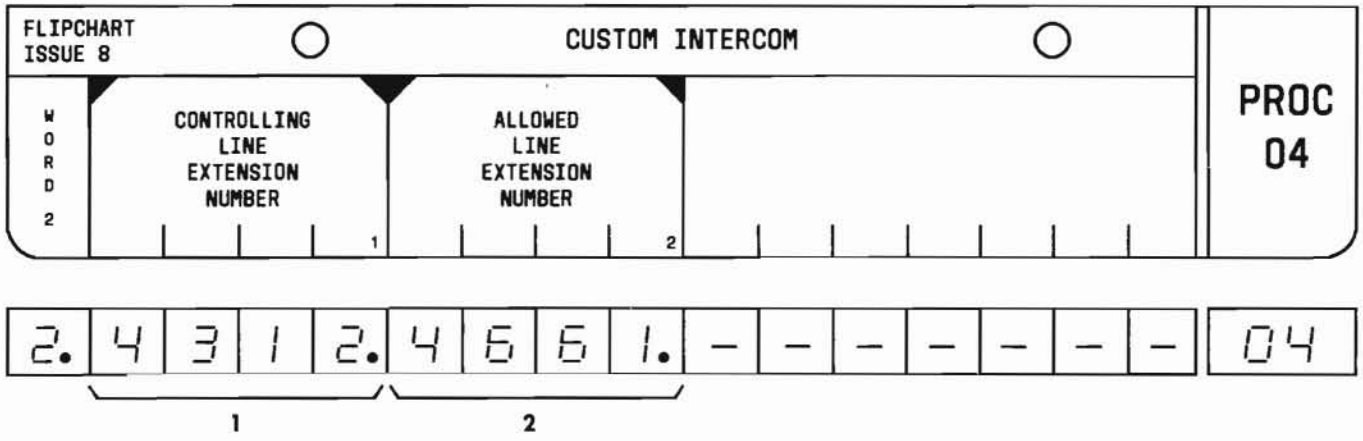
Procedure 04, Word 2 is used to assign other extensions which are allowed access to the custom intercom list extensions.

B. PREREQUISITE

The line extension numbers must be in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number assigned in Procedure 30 and Procedure 00, Word 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	Any 2-, 3-, or 4-digit number	The controlling line extension number. See Part F, Note 1.
2	Any 2-, 3-, or 4-digit number	Allowed line extension number. See Part F, Note 2.

E. OPERATION

Display allowed line extension (See Part F, Note 3):

PROC NO.; 04; ENTER; WORD; 2; (Controlling Line Extension Number); ENTER; DISPLAY; EXECUTE

Display controlling line extension:

PROC NO.; 04; ENTER; WORD; 2; CLEAR ENTRY; ENTER; (Allowed Line Extension Number); ENTER; DISPLAY; EXECUTE

Add initial allowed line extension:

PROC NO.; 04; ENTER; WORD; 2; (Controlling Line Extension Number); ENTER; (Allowed Line Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Add other allowed line extensions:

Display allowed line extension; CHANGE; 2; ENTER; (New Allowed Line Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove allowed line extension:

Display allowed line extension; REMOVE; EXECUTE

F. NOTES

1. The line extension number in field 1 is identical to the number in Word 1, field 1.
2. The allowed extension identified in field 2 can initiate calls to list members but cannot be called on the list.
3. To display other allowed extension members associated with the controlling extension, use the sequence DISPLAY; EXECUTE repeatedly.

END

A. PURPOSE

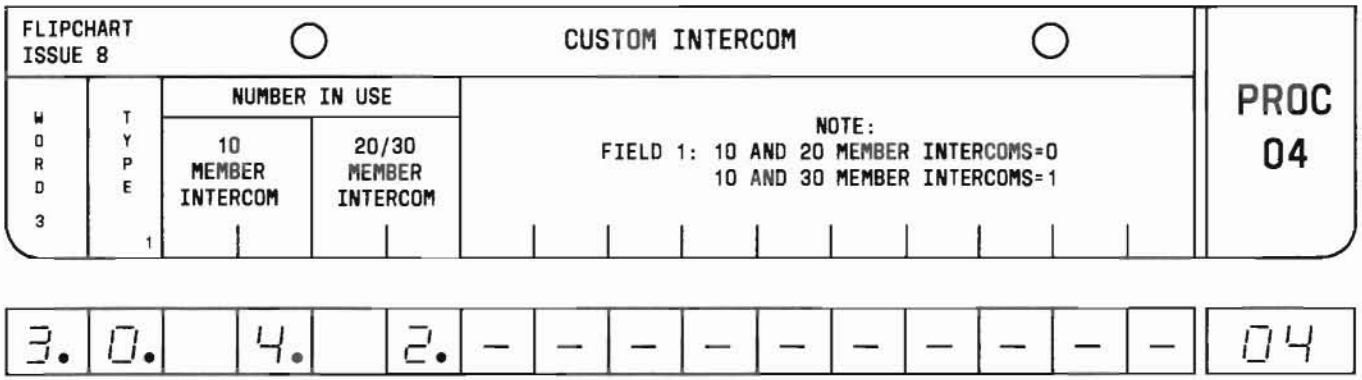
Procedure 04, Word 3 is used to define the type and number of lists in use.

B. PREREQUISITES

None.

C. CAUTION

Use of the remove operation with this word will completely remove ***all*** 20- and 30-member lists from memory.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1		List type (See Part F, Notes 1 and 3):
	0	Combination of 10- and 20-member lists.
	1	Combination of 10- and 30-member lists.
2 (10 MEMBER INTERCOM)	0-75	Number of 10-member intercom lists assigned. See Part F, Note 4.
3 (20/30 MEMBER INTERCOM)	0-37	Number of 20- or 30-member intercom lists assigned. See Part F, Note 4.

E. OPERATION

Display Word 3:

PROC NO.; 04; ENTER; WORD; 3; DISPLAY; EXECUTE

Add custom intercom (See Part F, Note 2):

PROC NO.; 04; ENTER; WORD; 3; (Type); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change type (See Caution and Part F, Note 2):

Display Word 3; REMOVE; EXECUTE; (Type); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Custom intercom lists are sized in increments of 10, 20, and 30 members. However, 20- and 30-member lists cannot be assigned within the same PBX installation. Only a combination of 10- and 20-member lists or 10- and 30-member lists is permitted.
2. After adding or changing type, go to Word 1 and build either 20- or 30-member lists.
3. If the mix within the system is being changed from 10- and 20-member lists to 10- and 30-member lists, or vice versa, field 1 must be changed to indicate the proper mix before the list can be changed in Word 1.
4. The total number of custom intercom lists (fields 2 and 3) depends on the type (field 1) and the system memory size. The total number of members that can be assigned and the maximum code values are summarized below:

		Memory Size (Capacity)		
Type	**Word 3† Codes**	**A (250)**	**B (500)**	**C‡ (750)**
0 (10/20)	Field 2	25	50	75
	Field 3	12	25	37
1 (10/30)	Field 2	25	50	75
	Field 3	8	16	25

† The maximum code value specified for field 2 can only be used if the code for field 3 is 0, and vice versa.

Example: Memory size A (250-member capacity) and type 1 (10- and 30-member lists). There could be thirteen 10-member lists and four 30-member lists concurrently:

$$13 \times 10 \text{ plus } 4 \times 30 = 250$$

‡ For only Feature Package 10, the custom intercom system capacity and field ranges are the same for the C-size memory as for the A-size memory.

END

A. PURPOSE

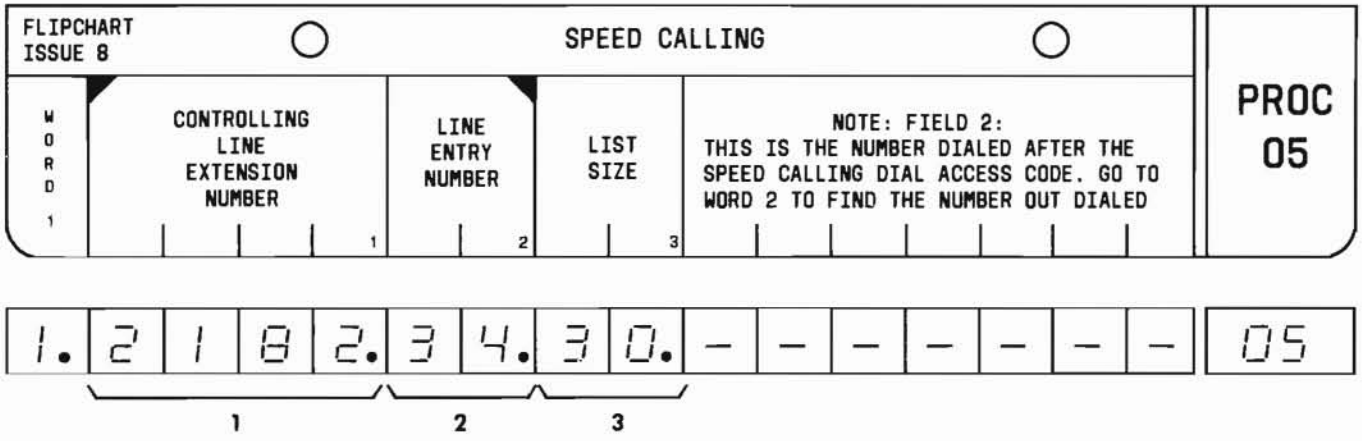
Procedure 05, Word 1 is used to assign a speed calling list to a controlling extension. For FP15 applications, use Procedure 06.

B. PREREQUISITES

- If the mix within the system is being changed from 10- and 20-number lists to 10- and 30-number lists, or vice versa, Word 4, field 1 must be changed before the list size can be changed in Word 1.
- The line extension number in field 1 can be any PBX line extension in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number must be assigned in Procedure 30 and Procedure 00, Word 1.

C. CAUTION

When a speed calling list is removed using Word 1, data is automatically removed in Words 2, 3, and 4.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	Any 2-, 3-, or 4-digit number	The controlling line extension number. See Part F, Note 1.
2		List entry number for: (See Part F, Note 2)
	0-9	10-number list.
	10-29	20-number list.
	10-39	30-number list.
3	10, 20, 30	List size for the specified controlling extension. See Part F, Note 3.

E. OPERATION

Display Word 1:

PROC NO.;05; ENTER; (Controlling Line Extension Number); ENTER; (List Entry Number); ENTER; DISPLAY; EXECUTE

Add speed calling list (See Part F, Note 4):

PROC NO.; 05; ENTER; (Controlling Line Extension Number); ENTER; (List Entry Number); ENTER; (List Size); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove speed calling list (See Caution):

Display Word 1; REMOVE; EXECUTE

F. NOTES

1. The controlling station may add or remove lines from its list within the limits of the list size.
2. The list entry number in field 2 is the number dialed after dialing the speed calling access code. Go to Word 2 to find outdialed number or SMDR account number.
3. The list size (field 3) is the maximum number of numbers that the controlling station can have on its speed calling list.
4. If a new speed calling list is being added, data must be entered in Word 1, fields 1, 2, and 3, before data entries are made in Word 2 as required by the application.

END

A. PURPOSE

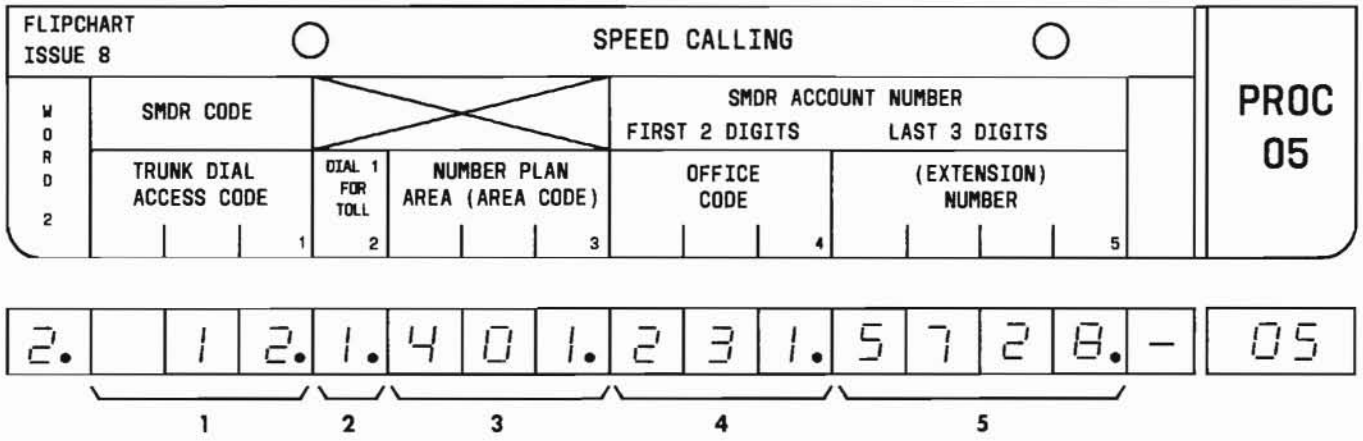
Procedure 05, Word 2 is used to assign either an outdialed number or a station message detail recording (SMDR) account number to a list entry number. For FP15 applications, use Procedure 06.

B. PREREQUISITES

- If a speed calling list is being added or changed, Word 1 must be loaded and displayed before displaying Word 2.
- The SMDR dial access code is defined in Procedure 29, Words 1 and 2.
- Procedure 21, Word 5 administers SMDR in the system class of service.
- Trunk group dial access codes are assigned in Procedure 29, Word 1 and Procedure 12.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Two separate field tables are shown to distinguish between the SMDR application and the trunk or ARS speed calling application. The flip chart is divided into two horizontal rows to imply that the Word can be used for one or the other of these applications, but not both simultaneously.

SMDR Application (See Part F, Note 1)

Field	Code	Definition
1	Any 1-, 2-, or 3-digit number	SMDR dial access code.
2 and 3	Blank	Not used.
4	2-digit number	First two digits of the SMDR account number.
5	3-digit number	Last three digits of the SMDR account number.

Trunk or ARS Speed Calling Application (See Part F, Notes 1 and 2)

Field	Code	Definition
1	Any 1-, 2-, or 3-digit number	The trunk dial access code.
2	Blank 0 1	Dial 1 for toll. No digit dialed for toll call. TSPS call. Toll call.
3	Blank 3-digit number	Area Code. Local area call. Any valid area code number.
4	Blank 3-digit number	Office code. Call to PBX extension or service code. Any valid office code.
5	2-, 3-, or 4-digit number	Any valid extension number or service code.

E. OPERATION

Display Word 2:

PROC NO.; 05; ENTER; WORD; 2; DISPLAY; EXECUTE

Add SMDR number:

PROC NO.; 05; ENTER; WORD; 2; (SMDR Access Code); ENTER; CLEAR ENTRY; ENTER; CLEAR ENTRY; ENTER; (First two digits of SMDR Account Number); ENTER; (Last three digits of SMDR Account Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Add trunk or ARS number:

PROC NO.; 05; ENTER; WORD; 2; (Trunk or ARS Dial Access Code); ENTER; (Toll Code) or CLEAR ENTRY; ENTER; (Area Code) or CLEAR ENTRY; ENTER; (Office Code) or CLEAR ENTRY; ENTER; (Extension Number or Service Code); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change SMDR number or trunk or ARS number:

Display Word 2; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove number associated with a list entry number:

Display Word 2; REMOVE; EXECUTE

F. NOTES

1. The speed calling feature is enabled by an access code defined in Procedure 29, Words 1 and 2.
2. The automatic route selection (ARS) feature is enabled by an access code defined in Procedure 29, Words 1 and 2.

A. PURPOSE

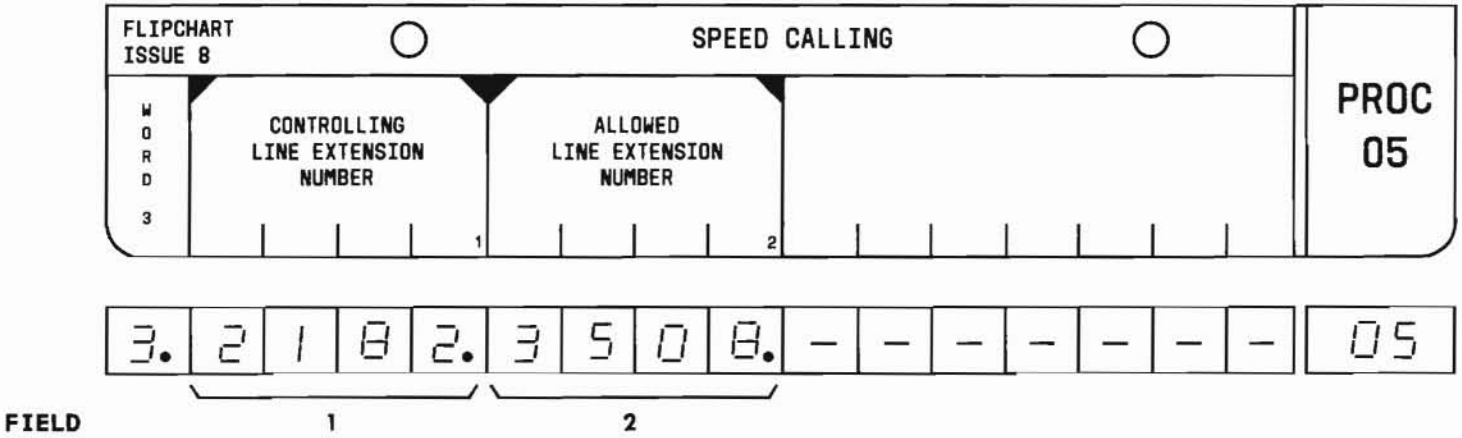
Procedure 05, Word 3 is used to assign extensions which are allowed to share the speed calling list with the controlling line. For FP15 applications, use Procedure 06.

B. PREREQUISITES

- Word 1 assigns a speed calling list to the controlling extension.
- The line extension numbers must be in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number assigned in Procedure 30 and Procedure 00, Word 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	Any 2-, 3-, or 4-digit number	Controlling line extension number. See Part F, Note 1.
2	Any 2-, 3-, or 4-digit number	Allowed line extension number. See Part F, Note 2.

E. OPERATION

Display allowed extension(s) (See Part F, Note 3):

PROC NO.; 05; ENTER; WORD; 3; (Controlling Line Extension Number); ENTER; DISPLAY; EXECUTE

Display controlling extension:

PROC NO.; 05; ENTER; WORD; 3; CLEAR ENTRY; ENTER; (Allowed Line Extension Number); ENTER; DISPLAY; EXECUTE

Add initial allowed extension:

PROC NO.; 05; ENTER; WORD; 3; (Controlling Line Extension Number); ENTER; (Allowed Line Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Add other allowed extensions:

Display allowed extension; CHANGE; 2; ENTER; (New Allowed Line Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove allowed extension:

Display allowed extension; REMOVE; EXECUTE

F. NOTES

1. The line extension number in field 1 is identical to the number in Word 1, field 1.
2. The allowed extension can initiate calls via the list but is not able to change the list.
3. To display other allowed extension numbers associated with the controlling extension, use the key sequence DISPLAY; EXECUTE repeatedly.

END

A. PURPOSE

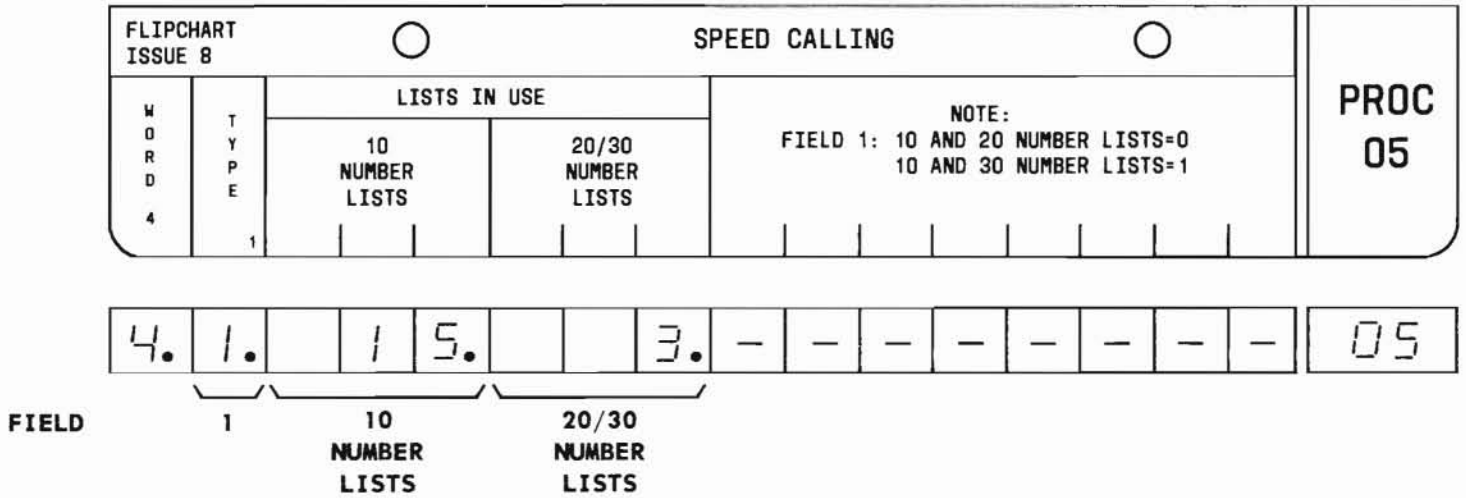
Procedure 05, Word 4 is used to assign the type and display the number of speed calling lists. For FP15 applications, use Procedure 06.

B. PREREQUISITES

None.

C. CAUTIONS

1. Use of the remove operation with Word 4 will completely remove ***all*** the 20- and 30-number lists from memory.
2. In Feature Package 4, Program Issue 1, failure to remove all 20/30 speed call lists before changing the "type" field could ultimately destroy speed call lists. All other Feature Package program issues will not allow changing the "type" field until removal of the 20/30 speed call lists.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0 1	List type (See Part F, Note 1): Combination of 10- and 20-number lists. Combination of 10- and 30-number lists.
2 (10 Number Lists)	0-150	Number of 10-number speed calling lists assigned. See Part F, Note 2.
3 (20/30 Number Lists)	0-75	Number of 20- or 30-number speed calling lists assigned. See Part F, Note 2.

E. OPERATION

Display Word 4:

PROC NO.; 05; ENTER; WORD; 4; DISPLAY; EXECUTE

Change list type (See Cautions 1 and 2 and Part F, Note 3):

Display Word 4; REMOVE; EXECUTE; (New Type); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Speed calling lists are sized in increments of 10, 20, and 30 numbers. However, 20- and 30-number lists cannot be assigned within the same PBX installation. Only a combination of 10- and 20-number or 10- and 30-number lists is permitted.
2. The total number of speed calling lists (fields 2 and 3) depends on the type (field 1) and the system memory size. The total number of number lists and the maximum displayed values are summarized below:

Memory Size (Capacity)						
					C	
Type	Number List	Word 4 Codes*	A (250)	B (1000)	FP4 (1500)	FP10 (250)
0	10	Field 2	25	100	150	25
	20	Field 3	12	50	75	12
1	10	Field 2	25	100	150	25
	30	Field 3	8	33	50	8

* Any combination of 10 and 20 (type 0) or 10 and 30 (type 1) number list can be provided as long as the number list does not exceed the capacity of the memory size.

3. After changing the type, go to Words 1 and 2 and build either the 20- or 30-number lists.

END

A. PURPOSE

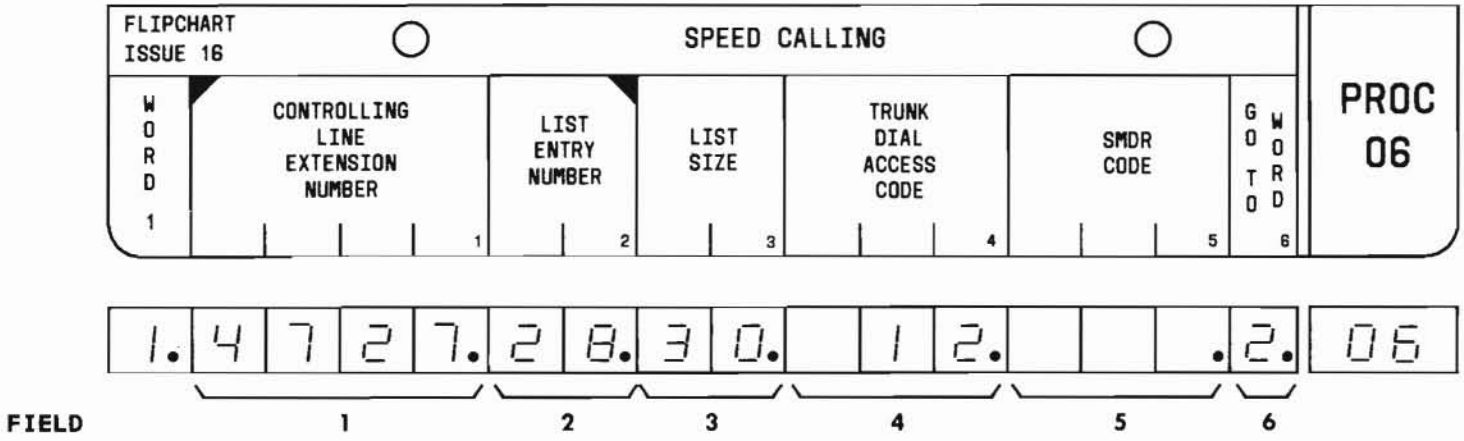
Procedure 06 is used to assign the speed calling feature for FP15. Word 1 is used to assign a speed calling list to an extension. It is also used to assign a trunk access code or SMDR charge number access code to a list entry.

B. PREREQUISITES

- The extension number in field 1 can be any extension in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number assigned in Procedure 30 and Procedure 00, Word 1.
- If the mix within the system is being changed, it must be changed in Word 5, field 1 first. Word 1, field 3 must agree with the mix.
- Trunk group dial access codes are assigned in Procedure 29, Word 1 and Procedure 12.
- The SMDR dial access code is defined in Procedure 29, Words 1 and 2.

C. CAUTION

When a speed calling list is removed using Word 1, data is automatically removed in Words 2, 3, 4, and 5.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	Any 2-, 3-, or 4-digit number	The controlling line extension number. See Part F, Note 1.
2	 0-9 10-29 10-39	List entry number for: (See Part F, Note 2) 10-number list. 20-number list. 30-number list.
3	10, 20, 30	List size for specified controlling extension. See Part F, Note 3.
4	Blank Any 1-, 2-, or 3-digit number	List does not contain an outgoing call. The trunk dial access code. See Part F, Note 4.
5	Blank Any 1-, 2-, or 3-digit number	List does not contain the SMDR application. The dial access code preceding the SMDR account number. See Part F, Note 4.
6 DISPLAY ONLY	2, 3	Indicates which word to use next to display the remainder of the list entry.

E. OPERATION

Display Word 1 (See Part F, Note 5):

PROC NO.; 06; ENTER; (Controlling Line Extension Number); ENTER; (List Entry Number); ENTER; DISPLAY; EXECUTE

Add a speed calling list (See Part F, Note 6):

PROC NO.; 06; ENTER; (Controlling Line Extension Number); ENTER; (List Entry Number); ENTER; (List Size); ENTER; (Trunk Dial Access Code) or CLEAR ENTRY; ENTER; (SMDR Charge Number Access Code) or CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change a field:

Display Word 1; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove speed calling list (See Caution):

Display Word 1; REMOVE; EXECUTE

F. NOTES

1. The controlling station may add or remove lines from its list within the limits of the list size.
2. The list entry number in field 2 is the number dialed after dialing the speed calling access code. Go to Word 2 to find outdialed number or to Word 3 to find SMDR account number.
3. The list size (field 3) is the maximum number of numbers that the controlling station can have on its speed calling list.
4. The use of fields 4 and 5 is mutually exclusive. This means that if one field contains data, the other field cannot.
5. Field 6 will indicate which word to display next.
6. To add a PBX extension, leave fields 4 and 5 blank and add the extension number in field 4 of Word 2. To add a trunk call, enter the trunk dial access code in field 4 and add the necessary information in Word 2, fields 1 through 4. To add an SMDR account number, enter the SMDR charge number access code in field 5, and add the SMDR account number digits in Word 3.

END

A. PURPOSE

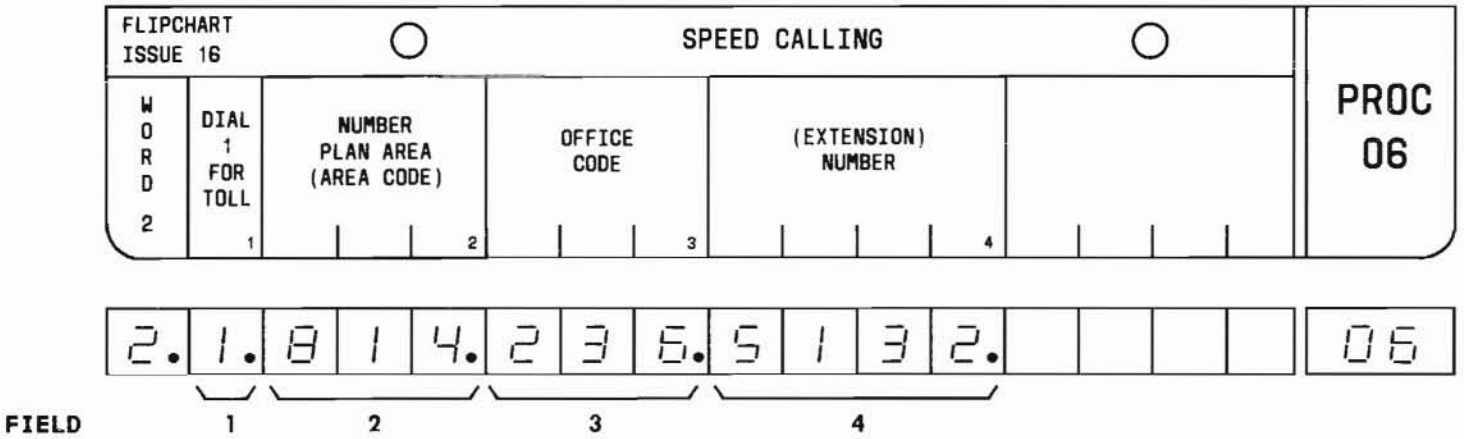
Procedure 06 is used to assign the speed calling feature for FP15. Word 2 is used to assign a PBX extension or outdialed digits to a list entry. See Part F, Note 3.

B. PREREQUISITE

Word 1 must be used immediately preceding Word 2 to determine the list entry number. Word 1 assigns a speed calling list to a controlling extension.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	Blank 0 1	No digit dialed for toll. TSPS call. Toll call.
2	Blank 3-digit number	Local area call. Any valid area code.
3	Blank 3-digit number	Call to PBX extension. Any valid office code.
4	2-, 3-, or 4-digit number	Any valid PBX extension or service number.

E. OPERATION

Display Word 2:

Display Word 1; WORD; 2; DISPLAY; EXECUTE

Add PBX extension (See Part F, Note 1):

Display Word 1; WORD; 2; CLEAR ENTRY; ENTER; CLEAR ENTRY; ENTER; CLEAR ENTRY; ENTER; (PBX Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Add trunk call (See Part F, Note 2):

Display Word 1; WORD; 2; (Toll Digit) or CLEAR ENTRY; ENTER; (Area code) or CLEAR ENTRY; ENTER; (Office Code); ENTER; (Extension Number or Service Code); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change trunk call to PBX extension:

Remove trunk call; CHANGE; 4; ENTER; (PBX Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change PBX extension to trunk call:

Same as ***Add trunk call.***

Change PBX extension or trunk call to SMDR account number:

1. Remove PBX extension or trunk call.
2. Add SMDR account number in Words 1 and 3.

Change SMDR account number to PBX extension or trunk call:

1. Remove SMDR account number in Word 3.
2. Add PBX extension or trunk call.

Remove PBX extension or trunk call (list entry):

Display Word 2; REMOVE; EXECUTE

F. NOTES

1. Fields 4 and 5 of Word 1 must be blank before adding a PBX extension in Word 2.
2. Field 4 of Word 1 must contain the trunk dial access code and field 5 of Word 1 must be blank before adding a trunk call in Word 2.
3. The speed calling feature is enabled by an access code defined in Procedure 29, Words 1 and 2.

END

PROCEDURE 06, WORD 3 – SPEED CALLING

A. PURPOSE

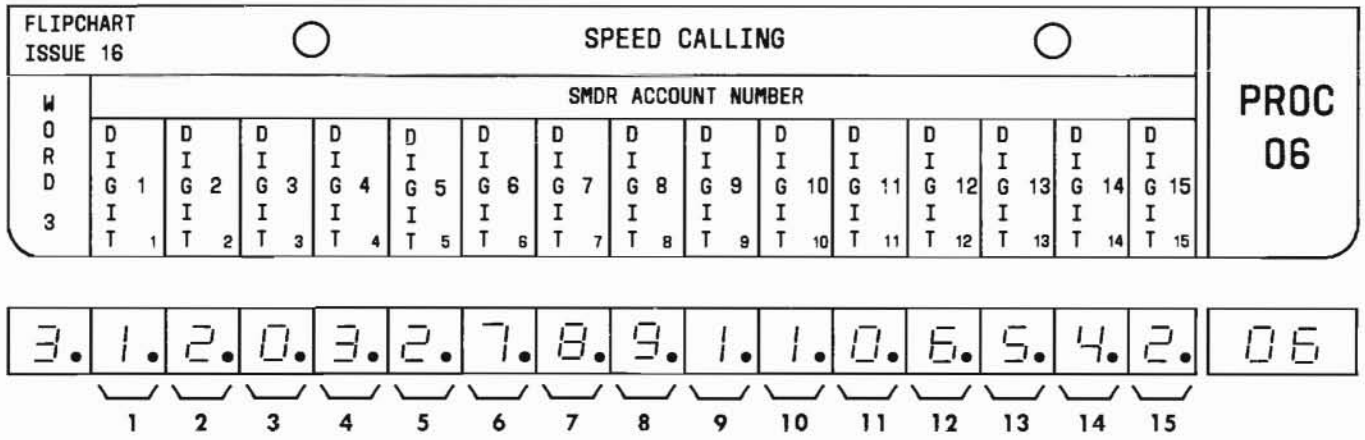
Procedure 06 is used to assign the speed calling feature for FP15. Word 3 assigns an SMDR account number to a list entry. See Part F, Note 2.

B. PREREQUISITES

- Word 1 must be used immediately preceding Word 3 to determine the list entry number. Word 1 assigns a speed calling list to a controlling extension.
- Procedure 21, Word 5 administers SMDR in the system class of service.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1-15	0-9	Each individual digit of the SMDR account number.

E. OPERATION

Display SMDR account number:

Display Word 1; WORD; 3; DISPLAY; EXECUTE

Add SMDR account number (See Part F, Note 1):

Display Word 1; WORD; 3; (Enter SMDR Account Number Digits followed by ENTER in fields 1-15); ADD; EXECUTE; DISPLAY; EXECUTE

Change SMDR account number:

Display Word 1; Word; 3; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change SMDR account number to PBX extension or trunk call:

1. Remove SMDR account number.
2. Add PBX extension or trunk call in Words 1 and 2.

Change PBX extension or trunk call to SMDR account number:

1. Remove PBX extension or trunk call in Word 2.
2. Add SMDR account number.

Remove SMDR account number (list entry):

Display SMDR account number; REMOVE; EXECUTE

F. NOTES

1. Field 4 of Word 1 must be blank and field 5 of Word 1 must contain the SMDR charge number access code before adding the SMDR account number in Word 3.
2. The speed calling feature is enabled by an access code defined in Procedure 29, Words 1 and 2.

END

PROCEDURE 06, WORD 4 – SPEED CALLING

A. PURPOSE

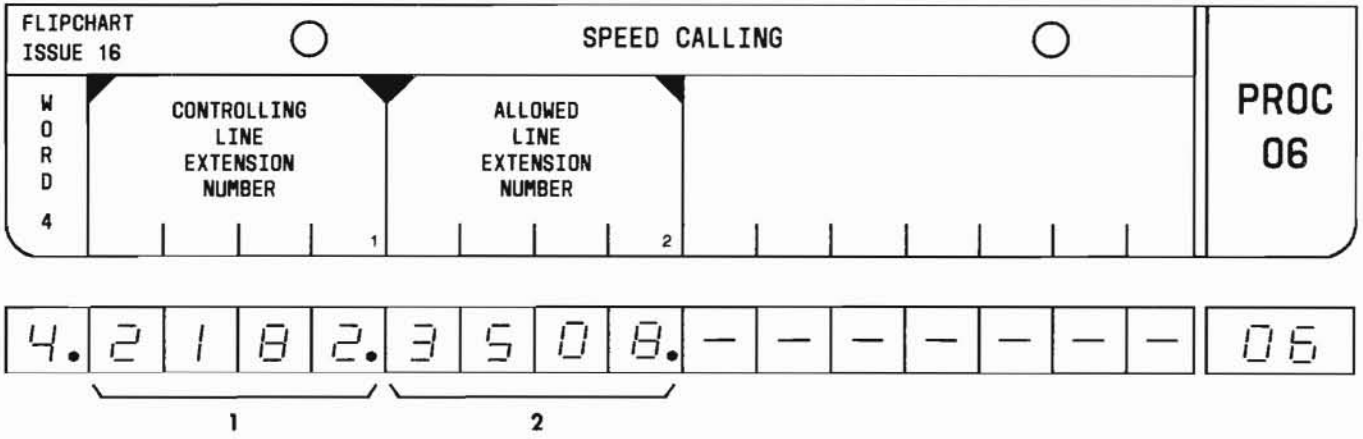
Procedure 06 is used to assign the speed calling feature for FP15. Word 4 is used to assign extensions which are allowed to share the speed calling list with the controlling line.

B. PREREQUISITES

- Word 1 assigns a speed calling list to the controlling extension.
- The extension numbers can be any extensions in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number must be defined in Procedure 30 and Procedure 00, Word 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	Any 2-, 3-, or 4-digit number	Controlling line extension number. See Part F, Note 1.
2	Any 2-, 3-, or 4-digit number	Allowed line extension number. See Part F, Note 2.

E. OPERATION

Display allowed extension(s) (See Part F, Note 3):

PROC NO; 06; ENTER; WORD; 4; (Controlling Line Extension Number); ENTER; DISPLAY; EXECUTE

Display controlling extension:

PROC NO; 06; ENTER; WORD; 4; CLEAR ENTRY; ENTER; (Allowed Line Extension Number); ENTER; DISPLAY; EXECUTE

Add initial allowed extension:

PROC NO; 06; ENTER; WORD; 4; (Controlling Line Extension Number); ENTER; (Allowed Line Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Add other allowed extensions:

Display allowed extension; CHANGE; 2; ENTER; (New Allowed Line Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove allowed extension:

Display allowed extension; REMOVE; EXECUTE

F. NOTES

1. The line extension in field 1 is identical to the number in Word 1, field 1.
2. The allowed extension can initiate calls via the list but is not able to change the list.
3. To display other allowed extension numbers associated with the controlling extension, use the key sequence DISPLAY; EXECUTE repeatedly.

END

A. PURPOSE

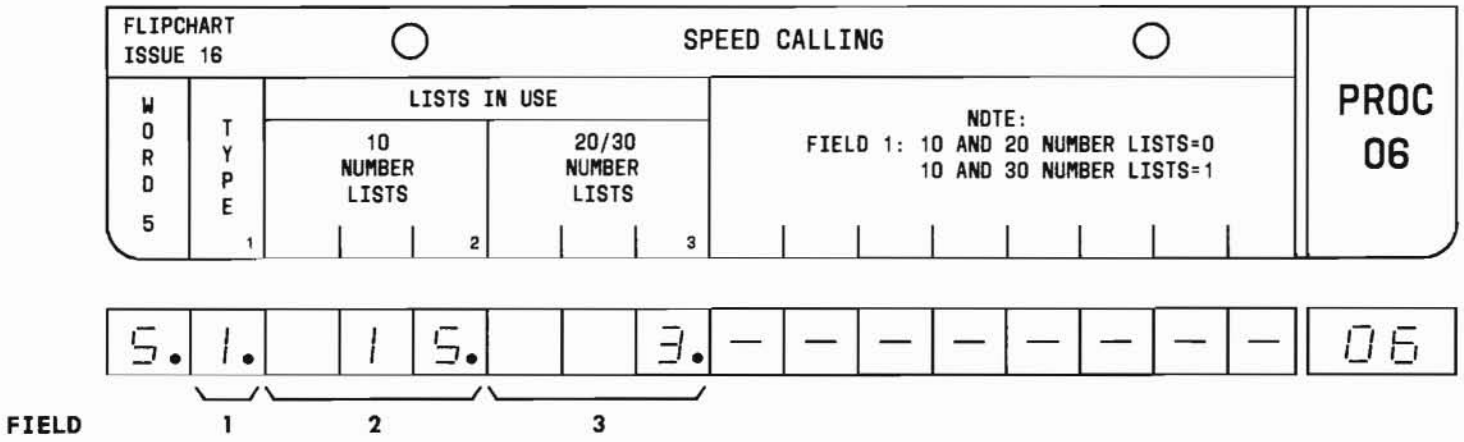
Procedure 06 is used to assign the speed calling feature for FP15. Word 5 is used to assign the list mix and display the number of speed calling lists.

B. PREREQUISITES

None.

C. CAUTION

Use of the remove operation with Word 5 will completely remove *all* 20- or 30-number lists from memory.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0 1	List type (See Part F, Note 1): Combination of 10- and 20-number lists. Combination of 10- and 30-number lists.
2	0-150	Number of 10-number speed calling lists assigned. See Part F, Note 2.
3	0-75	Number of 20- or 30-number speed calling lists assigned. See Part F, Note 2.

E. OPERATION

Display Word 5:

PROC NO; 06; ENTER; WORD; 5; DISPLAY; EXECUTE

Change list type (See Caution and Part F, Note 3):

Display Word 5; REMOVE; EXECUTE; (New Type); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Speed calling lists are sized in increments of 10, 20, and 30 numbers. However, 20- and 30-number lists cannot be assigned within the same PBX installation. Only a combination of 10- and 20-number or 10- and 30-number lists is permitted.
2. The total number of speed calling lists (fields 2 and 3) depends on the mix (field 1). In FP15, a total of 1500 list entries are allowed. This would allow a maximum of 150 10-number lists, or 75 20-number lists, or 50 30-number lists.
3. After changing the type, use Words 1, 2, and 3 to rebuild the 20- or 30-number lists.

END

PROCEDURE 09 — TIMED RECALL

A. PURPOSE

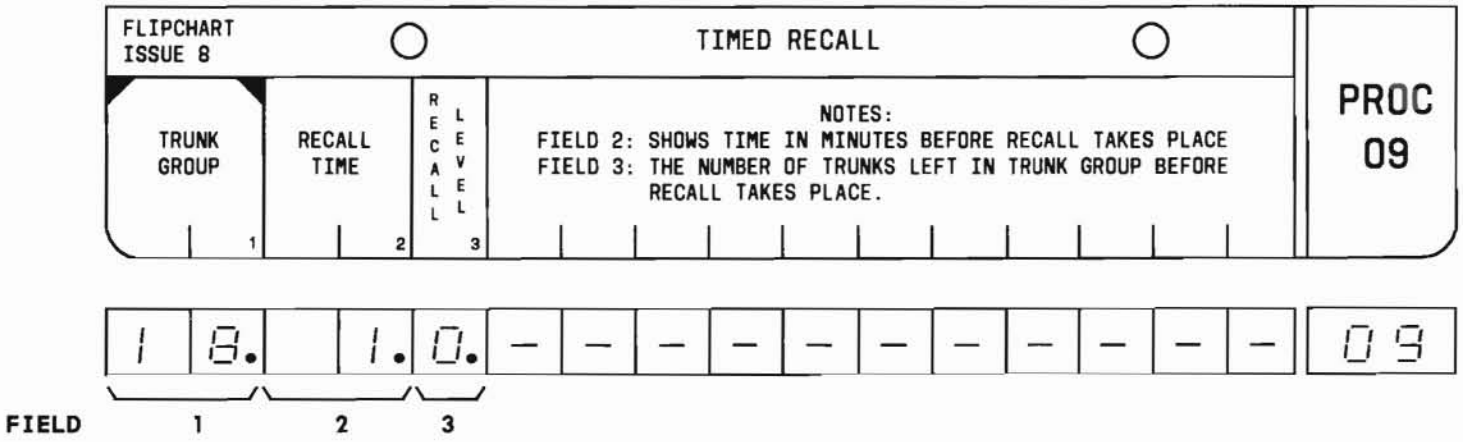
Procedure 09 is used to add, display, change, and remove timed recall limits to a trunk group.

B. PREREQUISITE

Procedures 12, 13, and 10 must be used to assign trunk groups.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group. Maximum code values depend on memory size. Range Memory Size — 100 — 400 A — – — 18-31 B — – — 18-63 C — 18-31 — 18-63
2	0	Recall time: Timed recall is not enabled on the trunk group identified in field 1.
	1-31	The amount of time in minutes which is allowed to pass before recall can be initiated.
3	0	Recall will occur as soon as recall time expires.
	1-7	Recall level indicating number of idle trunks left in trunk group when recall is to be initiated. See Part F, Note 1.

E. OPERATION

Display timed recall:

PROC NO.; 09; ENTER; (Trunk Group); ENTER; DISPLAY; EXECUTE

Add, change, or remove timed recall (See Part F, Notes 2, 3, and 4):

Display timed recall; Change; 2; ENTER; (Recall Time); ENTER; (Recall Level); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Recall will take place if the number of idle trunks is ***less than*** the recall level at the expiration of the recall time interval. For example, if the recall level is set to 5 and there are 6 idle trunks when the recall time expires, recall will not occur. If, however, the number of idle trunks is 4 at the expiration of the recall time, recall will occur.
2. The REMOVE key cannot be used with this procedure. In order to remove the timed recall feature, change field 2 to 0.
3. The timed recall feature may be disabled for certain classes of service by using Procedure 02, Word 4.
4. Implementation of the timed recall feature requires a console and attendant transfer features.

END

PROCEDURE 10 – TRUNKS – NIGHT SERVICE – AUTOMATIC IDENTIFIED OUTWARD DIALING

A. PURPOSE

Procedure 10 is used to:

- Add or remove trunks from a trunk group.
- Assign night stations to trunks.
- Assign a central office trunk number to be used for automatic identified outward dialing (AIOD) billing, when the AIOD feature is provided.

B. PREREQUISITES

- The night station number (field 5) must be included in the dialing plan. The number is defined in Procedure 29, Word 1, assigned in Procedure 30, and entered in Procedure 00, Word 1.
- When a new trunk group is being added:
  - First, Procedure 12 must be used to assign dial access code/ID number or route advance.
  - Next, Procedure 13 must be used to associate trunk group with trunk type.
  - Last, Procedure 10 must be used to add trunks.
- When removing the following types of trunks, the procedure indicated must be used first:

Trunk	Procedure
Central office	22, Word 3
Message register	22, Word 3
Paging	16
Released link trunk	88, Word 2
Remote access	16

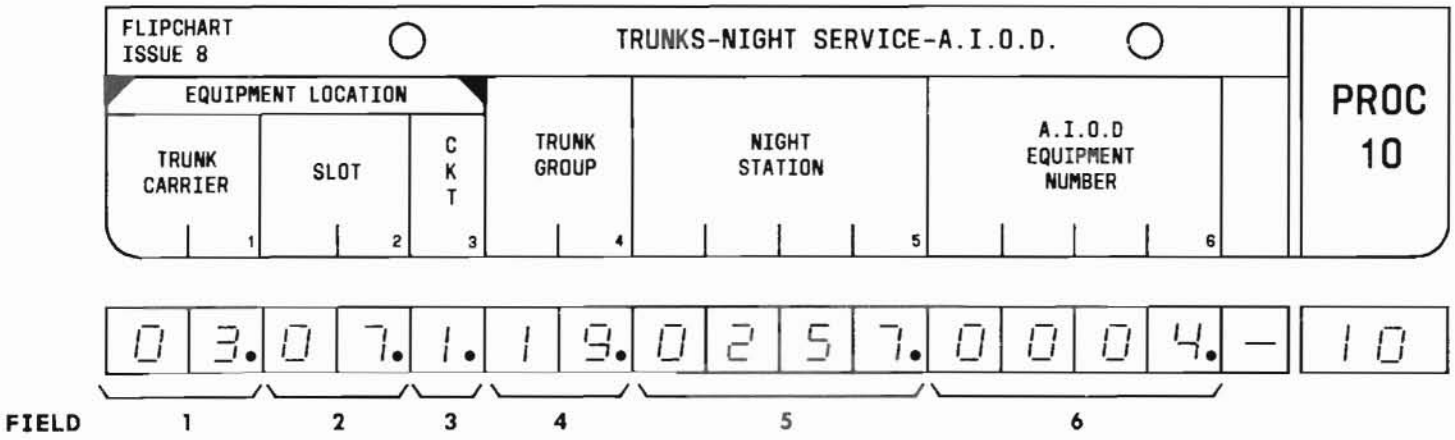
Failure to implement removal in the sequence specified results in an error indication on the MAAP panel.

C. CAUTIONS

1. Removing all trunks in a trunk group using Procedure 10 may automatically eliminate all data entered by Procedure 13.
2. When a trunk is assigned to a message register interface trunk group, only circuit 0 of the LC16 circuit pack can be used (field 3=0). Circuit 1 must be left unassigned.

C. CAUTIONS (Contd)

3. When assigning a trunk to a trunk group via Procedure 10, the system software automatically assigns a trunk group member number. The trunk group member number (trunk number in trunk group) is used by the attendant to assign night stations and verify trunks. Procedure 44, Word 1 can be used to find the equipment location associated with a trunk group and its trunk group member number. In Feature Packages (FP) 1, Issue 1; FP2, Issue 1; FP3, Issue 1; FP4, Issue 1; and FP5, Issue 1, if the number of trunks assigned to a trunk group exceeds the number of trunk group member numbers, mutilation of the customer's translations on system reload will occur. All other feature package issues allow a trunk to be added to the system without a member number when the maximum number of member numbers has been reached. The trunk will function properly with the following exceptions:
   - A night station cannot be assigned to the trunk by the attendant.
   - The trunk cannot be verified by the attendant.
   - Procedure 44, Word 1 will not display the trunk.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-3	Trunk carrier number. Range Memory Size: 100 / 400 A: 0,1 / 0,1 B: 0,1 / 0-3 C: 0,1 / 0-3 Exception: Circuit Pack Installed: Encode LC32 (ANI transmitter): 0
2	2-9 11-18	Circuit pack slot number. See Part F, Note 4. Exceptions: Circuit Pack Installed: Encode LC10B/LC54B or LC10C pair (TOUCH-TONE calling register and receiver): 11,13,15, or 17 only LC32 (ANI transmitter): 11 only (except 7 only in carrier J58879CC)
3	0,1	Circuit number . See Caution 2. Exceptions: Circuit Pack Installed: Encode LC06 (6-way conference): 0 only LC15 (display interface): 0 only LC16 (message register interface): 0 only LC10B/LC54B or LC10C pair (TOUCH-TONE calling register and receiver): 0 only LC32 (ANI receiver): 0 only
4	17-63	Trunk group number. See Part F, Notes 2 and 6. Range Memory Size: 100 / 400 A: 17-31 / 17-31 B: 17-31 / 17-63 C: 17-31 / 17-63 Exception: Circuit Pack Installed: Encode LC10B/LC54B or LC10C pair (TOUCH-TONE calling register and receiver): 17 only
5	Extension No.	Extension number to which incoming calls are directed when system is in night service mode.
6	4-digit AIOD equipment number	Central office AIOD equipment number associated with trunk specified in fields 1, 2, and 3. See Part F, Note 3.

E. OPERATION

Display an equipment location (See Part F, Notes 1 and 2):

PROC NO.; 10; ENTER; (Trunk Carrier No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; DISPLAY; EXECUTE

Add a trunk (See Caution 3):

Display equipment location; CHANGE; 4; ENTER; (Trunk Group); ENTER; (Night Station) or CLEAR ENTRY; ENTER; (AIOD No.) or CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a trunk (See Caution 1 and Part F, Note 5):

Display equipment location; REMOVE; EXECUTE; DISPLAY; EXECUTE

Remove data from field 5 or 6:

Display equipment location; CHANGE; (5 or 6); ENTER; CLEAR ENTRY; ENTER; REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE

Change data:

Display equipment location; CHANGE; (Field No.); ENTER; (New data); ENTER; REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Unassigned equipment locations (fields 1, 2, and 3) can be found using Procedure 46.
2. Other trunks belonging to the group specified in field 4 can be found using Procedure 44, Word 2.
3. The AIOD number (field 6) is applicable to 1-way out and 2-way central office and common control switching arrangement trunks. If automatic number identification is provided, the associated office supplies the AIOD equipment number.
4. The following shows the slots available for trunk circuit packs for the different carriers:

Carrier	"DIMENSION" PBX	Slots
J58881CC-1 or J58881CA-2	100	3-9
J58881CB	100	11-18
J58879CC	100/400	2-8
J58879BA	400	2-9,11-18

5. When a trunk group is being removed, procedures must be used in the following sequence:
   - PROC 10
   - PROC 12
   - PROC 13
6. Spare trunk circuit packs and spare circuits on in-use circuit packs associated with certain trunk types (shown below) should be assigned "dummy" trunk groups (no dial access code assigned).

Circuit Pack	Trunk Type
LC08	16
LC09	31
LC11	32
LC13	51

END

PROCEDURE 11 — OUTGOING TRUNK QUEUING

A. PURPOSE

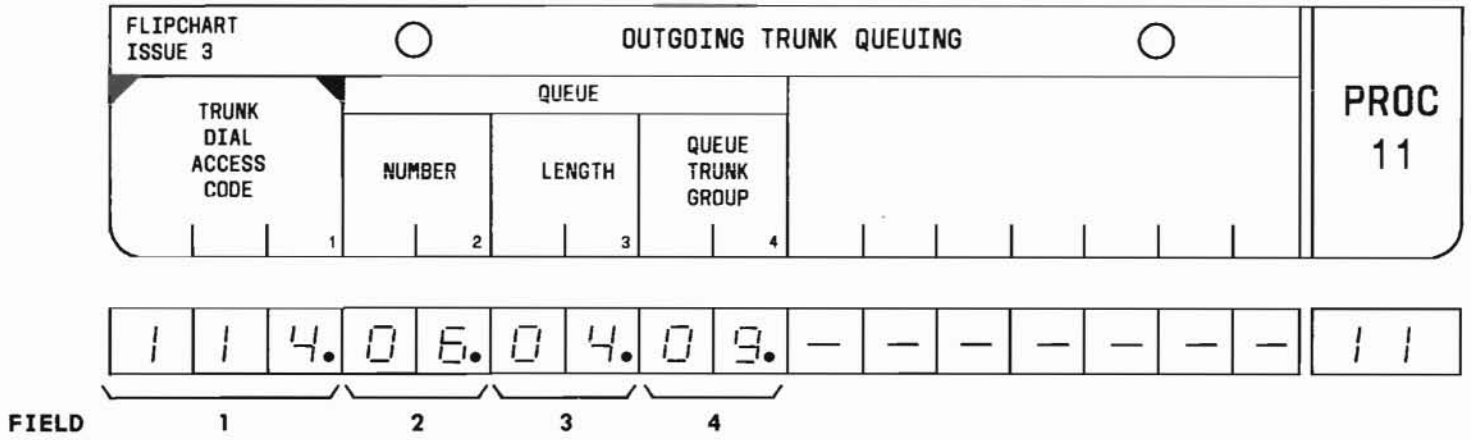
Procedure 11 is used to add, display, remove, or change queue parameters associated with outgoing trunks.

B. PREREQUISITES

- Procedure 29, Word 1 must be used to define the first dialed digit of trunk dial access codes.
- Procedure 12 must be used to assign trunk dial access codes to trunk groups.
- Procedure 10 must be used to assign trunks to trunk groups.

C. CAUTION

Do not change queue length (field 3) without proper consultation. Queue length affects the traffic handling capacity of the system by depleting intercom records. Procedure 21, Word 4, field 1 must be used to determine the number of records in the intercom pool.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-,2-, or 3-digit number	Number assigned to the trunk group.
2	1-12	Sequential queue number. See Part F, Note 1. **Memory Size** — **Range** A — 1-4 B,C — 1-12
3	1-30 (Cannot exceed number of trunk records available)	Length of queue (in trunk records) indicating number of waiting parties queue can contain at one time. See Caution and Part F, Note 3.
4	8-11 18-63	Queue trunk group number. Number assigned to trunk group for which queuing is provided. See Part F, Note 2. When more than four queue numbers are assigned, codes are memory dependent: **Memory Size** — **Range 100** — **Range 400** A — 18-31 — 18-31 B — 18-31 — 18-63 C — 18-31 — 18-63

E. OPERATION

Display a queue:

PROC NO.; 11; ENTER; (Trunk Dial Access Code); ENTER; DISPLAY; EXECUTE

Define a queue:

Display queue; CHANGE; 2; ENTER; (Queue Number); ENTER; (Queue Length); ENTER; (Queue Trunk Group); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a queue:

Display queue; REMOVE; EXECUTE; DISPLAY; EXECUTE

Change queue parameters:

Display queue; CHANGE; (Field No.); ENTER; (New data); ENTER; REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. When a station user dials a busy outgoing trunk group, the user is automatically placed in a queue. When a trunk in the trunk group is available, the station user is called back.
2. The first four queues should be assigned using trunk group numbers 8 through 11. Other queues may be assigned to any previous unassigned trunk group.
3. Queue length should be determined on the basis of traffic considerations.

END

PROCEDURE 12 – TRUNK GROUP – DIAL ACCESS CODE, ROUTE ADVANCE, AND SMDR

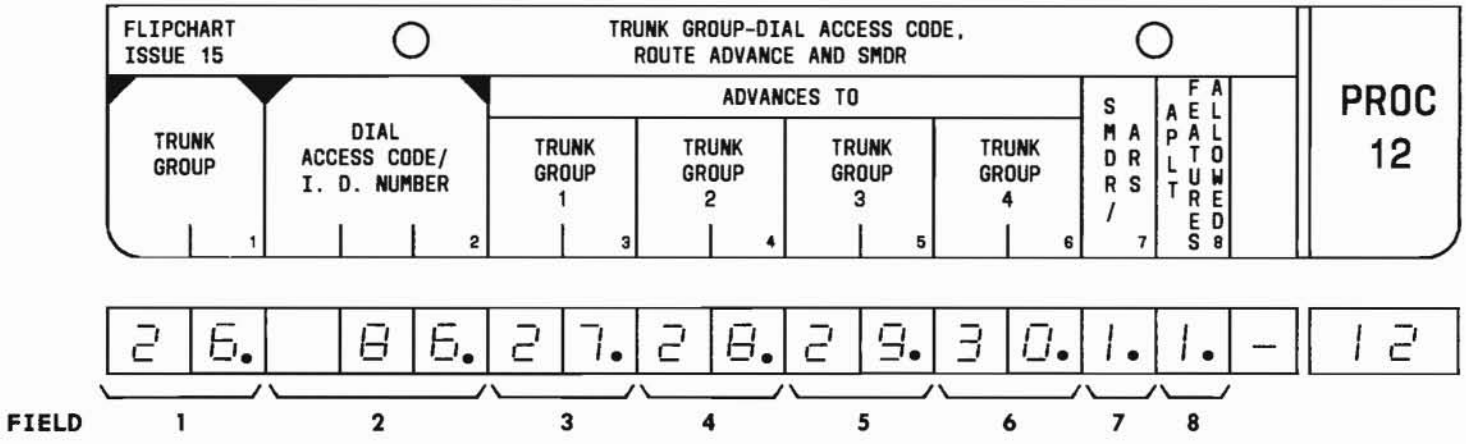
A. PURPOSE

Procedure 12 is used to display, add, remove, and change:

- A trunk group's dial access code/attendant identification (ID) number association.
- The route advance sequence for the trunk group.
- The Station Message Detail Recording (SMDR) feature for the trunk group.
- The Advanced Private Line Termination (APLT) feature for a trunk group.

B. PREREQUISITES

- Procedure 29, Word 1 must be used to define the first dialed digit of the trunk dial access code/attendant ID number.
- When a trunk group is being removed, procedures must be used in the following sequence: 10, 12, and 13. See Caution.
- When removing a dial access code from a trunk group, the miscellaneous restrictions in Procedure 14 should be removed first.



C. CAUTION

Procedure 11 must be used to remove outgoing trunk queuing (if assigned) before Procedure 12 is used to remove the trunk group's dial access code. If the dial access code is removed (via Procedure 12) before removing outgoing trunk queuing (via Procedure 11), the queue number and queue trunk group are tied up and cannot be used. Also, a record of the dial access code is lost. To recover the queue number and queue trunk group, Procedure 12 must be used to assign the trunk dial access code back to the trunk group.

D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group number. See Part F, Note 1. Range Memory Size: 100 / 400 A: 18-31 / 18-31 B: 18-31 / 18-63 C: 18-31 / 18-63
2	1-,2-,or 3-digit number	Dial access code/attendant ID number.
3-6	18-63 Blank	Route advance. The trunk group (field 1) will advance to the trunks specified in fields 3 through 6 in the sequence shown (from field 3 to field 6). Blanks in fields 3 through 6 mean the trunk group does not advance. Range Memory Size: 100 / 400 A: 18-31 / 18-31 B: 18-31 / 18-63 C: 18-31 / 18-63
7	0	SMDR is disabled for the trunk group.
	1	SMDR is enabled for the trunk group. See Part F, Notes 2 and 3.
	2*	SMDR is enabled for the trunk group and an SMDR charge code is required. See Part F, Notes 2 and 3.
8	0	APLT feature disabled.
	1	APLT features enabled. See Part F, Note 6.

* Encode 2 only applies to FP15

E. OPERATION

Display a word using a trunk group number (See Part F, Note 4):

PROC NO.; 12; ENTER; (Trunk Group); ENTER; DISPLAY; EXECUTE

Display a word using a dial access code/ID number:

PROC NO.; 12; ENTER; CLEAR ENTRY; ENTER; (Dial Access Code/ID number); ENTER; DISPLAY; EXECUTE

Add or change data (See Part F, Note 7):

Display a word using the trunk group number or dial access code/ID number; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove trunk group assignments (See Caution and Part F, Note 5):

Display a word using trunk group number; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. A trunk group number assigned as a queue trunk group, via Procedure 11, cannot be assigned as a trunk group in Procedure 12.
2. Procedure 21, Word 5 must be used to enable the SMDR feature.
3. SMDR monitoring on a trunk group can be activated/deactivated entirely from either the MAAP (Procedure 12, field 7) or the attendant console (except in Feature Package 4, Program Issue 1, where activation/deactivation of SMDR monitoring from the attendant console is allowed only when SMDR is enabled via Procedure 12, field 7).
4. Procedure 12 inhibits displaying dial access codes for trunk groups 8 through 11 in the following Feature Packages (FP)s:
   - FP 2, Program Issue 3 and later issues
   - FP 3, Program Issue 2 and later issues
   - FP 4, Program Issue 2 and later issues
   - FP 5, Program Issue 2 and later issues
   - FP 10, Program Issue 1 and later issues
5. Remove miscellaneous trunk restrictions from Procedure 14 first before removing the dial access code from this procedure.
6. When activating APLT features for a trunk group, the trunk type must be zero or CCSA type. If the trunk is type zero, the trunk must be made a CCSA-type in Procedure 13.
7. When a new trunk group is being added, procedures should be used in the following order: 12, 13, and 10.

END

A. PURPOSE

Procedure 13 is used to:

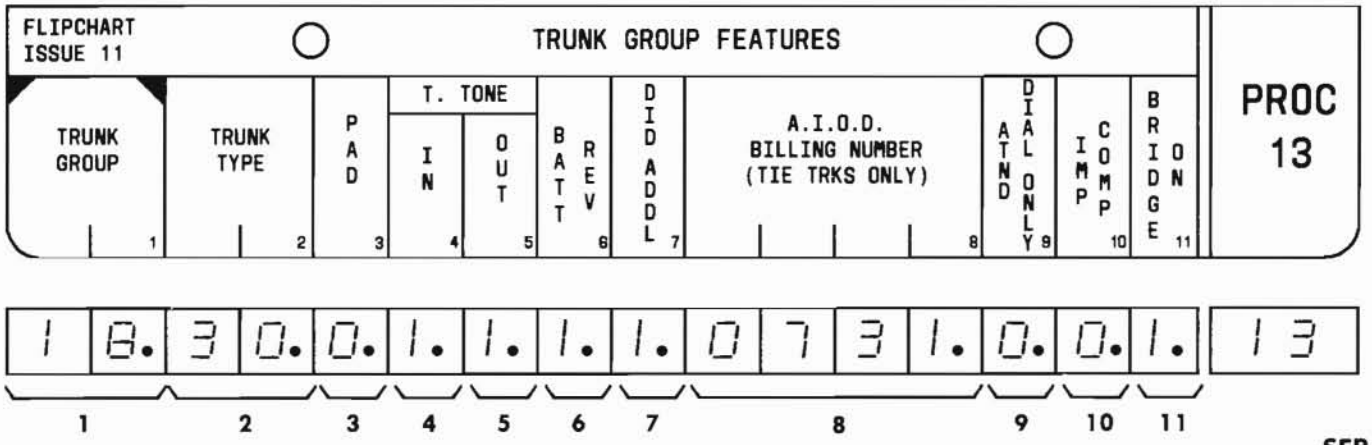
- Associate a trunk group with a trunk type.
- Add, change, and display trunk group features.

B. PREREQUISITES

- Procedure 29, Word 1 and Procedure 30 must be used to define the extension for the automatic number identification (ANI) billing number.
- When a new trunk group is being added, perform procedures in the following order: 12, 13 and 10.
- When a trunk group is being removed, perform procedures in the following order: 10, 12, and 13.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	17	Trunk group reserved for TOUCH-TONE calling register and receiver pairs (LC10B/LC54B or LC10C). See Part F, Note 8.
	18-63	Trunk group. Range Memory 100 400 A 18-31 18-31 B 18-31 18-63 C 18-31 18-63
2		TRUNK TYPE (See Part F, Note 11)
		Miscellaneous trunks:
	0	Intercom.
	1	Dial pulse digit register.
	2	TOUCH-TONE calling register.
	3	Attendant digit register.
	4	Switch loop.
	5*	Six-way conference circuit.
	6	Special queue.
		All two-way APLT/CCSA CO trunks:
	12	Delay dial in/out.
	13	Delay dial out/wink in. See Part F, Note 11.
	14	Dial tone out/delay dial in.
	15	Dial tone out/wink in. See Part F, Note 10.
		Regular CO trunks:
	16	One-way incoming attendant completing.
	17	One-way outgoing DOD.
	18	One-way out DOD with party test.
	19	Two-way attendant completing in/DOD. See Part F, Note 1.

Field	Code	Definition
2 (Contd)	20	Two-way with party test.
		Foreign exchange CO trunks:
	21	One-way incoming attendant completing.
	22	One-way outgoing DOD.
	23	One-way out DOD with party test.
	24	Two-way attendant completing in/DOD.
	25	Two-way with party test.
		WATS CO trunks:
	26	One-way incoming attendant completing.
	27	One-way outgoing DOD/or toll terminal access for access to TSPS.
	28	One-way out DOD with party test.
	29	Automatic in WATS.
		DID CO trunks:
	30	Immediate start DID.
	31	Wink start DID.
		Tie trunks (See Part F, Note 5):
	32	One-way in dial repeating.
	33	One-way out automatic.
	34	One-way out dial repeating.
	35	One-way in automatic.
	36	Two-way dial repeating both ways (dial tone).
	38	Two-way AUTO in/dial repeating out.
	39	Two-way automatic both ways.
	40	One-way in dial repeating delay dial.
	44	Two-way dial repeating delay dial in.
	45	Two-way dial repeating delay dial in/auto out.

D. FIELD DEFINITIONS AND CODES (Contd)

Field	Code	Definition
2 (Contd)		Special trunks and interfaces:
	37	Data communications access/off premises station with call control trunk.
	48	PBX interface trunk.
	50	Remote access.
	51	Telephone dictation interface.
	52	Recorded announcement interface (DID/CCSA intercept).
	53	Code call interface. See Part F, Note 2.
	54*	Loudspeaker paging/call park interface.
	55*	TOUCH-TONE dialing sender.
	56*	CAS indicator interface.
	57*	CAS release link trunk – outgoing from branch.
	58*	ANI interface.
	59*	Station message register (LC16 only).
	60	Toll terminal access to toll switchboard.
	61*	UCD/DDC lamp interface.
	62*	Music on hold interface.
	63*	Recorded announcement interface (UCD/DDC).
3	0	2-dB pad not switched in on LC11B trunk circuit.
	1	2-dB Pad switch in on LC11B, inserting attenuation for tandem switching. See Part F, Note 3.
4	0	Only rotary dial pulses received via the trunk group defined in field 1 will be accepted.
	1	Only TOUCH-TONE dialing signals will be accepted.
5	0	Terminating equipment will accept only rotary pulses.
	1	Both rotary dial pulses and TOUCH-TONE dialing signals will be accepted.
6	0	Central office unable to provide battery reversal on toll calls.
	1	Central office able to provide battery reversal.
7 (See Part F, Note 4)	Blank	No digits regenerated on incoming DID calls.
	0-9†	Code 0 regenerates a 0 digit, 1 regenerates a 1 digit, etc.
8 (See Part F, Note 5)	Supplied locally	Number to be billed by ANI when toll call is placed over a tie trunk.
9	0	Trunk group is dial accessible by any station.
	1	Trunk groups can be dialed by: Attendant or designated TVS to verify busy or idle trunks in group. Attendant only to establish night connections.
10 (See Part F, Note 6)	0	Trunk is electrically balanced.
	1	Trunk group is not balanced. See Part F, Note 3.
11	0	Inhibits bridge-on connection.
	1	Enables backup CAS station or designated extension to bridge onto a trunk group using the TVS feature.

D. **FIELD DEFINITIONS AND CODES** (Contd)

APLT – Advanced private line termination CAS – Centralized attendant service CCSA – Common control switching arrangement CO – Central Office DDC – Direct department calling DID – Direct inward dialing DOD – Direct outward dialing TSPS – Traffic service position system TVS – Trunk verification by station UCD – Uniform call distribution WATS – Wide area telecommunication service
* Only one trunk group containing this type of trunk is allowed per system. See Part F, Note 7. † A blank will not function for FP4: 0 – No digits 1-9 – Digits to be regenerated

E. **OPERATION**

Display a word:

PROC NO.; 13; ENTER; (Trunk Group); ENTER; DISPLAY; EXECUTE

Add features to a trunk group (See Part F, Notes 5 and 9):

PROC NO.; 13; ENTER; (Trunk Type); ENTER; (Data for field 3); ENTER;... (Data for field 6); ENTER; (Data for field 7) or CLEAR ENTRY; ENTER; (Data for field 8) or CLEAR ENTRY; ENTER; (Data for field 9); ENTER; ... (Data for field 11); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE.

Change trunk group features:

Display word; CHANGE; (No. of first field to be changed); ENTER; (New data) or CLEAR ENTRY; ENTER; ... (New data for last field to be changed) or CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. **NOTES**

1. In Feature Package 5, Program Issue 1, trunk type 19 is required for ECTS CO pickup and only one trunk group is allowed for all ECTS CO pickup trunks. In Feature Package 5, Program Issue 2 and later issues, trunk types 19, 24, 26, and 27 can be used for ECTS CO pickup and more than one trunk group can be provided.
2. When administering code calling access (chime paging), no trunk equipment location need be assigned via Procedure 10.
3. Tie trunk-to-CO trunk and CO trunk-to-tie trunk calls require that field 3 contain 1 (2-dB pad switched in) and field 10 contain 1 (trunk pair into PBX not balanced).
4. In some applications, the number of digits received from the central office may be one less than the number required by the PBX to complete the call. Because the missing digit is required, it must be regenerated by the PBX (field 7). Only one digit can be regenerated per incoming trunk group, but the same digit can be regenerated for all trunk groups.
5. A tie trunk cannot be removed from field 2 if any entry other than a blank is used in field 8.
6. Trunk group balancing (field 10) applies to CO, FX, WATS, and DID trunks when trunk-to-trunk and/or tandem tie trunk service is provided.

F. **NOTES** (Contd)

7. Only one trunk group containing the trunk types noted with an asterisk (*) in Part D (field 2) is allowed per system. When changing any of these trunk types to another trunk group:
   - First use Procedure 10 to remove all applicable trunks.
   - Then use Procedure 13 to remove the affected trunk group [ie, set the trunk type (field 2) equal to 0].
8. When trunk group 17 (TOUCH-TONE calling register and receiver pair) is displayed, field 2 always contains encode 2.
9. In Feature Package 5, Program Issue 2 and later, trunk types 12, 13, 18, 20, 23, 28, and 29 cannot be added. These trunk types are associated with features not provided in Feature Package 5. In Feature Package 2, trunk types 12 and 13 cannot be added.
10. When administering Advanced Private Line Termination (APLT), trunk type 13 is used when TOUCH-TONE Dialing Senderized Operation is provided. When TOUCH-TONE Dialing Senderized Operation is not provided, trunk type 15 is used for APLT.
11. Spare trunk circuit packs and spare circuits on in-use circuit packs associated with certain trunk types (shown below) should be assigned "dummy" trunk groups (no dial access code assigned) in Procedure 10.

Circuit Pack	Trunk Type
LC08	16
LC09	31
LC11	32
LC13	51

END

PROCEDURE 14 – TRUNK GROUP RESTRICTION

A. PURPOSE

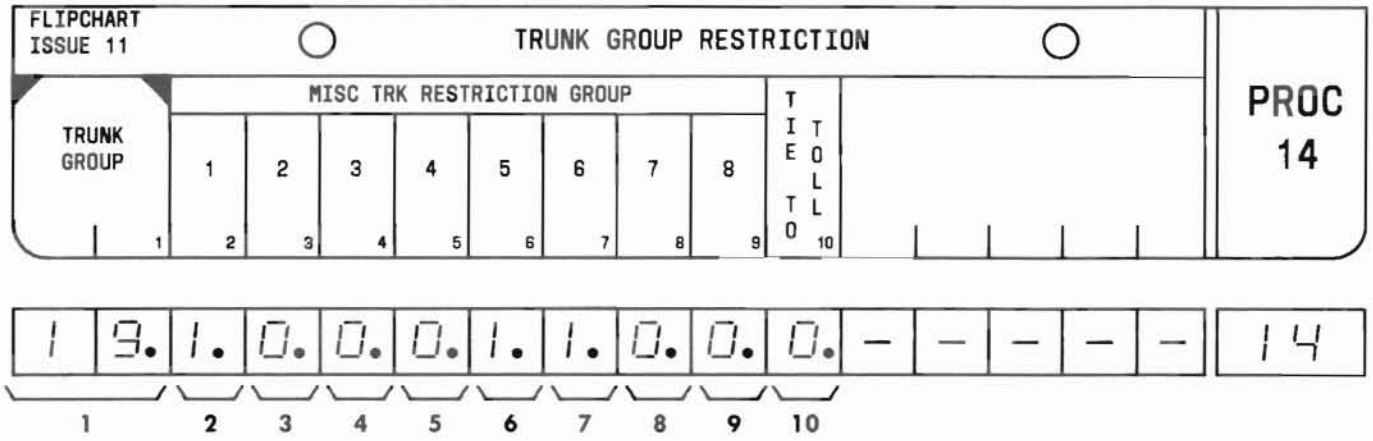
Procedure 14 is used to assign a trunk group to miscellaneous trunk restriction groups and 0/1 toll restriction for incoming tie trunks. Display, add, remove, and change operations can be used.

B. PREREQUISITE

Procedure 10 must be used to assign the trunk to a trunk group.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group. See Part F, Note 4. Range Memory Size: 100 / 400 A: 18-31 / 18-31 B: 18-31 / 18-63 C: 18-31 / 18-63
2-9 (See Part F, Notes 1 and 2)	0	Trunk group (field 1) is not a member of the associated miscellaneous trunk restriction group.
	1	Trunk group is a member of the associated restriction group.
10	0	Trunk group is not toll restricted.
	1	Trunk group is toll restricted.

E. OPERATION

Display a trunk group:

PROC NO.; 14; ENTER; (Trunk Group); ENTER; DISPLAY; EXECUTE

Add, remove, or change a trunk group assignment (See Part F, Note 3):

Display trunk group; CHANGE; (Field No.); ENTER; (New data, ie, 0 or 1); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Any trunk group may be assigned to all eight miscellaneous trunk restriction groups.
2. Extension lines can be denied access to miscellaneous trunk restriction groups. For example, assume that trunk group 32 is assigned to miscellaneous trunk restriction group 4 (using Procedure 14). Further assume that class-of-service (COS) 8 has been restricted from miscellaneous trunk restriction group 4 (using Procedure 2, Word 2). Under these conditions, any extension line with a COS of 8 will be inhibited from accessing trunk group 32.
3. The REMOVE key cannot be used in this procedure. To remove a restriction, change the associated field to 0.
4. No more than four trunk groups can be contained in a miscellaneous trunk restriction group, as specified in Procedure 15. Procedure 15 can be used to display the dial access codes of the trunk groups assigned to each miscellaneous trunk restriction group.

A. PURPOSE

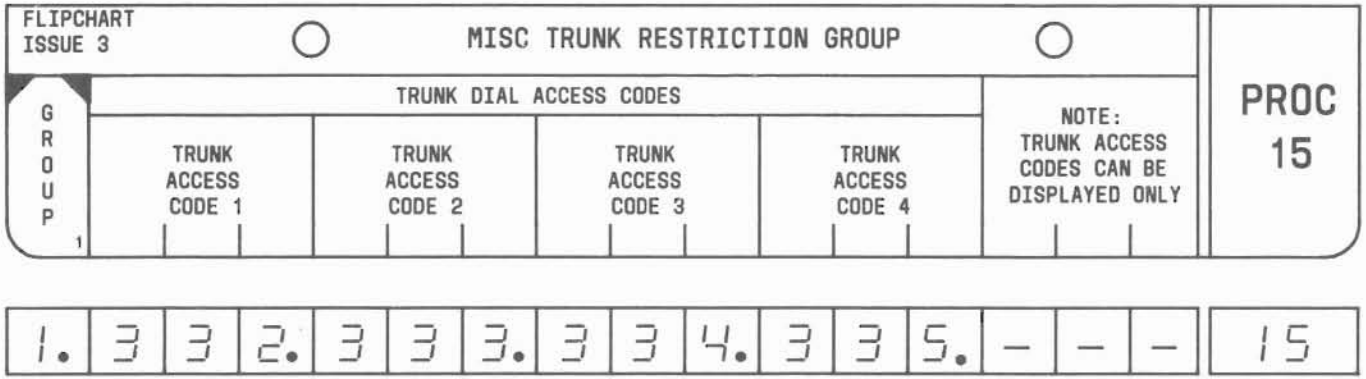
Procedure 15 is used to display the dial access code for each trunk group that has been assigned to a particular miscellaneous trunk restriction group. Up to four dial access codes can be displayed at one time using this display-only procedure.

B. PREREQUISITE

Procedure 14 must be used to assign trunk groups to miscellaneous trunk restriction groups.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-8	Miscellaneous trunk restriction group number. See Prerequisite.
TRUNK ACCESS CODES 1-4	1-,2-, or 3-digit number	Dial access codes for the trunk groups assigned to the miscellaneous trunk restriction group specified in field 1. See Part F, Note 1.

E. OPERATION

Display trunk dial access codes:

PROC NO.; 15; ENTER; (Group); ENTER; DISPLAY; EXECUTE

F. NOTES

1. Procedure 12 can be used to identify the trunk groups via the trunk dial access code.

PROCEDURE 16 – SPECIAL TRUNKS

A. PURPOSE

Procedure 16 is used to display, add, remove, or change:

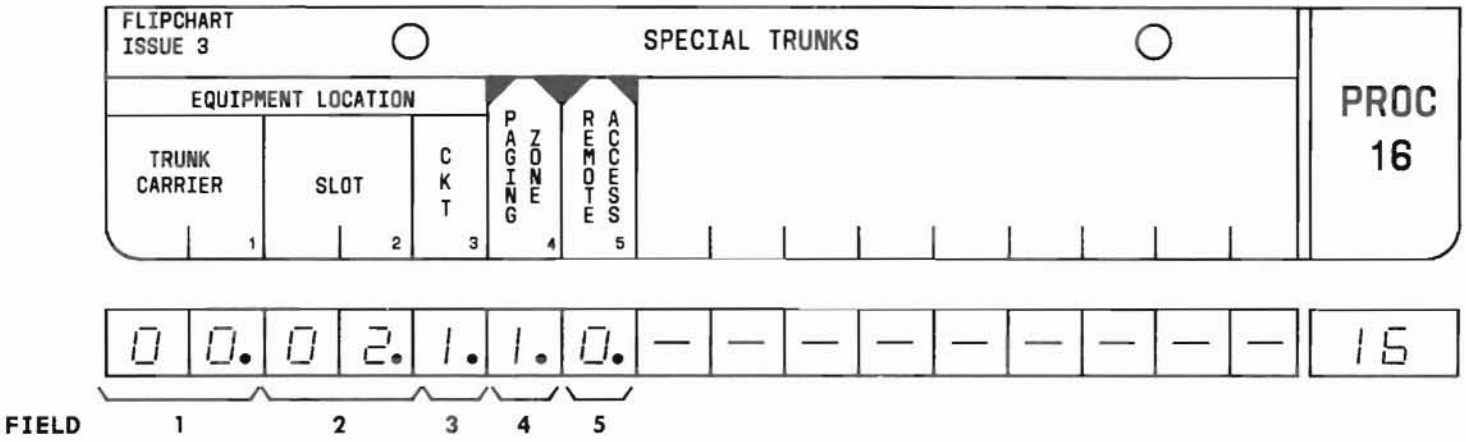
- Paging zone to trunk (equipment location) assignment.
- Central office trunk to remote access trunk number assignment.

B. PREREQUISITE

Procedure 10 must be used to assign trunks to a trunk group.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-3	Trunk carrier. Range Memory Size — 100 — 400 A — 0,1 — 0,1 B — 0,1 — 0-3 C — 0,1 — 0-3
2	2-9 11-18	Circuit pack slot number. See Part F, Note 3.
3	0,1	Circuit number.
4	Blank	No paging zone.
	1-6	Paging zone. See Part F, Note 1.
5	Blank or 0	No remote access trunk.
	1-4	Remote access trunk number. See Part F, Notes 1 and 2.

E. OPERATION

Display paging zone trunk:

PROC NO.; 16; ENTER; CLEAR ENTRY followed by ENTER three times; (Paging Zone); ENTER; CLEAR ENTRY; ENTER; DISPLAY; EXECUTE

Display remote access trunk number:

PROC NO.; 16; ENTER; CLEAR ENTRY followed by ENTER four times; (Remote Access No.); ENTER; DISPLAY; EXECUTE

Add a trunk:

PROC NO.; 16; ENTER; (Trunk Carrier); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; (Paging Zone or Remote Access No.); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a trunk (See Part F, Note 4):

PROC NO.; 16; ENTER; (Trunk Carrier); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; (Paging Zone or Remote Access No.); ENTER; REMOVE; EXECUTE; DISPLAY; EXECUTE

Change equipment location:

Display paging zone or remote access trunk; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change paging zone or remote access number:

Perform a remove operation followed by an add operation.

F. NOTES

1. Fields 4 and 5 are mutually exclusive; ie, both features (paging and remote access) cannot be assigned to the same trunk circuit.

2. In field 5, each remote access trunk must be assigned an individual number. For example:

   First remote access trunk: field 5 = 1
   Second remote access trunk: field 5 = 2
   etc.

   Four is the maximum number of remote access trunks that can be assigned per system.

3. The following shows the slots available for the LC08B (remote access trunk) and the LC13 (paging trunk) circuit packs for the different carriers:

Carrier	"DIMENSION" PBX	Slots LC08B	Slots LC13
J58881CC-1 or J58881CA-2	100	3-9	3-9
J58881CB	100	11-18	–
J58879CC	100/400	2-8	2-8
J58879BA	400	2-9, 11-18	2-9

4. Before removing a trunk using Procedure 10, the paging zone or remote access assignment must be removed in this procedure.

END

A. PURPOSE

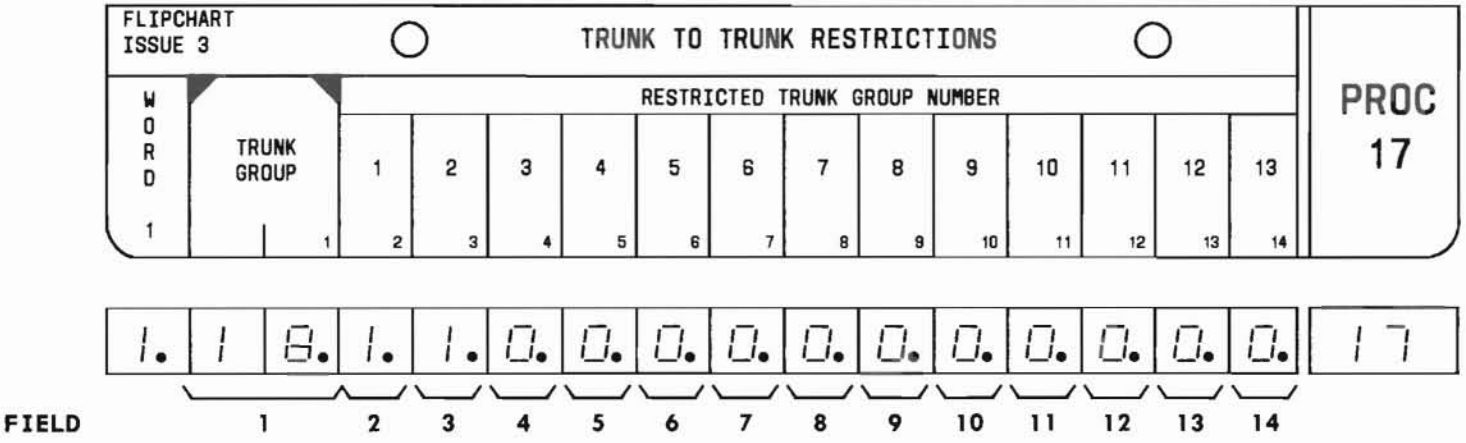
Procedure 17, Word 1 is used to assign a restricted trunk group number to a trunk group (non-tie trunks). Use Procedure 17, Words 3 and 4 to assign tandem tie trunk restrictions.

B. PREREQUISITES

Procedures 12, 13, and 10 must be used to assign trunk groups.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group number. Range Memory Size: 100 / 400 A: 18-31 / 18-31 B: 18-31 / 18-63 C: 18-31 / 18-63
2-14	0	No restriction.
	1	Denies trunk group identified in field 1 access to trunk group identified by restricted trunk group number. See Part F, Note 2.

E. OPERATION (See Part F, Note 1)

Display Word 1:

PROC NO.; 17; ENTER; (Trunk Group); ENTER; DISPLAY; EXECUTE

Add restricted trunk group numbers to a trunk group:

PROC NO.; 17; ENTER; (Trunk Group); ENTER; 0 or 1 (Fields 2-14 followed by ENTER); ADD; EXECUTE; DISPLAY; EXECUTE

Change a restricted trunk group number:

Display Word 1; CHANGE; (Field No.); ENTER; (New Data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The REMOVE key cannot be used in this procedure. In order to remove a restriction, set the corresponding field to 0.
2. Procedure 17, Word 2 assigns a dial access code to a restricted trunk group number.

END

PROCEDURE 17, WORD 2 — TRUNK-TO-TRUNK RESTRICTIONS

A. PURPOSE

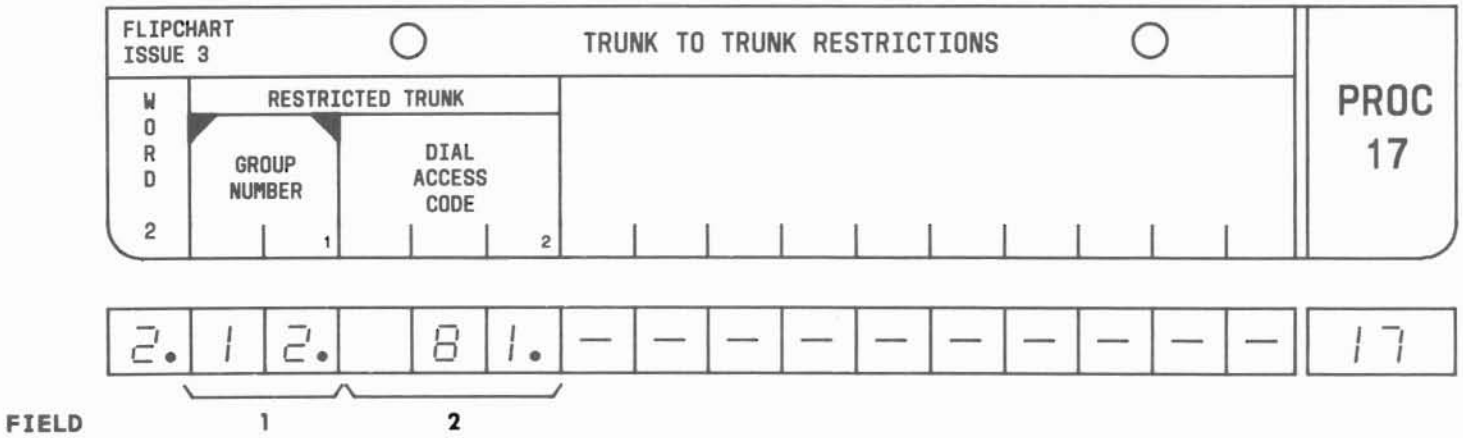
Procedure 17, Word 2 is used to assign a dial access code to a restricted trunk group number (non-tie trunk).

B. PREREQUISITES

- Procedure 17, Word 1 assigns a restricted trunk group number to a trunk group.
- Procedure 29, Word 1 defines the first dialed digit and Procedure 12 assigns a dial access code to a trunk group.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-13	Corresponds to restricted trunk group number in Word 1, fields 2-14.
2	1-, 2- or 3-digit number	Dial access code assigned to a restricted trunk group (by Procedure 12) identified in field 1. See Part F, Note 1.

E. OPERATION (See Part F, Note 2)

Display Word 2:

PROC NO.; 17; ENTER; WORD; 2; (Trunk Group Number); ENTER; DISPLAY; EXECUTE

Add dial access code:

PROC NO.; 17; ENTER; WORD; 2; (Trunk Group Number); ENTER; (Dial Access Code); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change dial access code:

Display Word 2; CHANGE; 2; ENTER; (New Dial Access Code); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Only one dial access code can be assigned to each restricted trunk group.
2. The REMOVE key cannot be used in this procedure.

END

A. PURPOSE

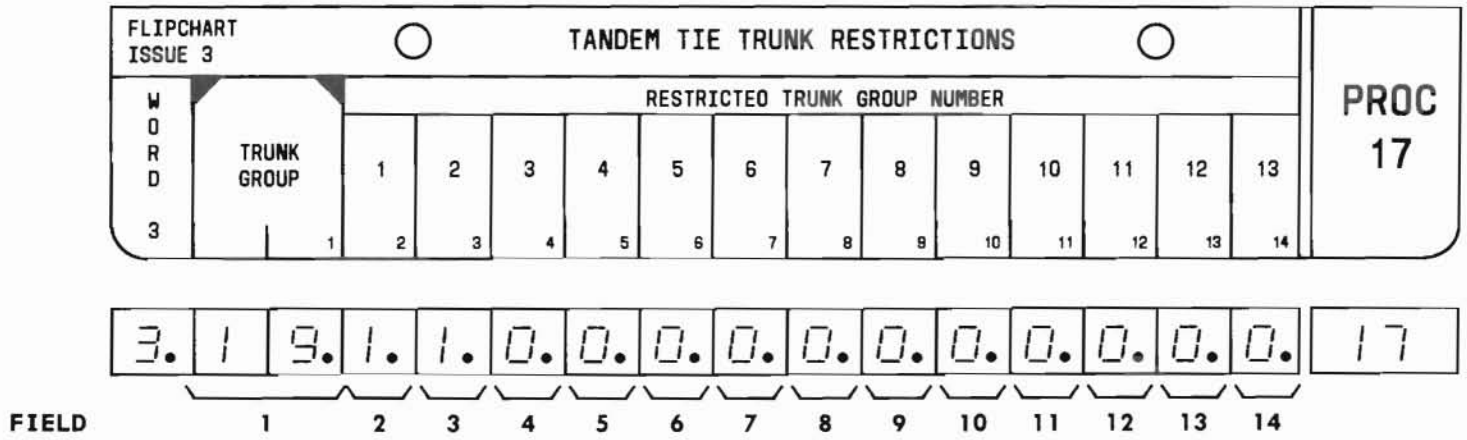
Procedure 17, Word 3 is used to assign a restricted trunk group number to a tandem tie trunk group. Use Procedure 17, Words 1 and 2 to assign trunk-to-trunk restrictions for non-tie trunks.

B. PREREQUISITE

Procedures 12, 13, and 10 must be used to assign trunk groups.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group number. Range Memory Size — 100 — 400 A — 18-31 — 18-31 B — 18-31 — 18-63 C — 18-31 — 18-63
2-14	0	No restriction.
	1	Denies trunk group identified in field 1 access to trunk group identified by restricted trunk group number. See Part F, Note 2.

E. OPERATION (See Part F, Note 1)

Display Word 3:

PROC NO.; 17; ENTER; WORD; 3; (Trunk Group); ENTER; DISPLAY; EXECUTE

Add restricted trunk group numbers to a trunk group:

PROC NO.; 17; ENTER; WORD; 3; (Trunk Group); ENTER; 0 or 1 (Fields 2-14); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change a restricted trunk group number:

Display Word 3; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The REMOVE key cannot be used in this procedure. In order to remove a restriction, set the corresponding field to 0.
2. Procedure 17, Word 4 assigns a dial access code to a restricted trunk group number.

END

A. PURPOSE

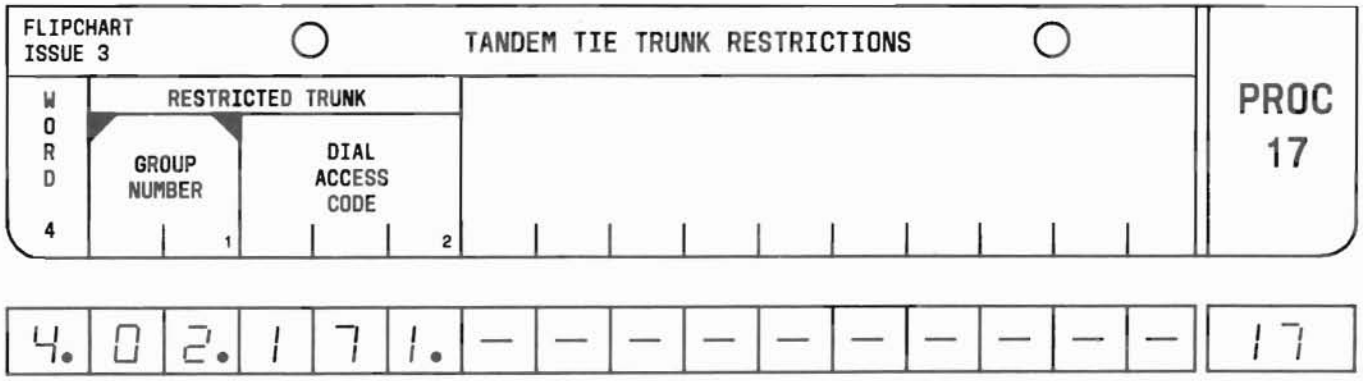
Procedure 17, Word 4 is used to assign a dial access code to a restricted tandem tie trunk group number.

B. PREREQUISITES

- Procedure 17, Word 3 assigns a restricted trunk group number to a trunk group.
- Procedure 29, Word 1 defines the first dialed digit and Procedure 12 assigns a dial access code to a trunk group.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-13	Corresponds to restricted trunk group number in Word 3, fields 2-14.
2	1-, 2- or 3-digit number	Dial access code assigned to a restricted trunk group (by Procedure 12) identified in field 1. See Part F, Note 1.

E. OPERATION (See Part F, Note 2)

Display Word 4:

PROC NO.; 17; ENTER; WORD; 4; (Trunk Group Number); ENTER; DISPLAY; EXECUTE

Add dial access code:

PROC NO.; 17; ENTER; WORD; 4; (Trunk Group Number); ENTER; (Dial Access Code); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change dial access code:

Display Word 4; CHANGE; 2; ENTER; (New Dial Access Code); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Only one dial access code can be assigned to each restricted trunk group.
2. The REMOVE key cannot be used in this procedure.

END

PROCEDURE 18 — 0/1 TOLL NON-RESTRICTED CODES

A. PURPOSE

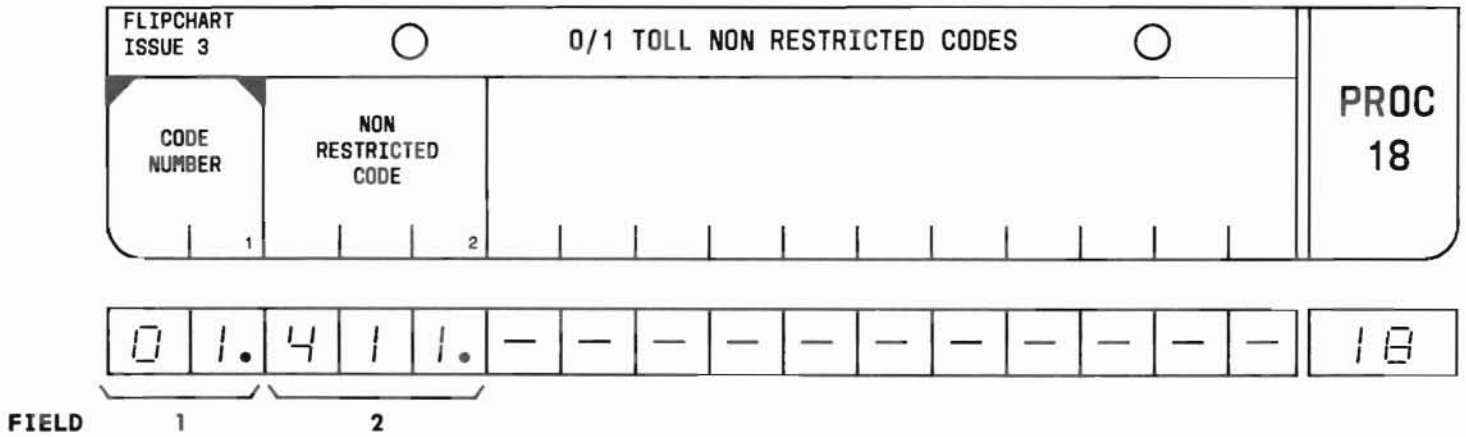
Procedure 18 is used to display, add, remove, and change the nonrestricted office or area codes that can be accessed by a toll restricted, code restricted, or automatic route selection (ARS) station. See Part F, Notes 2 and 3. Up to 10 nonrestricted office or area codes may be included in the list. Any of the customer-selected 3-digit codes on the free-call list can be accessed by restricted lines.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-10	Code number of nonrestricted code.
2	3-digit number	Office or area dial code (eg, 911, 411, 800) that can be accessed by toll restricted, code restricted, or ARS station. See Part F, Note 1.

E. OPERATION

Display a code:

PROC NO.; 18; ENTER; (Code Number); ENTER; DISPLAY; EXECUTE

Add or change a code:

Display code No.; CHANGE; 2; ENTER; (New Nonrestrcited Code); ENTER; ADD; EXECUTE

Remove a code:

Display code No.; REMOVE; EXECUTE

F. NOTES

1. Only one office or area code can be assigned for each code number.
2. Procedure 02, Word 1 must be used to establish the code restriction level of the restricted lines.
3. The toll restriction type must be determined in Procedure 13, field 6 (0 for 0/1 toll restriction).

END

PROCEDURE 19, WORD 1 – CODE RESTRICTION – TRUNK GROUP AND TYPE

A. PURPOSE

Procedure 19, Word 1 is used to:

- Identify the trunk group type [central office (CO) or foreign exchange (FX)].
- Assign the office code for a CO trunk or the home numbering plan area (NPA) code for an FX trunk.
- Establish dial-1 toll requirements.
- Designate the trunk group as either the primary group or a secondary group.

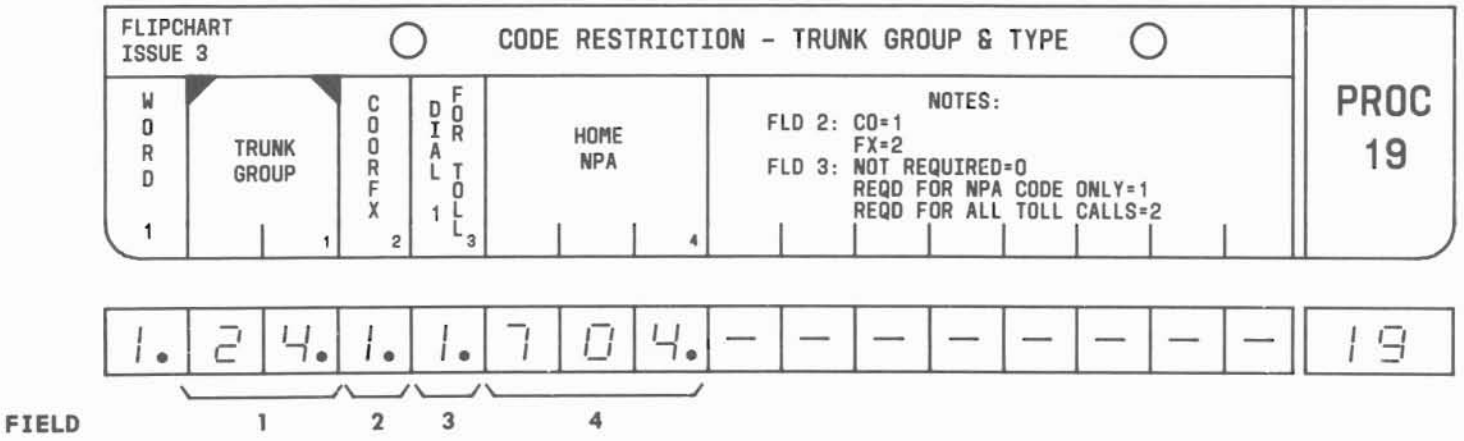
Display, add, remove, and change operations can be used.

B. PREREQUISITE

Procedures 12, 13, and 10 must be used to add trunk groups before code restriction can be added.

C. CAUTION

When adding or changing code restriction, be very careful. Number plan area (NPA) and office codes entered in the process can be dialed by the user. Therefore, a small error can cause a great deal of customer annoyance. Imagine the problems that would result if an NPA of 808 were entered instead of 803. NPA 808 is Hawaii and 803 is South Carolina.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group. See Part F, Notes 2, 3, and 4. Range Memory Size — 100 — 400 A — – — 18-31 B — 18-31 — 18-63 C — 18-31 — 18-63
2	1	Trunk group (field 1) is the primary code restriction group (CO). See Part F, Note 1.
	2	Trunk group is a secondary code restriction group (FX).
3	0	One (1) is not dialed for toll calls.
	1	One (1) must be dialed for toll calls requiring an NPA code.
	2	One (1) must be dialed for all toll calls.
4	3-digit number	CO code or FX area code of the terminating office of the trunk group identified in field 1.

E. OPERATION

Display a trunk group (See Part F, Note 5):

PROC NO.; 19; ENTER; (Trunk Group); ENTER; DISPLAY; EXECUTE

Add a code restriction (See Caution):

Display trunk group; CHANGE; 2; ENTER; 1 or 2; ENTER; (Dial 1 For Toll No.); ENTER; (Home NPA); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a code restriction:

Display trunk group; REMOVE; EXECUTE

Change a code restriction (See Caution):

Display trunk group; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. In field 2, CO and FX refer to code restriction groups, not trunk types.
2. Code restriction provides selective calling restrictions for up to three groups of stations (code restriction levels) and may be applied to a maximum of five trunk groups. For the trunk group designated as the primary code restriction group (CO), a list of 3-digit and 6-digit allowed codes may be provided. For the four other possible trunk groups designated as the secondary code restriction groups (FX), a list of 6-digit allowed codes (one list per trunk group) may be provided.

   Each code on these lists is assigned a code restriction level of 1, 2, or 3 in Procedure 02, Word 1. A call is allowed if the code restriction level associated with the NPA or office code dialed is equal to or less than the code restriction level assigned to the calling station. In areas that do not dial 1 for toll, the code restriction feature eliminates the need for battery reversal toll restriction. In areas that do dial 1 for toll, the code restriction feature may replace or be combined with the toll restriction (battery reversal, 0/1) feature.
3. If a trunk group is not assigned to one of the five code restriction groups, the restriction definition of the primary code restriction group (CO) will apply to that trunk group by default.
4. Code restrictions may be assigned to a maximum of five trunk groups; one primary code restriction group and four secondary groups.
5. Depress DISPLAY and EXECUTE repeatedly to display other trunk groups.

END

PROCEDURE 19, WORD 2 – CODE RESTRICTION – DIGIT ABSORPTION

A. PURPOSE

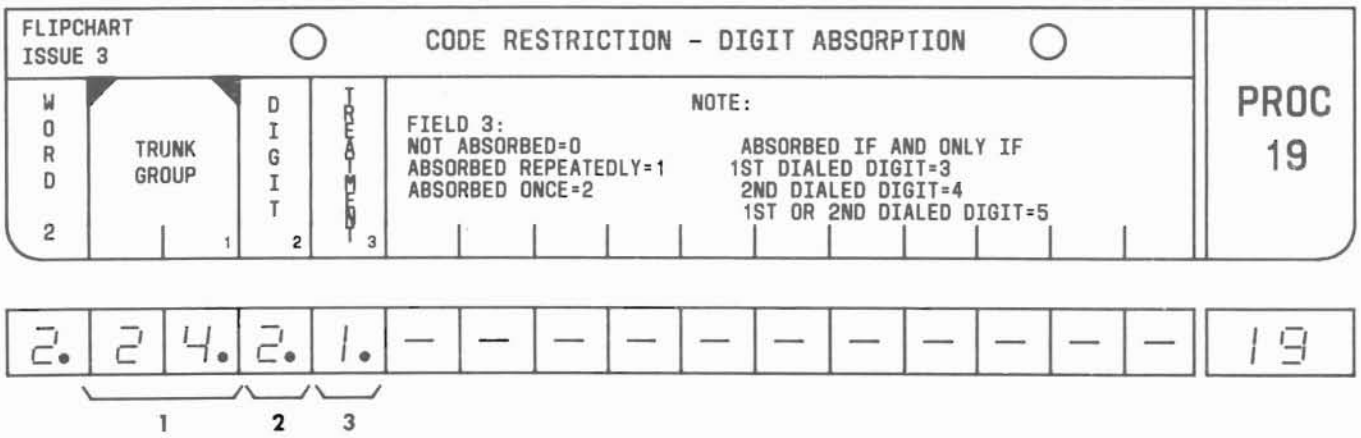
Procedure 19, Word 2 is used to display, add, remove, and change the digit absorption treatment when the code restriction feature is being assigned to a trunk group that terminates in a digit absorbing step-by-step central office.

B. PREREQUISITE

Procedures 12, 13, and 10 must be used to add trunk groups before code restriction can be added.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group (same as Word 1, field 1). See Part F, Note 1. Range Memory Size: 100 / 400 A: – / 18-31 B: 18-31 / 18-63 C: 18-31 / 18-63
2	2-9	Digit entered will be treated as indicated by the code entered in field 3.
3	0	Digit in field 2 not absorbed.
	1	Digit in field 2 absorbed repeatedly.
	2	Digit in field 2 absorbed once.
	3	Digit in field 2 absorbed only if it is the first digit dialed.
	4	Digit in field 2 absorbed only if it is the second digit dialed.
	5	Digit in field 2 absorbed only if it is the first or second digit dialed.

E. OPERATION

Display digit absorption treatment for a trunk group (See Part F, Note 2):

PROC NO.; 19; ENTER; WORD; 2; (Trunk Group); ENTER; DISPLAY; EXECUTE

Remove digit absorption treatment from a trunk group:

Display trunk group; REMOVE; EXECUTE; DISPLAY; EXECUTE

Change digit absorption treatment:

Display trunk group and digit; CHANGE; 3; ENTER; (New Treatment code); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Code restrictions may be assigned to a maximum of five trunk groups; one primary code restriction group and four secondary groups.
2. Depress DISPLAY and EXECUTE repeatedly to display each digit and its corresponding treatment.

END

A. PURPOSE

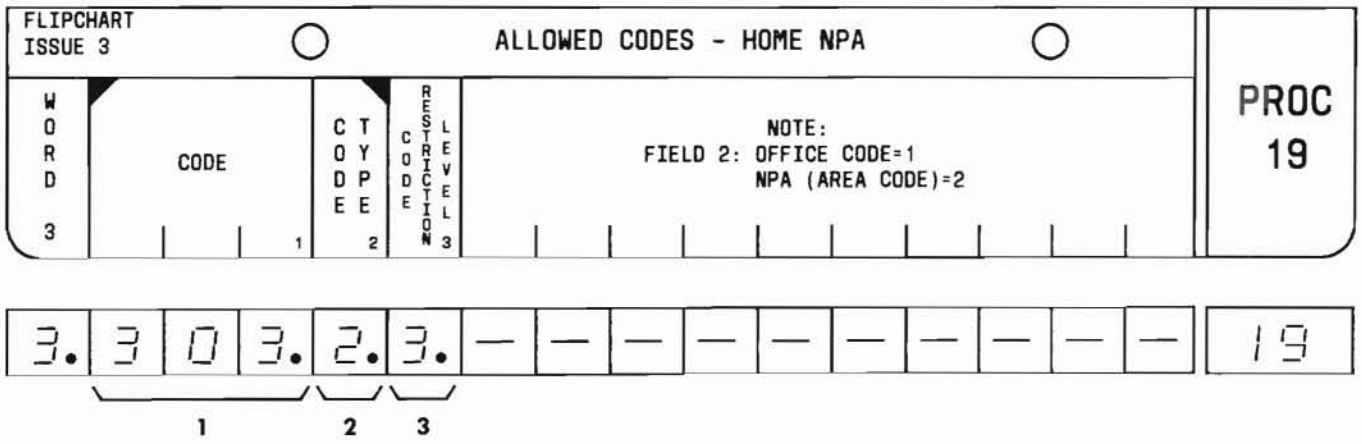
Procedure 19, Word 3 is used to display, add, remove, and change a code restriction level assigned to a 3-digit allowed office or area code.

B. PREREQUISITE

Procedure 19, Word 1 assigns either the office code to a CO trunk or the NPA to an FX trunk.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	3-digit number	Office or area (NPA) number assigned in Procedure 19, Word 1. See Part F, Notes 1 and 3.
2	1	Entry in field 1 is an ofice code.
	2	Entry in field 1 is an area code.
3 (See Part F, Note 4)	0	Office or area code in field 1 is accessible to zero line extensions.
	1	Office or area code in field 1 is accessible to all line extensions with a code restriction level 0, 1, 2, or 3 in their line COS (class-of-service).
	2	Code in field 1 is accessible to all extensions with a code restriction level of 0, 2, or 3.
	3	Code in field 1 is only accessible to extensions with a code restriction level of 0 or 3.

E. OPERATION

Display code restriction level (See Part F, Note 2):

PROC NO.; 19; ENTER; WORD; 3; (Code); ENTER; (Code Type); ENTER; DISPLAY; EXECUTE

Add or change code restriction level:

Display Word 3; CHANGE; 3; ENTER; (New Code Restriction Level); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change data in field 1 or 2:

PROC NO.; ENTER; Word; 3; (New Code); ENTER; (New Code Type); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove code restriction level:

Display Word 3; REMOVE; EXECUTE

F. NOTES

1. Word 3 must be repeated for each office or area code entered (field 1). A maximum of 800 entries is possible.
2. Depress DISPLAY and EXECUTE repeatedly to display other codes.
3. Feature Package (FP) 2, Issue 3 and FP10 allow specifying stand-alone NPA for code restriction levels 1, 2, and 3 for CO trunks (field 3).
4. Procedure 02, Word 1 is used to assign code restriction levels to restricted lines.

END

PROCEDURE 20 – ALLOWED NPA AND OFFICE CODES – CO AND FX

A. PURPOSE

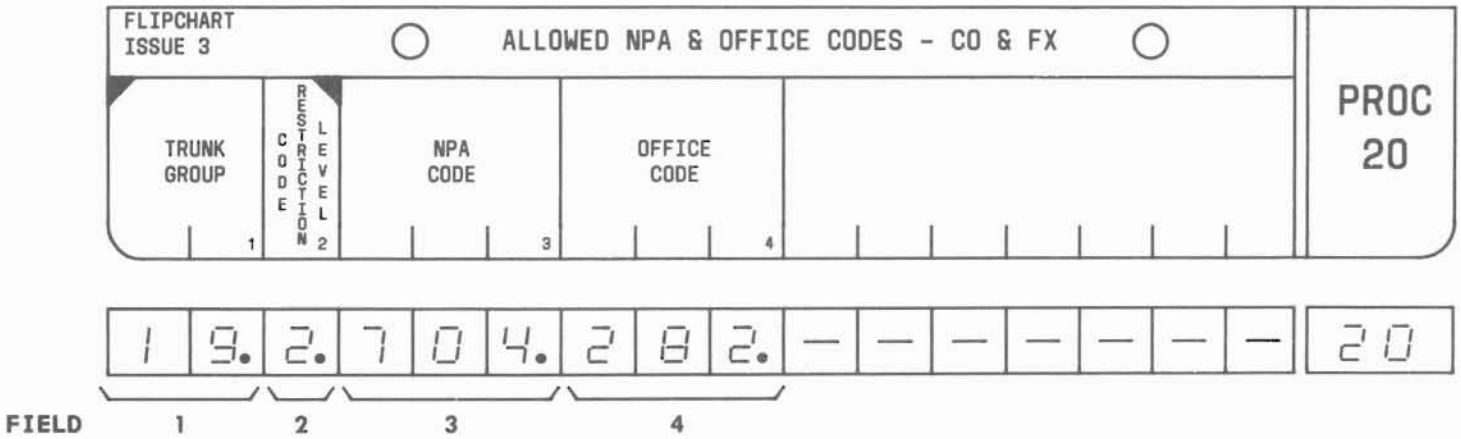
Procedure 20 is used to display, add, and remove the allowed numbering plan area (NPA) and office codes from a list (each list entry being six digits long).

B. PREREQUISITES

- Procedures 12, 13, and 10 must be used to assign trunk groups before code restriction levels can be added.
- Procedure 19, Word 1 must be used to assign an office code [central office (CO) trunk] or area code [foreign exchange (FX) trunk] to the trunk group.
- Procedure 19, Word 3 must be used to assign a code restriction level to the 3-digit allowed office or area codes.

C. CAUTION

Use care when adding or changing code restriction levels associated with NPAs to avoid customer annoyance.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group number. Range Memory Size / 100 / 400 A / – / 18-31 B / 18-31 / 18-63 C / 18-31 / 18-63
2		Code restriction level for the 6-digit allowed code (See Part F, Notes 4 and 5):
	1	Trunk group associated with the allowed code (in fields 3 and 4) can be accessed by stations with a code restriction level of 1, 2, or 3. See Part F, Note 1.
	2	Trunk group associated with the allowed code can be accessed by stations with a code restriction level of 2 or 3. See Part F, Note 1.
	3	Trunk group associated with the allowed code can be accessed by stations with a code restriction level of 3 only. See Part F, Note 2.
3	3-digit number	Allowed NPA code.
4	3-digit number	Allowed office code.

E. OPERATION

Display NPA and office codes (See Part F, Note 3):

PROC NO.; 20; ENTER; (Trunk Group); ENTER; (Code Restriction Level); ENTER; DISPLAY; EXECUTE

Add NPA and/or office codes (See Caution):

Display NPA and office codes; CHANGE; 3; ENTER; (NPA Code); ENTER; (Office Code) or CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove NPA and office codes (See Caution):

Display NPA and office code; REMOVE; EXECUTE; DISPLAY; EXECUTE; Repeat removal procedure for each office code to be removed

F. NOTES

1. If the code restriction level (field 2) is 1 or 2, the table of allowed codes (fields 3 and 4) may contain an NPA code or an NPA code and an office code.
2. If the code restriction level is 3, the table of allowed codes must contain both an NPA code and an office code.
3. Depress DISPLAY and EXECUTE keys repeatedly to display all the NPA and office codes associated with a trunk group.
4. Feature Package 2, Issue 3 allows specifying stand-alone NPA for code restriction levels 1, 2, and 3 for FX trunks. Also, for CO trunks, only 6-digit codes are accepted, and for FX trunks, both 3- and 6-digit codes are accepted.
5. Procedure 02, Word 1 assigns code restriction levels of restricted lines.

END

PROCEDURE 21, WORD 1 – SYSTEM CLASS OF SERVICE - NIGHT SERVICE

A. PURPOSE

Procedure 21, Word 1 is used to add, change, and display:

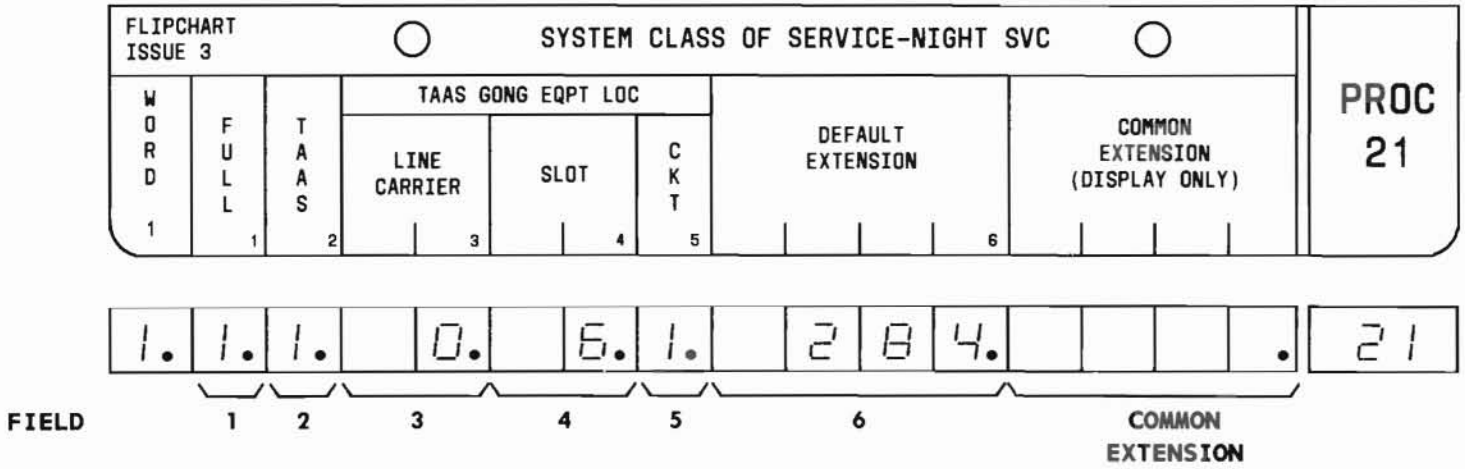
- Trunk answer from any station (TAAS)
- Night service – full
- Night service – fixed
- Common extension (display only)

B. PREREQUISITE

The line extension number in field 6 and the attendant-entered common extension number must be in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number assigned in Procedures 30 and 00, Word 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0 1	Fixed night service is provided. Full night service is provided.
2	0 1	Trunk answer from any station is not enabled. Trunk answer from any station is enabled. See Part F, Note 1.
3	0-6	TAAS gong line carrier location. Range Memory Size — 100 — 400 A — 0,1 — 0,1 B — 0,1 — 0-3 C — 0,1 — 0-6
4	2-9 11-18	TAAS gong slot location. See Part F, Note 4.
5	0-3	TAAS gong circuit.
6	Any 2-, 3-, or 4-digit number	Default extension. See Part F, Note 2.
COMMON EXTENSION	Any 2-, 3-, or 4-digit number	Common extension number.

E. OPERATION

Display night service:

PROC NO.; 21; ENTER; DISPLAY; EXECUTE

Add or change a field:

Display night service; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove Night Bell (See Part F, Note 3):

Display night service; CHANGE; (Field No.); ENTER; (Blank); ENTER; ADD; EXECUTE

F. NOTES

1. TAAS gong equipment can be assigned to any available line circuit location. The gong circuit is usually assigned to carrier 0, slot 6, circuit 1. The location selected cannot be used for a line in Procedure 00, Word 1.
2. If full night service is activated, the default extension is the one to which all calls are directed when the attendant-entered common extension is not assigned.
3. The remove operation using the REMOVE key is not allowed in Procedure 21.
4. The following shows the available TAAS gong slot locations for the different carriers:

Carrier	"DIMENSION" PBX	Slots
J58881CB	100	2-9,11-14
J58879AA	100/400	4-9,11-18
J58879AC	400	2-9,11-18

END

A. PURPOSE

Procedure 21, Word 2 is used to add, change, and display miscellaneous system class-of-service features. The features include:

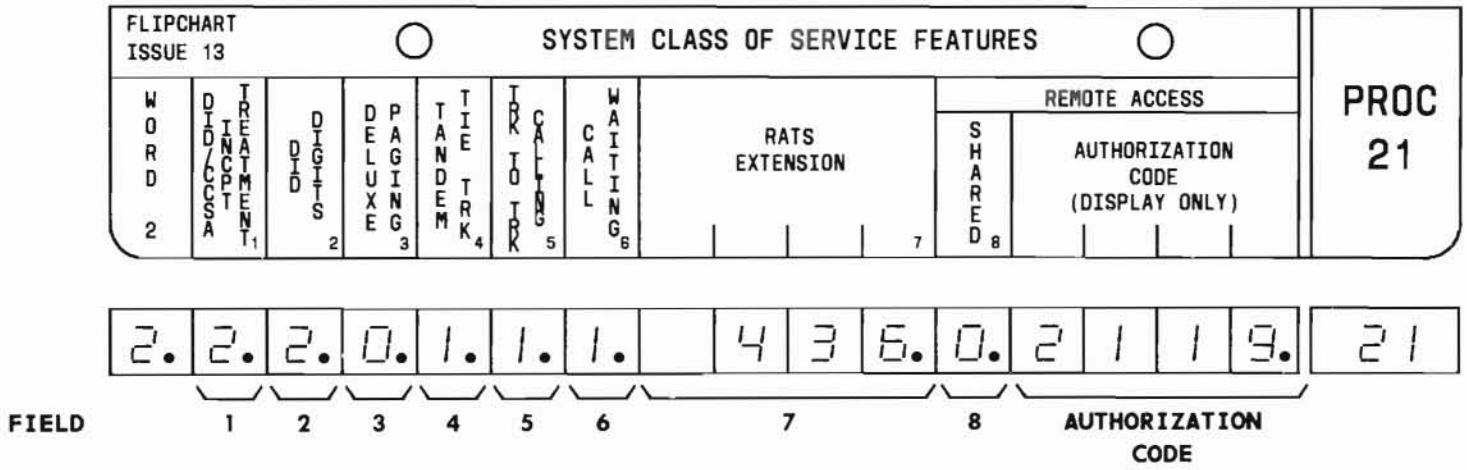
- Call waiting – originating
- Call waiting – terminating
- Common control switching arrangement (CCSA)
- Direct inward dialing (DID)
- Loudspeaker paging – deluxe
- Remote access to PBX services
- Remotely accessed traffic system (RATS)
- Tandem tie trunk switching
- Trunk-to-trunk connections

B. PREREQUISITE

The RATS extension number must be in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the whole number assigned in Procedure 30, but not assigned an equipment location in Procedure 00, Word 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0 1 2	Intercept treatment: Calling party will receive intercept tone. See Part F, Note 6. Calling party will be routed to the attendant. Calling party will be routed to recorded announcement.
2	2-4	The number of digits forwarded to the PBX by the serving office on DID calls. See Part F, Note 4.
3-6	0	Indicates applicable feature is not provided.
3	1	Deluxe loudspeaker paging enabled. See Part F, Note 1.
4	1	Enables tandem tie trunk feature.
5	1	Enables trunk-to-trunk calling feature.
6	1	Attendant and station call waiting features enabled. See Part F, Note 2.
7	Any 2-, 3-, or 4-digit number	Remotely accessed traffic system extension. See Part F, Note 5.
8	0 1	Remote access trunk group is not shared. See Part F, Note 3. Remote access trunk group is shared with listed directory number (LDN) service. See Part F, Note 3.
Authorization Code	Any 4-digit number	Permits remote access to the DIMENSION 100/400 PBX.

E. OPERATION (See Part F, Note 7)

Display Word 2:

PROC NO.; 21; ENTER; WORD; 2; DISPLAY; EXECUTE

Add or change a field:

Display Word 2; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. If deluxe paging is not enabled (field 3=0), the system functions with basic paging.
2. When call waiting is enabled (field 6=1), attendant call waiting is automatically enabled by software which sets 1 in Procedure 26, Word 1, field 9. The terminating and originating services are assigned to extensions by class of service.
3. If a remote access trunk group is not shared (field 8=0), it is dedicated and available at all times. If the remote access feature shares trunk circuits with LDN service (field 8=1), remote access is provided only when the system is in night service. The authorization code (display only) is the code dialed to permit remote access to PBX services. This code is established via the attendant console.
4. For Feature Package 2, Issue 3; FP3, Issue 2; FP4, Issue 2; FP5, Issue 2; and FP10, Issue 1, field 2 has been edited to ensure the value is valid (must be number in the range 2-4). If an attempt is made to modify another field without setting field 2 to a valid number, the ERROR lamp will light.
5. Field 7 is used only in FP1, Issue 1; FP2, Issue 1; FP3, Issue 1; FP4, Issue 1; and FP5, Issue 1.
6. No intercept tone is provided in Feature Package 2, Issue 3 and later feature packages on DID trunk calls. The calling party will be routed to the attendant.
7. The remove operation is not permitted in Procedure 21.

END

A. PURPOSE

Procedure 21, Word 3 is used to add, change, or display miscellaneous system class of service features including:

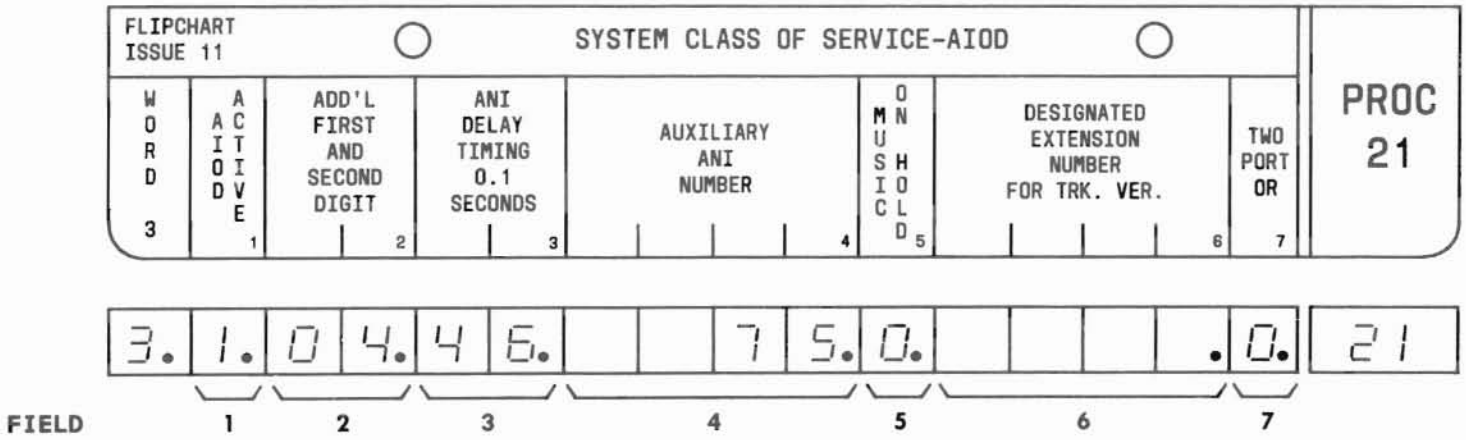
- Automatic identified outward dialing (AIOD)
- Automatic number identification (ANI)
- Music on hold
- Trunk verification by station

B. PREREQUISITE

The line extension number in field 6 must be in the dial plan. The first digit must be defined in Procedure 29, Word 1 and the entire number assigned in Procedure 30 and Procedure 00, Word 1.

C. CAUTION

Leading zeros must be entered in field 2 if significant. For example, 04 would be appended to a 2-digit number to make a valid 4-digit number, 04XX.



D. **FIELD DEFINITIONS AND CODES**

Field	Code	Definition
1	0 1	AIOD is not enabled. AIOD is enabled.
2	1- or 2-digit number or blank	Additional digits, if required, to ensure that a 4-digit extension number is sent to the central office. See Caution and Part F, Note 1.
3	1-99	The number of 0.1-second intervals of delay before a second dial tone is provided to the caller. See Part F, Note 2.
4	4-digit number	The toll call common billing number for line extensions that have a 1 in Procedure 00, Word 2, field 4, and is the billing number used by a remote access to dial 9 call when AIOD is required.
5	0 1	Music on hold feature is not provided. Music on hold feature is enabled.
6	2-, 3- or 4-digit number	The number of the extension which has access to the trunk verification by station feature. See Part F, Note 3.
7	0 1	2-port originating register is not provided. 2-port originating register operational to all CO trunks arranged for TOUCH-TONE dialing to dial pulse conversion. See Part F, Note 4.

E. **OPERATION** (See Part F, Note 5)

Display system class of service:

PROC NO.; 21; ENTER; WORD; 3; DISPLAY; EXECUTE;

Add or change a field:

Display system class of service; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. **NOTES**

1. If no additional digits are required in field 2, use the CLEAR ENTRY key to blank the field.
2. The time delay entered in field 3 is used to provide the required time for ANI processing in the central office.
3. If no designated extension number is assigned in field 6, use the CLEAR ENTRY key to blank the field.
4. The number of TOUCH-TONE calling receivers must be engineered to account for the fact that the attendant(s) must now share in the use of the receivers when TOUCH-TONE dialing to dial pulse conversion is required.
5. The remove operation is not permitted in Procedure 21.

END

A. PURPOSE

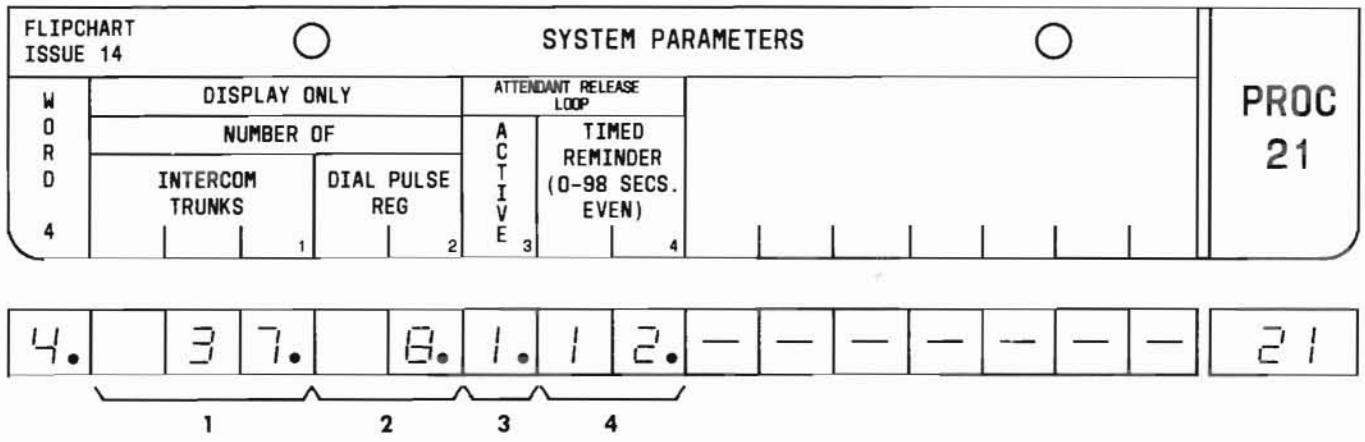
Procedure 21, Word 4 is used to display the number of intercom trunks and dial pulse registers available in the system and to administer the attendant release loop feature.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-, 2- or 3-digit number	The number of intercom trunks (records) available for intra-PBX calls. See Part F, Note 2. Range Memory Size — 100 — 400 A — 0-30 — 0- 61* B — 0-30 — 0-108 C — 0-30 — 0-158 * 0-45 for FP3
2	1- or 2-digit number	The number of dial pulse registers (records) available for station-originated calls plus incoming DID, tie trunk, and CCSA calls. Range Memory Size — 100 — 400 A — 0-7 — 0- 7 B — 0-7 — 0-11 C — 0-7 — 0-14
3	0	Attendant release loop feature disabled.
	1	Attendant release loop feature enabled.
4	00-98	ARL timed reminder in 2-second intervals. The interval must be an even number (eg, 2, 4...98).

DID – Direct inward dialing

CCSA – Common control switching arrangement

E. OPERATION (See Part F, Note 1)

Display system parameters:

PROC NO.; 21; ENTER; WORD; 4; ENTER; DISPLAY; EXECUTE

Add or change attendant release loop feature:

Display system parameters; CHANGE; 3; ENTER; 0 or 1; ENTER; (Timed Reminder); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The REMOVE key cannot be used in this procedure.
2. All trunks (records) not assigned as hardware trunks, queue records, or automatic numbering identification (ANI) records become intercom records.

END

A. PURPOSE

Procedure 21, Word 5 is used to administer:

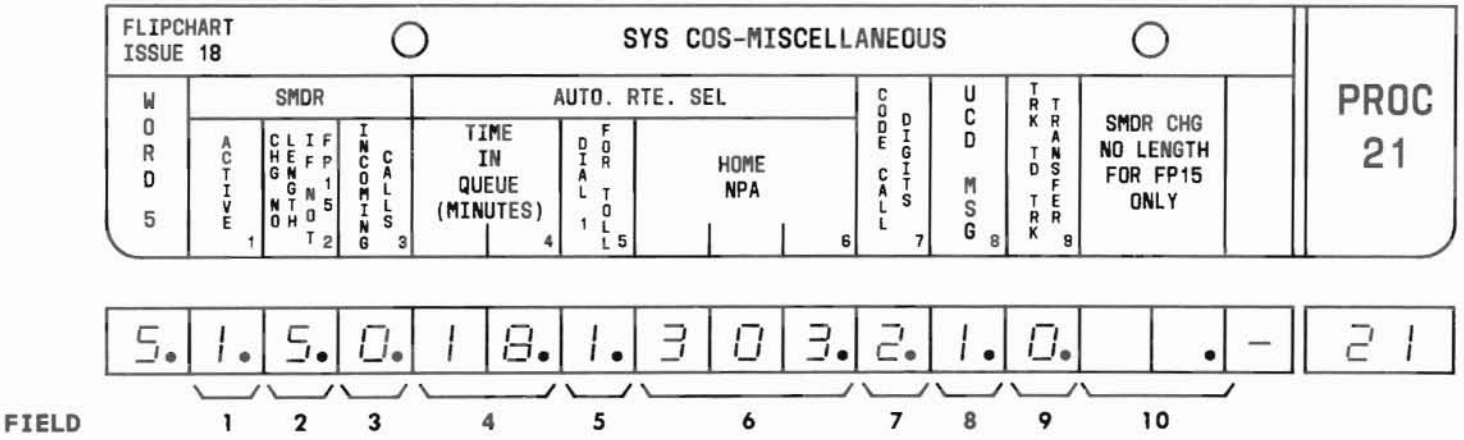
- Station message detail recording (SMDR)
- Automatic route selection (ARS)
- Number of code call digits
- Uniform call distribution (UCD) message
- Trunk to trunk transfer

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0 1 2	SMDR is not enabled. SMDR is enabled. See Part F, Note 1. SMDR with charge code required for ARS.
2*	0-5	The number of digits in the SMDR charge number.
3	0 1	Incoming call data will not be recorded. Incoming call data will be recorded.
4	0 Even number, 2-62	A call can only be routed via a non-toll trunk. A call can only be routed via a non-toll trunk until the specified time (in minutes) has elapsed after which the call can be routed via the first idle trunk, toll or nontoll. See Part F, Note 2.
5	0 1 2	Dial 1 for toll is not required. Dial 1 for toll is required for all calls outside home numbering plan area (NPA). Dial 1 for toll on all toll calls.
6	3-digit number	The home NPA (area code).
7	Blank 2 3	The number of code calling digits and codes: Code calling not assigned. Maximum of 25 2-digit codes. Maximum of 125 3-digit codes.
8	0 1	A single UCD message is provided, followed by music or silence if music is not provided. UCD message is repeated periodically. Intervals between messages are silent.
9	0 1	Trunk transfer feature is not provided. Allows any station with the 3-way conference COS to transfer incoming-to-outgoing trunk calls.
10†	00-15	The number of digits in the SMDR charge number.

* Except FP 15 (See field 10 for FP15)

† FP 15 only (See field 2 for all other FPs)

E. OPERATION (See Part F, Note 3)

Display Word 5:

PROC NO.; 21; ENTER; WORD; 5; DISPLAY; EXECUTE

Add or change a field:

Display Word 5; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. SMDR is related to individual trunk groups by using Procedure 12.
2. The ARS time in queue is applicable when the ARS feature is accessed via the ARS-not-routed-to-toll dial access code.
3. The remove operation is not permitted in Procedure 21.

END

PROCEDURE 22, WORD 1 — STATION MESSAGE REGISTER

A. PURPOSE

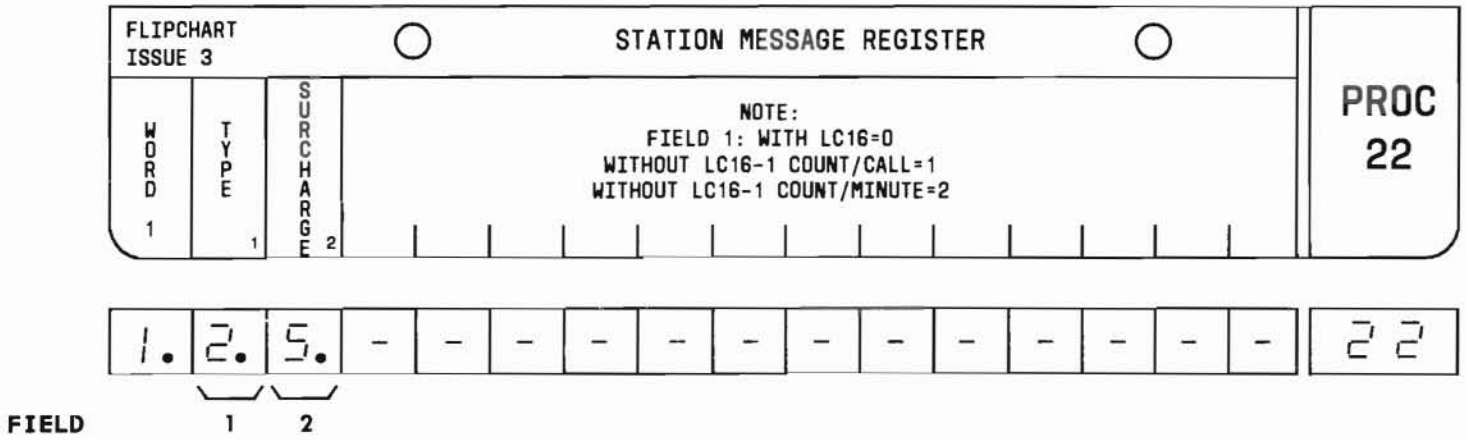
Procedure 22, Word 1 is used to define whether register counts will be generated internally (without LC16) or externally (with LC16) via the central office (CO) for the station message register feature.

B. PREREQUISITE

When Procedure 22 is used to link a CO trunk and a message register interface circuit (Wd 1, field 1=0), the sequence must be Word 3, Word 1, Word 2.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0	A message register interface (LC16) circuit pack is provided to detect message unit counts from the central office.
	1	Message unit counting is done within the PBX on a one count/call basis. (No LC16 is provided.)
	2	Message unit counting is done within the PBX on a one count/minute basis. (No LC16 is provided.)
2	0-7	The number of surcharge message units to be accumulated per call.

E. OPERATION (See Part F, Note 1)

Display Word 1:

PROC NO.; 22; ENTER; DISPLAY; EXECUTE

And type and surcharge (See Part F, Note 2):

PROC NO.; 22; ENTER; (Type); ENTER; (Surcharge); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change type or surcharge:

Display Word 1; CHANGE; (Field No.); Enter; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The REMOVE key cannot be used with this word.
2. To link a station message register and CO trunk, first add the necessary information in Word 3, then add the type and surcharge in Word 1.

PROCEDURE 22, WORD 2 — STATION MESSAGE REGISTER

A. PURPOSE

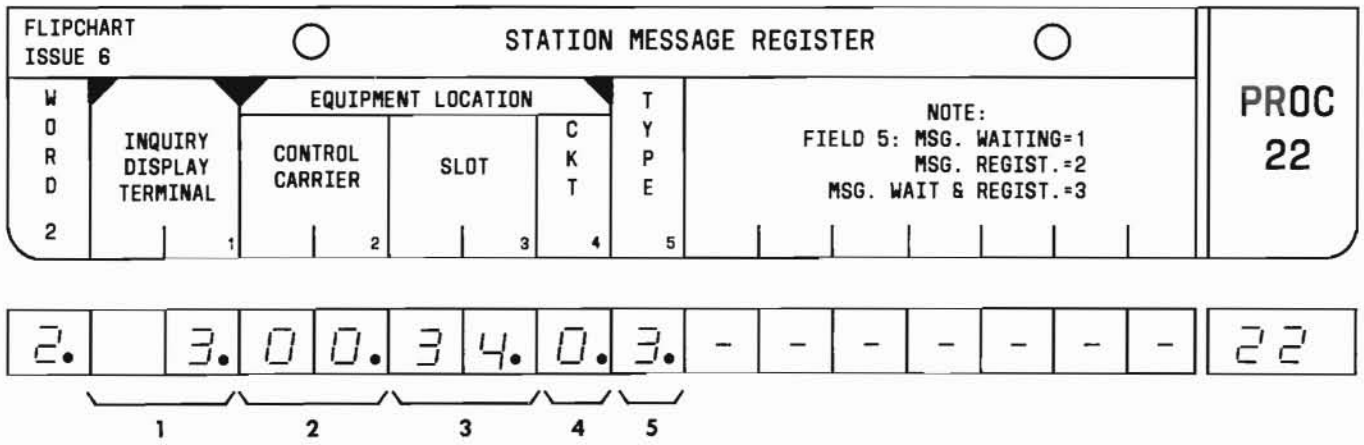
Procedure 22, Word 2 is used to associate the terminal equipment number with its data link equipment location (LC34B or LC366) and the type of terminal equipment.

B. PREREQUISITE

When Procedure 22 is used to link a CO trunk and a message register interface circuit, the sequence must be Word 3, Word 1, Word 2.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-4	Inquiry display terminal number.
2	00	The location of the data link (LC34B or LC366) circuit pack (always in control carrier 00).
3 (See Part F, Notes 1 and 2)	32-35	Slot location of the LC34B circuit pack in carriers J58879CA-1 (MD), or -2.
	32-37	Slot location of the LC366 circuit pack in carrier J58879CC-1.
4	0 or 1	Number of the display terminal data link circuit.
5		Display terminal type:
	1	Message waiting device.
	2	Station message register display unit.
	3	Message waiting device and station message register display unit combined.

E. OPERATION

Display terminal equipment location:

PROC NO.; 22; ENTER; WORD; 2; (Inquiry Display Terminal No.); ENTER; DISPLAY; EXECUTE

Display terminal:

PROC NO.; 22; ENTER; WORD; 2; CLEAR ENTRY; ENTER; (Control Carrier No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; DISPLAY; EXECUTE

Add or change inquiry display terminal:

Display terminal equipment location; CHANGE; 2; ENTER; (Control Carrier No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; (Type); ENTER; REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE

Change inquiry terminal type:

Display Word 2; CHANGE; 5; ENTER; (Type); ENTER; REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE

Remove inquiry display terminal:

Display Word 2; REMOVE; EXECUTE

F. NOTES

1. When Feature Package (FP) 15 is provided, each LC366 utilizes two slot numbers and provides four I/O data channel circuits. Each slot number contains circuits 0 and 1. For example, LC366 in slot 32/37. Slot number 32 contains circuits 0 and 1 and slot number 37 contains the other two circuits also numbered 0 and 1.

2. When an LC171B is provided for RMATS, slots 32 and 37 in carrier J58879CC-1 and slot 32 in carrier J58879CA-1(MD), or -2 cannot be used for station message register assignments.

END

PROCEDURE 22, WORD 3 – STATION MESSAGE REGISTER

A. PURPOSE

Procedure 22, Word 3 is used to serve one of two purposes:

- Associate the trunk circuit being monitored with an LC16 message register interface circuit.
- Define the trunk circuit being monitored internally (no LC16 provided).

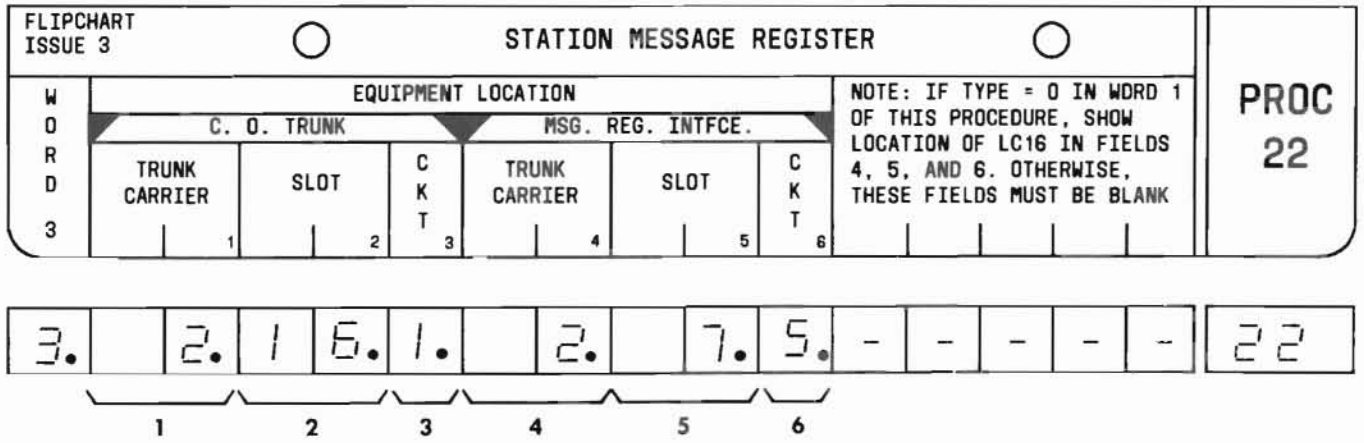
B. PREREQUISITES

When Procedure 22, Word 1, field 1 is to = 0:

- Sequence must be Word 3, Word 1, Word 2.
- Message register interface (LC16) must be assigned to a trunk group using Procedure 10 and 13. However, only circuit 0 of the LC16 need be administered in Procedure 10.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-4	Trunk carrier location for CO trunk equipment. **Memory Size** — **Range** A — 0,1 B — 0-3 C — 0-4
2	2-9 11-18	CO trunk equipment slot location.
3	0 or 1	CO trunk equipment circuit number.
4	0-4	Message register interface equipment trunk carrier location. **Memory Size** — **Range** A — 0,1 B — 0-3 C — 0-4
5	2-9	Message register interface equipment slot location.
6	0-7	Message register circuit number.

E. OPERATION

Display message register interface:

PROC NO.; 22; ENTER; WORD; 3; (CO Trunk Carrier No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; DISPLAY; EXECUTE

Display CO trunk equipment location:

PROC NO.; 22; ENTER; WORD; 3; CLEAR ENTRY; ENTER; CLEAR ENTRY; ENTER; CLEAR ENTRY; ENTER; (Message Register Interface Trunk Carrier No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; DISPLAY; EXECUTE

Link station message register and CO trunk (See Part F, Notes 1 and 2):

Display message register interface; CHANGE; 4; ENTER; CLEAR ENTRY or (Message Register Interface Trunk Carrier No.); ENTER; CLEAR ENTRY or (Slot No.); ENTER; CLEAR ENTRY or (Circuit No.); ENTER; ADD; EXECUTE; WORD; 1;(Type); ENTER; (Surcharge); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove station message register (See Part F, Note 3):

Display message register interface; REMOVE; EXECUTE

F. NOTES

1. When adding a CO trunk without an associated LC16, fields 4 through 6 are blanked using the CLEAR ENTRY key.
2. When linking a station message register and a CO trunk, if the ERROR lamp lights, use the sequence REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE before continuing the linking operation.
3. When removing a CO or message register interface circuit, first remove the trunk linkage using Procedure 22, Word 3, then remove the trunk using Procedure 10. Failure to follow this sequence will result in an error indication.

END

A. PURPOSE

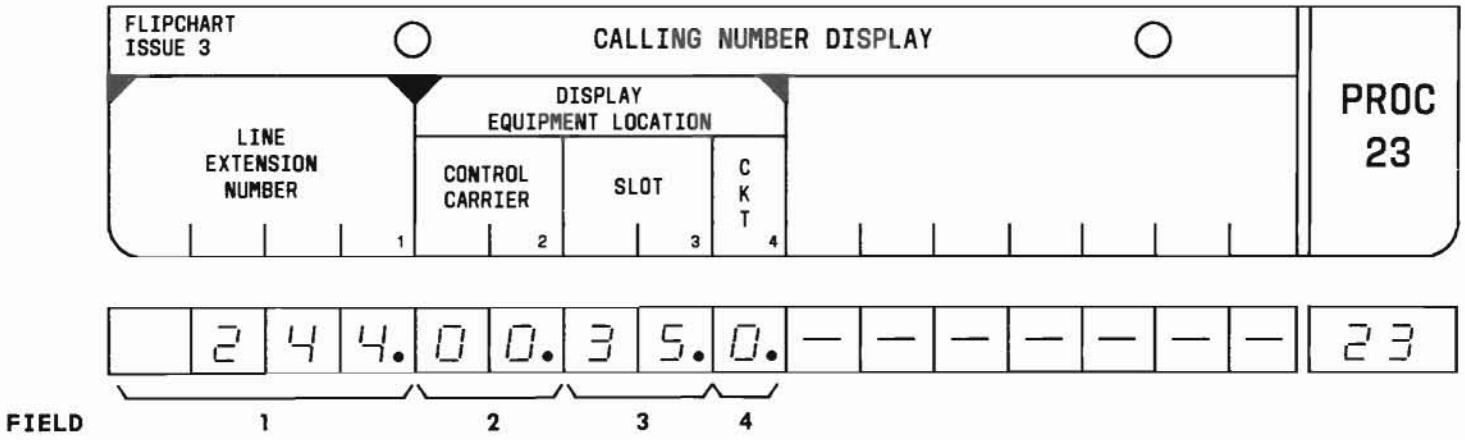
Procedure 23 is used to display, add, and remove a line extension number association with the equipment location of the LC34B or LC366 calling number display data link.

B. PREREQUISITE

The line extension number must be in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number assigned in Procedure 30 and Procedure 00, Word 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition	
1	Any 2-, 3-, or 4-digit number	Line extension number being provided with the calling number display.	
2	00	Control carrier number (always carrier 00).	
3 (See Part F, Notes 1 and 2)	32-35	J58879CA-1 Carrier	Slot Location
		J58879CA-2 Carrier	
	32-37	J58879CC Carrier	
4	0,1	Circuit No. on LC34B or LC366 dedicated to calling number display.	

E. OPERATION

Display equipment location:

PROC NO.; 23: ENTER; (Line Extension Number); ENTER; DISPLAY; EXECUTE

Display line extension number:

PROC NO.; 23; ENTER; CLEAR ENTRY; ENTER; (Control Carrier No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; DISPLAY; EXECUTE

Add display equipment location:

Display equipment location; CHANGE; 2; ENTER; (Control Carrier No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove display equipment location:

Display equipment location; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. When the J58879CC carrier is provided, each LC366 utilizes two slot numbers and provides four I/O data channel circuits. Each slot number contains circuits 0 and 1. For example, LC366 in slot 32/37. Slot number 32 contains circuits 0 and 1 and slot number 37 contains the other two circuits also numbered 0 and 1.

2. When an LC171B is provided for RMATS, slots 32 and 37 in trunk control carrier J58879CC-1 and slot 32 in control carrier J58879CA-1(MD), or -2 cannot be used for calling number display assignments.

END

A. PURPOSE

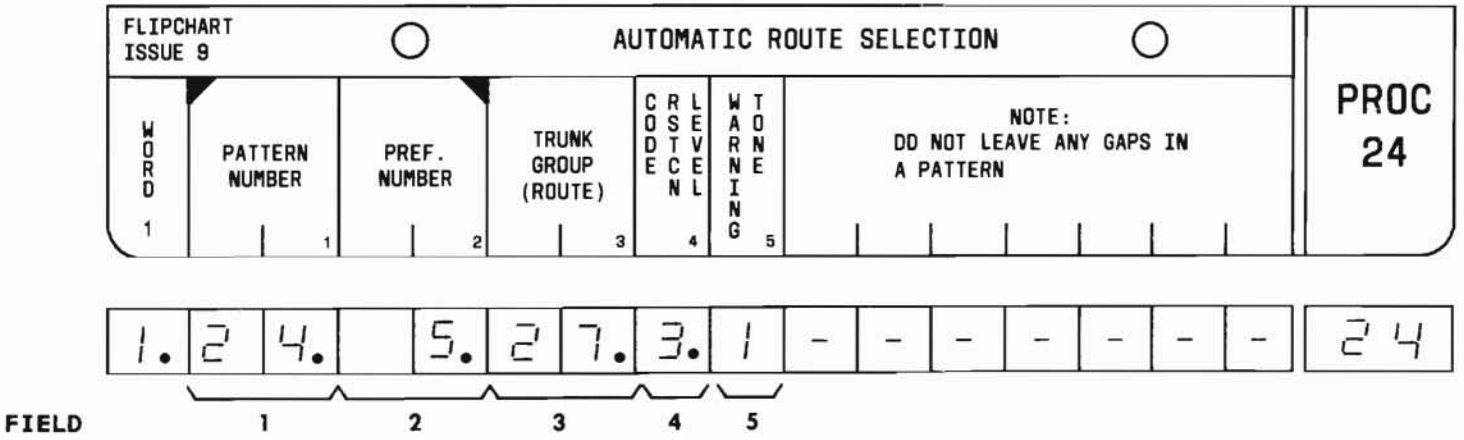
Procedure 24, Word 1 is used to assign the trunk group, code restriction level, and warning tone to a pattern and preference for automatic route selection (ARS).

B. PREREQUISITE

Trunk group numbers and trunk types are assigned using Procedures 13 and 10.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-32	Pattern number. See Part F, Note 1. **Memory Size** — **Range** A — 1-16 B — 1-32 C — 1-32
2	1-10	The priority level of the trunk group; one is the highest priority. See Part F, Note 2.
3	0	No trunk group assigned.
	18-63	Trunk group number. See Part F, Note 3. **Memory Size** — **Range 100** — **Range 400** A — – — 18-31 B — – — 18-63 C — 18-31 — 18-63
4 (See Part F, Note 5)	0	Only stations or tie trunks with a code restriction level of 0 assigned in COS can access the trunk group defined in field 3.
	1	Code level 0, 1, 2, 3 assignments can access trunk group.
	2	Code level 0, 2, 3 assignments can access trunk group.
	3	Code level 0, 3 assignments can access trunk group
5	0	Warning tone is not provided.
	1	Warning tone is provided when call is routed to toll network.

E. OPERATION (See Part F, Note 4)

Display Word 1:

PROC NO.; 24; ENTER, (Pattern No.); ENTER; (Preference No.); ENTER; DISPLAY; EXECUTE

Add data to Word 1:

PROC NO.; 24; ENTER; (Pattern No.); ENTER; (Preference No.); ENTER; (Trunk Group); ENTER; (Code Restriction Level); ENTER; (Warning Tone); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change data in Word 1:

Display Word 1; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Although pattern number 1 is assignable, it should normally be used for nonroutable destinations (intercept treatment).
2. A pattern must be built in preference number sequence, 1 through 10. No gaps may be left. Only the last member of a pattern may be changed to zero.
3. The trunk type associated with the trunk group number must be defined as a 1-way outgoing or 2-way central office (CO), foreign exchange (FX), wide area telecommunication service (WATS), or common control switching arrangement (CCSA) type.
4. The remove operation is not permitted in Procedure 24.
5. Code restriction levels of restricted lines are assigned in Procedure 02, Word 1.

END

PROCEDURE 24, WORD 2 – AUTOMATIC ROUTE SELECTION - NPA AND PATTERN NUMBER

A. PURPOSE

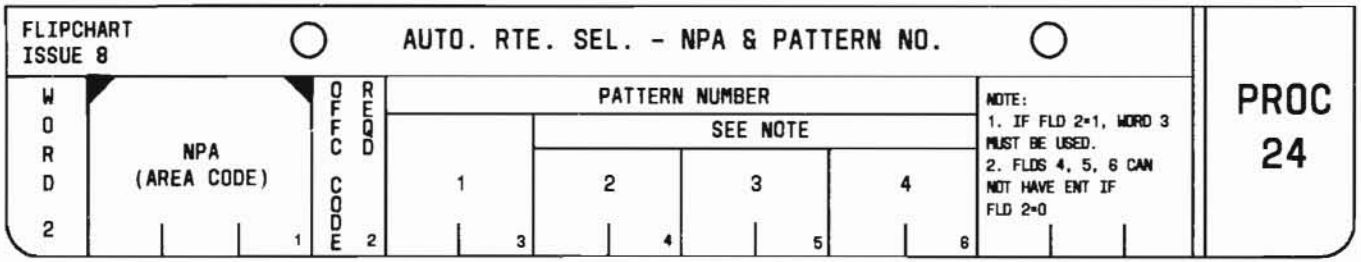
Procedure 24, Word 2 is used to assign patterns to area codes for automatic route selection (ARS).

B. PREREQUISITES

None.

C. CAUTION

If field 2 is changed from a 1 to a 0, Word 3 is automatically removed.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	3-digit number	Any valid NPA except the home NPA. See Part F, Note 1.
2	0	Office code information is not required.
	1	Office code information is required via Word 3 (pattern numbers required in fields 4 thru 6).
3 (See Part F, Notes 2 and 4)	1-32	***For field 2 = 0:*** All office codes within the NPA in field 1 will be routed via the pattern number in this field. ***For field 2 = 1:*** All office codes within the NPA in field 1 not specifically administered in Word 3 will be routed via the pattern number in this field.
4-6	1-32	***For field 2 = 0:*** These fields must be blank (CLEAR ENTRY). ***For field 2 = 1:*** These fields must contain pattern numbers which can be assigned in Word 3, field 3.
NPA – Numbering plan area		

E. OPERATION (See Part F, Note 3)

Display Word 2:

PROC NO; 24; ENTER; WORD; 2; (NPA-Area Code); ENTER; DISPLAY; EXECUTE

Add data to Word 2:

PROC NO; 24; ENTER; WORD; 2; (NPA); ENTER; (Office Code Required); ENTER; (Pattern No.); ENTER; (Pattern No. or CLEAR ENTRY followed by ENTER for fields 4 through 6); ADD; EXECUTE; DISPLAY; EXECUTE

Change data in Word 2 (See Caution):

Display Word 2; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The number of NPAs which can be defined by office codes (6-digit translation) is limited by memory size as follows:

	Range	
Memory Size	**DIM 100**	**DIM 400**
A	–	4
B	–	5
C	16	8

2. If only the area code is required for determining the route, the pattern is entered in field 3. If the area code plus an office code is required to determine the route, patterns are entered in fields 3 through 6.
3. The remove operation is not permitted in Procedure 24.
4. Procedure 43, Word 1 can be used to display other NPAs assigned to a pattern number.

END

PROCEDURE 24, WORD 3 — AUTOMATIC ROUTE SELECTION — NPA AND OFFICE CODES

A. PURPOSE

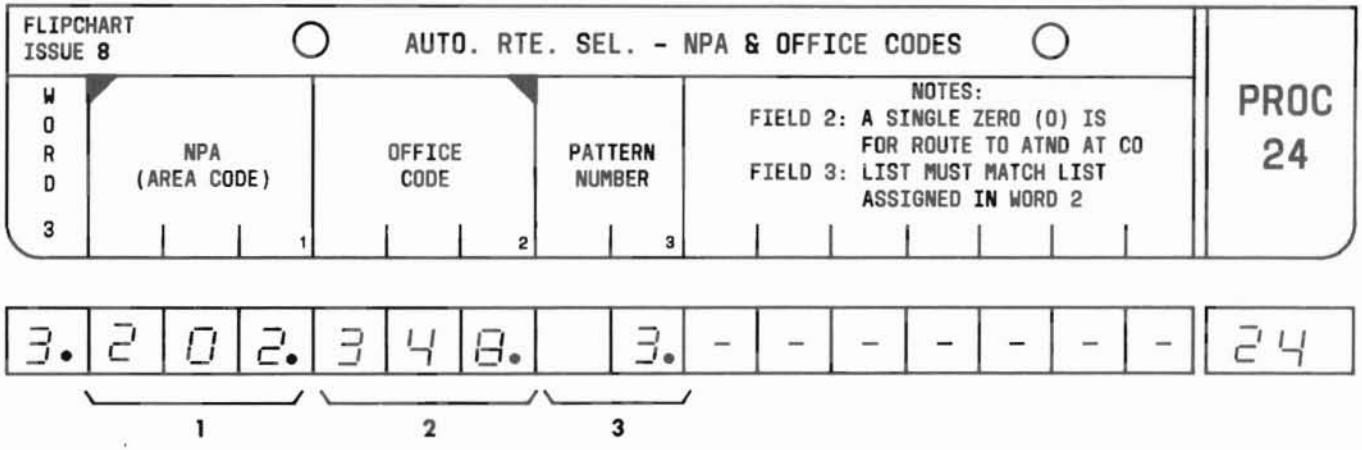
Procedure 24, Word 3 is used to assign a pattern to an office code within an area code when 6-digit translation is used for that area code for the automatic route selection (ARS) feature.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	3-digit number	Any valid NPA assigned in Word 2 or home NPA. See Part F, Note 1.
2	0 3-digit number	Route to attendant at company. Either service code or office code in the form NNX.
3	1-32	If field 1 is a foreign NPA, this field must match one of the entries in Word 2, fields 3, 4, 5, or 6. All office codes not administered will be routed via the pattern in Word 2, field 3. If field 1 is the home NPA, any pattern may be used and office codes not administered will be routed to pattern 1.
NPA – Numbering plan area		

E. OPERATION (See Part F, Note 2)

Display Word 3:

PROC NO.; 24; ENTER; WORD; 3; (NPA-Area Code); ENTER; (Office Code); ENTER; DISPLAY; EXECUTE

Add data to Word 3:

PROC NO.; 24; ENTER; WORD; 3; (NPA-Area Code); ENTER; (Office Code); ENTER; (Pattern Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change data in Word 3:

Display Word 3; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The number of NPAs which can be defined by office codes (6-digit translation) is limited by memory size as follows:

	Range	
Memory Size	**100**	**400**
A	–	4
B	–	5
C	16	8

2. The remove operation is not permitted in Procedure 24.

END

PROCEDURE 25, WORD 1 — AUTOMATIC ROUTE SELECTION — TRUNK GROUPS

A. PURPOSE

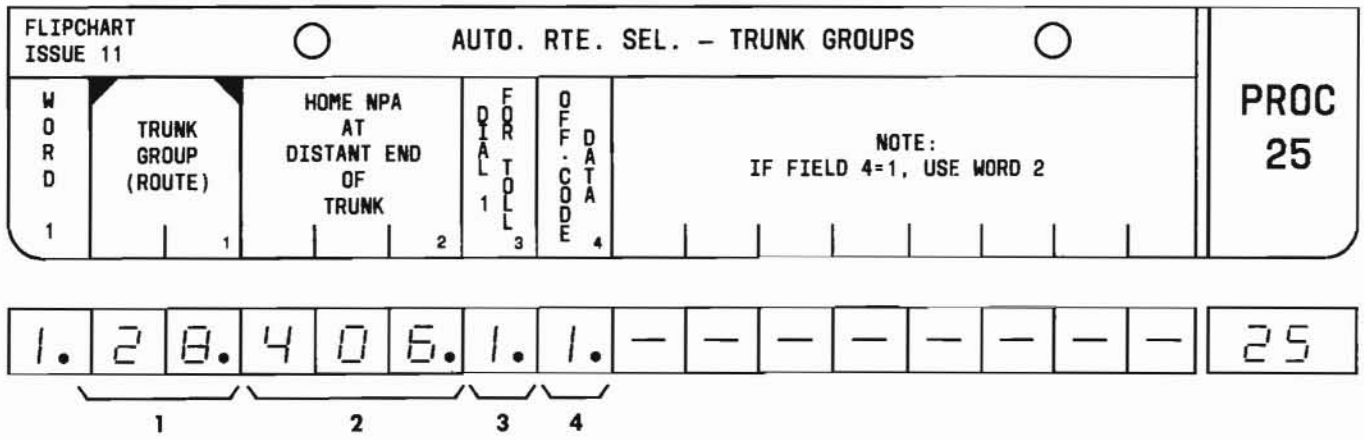
Procedure 25, Word 1 is used to assign an NPA at the distant end of a trunk group for automatic route selection (ARS). A toll call prefix and whether office code data is required is defined in this procedure.

B. PREREQUISITE

Trunk group numbers and trunk type assignments are made in Procedures 13 and 10.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group number. See Part F, Note 1. Range Memory Size: 100 / 400 A: – / 18-31 B: – / 18-63 C: 18-31 / 18-63
2	Blank	No numbering plan area (NPA) assigned.
	3-digit number	The area code at the terminating end of the trunk group. See Part F, Note 2.
3	0	No prefix used.
	1	Prefix used on 10-digit calls.
	2	Prefix used on 7- and 10-digit calls.
4	0	No office code data required.
	1	Office code data is required (use Word 2).

E. OPERATION (See Part F, Note 5)

Display Word 1 (See Part F, Note 3):

PROC NO.; 25; ENTER; (Trunk Group Number); ENTER; DISPLAY; EXECUTE

Add ARS trunk group data (See Part F, Note 4):

PROC NO.; 25; ENTER; (Trunk Group Number); ENTER; (Home NPA at Distant End); ENTER; (Dial 1 for Toll); ENTER; (Office Code Required); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change ARS trunk group data:

Display Word 1; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The trunk type associated with the trunk group number must be defined as a 1-way outgoing or 2-way central office (CO), foreign exchange (FX), wide area telecommunication service (WATS), or common control switching arrangement (CCSA) type.
2. Field 2 is the home NPA for the distant end of the trunk group. More than one home NPA can be assigned to a trunk group when the trunk group terminates in an area where local calls cross NPAs. For instance, all calls made from Dallas to Fort Worth and vice versa are local calls. However, Dallas' NPA is 214 and Fort Worth's NPA is 817. Therefore, two home NPAs should be assigned to any trunk group terminating in either city.
3. To display a second home NPA for the trunk group, depress DISPLAY; EXECUTE after the first display.
4. To add a second home NPA to the trunk group, repeat the add operation.
5. The REMOVE key cannot be used in this procedure.

END

PROCEDURE 25, WORD 2 – AUTOMATIC ROUTE SELECTION – OFFICE CODE DATA

A. PURPOSE

Procedure 25, Word 2 is used to assign an office code within the home NPA at the distant end of a trunk group for automatic route selection (ARS). Toll or local calls are defined in this procedure.

B. PREREQUISITES

- Word 1, field 4 must equal 1 for the same trunk group in field 1 of this procedure.
- Trunk group numbers and trunk type assignments are made in Procedures 13 and 10.

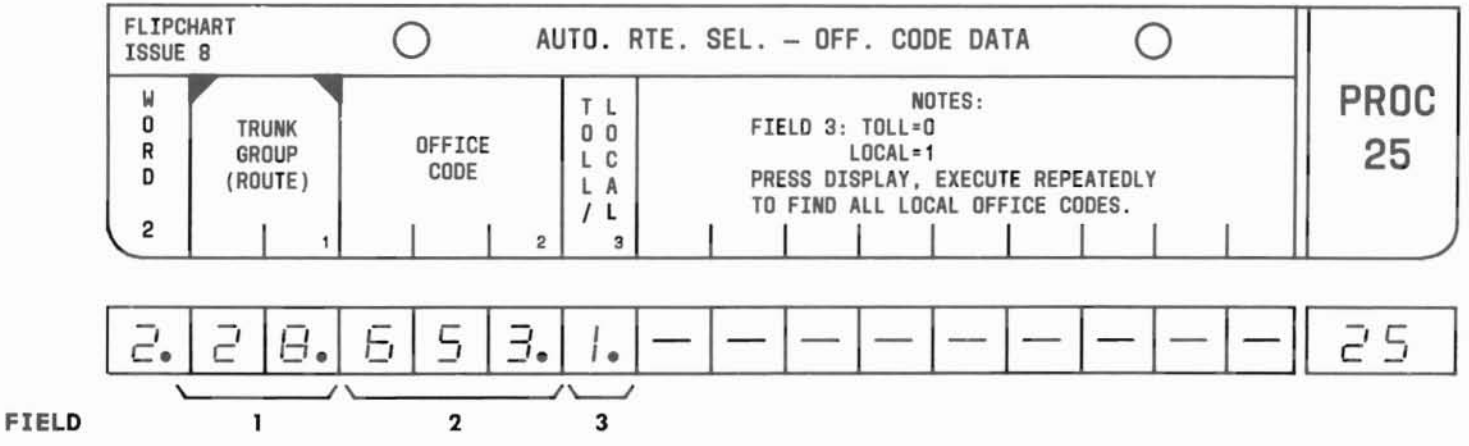
C. CAUTIONS

1. For FP 4, Issue 2, the number of office code lists is limited by memory size as follows:

Memory Size	Office Code Lists
A	5
B	6
C	9

A safeguard of these limits does not exist in software and exceeding these limits results in overwrites in other tables. In these cases, pattern definition may be lost and all calls are routed to intercept.

2. In a new DIMENSION PBX order, it is possible for an office code list to be shared by several trunk groups. The Customer Order document will



C. **CAUTIONS** (Contd)

indicate which trunk groups use the same office code list (under ARS-TRUNK GROUP ATTRIBUTES). If a trunk group that shares that list needs to be changed, the entire list must be rebuilt. To do this, set the Office Code Data field (Word 1, field 4) to 0 for all the trunk groups in the list. Then set the Office Code Data field to 1 and use Word 2 to build the correct list for each trunk group. This operation will result in a separate office code list for each trunk group involved, so make certain not to exceed the maximum number of office code lists allowed in the system.

D. **FIELD DEFINITIONS AND CODES**

Field	Code	Definition
1	18-63	Trunk group number. See Part F, Note 1. Range Memory Size — 100 — 400 A — – — 18-31 B — – — 18-63 C — 18-31 — 18-63
2 (See Part F, Note 2)	3-digit number	Any valid office code within the home NPA of the trunk group's terminating end.
3 (See Part F, Note 2)	0 1	Toll call. Call to office code in field 2 is a local call.

E. **OPERATION** (See Cautions 1 and 2 and Part F, Note 3)

Display Word 2 (See Part F, Note 4):

PROC NO.; 25; ENTER; WORD; 2; (Trunk Group No.); ENTER; DISPLAY; EXECUTE

Add office code data:

PROC NO.; 25; ENTER; WORD; 2; (Trunk Group No.); ENTER; (Office Code); ENTER; (Toll or Local Call); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change office code data:

Display Word 2; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. **NOTES**

1. The trunk type associated with the trunk group number must be defined as a 1-way outgoing or 2-way central office (CO), foreign exchange (FX), wide area telecommunication service (WATS), or common control switching arrangement (CCSA) type.
2. Local office codes not administered in Word 2, fields 2 and 3 will default to 0 indicating toll treatment.
3. The REMOVE key cannot be used in Word 2.
4. To display other office codes associated with a trunk group, use the sequence DISPLAY; EXECUTE repeatedly after displaying the first office code.

END

PROCEDURE 25, WORD 3 – AUTOMATIC ROUTE SELECTION - TIE TRUNK ACCESS

A. PURPOSE

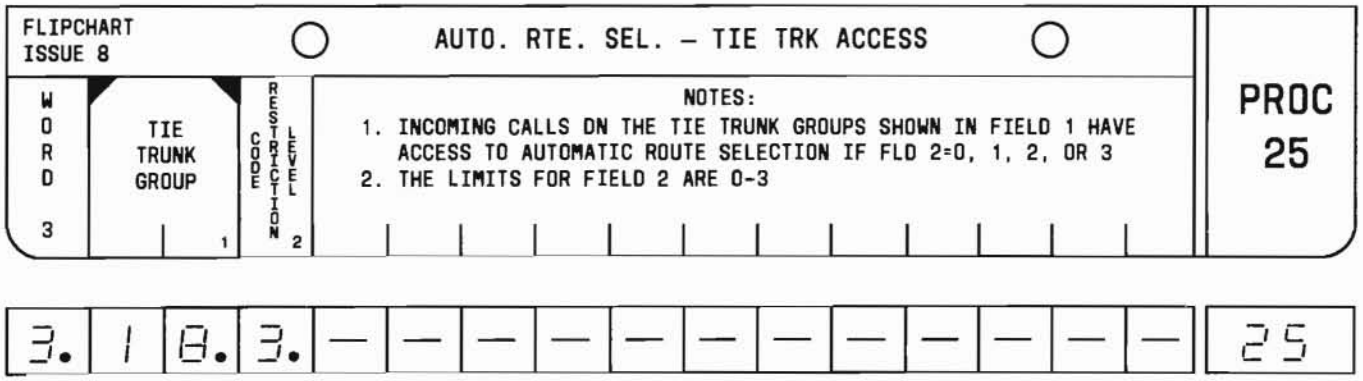
Procedure 25, Word 3 is used to define the code restriction level for tie trunks for the automatic route selection (ARS) feature.

B. PREREQUISITE

Trunk group numbers and trunk type assignments are made in Procedures 13 and 10.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Tie trunk group number. Range Memory Size — 100 — 400 A — – — 18-31 B — – — 18-63 C — 18-31 — 18-63
2 (See Part F, Note 2)	Blank	Tie trunk group does not have access to ARS.
	0	Tie trunks with a code restriction level of 0 can access all routes.
	1	Code level 1 assignments can access routes with code level 1.
	2	Code level 2 assignments can access routes with code levels 1 and 2.
	3	Code level 3 assignments can access routes with code levels 1, 2, and 3.

E. OPERATION

Display Word 3:

PROC NO.; 25; ENTER; WORD; 3; (Tie Trunk Group No.); ENTER; DISPLAY; EXECUTE

Add code restriction level:

PROC NO.; 25; ENTER; WORD; 3; (Tie Trunk Group No.); ENTER; (Code Restriction Level); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change code restriction level:

Display Word 3; CHANGE; 2; ENTER; (New Code Restriction Level); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove tie trunk access (See Part F, Note 1):

Display Word 3; CHANGE; 2; ENTER; CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The REMOVE key cannot be used in Word 3.
2. Code restriction levels of restricted lines are assigned in Procedure 02, Word 1.

END

A. PURPOSE

Procedure 26, Word 1 is used to display, add, remove, or change:

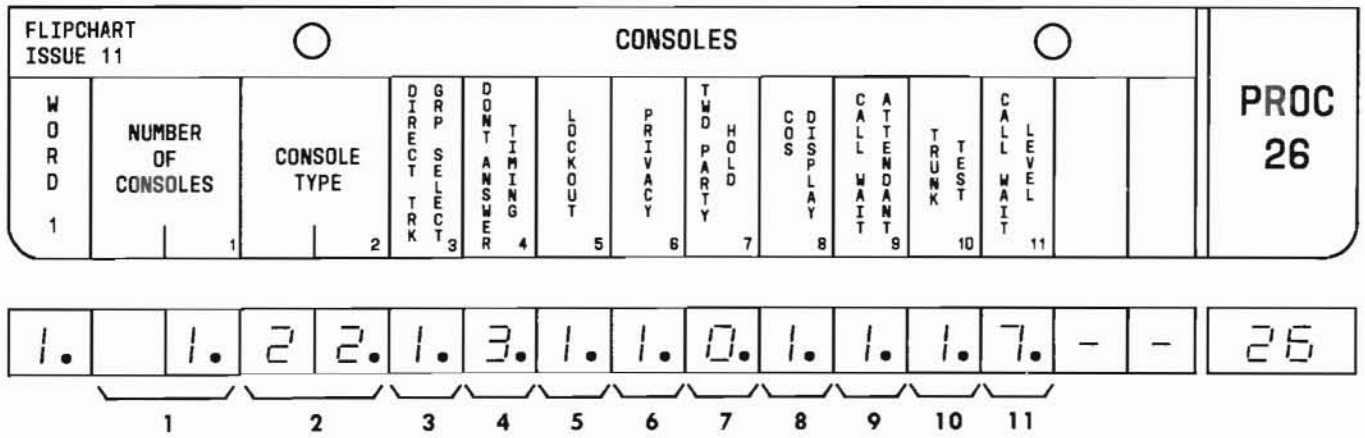
- The number and type of consoles in the system.
- The features assigned to the consoles.
- The don't answer timer. See Caution 1.

B. PREREQUISITE

Procedure 27, Word 2 must be used to assign a control key to the class of service (COS) display feature (field 8) before the feature can be enabled.

C. CAUTIONS

1. The don't answer timing administered in field 4 affects the features listed below. Any adjustment in timing for one feature affects the timing of the other features.
   (a) Automatic Callback – Calling
   (b) Call Forwarding – Busy and Don't Answer
   (c) Call Forwarding – Don't Answer
   (d) Call Hold (only in some earlier program issues)
   (e) Loudspeaker Paging – Deluxe (only in some earlier program issues)
   (f) Outgoing Trunk Queuing
   (g) Terminating Call Waiting
   (h) Three-Way Conference Transfer.
2. To remove a console from service, physically remove the handset plug or completely disconnect the console from the PBX. Failure to do so causes the software to continue to attempt to route calls to the removed console.



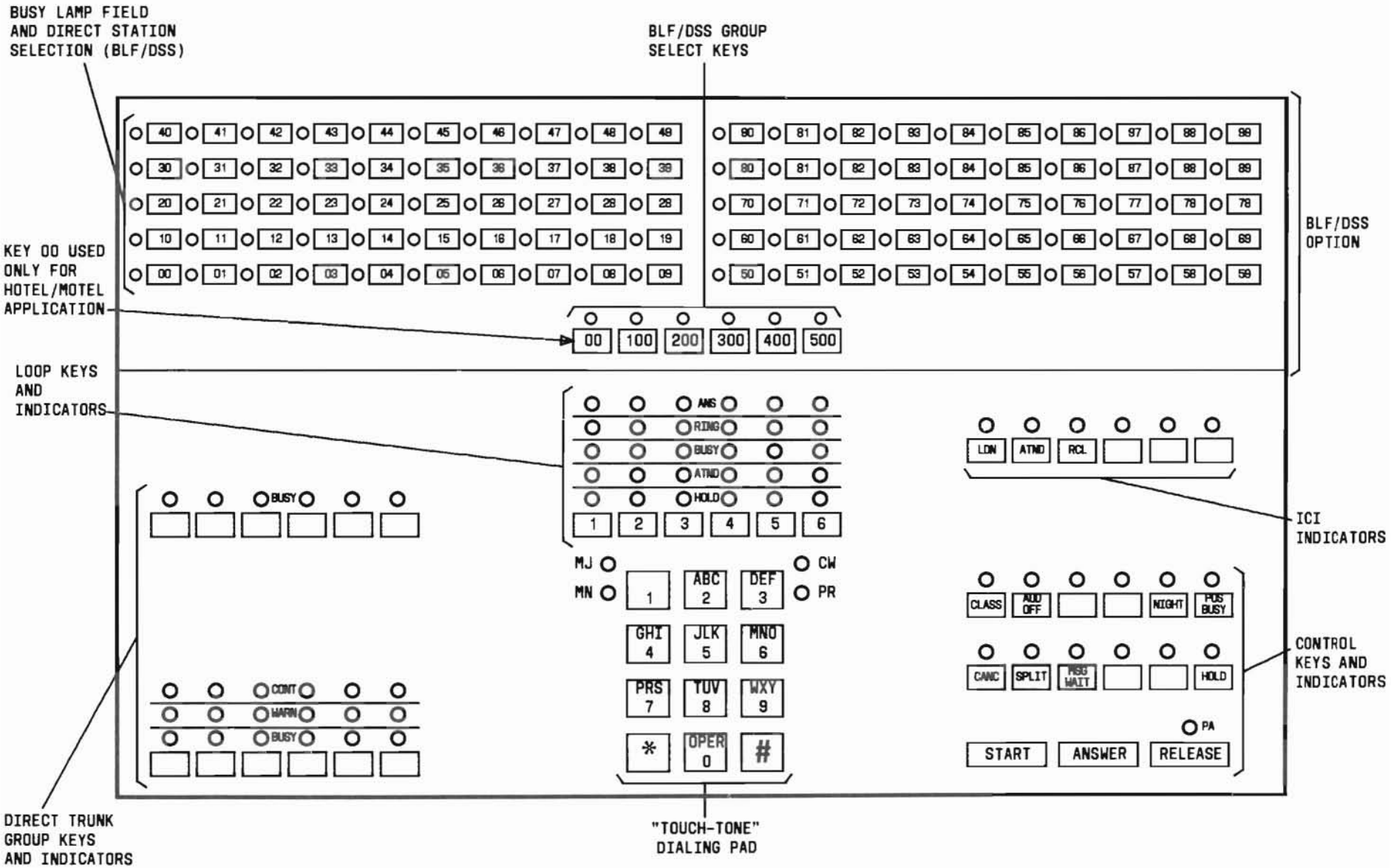
D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0	No console assigned.
	1-4	Number of consoles in the PBX system. Range Memory Size — 100 — 400 A — 1 — 1 B — 1 — 1-3 C — 1* — 1-4 * 1-2 for FP15.
2	10-14 20-24 30-34	Console configuration. See Table 26-1 and Part F, Notes 4 and 5. (See following pages for illustrations of consoles)
3	0	Console feature disabled.
	1	Feature enabled.
4	1-8	Number of ring cycles between the start of ringing and when time-out occurs. See Caution 1.
5-7	0	Feature disabled.
	1	Feature enabled. See Part F, Note 1.
8 (See Part F, Note 2)	0	Numeric line COS (1 through 31) will be displayed.
	1	One of four alphanumeric displays (FULL, TOLL, REST, or NON) will be displayed.
9 DISPLAY ONLY	0	Call waiting, attendant feature not enabled using Procedure 21, Word 2.
	1	Feature enabled.
10	0	Trunk test feature disabled.
	1	Feature enabled.
11	1-9	The calls waiting lamp on the attendant console will flash when the number of calls is greater than or equal to the call waiting level.

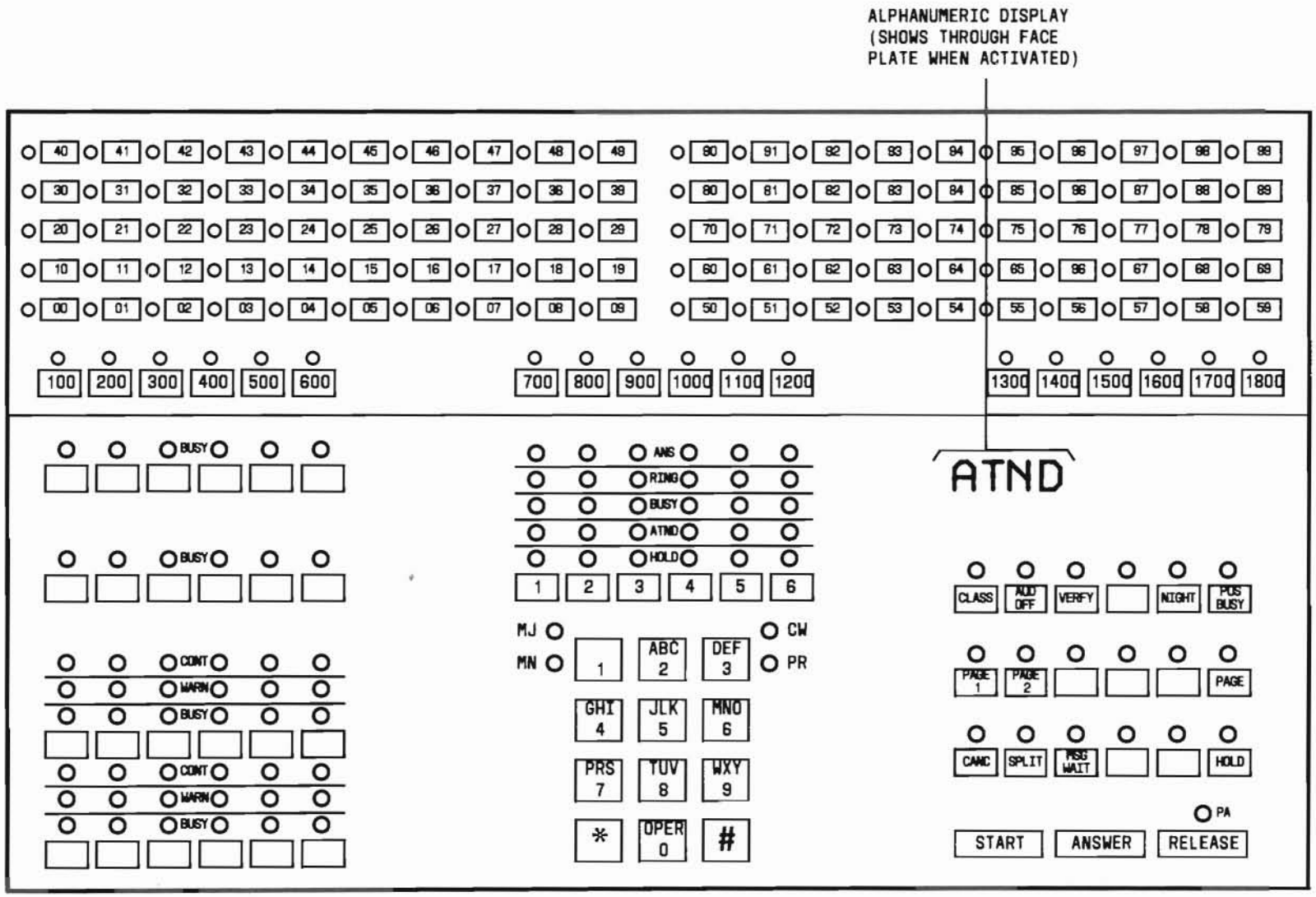
Table 26-1
Console Type Encodes

Console	Code	Group Select Keys	ICI Lamps	Alpha-numberic Display	BLF/DSS Option	Indicators	
						BLF	DSS
B (small)	10	0	Yes	No	No	No	No
	11	0	Yes	No	Yes	Yes	No
	12	6	Yes	No	Yes	Yes	No
	13	0	Yes	No	Yes	Yes	Yes
	14	6	Yes	No	Yes	Yes	Yes
	20	0	No	Yes	No	No	No
	21	0	No	Yes	Yes	Yes	No
	22	6	No	Yes	Yes	Yes	No
	23	0	No	Yes	Yes	Yes	Yes
	24	6	No	Yes	Yes	Yes	Yes
C (large)	30	0	No	Yes	No	No	No
	31	6	No	Yes	Yes	Yes	No
	32	18	No	Yes	Yes	Yes	No
	33	6	No	Yes	Yes	Yes	Yes
	34	18	No	Yes	Yes	Yes	Yes

BLF – Busy lamp field
DSS – Direct station selection
ICI – Incoming call identification



"B" (SMALL) CONSOLE



"C" (LARGE) CONSOLE

E. OPERATION

Display console features:

PROC NO.; 26; ENTER; DISPLAY; EXECUTE

Add or change console features:

Display Word 1; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a console feature (See Caution 2 and Part F, Note 3):

Display Word 1; CHANGE; (Field No.); ENTER; 0; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. When the privacy feature is enabled, the lockout feature must also be enabled; ie, fields 6 and 5 must both equal 1.
2. The COS feature is available for console types 20 through 34 only.
3. The REMOVE key cannot be used in removing data from Word 1. Data can be removed only by entering zeros in the applicable field.
4. If more than one console is used in a system, all the consoles must be functionally identical.
5. The DIMENSION 100 PBX and memory size A of the DIMENSION 400 PBX cannot use a console with 18 group-select keys (console types 32 and 34).

PROCEDURE 26, WORD 2 — BLF/DSS GROUP SELECT KEYS

A. PURPOSE

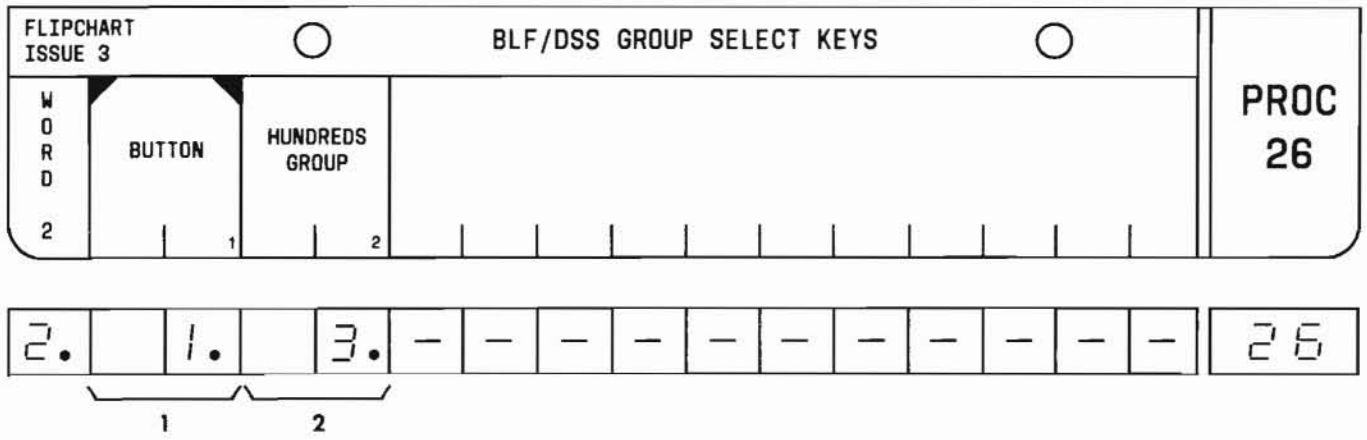
Procedure 26, Word 2 is used to display, add, remove, or change the hundreds group assignment of the busy lamp field/direct station selection (BLF/DSS) group select keys.

B. PREREQUISITE

Procedure 26, Word 1 must be used to assign the console type and number used in the system.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-18	Group select key (button) number. Keys are numbered from left to right, beginning with 1. See Part F, Notes 2 and 3. Range Memory Size — 100 — 400 A — 1-6 — 1-6 B — 1-6 — 1-18 C — 1-6 — 1-18
2	1-99	Hundreds group assigned to keys in field 1. See Part F, Note 1. Exceptions: Three-digit PBX: Enter hundreds digit of extension in field 2. Four-digit PBX: Enter thousands and hundreds digit of extension in field 2.

E. OPERATION

Display a button:

PROC NO.; 26; ENTER; WORD; 2; (Button); ENTER; DISPLAY; EXECUTE

Add or change a button:

Display Word 2; CHANGE; 2; ENTER; (New 1- or 2-digit Hundreds Group); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a button:

Display Word 2; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Each group select key (button) assigned in Word 2, field 1 represents a group of 100 stations. Each DSS key represents one station in the hundreds group selected by a group select key.
2. When a B console with BLF/DSS but without group select keys is used (field 2 of Procedure 26, Word 1 = 11, 13, 21, or 23), the hundreds group must be assigned to button 1 using Word 2.
3. The first group select key must be assigned to a hundreds group even if multiple groups are not required.

END

PROCEDURE 27, WORD 1 – CONSOLE DIRECT TRUNK GROUP SELECT KEYS

A. PURPOSE

Procedure 27, Word 1 is used to display, add, remove, or change:

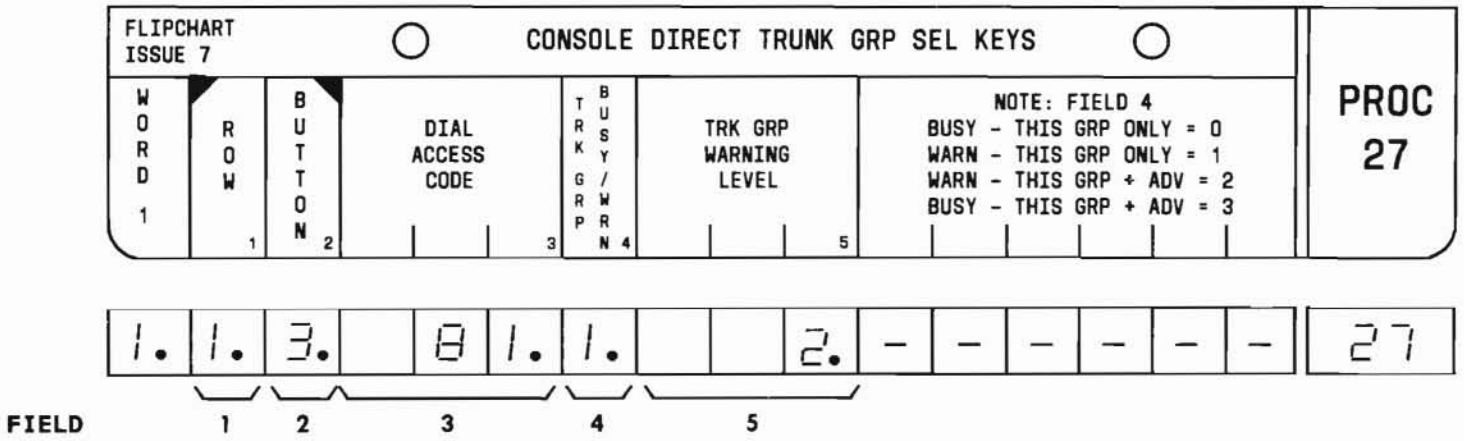
- A trunk group select key's trunk group assignment.
- A trunk group's busy/warning feature assignment.
- A trunk group's warning level.

B. PREREQUISITES

- Procedure 26, Word 1 must be used to assign the type and number of consoles used in the system.
- Procedure 29, Word 1 must be used to define the first dialed digit and Procedure 12 must be used to define the trunk group dial access code.

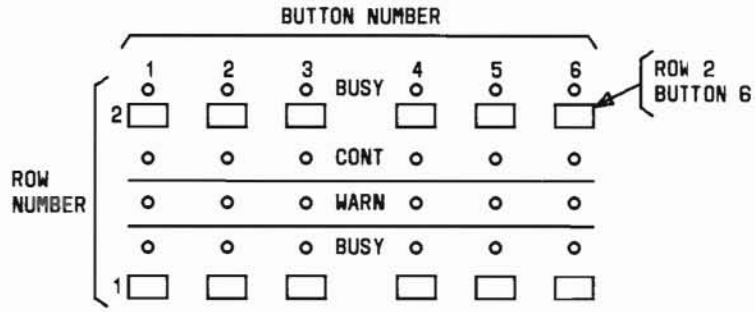
C. CAUTIONS

None.

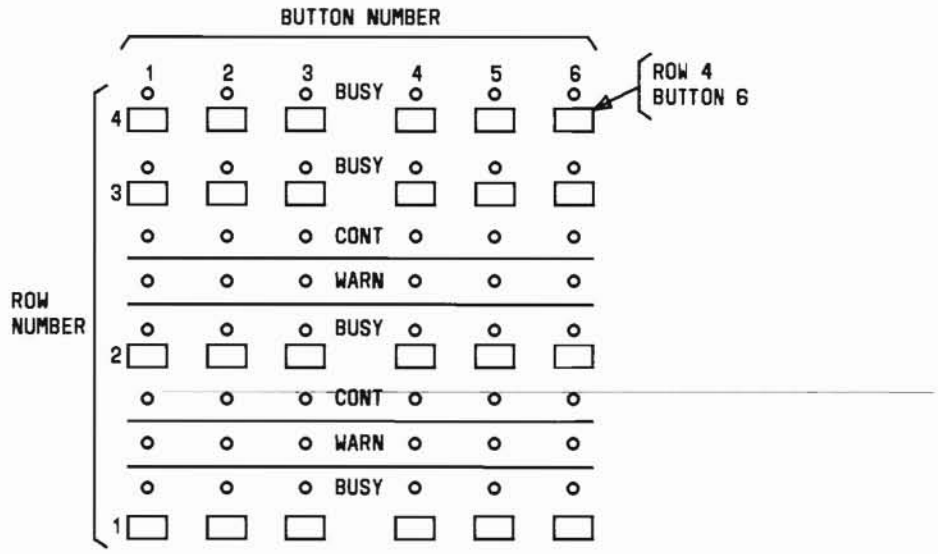


D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-4	Row number of direct trunk group select key. See Part F, Note 1. **Console Type** — **Range** B (small) — 1,2 C (large) — 1-4 Refer to direct trunk group select key layout illustrations.
2	1-6	Number of specific direct trunk group select key (button). See key layout illustrations and Part F, Note 2.
3	1-, 2-, or 3-digit number	Trunk group dial access code.
4 (See Part F, Note 3)	0	This trunk group only is busy.
	1	Busy and warning for this trunk group only. See Part F, Note 4.
	2	Busy and warning for this trunk group and any trunk group this one advances to. See Part F, Note 4.
	3	This trunk group and any trunk group this one advances to is busy.
5	0-7	Trunk group warning level. When the number of idle trunks is less than or equal to the number in field 5, the applicable warning indicator will light. When the number in field 5 is 0 and all the trunks in the trunk group become busy, the busy and warning indicators will light at once.



B Console (Type 10-14, 20-24)



C Console (Type 30-34)

E. OPERATION

Display a direct trunk group select key:

PROC NO.; 27; ENTER; (Row); ENTER; (Button); ENTER; DISPLAY; EXECUTE

Add a trunk group busy/warning code:

Display direct trunk group select key; CHANGE; 3; ENTER; (Dial Access Code); ENTER; (Trunk Group Busy/Warning code); ENTER; (Trunk Group Warning Level); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a key assignment:

Display direct trunk group select key; REMOVE; EXECUTE; DISPLAY; EXECUTE

Change key data:

Display direct trunk group select key; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Direct trunk group select key rows (field 1) are numbered from bottom to top, starting with 1.
2. Direct trunk group select keys (buttons in field 2) are numbered from left to right, starting with 1.
3. Examples of trunk group busy/warning and warning level functions (fields 4 and 5) in use are as follows:
   (a) A customer has a group of 1-way out central office (CO) trunks with route advance to a group of 2-way CO trunks. Field 4 contains a 1. When the number of idle 1-way trunks reaches the warning level, only the warning indicator for the 1-way trunks will be activated.
   (b) If in the previous example field 4 contained a 2, the warning indicator would be activated only when the warning level was exceeded by both trunk groups.
4. In field 4, encodes 1 and 2 cannot be used for row 2 of a B console or rows 3 and 4 of a C console.

END

PROCEDURE 27, WORD 2 — CONSOLE CONTROL KEYS

A. PURPOSE

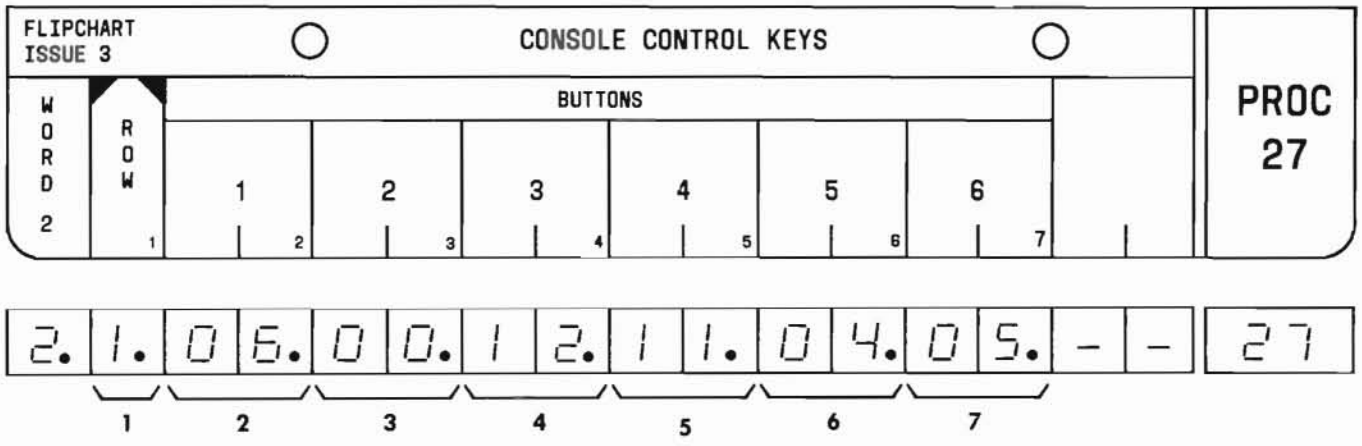
Procedure 27, Word 2 is used to display, add, remove, or change the function assigned to the console control keys in a particular row.

B. PREREQUISITE

Procedure 26, Word 1 must be used to assign the console type and number in the system.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-3	Row number of the control key. **Console Type** — **Range** B (small) — 1,2 C (large) — 1-3 Refer to control key layout illustration and Part F, Notes 1 and 2.
2-7		Control key function (See Part F, Note 3):
	0	No function.
	1	Class-of-service display.
	2	Night service.
	3	Position busy.
	4	Split.
	5	Hold. See Part F, Note 5.
	6	Cancel. See Part F, Note 5.
	7	Busy verification.
	8	Audible signal control.
	9	Message waiting.
	10	Basic paging - all zones.
	11	Basic paging - zone 1.
	12	Basic paging - zone 2.
	13	Basic paging - zone 3.
	14	Basic paging - zone 4.
	15	Basic paging - zone 5.
	16	Basic paging - zone 6.
	20	Priority paging - all zones.
	21	Priority paging - zone 1.
	22	Priority paging - zone 2.
	23	Priority paging - zone 3.
	24	Priority paging - zone 4.
	25	Priority paging - zone 5.
	26	Priority paging - zone 6.
	42	Station ID. See Part F, Note 6.

Typical Control Key Layout

E. OPERATION

Display the functions assigned to a row of keys:

PROC NO.; 27; ENTER; WORD; 2; (Row); ENTER; DISPLAY; EXECUTE

Add or change a key's function assignment:

Display Word 2; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a key's function assignment
(See Part F, Note 4):

Display Word 2; CHANGE; (Field No.); ENTER; 0; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The B (small) console infers console types 10 through 14 and 20 through 24 as defined in Procedure 26, Word 1. The C (large) console infers console types 30 through 34.
2. Row 1 is the first row of keys above the START, ANSWER, and RELEASE keys.
3. Priority paging (fields 2 through 7, encodes 20 through 26) and answer-back are part of the deluxe loudspeaker paging feature.
4. The REMOVE key cannot be used in this procedure. To remove a feature, assign a control key function encode of 0.
5. The HOLD and CANCEL keys (fields 2 through 7, encodes 5 and 6) are preassigned at the factory and cannot be reassigned.
6. Station ID (fields 2 through 7, encode 42) is used only when the attendant release loop (ARL) operation is provided.

END

A. PURPOSE

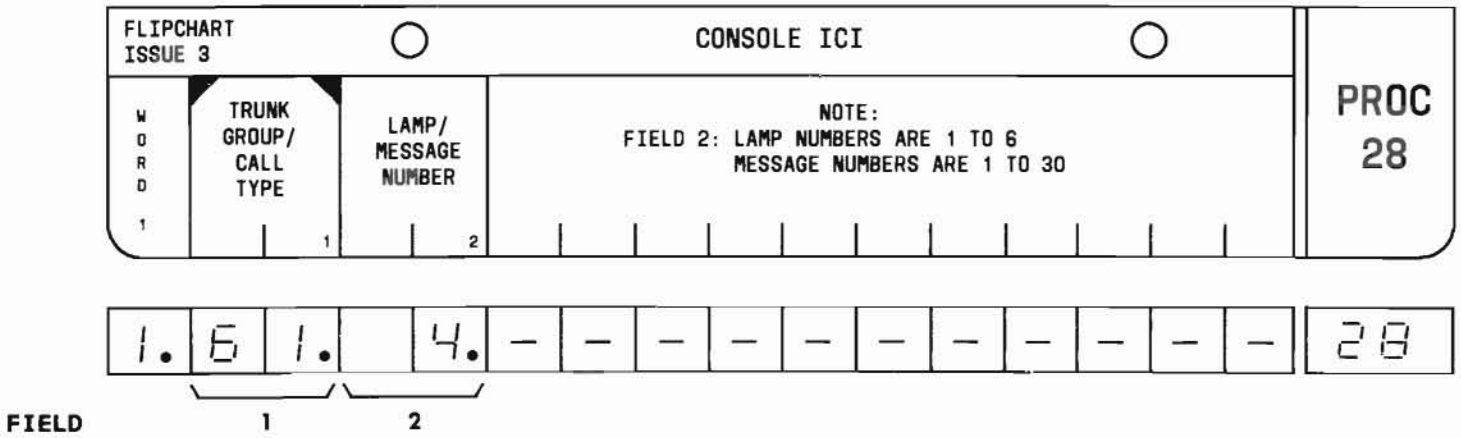
Procedure 28, Word 1 is used to display, add, change, or remove the association between a trunk group or call type and incoming call identification (ICI) lamp or alphanumeric message.

B. PREREQUISITIES

- Procedures 12, 13, and 10 must be used to assign trunk groups.
- Procedure 26, Word 1 must be used to assign console types.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group. Range Memory Size — 100 — 400 A — 18-31 — 18-31 B — 18-31 — 18-63 C — 18-31 — 18-63
		Call type (See Part F, Note 4):
	81	DID LDN 1.
	82	DID LDN 2.
	83	DID LDN 3.
	84	DID LDN 4.
	90	Call forwarding.
	91	Attendant control of trunk group access.
	92	Manual line.
	93	Controlled restriction.
	94	Timed recall from outgoing trunk.
	95	Recall from 6-way conference.
2	1-6	ICI lamp indicators (applicable to types 10 through 14 consoles only). See Part F, Notes 1 and 2.
	1-30	Message number corresponding to message constructed using Word 2 (applicable to types 20 through 24 and 30 through 34 consoles only). See Part F, Notes 3 and 5.

E. OPERATION

Display trunk group or call type:

PROC NO.; 28; ENTER; (Trunk Group or Call Type); ENTER; DISPLAY; EXECUTE

Add or change a lamp or message number:

Display trunk group or call type; CHANGE; 2; ENTER; (Lamp or Message No.); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a word:

Display trunk group or call type; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. ICI lamp indicators (field 2) are numbered from left to right, starting with 1.
2. For uniform call distribution/direct department calling, the same message appears in both Procedure 28, Word 1, field 2 and Procedure 87, Word 1, field 3. Therefore, when ICI lamps are used, Procedure 28 is not required.
3. In field 2, message numbers 1, 2, and 3 are permanently assigned to INC, ATN, and RCL keys, respectively.
4. For encodes 81 through 84 (field 1), Procedure 31 must be used to assign direct inward dialing (DID) listed directory numbers (LDNs).
5. Procedure 28, Word 2 must be used to associate a message number with an alphanumeric message.

END

PROCEDURE 28, WORD 2 — ICI ALPHA MESSAGE

A. PURPOSE

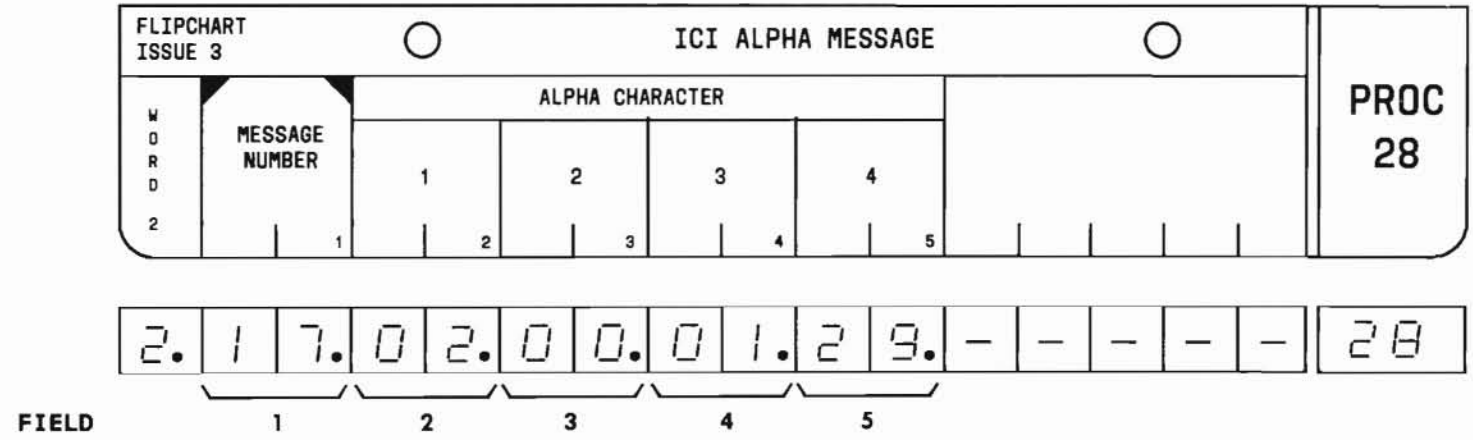
Procedure 28, Word 2 is used to display, add, or change the association between an incoming call identification (ICI) message number and an alphanumeric display message.

B. PREREQUISITE

The message number in field 1 is assigned to a trunk group or call type in Procedure 28, Word 1. For uniform call distribution/direct department calling, the message number is assigned in Procedure 87, Word 1, field 3.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-30	Message number defined in fields 2 through 5. See Part F, Notes 1 and 2.
2-5		Each encode defines an alphanumeric character. Each field (2 through 5) must be encoded for one character.
		Character:
	00	0
	01	1
	02	2
	03	3
	04	4
	05	5
	06	6
	07	7
	08	8
	09	9
	10	(BLANK)
	11	A
	12	B
	13	C
	14	D
	15	E
2-5 (Cont)	16	F
	17	G
	18	H
	19	I
	20	J
	21	K
	22	L
	23	M
	24	N
	25	O
	26	P
	27	Q
	28	R
	29	S
	30	T
	31	U
	32	V
	33	W
	34	X
	35	Y
	36	Z
	37	–

E. OPERATION (See Part F, Note 3)

Display a message number:

PROC NO.; 28; ENTER; WORD; 2; (Message No.); ENTER; DISPLAY; EXECUTE

Add a message:

Display message no.; CHANGE; 2; ENTER; Enter Alphanumeric encode or blank followed by ENTER in fields 2 through 5; ADD; EXECUTE; DISPLAY; EXECUTE

Change elements of a message:

Display message no.; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Message numbers 1, 2, and 3 (INC, ATN, and RCL displays) are assigned in the factory and can not be changed.
2. For incoming listed directory number calls, messages other than those assigned at the factory can be assigned. Reassignment can be made by assigning different message numbers to the proper trunk group(s).
3. The REMOVE key cannot be used in this procedure.

END

PROCEDURE 29, WORD 1 – DIALING PLAN – FIRST DIGIT

A. PURPOSE

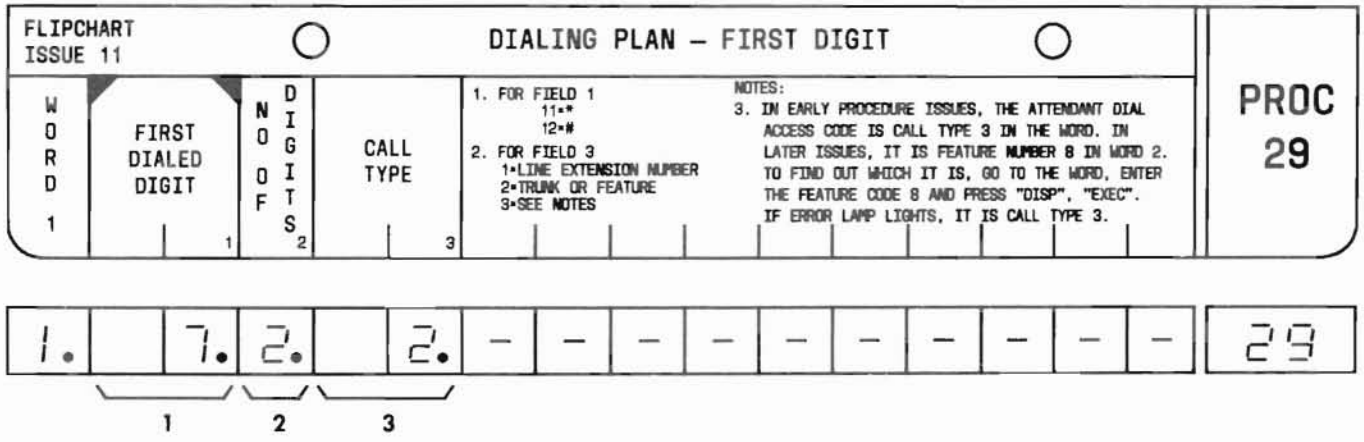
Procedure 29, Word 1 is used to display, add, remove, and change the first digit of a number or dial access code in the dialing plan. The procedure defines the first digit in terms of number of digits expected and call type.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-9 11(=*) 12(=#)	First dialed digit of a trunk, feature, attendant dial access code, or line extension number. See Part F, Note 1. **System** — **Range** Rotary — 0-9 TOUCH-TONE — 0-9,11,12
2	1-4	Number of digits expected when digit in field 1 is dialed. See Part F, Note 2.
3		Call type (See Part F, Note 4):
	1	Digit in field 1 is the first digit of a line extension number.
	2	Digit in field 1 is the first or only digit of a trunk or feature dial access code.
	3	Digit in field 1 is the first or only digit of the attendant dial access code. See Part F, Note 8.

E. OPERATION (See Part F, Notes 5 and 6)

Display a first dialed digit:

PROC NO.; 29; ENTER; (First Dialed Digit); ENTER; DISPLAY; EXECUTE

Add a first dialed digit (See Part F, Note 7):

PROC NO.; 29; ENTER; (First Dialed Digit); ENTER; (No. of Digits); ENTER; (Call Type); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a first dialed digit (See Part F, Note 3):

Display first dialed digit; REMOVE; EXECUTE

Change a first dialed digit (See Part F, Note 3):

Perform a remove operation followed by an add operation.

Change data in field 2 or 3 (See Part F, Note 3):

Display first dialed digit; CHANGE; (No. of first field to be changed); ENTER; (New data); ENTER; (New data); ENTER; REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. In field 1, neither encode 11 nor 12 can be used as the first dialed digit of a TOUCH-TONE telephone line extension number; however, in Feature Package 3, encodes 11 and 12 may appear in field 1 as a prefix previously assigned using Procedure 29, Word 3.

2. The number of digits expected when the first digit is dialed (field 1) is determined by call type:

Call Type	No. of Digits Expected
Line extension number (encode 1)	2, 3, or 4. The length may not vary within the same system.
Trunk and feature dial access codes (encode 2)	1, 2, or 3. Length may vary within the same system. All trunk and feature access codes using the same first digit must be of the same length.
Attendant dial access (encode 3)	1, 2, 3, or 4

   The same initial digit cannot be used for different call types.

3. All line extension numbers or trunk or feature dial access codes must be removed before a first dialed digit can be changed or removed.

4. The following indicates the procedure that should be performed after establishment of a given call type (field 3):

Call Type	Next Procedure
Line extension number (encode 1)	30
Feature dial access code (encode 2)	29, Word 2
Trunk dial access code (encode 2)	12
Attendant dial access code (encode 3)	none

5. The Administration of the Dialing Plan is presented in Section 2.

6. To add a single-digit feature dial access code, use Procedure 29, Words 1 and 2.

7. Word 3 of Procedure 29 (instead of Word 1) must be used to administer the first dialed digit of a line extension for systems with a PG1E003 tape (Feature Package 3).

8. In early procedure issues, the attendant dial access code is call type 3 in this word. In later issues, it is feature code 8 in Word 2. To find out which it is, display feature code 8 in Word 2. If the error lamp lights, it is call type 3 in this word.

END

PROCEDURE 29, WORD 2 — DIALING PLAN — FEATURE ACCESS

A. PURPOSE

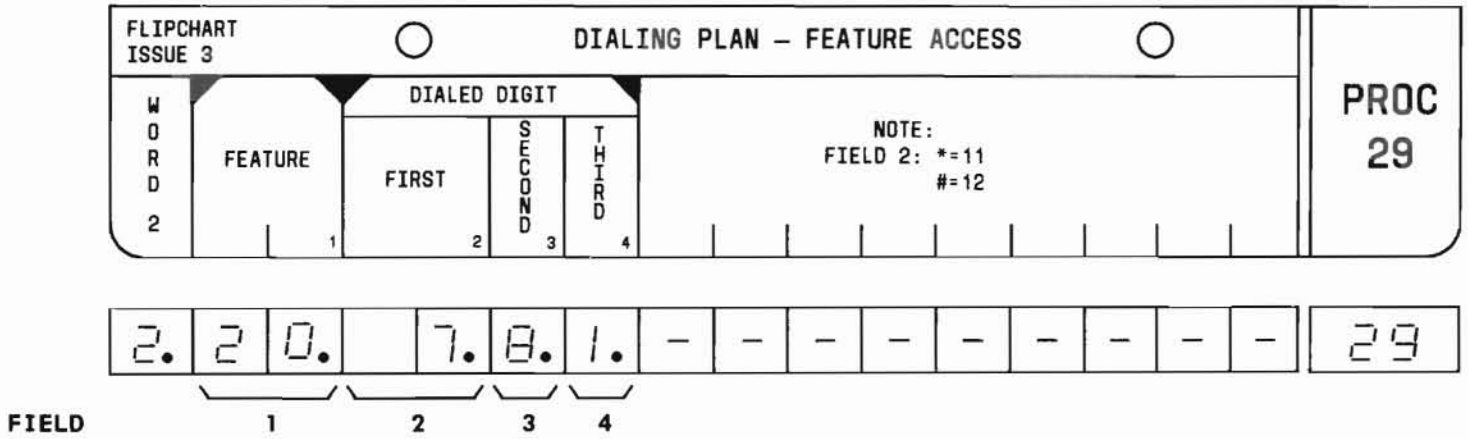
Procedure 29, Word 2 is used to display, add, remove, and change a feature dial access code.

B. PREREQUISITE

Procedure 29, Word 1 must be used to define the first dialed digit except when adding a single-digit feature code, in which case Procedure 29, Word 1 is automatically administered.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1		Feature code:
	1	Call forwarding – all calls.
	2	Call forwarding – DA or BY/DA. See Part F, Note 3.
	3	Call forwarding – cancel.
	4	Call hold.
	5	Call pickup.
	6	Call waiting – answer hold.
	7	Call waiting – originating.
	8	Call to PBX attendant.
	9	Cancel auto callback/outgoing trunk queue.
	10	Not used.
	11	Executive override.
	12	Outgoing trunk queue retry.
	13	Data privacy.
	14	Speed call access code.
	15	Speed call change code.
	16	TAAS answer activate.
	17	Loudspeaker paging/call park – answer-back.
	18	Code call answer-back.
	19	Automatic callback – calling.
	20	Control of trunk group access – activate†.
	21	Control of trunk group access – cancel†.
1 (Contd)	22	Full night service – clear all stations†.
	23	Full night service – assign common station†.
	24	Full night service – override common station†.
	25	Full night service – enter night station†.
	26	Remote access – change authorization code†.
	27	Controlled restriction – single line†.
	28	Controlled restriction – group†.
	29	Interposition calling.
	30	Station to selected attendant.
	31	Change attendant release loop timed reminder†.
	32	Automatic route selection not routed to toll.
	33	Automatic route selection routed to toll.
	34	Custom intercom (access).
	35	Custom intercom (change).
	36	SMDR charge number.
	37	SMDR start.

D. FIELD DEFINITIONS AND CODES (Contd)

Field	Code	Definition
1 (Contd)	38	SMDR stop.
	40	ECTS station test.
	41	ECTS change DSS.
	42	Maintenance busy a trunk.
	43	Maintenance unbusy a trunk.
	44	Trunk test from station access
	45	CAS control – activate.
	46	Backup station control – activate.
	47	TAAS – activate.
	48	CAS attendant remote hold.
	49	Call to CAS attendant.
	50	CAS lamp test.
	51	Extension busy to UCD/DDC calls.
	52	Extension available to UCD/DDC calls.
2	1- or 2-digit number	First digit of dial access code for feature specified in field 1. See Part F, Notes 1 and 2.
3, 4	1-digit number	Second and third digits of dial access code for feature specified in field 1.

BY/DA – Busy/don't answer
CAS – Centralized attendant service
ECTS – Electronic Custom Telephone Service
DDC – Direct department calling
DSS – Direct station selection
PBX – Private branch exchange
SMDR – Station Message Detail Recording
TAAS – Trunk answer from any station
UCD – Uniform call distribution

†Attendant features

E. OPERATION

Display dial access code associated with a feature:

PROC NO.; 29; ENTER; WORD; 2; (Feature); ENTER; DISPLAY; EXECUTE

Display feature associated with a dial access code:

PROC NO.; 29; ENTER; WORD; 2; CLEAR ENTRY; ENTER; (First Dialed Digit); ENTER; (Second Dialed Digit) or CLEAR ENTRY; ENTER; (Third Dialed Digit) or CLEAR ENTRY; ENTER; DISPLAY; EXECUTE

Add a dial access code:

Display dial access code; CHANGE; 2; ENTER; (First Dialed Digit); ENTER; (Second Dialed Digit) or CLEAR ENTRY; ENTER; (Third Dialed Digit) or CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change dial access code data:

Display dial access code; CHANGE; (No. of first field to be changed); ENTER;...(New data for last field to be changed); ENTER REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a feature:

Display dial access code; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. In field 2, code 11 specifies an asterisk (*) and 12 a pound sign (#). Both symbols are considered to be single digits.
2. The first dialed digit in Word 2 must agree with that shown in Word 1, field 1.
3. Procedure 02, Word 3 determines whether a line has the call forwarding – don't answer or call forwarding – busy/don't answer feature by assigning the applicable class-of-service.

END

PROCEDURE 29, WORD 3 — FIRST DIALED DIGIT — STATION TO STATION

A. PURPOSE

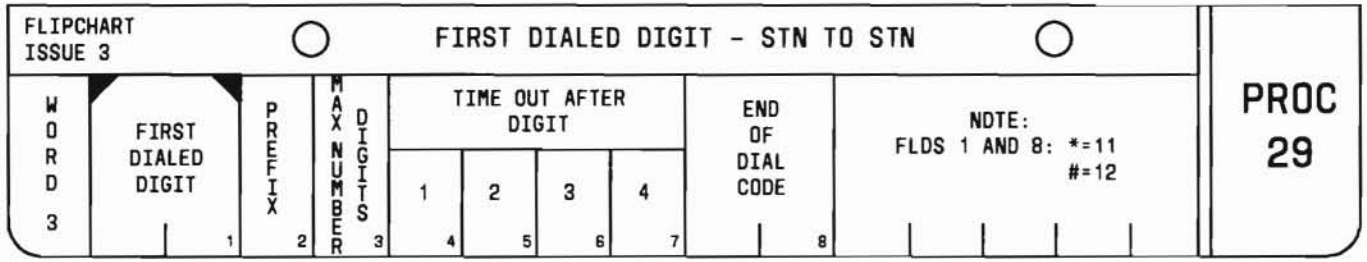
Procedure 29, Word 3 is used to display, add, remove, and change the first dialed digit of a station-to-station dial code. This word is applicable only to systems that include a PG1E003 tape (Feature Package 3).

B. PREREQUISITES

None.

C. CAUTIONS

None.



FIELD 1 2 3 4 5 6 7 8

D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-9 11,12	First dialed digit for station-to-station type calls. See Part F, Notes 1 and 4.
2	0 1	First dialed digit (field 1) is not a prefix. First dialed digit is a prefix.
3	1-5	Number of digits expected (including prefix) when first dialed digit (field 1) is dialed.
4-7	0 or blank (CLEAR ENTRY) 1	No time-out. Enables a 4-second time-out after the digit indicated is dialed. See Part F, Note 3.
8	11,12	End-of-dial code. Eliminates the 4-second time-out following the dialing of the last dial code digit. See Part F, Notes 1, 2, and 5.

E. OPERATION

Display a first dialed digit:

PROC NO.; 29; ENTER; WORD; 3; (First Dialed Digit); ENTER; DISPLAY; EXECUTE

Add a first dialed digit:

Display first dialed digit; CHANGE; 2; ENTER; (Prefix); ENTER; (Maximum No. of Digits); ENTER; (Time Out After Digit 1); ENTER; (Time Out After Digit 2); ENTER; (Time Out After Digit 3); ENTER; (Time Out After Digit 4); ENTER; (End of Dial Code) or CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a first dialed digit:

Display first dialed digit; REMOVE; EXECUTE; DISPLAY; EXECUTE

Change a first dialed digit:

Perform a remove then an add operation.

Change data in fields 2 through 8 only:

Display first dialed digit; CHANGE; (No. of first field to be changed); ENTER; (New data); ENTER;...(New data for last field to be changed); ENTER; REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. In fields 1 and 8, eleven (11) specifies an asterisk (*) and 12 a pound sign (#). Both symbols are considered to be single digits.
2. The end-of-dial code (field 8 = 11 or 12) is used only when a time-out after digit has been specified (fields 4 through 7).
3. When the first dialed digit (field 1) is a prefix (field 2 = 1), it must be considered as digit 1 (field 4) when time-outs are assigned.
4. The first dialed digit shown in Word 3, field 1 must agree with that shown in Word 1, field 1.
5. When an end-of-dial code is specified (field 8 = 11 or 12), it must not be included in the maximum number of digits count (field 3), nor included in time-out after digit assignment (fields 4 through 7).

PROCEDURE 29, WORD 4 — ONE/TWO DIGIT STATION TO STATION CODES

A. PURPOSE

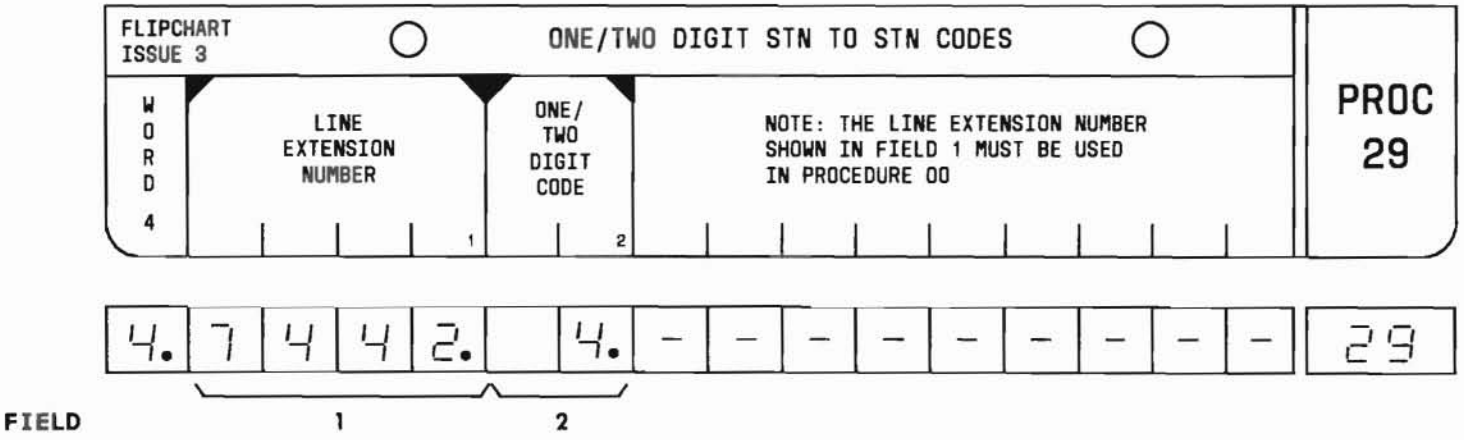
Procedure 29, Word 4 is used to display, add, remove, and change 1- and 2-digit station-to-station dial codes. This word is applicable only to systems that include a PG1E003 tape (Feature Package 3).

B. PREREQUISITES

- Procedure 00, Word 1 must be used to assign a line extension.
- Procedure 29, Word 3 must be used to assign the first dialed digit of the dial access code.
- When a 1- or 2-digit dial access code is being assigned, the following procedures must be performed in the order shown:
  - Proc 00, Wd 1
  - Proc 29, Wd 3
  - Proc 29, Wd 4

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	2-, 3-, or 4-digit number	Line extension number assigned using Procedure 00, Word 1. See Part F, Note 1.
2	1- or 2-digit number	Station-to-station dial access code. See Part F, Note 2.

E. OPERATION

Display a 1- or 2-digit code:

PROC NO.; 29; ENTER; WORD; 4; (Line Extension Number); ENTER; DISPLAY; EXECUTE

Display a line extension number:

PROC NO.; 29; ENTER; WORD; 4; CLEAR ENTRY; ENTER; (One/Two Digit Code); ENTER; DISPLAY; EXECUTE

Add a 1- or 2-digit code:

Display 1- or 2-digit code; CHANGE; 2; ENTER; (One/Two Digit Code); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a 1- or 2-digit code (See Part F, Note 3):

Display 1- or 2-digit code; REMOVE; EXECUTE; DISPLAY; EXECUTE

Change a 1- or 2-digit code:

Perform a remove operation, then an add operation.

F. NOTES

1. In field 1, the line extension number cannot begin with an asterisk (encode 11) or pound sign (encode 12).
2. In field 2, the first digit cannot have been assigned to call type 2 or 3 in Word 1.
3. When a 1- or 2-digit dial access code is being removed, the following procedures must be used in the following order:
   - Proc 29, Wd 4
   - Proc 29, Wd 3
   - Proc 00, Wd 1

END

PROCEDURE 30 – EXTENSION DIAL CODE GROUPS

A. PURPOSE

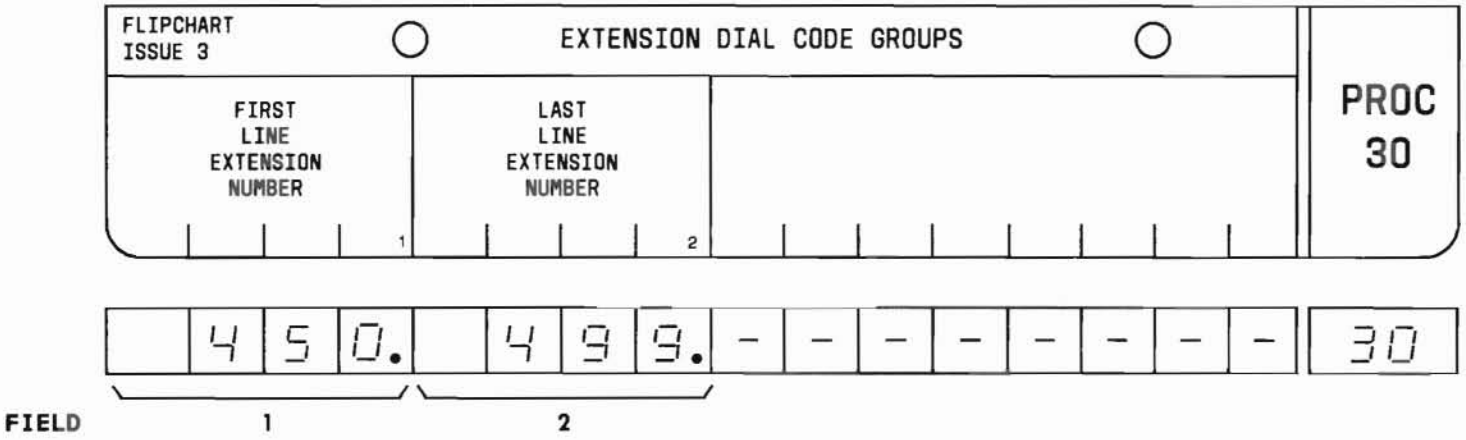
Procedure 30 is used to display, add, change, or remove dial codes in the station numbering plan.

B. PREREQUISITE

Procedure 29, Word 1 must be used to assign the first dialed digit of a dial code before the dial code can be added using Procedure 30 (except for Flexible Numbering in FP3).

C. CAUTION

In some early Feature Package issues, adding more than ten extensions in a group could cause sanity time-out.



D. FIELD DEFINITIONS AND CODES

Feature Package 3

Field	Code	Definition
1	0-9990 (ending in 0)	First extension dial code in group. See Part F, Notes 1, 2, and 6.
2	9-9999 (ending in 9)	Last extension dial code in group. See Part F, Notes 1, 2, and 6.

Feature Package 1, 2, 4, 5, 10, or 15

Field	Code	Definition
1	10-9990 (ending in 0)	First extension dial code in group. See Part F, Notes 1, 2, and 6.
2	19-9999 (ending in 9)	Last extension dial code in group. See Part F, Notes 1, 2, and 6.

E. OPERATION

Display extension dial code group (See Part F, Note 3):

PROC NO.; 30; ENTER; DISPLAY; EXECUTE

Add an extension dial code group (See Caution and Part F, Note 7):

Display an extension dial code group; Depress DISPLAY and EXECUTE keys repeatedly until fields 1 and 2 contain blanks; (First Line Extension Number); ENTER; (Last Line Extension Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Increase the size of an extension dial code group (See Caution):

Display an extension dial code group; CHANGE; (First field to be changed); ENTER; (New Line Extension Number) ; ENTER; [If the other extension requires changing, the (New Line Extension Number); ENTER]; ADD; EXECUTE; DISPLAY; EXECUTE

Remove entire extension dial code group (See Part F, Note 5):

Display extension dial code group; REMOVE; EXECUTE; DISPLAY; EXECUTE

Reduce the size of an extension dial code group (See Part F, Note 4):

Display extension dial code group; CHANGE; 1; ENTER; (First Line Extension Number to be removed); ENTER; (Last Line Extension Number to be removed); ENTER; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The station numbering plan is configured in memory using 10-word tables called directory blocks. The number of directory blocks available varies with feature package and memory size:

   (a) Feature Packages 1, 2, 4, 5, and 15:

Memory Size	Directory Blocks
A	15
B	56
C	100

   (b) Feature Package 3:

Memory Size	Directory Blocks
A	30
B	56
C	100

   (c) Feature Package 10:

Memory Size	Directory Blocks
A	45
B	56
C	100

   The number of available directory blocks in memory affects the flexibility that can be achieved in the numbering of stations. In each application, the first block is dedicated to first digit routing. As more blocks are used to extend first digit routing, the maximum number of stations that can be served becomes less. Examples of station numbering plans for a Feature Package 2 system with an A-size memory are given in Tables 30-1 and 30-2.

   The number of dial codes entered at one time is limited only by the system memory capacity. If the tens or hundreds groups capacities are exceeded, the ERROR lamp on the MAAP lights.

2. The first digit of a dial code can be any number from 1 through 9. Normally, the first digit is limitied to 1 through 6.

3. Depress DISPLAY and EXECUTE repeatedly to display other dial code groups assigned to the station numbering plan. Depressing DISPLAY and EXECUTE after all dial code groups have been displayed causes the dial code group display to go blank. Depressing DISPLAY and EXECUTE again resumes the dial code group display by displaying the first dial code group again.

4. If dial code group 200 through 219 is to be reduced to 200 through 209, enter 210 in field 1 and 219 in field 2.

5. Procedure 00, Word 1 must be used to remove a line from service before the remove operation can be performed in Procedure 30.

6. Entries in fields 1 and 2 must encompass all consecutive line extension numbers and 1- or 2-digit station-to-station codes.

7. Procedure 00, Word 1 must be used to assign each line to a dial code.

Table 30-1
Examples of Three-Digit Station Numbering Plans

Directory Blocks in Memory	Directory Blocks Used For Digit Routing			Maximum Stations Possible	Extension Dial Code Groups
	nnn First Digit	nnn Second Digit	nnn Third Digit		
15	1	2	12	120	100-199 200-219
15	1	3	11	110	100-189 200-209 300-309
15	1	6	8	80	100-129 200-209 300-309 400-409 500-509 600-609

Table 30-2
Examples of Four-Digit Station Numbering Plans

Directory Blocks in Memory	Directory Blocks Used For Digit Routing				Maximum Stations Possible	Extension Dial Code Groups
	nnnn First Digit	nnnn Second Digit	nnnn Third Digit	nnnn Fourth Digit		
15	1	1	2	11	110	1000-1099 1100-1109
15	1	2	2	10	100	1000-1089 2000-2009

END

PROCEDURE 31 — SYSTEM LDN

A. PURPOSE

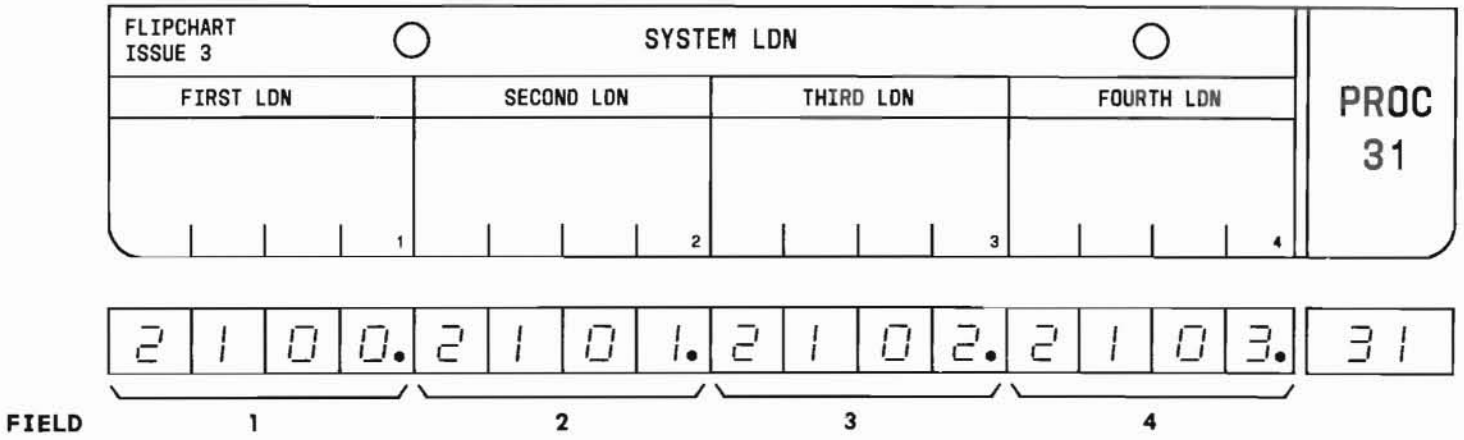
Procedure 31 is used to display, add, remove, and change the listed directory numbers (LDNs) in the system.

B. PREREQUISITE

LDNs must be supplied locally.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1-4	2-, 3-, or 4-digit number	Listed directory number. See Part F, Notes 1, 2, 3, and 4.

E. OPERATION

Display LDNs:

PROC NO.; 31; ENTER; DISPLAY; EXECUTE

Add or change LDNs:

Display LDN; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove an LDN (See Part F, Note 5)*:*

Display LDN; CHANGE; (Field No.); ENTER; CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. When the multiple listed directory number service feature is active, DID/CCSA LDNs entered using Procedure 31 may be assigned an ICI indicator by trunk type (on the attendant console) using Procedure 28, Word 1. Call types 81 through 84 (Procedure 28, Word 1) correspond to fields 1 through 4 in Procedure 31. Using this association, four separate LDNs for the same trunk group can each be assigned a unique ICI indicator.
2. When automatic indentified outward dialing (AIOD) is provided, the LDN in field 1 is the AIOD billing number for use by the attendant.
3. The number of LDN digits entered in fields 1 through 4 must be the same as entered in the dialing plan.
4. When an LDN includes leading zeros, the leading zeros must be entered.
5. The REMOVE key cannot be used in this procedure. To remove an LDN, use the change process as shown.

END

A. PURPOSE

Procedure 32, Word 1 is used to:

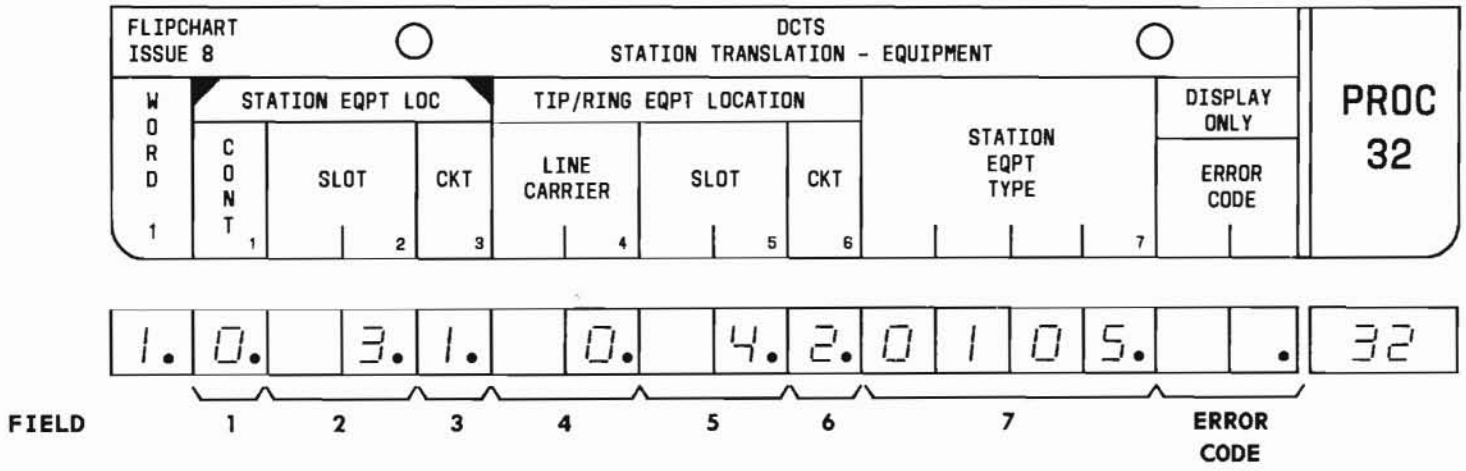
- Add an ECTS telephone to service.
- Display the location of the line circuit that is dedicated to a particular ECTS telephone and determine whether the telephone is a straight line set (SLS) or a multibutton electronic telephone.

B. PREREQUISITE

An Electronic Telephone Controller must be assigned to service via Procedure 40, Word 2 (unless it has already been assigned before adding an ECTS telephone to service via Procedure 32, Word 1). When assigning a straight line set to a phantom controller, enabling the controller via Procedure 40, Word 2 is not required except in Feature Package 5, Program Issue 1. See Part F, Note 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES (See Part F, Note 7)

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size / 100 / 400 A / – / 0 B / – / 0,1 C / 0 / 0-2
2	0-7 13-20	Location of LC55 associated with an ECTS telephone.
3	0-7	Steering circuit dedicated to an ECTS telephone.
4	0-6	DIMENSION PBX line carrier location. Range Memory Size / 100 / 400 A / – / 0,1 B / – / 0-3 C / 0,1 / 0-6
5	2-9 11-18	Location of LC02. See Part F, Note 8.
6	0-3	Line circuit dedicated to an ECTS telephone.
7 (See Part F, Note 2)	0000 0105 0110 0120 0130 0205 0210 0220 0230 1110 1210	SLS (See Part F, Notes 3 and 4) 5-button EKT 10-button EKT without DSS 20-button EKT 30-button EKT 5-button ECT 10-button ECT without DSS 20-button ECT 30-button ECT 10-button EKT with DSS 10-button ECT with DSS

Field	Code	Definition
ERROR CODE	1-7	Invalid information in the corresponding field.
	9	Station equipment (fields 1 through 3) is already in service.
	10	Tip/ring equipment (fields 4 through 6) is already in service.
	11	Repack Controller memory (Procedure 40, Word 4) to obtain more memory room if desired.
	12	Controller memory cannot process the additional telephone.
	13	Input/output error occurred while trying to update the Controller.

DSS – Direct station selection
ECT – Electronic custom telephone
EKT – Electronic key telephone
SLS – Straight line set

E. OPERATION (See Part F, Note 6)

Display Word 1 (See Part F, Note 5):

PROC NO.; 32; ENTER; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE

Add an ECTS telephone to service (See Caution and Part F, Notes 1 and 9):

Display Word 1; CHANGE; 4; ENTER; (Line Carrier No); ENTER; (Slot No. of LC02); ENTER; (Circuit on LC02); ENTER; (Station Eqpt Type); ENTER; ADD; EXECUTE

F. NOTES

1. In Feature Package 5, Program Issue 1, assignment of a straight line set in a phantom controller is performed as follows:
   (a) First use Procedure 40, Word 2 to add the phantom controller to service. A facility alarm is generated since the LC34 cannot communicate with the controller.
   (b) Use Procedure 32, Word 1 to assign the SLS to a station equipment location.
   (c) Go back to Procedure 40, Word 2 and remove the phantom controller.
   (d) Remove the facility alarm by depressing the ALARM RETIRE pushbutton on the alarm panel.
2. An EKT is identical to an ECT except for an internal strapping option in the multibutton electronic telephone. When the EKT lead (pin 7 of overhead dip IC202) is connected to terminal 65 (VSS terminal), the multibutton electronic telephone operates as an ECT. By connecting the EKT lead to terminal 64 (VDD terminal), the telephone operates as an EKT.
3. An SLS requires a phantom steering circuit (LC55) assignment. This assignment may be either:
   (a) A vacant station equipment location in an existing carrier.
   (b) A station equipment location in a non-existent Controller or carrier (eg, a location in the supplementary controller carrier where only the basic controller carrier is provided.)

   If an assignment is made to an existing carrier, that location may not be used for ECT or EKT assignments.
4. An SLS shares an ECTS line with an ECT and/or EKT. Only one SLS per line is allowed.
5. In Feature Package 5, Program Issue 2 and later issues, repeated depressions of the EXECUTE key will automatically increment the ECTS station equipment location.
6. The REMOVE key cannot be used in this procedure. To remove an ECTS from service, use Procedure 34, Word 1.
7. Unassigned steering circuit ports can be found using Procedure 40, Word 1.

F. **NOTES** (Contd)

8. The following shows the slots available for line circuit packs for the different carriers:

Carrier	"DIMENSION" PBX	Slots
J58881CB	100	2-9,11-14
J58879AA	100/400	4-9,11-18
J58879AC	400	2-9,11-18

9. For each Electronic Telephone Controller (also called Controller), slot 00, circuit 0 (port 000) is dedicated to the test jack while slot 20, circuit 7 (port 207) is not wired. Port 000 should not be assigned to any telephone, but port 207 may be assigned to a straight line set if slot 20 is vacant.

A. PURPOSE

Procedure 32, Word 2 is used to:

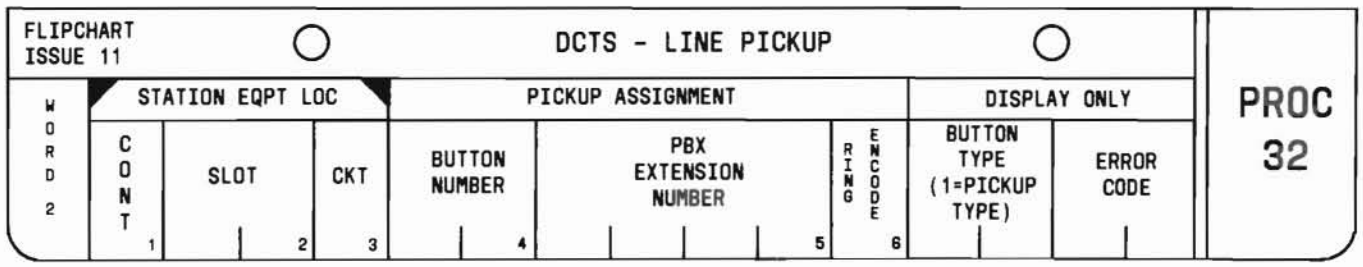
- Add a line button assignment to an ECTS telephone.
- Display the PBX line access-to-button assignments and corresponding ringing treatment for a particular ECTS telephone.
- Assign type of ringing to a line on an ECTS set.

B. PREREQUISITES

- A PBX extension must be defined as an ECTS extension in Procedure 00, Word 1. To reserve an extension number for ECTS, enter the following data for Procedure 00, Word 1:
  - Line extension number (field 1)
  - Blanks (fields 2 through 4)
  - Class-of-service code (field 5)
  - Blank or zero (field 6)
- A PBX extension must be assigned to a telephone that is in service. Use Procedure 32, Word 1 to place a telephone in service.
- Procedure 37 must be used to remove any previous button assignment before a line pickup assignment can be added to that button.

C. CAUTIONS

None.



FIELD 1 2 3 4 5 6 BUTTON TYPE ERROR CODE

D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with an ECTS telephone.
3	0-7	Steering circuit dedicated to an ECTS telephone.
4	1-30	Button on the specified ECTS telephone (fields 1 through 3). See Part F, Note 7.
5	2-,3-,or 4-digit number	ECTS extension number associated with the PBX line access button (field 4). See Part F, Notes 5 and 6.
6 (See Part F, Note 8)	0 1 2 3	Does not ring. Rings. Delayed ringing. See Part F, Notes 1 and 2. Abbreviated ringing. See Part F, Notes 1 and 2.
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 1 denotes PBX line access feature. Refer to Table 2-3 for button type encodes.

Field	Code	Definition
ERROR CODE	1-4	Invalid information in the corresponding field.
	5	Invalid information in field 5, or the PBX extension (field 5) is not in service.
	6	Invalid ring encode (field 6).
	7	Station equipment (fields 1 through 3) is not in service.
	8	PBX extension (field 5) has not been defined as an ECTS extension.
	9	Button (field 4) is already in service.
	10	Additional appearances of this PBX extension (field 5) are not permitted. Only 16 appearances of a PBX extension are allowed.
	11	PBX memory cannot process the additional telephone.
	12	Add denied because a line which must be changed is busy.
	14	Only one straight line set (SLS) per PBX extension is allowed.
	25	The status lamp associated with the button (field 4) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Note 10)

Display Word 2 (See Part F, Notes 3 and 4):

PROC NO.; 32; ENTER; WORD; 2; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE

Add a line to an ECTS telephone (See Part F, Note 9):

Display Word 2; CHANGE; 4; ENTER; (Button No.); ENTER; (PBX Extension Number); ENTER; (Ring encode); ENTER; ADD; EXECUTE

F. NOTES

1. A ring encode of 2 or 3 in field 6 indicates that the ringing transfer feature is associated with the appearance of the PBX extension in field 5 and additional translations may be required. If encode 2 is assigned, the line ringing transfer options default to manual delayed appearance without muting and a ringing transfer button (ABBR RING button) is not specified. If encode 3 is assigned, the line ringing transfer options default to manual abbreviated appearance without muting and a ABBR RING button is not specified. When assigning a ringing transfer feature, if the default options are not satisfactory:

   Automatic – Use Procedure 38, Word 1 to specify the desired line ringing transfer option.

   Manual – Use Procedure 35, Word 4 to specify an ABBR RING button.

2. The ringing transfer feature options (Procedure 38, Word 1) and the ABBR RING button (Procedure 35, Word 4) may be defined before or after this procedure and word are used.
3. When displaying information, field 4 will always specify the number of the button associated with the designated telephone. However, only when a PBX line access feature assignment is encountered will fields 5 and 6 display information.
4. Once a display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments. When the last button assignment is reached, depressing the EXECUTE key will cause the display to loop around to the first assignment.
5. A PBX extension may be shared by up to 16 ECTS telephones.
6. A PBX extension may only be assigned to an unused button.
7. For ECT and SLS, a PBX extension is assigned to button 0.
8. A ring encode (field 6) must be specified for each PBX line access-to-button assignment.
9. The CHANGE key cannot be used to change the ring encode (field 6). To change the ring encode:
   - First use Procedure 37 to remove the line.
   - Then use this procedure and word to add the line with the new ring encode.
10. The REMOVE key cannot be used in this procedure.

END

PROCEDURE 32, WORD 3 — AUTOMATIC LINE CONNECTION PREFERENCES

A. PURPOSE

Procedure 32, Word 3 is used to:

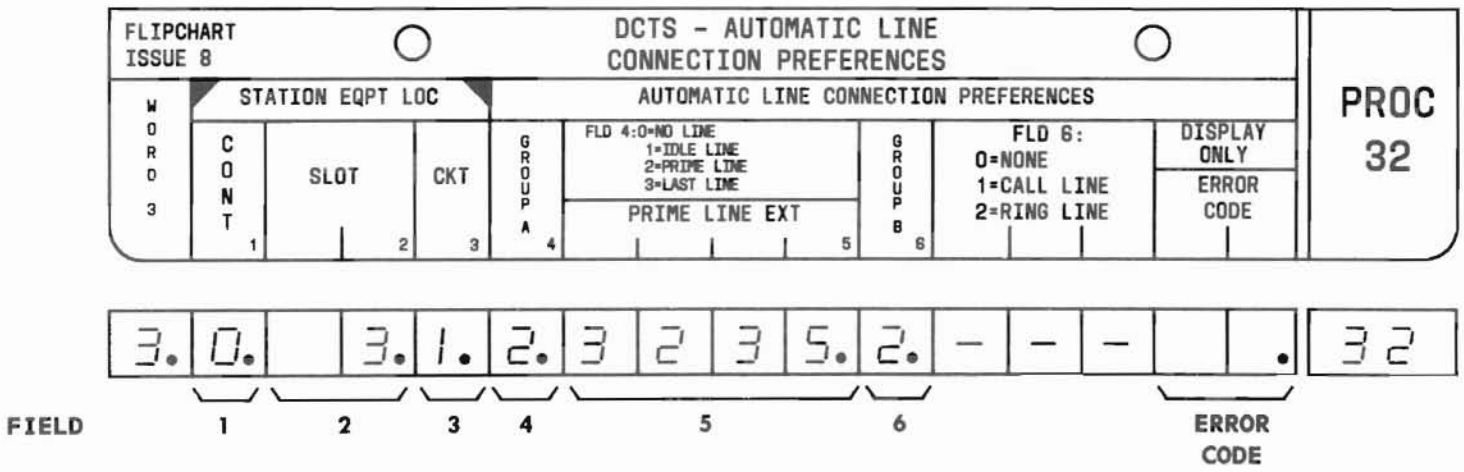
- Change the line preference and PBX extension number of the prime line, if applicable, for a particular electronic key telephone (EKT). See Part F, Note 3.
- Display an EKT's line preference data.

B. PREREQUISITES

- Station equipment must be assigned to the EKT in Procedure 32, Word 1.
- If prime line preference is desired, the PBX extension number of the prime line must be defined in Procedure 32, Word 2.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with an EKT.
3	0-7	Steering circuit dedicated to an EKT.
4	0 1 2 3	Originating preference: No line preference. Idle line preference. Prime line preference. Last line preference.
5	Blank 2-,3-, or 4-digit number	Originating preference is not prime line preference. PBX extension of the prime line.
6	0 1 2	Terminating preference: None. Incoming call preference. Ringing line preference.

Field	Code	Definition
ERROR CODE	1-4	Invalid information in the corresponding field.
	5	PBX extension (field 5) of the prime line is not in service.
	6	Invalid terminating preference encode in field 6.
	7	Station equipment (fields 1 through 3) is not in service, or the automatic line preference for an electronic custom telephone (ECT) or straight line set (SLS) cannot be altered.
	8	PBX extension (field 5) of the prime line has not been defined as an ECTS extension.
	9	PBX extension (field 5) has not been assigned to any button on the EKT dedicated to the station equipment specified in fields 1 through 3.

E. OPERATION (See Part F, Notes 1, 2, and 4)

Display Word 3:

PROC NO.; 32; ENTER; WORD; 3; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE

Change the line preferences (fields 4 through 6):

Display Word 3; CHANGE; (No. of field to be changed); ENTER; (New encode); ENTER; Repeat field changing sequence [(New encode); ENTER] if other fields are to be changed; ADD; EXECUTE

F. NOTES

1. An EKT must be assigned an originating preference (Group A) and may be assigned a terminating preference (Group B).
2. The default line preferences for an EKT are:
   (a) Originating (Group A) – No line preference (encode 0)
   (b) Terminating (Group B) – None (encode 0)
3. Procedure 32, Word 3 does not apply to ECTs and SLSs. ECTs and SLSs are automatically assigned prime line preference because they provide only single line service.
4. The REMOVE key cannot be used in this procedure.

A. PURPOSE

Procedure 32, Word 4 is used to:

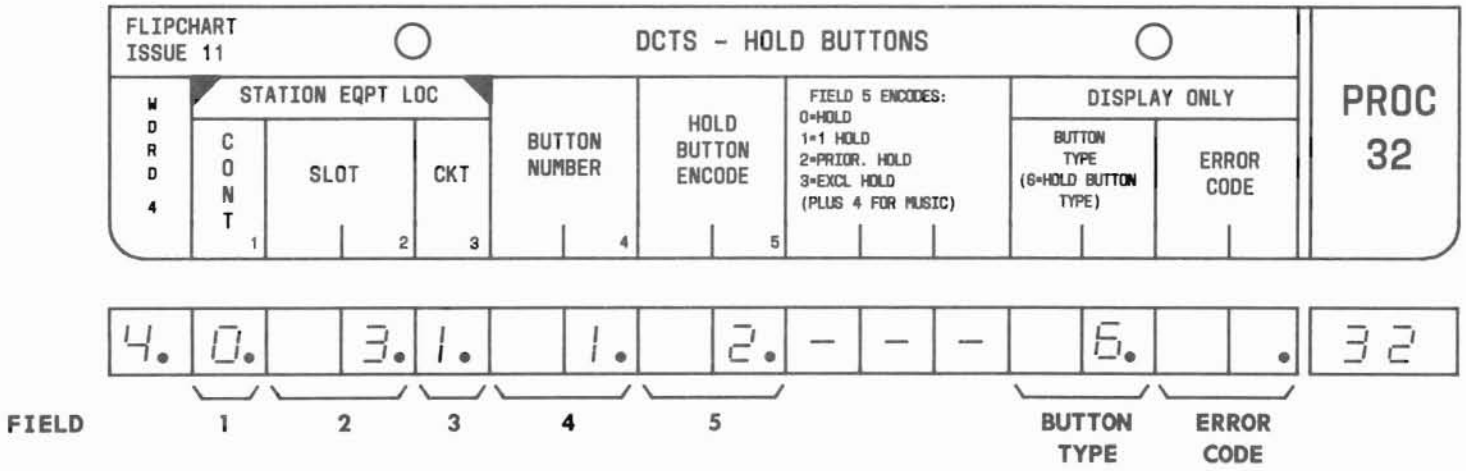
- Add or change the hold feature button assignment for a particular electronic key telephone (EKT). See Part F, Note 5.
- Display an EKT's hold feature-to-button assignments.

B. PREREQUISITES

- Station equipment must be assigned to the EKT in Procedure 32, Word 1.
- Procedure 37 must be used to remove any previous button assignment before a hold feature assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with an EKT.
3	0-7	Steering circuit dedicated to an EKT.
4	1-30	Button on the specified EKT (fields 1 through 3).
5	0 1 2 3 4 5 6 7	Hold, no music. I-hold, no music. Priority hold, no music. Exclusive hold, no music. Hold, music. I-hold, music. Priority hold, music. Exclusive hold, music.
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 6 denotes hold feature. Refer to Table 2-3 for button type encodes.

Field	Code	Definition
ERROR CODE	1-5	Invalid information in the corresponding field.
	6	Station equipment (fields 1 through 3) is not is service or Telephone dedicated to the station equipment is a straight line set (SLS); feature-to-button assignment cannot be made.
	7	Attempt to assign a hold feature to the button specified in field 4 denied because the button is already in service or Attempt to change the feature assignment of the button denied because feature currently assigned is not one of the four hold features.
	13	Input/output error occurred while trying to update the Controller.

E. OPERATION (See Part F, Note 3)

Display Word 4 (See Part F, Notes 1 and 2):

PROC NO.; 32; ENTER; WORD; 4; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit No. on LC55); ENTER; DISPLAY; EXECUTE; Operate EXECUTE key until DISPLAY ONLY-BUTTON type field displays a 6

Add or change a hold feature (See Part F, Note 4):

Display Word 4; Operate EXECUTE key until field 4 displays the desired button number; CHANGE; 5; ENTER; (Desired hold button type encode); ENTER; ADD; EXECUTE

F. NOTES

1. When displaying information, field 4 will always specify the number of the button associated with the designated telephone. However, only when a hold feature assignment is encountered will field 5 display information.
2. Once a display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments. When the last button assignment is reached, depressing the EXECUTE key will cause the display to loop around to the first assignment.
3. The REMOVE key cannot be used in this procedure.
4. A hold feature may only be assigned to an unused button.
5. Do not confuse this hold feature with the custom calling feature call hold. Use Procedure 35, Word 5 to administer the call hold feature.

END

A. PURPOSE

Procedure 32, Word 5 is used to:

- Add a central office (CO) line pickup button assignment to an electronic key telephone (EKT). See Part F, Notes 4 and 5.
- Display the CO line access-to-button assignment and corresponding ringing treatment for a particular EKT.
- Assign type of ringing to a line on an ECTS set.

B. PREREQUISITES

- Station equipment must be assigned to the EKT in Procedure 32, Word 1.
- Trunk equipment must be assigned in Procedures 13 and 10.
- Procedure 37 must be used to remove any previous button assignment before a central office line pickup assignment can be added to that button.

C. CAUTIONS

None.

FLIPCHART ISSUE 11

DCTS - CO LINE PICKUP

PROC 32

WORD 5	STATION EQPT LOC			C. O. PICKUP ASSIGNMENT						DISPLAY ONLY	
	CONT 1	SLOT 2	CKT 3	BUTTON NUMBER 4	EQUIPMENT LOCATION			RING ENCODE 8		BUTTON TYPE (5=C.O. PICKUP TYPE)	ERROR CODE
					TRK CAR 5	SLOT 6	CKT 7				
	5.	0.		3.	1.		3.	0.	1	1.	0.	1.		5.		.	32
FIELD		1	2	3	4	5	6	7	8	BUTTON TYPE	ERROR CODE		

D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with an EKT.
3	0-7	Steering circuit dedicated to an EKT.
4	1-30	Button on the specified EKT (fields 1 through 3).
5	0-3	DIMENSION PBX trunk carrier location. Range Memory Size: 100 / 400 A: – / 0,1 B: – / 0-3 C: 0,1 / 0-3
6	2-9 11-18	Location of LC08 or LC285. See Part F, Note 6.
7	0,1	Trunk circuit dedicated to a CO line.
8	0 1 2 3	Does not ring. Rings. Delayed ringing. Abbreviated ringing.
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 5 denotes a personal CO line access feature. Refer to Table 2-3 for button type encodes.
ERROR CODE	1-8	Invalid information in the corresponding field.

Field	Code	Definition
ERROR CODE (Contd)	9	Button specified in field 4 is in service.
	11	Only 16 appearances of a line are permitted.
	12	Attempt to add a personal CO line access feature denied because the line which must be changed is busy.
	13	Input/output error occurred while trying to update the Controller.
	14,40	Telephone dedicated to the station equipment specified in fields 1 through 3 is an SLS; feature-to-button assignments cannot be made.
	25	The status lamp associated with the button (field 4) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.
	30	The equipment specified in fields 5 through 7 is not in service.
	31,33	PBX records are full.
	32	CO trunk table (COTRKTBL) or CO line table (COLINTBL) is full.
	34	New trunk group number is not in the range 18 through 31.
	35	New trunk type is invalid (CO type trunk only).
	36	New trunk is not in proper pickup group.

E. OPERATION (See Part F, Note 3)

Display Word 5 (See Part F, Notes 1 and 2):

PROC NO.; 32; ENTER; WORD; 5; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE; Operate EXECUTE key until DISPLAY ONLY-BUTTON type field displays a 5

Add a CO line to an EKT:

Display Word 5; Operate EXECUTE key until field 4 displays the desired button number; CHANGE; 5; ENTER; (Trunk Carrier No.); ENTER; (Slot No. of LC08 or LC285); ENTER; (Circuit on LC08 or LC285); ENTER; (Ring encode); ENTER; ADD; EXECUTE

F. NOTES

1. When displaying information, field 4 will always specify the number of the button associated with the designated telephone. However, only when a personal CO line access feature assignment is encountered will fields 5 through 8 display information.
2. Once a display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments for the specified telephone. When the last button assignment is reached, depressing the EXECUTE key will cause the display to loop around to the first assignment.
3. The REMOVE key cannot be used in this procedure.
4. A CO line may be shared by up to 16 ECTS telephones.
5. A CO line may not be assigned to a straight line set (SLS).
6. The following shows the slots available for the LC08 or LC285 circuit packs for the different carriers:

Carrier	"DIMENSION" PBX	Slots
J58881CB	100	11-18
J58879CC	100/400	2-8
J58879BA	400	2-9,11-18

END

A. PURPOSE

Procedure 33, Word 1 is used to:

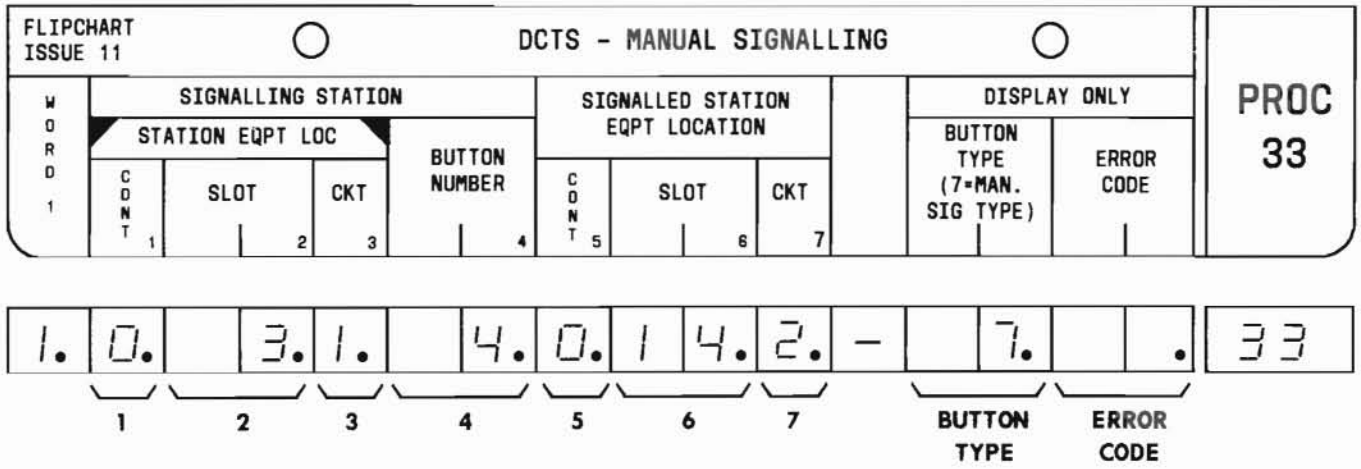
- Add or change the manual signaling button assignment and signaled station location for a particular pair of multibutton electronic telephones. See Part F, Notes 3, 4, and 6.
- Display the signaling telephone's feature-to-button assignment and the equipment location dedicated to the signaled multibutton electronic telephone.

B. PREREQUISITES

- Station equipment must be assigned to both the signaling and signaled telephones. Use Procedure 32, Word 1 to make these station equipment assignments.
- Procedure 37 must be used to remove any previous button assignment before a manual signaling assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller associated with the signaling multibutton electronic telephone. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with the signaling multibutton electronic telephone.
3	0-7	Steering circuit dedicated to the signaling multibutton electronic telephone.
4	1-30	Button on the specified signaling multibutton electronic telephone (fields 1 through 3).
5	0-2	Controller designation associated with the signaled multibutton electronic telephone. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
6	0-7 13-20	Location of LC55 associated with the signaled multibutton electronic telephone.
7	0-7	Steering circuit dedicated to the signaled multibutton electronic telephone.

Field	Code	Definition
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 7 denotes manual signal feature. Refer to Table 2-3 for button type encodes.
ERROR CODE	1-3	Invalid information in the corresponding field.
	4	Invalid button number in field 4. Attempt to assign manual signaling feature to the button is already in service. Attempt to change the feature assignment to the button specified in field 4 denied because button is not currently assigned a feature that allows a change.
	5-7	Invalid information in the corresponding field.
	8	Station equipment (fields 1 through 3) dedicated to signaling multibutton electronic telephone is not in service.
	10	Telephone dedicated to signaling station equipment (fields 1 through 3) is a straight line set (SLS); feature-to-button assignment cannot be made.

D. FIELD DEFINITIONS AND CODES (Contd)

Field	Code	Definition
ERROR CODE (Contd)	11	Station equipment (fields 5 through 7) dedicated to signaled multi-button electronic telephone is not in service.
	20	Input/output error occurred while trying to update the controller.
	25	The status lamp associated with the button (field 4) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Note 5)

Display Word 1 (See Part F, Notes 1 and 2):

PROC NO.; 33; ENTER; (Controller No. associated with the signaling telephone); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE; Operate EXECUTE key until DISPLAY ONLY-BUTTON TYPE field displays a 7

Add a manual signaling arrangement:

Display Word 1; Operate EXECUTE key until field 4 displays the desired button number; CHANGE; 5; ENTER; (Controller No. associated with signaled telephone); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; ADD; EXECUTE

Change the signaled telephone (fields 5 through 7):

Display Word 1; Operate EXECUTE key until field 4 displays the desired button number; CHANGE; (No. of field to be changed); ENTER; (New data); ENTER; Repeat field changing sequence if additional fields are to be changed; ADD; EXECUTE

F. NOTES

1. When displaying information, field 4 will always display the number of the button associated with the designated telephone. However, only when a manual signaling feature is encountered will fields 5 through 7 display information.
2. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments for the specified multibutton electronic telephone. When the last button assignment is displayed, depressing the EXECUTE key will cause the display to loop around to the first assignment.
3. The manual signaling feature is usually associated with the manual intercom feature administered in Procedure 39, Word 1. The alerting tone is defined as a 750-Hz tone or 1500-Hz tone in Procedure 39, Word 3.

F. NOTES (Contd)

4. When the manual signaling feature is active, all of the abbreviated and delay ringing options are overridden. The tone ringer of the signaled telephone emits a steady tone as long as the manual signaling feature is active.
5. The REMOVE key cannot be used in this procedure.
6. Procedure 33, Word 1 does not apply to straight line sets.

END

PROCEDURE 33, WORD 2 – MESSAGE WAITING (CONTROL STATION)

A. PURPOSE

Procedure 33, Word 2 is used in conjunction with Procedure 33, Word 3 to define a station message waiting feature arrangement. Procedure 33, Word 2 is used to:

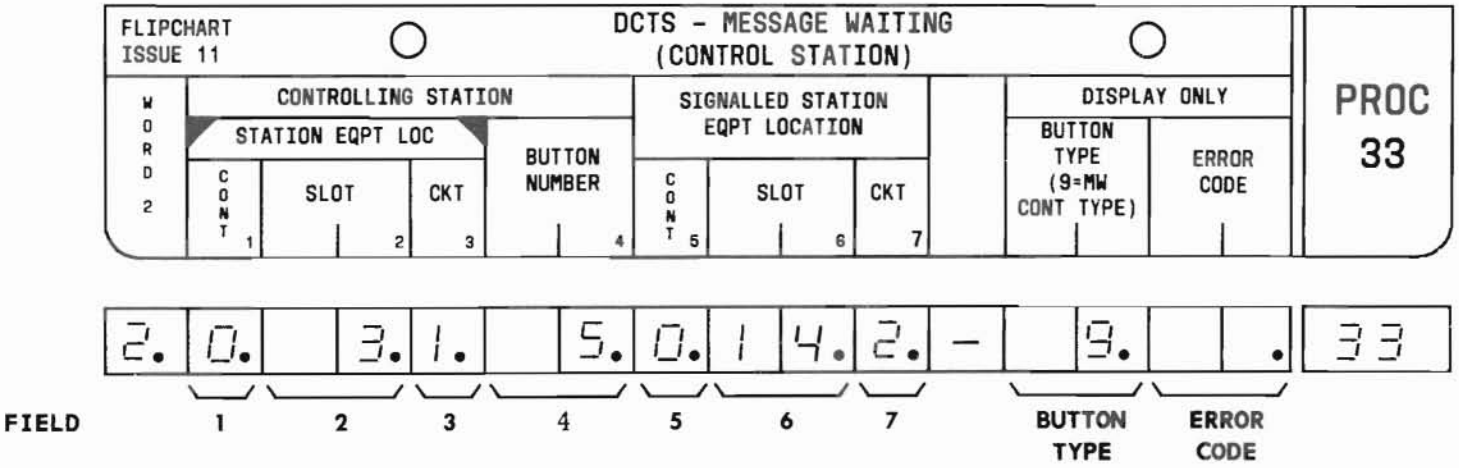
- Add the station message waiting signaling button assignment for the control (signaling) multibutton electronic telephone. See Part F, Note 6.
- Display the signaling telephone's message waiting feature-to-button assignment and the equipment location dedicated to the signaled multibutton electronic telephone.

B. PREREQUISITES

- Station equipment must be assigned to both the signaling and signaled telephones. Use Procedure 32, Word 1 to make these assignments.
- Procedure 37 must be used to remove any previous button assignment before a message waiting (control station) assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller associated with the signaling multibutton electronic telephone. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with the signaling multibutton electronic telephone.
3	0-7	Steering circuit dedicated to the signaling multibutton electronic telephone.
4	1-30	Button on the specified signaling multibutton electronic telephone (fields 1 through 3).
5	0-2	Controller designation associated with the signaled multibutton electronic telephone. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
6	0-7 13-20	Location of LC55 associated with the signaled multibutton electronic telephone.
7	0-7	Steering circuit dedicated to the signaled multibutton electronic telephone.

Field	Code	Definition
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 9 denotes station message waiting feature-signaling telephone. Refer to Table 2-3 for button type encodes.
ERROR CODE	1-3	Invalid information in the corresponding field.
	4	Invalid button number in field 4, or an attempt to assign message waiting feature to the button specified in field 4 denied because the button is already in service.
	5-7	Invalid information in the corresponding field.
	8	Station equipment (fields 1 through 3) dedicated to the signaling multibutton electronic telephone is not in service.
	10	Telephone dedicated to signaling station equipment (fields 1 through 3) is a straight line set (SLS); feature-to-button assignments cannot be made.
	11	Station equipment (fields 5 through 7) dedicated to signaled multibutton electronic telephone is not in service.

A. PURPOSE

Procedure 32, Word 1 is used to:

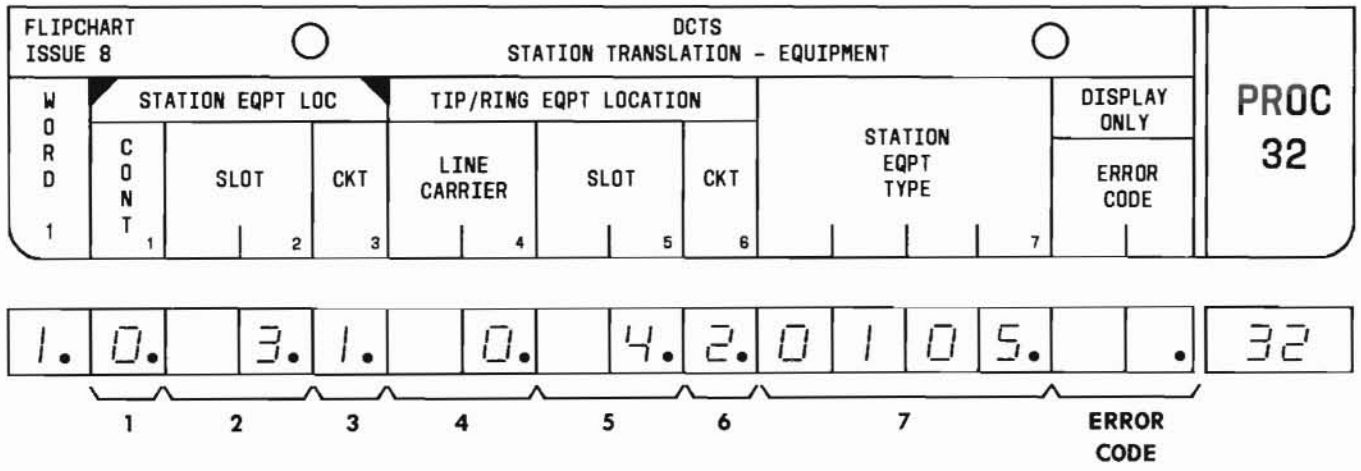
- Add an ECTS telephone to service.
- Display the location of the line circuit that is dedicated to a particular ECTS telephone and determine whether the telephone is a straight line set (SLS) or a multibutton electronic telephone.

B. PREREQUISITE

An Electronic Telephone Controller must be assigned to service via Procedure 40, Word 2 (unless it has already been assigned before adding an ECTS telephone to service via Procedure 32, Word 1). When assigning a straight line set to a phantom controller, enabling the controller via Procedure 40, Word 2 is not required except in Feature Package 5, Program Issue 1. See Part F, Note 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES (Contd)

Field	Code	Definition
ERROR CODE (Contd)	20	Input/output error occurred while trying to update the Controller.
	25	The status lamp associated with the button (field 4) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Notes 4 and 5)

Display Word 2 (See Part F, Notes 2 and 3):

PROC NO.; 33; ENTER; WORD; 2; (Controller No. associated with signaling telephone); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE; Operate EXECUTE key until DISPLAY ONLY-BUTTON TYPE field displays a 9

Add message waiting feature to the signaling telephone (See Part F, Notes 1 and 7):

Display Word 2; Operate EXECUTE key until field 4 displays the desired button number; CHANGE; 5; ENTER; (Controller No. associated with signaled telephone); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; ADD; EXECUTE

Change the signaled telephone:

1. Use Procedure 37 to remove the message waiting feature button assignment for the signaled telephone.
2. Use the add operation to specify the station equipment dedicated to the new signaled telephone.
3. Use Procedure 33, Word 3 to define the message waiting feature assignment for the new signaled telephone.

F. NOTES

1. Message waiting-signaling telephone feature may be assigned before or after the associated message waiting-signaled telephone feature is assigned.
2. When displaying information, field 4 will always display the number of the button associated with the designated telephone. However, only when a message waiting-signaling telephone assignment is encountered will fields 5 through 7 display information.
3. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments for the specified multibutton electronic telephone. When the last button assignment is displayed, depressing the EXECUTE key will cause the display to loop around to the first assignment.
4. The REMOVE key cannot be used in this procedure.
5. When removing a station message waiting feature assignment, both the signaling and signaled station assignments must be removed.
6. Procedure 33, Word 2 does not apply to straight line sets (SLSs).
7. A message waiting button must be assigned to both the signaling and signaled telephones.

END

PROCEDURE 33, WORD 3 — MESSAGE WAITING (SIGNALED STATION)

A. PURPOSE

Procedure 33, Word 3 is used in conjunction with Procedure 33, Word 2 to define a station message waiting feature arrangement. Procedure 33, Word 3 is used to:

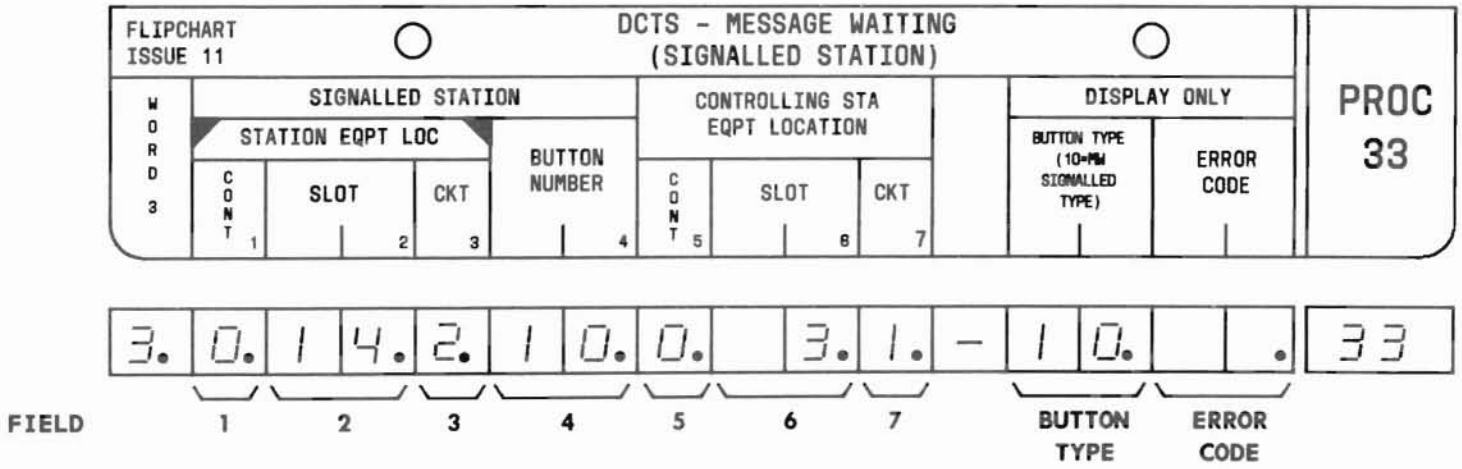
- Add the station message waiting signal button assignment for the signaled multibutton electronic telephone. See Part F, Note 6.
- Display the signaled telephone's message waiting feature-to-button assignment and the equipment location dedicated to the signaling multibutton electronic telephone.

B. PREREQUISITES

- Station equipment must be assigned to both the signaling and signaled telephones. Use Procedure 32, Word 1 to make these assignments.
- Procedure 37 must be used to remove any previous button assignment before a message waiting (signaled station) assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller associated with the signaled multibutton electronic telephone. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with the signaled multibutton electronic telephone.
3	0-7	Steering circuit dedicated to the signaled multibutton electronic telephone.
4	1-30	Button on the specified signaled multibutton electronic telephone (fields 1 through 3).
5	0-2	Controller designation associated with the signaling multibutton electronic telephone. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
6	0-7 13-20	Location of LC55 associated with the signaling multibutton electronic telephone.
7	0-7	Steering circuit dedicated to the signaling multibutton electronic telephone.

Field	Code	Definition
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 10 denotes station message waiting feature – signaled telephone. Refer to Table 2-3 for button type encodes.
ERROR CODE	1-3	Invalid information in the corresponding field.
	4	Invalid button number in field 4, or an attempt to assign message waiting feature to the button specified in field 4 denied because the button is already in service.
	5-7	Invalid information in the corresponding field.
	8	Station equipment (fields 1 through 3) dedicated to the signaling multibutton electronic telephone is not in service.
	9	Message waiting is already assigned to this telephone.
	10	Telephone dedicated to signaled station equipment (fields 1 through 3) is a straight line set (SLS); feature-to-button assignments cannot be made.
	11	Station equipment (fields 5 through 7) dedicated to signaling multibutton electronic telephone is not in service.

D. FIELD DEFINITIONS AND CODES (Contd)

Field	Code	Definition
ERROR CODE (Contd)	20	Input/output error occurred while trying to update the Controller.
	25	The status lamp associated with the button (field 4) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Notes 4 and 5)

Display Word 3 (See Part F, Notes 2 and 3):

PROC NO.; 33; ENTER; WORD; 3; (Controller No. associated with signaled telephone); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE; Operate EXECUTE key until DISPLAY ONLY-BUTTON TYPE field displays a 10

Add message waiting feature to the signaling telephone (See Part F, Notes 1 and 7):

Display Word 3; Operate EXECUTE key until field 4 displays the desired button number; CHANGE; 5; ENTER; (Controller No. associated with signaling telephone); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; ADD; EXECUTE

Change the signaling telephone:

1. Use Procedure 37 to remove the message waiting feature button assignment for the signaling telephone.
2. Use the add operation to specify the station equipment dedicated to the new signaling telephone.
3. Use Procedure 33, Word 2 to define the message waiting feature assignment for the new signaling telephone.

F. NOTES

1. Message waiting-signaled telephone feature may be assigned before or after the associated message waiting-signaling telephone feature is assigned.
2. When displaying information, field 4 will always display the number of the button associated with the designated telephone. However, only when a message waiting-signaled telephone assignment is encountered will fields 5 through 7 display information.
3. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments. Once the last button assignment is displayed, depressing the EXECUTE key will cause the display to loop around to the first assignment.
4. The REMOVE key cannot be used in this procedure.
5. When removing a station message waiting feature assignment, both the signaling and signaled station assignments must be removed.
6. Procedure 33, Word 3 does not apply to straight line sets (SLSs).
7. A message waiting button must be assigned to both the signaling and signaled telephones.

END

A. PURPOSE

Procedure 34, Word 1 is used to:

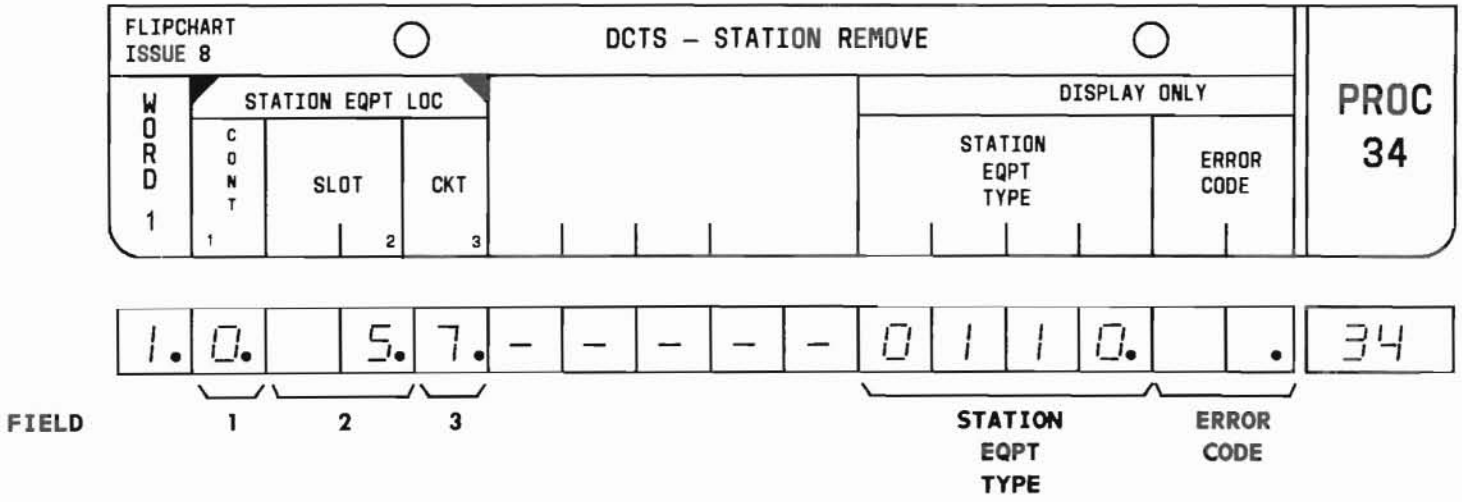
- Display the type of ECTS telephone dedicated to a particular steering circuit.
- Remove an ECTS telephone from service along with the station busy indicator.

B. PREREQUISITES

- All button assignments must be removed in Procedure 37.
- For ECT and SLS, the button 0 assignment (PBX extension number) must be removed in Procedure 37.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size 100 400 A – 0 B – 0,1 C 0 0-2
2	0-7 13-20	Location of LC55 associated with an ECTS telephone.
3	0-7	Steering circuit dedicated to an ECTS telephone to be removed from service.
STATION EQPT TYPE	0000 0105 0110 0120 0130 0205 0210 0220 0230 1110 1210	SLS 5-button EKT 10-button EKT with DSS 20-button EKT 30-button EKT 5-button ECT 10-button ECT with DSS 20-button ECT 30-button ECT 10-button EKT with DSS 10-button ECT with DSS

Field	Code	Definition
ERROR CODE	1-3	Invalid information in the corresponding field.
	4	Attempt to remove denied because station equipment specified in fields 1 through 3 is not in service.
	5	Attempt to remove denied because all button assignments have not been removed.
	6	Attempt to remove an ECT or SLS has been denied because the button 0 assignment (PBX extension number) has not been removed.
	7	Input/output error occurred while trying to update the Controller.

DSS – Direct station selection
ECT – Electronic custom telephone
EKT – Electronic key telephone
SLS – Straight line set

E. OPERATION (See Part F, Note 1)

Display Word 1:

PROC NO.; 34; ENTER; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE

Remove an ECTS telephone from service (See Part F, Note 2):

Display Word 1; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The ADD key cannot be used. Use Procedure 32, Word 1 to add an ECTS telephone to service.
2. If the tip/ring equipment dedicated to the telephone to be taken out of service is not associated with an ECTS extension, the tip/ring equipment will be released for DIMENSION 100/400 PBX assignments.

A. PURPOSE

Procedure 35, Word 1 is used to:

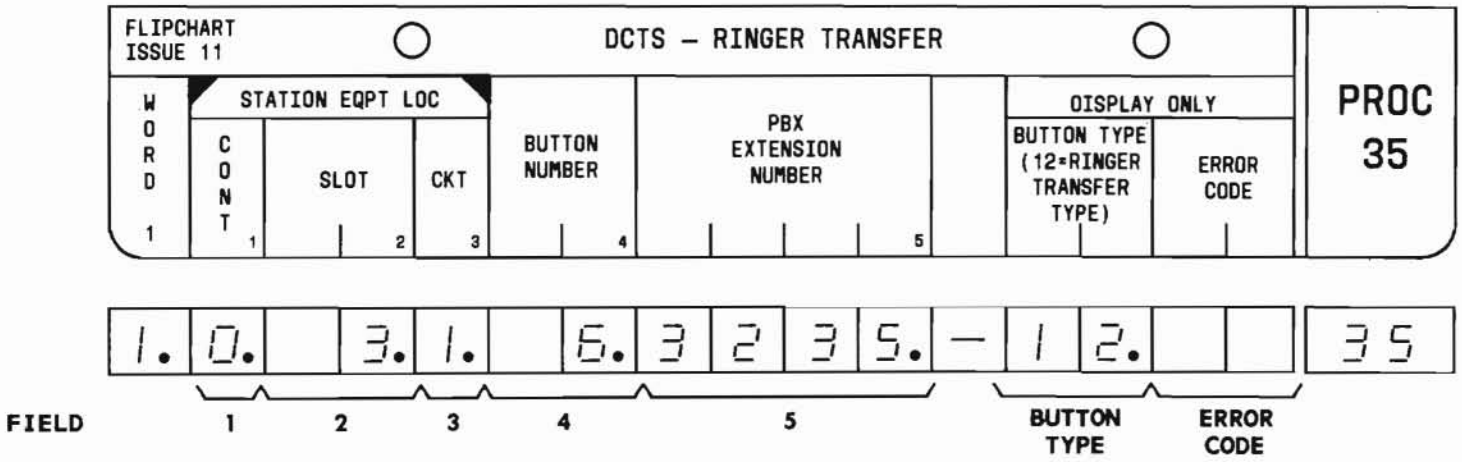
- Add the ringer transfer button assignment for a particular line on a multibutton electronic telephone.
- Display the ringer transfer arrangement associated with a particular PBX extension appearance on a given telephone.

B. PREREQUISITES

- Station equipment must be assigned to the telephone in Procedure 32, Word 1.
- The PBX extension must be defined as an ECTS extension number in Procedure 00, Word 1.
- Procedure 37 must be used to remove any previous button assignment before a ringer transfer assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size 100 400 A – 0 B – 0,1 C 0 0-2
2	0-7 13-20	Location of LC55 associated with a multibutton electronic telephone.
3	0-7	Steering circuit dedicated to a multibutton electronic telephone.
4	1-30	Button on the specified multibutton electronic telephone (fields 1 through 3).
5	2-,3-, or 4-digit number	ECTS extension number associated with the ringer transfer feature. See Part F, Note 6.
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 12 denotes ringer transfer feature. Refer to Table 2-3 for button type encodes.

Field	Code	Definition
ERROR CODE	1-4	Invalid information in the corresponding field.
	5	Invalid information in field 5, or the PBX extension (field 5) is not in service.
	6 or 7	Telephone dedicated to station equipment (fields 1 through 3) is a straight line set (SLS); feature-to-button assignments cannot be made.
	8	PBX extension (field 5) has not been defined as an ECTS extension.
	9	Attempt to change the PBX extension associated with the button specified in field 4 is denied because the button is not currently assigned the ringer transfer feature.
	20	Input/output error occurred while trying to update the Controller.
	25	The status lamp associated with the button (field 4) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Note 4)

Display Word 1 (See Part F, Notes 2 and 3):

PROC NO.; 35; ENTER; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE; Operate the EXECUTE key until DISPLAY ONLY-BUTTON TYPE field displays a 12

Add or change the ringer transfer feature (See Part F, Notes 1 and 5):

Display Word 1; Operate the EXECUTE key until field 4 displays the desired button number; CHANGE; 5; ENTER; (PBX Extension No.); ENTER; ADD; EXECUTE

F. NOTES

1. Activation of the ringer transfer feature alters the ringer pattern for all appearances of the PBX extension before and during ringing.
2. When displaying information, field 4 will always display the number of the button associated with the designated telephone. However, only when a ringer transfer feature assignment is encountered will field 5 display information.
3. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments until the last button assignment is reached. At this point, depressing the EXECUTE key will cause the display to loop around to the first assignment.
4. The REMOVE key cannot be used in this procedure.
5. Use Procedure 38, Word 1 to assign the ringer transfer treatment that is to be applied to the specified PBX extension.
6. A PBX extension may be shared by up to 16 ECTS telephones. However, only one appearance of the PBX extension may be assigned a ringer transfer feature. There is no restriction on the number of ringer transfer feature assignments for a given telephone.

END

A. PURPOSE

Procedure 35, Word 2 is used to:

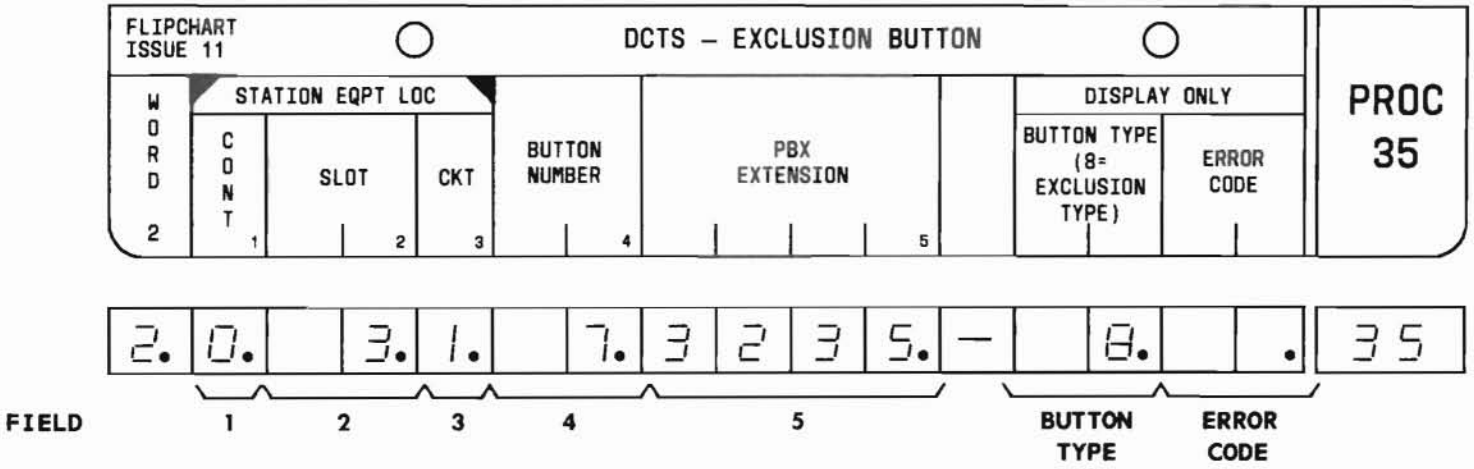
- Add or change the manual exclusion button assignment for a particular line on a multibutton electronic telephone.
- Display a multibutton electronic telephone's manual exclusion feature assignment.

B. PREREQUISITES

- Station equipment must be assigned to the telephone in Procedure 32, Word 1.
- The PBX extension must be defined as an ECTS extension number in Procedure 00, Word 1.
- Procedure 37 must be used to remove any previous button assignment before an exclusion button assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with a multibutton electronic telephone.
3	0-7	Steering circuit dedicated to a multibutton electronic telephone.
4	1-30	Button on the specified multibutton electronic telephone (fields 1 through 3). See Part F, Note 5.
5	2-, 3-, or 4-digit number	ECTS extension number associated with the manual exclusion feature. See Part F, Note 1.
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 8 denotes manual exclusion feature. Refer to Table 2-3 for button type encodes.

Field	Code	Definition
ERROR CODE	1-4	Invalid information in the corresponding field.
	5	Invalid information in field 5, or the PBX extension (field 5) is not in service.
	6 or 7	Telephone dedicated to station equipment (fields 1 through 3) is a straight line set (SLS); feature-to-button assignments cannot be made.
	8	PBX extension (field 5) has not been defined as an ECTS extension.
	9	Attempt to change the PBX extension associated with the button specified in field 4 is denied because the button is not currently assigned the manual exclusion feature.
	20	Input/output error occurred while trying to update the Controller.
	25	The status lamp associated with the button (field 4) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Note 4)

Display Word 2 (See Part F, Notes 2 and 3):

PROC NO.; 35; ENTER; WORD; 2; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE; Operate the EXECUTE key until DISPLAY ONLY-BUTTON TYPE displays an 8

Add or change the exclusion feature:

Display Word 2; Operate the EXECUTE key until field 4 displays the desired button number; CHANGE; 5; ENTER; (PBX Extension No.); ENTER; ADD; EXECUTE

F. NOTES

1. The PBX extension specified in field 5 must have an appearance on the telephone dedicated to the station equipment specified in fields 1 through 3.
2. When displaying information, field 4 will always display the number of the button associated with the designated telephone. However, only when a manual exclusion feature assignment is encountered will field 5 display information.
3. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display until the last button assignment is reached. At this point, depressing the EXECUTE key will cause the display to loop around to the first assignment.
4. The REMOVE key cannot be used in this procedure.
5. Only one manual exclusion feature button may be associated with a particular PBX extension.

END

A. PURPOSE

Procedure 35, Word 3 is used to:

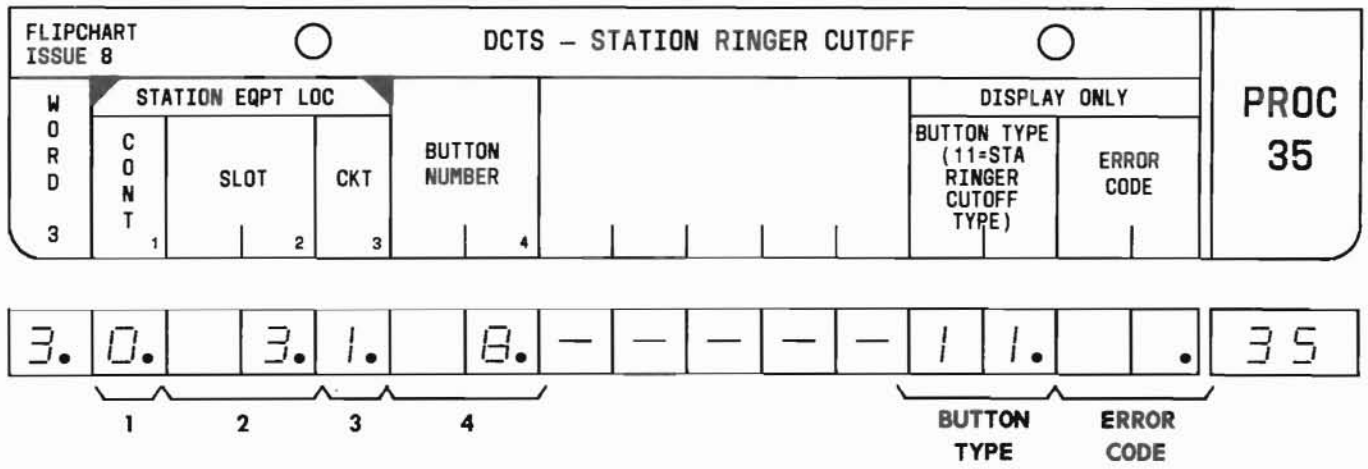
- Add the station ringer cutoff feature button assignment for a particular multibutton electronic set.
- Display a multibutton electronic telephone's station ringer cutoff feature button assignment.

B. PREREQUISITES

- Station equipment must be assigned to the telephone in Procedure 32, Word 1.
- Procedure 37 must be used to remove any previous button assignment before a station ringer cutoff assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with a multibutton electronic telephone.
3	0-7	Steering circuit dedicated to a multibutton electronic telephone.
4	1-30	Button on the specified multibutton electronic telephone (fields 1 through 3).
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 11 denotes station ringer cutoff feature. Refer to Table 2-3 for button type encodes.

Field	Code	Definition
ERROR CODE	1-4	Invalid information in the corresponding field.
	5	Station Equipment (fields 1 through 3) dedicated to the multibutton electronic telephone is not in service.
	6	Telephone dedicated to station equipment (fields 1 through 3) is a straight line set (SLS); feature-to-button assignments cannot be made.
	7	Button (field 4) is already in service.
	20	Input/output error occurred while trying to update the Controller.
	25	The status lamp associated with the button (field 4) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Note 2)

Display Word 3 (See Part F, Note 1):

PROC NO.; 35; ENTER; WORD; 3; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE; Operate the EXECUTE key until DISPLAY ONLY-BUTTON TYPE field displays an 11

Add station ringer cutoff feature:

Display Word 3; Operate the EXECUTE key until field 4 displays the desired button number; ADD; EXECUTE

F. NOTES

1. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments until the last button assignment is reached. At this point, depressing the EXECUTE key will cause the display to loop around to the first assignment.
2. The REMOVE key cannot be used in this procedure.

END

A. PURPOSE

Procedure 35, Word 4 is used to:

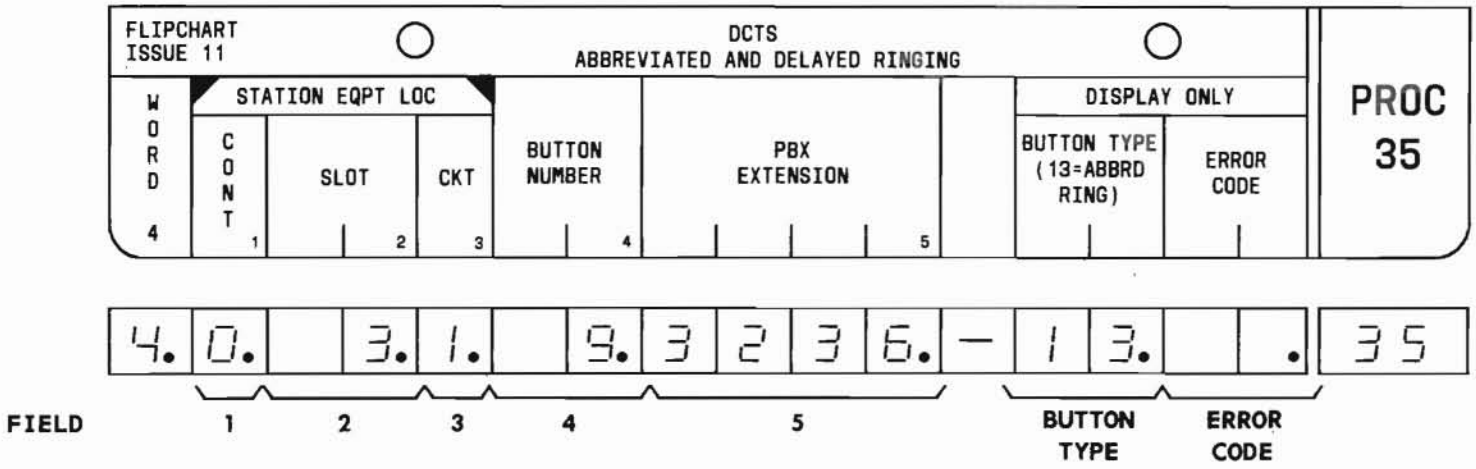
- Add the abbreviated ringing (ABBR RING) button assignment for a particular line with the abbreviated and delayed ringing feature on a multibutton electronic telephone.
- Display the abbreviated ringing button associated with a particular PBX extension appearance on a given telephone.

B. PREREQUISITES

- Station equipment must be assigned to the telephone in Procedure 32, Word 1.
- The PBX extension must be defined as an ECTS extension number in Procedure 00, Word 1.
- Procedure 37 must be used to remove any previous button assignment before an abbreviated and delayed ringing assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with a multibutton electronic telephone.
3	0-7	Steering circuit dedicated to a multibutton electronic telephone.
4	1-30	Button on the specified multibutton electronic telephone (fields 1 through 3).
5	2-, 3-, or 4-digit number	ECTS extension number associated with the ringing transfer feature. See Part F, Note 3.
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 13 denotes ringing transfer feature. Refer to Table 2-3 for button type encodes.

Field	Code	Definition
ERROR CODE	1-4	Invalid information in the corresponding field.
	5	PBX extension (field 5) is not in service, or invalid information in field 5.
	6	Station equipment (fields 1 through 3) is not in service.
	7	Telephone dedicated to station equipment (fields 1 through 3) is a straight line set (SLS); feature-to-button assignments cannot be made.
	8	PBX extension (field 5) has not been defined as an ECTS extension.
	9	Attempt to change the PBX extension associated with the button specified in field 4 is denied because the button is not currently assigned the abbreviated and delayed ringing feature.
	20	Input/output error occurred while trying to update the Controller.
	25	The status lamp associated with the button (field 4) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Note 4)

Display Word 4 (See Part F, Notes 1 and 2):

PROC NO.; 35; ENTER; WORD; 4; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE; Operate the EXECUTE key until the DISPLAY ONLY-BUTTON TYPE field displays a 13

Add ringer transfer feature or change the PBX extension (See Part F, Note 5):

Display Word 4; Operate the EXECUTE key until field 4 displays the desired button number; CHANGE; 5; ENTER; (PBX Extension); ENTER; ADD; EXECUTE

F. NOTES

1. When displaying information, field 4 will always display the number of the button associated with the designated telephone. However, only when a ringing transfer feature assignment is encountered will field 5 display information.
2. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments until the last button assignment is reached. At this point, depressing the EXECUTE key will cause the display to loop around to the first assignment.
3. The PBX extension (field 5) must appear on another ECTS telephone.
4. The REMOVE key cannot be used in this procedure.
5. Use Procedure 38, Word 1 to assign the abbreviated and delayed ringing treatment that is to be applied to the line.

END

A. PURPOSE

Procedure 35, Word 5 is used to:

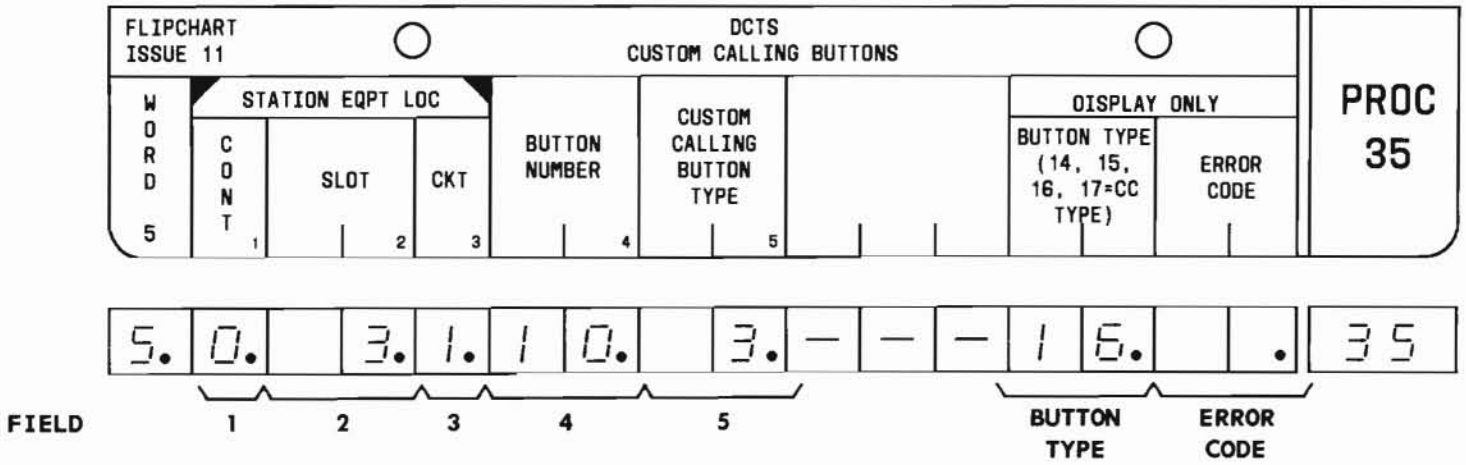
- Add a custom calling feature button assignment for a particular multibutton electronic telephone.
- Display a multibutton electronic telephone's custom calling feature assignment.

B. PREREQUISITES

- Station equipment must be assigned to the telephone in Procedure 32, Word 1.
- Procedure 37 must be used to remove any previous button assignment before a custom calling feature assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size 100 400 A – 0 B – 0,1 C 0 0-2
2	0-7 13-20	Location of LC55 associated with a multibutton electronic telephone.
3	0-7	Steering circuit dedicated to a multibutton electronic telephone.
4	1-30	Button on the specified multibutton electronic telephone (fields 1 through 3). See Part F, Note 5.
5	0 1 2 3 4 5 6 7 8	Call hold. Call waiting-answer. Call waiting-originating. Call forwarding-all calls. Call forwarding-busy and don't answer. Executive override. Automatic callback-calling. Call pickup. Last extension called.
BUTTON TYPE	0-17	Feature assigned the button (field 4). Button type encodes 14 through 17 denote custom calling feature. See Part F, Note 3 for correlation between button-type encodes and field 5 encodes. Refer to Table 2-3 for other button-type encodes.

Field	Code	Definition
ERROR CODE	1-5	Invalid information in the corresponding field.
	6	Station equipment (fields 1 through 3) dedicated to the multibutton electronic telephone is not in service.
	8	Telephone dedicated to station equipment (fields 1 through 3) is a straight line set (SLS); feature-to-button assignments cannot be made.
	12	The button (field 4) is already in service, or the button (field 4) is not a custom calling button.
	20	Input/output error occurred while trying to update the Controller.
	25	The status lamp associated with the button (field 4) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Note 4)

Display Word 5 (See Part F, Notes 1 and 2):

PROC NO.; 35; ENTER; WORD; 5; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE; Operate the EXECUTE key until the DISPLAY ONLY-BUTTON TYPE field displays 14, 15, 16, or 17

Add a custom calling feature or change custom calling button type:

Display Word 5; Operate the EXECUTE key until field 4 displays the desired button number; CHANGE; 5; ENTER; (Custom Calling Button Type); ENTER; ADD; EXECUTE

F. NOTES

1. When displaying information, field 4 will always display the number of the button associated with the designated telephone. However, only when a custom calling feature assignment is encountered will field 5 display information.
2. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments until the last button assignment is reached. At this point, depressing the EXECUTE key will cause the display to loop around to the first assignment.
3. Correlation between field 5 encodes and button type encodes for custom calling feature buttons are listed below.

Custom Calling Feature	Field 5 Encode	Button Type Encode
Automatic callback-calling	6	15
Call forwarding-all calls	3	16
Call forwarding-busy and don't asnswer	4	16
Call hold	0	14
Call pickup	7	14
Call waiting-answer	1	14
Call waiting-originating	2	15
Executive override	5	15
Last extension called	8	17†

† Button type encode 17 denotes a direct station selection (DSS) feature except when an encode of 8 appears in field 5.

4. The REMOVE key cannot be used in this procedure.
5. A custom calling feature may be assigned to only an unused button.

END

A. PURPOSE

Procedure 35, Word 6 is used to:

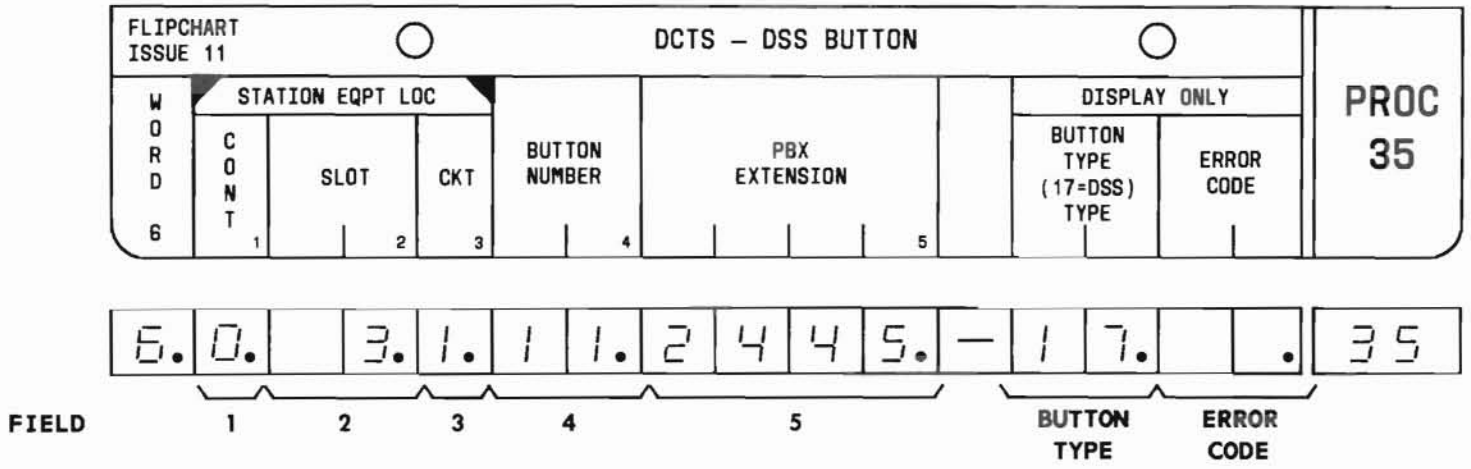
- Add a direct station selection (DSS) button assignment for a particular multibutton electronic telephone. See Part F, Note 2.
- Change the designation of the called telephone or the feature access code.
- Display a multibutton electronic telephone's DSS feature assignments.

B. PREREQUISITES

- Station equipment must be assigned to the telephone in Procedure 32, Word 1.
- Procedure 37 must be used to remove any previous button assignment before a DSS button assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with a multibutton electronic telephone.
3	0-7	Steering circuit dedicated to a multibutton electronic telephone.
4	1-30	Button on the given multibutton electronic telephone (fields 1 through 3). See Part F, Notes 1 and 5.
5	0-9999	A PBX extension assigned to ECTS (direct station selection) or a feature access code.
BUTTON TYPE	0-17	Feature assigned the button (field 4). A button type encode of 17 denotes a DSS feature. Refer to Table 2-3 for button type encodes.

Field	Code	Definition
ERROR CODE	1-4	Invalid information in the corresponding field.
	5	Invalid information in field 5, or the PBX extension (field 5) is not in service.
	6	Station equipment (fields 1 through 3) is not in service.
	7	Button (field 4) is already in service. Attempt to change the feature assignment of the button specified in field 4 denied because the button is not presently assigned a DSS feature.
	8	Telephone dedicated to station equipment (fields 1 through 3) is a straight line set (SLS); feature-to-button assignments cannot be made.
	10	Attempt to add a DSS feature denied because ECTS system cannot handle another DSS line; the DSS translation tables are full.
	20	Input/output error occurred while trying to update the Controller.

E. OPERATION (See Part F, Note 4)

Display Word 6 (See Part F, Note 3):

PROC NO.; 35; ENTER; WORD; 6; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE; Operate the EXECUTE key until DISPLAY ONLY-BUTTON TYPE field displays a 17

Add a DSS feature or change the destination telephone/ feature access code:

Display Word 6; Operate the EXECUTE key until field 4 displays the desired button number; CHANGE; 5; ENTER; (PBX Extension or Feature Access Code); ENTER; ADD; EXECUTE

F. NOTES

1. The DSS feature can be assigned to any button on any multibutton electronic telephone. The feature is not restricted to buttons in the DSS button field.
2. The DSS feature should be used to assign a loudspeaker paging (either basic or deluxe) feature to a telephone.
3. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments until the last button assignment is reached. At this point, depressing the EXECUTE key will cause the display to loop around to the first assignment.
4. The REMOVE key cannot be used in this procedure.
5. A DSS feature may be assigned to only an unused button.

END

A. PURPOSE

Procedure 36 is used to:

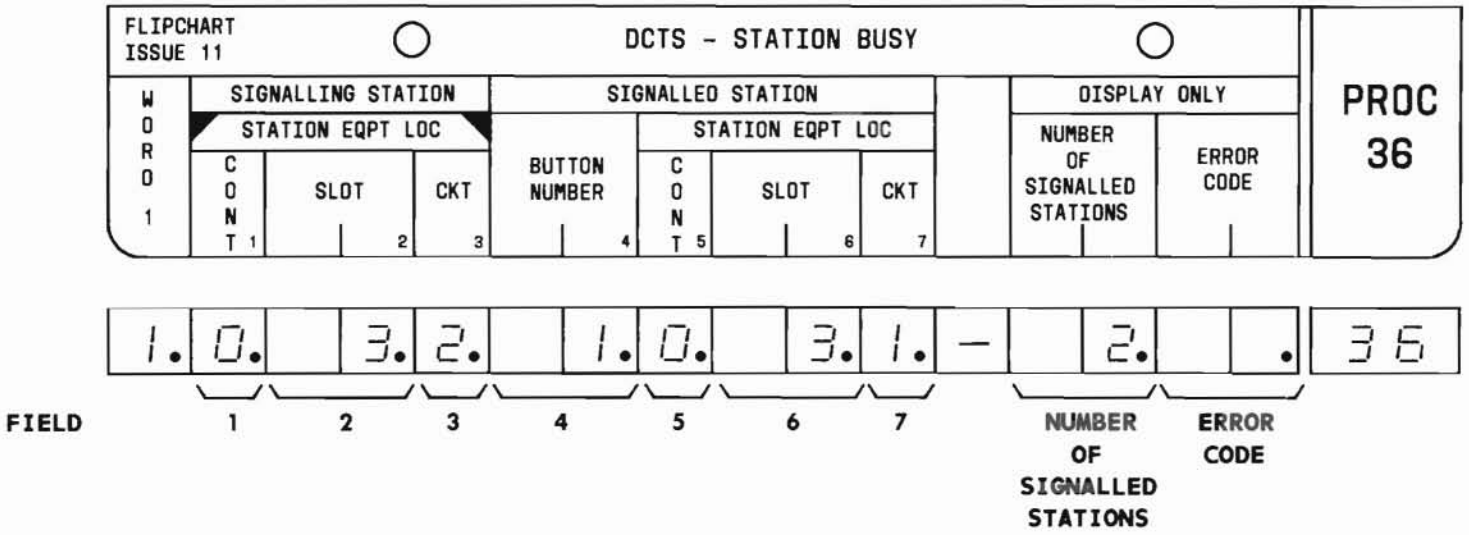
- Add or remove a station busy indicator for a particular multibutton electronic telephone.
- Display a particular station busy feature assignment.

B. PREREQUISITES

- Station equipment must be assigned to both the signaling and signaled telephones. Use Procedure 32, Word 1 to make the station equipment assignments.
- The station busy feature can be assigned to only unassigned, hold, or direct station selection (DSS) buttons. Hold buttons are assigned in Procedure 32, Word 4. DSS buttons are assigned in Procedure 35, Word 6. To assign the feature to an unassigned button, Procedure 37 must be used to remove any previous button assignment before the station busy feature assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller associated with the signaling multibutton electronic telephone. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
2	0-7 13-20	Location of LC55 associated with the signaling multibutton electronic telephone.
3	0-7	Steering circuit dedicated to the signaling multibutton electronic telephone.
4	1-30	Button associated with the station busy indicator (status lamp) on the signaled multibutton electronic telephone.
5	0-2	Controller designation associated with the signaled multibutton electronic telephone. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
6	0-7 13-20	Location of LC55 associated with the signaled multibutton electronic telephone.
7	0-7	Steering circuit dedicated to the signaled multibutton electronic telephone.

Field	Code	Definition
NUMBER OF SIGNALLED STATIONS	0-30	Total number of station busy appearances associated with the signaling telephone.
ERROR CODE	1-7	Invalid information in the corresponding field.
	8	Station equipment (fields 1 through 3) dedicated to signaling telephone is not in service.
	9	Station equipment (fields 5 through 7) dedicated to signaled multibutton electronic telephone is not in service.
	10	Station equipment (fields 5 through 7) dedicated to signaled station is not an ECTS station.
	11	Attempt to remove station busy feature denied because station busy appearance is not in table.
	12	Attempt to add station busy feature is denied because a translation table is full.
	13	An entry for the appearance of a station busy indicator for the telephone dedicated to the station equipment specified in fields 1 through 3 cannot be found in the translation table.

D. FIELD DEFINITIONS AND CODES (Contd)

Field	Code	Definition
ERROR CODE (Contd)	14	Attempt to add station busy feature denied because the button (field 4) is not an unused, hold, or DSS button.
	15	Input/output error occurred while trying to update the Controller.

E. OPERATION (See Part F, Note 2)

Display a word (See Part F, Note 1):

PROC NO.; 36; ENTER; (Controller No. of signaling telephone); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE

Add a new station busy arrangement (See Part F, Note 4):

Display word; CHANGE; 4; ENTER; (Button No.); ENTER; (Controller No. of signaled telephone); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; ADD; EXECUTE; Beginning with CHANGE, repeat procedure for each additional appearance of the station busy indicator

Add a new station busy appearance to an existing station busy arrangement (See Part F, Note 4):

Display word; Operate the EXECUTE key until fields 4 through 7 are blank; CHANGE; 4; ENTER; (Button No.); ENTER; (Controller No. of signaled telephone); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; ADD; EXECUTE

Remove a station busy appearance:

Display word; Operate the EXECUTE key until the desired signaled telephone's station equipment location is displayed; REMOVE; EXECUTE

F. NOTES

1. Once an initial display is obtained, subsequent depressions of the EXECUTE key will display the next signaled telephone until the last station busy appearance is reached. At this point, depressing the EXECUTE key will display blanks and depressing EXECUTE again will cause the display to loop around to the first appearance.
2. To change a station busy appearance, first remove the existing arrangement and then add the new arrangement.
3. As appearances are added or removed, the number of station busy appearances is automatically adjusted.
4. Only multibutton electronic telephones can be designated as a signaled station. A signaling station may be either a multibutton electronic telephone or a straight line set.

END

PROCEDURE 37 – FEATURE AND LINE BUTTON REMOVE

A. PURPOSE

Procedure 37 is used to:

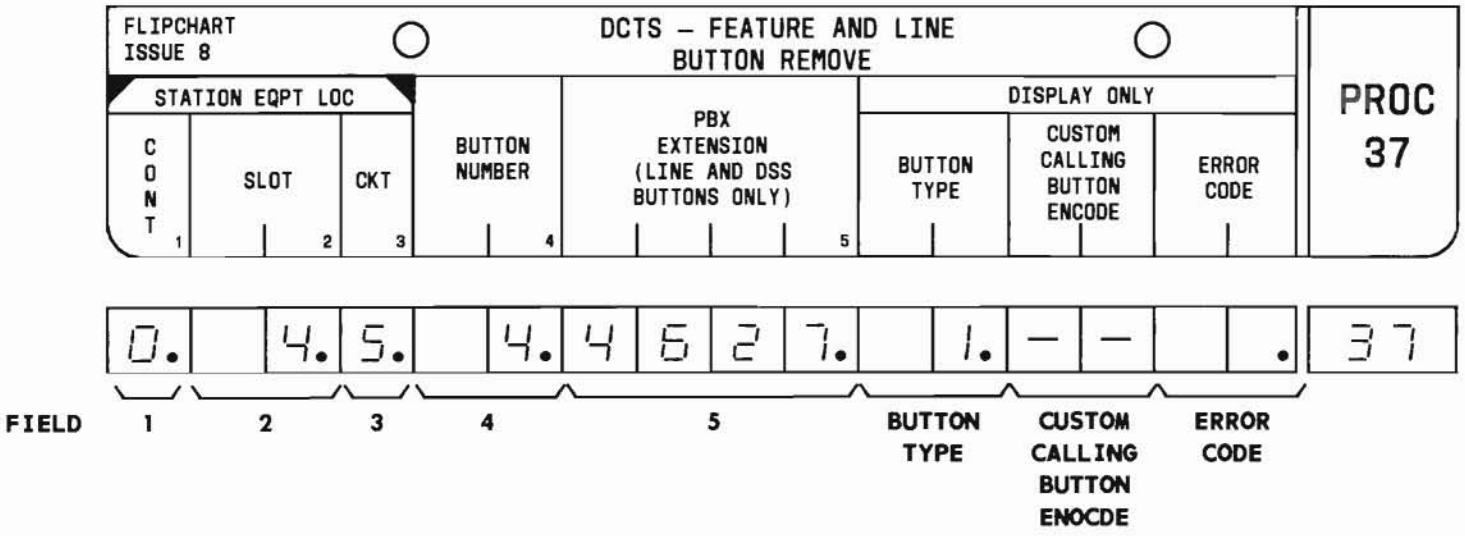
- Remove line and feature button assignments for a particular ECTS telephone. See Part F, Note 1.
- Display a particular ECTS telephone's feature and line access button assignments.

B. PREREQUISITE

The station equipment specified in fields 1 through 3 must be assigned to a telephone.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size — 100 — 400 A — – — 0 B — – — 0,1 C — 0 — 0-2
2	0-7 13-20	Location of LC55 associated with an ECTS telephone.
3	0-7	Steering circuit dedicated to an ECTS telephone.
4	1-30	Button on the specified ECTS telephone (fields 1 through 3).
5	1-,2-, 3-, or 4-digit number	Extension number associated with either a PBX line access button or a DSS line or feature access button.
BUTTON TYPE	0-17	Feature assigned the specified button (field 4). Refer to Table 2-3 for button type encodes.
CUSTOM CALLING BUTTON ENCODE	0 1 2 3 4 5 6 7 8	Call hold Call waiting-answer Call waiting-originating Call forwarding-all calls Call forwarding-busy and don't answer Executive override Automatic callback-waiting Call pickup Last extension called

Field	Code	Definition
ERROR CODE	1-4	Invalid information in the corresponding field.
	5 or 6	PBX extension (field 5) is not in service.
	7	Remove denied because button (field 4) is neither assigned a line access nor a direct station selection (DSS) feature (fields 4 and 5 are inconsistent).
	8	PBX extension (field 5) has not been defined as an ECTS extension.
	9	Custom calling button encode assignment in the translation tables is incorrect.
	10	Intercom button assignment is not in the intercom translation tables.
	12,14	PBX extension (field 5) is not assigned to any button on the telephone dedicated to the specified station equipment (fields 1 through 3).
	13	Button (field 4) is in use.
	17	Attempt to remove reserved ECTS test line is denied (automatically assigned to a dedicated location).

E. OPERATION (See Part F, Note 5)

Display a word (See Part F, Notes 2 and 4):

PROC NO.; 37; ENTER; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; DISPLAY; EXECUTE

Remove a single button assignment
(See Part F, Note 3):

Display word; REMOVE; EXECUTE

Remove all button assignments
(See Part F, Note 3):

Display word; REMOVE; EXECUTE; EXECUTE; Repeat the REMOVE-EXECUTE-EXECUTE sequence until the next to last button assignment is removed; REMOVE; EXECUTE

F. NOTES

1. This procedure should be used to remove the following button assignments when reconfiguring a telephone or prior to removing the telephone from the system using Procedure 34:
   (a) Central office pickup
   (b) Custom calling
   (c) Custom telephone dial intercom
   (d) Custom telephone intercom
   (e) Direct station selection
   (f) Exclusion
   (g) Hold
   (h) Manual signaling
   (i) Message waiting
   (j) Ringer transfer
   (k) Ringing transfer
   (l) Station pickup
   (m) Station ringer cutoff
2. All button types may be displayed. But only when a line or a DSS assignment is encountered will field 5 display information.
3. Removing an unassigned button will not produce an error.
4. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display through the button assignments until the last button assignment is reached. At this point, depressing the EXECUTE key will cause the display to loop around to the first assignment.
5. The ADD key cannot be used in this procedure.

END

PROCEDURE 38, WORD 1 — LINE RINGING OPTIONS

A. PURPOSE

Procedure 38, Word 1 is used to:

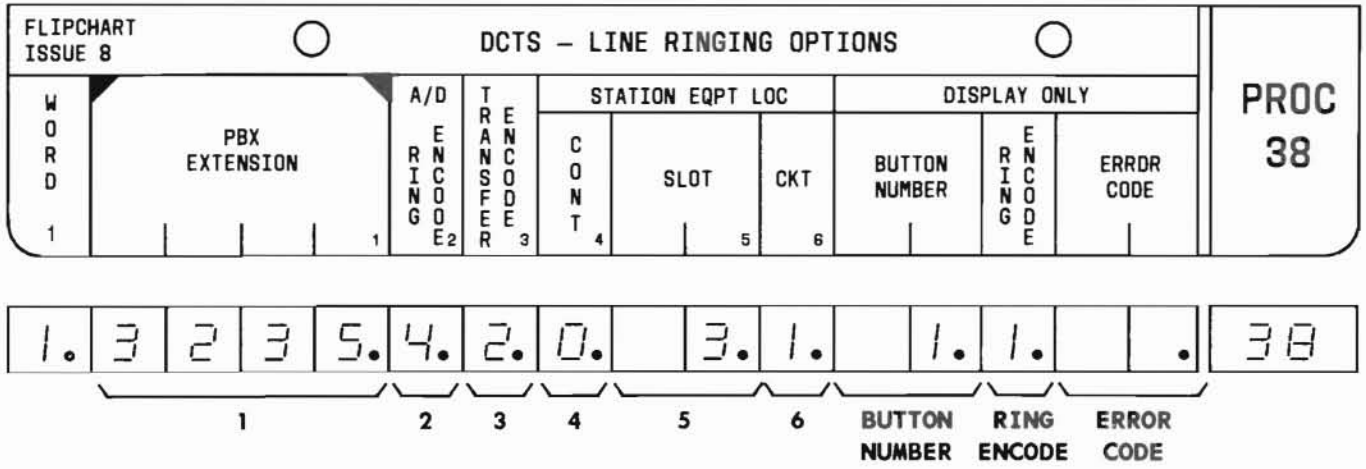
- Define or change the ringing and ringer transfer treatment applied to each appearance of a particular PBX extension.
- Display the ringing and ringer transfer treatment associated with a particular PBX extension.

B. PREREQUISITE

The PBX extension must be assigned to an ECTS telephone in Procedure 32, Word 2.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	2-,3-,or 4-digit number	PBX extension assigned to ECTS.
2 (See Part F, Notes 1 and 3)	1	Manual abbreviated/delayed ringing; requires ringing transfer button (Procedure 35, Word 4).
	2	Automatic abbreviated/delayed ringing.
	3	Manual abbreviated/delayed ringing with muting; requires ringing transfer button (Procedure 35, Word 4).
	4	Automatic abbreviated/delayed ringing with muting.
3 (See Part F, Note 5)	0	No ringer transfer.
	1	Ringer transfer; rings when feature is activated; requires a ringer transfer button (Procedure 35, Word 1).
	2	Ringer transfer; does not ring when feature is activated; requires a ringer transfer button (Procedure 35, Word 1).
4	0-2	Controller designation.

Memory Size	Range 100	Range 400
A	–	0
B	–	0,1
C	0	0-2

Field	Code	Definition
5	0-7 13-20	Location of LC55 associated with an ECTS telephone.
6	0-7	Steering circuit dedicated to an ECTS telephone.
BUTTON NUMBER	1-30	Button assigned PBX extension pickup feature.
RING ENCODE		Ring encode is assigned in Procedure 32, Word 2.
	0	Does not ring at this appearance.
	1	Rings at this appearance.
	2	Delayed ringing at this appearance.
	3	Abbreviated ringing at this appearance.
ERROR CODE	1-3	Invalid information in the corresponding field.
	5	PBX extension (field 1) is not in service.
	6	Invalid station equipment location.
	8	PBX extension (field 1) has not been defined as an ECTS extension.
	12	Add denied because line which must be changed is busy.

E. OPERATION (See Part F, Note 4):

Display a word (See Part F, Note 2):

PROC NO.; 38; ENTER; (PBX Extension); ENTER; DISPLAY; EXECUTE

Define the ringing and ringer transfer treatment:

PROC NO.; 38; ENTER; (PBX Extension); ENTER; (A/D Ring Encode); ENTER; (Transfer Encode); ENTER; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; ADD; EXECUTE

Change a word:

Display word; CHANGE; (Field No. 2 or 3); ENTER; (Desired encode); ENTER; ADD; EXECUTE

F. NOTES

1. If ring encode (field 2) is either a 1 or 3, then either a ringing transfer button should be assigned (Procedure 35, Word 4) or A/D Ring Encode (field 2) should be either a 2 or 4.
2. Once an initial display is obtained, subsequent depressions of the EXECUTE key will increment the display through the appearances of the specified PBX extension until the last appearance is reached. At this point, depressing the EXECUTE key will cause the display to loop around to the first appearance.
3. All appearances of a given PBX extension should have identical A/D Ring Encodes (field 2).
4. The REMOVE key cannot be used in this procedure.
5. If field 3 data is changed from a nonzero to a zero, then all appearances of the specified PBX extension are assigned a transfer encode of zero.

END

A. PURPOSE

Procedure 39, Word 1 is used to:

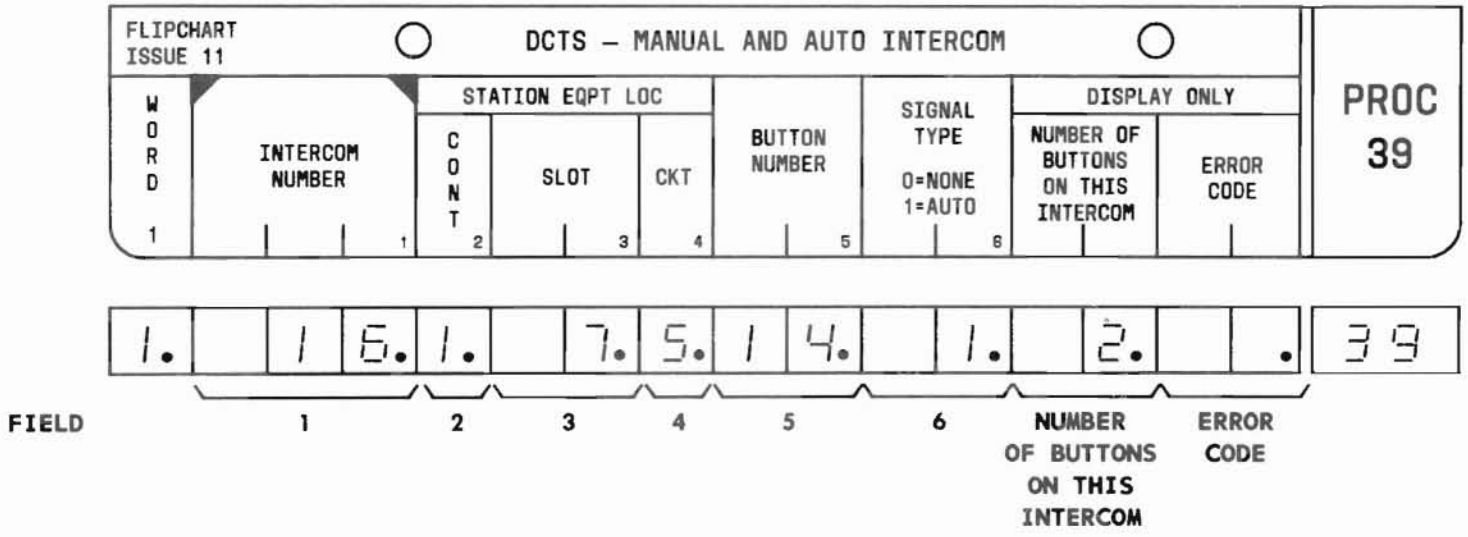
- Define the custom telephone line and intercom buttons for each electronic key telephone (EKT) within a particular intercom group.
- Display a particular intercom group's or EKT's custom telephone intercom feature assignment.

B. PREREQUISITES

- Station equipment must be assigned in Procedure 32, Word 1.
- Procedure 37 must be used to remove any previous button assignment before a manual or automatic intercom assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-98	Intercom number assigned a group of EKTs. See Part F, Notes 4 and 6. Range Memory Size / 100 / 400 A / – / 1-25 B / – / 1-98 C / 1-98 / 1-98
2	0-2	Controller designation. Range Memory Size / 100 / 400 A / – / 0 B / – / 0,1 C / 0 / 0-2
3	0-7 13-20	Location of LC55 associated with the EKT.
4	0-7	Steering circuit dedicated to an EKT.
5	1-30	Button on the EKT assigned custom telephone intercom feature.
6	0 1	Manual signaling. Automatic signaling.
NUMBER OF BUTTONS ON THIS INTERCOM	1-16	Number of EKTs within the specified intercom group.

Field	Code	Definition
ERROR CODE	1-6	Invalid information in the corresponding field.
	7	Button (field 5) is already in service.
	8	Only two automatic intercom appearances are allowed on an intercom link.
	9	Station equipment (fields 2 through 4) dedicated to EKT is not in service.
	10	PBX system cannot process this additional EKT because the translation table is full.
	11	Only 16 custom telephone intercom appearances are allowed on an intercom link.
	12	Telephone dedicated to station equipment (fields 2 through 4) is not an EKT.
	20	Input/output error occurred while trying to update the Controller.
	25	Status lamp associated with the button (field 5) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Notes 5 and 7)

Display Word 1 (See Part F, Notes 1 and 2):

PROC NO.; 39; ENTER; (Intercom No.); ENTER; DISPLAY; EXECUTE

Add a new custom telephone intercom arrangement (See Part F, Note 3):

Display Word 1; CHANGE; 2; ENTER; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; (Button No.); ENTER; (Signal Type); ENTER; ADD; EXECUTE; Beginning with CHANGE, repeat the procedure for each additional appearance of the intercom number

Add a new appearance of an intercom number to an existing group:

Display Word 1; Repeatedly depress the EXECUTE key until fields 2 through 6 are blank; CHANGE; 2; ENTER; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; (Button No.); ENTER; (Signal Type); ENTER; ADD; EXECUTE

F. NOTES

1. Once an initial display is obtained, subsequent depressions of the EXECUTE key will display the next appearance of the intercom number until the last intercom appearance is reached. At this point, depression of the EXECUTE key will cause the display to loop around to the first appearance.
2. The automatic intercom appearances, if assigned to a particular telephone, will be displayed as the first and second appearance of the intercom number.
3. When the initial automatic intercom appearance is added, it will appear twice (as the first and second automatic appearances) and signal itself. Also the number of buttons on the intercom will increment by two.
4. Custom telephone intercoms do not connect to the PBX, ECTs, or SLS telephones.
5. The REMOVE key cannot be used in this procedure.
6. An intercom group may consist of up to 16 EKTs. However, no more than two EKTs per group may be assigned the automatic intercom feature. Other EKTs within the group must be assigned the manual intercom feature.
7. Use Procedure 39, Word 3 to assign the intercom ring rate.

END

A. PURPOSE

Procedure 39, Word 2 is used to:

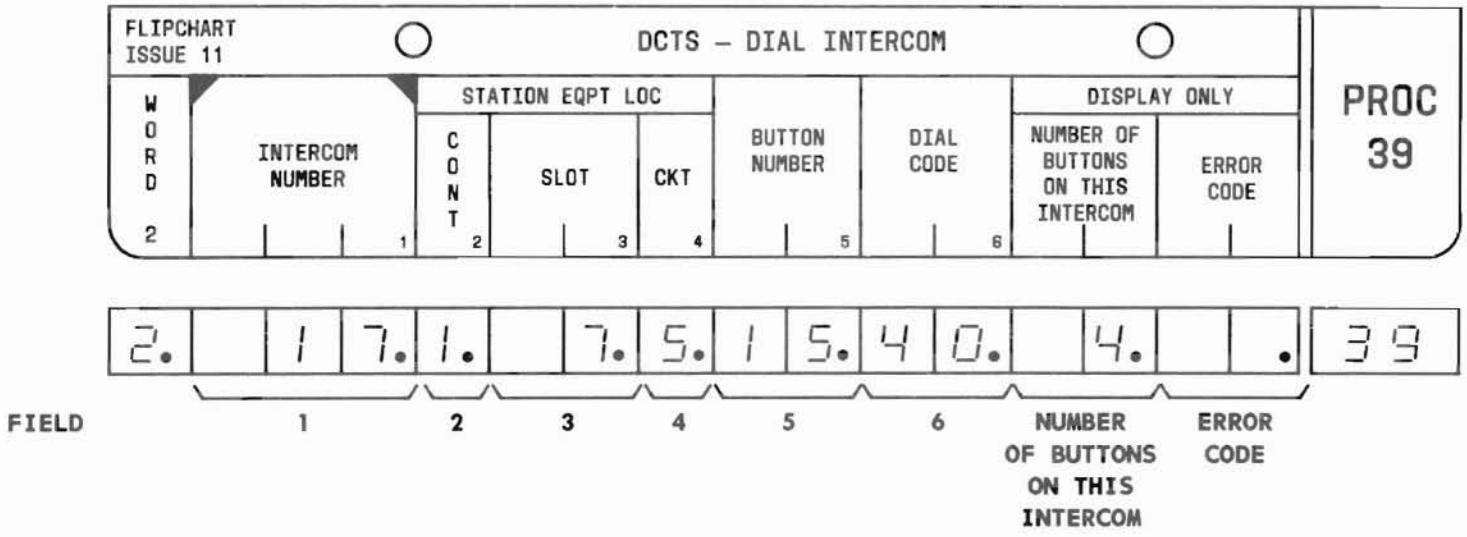
- Define the dial intercom line, button, and dial code for each electronic key telephone (EKT) within a particular intercom group. See Part F, Note 4.
- Display a particular intercom group's or EKT's dial intercom feature assignments.

B. PREREQUISITES

- Station equipment must be assigned in Procedure 32, Word 1.
- Procedure 37 must be used to remove any previous button assignment before a dial intercom assignment can be added to that button.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-20	Intercom number assigned a group of EKTs. See Part F, Note 5. Range Memory Size — 100 — 400 A — – — 1-10 B — – — 1-20 C — 1-20 — 1-20
2	0-2	Controller designation. Range Memory Size — 100 — 400 A — – — 0 B — – — 0,1 C — 0 — 0-2
3	0-7 13-20	Location of LC55 associated with the EKT.
4	0-7	Steering circuit dedicated to an EKT.
5	1-30	Button on the EKT assigned the dial intercom feature.
6	0-99	1- or 2-digit dial code assigned to the EKT. See Part F, Note 6.
NUMBER OF BUTTONS ON THIS INTERCOM	1-30	Number of EKTs within the specified intercom group.

Field	Code	Definition
ERROR CODE	1-5	Invalid information in the corresponding field.
	6,16	Invalid dial code (field 6); only two tens groups are allowed.
	7,9	Station equipment (fields 2 through 4) dedicated to EKT is not in service.
	8	Telephone dedicated to station equipment (fields 2 through 4) is not an EKT.
	10	Add denied because a line which must be changed is busy.
	12	Dial code (field 6) is already assigned.
	15	Button (field 5) is already in service.
	20	Input/output error occurred while trying to update the Controller.
	25	Status lamp associated with the button (field 5) is a station busy indicator. Therefore, only direct station selection (DSS) or hold feature may be assigned to the button.

E. OPERATION (See Part F, Notes 2 and 3)

Display Word 2 (See Part F, Note 1):

PROC NO.; 39; ENTER; WORD; 2; (Intercom No.); ENTER; DISPLAY; EXECUTE

Add a new dial intercom feature arrangement:

Display Word 2; CHANGE; 2; ENTER; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; (Button No.); ENTER; (Dial Code); ENTER; ADD; EXECUTE; Beginning with CHANGE, repeat the procedure for each additional appearance of the intercom number

Add a new appearance of an intercom number to an existing group:

Display Word 2; Repeatedly depress the EXECUTE key until fields 2 through 6 are blank; CHANGE; 2; ENTER; (Controller No.); ENTER; (Slot No. of LC55); ENTER; (Circuit on LC55); ENTER; (Button No.); ENTER; (Dial Code); ENTER; ADD; EXECUTE

F. NOTES

1. Once an initial display is obtained, subsequent depressions of the EXECUTE key will display the next appearance of the intercom number until the last appearance is reached. At this point, depression of the EXECUTE key will cause the display to loop around to the first apperance.
2. Use Procedure 39, Word 3 to assign the intercom ring rate.
3. The REMOVE key cannot be used in this procedure.
4. Procedure 39, Word 2 does not apply to straight line sets.
5. An intercom group may consist of up to 28 EKTs.
6. Each EKT assigned the dial intercom feature must be assigned an unique dial code.

END

PROCEDURE 39, WORD 3 – SYSTEM SIGNALING TONES, RING RATES, AND ABBREVIATED RINGING TRANSFER

A. PURPOSE

Procedure 39, Word 3 is used to:

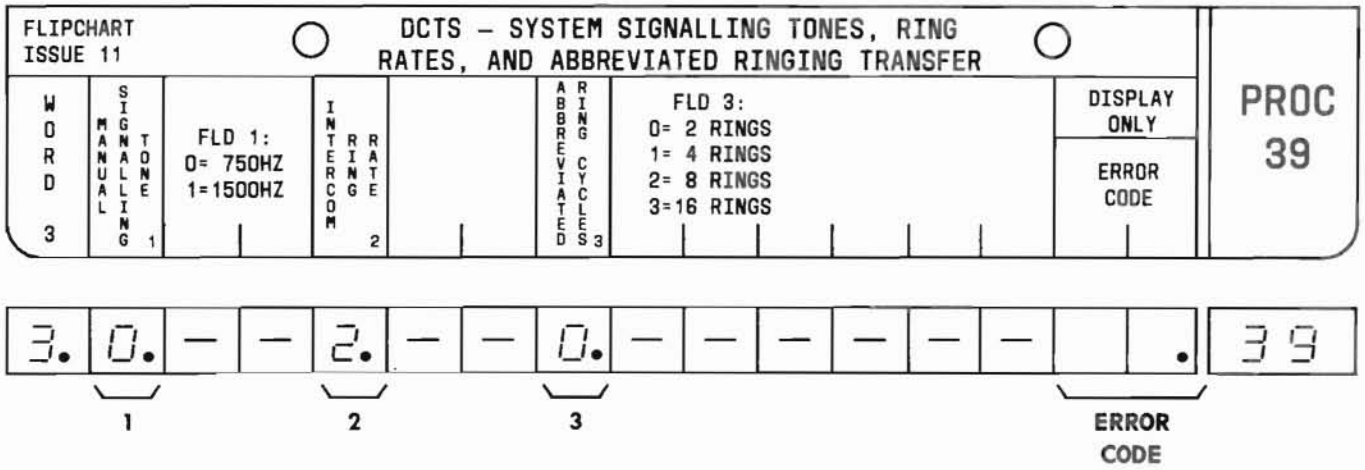
- Change the manual signaling tone, intercom ring rate, and abbreviated ring cycles for the ECTS.
- Display the specified system options.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES (See Part F, Note 1)

Field	Code	Definition
1	0	750-Hz tone.
	1	1500-Hz tone.
2	0	Standard PBX ring rate.
	1	2 long/modulated.
	2	3 short/modulated.
	3	4 short/modulated.
	4	2 long/unmodulated.
	5	2 short/unmodulated.
	6	1 long/unmodulated.
	7	10 short/unmodulated.
3	0	2 rings.
	1	4 rings.
	2	8 rings.
	3	16 rings.
ERROR CODE	1-3	Invalid information in the corresponding field.

E. OPERATION

Display Word 3:

PROC NO.; 39; ENTER; WORD; 3; DISPLAY; EXECUTE;

Change Word 3:

Display Word 3; CHANGE; (Field No.); ENTER; (New encode); ENTER; ADD; EXECUTE

F. NOTES

1. The system default values are:
   (a) Field 1:0
   (b) Field 2:2
   (c) Field 3:0

PROCEDURE 40, WORD 1 – SEARCH FOR UNASSIGNED STEERING CIRCUIT PORT

A. PURPOSE

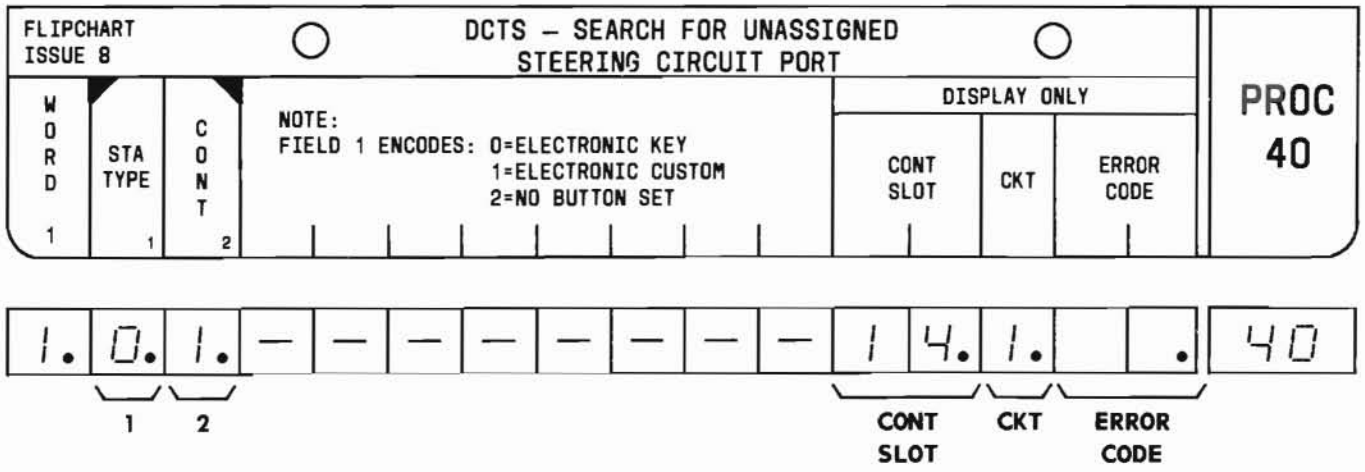
Procedure 40, Word 1 is used to search for an unassigned steering circuit in a particular Electronic Telephone Controller.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0 1 2	Electronic key telephone (EKT). Electronic custom telephone (ECT). No button set [also called a straight line set (SLS)].
2	0-2	Controller designation. See Part F, Note 1. Range Memory Size — 100 — 400 A — – — 0 B — – — 0,1 C — 0 — 0-2
CONT SLOT	0-7 13-20	Location of an LC55 containing an unassigned steering circuit. See Part F, Notes 2 and 3.
CKT	0-7	Unassigned steering circuit. See Part F, Notes 2 and 3.
ERROR CODE	1,2	Invalid information in the corresponding field.

E. OPERATION (See Part F, Note 9)

Display unassigned steering circuit port (See Part F, Notes 4, 5, 6, 7, and 8):

PROC NO.; 40; ENTER; (Station Type); ENTER; (Controller No.); ENTER; DISPLAY; EXECUTE

F. NOTES

1. Unless otherwise specified, field 2 will default to a 0.
2. Slot 0, circuit 0 is reserved for the test station jack.
3. Slot 20, circuit 7 may not be assigned to either EKTs or ECTs.
4. A system that has the capability to handle a nonconnected Controller may search for that Controller.
5. For EKTs and ECTs (station type encodes of 0 and 1), the search starts with slot 0, circuit 1 (if unassigned).
6. For SLSs (station type encode of 2), the search starts with slot 20, circuit 7 (if unassigned).
7. Once an initial display is obtained, subsequent depressions of the EXECUTE key will display the next unassigned steering circuit until the last unassigned steering circuit is reached. At this point, depressing the EXECUTE key will cause the display to loop around to the first unassigned steering circuit.
8. Procedure 40, Word 1 allows searching for available straight-line set steering circuits in a phantom controller (except in Feature Package 5, Program Issue 1, where it is not allowed).
9. The display operation is the only one permitted in this procedure.

END

A. PURPOSE

Procedure 40, Word 2 is used to:

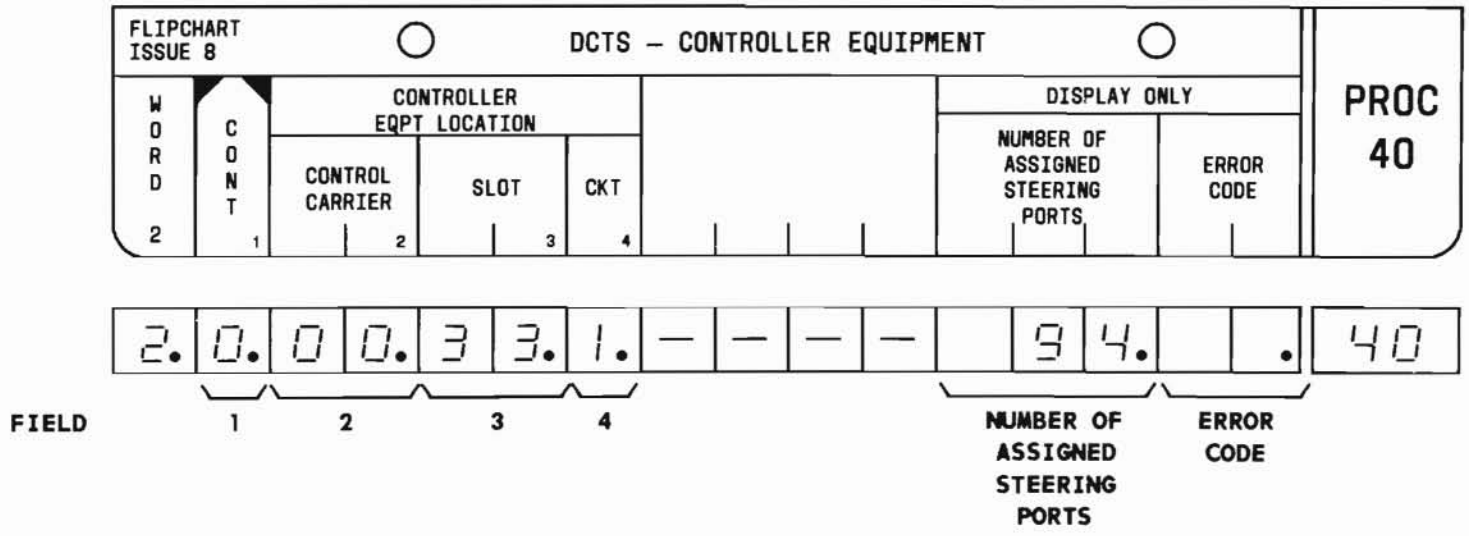
- Add an Electronic Telephone Controller (also called Controller) to service.
- Change the DIMENSION PBX equipment dedicated to a particular Controller.
- Remove a Controller from service.
- Display the DIMENSION PBX equipment dedicated to a particular Controller.

B. PREREQUISITES

None.

C. CAUTION

Be careful when removing a Controller from service. Procedure 40, Word 2 affects service to all telephones dedicated to the Controller.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size / 100 / 400 A / – / 0 B / – / 0,1 C / 0 / 0-2
2	00	DIMENSION PBX control carrier designation (always carrier 00).
3 (See Part F, Notes 4 and 5)	32-35	Location of LC34B associated with the Controller in carriers J58879CA-1(MD) or -2.
	32-37	Location of LC366 associated with the Controller in carrier J58879CC-1.
4	0,1	Circuit on LC34B or LC366 dedicated to the Controller.
NUMBER OF ASSIGNED STEERING PORTS	0-127	Number of assigned steering circuits in the Controller.

Field	Code	Definition
ERROR CODE	1	DIMENSION PBX system cannot support the specified Controller (field 1) due to memory limitations.
	2	Field 2 data is out of range. Zero is the only valid entry.
	3	Field 3 data is out of range.
	4	Field 4 data is out of range.
	5	Controller (field 1) is already in service.
	6	DIMENSION PBX Controller equipment (fields 2 through 4) is already in service.
	7	Remove denied because Controller (field 1) is already out of service.
	8	Invalid information in fields 2 through 4.

E. OPERATION (See Part F, Note 2)

Display Controller equipment location:

PROC NO.; 40; ENTER; WORD; 2; (Controller No.); ENTER; DISPLAY; EXECUTE

Add a Controller (See Part F, Note 3):

PROC NO.; 40; ENTER; WORD; 2; (Controller No.); ENTER; 00; ENTER; (Slot No. of LC34B or LC366); ENTER; (Circuit on LC34B or LC366); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change the DIMENSION PBX equipment:

Display controller equipment location; CHANGE; 3; ENTER; (Slot No. of LC34B or LC366); ENTER; (Circuit on LC34B or LC366); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a Controller (See Caution and Part F, Note 1):

Display Controller equipment location; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. A Controller may be removed before removing any or all of its assigned telephones.
2. During any operation, the number of assigned steering ports will be displayed.
3. The DIP socket option block for the selected circuit on LC34B or LC366 must be strapped for low speed data.
4. When an LC171B is provided for RMATS, slots 32 and 37 in trunk control carrier J58879CC-1 and slot 32 in control carriers J58879CA-1 (MD), or -2 cannot be used for controller assignments.
5. When trunk control carrier J58879CC is provided, each LC366 itilizes two slot numbers and four circuits. Each slot contains circuits 0 and 1. For example, LC366 in slot 32/37. Slot 32 contains circuits 0 and 1 and slot 37 contains the other two circuits also numbered 0 and 1.

END

PROCEDURE 40, WORD 3 – EQPT LOCATION STATUS

A. PURPOSE

Procedure 40, Word 3 is used to:

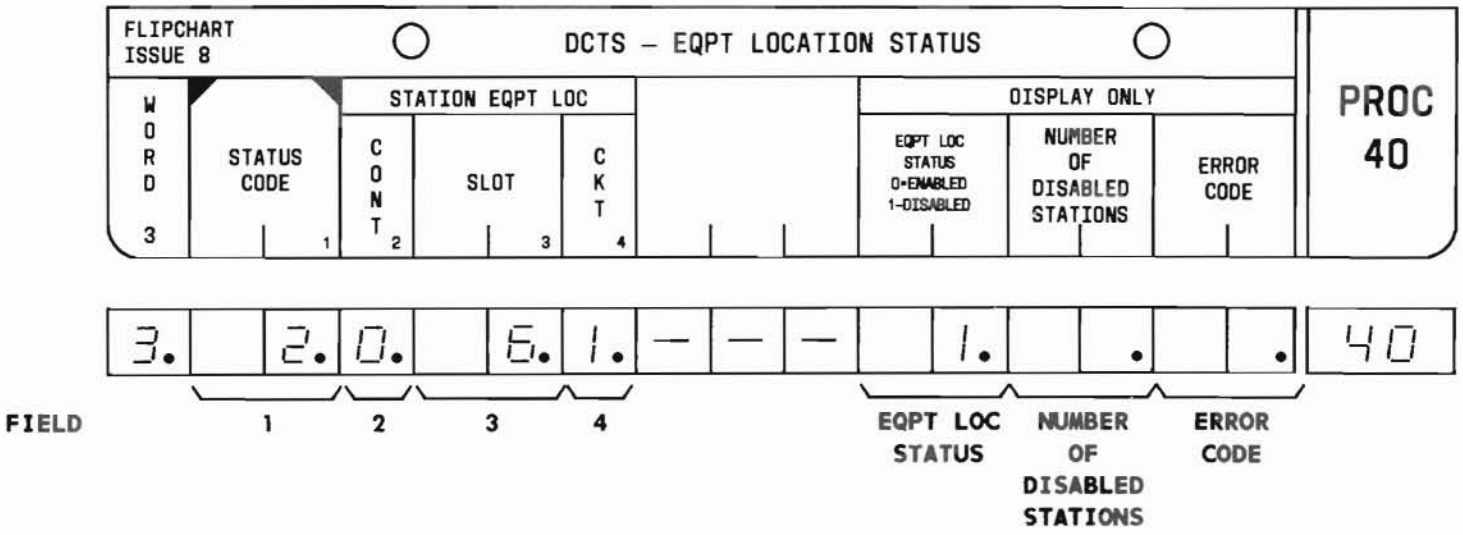
- Disable a particular Electronic Telephone Controller (also called Controller), slot, or circuit.
- Enable a particular disabled Controller, slot, or circuit.
- Search for disabled Controllers, slots, or circuits.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0 1 2 3 4 5 6	Display a disabled circuit. Enable a circuit. Disable a circuit. Enable a slot. Disable a slot. Enable a Controller. Disable a Controller.
2	0-2	Controller designation. Range Memory Size / 100 / 400 A / – / 0 B / – / 0,1 C / 0 / 0-2
3	0-7 13-20	Location of LC55.
4	0-7	Steering circuit on LC55.

Field	Code	Definition
EQPT LOC STATUS	0 1	Specified station equipment is enabled. Specified station equipment is disabled.
NUMBER OF DISABLED STATIONS	–	Number of disabled multibutton electronic telephones associated with specified station equipment.
ERROR CODE	1-4	Invalid information in the corresponding field.

E. OPERATION

Search for disabled station equipment (See Part F, Note 1):

PROC NO.; 40; ENTER; WORD; 3; 0; ENTER; DISPLAY; EXECUTE

Disable:

(a) A Controller

PROC NO.; 40; ENTER; WORD; 3; 6; ENTER; (Controller No.); ENTER; REMOVE; EXECUTE

(b) A slot

PROC NO.; 40; ENTER; WORD; 3; 4; ENTER; (Controller No.); ENTER; (Slot No.); ENTER; REMOVE; EXECUTE

(c) A circuit

PROC NO.; 40; ENTER; WORD; 3; 2; ENTER; (Controller No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; REMOVE; EXECUTE

Enable:

(a) A Controller

PROC NO.; 40; ENTER; WORD; 3; 5; ENTER; (Controller No.); ENTER; ADD; EXECUTE

(b) A slot

PROC NO.; 40; ENTER; WORD; 3; 3; ENTER; (Controller No.); ENTER; (Slot No.); ENTER; ADD; EXECUTE

(c) A circuit

PROC NO.; 40; ENTER; WORD; 3; 1; ENTER; (Controller No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; ADD; EXECUTE

F. NOTES

1. Once an initial display is obtained, subsequent depressions of the EXECUTE key will display the next disabled circuit until the last disabled circuit is reached. At this point, depressing the EXECUTE key will cause the display to loop around to the first disabled circuit.

END

A. PURPOSE

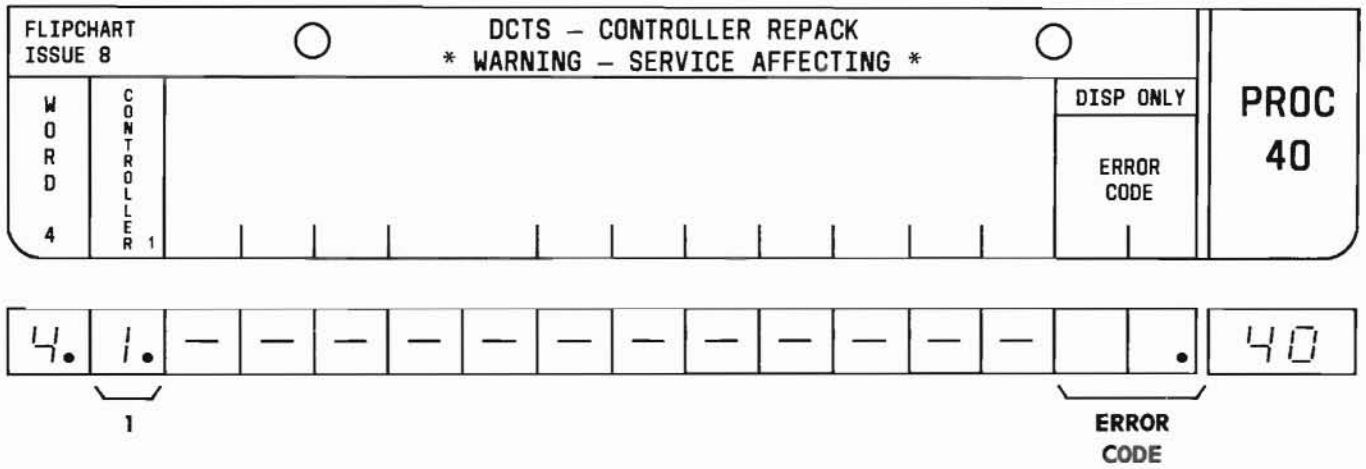
Procedure 40, Word 4 is used to repack a particular Electronic Telephone Controller (also called Controller) memory.

B. PREREQUISITES

None.

C. CAUTION

When Procedure 40, Word 4 is used, the Controller specified in field 1 will be disabled for 1 minute.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-2	Controller designation. Range Memory Size: 100 / 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
ERROR CODE	1	Invalid Controller designation.
	2	Repack not completed in 1 minute. Refer to Procedure 81, Word 1.
	3	Failure to write zeros in Word 0 of the station activity buffer (SAB) memory. Refer to Procedure 81, Word 1.

E. OPERATION

Repack Controller (See Caution):

PROC NO.; 40; ENTER; WORD; 4; (Controller No.); ENTER; ADD; EXECUTE

F. NOTES

None.

END

PROCEDURE 43, WORD 1 — SEARCH ARS PATTERN FOR NPA

A. PURPOSE

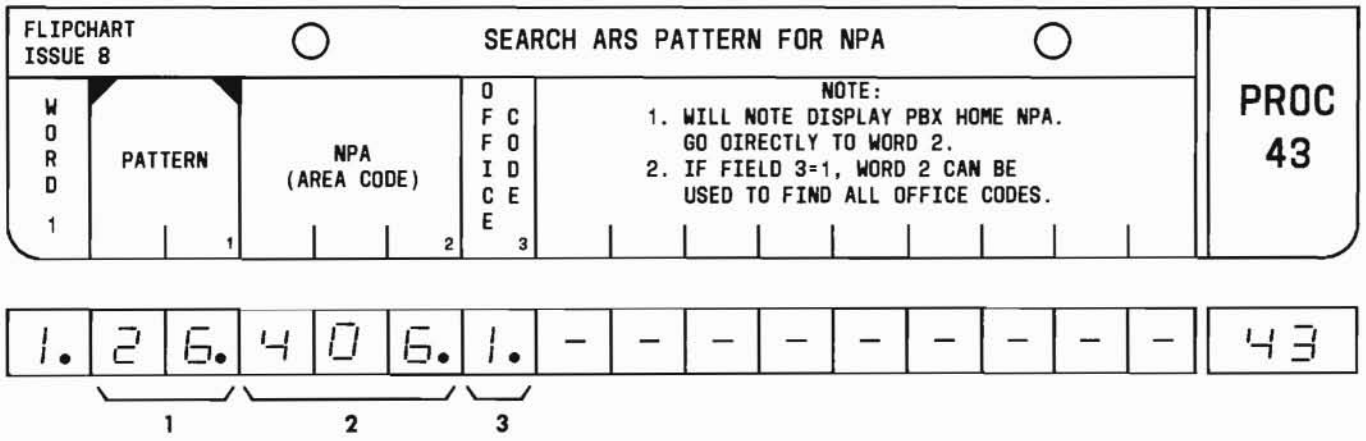
Procedure 43, Word 1 is used to search on a pattern to display the foreign numbering plan area (NPA) and indicate if associated office codes can be found using Word 2.

B. PREREQUISITE

ARS patterns are constructed and assigned using Procedure 24.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-32	Pattern number. **Memory Size** — **Range** A — 1-16 B — 1-32 C — 1-32
2	3-digit number	Any valid NPA except the home NPA.
3	0	Office code information is not displayed.
	1	Office code information is displayed. See Part F, Note 1.

E. OPERATION (See Part F, Note 3)

Display NPA (See Part F, Notes 2 and 4):

PROC NO.; 43; ENTER; (Pattern Number); ENTER; DISPLAY; EXECUTE

F. NOTES

1. If field 3 displays a 1, use Word 2 to find all associated office codes.
2. To display other NPAs, use the sequence DISPLAY; EXECUTE repeatedly.
3. The display operation is the only one permitted in this procedure.
4. Word 1 cannot be used to display the home NPA. Use Word 2 for this purpose.

END

PROCEDURE 43, WORD 2 – SEARCH ARS OFFICE CODES

A. PURPOSE

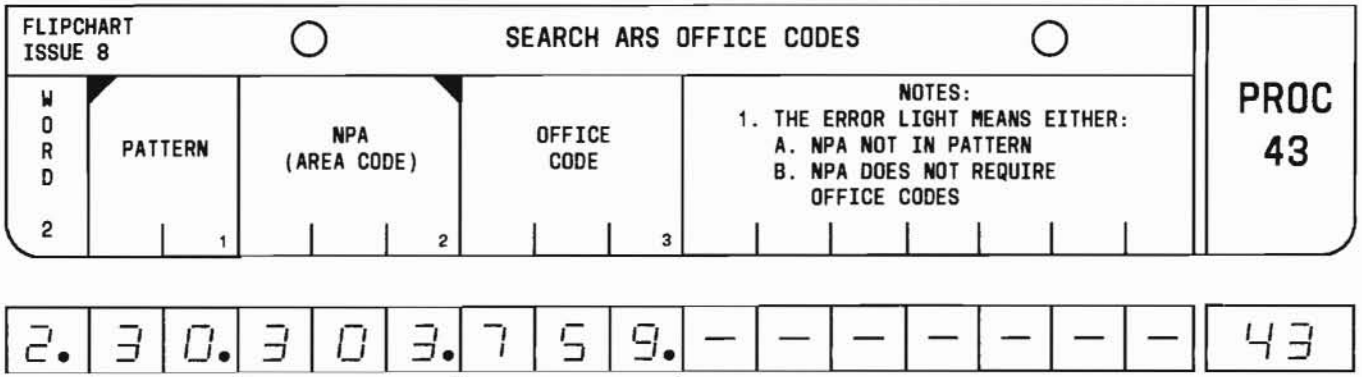
Procedure 43, Word 2 is used to search on a pattern and NPA to display the associated office codes.

B. PREREQUISITES

ARS patterns are constructed and assigned using Procedure 24.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-32	Pattern number (identical to Word 1, field 1).
2	3-digit number	Any NPA in Word 1, field 2 with a 1 in Word 1, field 3, or the home NPA.
3	3-digit number	Any valid office code within the NPA in field 2.

E. OPERATION (See Part F, Note 3)

Display office code(s) (See Part F, Notes 1 and 2):

PROC NO.; 43; ENTER; WORD; 2; (Pattern Number); ENTER; (NPA); ENTER; DISPLAY; EXECUTE

F. NOTES

1. If the ERROR lamp comes on, either the NPA in field 2 is not in the specified pattern or the NPA does not display office codes.
2. To display other office codes, use the sequence DISPLAY; EXECUTE repeatedly.
3. The display operation is the only one allowed in this procedure.

END

PROCEDURE 44, WORD 1 — TRUNKS - ACCESS CODE AND NUMBER

A. PURPOSE

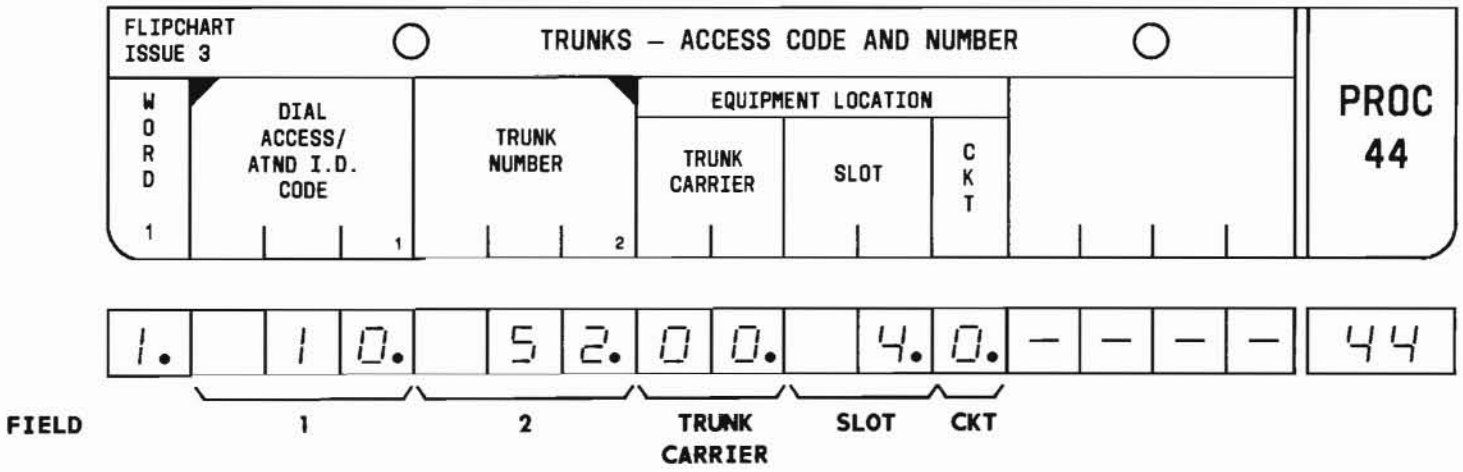
Procedure 44, Word 1 is used to search for and display the equipment location associated with a given dial access code and trunk number (trunk group member number).

B. PREREQUISITES

- Procedure 12 must be used to assign a dial access code to the trunk group.
- Procedure 10 must be used to assign a trunk to a trunk group. The system software automatically assigns a trunk group member number to the trunk.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-, 2-, or 3-digit number	Trunk dial access code. See Part F, Note 1.
2	1-, 2-, or 3-digit number	Trunk group member number.
TRUNK CARRIER	0-3	Trunk carrier number.
SLOT	2-9 11-18	Circuit pack slot number.
CKT	0,1	Circuit number.

E. OPERATION (See Part F, Note 4)

Display Word 1 (See Part F, Note 3):

PROC NO.; 44; ENTER; (Dial Access Code); ENTER; (Trunk Number); ENTER; DISPLAY; EXECUTE

F. NOTES

1. The dial access code (field 1) is used in trunk verification by station and with the alternate attendant position to verify trunks and activate night service.
2. Do not use Procedure 44, Word 1 to search all trunk groups. Instead use Word 2.
3. Procedure 44, Word 1 will not display the trunk equipment location of a trunk that was assigned after the maximum trunk group member number has been reached.
4. The display operation is the only one permitted in this procedure.

END

A. PURPOSE

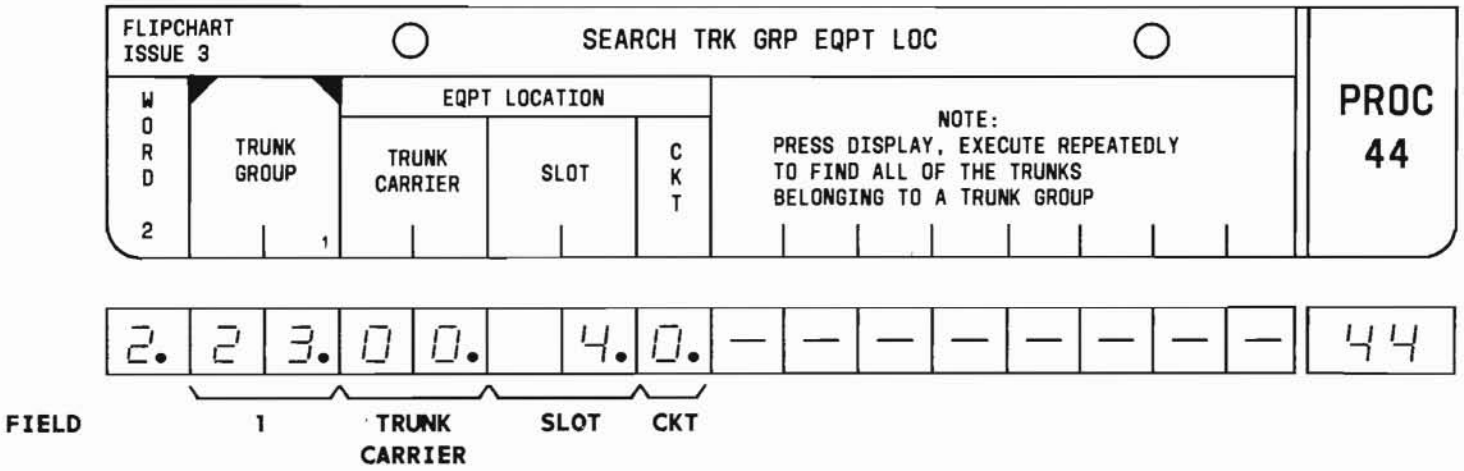
Procedure 44, Word 2 is used to search for and display the equipment locations of the trunks associated with a given trunk group.

B. PREREQUISITE

Procedure 10 must be used to assign a trunk to a trunk group.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	17-63	Trunk group number. Range Memory Size — 100 — 400 A — 17-31 — 17-31 B — 17-31 — 17-63 C — 17-31 — 17-63
TRUNK CARRIER	0-3	Trunk carrier number.
SLOT	2-9 11-18	Circuit pack slot number.
CKT	0,1	Circuit number.

E. OPERATION (See Part F, Note 2)

Display Word 2 (See Part F, Note 1):

PROC NO.; 44; ENTER; WORD; 2; (Trunk Group); ENTER; DISPLAY; EXECUTE

F. NOTES

1. Depressing DISPLAY; EXECUTE repeatedly will display all trunks assigned to the specified trunk group. Depressing DISPLAY; EXECUTE after all trunks in the trunk group have been displayed causes the equipment location display to go blank. Depressing DISPLAY; EXECUTE one more time resumes the search by displaying the first trunk again.
2. The display operation is the only one permitted in this procedure.

END

PROCEDURE 45, WORD 1 – CALL PICKUP GROUPS

A. PURPOSE

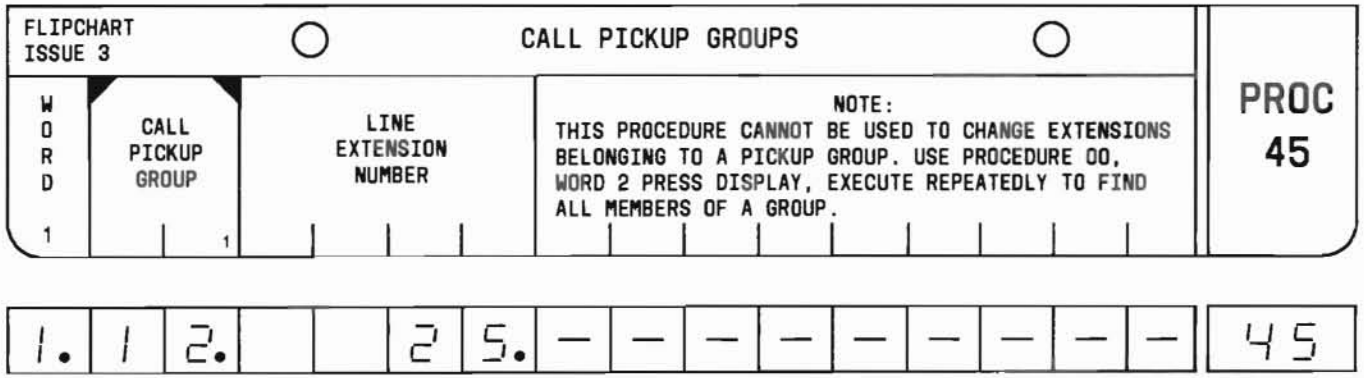
Procedure 45, Word 1 is used to search for and display the line extension numbers of the members of a call pickup group.

B. PREREQUISITE

Procedure 00, Word 2 must be used to assign line extension numbers to a call pickup group.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-31	Call pickup group number.
LINE EXTENSION NUMBER	2-, 3-, or 4-digit number	Line extension number assigned to call pickup group.

E. OPERATION (See Part F, Note 3)

Display Word 1 (See Part F, Notes 1 and 2):

PROC NO.; 45; ENTER; (Call Pickup Group); ENTER; DISPLAY; EXECUTE

F. NOTES

1. Depressing DISPLAY; EXECUTE repeatedly will display all line extensions assigned to the specified call pickup group. Depressing DISPLAY; EXECUTE after all line extensions in the call pickup group have been displayed causes the line extension number display to go blank. Depressing DISPLAY; EXECUTE one more time resumes the search by displaying the first line extension number again.
2. If the line extension number field is blank for a given call pickup group, the call pickup group is unassigned.
3. The display operation is the only one allowed in this procedure.

END

PROCEDURE 45, WORD 2 – SEARCH ON LINE CLASS OF SERVICE

A. PURPOSE

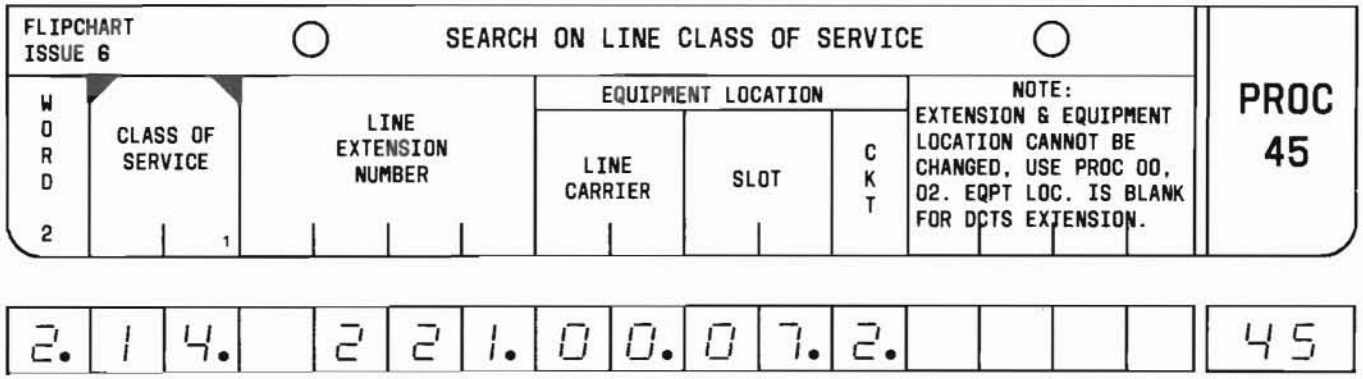
Procedure 45, Word 2 is used to search for and display the line extension numbers and equipment locations of the members assigned to a class-of-service (COS).

B. PREREQUISITE

Procedure 00, Word 1 must be used to assign COS numbers to line extensions.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-31	Line class-of-service number.
LINE EXTENSION NUMBER	2-,3-,or 4-digit number	Line extension number.
LINE CARRIER	0-6	Line carrier location number.
SLOT	2-9 11-18	Circuit pack slot number.
CKT	0-3	Line circuit number.

E. OPERATION (See Part F, Note 4)

Display Word 2 (See Part F, Notes 1, 2, and 3):

PROC NO.; 45; ENTER; WORD; 2; (Class-of-Service); ENTER; DISPLAY; EXECUTE

F. NOTES

1. Depressing DISPLAY; EXECUTE repeatedly will display all line extensions and equipment locations assigned to the specified COS. Depressing DISPLAY; EXECUTE after all line extensions and equipment locations assigned to a COS have been displayed causes these fields to go blank. Depressing DISPLAY; EXECUTE one more time resumes the search by displaying the first line extension and equipment location again.
2. If the line extension number and equipment location fields are blank for a given COS, the COS number is unassigned.
3. For Electronic Custom Telephone Service (ECTS), the equipment location fields display blanks for an ECTS line extension number.
4. The display operation is the only one permitted in this procedure.

END

A. PURPOSE

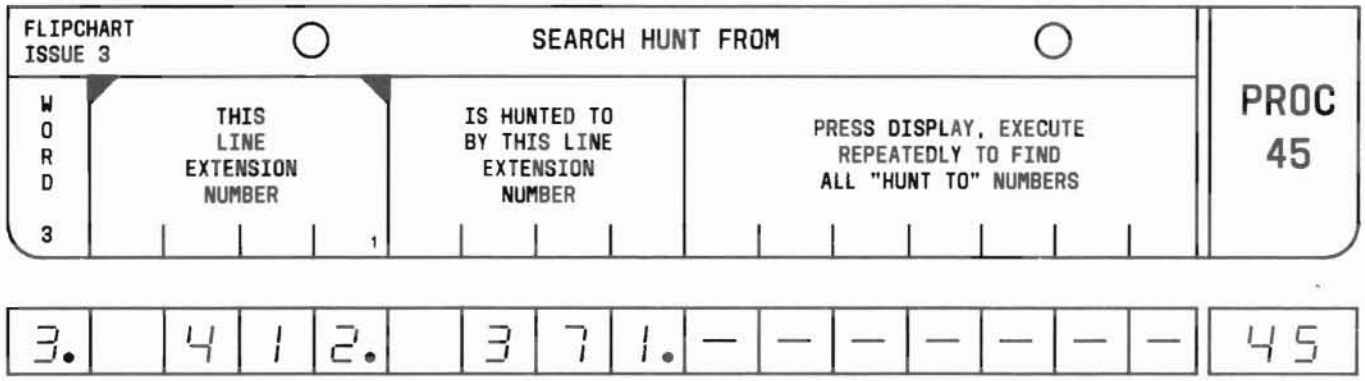
Procedure 45, Word 3 is used to search for and display the line extension numbers that hunt to a specified line extension.

B. PREREQUISITE

Procedure 00, Word 1 must be used to assign line extensions to hunt-to groups.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	2-,3-,or 4-digit number	Line extension number hunted by line extension in field 2.
HUNTING LINE EXTENSION NUMBER	2-,3-,or 4-digit number	Line extension number that hunts to extension specified in field 1.

E. OPERATION (See Part F, Note 3)

Display Word 3 (See Part F, Notes 1 and 2):

PROC NO.; 45; ENTER; WORD; 3; (This Line Extension Number); ENTER; DISPLAY; EXECUTE

F. NOTES

1. Depressing DISPLAY; EXECUTE repeatedly will display all line extensions that hunt to the specified line extension. Depressing DISPLAY; EXECUTE after all line extensions in the hunt-to group have been displayed causes the hunting line extension number display to go blank. Depressing DISPLAY; EXECUTE one more time resumes the search by displaying the first line extension number of the hunt-to group again.
2. If the hunting line extension number field is blank for the specified line extension number in field 1, no hunting is indicated.
3. The display operation is the only one permitted in this procedure.

END

A. PURPOSE

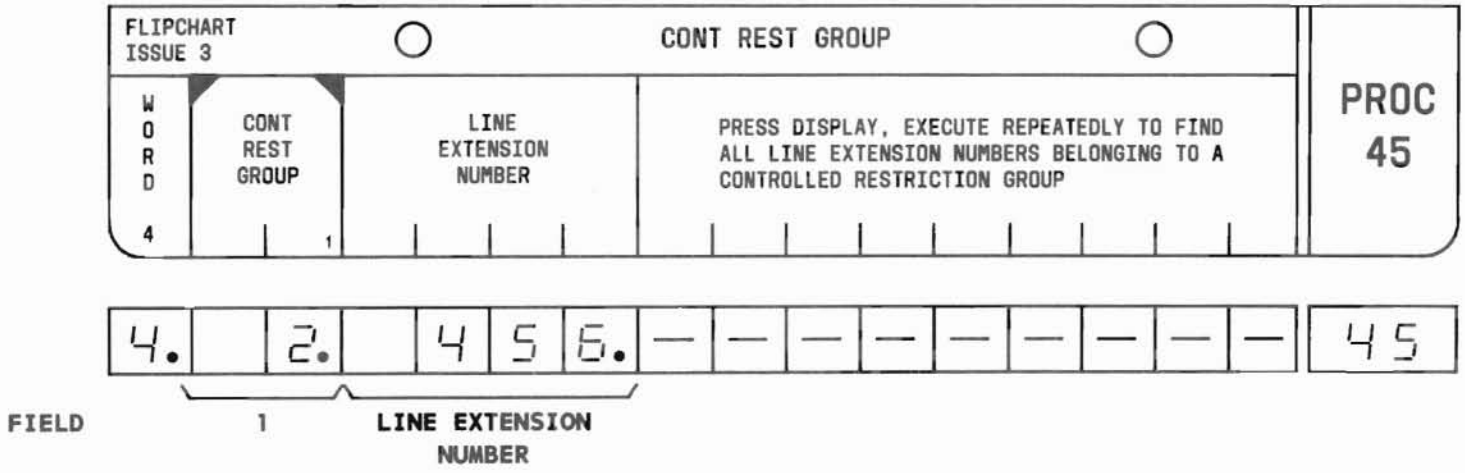
Procedure 45, Word 4 is used to search for and display the line extensions assigned to a controlled restriction group.

B. PREREQUISITE

Procedure 00, Word 2 must be used to assign line extensions to a controlled restriction group.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-63	Controlled restriction group number.
LINE EXTENSION NUMBER	2-, 3-, or 4-digit number	Extension number of line belonging to the controlled restriction group specified in field 1.

E. OPERATION (See Part F, Note 3)

Display Word 4 (See Part F, Notes 1 and 2):

PROC NO.; 45; ENTER; WORD; 4; (Controlled Restriction Group); ENTER; DISPLAY; EXECUTE

F. NOTES

1. Depressing DISPLAY; EXECUTE repeatedly will display all line extensions assigned to the specified controlled restriction group. Depressing DISPLAY; EXECUTE after all line extensions in the group have been displayed causes the line extension number field to go blank. Depressing DISPLAY; EXECUTE one more time resumes the search by displaying the first line extension number again.
2. If the line extension number field is blank for a given controlled restriction group, the group is unassigned.
3. The display operation is the only one permitted in this procedure.

END

PROCEDURE 46 – SEARCH FOR UNASSIGNED EQUIPMENT LOCATION

A. PURPOSE

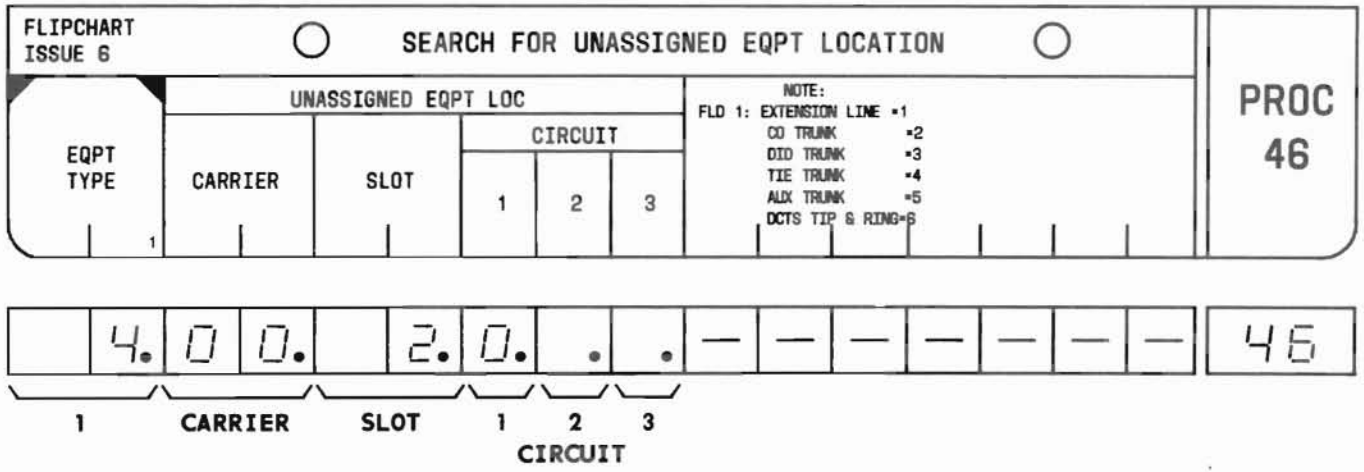
Procedure 46 is used to search for and display the location of line and trunk circuit packs which have unassigned circuits on them.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1		Equipment types:
	1	Line .
	2	PBX-CO trunk.
	3	DID trunk.
	4	Tie trunk.
	5	Aux-trunk interface.
	6	ECTS tip and ring.
CARRIER	0-3	Unassigned trunk or line carrier number.
SLOT		Unassigned slot number in carrier:
	2-9 11-18	Line.
	2-9 11-18	PBX-CO trunk.
	2-9	Tie trunk.
	2-9	Aux-trunk interface.
	2-9 11-18	ECTS tip and ring.
CIRCUIT	0-3	Unassigned circuit number. Up to three unassigned circuits for line circuits and one unassigned circuit for trunk circuits. **Equipment Type** — **Range** Line — 0-3 Trunk — 0,1

CO – Central office
ECTS – Electronic Custom Telephone Service
DID – Direct inward dialing

E. OPERATION (See Part F, Note 4)

Display unassigned equipment location (See Part F, Notes 1, 2, and 3):

PROC NO.; 46; ENTER; (Equipment Type); ENTER; DISPLAY; EXECUTE

F. NOTES

1. Depress DISPLAY; EXECUTE repeatedly to display all unassigned locations of equipment type entered. Depressing DISPLAY; EXECUTE after all equipment types have been displayed causes the unassigned equipment location display to go blank. Depressing DISPLAY; EXECUTE one more time causes the search to start again with display of the first equipment type.
2. Circuit packs to which lines and trunks have not been assigned will not be displayed in the search.
3. The second port of an LC08 circuit pack will be displayed when used for a remote access trunk, only if the second port is a spare.
4. The display operation is the only one permitted in this procedure.

END

PROCEDURE 47 – R.A.T.S. RESULT

A. PURPOSE

Procedure 47 is used:

- As an early warning test to determine if a detailed traffic study is required.
- To initiate, change, or terminate traffic studies.
- To display the results of traffic studies.

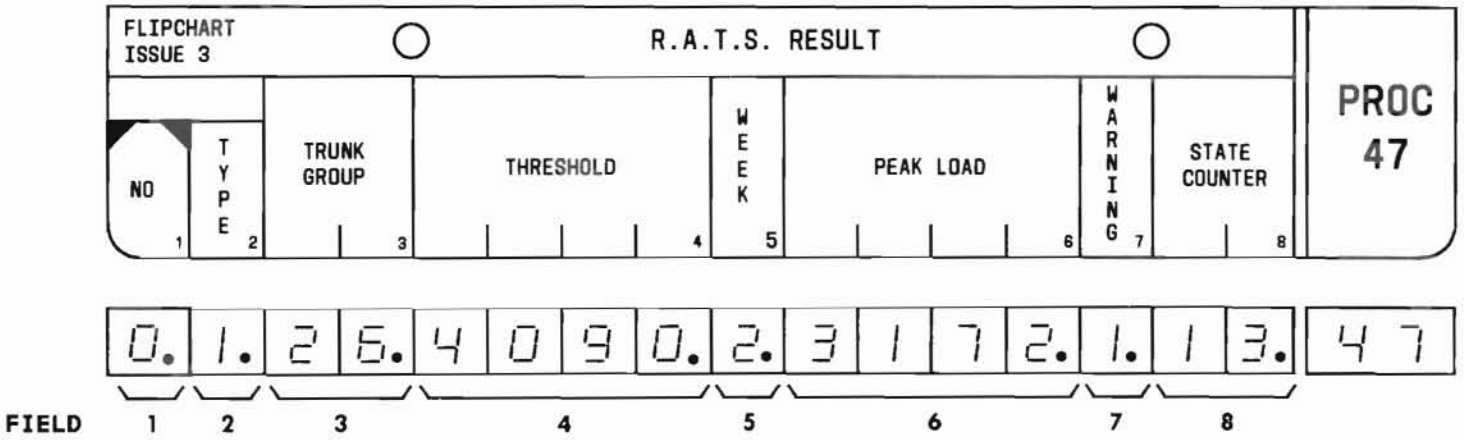
This procedure has been deleted in all feature packages with RMATS capability.

B. PREREQUISITES

- Procedure 21, Word 2 must be used to assign a remotely accessed traffic system (RATS) line extension before traffic study results can be remotely accessed. See Part F, Note 1.
- Trunk groups are assigned in Procedures 12, 13, and 10.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1		Study number:
	0-2	Assignable to study types 0-3.
	3	Assignable to study type 4 only.
2		Study type:
		Study Description / **Used with Study Number**
	0	None / 0, 1, or 2
	1	Trunk Group / 0, 1, or 2
	2	TOUCH-TONE calling receiver / 0, 1, or 2
	3	Time-slot / 0, 1, or 2
	4	Processor overload / 3
3	18-63	Trunk group number (used only with study type 1).
		Memory Size / **Range 100** / **Range 400**
		A / 18-31 / 18-31
		B / 18-31 / 18-63
		C / 18-31 / 18-63
4	0-4095	Threshold value. See Part F, Note 4.
		Study / **Value**
		1, 2 / Alarm threshold
		3 / Peg count

Field	Code	Definition
5		Week during which operation was studied:
	0	Field 6 blank. Fields 7 and 8 contain data.
	1	Field 6 contains the highest hourly values recorded during current week.
	2-7	Field 6 contains the highest hourly values for the first through the sixth week, respectively, prior to the current week.
6	0-4095	Peak hour usage for the week displayed in field 5. See Part F, Notes 3 and 4.
		Study Number / **Value**
		1, 2 / Peak hour usage load.
		3 / Processor overloads during peak hour.
7		Warning:
	0	State counter (field 8) is less than 4.
	1	State counter is 4 or more. See Part F, Note 4.
8	0-15	State counter reading. See Part F, Note 4.

E. OPERATION (See Part F, Notes 2 and 5)

Display a study:

PROC NO.; 47; ENTER; (Study No.); ENTER; DISPLAY; EXECUTE

Start or change a study (Type 1):

Display the study; CHANGE; 2; ENTER; (Study Type); ENTER; (Trunk Group No.); ENTER; (Threshold); ENTER; ADD; EXECUTE

Start or change a study (Types 2, 3, and 4):

Display the study; CHANGE; 2; ENTER; (Study Type); ENTER; CLEAR ENTRY; ENTER; (Threshold); ENTER; ADD; EXECUTE

Interrogate a study program:

Display the study; CHANGE; 5; ENTER; (Week); ENTER; DISPLAY; EXECUTE

Reset fields 6, 7, and 8 for a specific study week:

Display the study; CHANGE; 5; ENTER; (Week); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Turn off the traffic overload alarm:

Display the study; CHANGE; 7; ENTER; 0; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Disable a study:

Display the study; CHANGE; 2; ENTER; 0; ENTER; ADD; EXECUTE

F. NOTES

1. RATS may be accessed either directly by direct inward dialing (DID) or through an attendant. Access is gained using a locally designated RATS station number.
2. Three usage studies and a processor overload peg count may be conducted simultaneously. The usage studies may include any combination of trunk groups, TOUCH-TONE calling receivers, or time slots. Usage study assignments are flexible and may be changed using the MAAP. The processor overload study is fixed. It provides a peg count each time the processor fails to call the maintenance program for nine consecutive 25-millisecond cycles. The threshold values for usage and processor overload are flexible and can be changed using the MAAP.
3. RATS automatically provides a 7-week history of the highest hourly value recorded for each study. This value is the weekly peak load (WPL). At the end of each week, new data is added, displacing the oldest stored information.
4. At the end of each week of the trafic studies, the WPL (field 6) is compared with the threshold value (field 4). If the WPL is greater than or equal to the threshold, the state counter is incremented by one count. If the WPL is less, the state counter is decremented by one count (but never to a value less than zero). When the state counter is incremented to four, the traffic overload alarm is activated (field 7 = 1).
5. The REMOVE key cannot be used in this procedure.

END

A. PURPOSE

Procedure 48 is used to write a patch on the program tape.

The division of the flip chart into two lines implies that the procedure can be used for:

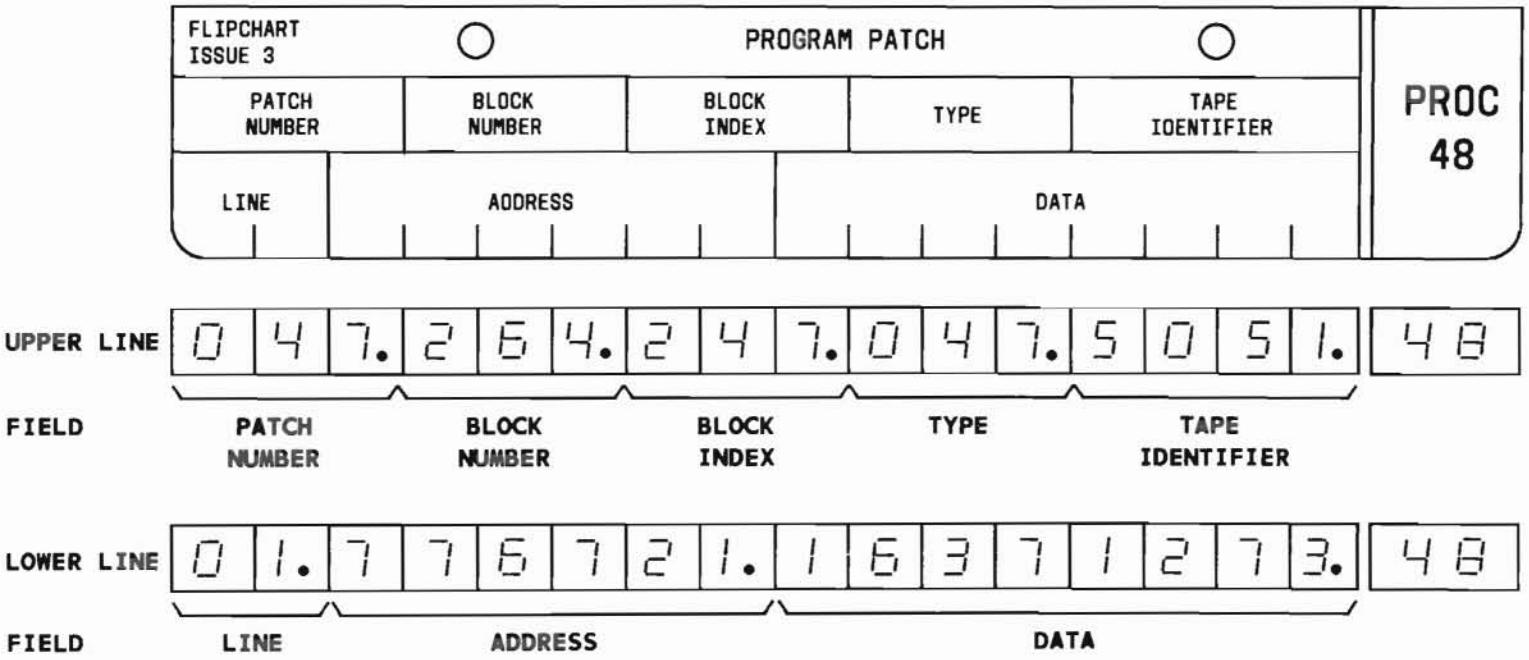
- Entering the first line of the patch (upper line).
- Entering the second and subsequent lines (lower line).

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Upper Line

Field	Code	Definition
PATCH NUMBER	3-digit number	Number supplied by Bell Laboratories for recordkeeping.
BLOCK NUMBER	3-digit number	Number of the tape patch block where the patch is to be written.
BLOCK INDEX	3-digit number	Specifies where in the block the patch data is to be written.
TYPE	3-digit number, such as: 0xx 1xx	Patch types (See Part F, Note 1): 0 = on-line 1 = off-line
TAPE IDENTI-FIER	4-digit number	The program tape identifier number uniquely defines the feature package, issue, and memory size for which the patch is intended. See Part F, Note 2.

Lower Line

Field	Code	Definition
LINE	2-digit number	Number supplied by the patch program to keep track of input lines. The number is not entered data. See Part F, Note 3.
ADDRESS	6-digit number	Address of the patched word. FEATURE PACKAGE — MAXIMUM VALUE 1,2,3,4,5,10 — 177777 15 — 777777
DATA	8-digit number	New contents of the patched word. Maximum Value – 17777777

E. OPERATION

Procedure 48 is a multiple line entry routine. The first line uses the upper line format on the flip chart. Second and subsequent lines are input using the lower line format. In the display, field delimiting periods can be used to differentiate between formats. See Part F, Notes 4, 9, 10, 11, 13, and 15.

Enter first line:

PROC NO.; 48; ENTER; (Patch No.); ENTER; (Block No.); ENTER; (Block Index); ENTER; (Type); ENTER; (Tape Identifier); ENTER; Wait for WAIT lamp to turn off; If ERROR lamp lights, depress RESET and reenter first line; If ERROR lamp does not light, the LINE field now displays 01; Enter second line

Enter second or subsequent lines:

(Address corresponding to number displayed in Line field); ENTER; (Data); ENTER; If ERROR lamp lights, depress RESET and reenter line (See Part F, Note 14); If ERROR lamp does not light, the Line field increments by 1; Repeat this operation for each line number displayed; When all lines are entered, depress EXECUTE (See Part F,Note 5); if ERROR lamp does not light, press RUN TAPE and allow 4 minutes for the WAIT lamp to turn off (See Part F, Note 6); if ERROR lamp lights and error code is displayed in Line field (See Part F, Notes 7 and 12) while tape is running, depress RESET; RUN TAPE; EXECUTE

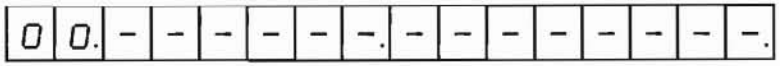
Write patch on backup tapes:

Exchange on-line and backup tape cartridges (See Part F, Note 8); Depress RUN TAPE and allow 4 minutes for WAIT lamp to turn off; If ERROR lamp lights and error code is displayed in Line field (See Part F, Notes 7 and 12) while tape is running, depress RESET; RUN TAPE; EXECUTE

F. NOTES

1. The two least significant digits of the type code (Type field) are a check code associated with the second and subsequent input lines.
2. The tape identifier is used to guard against any attempt to write an incompatible patch on the tape.
3. The line number (Line field) is generated internally by the patch program.
4. The following control keys may be used during patch program input:
   (a) CLEAR ENTRY - erases the field currently being entered.
   (b) STEP - increments the address field.
5. EXECUTE causes the program to process the input lines looking for errors. If the patch type is declared on-line, the patch is written into memory.

   The patch program turns on the WAIT lamp while bringing in another page to control the tape operations. The display changes to the following:



6. In Feature Packages 1, 2, 3, 4, 5, and 10, the MINOR alarm and TAPE alarm extinguishes only after the RUN TAPE operation is performed two times. For Feature Package 15, the alarms retire after only one RUN TAPE has been performed.
7. If a failure occurs while running the tape, the number in the Line field indicates the operation that failed:

Line Field	Attempted Operation
00	Verify that previous patch blocks are active - copy 0 (includes read, write, compare)
01	Write the patch block in copy 0
02	Read the bit-map in copy 0
03	Write the bit-map in copy 0
04	Verify that previous patch blocks are active - copy 1
05	Read header information for patch block in copy 1
06	Write patch block in copy 1
07	Read the bit-map in copy 1
08	Write the bit-map in copy 1
09	Read the patch block in copy 0

   When the above errors occur, depress RESET; RUN TAPE; EXECUTE and try the sequence again.
8. Write the patch on all applicable tape cartridges.

F. **NOTES** (Contd)

9. All information needed to input a patch will be supplied to the telephone company in a format similar to that shown below:

●●● PATCH 047 A ●●●

PT-1EC05-01-047 ('A' MEMORY CONFIGURATION) ISSUE L5

PAT NUM	PAGE	ADDR	DATA	REL BLK	OFF SET	PATCH NUMBER	BLOCK NUMBER	BLOCK INDEX	TYPE	TAPE IDENT.
						047	264	247	047	5051
						Check 952	735	752	952	4948
						Line	Address	Data		
						01	776721	66371273		
						Check	223278	33628726		
47	0	006F8	BE00	0	169	02	003370	13700022		
						Check	996629	86299977		
		006F9	D610		170	03	003371	15303551	•	
						Check	996628	84676448		
		006FA	D600		171	04	003372	15331576	•	
						Check	996628	84668423		
47	0	00CA3	BE00	0	174	05	006243	13700047		
						Check	993756	06299952		
		00CA4	D600		175	06	006244	15301510	•	
						Check	993755	84698489		
		00CC0	DC00		183	12	006315	00600004	•	
						Check	993684	99399995		

10. The number in the Patch Number field is the same as the patch number displayed in field 1 of Procedure 49. Procedure 49 can be used to determine if the patch was successfully written on the program tape.

11. If the address on a patch line is one more than the address of the previous line, STEP may be depressed to input the new address into the address field. Sequential addresses are indicated on the patch form by an asterisk (*) in the right hand column.

12. Doing a run tape operation causes the patch to be written from a temporary buffer to the appropriate blocks on the tape.

13. When entering patches, do not unplug the MAAP, or call up any other procedure before the patch is entered on all tapes. Otherwise, Procedure 48 would have to be repeated for the remaining tapes.

14. Depressing RESET and reentering the line will not clear the error in Feature Package 15, when the following pairs of addresses are entered consecutively; 177777-200000, 377777-400000, 577777-600000. Data of this type should never be provided.

15. Display, add, remove, and change operations cannot be used with this procedure.

END

PROCEDURE 49 — PATCH DISPLAY

A. PURPOSE

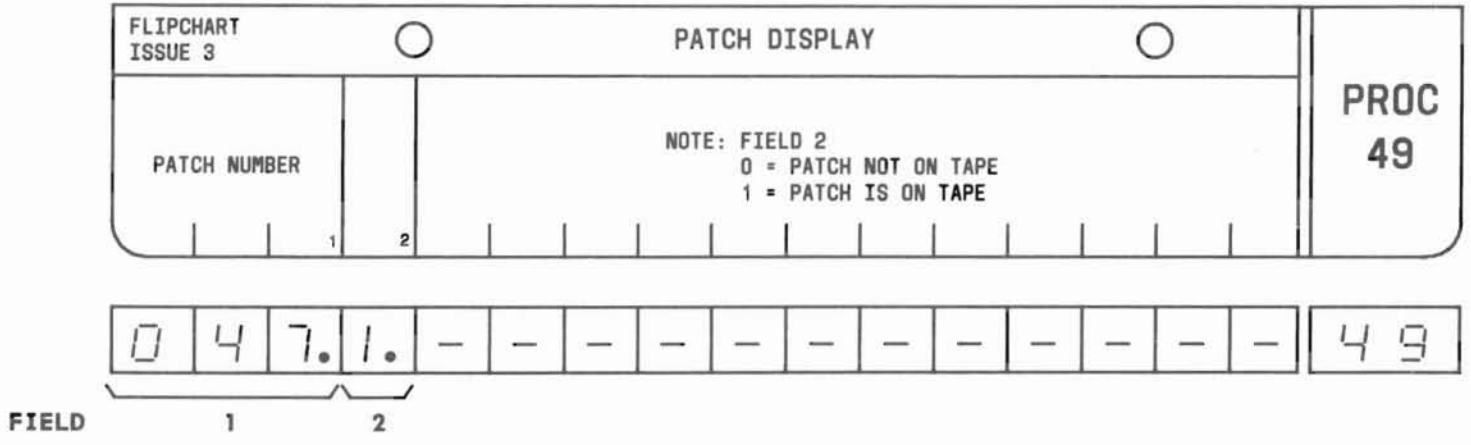
Procedure 49 is used to determine if a program patch number, entered using Procedure 48, is written on the program tape. This is a display-only procedure.

B. PREREQUISITE

The patch number must have been administered using Procedure 48.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	3-digit number	Patch number. See Part F, Note 1.
2		Presence of patch on tape:
	0	Patch is not on tape.
	1	Patch is on tape.

E. OPERATION (See Part F, Note 2)

Display patch display:

PROC NO.; 49; ENTER; (Patch No.); ENTER

To advance the patch number and display whether next patch number is written on the program tape:

Display patch display; STEP

F. NOTES

1. The patch number is contained in the source material supplied to the telephone company. (See Procedure 48 notes.)
2. The run tape operation cannot be executed while this procedure is loaded in the paging buffer.

PROCEDURE 83, WORD 1 — TRAFFIC MEASUREMENT-NUMBER OF MEASUREMENT VALUES

A. PURPOSE

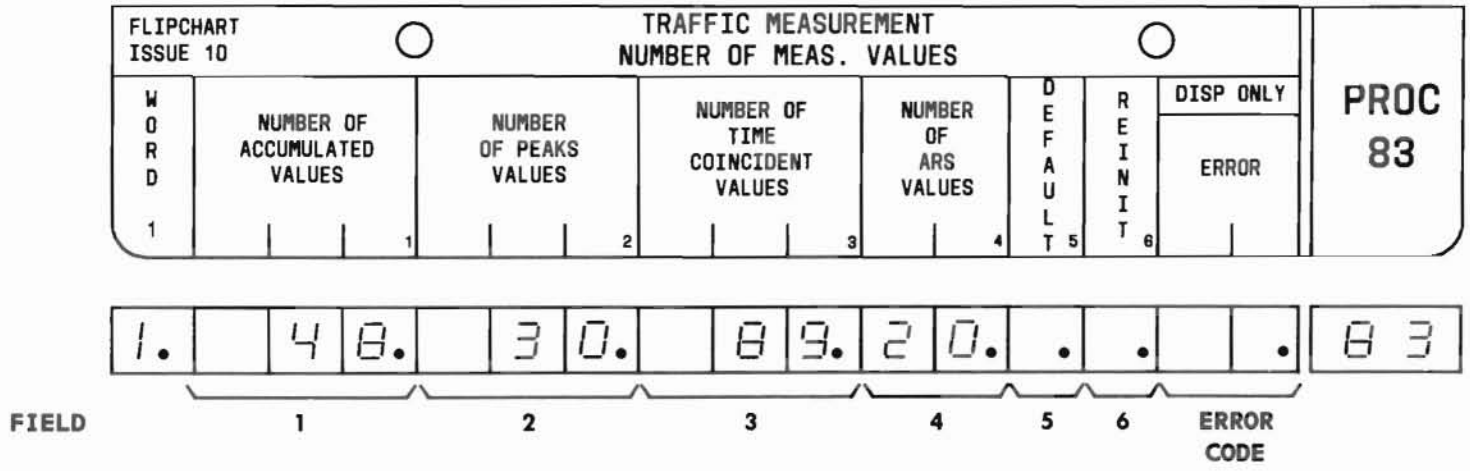
Procedure 83, Word 1 reserves space in the buffer storage memory for contents of the four types of traffic value registers, resets registers to zero, or sets traffic measurements to the default mode.

B. PREREQUISITE

Peak register items must be assigned before time coincident items are assigned.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1-4	Blank	Traffic measurements set to the default mode.
1	0-60	Number of buffer storage spaces reserved for accumulated values. See Part F, Note 4.
2	0-50	Number of buffer storage spaces reserved for peak values. See Part F, Notes 1 and 6.
3	0-100	Number of buffer storage spaces reserved for time coincident values. See Part F, Notes 1 and 7.
4	0-60	Number of buffer storage spaces reserved for ARS values. See Part F, Note 2.
5	Blank	Default mode inhibited.
	1	Default mode enabled. See Part F, Note 3.
6	Blank	No reinitializatin performed.
	1	When new studies initiated, the output buffer is cleared so accumulation of traffic data begins with all values zero.
	2	All peak and time coincident value relationships are removed to facilitate changes in the items to be studied.

Field	Code	Definition
ERROR	Blank	No error condition exists.
	1-6	Limits of the identified field have been exceeded.
	7	Total of numbers in fields 1-4 exceeds 248.
	8	Incorrect combination of entrie in fields 1-6.

E. OPERATION

Display Word 1:

PROC NO.; 83; ENTER; DISPLAY; EXECUTE

Set new measurement values (See Part F, Note 5):

Display Word 1; (Number Of Accumulated Values); ENTER; (Number Of Peak Values); ENTER; (Number Of Time Coincident Values); ENTER; (Number Of ARS Values); ENTER; CLEAR ENTRY; ENTER; CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Set default mode:

Display Word 1; Depress CLEAR ENTRY and ENTER four times; 1; ENTER; CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Reinitialize:

Display Word 1; Depress CLEAR ENTRY and ENTER five times; 1 or 2; ENTER; ADD; EXECUTE

Change measurement value (See Part F, Note 5):

Display Word 1; CHANGE; (Field No.); ENTER; (New value); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. To change specific peak and time coincident assignments, use Procedure 84, Words 1 and 2.
2. The number of ARS values must be equal to 10 times the number of ARS patterns to be studied. The maximum number of ARS values is 10 per ARS pattern for up to 6 patterns, equaling 60 values.
3. When a 1 is set in field 5, use of the set default mode operation causes the peak and time coincident register relationships to be set to predefined values.
4. If the number of accumulated values specified is less than the number of defined accumulated traffic items (57 currently defined), then only those defined items within the range specified may be studied (ie, if field 1 = 40, only items 1-40 may be studied).
5. Because of output buffer size limitations, all possible traffic studies cannot be stored simultaneously. Choices of studies must be made to limit the number values to 248 or less.
6. The number of peak values must be greater than or equal to the peak register value in Procedure 84, Word 1, field 1.
7. The number of time coincident values must be greater than or equal to the time coincident register value in Procedure 84, Word 2, field 4.

PROCEDURE 83, WORD 2 — TRAFFIC MEASUREMENT - TRUNK GROUP COMBINATIONS

A. PURPOSE

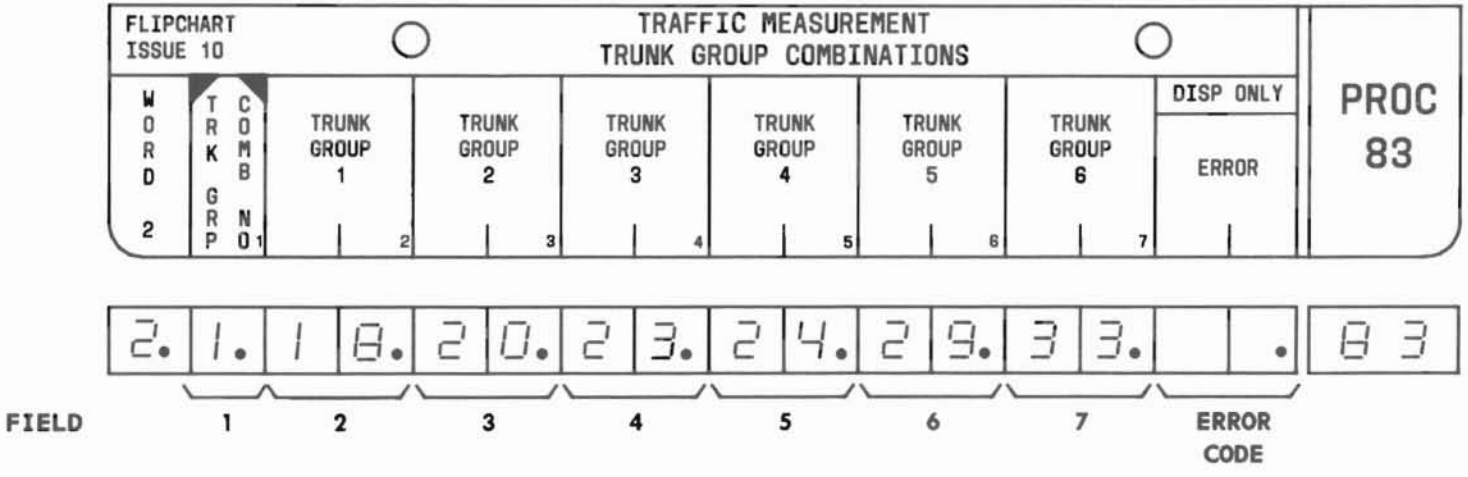
Procedure 83, Word 2 is used to add, change, remove, and display trunk group combinations.

B. PREREQUISITE

Trunk group numbers are assigned in Procedures 13 and 10.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-3	Trunk group combination number. See Part F, Note 1.
2-7	18-63	Trunk group number for 1-way, direct inward dialing (DID), 2-way and remote access trunk groups only. See Part F, Notes 2 and 3.
ERROR	Blank	No error condition exists.
	1	Number in field 1 is other than 1, 2, or 3.
	2-7	Invalid trunk group number in the specified field or trunk group not administered in the system.
	8	Less then 2 trunk group numbers were entered or the trunk group numbers were not entered into adjacent fields.

	Range	
Memory Size	100	400
A	–	18-31
B	–	18-63
C	18-31	18-63

E. OPERATION

Display trunk group combination:

PROC NO.; 83; ENTER; WORD; 2; (Trunk Group Combination Number); ENTER; DISPLAY; EXECUTE

Add or change trunk group combination:

Display Word 2; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove trunk group combination:

Display Word 2; REMOVE; EXECUTE

F. NOTES

1. A trunk group combination causes traffic peg counts and usage quantities for each member trunk group to be added to the respective values of all other combination members to form total values for the combination.
2. The same trunk group may be a member of more than one trunk group combination.
3. No special service trunk group numbers are allowed in fields 2 through 7.

END

A. PURPOSE

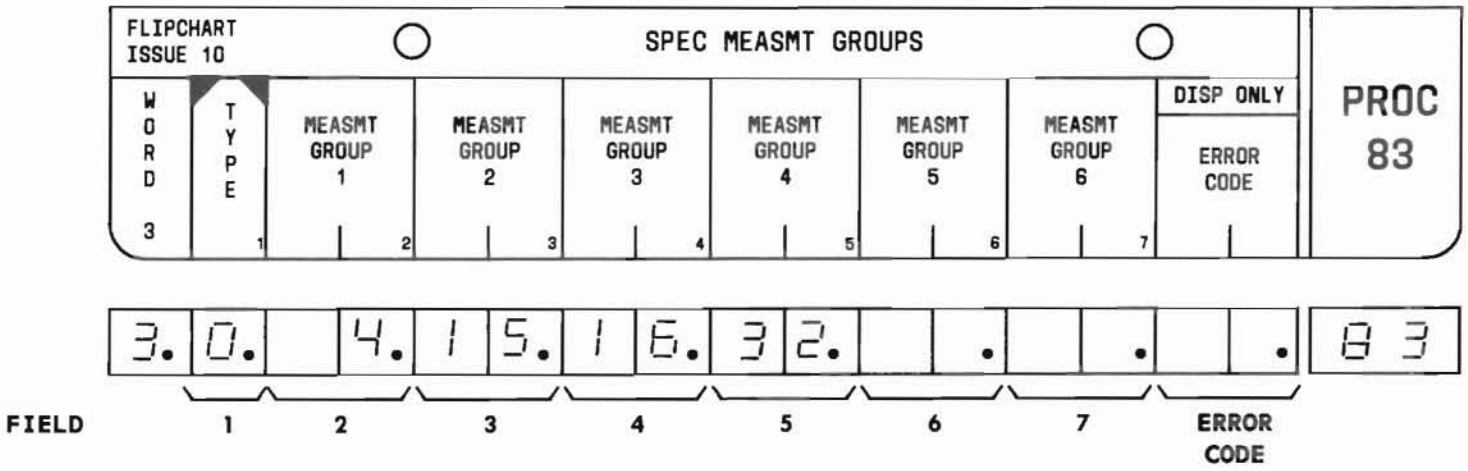
Procedure 83, Word 3 is used to add, change, remove, and display automatic route selection (ARS) pattern numbers or outgoing trunk queueing (OTQ) group numbers that are to be studied by the traffic measurement program.

B. PREREQUISITES

- ARS patterns are constructed and assigned using Procedure 24.
- OTQ numbers are assigned using Procedure 11.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0	ARS pattern numbers will be enterd in fields 2-7.
	1	OTQ group numbers will be entered in fields 2-7.
2-7	Blank	Measurement group(s) not assigned in designated field.
	1-32	ARS pattern number(s) being studied if field 1 encoded 0. See Part F, Note 1.
	1-12	OTQ group number(s) being studied if field 1 encoded 1. See Part F, Note 2.
ERROR	Blank or dashes	No error condition exists.
	1	Invalid entry in field 1.
	2-7	Invalid entry in the designated field or ARS/OTQ numbers have not been administered in this system.
	8	Entries don't start in field 2 or they are not entered in adjacent fields.

E. OPERATION

Display special measurement groups (See Part F, Note 3):

PROC NO.; 83; ENTER; WORD; 3; (Type encode); ENTER; DISPLAY; EXECUTE

Add or change special measurement groups (See Part F, Note 4):

Display special measurement groups; CHANGE; 2; ENTER; (First ARS Pattern or OTQ No.); ENTER; (Repeat this process for all ARS Pattern or OTQ Nos.); ADD; EXECUTE; DISPLAY; EXECUTE

Remove special measurement groups:

Display special measurement groups; CHANGE; 2; ENTER; Depress CLEAR ENTRY and ENTER for fields 2 through 7 which contain data; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. When ARS pattern numbers are assigned to special measurement groups, traffic measurements are made and the results stored directly in the ARS value section of the traffic output buffer. Each ARS pattern requires ten spaces in the buffer for traffic values.
2. When OTQ group numbers are assigned to special measurement groups, traffic measurements are made and accumulated in hourly sample periods and stored in temporary registers. The measurements made for each specified queue group include the number of:
   - Queue entries.
   - Busy on queue callback.
   - Don't answer on queue callback.

   These traffic measurement items may be identified as peak and/or time coincident values by specifying type 4, item 1-18 in Procedure 84, Words 1 and 2.
3. The contents of the traffic measurement registers can only be read on a remote maintenance, adiminstration, and traffic system (RMATS) or external polling device. The actual measurement data is not displayed by this procedure.
4. ARS pattern numbers or OTQ numbers must be entered in adjacent fields starting with field 2. Leave no gaps between measurement group fields.

END

A. PURPOSE

Procedure 83, Word 4 is used to:

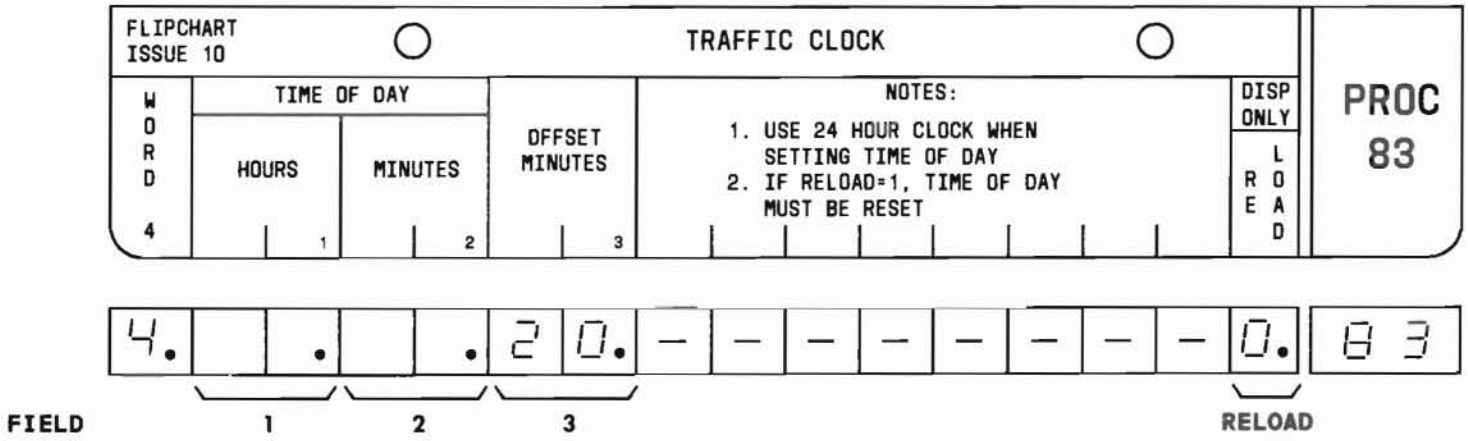
- Set the 24-hour clock (time of day).
- Set and display the offset minutes.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-23	Hour of the day.
2	0-59	Minutes past the hour.
3	0-59	Number of minutes of offset from the hour at which hourly measurements are initiated.
RELOAD	0	Clock function normal.
	1	Time of day must be reset.

E. OPERATION

Display traffic clock (See Part F, Note 1):

PROC NO.; 83; ENTER; WORD; 4; DISPLAY; EXECUTE

Set traffic clock (See Part F, Note 2):

Display traffic clock; (Current hour); ENTER; (Current minute); ENTER; (Offset Minutes) or CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. For all Feature Packages (FP) execpt FP15, only the offset minutes and reload status indicator can be displayed. Fields 1 and 2 will be blank.
2. For all Feature Packages except FP15, when the time of day is set, the sequence DISPLAY; EXECUTE following the ADD will cause fields 1 and 2 to go blank.

END

PROCEDURE 83, WORD 5 — TRAFFIC MEASUREMENT - SPECIAL PARAMETERS

A. PURPOSE

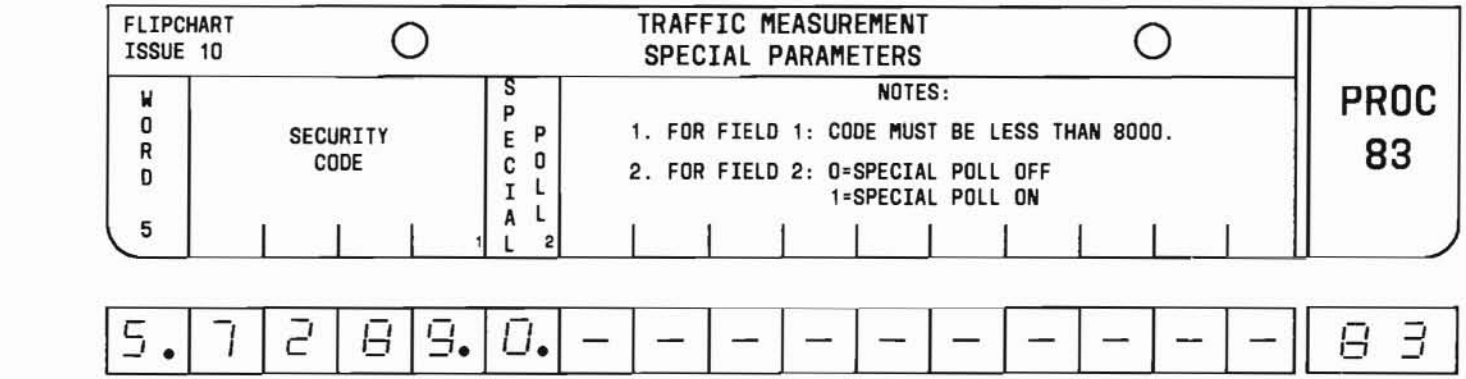
Procedure 83, Word 5 is used to add, change, and display the security code and special polling status.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-7999	Security code. See Part F, Note 1.
2 (See Part F, Note 2)	0	Special polling capability is inhibited.
	1	Special polling capability is enabled.

E. OPERATION (See Part F, Note 3)

Display special parameters:

PROC NO.; 83; ENTER; WORD; 5; DISPLAY; EXECUTE

Add or change a field:

Display special parameters; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The security code is necessary for communication between the remote maintenance, administration, and traffic system (RMATS) and the DIMENSION 100/400 PBX. This precludes unauthorized access to the DIMENSION 100/400 PBX traffic measurement data.
2. The special poll capability enables the use of a commercial poller and a raw data dump when RMATS-1 is not interfacing with the DIMENSION 100/400 PBX.
3. The REMOVE key cannot be used in this procedure.

END

PROCEDURE 84, WORD 1 — TRAFFIC MEASUREMENT - PEAK VALUES

A. PURPOSE

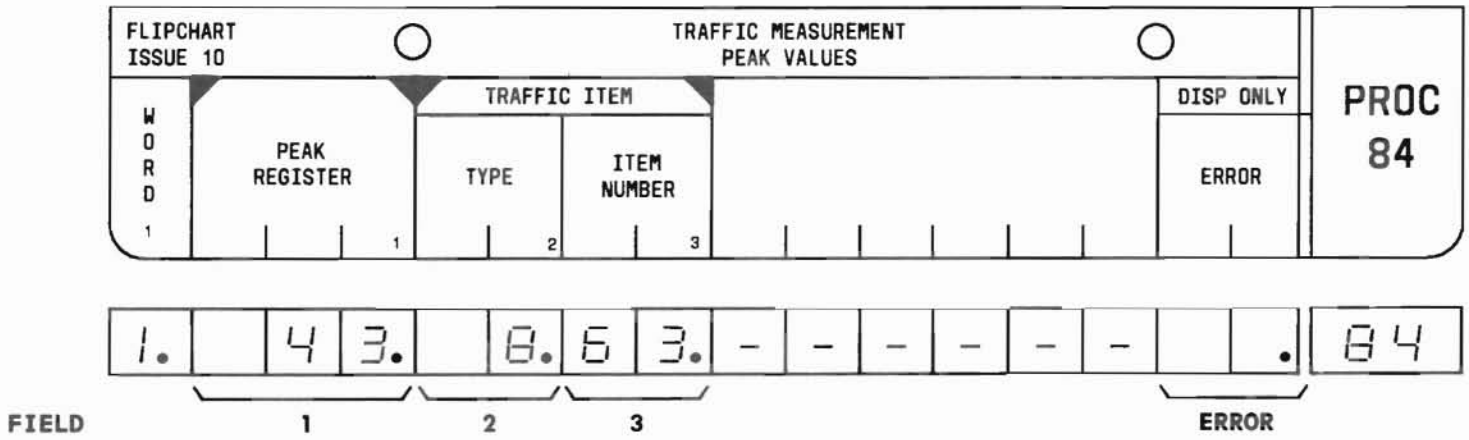
Procedure 84, Word 1 is used to add, remove, and display peak registers and related traffic items.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-50	Peak register number. See Part F, Notes 1 and 3.
2	1-8	Traffic measurement item type. See Part F, Note 4.
3	1-63	Traffic measurement item number. See Part F, Note 4.
ERROR	Blank	No error condition exists.
	1	Invalid peak register number in field 1.
	2	Invalid traffic item type in field 2.
	3	Invalid traffic item number in field 3.
	4	Peak register already associated with a traffic item.
	5	Traffic item already associated with a peak register.
	6	Peak register has time coincident relationship(s) which must be removed.

E. OPERATION

Display traffic item (See Part F, Note 2):

PROC NO.; 84; ENTER; (Peak Register Number); ENTER; DISPLAY; EXECUTE

Display peak register (See Part F, Note 2):

PROC NO.; 84; ENTER; CLEAR ENTRY; ENTER; (Type); ENTER; (Item Number); ENTER; DISPLAY; EXECUTE

Add peak value measurement:

Display traffic item; CHANGE; 2; ENTER; (Type); ENTER; (Item Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove peak value measurement:

Display traffic item; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. The number in field 1 must not exceed the value set in Procedure 83, Word 1, field 2.
2. To display other members of the peak register or traffic item list, use the sequence DISPLAY; EXECUTE repeatedly after displaying the first list member.
3. The peak register stores the highest value of the traffic type and number designated in fields 2 and 3.
4. Encodes for fields 2 and 3 are summarized in Table 84-1.

Table 84-1
Peak and Time Coincident Traffic Type and Item Number Definitions

Type	Item	Designation	
1 Trunk Grp Combinations	1	Trk Grp Combination 1 Total	CCS
	2	Trk Grp Combination 1 Incoming	CCS
	3	Trk Grp Combination 1 Outgoing	CCS
	4	Trk Grp Combination 2 Total	CCS
	5	Trk Grp Combination 2 Incoming	CCS
	6	Trk Grp Combination 2 Outgoing	CCS
	7	Trk Grp Combination 3 Total	CCS
	8	Trk Grp Combination 3 Incoming	CCS
	9	Trk Grp Combination 3 Outgoing	CCS
2 Attendant Features	1	Group Worked (Time slot)	CCS
	2	Group Manned (Headset)	CCS
	3	Group Worked (Loop)	PEG
	4	Console 1 Worked (Time slot)	CCS
	5	Console 2 Worked (Time slot)	CCS
	6	Console 3 Worked (Time slot)	CCS
	7	Console 4 Worked (Time slot)	CCS
	8	Console 1 Worked (Loop)	PEG
	9	Console 2 Worked (Loop)	PEG
	10	Console 3 Worked (Loop)	PEG
	11	Console 4 Worked (Loop)	PEG
	12	Incoming Call Queue	CCS
	13	Incoming Call Queue	PEG
	14	Incoming Call Queue, Atnd Abandon	PEG
	15	LDN Calls Answered	
	16	Non-LDN Calls Answered	
	17	Attendant Recall	
	18	Attendant Orig (Start Key)	PEG
3 Network & Processor	1	Time Slot	CCS
	2	Tandem Traffic	CCS
	3	Time Slot	PEG
	4	Occupancy (% CP and Scanning)	
	5	Overflow (NO BLMM)	PEG
	6	Stimulus (Call Processing)	PEG
	7	ECTS Controllers – Total	PEG
	10	Hour of day	PEG

Type	Item	Designation		
				Que
4 Queue Measure OTQ	1	Queue	PEG	1st
	2	Queue	PEG	2nd
	3	Queue	PEG	3rd
	4	Queue	PEG	4th
	5	Queue	PEG	5th
	6	Queue	PEG	6th
	7	Don't Answer Call Back	PEG	1st
	8	Don't Answer Call Back	PEG	2nd
	9	Don't Answer Call Back	PEG	3rd
	10	Don't Answer Call Back	PEG	4th
	11	Don't Answer Call Back	PEG	5th
	12	Don't Answer Call Back	PEG	6th
	13	Busy Call Back	PEG	1st
	14	Busy Call Back	PEG	2nd
	15	Busy Call Back	PEG	3rd
	16	Busy Call Back	PEG	4th
	17	Busy Call Back	PEG	5th
	18	Busy Call Back	PEG	6th
5 Trunk Grp	(TG NO.)	Trunk Groups 8-63		CCS
6 Trunk Grp	(TG NO.)	Trunk Groups 15-63		PEG
7 Trunk Grp	(TG NO.)	Trunk Groups 18-63		Over Flow or UCD/DDC queue abandon
8 Trunk Grp	(TG NO.)	Trunk Groups 18-63		INC CCS

END

PROCEDURE 84, WORD 2 — TRAFFIC MEASUREMENT - TIME COINCIDENCE PROC 84, WD 2

A. PURPOSE

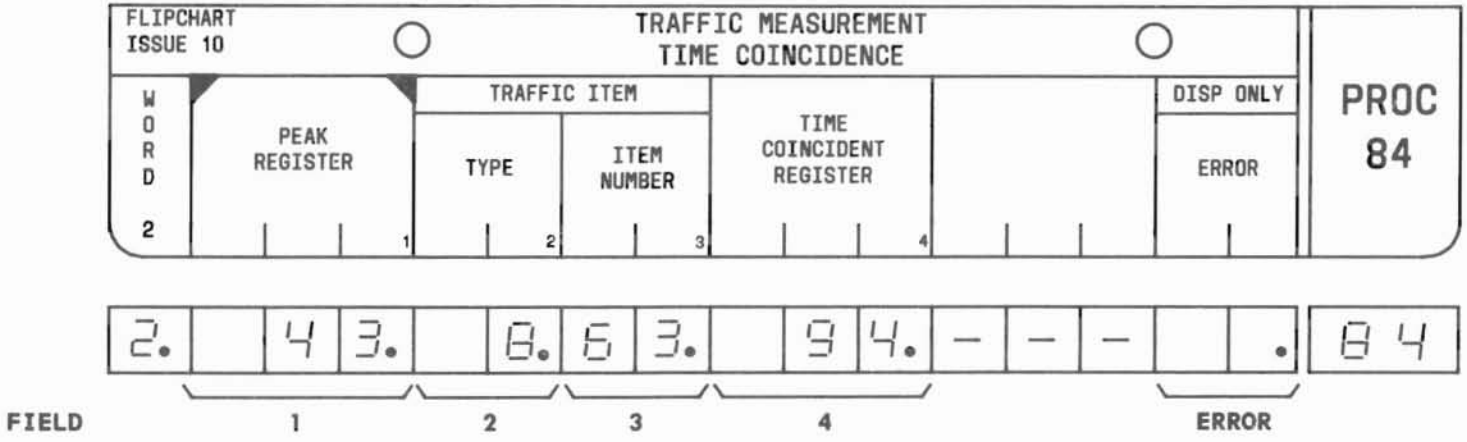
Procedure 84, Word 2 is used to add, remove, and display time coincident traffic measurement relationships.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-50	Peak register number. See Part F, Note 4.
2	1-8	Traffic measurement item type. See Part F, Note 3.
3	1-63	Traffic measurement item number. See Part F, Note 3.
4	1-100	Time coincident register number. See Part F, Note 5.
ERROR	Blank	No error condition exists.
	1	Invalid peak register number in field 1.
	2	Invalid traffic item type in field 2.
	3	Invalid traffic item number in field 3.
	4	Invalid time coincident register number in field 4.
	5	Peak register does not have an associated traffic item.
	6	Time coincident register is already in use.
	7	Peak register does not have any time coincident relationships.
	8	Peak register does not have time coincident relationship to traffic item in fields 2 and 3.

E. OPERATION

Display time coincident register (See Part F, Note 1):

PROC NO.; 84; ENTER; WORD; 2; (Peak Register Number); ENTER; DISPLAY; EXECUTE

Add time coincident register (See Part F, Note 2):

PROC NO.; 84; ENTER; WORD; 2; (Peak Register Number); ENTER; (Type); ENTER; (Item Number); ENTER; (Time Coincident Register Number); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove time coincidence register:

Display time coincidence register; repeatedly depress the DISPLAY and EXECUTE keys until correct time coincidence relationship is displayed; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Use the DISPLAY; EXECUTE sequence repeatedly to cycle through all traffic item/time coincidence register pairs.
2. To relate additional time coincident registers to peak registers, use CHANGE; 2; ENTER sequence and enter new data into fields 2 through 4.
3. The encodes for fields 2 and 3 are summarized in Table 84-2.
4. The number in field 1 must not exceed the value set in Procedure 83, Word 1, field 2.
5. The number in field 4 must not exceed the value set in Procedure 83, Word 1, field 3.

Table 84-2
Peak and Time Coincident Traffic Type and Item Number Definitions

Type	Item	Designation	
1 Trunk Grp Combinations	1	Trk Grp Combination 1 Total	CCS
	2	Trk Grp Combination 1 Incoming	CCS
	3	Trk Grp Combination 1 Outgoing	CCS
	4	Trk Grp Combination 2 Total	CCS
	5	Trk Grp Combination 2 Incoming	CCS
	6	Trk Grp Combination 2 Outgoing	CCS
	7	Trk Grp Combination 3 Total	CCS
	8	Trk Grp Combination 3 Incoming	CCS
	9	Trk Grp Combination 3 Outgoing	CCS
2 Attendant Features	1	Group Worked (Time slot)	CCS
	2	Group Manned (Headset)	CCS
	3	Group Worked (Loop)	PEG
	4	Console 1 Worked (Time slot)	CCS
	5	Console 2 Worked (Time slot)	CCS
	6	Console 3 Worked (Time slot)	CCS
	7	Console 4 Worked (Time slot)	CCS
	8	Console 1 Worked (Loop)	PEG
	9	Console 2 Worked (Loop)	PEG
	10	Console 3 Worked (Loop)	PEG
	11	Console 4 Worked (Loop)	PEG
	12	Incoming Call Queue	CCS
	13	Incoming Call Queue	PEG
	14	Incoming Call Queue, Atnd Abandon	PEG
	15	LDN Calls Answered	
	16	Non-LDN Calls Answered	
	17	Attendant Recall	
	18	Attendant Orig (Start Key)	PEG
3 Network & Processor	1	Time Slot	CCS
	2	Tandem Traffic	CCS
	3	Time Slot	PEG
	4	Occupancy (% CP and Scanning)	
	5	Overflow (NO BLMM)	PEG
	6	Stimulus (Call Processing)	PEG
	7	ECTS Controllers – Total	PEG
	10	Hour of day	PEG

Type	Item	Designation		
				Que
4 Queue Measure OTQ	1	Queue	PEG	1st
	2	Queue	PEG	2nd
	3	Queue	PEG	3rd
	4	Queue	PEG	4th
	5	Queue	PEG	5th
	6	Queue	PEG	6th
	7	Don't Answer Call Back	PEG	1st
	8	Don't Answer Call Back	PEG	2nd
	9	Don't Answer Call Back	PEG	3rd
	10	Don't Answer Call Back	PEG	4th
	11	Don't Answer Call Back	PEG	5th
	12	Don't Answer Call Back	PEG	6th
	13	Busy Call Back	PEG	1st
	14	Busy Call Back	PEG	2nd
	15	Busy Call Back	PEG	3rd
	16	Busy Call Back	PEG	4th
	17	Busy Call Back	PEG	5th
	18	Busy Call Back	PEG	6th
5 Trunk Grp	(TG NO.)	Trunk Groups 8-63		CCS
6 Trunk Grp	(TG NO.)	Trunk Groups 15-63		PEG
7 Trunk Grp	(TG NO.)	Trunk Groups 18-63		Over Flow or UCD/DDC queue abandon
8 Trunk Grp	(TG NO.)	Trunk Groups 18-63		INC CCS

END

PROCEDURE 84, WORD 3 – TRAFFIC MEASUREMENT-SEARCH TIME COINCIDENCE

A. PURPOSE

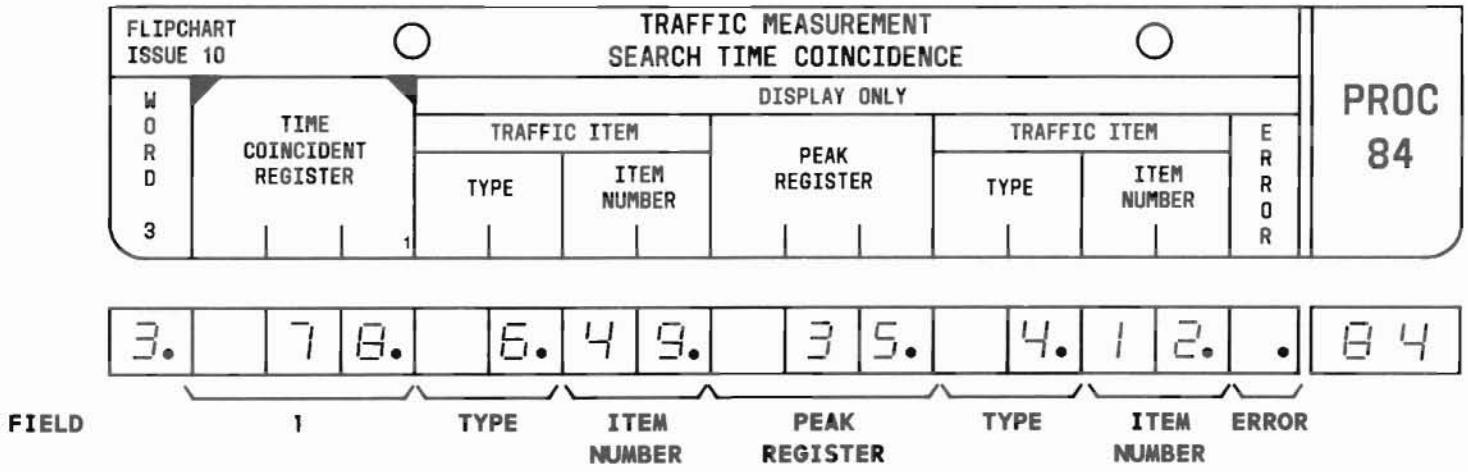
Procedure 84, Word 3 is used to display time coincidence register assignments.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-100	Time coincidence register number.
TYPE	1-8	Traffic measurement item type. See Part F, Notes 2 and 3.
ITEM NUMBER	1-63	Traffic measurement item number. See Part F, Notes 2 and 3.
PEAK REGISTER	1-50	Peak register number.
TYPE	1-8	Traffic measurement item type. See Part F, Note 3.
ITEM NUMBER	1-63	Traffic measurement item number. See Part F, Note 3.
ERROR	Blank	No error condition exists.
	1	Time coincident register number in field 1 is invalid.

E. OPERATION (See Part F, Note 4)

Search time coincident register assignments (See Part F, Note 1):

PROC NO.; 84; ENTER; WORD; 3; DISPLAY; EXECUTE

Display a specific time coincident register (See Part F, Note 1):

PROC NO.; 84; ENTER; WORD; 3; (Time Coincident Register Number); ENTER; DISPLAY; EXECUTE

F. NOTES

1. Use the DISPLAY; EXECUTE sequence repeatedly to display other registers and associated traffic items.
2. The time coincident traffic item is saved in the time coincident register when the related peak register traffic item reaches a new peak.
3. Traffic item types and item numbers are summarized in Table 84-3.
4. The display operation is the only one permitted in this procedure.

Table 84-3
Peak and Time Coincident Traffic Type and Item Number Definitions

Type	Item	Designation	
1 Trunk Grp Combinations	1	Trk Grp Combination 1 Total	CCS
	2	Trk Grp Combination 1 Incoming	CCS
	3	Trk Grp Combination 1 Outgoing	CCS
	4	Trk Grp Combination 2 Total	CCS
	5	Trk Grp Combination 2 Incoming	CCS
	6	Trk Grp Combination 2 Outgoing	CCS
	7	Trk Grp Combination 3 Total	CCS
	8	Trk Grp Combination 3 Incoming	CCS
	9	Trk Grp Combination 3 Outgoing	CCS
2 Attendant Features	1	Group Worked (Time slot)	CCS
	2	Group Manned (Headset)	CCS
	3	Group Worked (Loop)	PEG
	4	Console 1 Worked (Time slot)	CCS
	5	Console 2 Worked (Time slot)	CCS
	6	Console 3 Worked (Time slot)	CCS
	7	Console 4 Worked (Time slot)	CCS
	8	Console 1 Worked (Loop)	PEG
	9	Console 2 Worked (Loop)	PEG
	10	Console 3 Worked (Loop)	PEG
	11	Console 4 Worked (Loop)	PEG
	12	Incoming Call Queue	CCS
	13	Incoming Call Queue	PEG
	14	Incoming Call Queue, Atnd Abandon	PEG
	15	LDN Calls Answered	
	16	Non-LDN Calls Answered	
	17	Attendant Recall	
	18	Attendant Orig (Start Key)	PEG
3 Network & Processor	1	Time Slot	CCS
	2	Tandem Traffic	CCS
	3	Time Slot	PEG
	4	Occupancy (% CP and Scanning)	
	5	Overflow (NO BLMM)	PEG
	6	Stimulus (Call Processing)	PEG
	7	ECTS Controllers – Total	PEG
	10	Hour of day	PEG

Type	Item	Designation		
4 Queue Measure OTQ	1	Queue	PEG	*Que* 1st
	2	Queue	PEG	2nd
	3	Queue	PEG	3rd
	4	Queue	PEG	4th
	5	Queue	PEG	5th
	6	Queue	PEG	6th
	7	Don't Answer Call Back	PEG	1st
	8	Don't Answer Call Back	PEG	2nd
	9	Don't Answer Call Back	PEG	3rd
	10	Don't Answer Call Back	PEG	4th
	11	Don't Answer Call Back	PEG	5th
	12	Don't Answer Call Back	PEG	6th
	13	Busy Call Back	PEG	1st
	14	Busy Call Back	PEG	2nd
	15	Busy Call Back	PEG	3rd
	16	Busy Call Back	PEG	4th
	17	Busy Call Back	PEG	5th
	18	Busy Call Back	PEG	6th
5 Trunk Grp	(TG NO.)	Trunk Groups 8-63		CCS
6 Trunk Grp	(TG NO.)	Trunk Groups 15-63		PEG
7 Trunk Grp	(TG NO.)	Trunk Groups 18-63		Over Flow or UCD/DDC queue abandon
8 Trunk Grp	(TG NO.)	Trunk Groups 18-63		INC CCS

END

A. PURPOSE

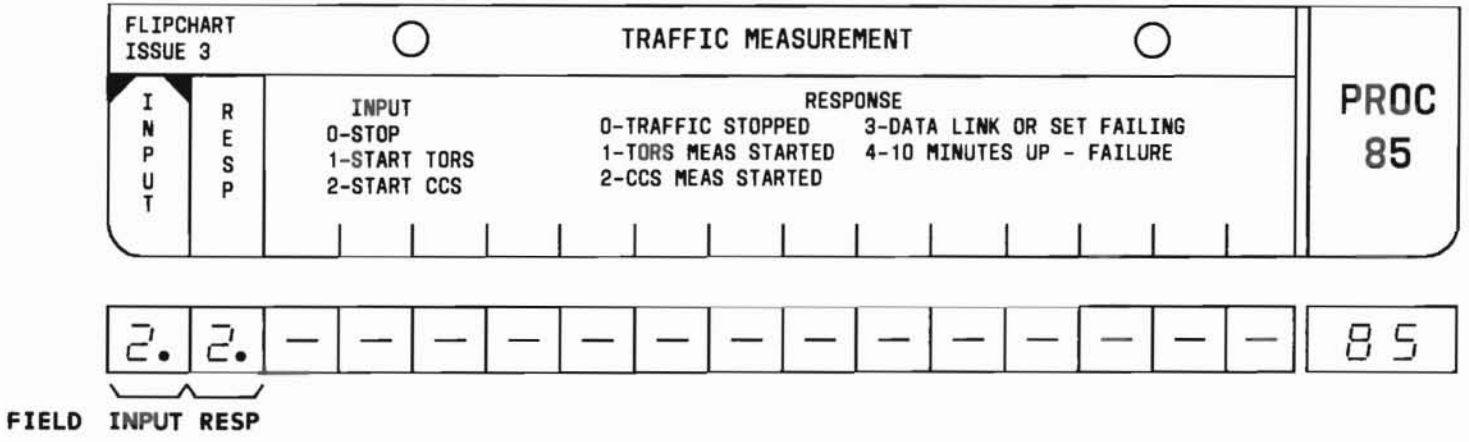
Procedure 85 is used to start and stop traffic measurements. This procedure has been deleted in all feature packages with RMATS capability.

B. PREREQUISITES

- Traffic measurements must be made with an Alston 516A/201 measuring set or equivalent.
- Before starting traffic measurement:
  - Verify that the measuring equipment is properly connected [refer to DIMENSION System (CSS 201S and CSS 201VS) Business Services Facilities Engineering Notes on Traffic Measurements].
  - Verify that the switches on the measuring equipment are properly set (refer to Field Engineering Notes).

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
INPUT	0	Stop traffic measurements.
	1	Start TORS.
	2	Start CCS peg count.
RESP		Program displays response to inputs (See Part F, Note 1):
	0	Traffic measurement stopped.
	1	TORS measurement started.
	2	CCS measurement started.
	3	LC34B data link (slot 32 of control carrier) or traffic measuring set failure. See Part F, Note 3.
	4	Data link or traffic measuring set failure has not been cleared before 10-minute time-out. See Part F, Note 4.
CCS – Hundred call seconds TORS – Traffic recording summary operation		

E. OPERATION (See Part F, Note 5)

Start traffic measurement (See Part F, Note 2):

PROC NO.; 85; ENTER; 1 or 2; ENTER; EXECUTE;
Remove MAAP

Stop traffic measurement:

PROC NO.; 85; ENTER; 0; ENTER; EXECUTE

F. NOTES

1. When the traffic measuring system is operating satisfactorily, the numbers in the INPUT and RESP fields will be the same after EXECUTE is pressed.
2. Procedures may be administered when a traffic measurement study is set up, but measurements are not made while the MAAP is plugged in.
3. When a 3 is displayed in the RESP field, check for the following:
   (a) Measurement set power is on.
   (b) Measurement set is plugged into connector CX04 on LC34B.
   (c) LC34B is plugged into control carrier slot 32.
   (d) Circuit 1 of LC34B is set for the high-speed option (see LC34B in Options section).
   (e) Connector is not loose.
   (f) Measurement set is in correct mode (refer to traffic measurement set instructions).
4. When a 4 is displayed in the RESP field, Procedure 85 must be reloaded.
5. The measuring set must be properly connected to the DIMENSION 100/400 PBX before Procedure 85 can be used.

END

PROCEDURE 86 — TRUNK GROUP TERMINATION

A. PURPOSE

Procedure 86 is used to assign incoming termination to a trunk group, and is used in the administration of:

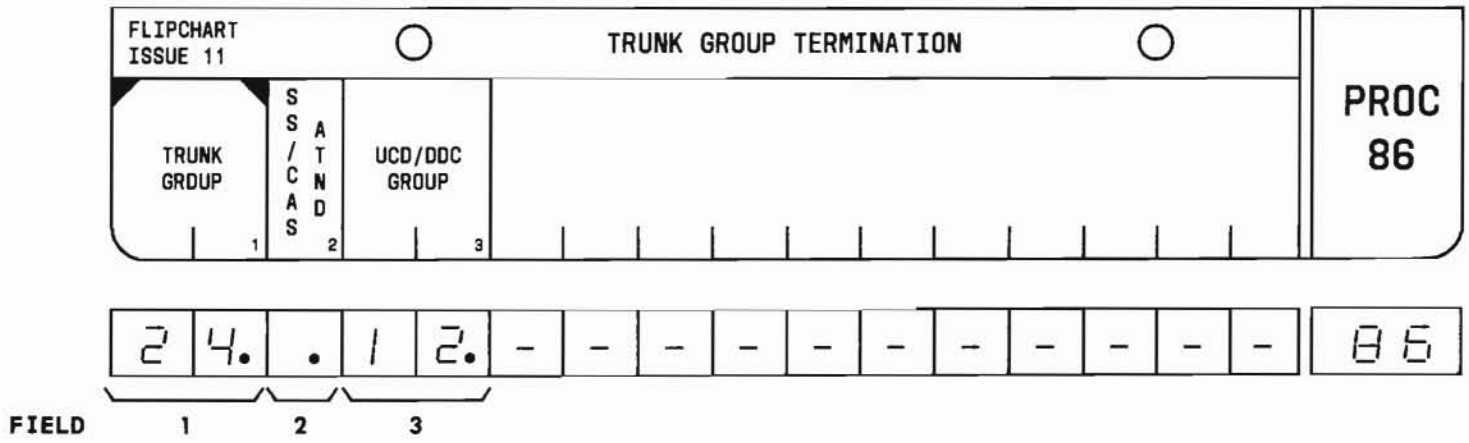
- Centralized attendant service (CAS)
- Direct department calling (DDC)
- Uniform call distribution (UCD)

B. PREREQUISITE

Trunk group numbers are assigned in Procedures 13 and 10.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	18-63	Trunk group number. See Part F, Note 1. Range Memory Size — 100 — 400 A — – — 18-31 B — – — 18-63 C — 18-31 — 18-63
2	Blank	Trunk group terminates in a UCD/DDC group.
	0	Trunk group is assigned to the SS attendant.
	1	Trunk group is assigned to the CAS attendant.
3	Blank	Indicates trunk group is already assigned to an attendant.
	1-14	Trunk group is assigned to the specified UCD/DDC group. See Part F, Notes 2 and 4.

E. OPERATION (See Part F, Note 3)

Display trunk group termination:

PROC NO.; 86; ENTER; (Trunk Group Number); ENTER; DISPLAY; EXECUTE

Add or change trunk group termination:

Display trunk group termination; CHANGE; 2; ENTER; (SS/CAS attendant encode) or CLEAR ENTRY; ENTER; (UCD/DDC Group Number) or CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Direct inward dialing (DID) trunk groups may only be assigned to special service (SS) or CAS attendant.
2. UCD/DDC group numbers are assigned in Procedure 87, Word 1.
3. The REMOVE key cannot be used in this procedure.
4. Procedure 87, Word 2 can be used to display all the trunk groups associated with a UCD/DDC group number.

PROCEDURE 87, WORD 1 — UNIFORM CALL DISTRIBUTION/DIRECT DEPARTMENT CALLING (UCD/DDC)

A. PURPOSE

Procedure 87, Word 1 is used to assign UCD/DDC trunk groups to the following items:

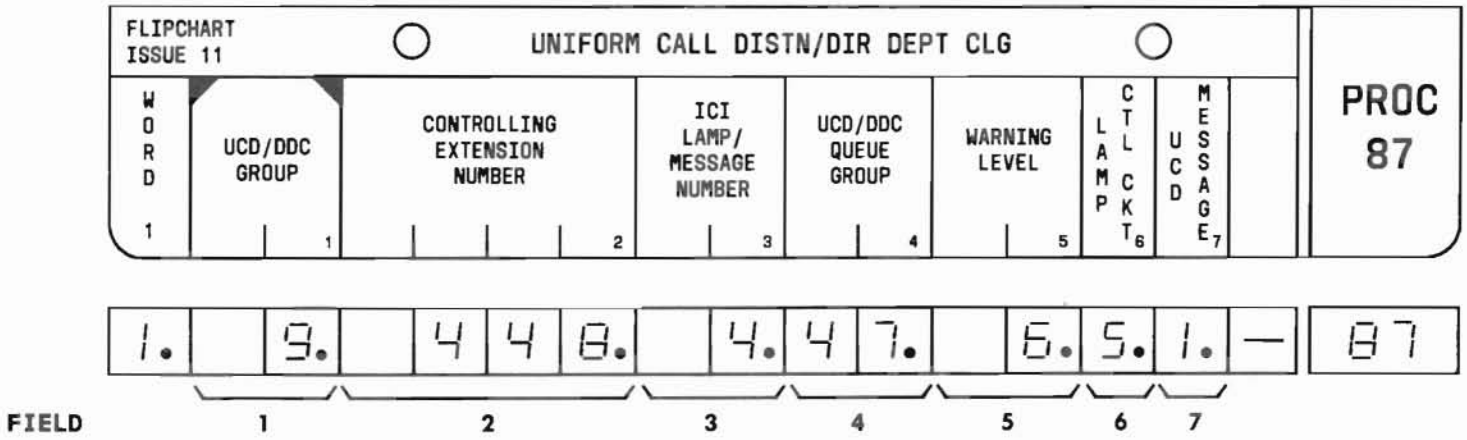
- Controlling line extension.
- Delay announcement option (UCD message).
- Incoming call indicator (ICI) lamp or message number.
- Queuing group.
- Warning level (UCD only).
- Lamp control circuit (UCD only).
- UCD message.

B. PREREQUISITES

- The lamp circuit equipment location for the LC15 circuit pack is assigned in Procedures 13 and 10.
- The controlling extension of a UCD/DDC group (field 2) must be a primary extension not assigned as the system listed directory number (LDN) and for which:
  - The equipment location is assigned in Procedure 00, Word 1.
  - The class-of-service (COS) UCD/DDC member code in Procedure 02, Word 4, field 5 is a 1 or 2.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-14	The UCD/DDC group number. See Part F, Note 5.
2	Any 2-, 3-, or 4-digit number	Controlling extension for the UCD/DDC group. See Part F, Note 6.
3 (See Part F, Note 1)	1-6	ICI lamp indicators.
	1-30	Message number.
4	8-11 18-63	The number of the queuing trunk group into which an incoming UCD/DDC call is placed. See Part F, Note 3.

	Range	
Memory Size	100	400
A	–	18-31
B	–	18-63
C	18-31	18-63

5	Blank	Warning level is not active.
	Even number, 0-12	UCD/DDC queue warning level. See Part F, Note 2.
6 (See Part F, Note 4)	Blank	No warning lamp circuit assigned.
	0-7	Number of lamp control circuit on LC15.
7	0	Delay announcement is not provided.
	1	Delay announcement is provided.

E. OPERATION

Display Word 1:

PROC NO.; 87; ENTER; (UCD/DDC Group Number); ENTER; DISPLAY; EXECUTE

Add a UCD/DDC group:

Display Word 1; CHANGE; 2; ENTER; (Controlling Extension Number); ENTER; (ICI Lamp/Message Number) or CLEAR ENTRY; ENTER; (UCD/DDC Queue Group); ENTER; (Warning Level) or CLEAR ENTRY; ENTER; (Lamp Control Circuit Number) or CLEAR ENTRY; ENTER; (UCD Message); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Change a field in Word 1:

Display Word 1; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a UCD/DDC group:

Display Word 1; REMOVE; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Field 3 serves one of two possible functions:

   (a) ICI lamp indicator number for console types 10-14 with lamp displays (Procedure 28 not required).

   (b) Message number for console types 20-24 and 30-34 with alphanumeric message displays.

   Console type assignments are made in Procedure 26, Word 1. Procedure 28, Word 2 is used to assign an ICI alphanumeric message to the message number. Lamp and message numbers 1-3 are reserved for incoming (INC), attendant (ATND), and recall (RCL), respectively. These message numbers are fixed and cannot be changed.

2. When the number of calls in a UCD/DDC queue exceeds the warning level (field 5), the overflow lamp circuit is turned on.

3. The UCD/DDC queue group number in field 4 must be an unassigned trunk group number.

4. If a UCD/DDC group has a warning level assigned in field 5, a lamp control circuit must also be assigned in field 6.

5. Procedure 87, Word 2 can be used to display trunk groups associated with a UCD/DDC group number.

6. Member extensions are assigned to a UCD/DDC group in Procedure 00, Word 1 as a terminating "hunt to" group of the controlling extension. Procedure 87, Word 3 can be used to display the UCD/DDC group associated with a member extension, or to display all the member extensions associated with a UCD/DDC group.

END

PROCEDURE 87, WORD 2—SEARCH UNIFORM CALL DISTRIBUTION/ DIRECT DEPARTMENT CALLING (UCD/DDC)

A. PURPOSE

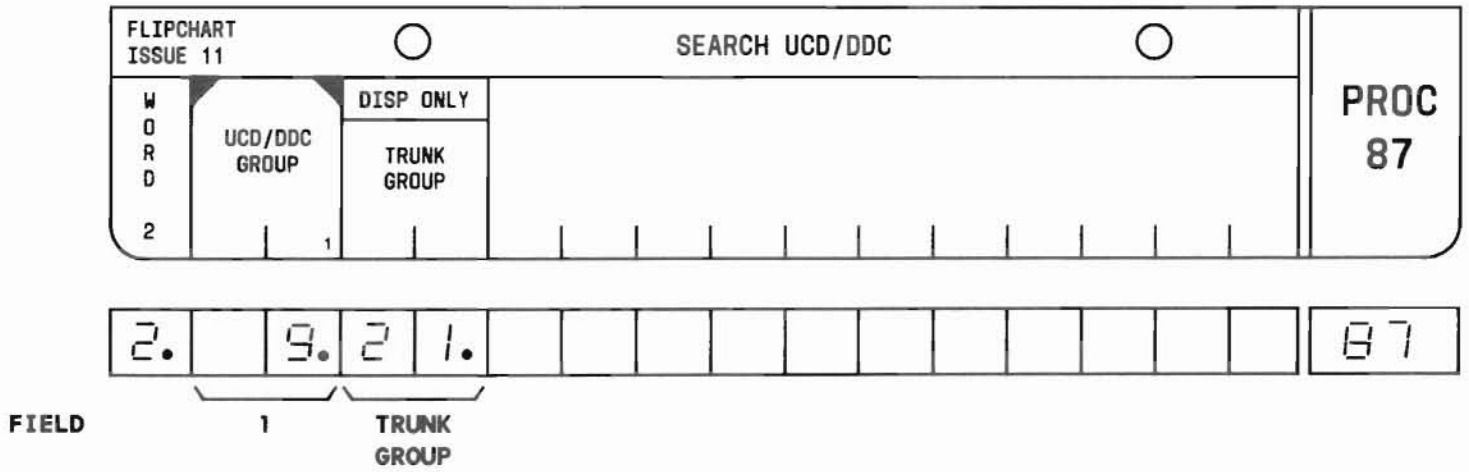
Procedure 87, Word 2 is used to search on the UCD/DDC group number to display the associated trunk group number.

B. PREREQUISITE

The association between a UCD/DDC group and a trunk group is made in Procedure 86.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-14	The UCD/DDC group number.
TRUNK GROUP	18-63	Associated trunk group number.

E. OPERATION (See Part F, Note 2)

Display trunk group (See Part F, Note 1):

PROC NO.; 87; ENTER; WORD; 2; (UCD/DDC Group Number); ENTER; DISPLAY; EXECUTE

F. NOTES

1. To display other associated trunk groups, repeatedly depress the DISPLAY and EXECUTE keys after displaying the first trunk group.
2. The display operation is the only one permitted in this procedure.

PROCEDURE 87, WORD 3–SEARCH UNIFORM CALL DISTRIBUTION/ DIRECT DEPARTMENT CALLING (UCD/DDC)

A. PURPOSE

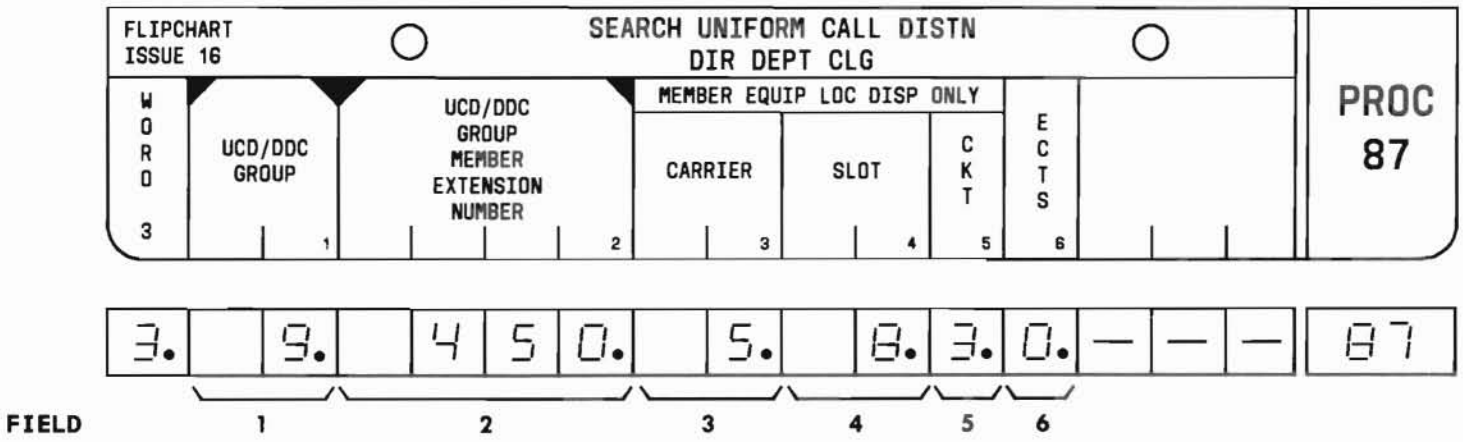
Procedure 87, Word 3 is used to search UCD/DDC on either the group number or the group member extension number to display the equipment location of member extensions.

B. PREREQUISITE

Procedure 87, Word 1 is used to assign a controlling extension to a UCD/DDC group. Member extensions are assigned in Procedure 00, Word 1 as a terminating "hunt to" group of the controlling extension.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-14	The UCD/DDC group number.
2	Any 2-, 3-, or 4-digit number	Extension number of a UCD/DDC group member.
3 DISPLAY ONLY	0-6	Line carrier location of UCD/DDC group member.
4 DISPLAY ONLY	2-9 11-18	Slot location of circuit pack.
5 DISPLAY ONLY	0-3	Circuit dedicated to the UCD/DDC member line.
6 DISPLAY ONLY	0 1	SLS telephone. ECTS telephone.
SLS–Straight line set. ECTS–Electronic custom telephone service.		

E. OPERATION (See Part F, Note 1)

Display UCD/DDC group member extension number (See Part F, Notes 2 and 3):

PROC NO.; 87; ENTER; WORD; 3; (UCD/DDC Group Number); ENTER; DISPLAY; EXECUTE

Display UCD/DDC group number (See Part F, Notes 2 and 3):

PROC NO.; 87; ENTER; WORD; 3; CLEAR ENTRY; ENTER; (UCD/DDC Group Member Extension Number); ENTER; DISPLAY; EXECUTE

F. NOTES

1. The display operation is the only one permitted in this procedure.
2. To display other group member extension numbers and their equipment locations, repeatedly depress the DISPLAY and EXECUTE keys after displaying the first group member.
3. If the group member extension number is assigned to an ECTS, fields 3 through 5 will display dashes and a 1 will be displayed in field 6. Refer to Procedure 38, Word 1 for the equipment location.

END

PROCEDURE 88, WORD 1—CENTRALIZED ATTENDANT SERVICE (CAS)

A. PURPOSE

Procedure 88, Word 1 is used to assign the following for the CAS feature:

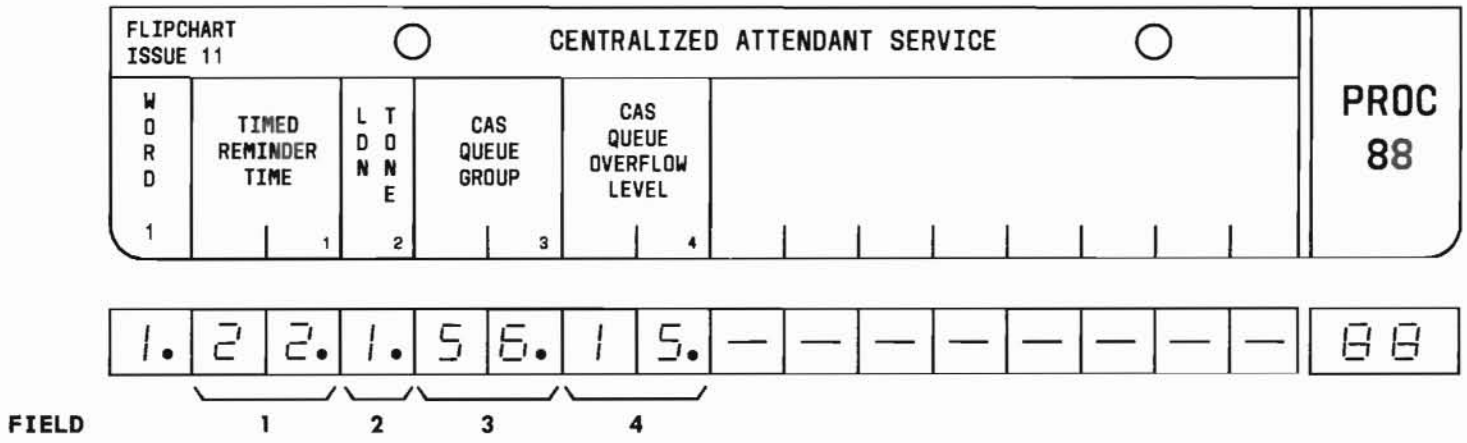
- The timed reminder interval.
- Listed directory number (LDN) tone.
- CAS queue group assignments and overflow level.

B. PREREQUISITES

None.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1 (See Part F, Note 1)	Blank	No timed reminder.
	1-31	Number of 2-second intervals before recall takes place.
2	0	No LDN tone provided.
	1	CAS attendant will receive a tone on incoming LDN calls.
3	0	No CAS queue group assigned.
	8-11 18-63	Number of the queuing trunk group into which an incoming CAS call is placed. See Part F, Note 3.
		Range
		Memory Size / **100** / **400** A / – / 18-31 B / – / 18-63 C / 18-31 / 18-63
4	Blank	No overflow indication provided.
	1-99	CAS queue overflow level. See Part F, Note 2.

E. OPERATION

Display Word 1:

PROC NO.; 88; ENTER; DISPLAY; EXECUTE

Change a field in Word 1:

Display Word 1; CHANGE; (Field No.); ENTER; (New data); ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

Remove a field in Word 1 (See Part F, Note 4):

Display Word 1; CHANGE; (Field No.); ENTER; 0 or CLEAR ENTRY; ENTER; ADD; EXECUTE; DISPLAY; EXECUTE

F. NOTES

1. Timed reminder for CAS may be different from timed reminder for special service (SS) attendant assigned in Procedure 26, Word 1.
2. When the number of calls in a CAS queue is equal to or greater than the overflow level, the overflow lamp circuit is turned on.
3. The CAS queue group number in field 3 must be an unassigned trunk group number.
4. The REMOVE key cannot be used in this procedure.

END

A. PURPOSE

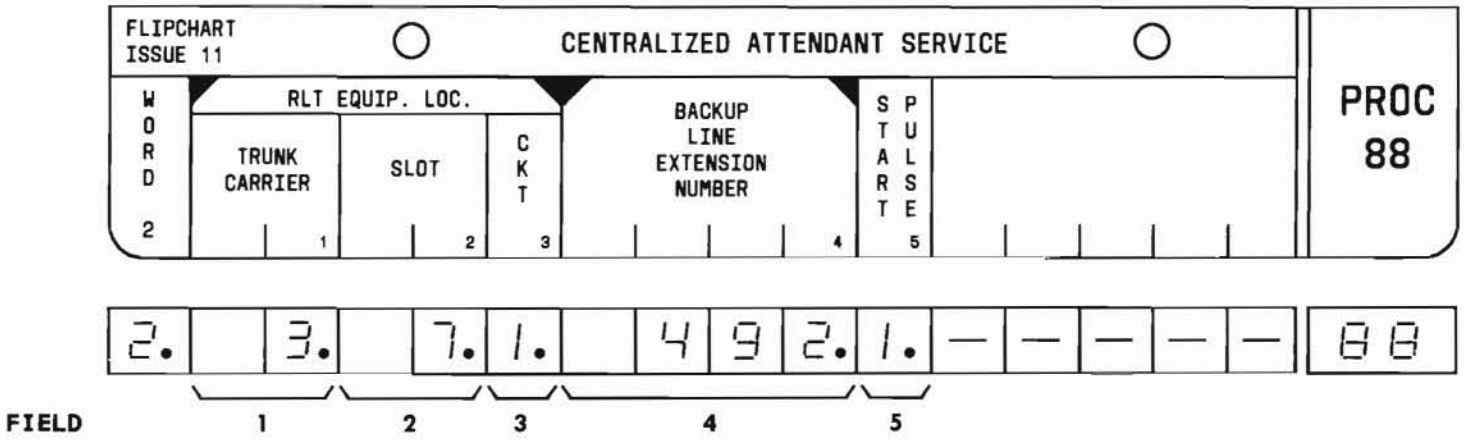
Procedure 88, Word 2 is used to assign a backup line extension to a release link trunk (RLT) equipment location for the CAS feature.

B. PREREQUISITES

- RLT (LC11) is identified as an RLT type in Procedure 13 and assigned an equipment location in Procedure 10.
- The RLT backup line extension number must be in the dialing plan. The first digit must be defined in Procedure 29, Word 1 and the entire number assigned in Procedure 30 and Procedure 00, Word 1.

C. CAUTIONS

None.



D. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-3	RLT trunk carrier. Range Memory Size — 100 — 400 A — – — 0,1 B — – — 0-3 C — 0,1 — 0-3
2	2-9	RLT slot position. See Part F, Note 4.
3	0,1	RLT circuit number.
4	Any 2-, 3-, or 4-digit number	Backup line extension number. See Part F, Note 2.
5	0 1	No start pulse sent. Start pulse will be sent to initiate trunk seizure. See Part F, Note 3.

E. OPERATION

Display backup line extension number (See Part F, Note 1):

PROC NO.; 88; ENTER; WORD; 2; (RLT Trunk Carrier); ENTER; (RLT Slot); ENTER; (RLT Ckt); ENTER; DISPLAY; EXECUTE

Display RLT equipment location (See Part F, Note 1):

PROC NO.; 88; ENTER; WORD; 2; CLEAR ENTRY followed by ENTER three times; (Backup Line Extension Number); ENTER; DISPLAY; EXECUTE

Add RLT and backup extension:

PROC NO.; 88; ENTER; WORD; 2; (Trunk Carrier); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; (Backup Line Extension Number); ENTER; (Start Pulse code); ENTER; ADD; EXECUTE

Change a field in Word 2:

Display Word 2; CHANGE; (Field No.); ENTER; (New data); ENTER; REMOVE; EXECUTE; ADD; EXECUTE; DISPLAY; EXECUTE

Remove RLT and backup extension:

Display Word 2; REMOVE; EXECUTE

F. NOTES

1. To display other RLTs and backup extension numbers, use the sequence DISPLAY; EXECUTE repeatedly after displaying the first list entries.
2. Each RLT is assigned only one backup extension; however, more than one RLT may be assigned to the same extension.
3. Field 5 can be a 1 only when an RLT facility uses an E&M-to-ground start converter or DX-to-ground start converter.
4. The slots available for an LC11 circuit pack for the different carriers are shown below:

Carrier	DIMENSION PBX	Slots
J58879BA	100/400	2-8
J58879CC	400	2-9

Section 4

MAINTENANCE PROCEDURES

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1. ALARM PANEL

The Alarm Panel (Figure 4-1), located in the basic equipment cabinet, contains alarm and fault indictors and associated controls used for determining system status and performing microdiagnostic tests. Various alarms are displayed on the panel, such as major and minor, over-temperature and fuse, and others pertaining to system functions. The functional alarms indicate faults in the processor, memory, network, and facility. Specific off-line procedures associated with these alarms are called in from tape with the aid of the Maintenance and Administration Panel (MAAP). The controls on the Alarm Panel are used to:

- Manually initiate processor/memory (microdiagnostic) tests.
- Start and stop the processor.
- Control emergency transfer.

> ***NOTE:***
>
> When more than one lamp is on, troubleshoot the faults one at a time starting at the top left, and progressing left to right, top to bottom.

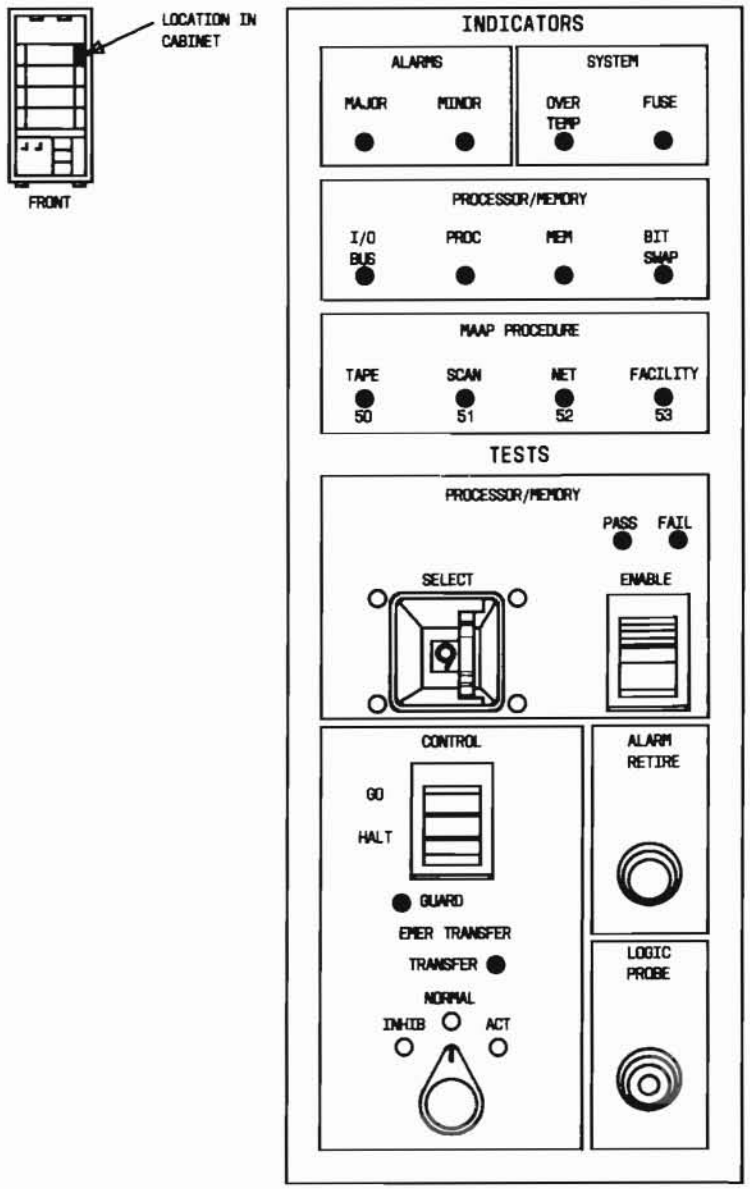
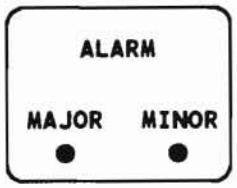
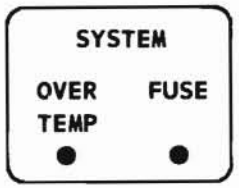


Figure 4-1. Alarm Panel





A. CONTROL AND INDICATOR FUNCTIONS

ALARM

MAJOR

The MAJOR ALARM lamp comes on in conjunction with another fault lamp on the panel when a machine failure prevents call processing, removes a significant number of stations from service, or removes a basic feature such as dial tone.

MINOR

The MINOR ALARM lamp comes on when a fault occurs that could prevent calls from being completed by a limited number of stations or by the failure of several trunks. The MINOR ALARM also indicates loss of machine features that could affect all stations, such as failure of the tape system when not in a memory-load state or loss of the busy tone.

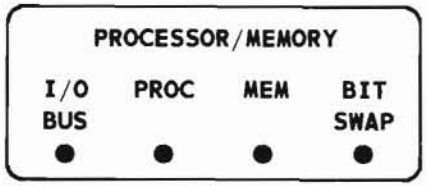
SYSTEM

OVER TEMP

The OVER TEMP lamp comes on when the cabinet exhaust temperature exceeds 145° ± 5°F.

FUSE

The FUSE lamp comes on when a fuse is blown or a circuit breaker opens. Refer to Volume 2, which details the fusing and circuit breakers for each carrier. If fuses +5FAC2 and +5FAC3, or †5FAC5 and +5FAC6, or +5FC5 and +5FC6 are blown, the Alarm Panel will be disabled.



PROCESSOR/MEMORY

I/O BUS

The I/O BUS lamp comes on if an on-line microdiagnostic test detects a stuck-at-1 or stuck-at-0 fault on the main I/O bus. The test is activated by the initialization sequence. If an I/O bus fault is detected, the I/O BUS, MAJOR ALARM, and TRANSFER lamps come on.

PROC

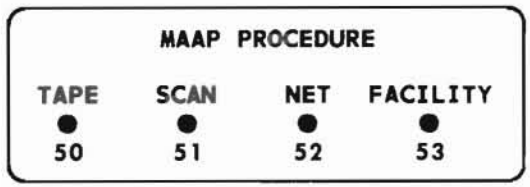
The main PROC lamp can be turned on by: the sanity timer, the microprocessor sanity timer, processor interrupts, and microdiagnostic testing.

MEM

The MEM fault lamp comes on when a permanent memory fault is detected by an on-line microdiagnostic test. If this test shows one or more bad memory locations, the MEM, MAJOR ALARM, and TRANSFER lamps come on. If bit swap has been activated, memory parity errors will go undetected. However, faulty software instructions would generally cause processor interrupts such as "branch allow," "write protect," or "time-out." These interrupts will activate the on-line microdiagnostics, and upon detection of a faulty memory location, the MEM, MAJOR ALARM, and TRANSFER lamps come on.

BIT SWAP

The memory BIT SWAP lamp comes on when a bit swap is performed to correct a bit error in memory. Memory parity error detection does not function when bit swap is enabled because the parity bit is substituted for the faulty bit.



> *NOTE:*
> The number below each lamp is the number of the applicable MAAP maintenance procedure.

TAPE

The TAPE lamp come on either with:

- the MINOR ALARM lamp when software encounters a tape system error during administrative or maintenance activities, or
- the MAJOR ALARM lamp when a memory reload fails because of a tape system fault.

SCAN

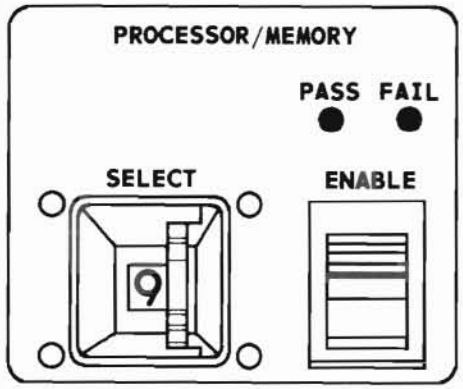
The SCAN lamp comes on when a scanner/distributor fault is detected.

NET

The NET lamp comes on when a network fault is detected.

FACILITY

The FACILITY lamp comes on together with a MINOR ALARM lamp, when a MAAP, trunk, console, tone, automatic number identification (ANI), station display (STA DIS), Station Message Detail Recording (SMDR), or DIMENSION PBX Electronic Custom Telephone Service (ECTS) fault is detected.

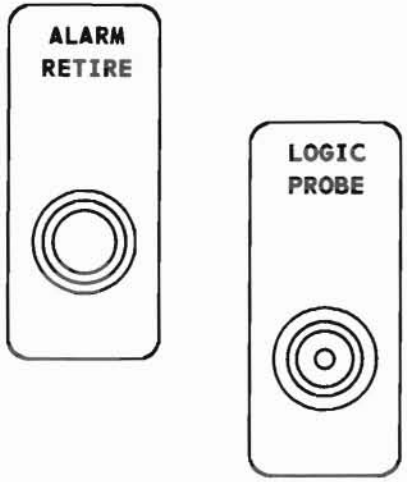


PASS and FAIL

Either the PASS lamp or the FAIL lamp is generally used to show the result of each microdiagnostic test that can be selected and enabled from the Alarm Panel. An exception is microdiagnostic test 9, which executes a memory load (and turns on the FAIL lamp). If software can function adequately after being loaded, it will turn off the FAIL lamp. (This will leave both the PASS and FAIL lamps off for a short time when control is successfully passed from the microdiagnostic memory load test to the call-processing program after loading.) Another exception is the microdiagnostic pattern test which provides a pass indication while a binary test pattern is provided so that test points can be examined with a logic probe. During normal operation, the PASS lamp is flashed at a 1-second-on, 1-second-off rate.

SELECT and ENABLE

The SELECT switch allows the selection of any one of ten microdiagnostic tests. A test is started when the ENABLE switch is depressed. At the conclusion of the microdiagnostic test, a pass or fail indication is usually provided. The SELECT switch should normally be left in position 9 so that the machine will reinitialize if the ENABLE switch is accidentally activated.



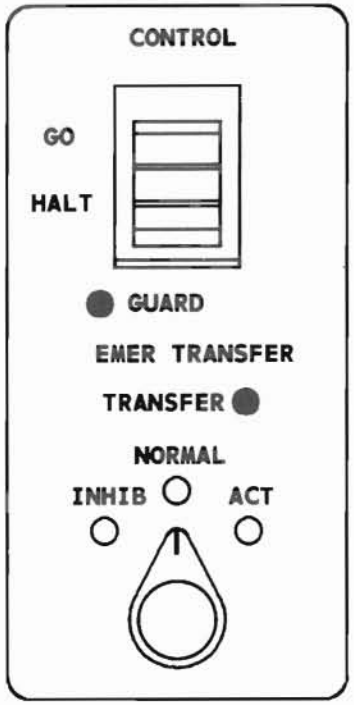
ALARM RETIRE

The ALARM RETIRE pushbutton is used to turn off all program-controlled (not hardware-controlled) lamps on the Alarm Panel. This retire alarm signal is also sent to software to initialize the automatic fault detection programs.

> ***NOTE:***
> Depressing the ALARM RETIRE pushbutton does not remove the software record of alarm causes. These alarm causes can be observed using Procedure 66 and can be cleared using subsequent procedures pointed to by Procedure 66.

LOGIC PROBE

This connector provides power (+5 Vdc) for a logic probe.



CONTROL

GO/HALT

The GO/HALT switch starts and stops the processor. The switch is set to the GO position during normal machine operation. The switch should be set to the HALT position to stop the processor before removing or inserting circuit packs in the control carrier.

GUARD

The GUARD lamp comes on when either GO/HALT or EMER TRANSFER switch is switched from the normal positon.

EMER TRANSFER

The EMER TRANSFER switch provides manual control of emergency transfer. In the NORMAL position, automatic control of emergency transfer is allowed. In the ACT position, emergency tranfer is forced, turning on both the TRANSFER and the GUARD lamps. The INHIB position prevents emergency transfer from occurring, and only the GUARD lamp will be on.

TRANSFER

The TRANSFER lamp comes on when emergency transfer is activated either by the machine or by manually turning the EMER TRANSFER switch to the ACT position.

B. MICRODIAGNOSTIC TESTS

The PROCESSOR/MEMORY section of the Alarm Panel provides access to ten microdiagnostic tests designated 0 through 9. A brief description of what each test does and instructions for running each test follow.

Test 0:

- Sets, clears, and reads the condition flip-flop (CF) and the temporary check flip-flop.
- Performs an initialization sanity check (ISC).
- Test the Alarm Panel by flashing all software controllable lamps, except the TRANSFER lamp.
- Tests the MAAP by sending commands to flash all MAAP lamps.

Test 1:

Tests the priority encoder function of the data register by loading known data patterns into the data register and checking the data register's output. (The priority encoder function detects the first one in the data register word.)

Test 2:

Checks that each register memory (R registers) can be addressed, loaded, and read. The test loads two data words (ie, all zeroes and then all ones) into each register memory. The contents of the register memory are read after each load operation to determine if any bits are stuck.

Test 3:

- Checks that software interrupts can be generated and that the proper responses are made.
- Tests the interrupt masking function.
- Checks the accuracy of the real time clock.

Test 4:

Checks that each constant memory register can be addressed and read, and that their contents are correct (except for address 0, the value stored in each address is one less than the value stored in the previous address). The test begins by checking whether address 0 contains all ones and ends by checking whether address 63 contains all zeros.

Test 5:

Checks the shifting capability of the processor by instructing the processor to shift predetermined test patterns and checking that each shifted test pattern agrees with a comparison pattern.

Test 6:

Tests all temporary (T) memory registers. Each T memory register is addressed and loaded with various bit patterns. After each load operation, the T memory is read and its output checked for accuracy.

Test 7:

- Tests the I/O bus and tape buffer by loading all zeros and then all ones into the tape buffer and checking for stuck bits after each load operation.
- Checks that an I/O complete signal is generated only when valid addresses are accessed.

Test 8:

- Tests the addressing and storage capability of the random access memory.
- Tests the memory control and memory address circuits.
- Tests the bit swap circuit.
- Clears the write protect hardware interrupts and bit swap registers.

The following registers are used for this test:

Register	Function
PM1	1K block of memory under test
PM2	1K-loop counter
PM3	Stores test result
PM4	Address of test information
RM0	Address of first error found
RM1	Stores test information (pertaining to a 1K block of memory) from PM3
RM2	Bit swap code
RM3	Error counter
RM4	PASS, FAIL, MEM, BIT SWAP lamp control information
RM8 through RM11	Map of each 1K block of memory used by the loader routine
SAR	memory address

This test exercises 1K blocks of memory, one block at a time. The test loads two data words (ie, all zeroes and all ones) into each address checking for odd parity after each load operation. If a bit error is detected, a bit swap is performed and the test is rerun on the 1K block of memory. If another bit error is detected, the 1K block of memory is marked bad and the test progresses to the next 1K block of memory. In the event of a memory failure, suspect memory boards are displayed on the MAAP (refer to Procedure 65). A bit swap is performed on each bit in memory and the results compared with known data patterns.

Test 9:

- Runs each microdiagnostic test (ie, test 0 through 8) once with the following exception: The bit swap function of microdiagnostic test 8 is eliminated. (A bit swap word is calculated but it is not loaded into the bit swap register.)
- Generates the load tape function.

Test Procedure:

With the exception of test 0, each microdiagnostic test uses circuits tested by the previous microdiagnostic test. Therefore, it is recommended that the tests be run starting with test 0 and progressing in numerical order to test 9. Table 4-1 itemizes the functions tested by each microdiagnostic test and recommended corrective actions in the event of a test failure. In testing a particular part of the processor, each microdiagnostic test uses parts outside the area under test. Therefore, it is possible for a microdiagnostic test to fail and the fault be outside the particular part under test. To run a microdiagnostic test(s), proceed as follows:

Step	Action

1. Set the CONTROL switch to GO and the TRANSFER switch to NORMAL.
2. Depress the ALARM RETIRE pushbutton.

> ***NOTE:***
>
> If microdiagnostic test 8 is to be run, connect the MAAP to the MAAP CONN C22 receptacle and turn the flip charts to Procedure 65.

3. In the PROCESSOR/MEMORY section, set the SELECT switch to the desired test number.
4. Depress the ENABLE switch to initiate the test.
5. If the PASS lamp comes on, the test was successfully executed; go to Step 7. If the PASS lamp remains off, go to Step 6.
6. Perform the corrective actions given in Table 4-1. Verify that the fault has been cleared by rerunning the test; go to Step 4.
7. If another test is to be run, go to Step 3. Otherwise, set the SELECT switch to 9 if the last test run is not test 9.

> ***NOTE:***
>
> After successful completion of test 9, the system memory is initialized and the system will come up in the night service mode. Depressing the NIGHT button on the attendant console will release the system from the night service mode.

Table 4-1
Microdiagnostic Test

Test	Functions Tested	Failure Indication	Corrective Action	
			Single Test Failure-Circuit Pack Replacement (Test 0 through 6)	Multiple Test Failure-Circuit Pack Replacement (Test 0 through 6)
0†	Microprocessor Alarm panel Condition flip-flop (CF) Initialization sanity check (ICS). (ICS causes memory reload when set.) Tempory check flip-flop.	MAJOR, PROC, FAIL, EMER TRANSFER lamps	LC52 LC22	If multiple test failures occur for tests 0 through 6, then use the following circuit pack replacement sequence: LC23 LC22 LC20 LC52 LC21 LC53 LC19 LC18 If tests 1 and 2 fail, replace LC20
1	Priority encoder No zero detected (NZD) flip-flop Data register	MAJOR, PROC, FAIL, EMER TRANSFER lamps	LC21	
2	R-registers	FAIL lamp	LC20, LC23, and LC22	
3	Real-time clock Software interrupts	FAIL lamp	LC53 LC52	
4	Constant memory registers	FAIL lamp	LC20	
5	Rotation function (shift control circuit)	FAIL lamp	LC20 LC52	
6	Temporary memory registers	FAIL lamp	LC52	

NOTES:

If the processor continues to fail, disconnect all circuit packs from the control carrier except the processor circuit packs (LC18 through LC23, LC52, and LC53) and repeat tests 0 through 6. If these tests pass, then insert the other circuit packs, one or more (up to one half of the disconnected circuit packs) at a time, rerunning tests 0 through 6 to determine which circuit pack is causing the processor failure.

Table 4-1 (Contd)
Microdiagnostic Test

Test	Functions Tested	Failure Indication	Corrective Action	
			Single Test Failure-Circuit Pack Replacement (Test 0 through 6)	Multiple Test Failure-Circuit Pack Replacement (Test 0 through 6)
7	I/O bus and tape buffer	FAIL lamp	Replace LC21, LC29, LC46, LC47, LC44, LC31, LC34, LC22, LC53, LC36/236, LC37/238/368.	
8	Memory bit swap (memory control circuits)	See Table 4-2	Replace memory circuit pack indicated on MAAP display (use PROC 65 flip chart), then LC35/135, LC36/236, LC37/238/368 (LC39 or LC40 can replace LC25 memory board 17.) §	
NOTE: If tests 7 and 8 fail, replace LC21, LC22.				
9‡	Functions tested in test 0 thru 8, and then loads program.	PROC, I/O BUS, MEM, BIT SWAP, TAPE lamps, PASS lamp does not flash	Replace LC18, LC29, LC30, minirecorder, tape cartridge. Refer to Procedure 50, Repair Guide.	

† The MAJOR, MINOR, I/O BUS, PROC, MEM, TAPE, SCAN, NET, FACILTIY, and FAIL lamps flash while the PASS lamp is on in test 0.
‡ The PROC, MEM, and TAPE lamps are on in test 9.
§ Some machines require an LC39 or an LC40 instead of an LC25 in slot 16 of the control carrier or an LC39 or LC40 in slot 15 of the control/trunk carrier. An LC38 battery circuit pack (BAT CKT) could be required in slot 14 of the control carrier or slot 13 of the control/trunk carrier. LC28 (8K) RAM, LC128 (16K) RAM, or LC346 (64K) RAM circuit packs may be required instead of LC25 circuit packs in some machines.

Table 4-2
Microdiagnostic Test 8, Failure Indicators and MAAP Display

Fault	FAIL Lamps	MAAP Display	MINOR ALARM Lamp
Single bit error	X	MB	
No memory	X		
More than one bit error(internal bus)	X	MBS	
Parity error	X		X
Address stuck (I/O or internal)	X	MBS-E	
I/O data bus stuck	X	MBS-E	
I/O parity bit stuck	X		
Low voltage/refresh	X X X	 MBS MBS	 X
Parity bit is stuck (internal)	X	MBS	X

NOTE:
If call processing cannot be loaded and test 8 does not detect a memory circuit pack failure, then disconnect all memory circuit packs.
Insert one memory circuit pack at a time and run test 8.

MB - Memory board number of faulty board.
MBS - Memory board numbers of faulty boards displayed sequentially.
MBS-E - Memory board numbers of faulty boards for equipped slots only.

2. MAINTENANCE AND ADMINISTRATION PANEL

A. MAINTENANCE PROCEDURE SELECTION

The MAAP is the primary input/output device used by the craftsperson to communicate with the DIMENSION 100/400 PBX for both administrative and maintenance tasks. As in the case of system administration (See Section 2), the maintenance programs stored on the tape are represented on the MAAP by a series of flip charts.

The majority of maintenance procedure flip charts are related to Alarm Panel indicators. As shown in Figure 4-2, the fault lamps in the ALARM, PROCESSOR/MEMORY, and MAAP PROCEDURE sections of the Alarm Panel furnish reference to:

- Maintenance procedures for diagnosis and repair of the fault (eg, the BIT SWAP lamp references Procedure 64).
- Maintenance procedures that serve as a pointer to other procedures for diagnosis and repair. For example, the FACILITY lamp references Procedure 53, which in turn references other procedures. The recommended follow-up procedure depends on the Procedure 53 display.
- Microdiagnostic test(s).

The maintenance procedures that are not Alarm Panel oriented are used primarily to test a particular facility, display failure information stored in memory, and busy out or release busied-out circuits.

Part 3 of this section presents a description of each maintenance procedure flip chart. A list of the maintenance procedures and their applicability to various feature packages precedes the descriptions.

B. PROCEDURAL FORMAT AND CONTENT

Each maintenance flip chart procedure presented in this section is divided into four parts: description, field definitions and codes, test procedure(s), and repair guide.

A. **DESCRIPTION** – States the purpose of the maintenance procedure and illustrates the related flip chart with a typical MAAP display.

B. **FIELD DEFINITIONS AND CODES** – Defines each field and the allowable values that may be entered into them.

C. **TEST PROCEDURE(S)** – Presents simplified instruction for calling up and running the maintenance procedure. Describes each test that can be run and gives the displays. In addition to describing what must be entered into the machine, this part also describes how the machine responds with indications that the test was run successfully. If the test fails, reference should be made to the fourth part – repair guide.

As in the administrative procedure descriptions, the MAAP key sequence is presented in the following shorthand form:

NAME OF KEY TO BE DEPRESSED; (Encode to be entered); NAME OF KEY TO BE DEPRESSED;....

Note that semicolons are used as delimiters.

D. **REPAIR GUIDE** – Based on the fault response provided by the test, this final part lists the recommended corrective action to be taken. This list does not represent an exhaustive isolation procedure, but rather serves as a guide to isolate the highly suspected items. Isolation and repair of elusive troubles are based primarily on system familiarity (ie, both hardware and software knowledge) supported by the applicable SDs, CDs, etc. A list of reference documents is contained in Volume 2 of this manual.

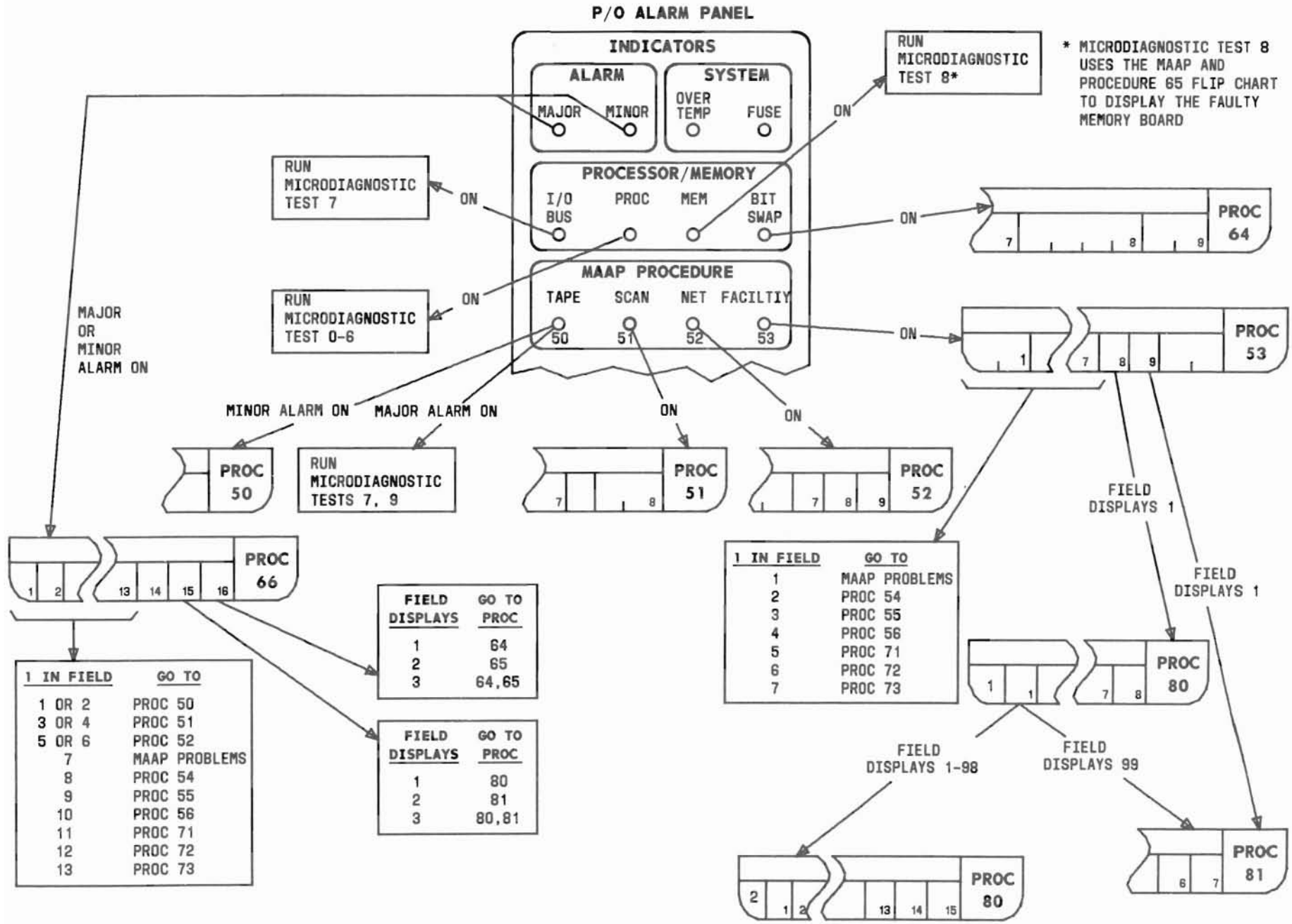


Figure 4-2. Alarm Oriented Maintenance Procedures and Tests

Proc	Word	Feature Package	Title	Page
50	–	1,2,3,4,5,10,15	Tape Test	50-1
51	–	1,2,3,4,5,10,15	Scan Indicator	51-1
52	–	1,2,3,4,5,10,15	Network Indicator and Test	52-1
53	–	1,2,3,4,5,10,15	Facility Indicator	53-1
54	–	1,2,3,4,5,10,15	Trunk Failures	54-1
55	–	1,2,3,4,5,10,15	Console Failure	55-1
56	–	1,2,3,4,5,10,15	Tone Failures	56-1
58	–	1,2,3,4,5,10,15	Periodic Peg Failures	58-1
59	–	1,2,3,4,5,10,15	Traffic Dependent Peg Count	59-1
60	–	4,10,15	Station to Trunk Test Call Using a Specific TOUCH-TONE Dialing Sender	60-1
61	–	1,2,3,4,5,10,15	Station To Station Test Call	61-1
62	–	1,2,3,4,5,10.15	Station to Outgoing Trunk Test Call	62-1
63	–	1,2,3,4,5,10.15	Tone Test Call	63-1
64	–	1,2,3,4,5,10	Memory Bit Swap and Processor Initialization	64-1
65	–	1,2,3,4,5,10,15	Microdiagnostic Test 8 (MD8) or Memory Tests	65-1
66	–	1,2,3,4,5,10,15	Alarm Cause	66-1
67	–	1,2,3,4,5,10,15	Alarm Panel Test	67-1
68	–	15	Memory Bit Swap and Processor Initialization (Note: PG1E015 only)	68-1
70	–	1,2,3,4,5,10,15	Busy Out or Release Busy Out	70-1
71	–	2,4,5,10,15	ANI Failures	71-1
72	–	3	Inquiry/Display and Station Display Terminals Test	72-1

3. MAINTENANCE PROCEDURE INDEX (Contd)

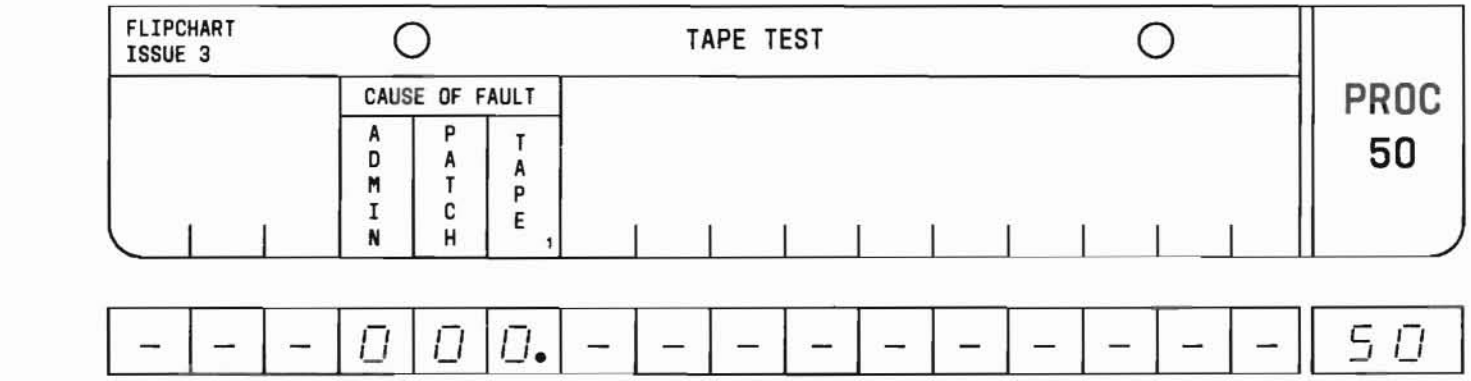
Proc	Word	Feature Package	Title	Page
73	–	4,10,15	Station Message Detail Recording Test	73-1
74	–	4,10,15	Conference Circuit Board Test	74-1
75	–	10,15	LC17 Tone Failures	75-1
76	–	10,15	LC17 Tone Test Call	76-1
77	–	10,15	Contact Interface Test	77-1
80	1	5,15	ECTS - Custom Telephone Service Failures	80-1
	2	5,15	ECTS - Custom Telephone Service Failures	80-1
81	1	5,15	ECTS - Custom Telephone System Test	81-1
	2	5,15	ECTS - Custom Telephone System Test	81-1
89	–	1,2,3,4,5,10,15	Remote Maintenance Board Test	89-1
99	–	1,2,3,4,5,10,15	Memory Word Display	99-1
		1,2,3,4,5,10,15	Emergency Transfer Prevention	ETP-1
		5,15	Multibutton Electronic Telephone Test	MET-1
		1,2,3,4,5,10,15	Test Line Selection	TLS-1

PROCEDURE 50 – TAPE TEST

A. DESCRIPTION

Procedure 50 should be called in when the MAAP PROCEDURE - TAPE lamp on the Alarm Panel is on or field 1 or 2 of Procedure 66 displays a 1.

The procedure is used to display which software function set the fault indication. This procedure is also used to clear the record of the fault and turn off the alarm lamps.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	000	The tape test fault record is cleared.
	1xx	In Feature Packages (FP) 1, 2, 3, 4, 5, and 10, the administrative changes were not written on both tapes. In FP15, administrative changes are required to be written only on one tape.
	x1x	The program patch was not written on both tapes, except in FP15 where the program patch needs only to be written on one tape.
	xx1	An error was detected by the tape control software.
x denotes don't care		

C. TEST PROCEDURE

Call in Procedure 50:

PROC NO.; 50; ENTER

Field 1 displays the fault cause.

Clear the fault record:

Call in Procedure 50; RESET; EXECUTE

Field 1 should contain all zeros.

D. REPAIR GUIDE

CAUTIONS:

1. ***At the Alarm Panel CONTROL section, set the GO-HALT switch to the HALT position before replacing any circuit pack in the control carrier. Failure to do so may cause unpredictable system activity and/or an emergency transfer.***
2. ***If call processing is functioning and LC29, LC30, or the minirecorder has failed, reinitializing the system may bring the system down.***
3. ***The below listed fuses should be removed prior to removing the minirecorder.***

   –48FAC5
   +5FAC1
   –9FAC2

Refer to Table 50-1 for the tape test and repair procedure.

If a tape alarm occurs, the following recommended tape head and puck cleaning procedure should be used:

Slightly moisten a lint-free cloth with isopropyl alcohol. To clean the puck, activate the capstan by calling in any procedure, and hold the moistened cloth against the rotating capstan for about 4 or 5 seconds. The action should then be repeated on a dry section of the cloth. The pressure should be light enough so that there is no discernable slowing down of the motor and negligible heat is generated as determined by the temperature rise on the finger side of the cloth. Care should be taken to avoid wedging a finger between the puck and either the EOT/BOT sensor or the head. Note that calling in a procedure with no tape in place will generate a tape alarm which can be cleared with Procedure 50 after the tape is reinserted. For ease of access and safety, the top cover should be removed when performing the operation. Head cleaning should be done by rubbing the head with the moistened cloth, then drying. Care should then be taken to avoid getting alcohol on the EOT/BOT sensor.

D. **REPAIR GUIDE** (Contd)

A hardware fault can exist in the minirecorder which causes the tape to run randomly. The system is unable to read or write the tape correctly activitating the tape alarm. The fault is caused by the cams that hold the tape cartridge forward in the minirecorder. Figure 50-1 shows the cam in the correct position after removal of the tape cartridge from the minirecorder. Occasionally, however, the cam may become stuck in the position shown in Figure 50-2. If a tape cartridge is inserted when the cam is in this forward position, tape alarms will result. If alarms are observed, the position of the cams should be checked immediately. To do this, the minirecorder need not be removed from the cabinet. Only the minirecorder cover should be removed and pushed forward. Then a visual check of the cams on both sides of the recorder can be made. Should the cams be stuck forward, they should be pulled back.

The tape cartridge should be carefully handled to ensure that the tape is not touched or subjected to unnecessary contamination. If the tape is to be stored or carried, it should be placed in protective packaging.

NOTES:

1. After replacing each suspect unit, or concluding a corrective action:
   (a) Reload the system:
   At the Alarm Panel, TEST-PROCESSOR/MEMORY section
   - Set the SELECT control to 9
   - Depress the ENABLE button.

   (b) Determine if the trouble is cleared by clearing the fault records.
2. After reinitializing the system, the date and time must be reset.

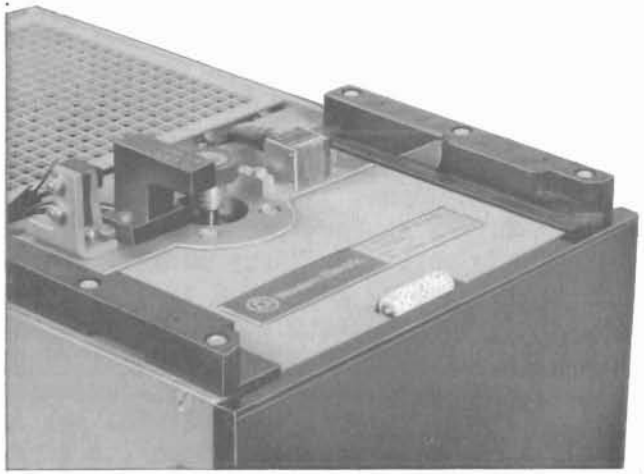


Figure 50-1. Cam in Correct Position

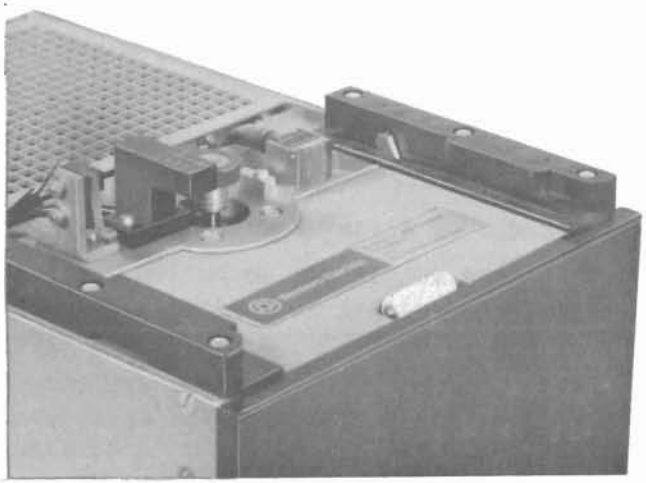


Figure 50-2. Cam in Wrong Position

Table 50-1
Procedure 50 – Tape Test, Repair Procedure

ALARM Panel Lamps		Tape Runs Continuously	MAAP			Corrective Action
Tests Processor/Memory			Wait Lamps	Procedure 50		
				Tape Loads	Displays	
Pass	Fail					
Flashes	Off	No	Off	Yes	100	1. Write translation memory on both tapes. (FP15 requires only one tape to be written.)
					010	2. Write the program patch on both tapes. (FP15 requires only one tape to be written.)
		–	–	–	001	***CAUTION:*** ***Certain tape control malfunctions may destroy information on the tape cartridge. It is recommended that one spare tape cartridge be kept on site and one at the local operating telephone company office. If only one spare tape is available, DO NOT put the spare tape into the minirecorder until the fault(s) have been cleared or unless all of the tape control units (ie, LC29, LC30, and the minirecorder) have been replaced.*** 3.(a) If the tape is continuously running, remove the following fuses to stop the tape: -48FAC5, +5FAC1, -9FAC2. (b) Perform the tape head and puck cleaning procedure. (c) Replace the fuses from Step (a) and do the "run tape" procedure with the original tape cartridge.

Table 50-1
Procedure 50 – Tape Test, Repair Procedure (Contd)

ALARM Panel Lamps		Tape Runs Continuously	MAAP			Corrective Action
Tests Processor/Memory			Wait Lamps	Procedure 50		
				Tape Loads	Displays	
Pass	Fail					
Flashes	Off	–	–	–	010	3.(d) Replace the following, one at a time. Leave the replacement unit(s) and the original tape cartridge in the system. LC29 LC30 Minirecorder (e) Reinitialize the system by setting the SELECT control to 9 and depressing the ENABLE key. If this fails, return to Step (c) and replace the next unit. (f) When all the units in Step (d) have been replaced and the system fails to reinitialize with the original tape cartridge, the information on the tape was most likely destroyed during the initial malfunction. Replace the original tape cartridge with the spare tape and reinitialize the system.
Flashes	Off	No	On	No	–	4. Replace the following, one at a time, to find the defective unit; LC29, LC30, or minirecorder. Perform Corrective Action 3 starting with Step (b).
Not Flashing	On	No	Off	No	–	5.(a) Perform the following: • Reinitialize the system by setting the SELECT control to 9 and depressing the ENABLE key. If this fails, perform Corrective Action 4.

Table 50-1
Procedure 50 – Tape Test, Repair Procedure (Contd)

ALARM Panel Lamps		Tape Runs Continuously	MAAP			Corrective Action
Tests Processor/Memory			Wait Lamps	Procedure 50		
				Tape Loads	Displays	
Pass	Fail					
Not Flashing	On	No	Off	No	–	5.(a) Continued from previous page • After reinitialization, depress the NIGHT key on the attendant console. • Perform the "run tape" procedure with the original tape cartridge. (b) Replace the following, one at a time, to find the defective unit: • LC29 • LC30 • Minirecorder • LC20 • LC22 • LC21 • LC23B • LC44 • Each LC25/28/128/346/39/40 • Tape Cartridge Return to Step (a).

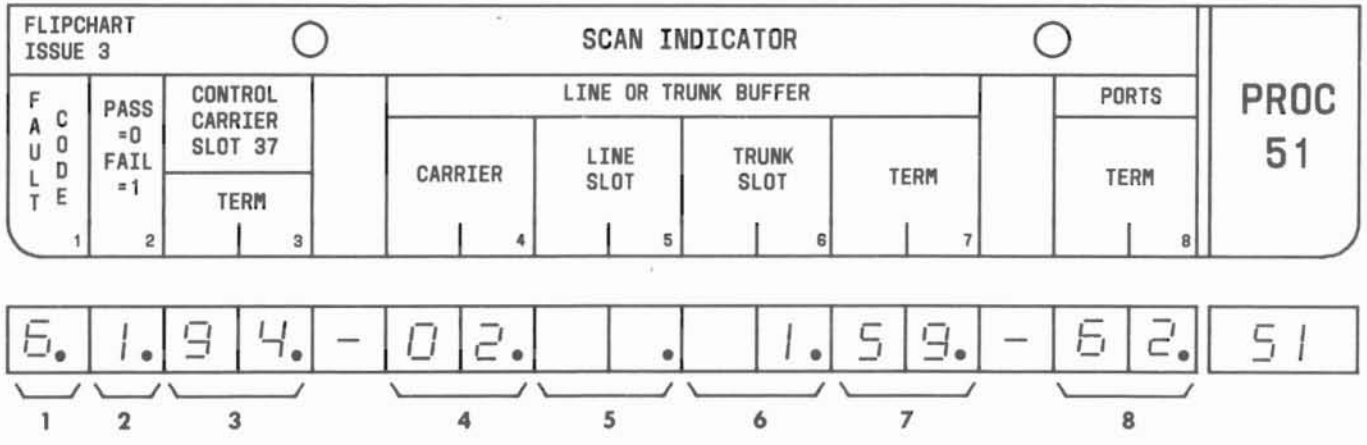
PROCEDURE 51 — SCAN INDICATOR

A. DESCRIPTION

Procedure 51 should be called in when the SCAN and MAJOR ALARM lamps on the Alarm Panel are on or when field 3 or 4 of Procedure 66 displays a 1.

Procedure 51 is used to:

- Display the scan/distributor (S/D) circuit (LC46, LC49/LC41, LC50, or port circuit) that caused the SCAN and MAJOR ALARM lamps to come on.
- Retest the S/D circuits.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition†
1	1	Scan addressing failure.
	2	Scan and network addressing failure.
	3	Internal LC46 failure or multiple failures.
	4	LC46 or LC49/LC41 terminal stuck low.
	5	LC46 or LC49/LC41 terminal stuck high.
	6	LC46, LC50, or port circuit terminal stuck low.
2	0	Pass test.
	1	Fail test.
3	10-99	LC46 interface connector terminal number.
4	00-06	Carrier number of circuit pack associated with the fault.
5	1,10	Line slot number of LC49/LC41 or LC50 circuit pack associated with the fault.
6	1,10	Trunk slot number of LC50 or LC49/LC41 circuit pack associated with the fault.
7	36-96	LC49/LC41 or LC50 interface connector number for leads between LC49 and LC46 or LC50 and LC46.
8	11,12, 62,63	Interface connector terminal number of port circuit associated with the fault.

†Circuit packs are identified as follows:

LC02, LC04, LC05, or LC45 – line port.

LC08 through LC11B, LC13, LC14, LC16, LC32 or LC285 – trunk port.

LC46 – scanner/distributor.

LC49/LC41 – digital buffer A. In system using Feature Package 3, LC41 replaces LC49.

LC50 – analog buffer B.

C. TEST PROCEDURE

Call in Procedure 51:

PROC NO.; 51; ENTER

Field 2 should contain a zero.

Repeat the test:

Depressing the EXECUTE key causes the complete sequence of S/D tests to be performed once a second until a fault is detected or one minute has elapsed.

The pass encode (0) in field 2 should wink at a 60-ipm rate for one minute.

D. REPAIR GUIDE

When a test results in a fault indication (field 2 displays a 1), the following steps should be performed in the order shown to isolate and repair the faulty unit:

Step **Isolation Procedure**

1. Based on the fault indicated (field 1), take the corrective action indicated in Table 51-1.
2. After each corrective action step is taken, depress the EXECUTE key to repeat the test.

> ***NOTE:***
>
> When the fault is corrected and the S/D circuits successfully pass the tests, the SCAN and MAJOR ALARM lamps will automatically turn off.

3. If the fault is still present after the test is repeated, perform the next step and retest.

Table 51-1
Procedure 51 – Scan Indicator Repair Procedure

Fault Code	Corrective Action
1	Replace LC46 and/or LC47B. Check processor addressing leads MA14*, MA15*, IODN*, WR10*, and RD10* for correct address.
2	Same as for fault code 1. The fault is probably in the processor circuit or bus.
3	Replace LC46, LC50, and LC49/LC41 one at a time.
4 or 5	Replace LC46. If a specific buffer circuit location is displayed, replace LC49/LC41 in carrier indicated. Otherwise, disconnect LC49/LC41 circuit packs, one at a time, until fault is cleared. Check logic level on terminal specified in field 7 and investigate associated wiring.
6	Observe the status LED on the LC50 indicated in fields 4 and 6: A. If the LED is on (steady bright): 1. Disconnect the port circuit packs, one at a time, until the fault is cleared. 2. Replace LC50. 3. Replace LC46. 4. Check the wiring between the LC50 and the port circuit packs. B. If the LED is steady dim, perform Steps 2, 3, and 4 of condition A.

END

A. DESCRIPTION

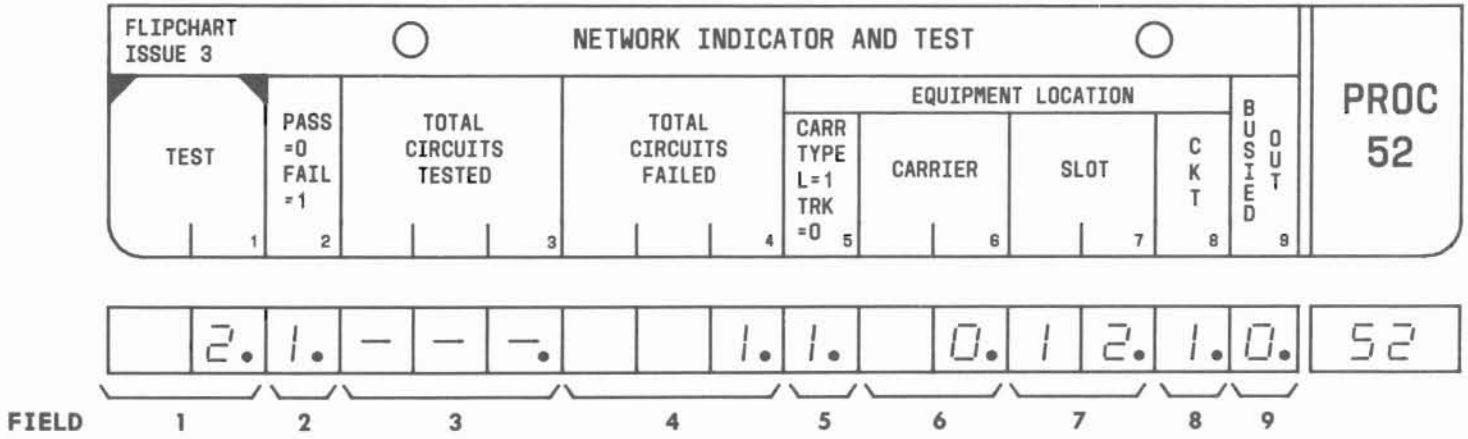
Procedure 52 should be called in when the NET, MAJOR and MINOR ALARM lamps on the Alarm Panel are on or when field 5 or 6 of Procedure 66 displays a 1.

Procedure 52 is used to:

- Display the time division network circuits (LC47, LC49/LC41, LC50, or port circuits) that caused the NET, MAJOR and MINOR ALARM lamps to come on.
- Retest the time division network circuits.

Four tests are available;

- Test 1 – Network control addressing failure history.
- Test 2 – Normal call processing audit.
- Test 3 - Time division network digital circuits test summary.
- Test 4 – Time division network digital circuits test identification.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition†
1	1	Test 1.
	2	Test 2.
	3	Test 3.
	4	Test 4.
2	0	Pass test.
	1	Fail test.
3	1-999	Number of time division shift registers tested (Tests 3 and 4 only).
4	1-5 (Test 2 only)	Failure index.‡
	1-999	Number of time division shift registers that failed the tests.
5	0	Failure located in trunk carrier.
	1	Failure located in line carrier.
6	00-06	Carrier number of failing circuit pack.
7	00-18	Slot number of failing circuit pack.
8	0-3	Circuit number of failing circuit.
9	0	Not busied out.
	1	Busied out.

† Circuit packs are identified as follows:

LC02, LC04, LC05, or LC45 – line port.

LC08 through LC11B, LC13, LC14, LC16, LC32 or LC285 – trunk port.

LC46 – scanner/distributor.

LC47 – network control.

LC49/LC41 – digital buffer A. In system using Feature Package 3, LC41 replaces LC49.

LC50 – analog buffer B.

‡ Used with the STEP key to display to the next faulty port.

C. TEST PROCEDURES

A list of network indicator tests, what each one does, and how each is run follows:

Call in Procedure 52:

PROC NO.; 52; ENTER

If a network control addressing error has occurred, Procedure 52 automatically selects test 1 (field 1=1).

If a network control addressing error has not occurred, Test 2 is selected (field 1=2).

Test 1:

Test 1 provides a failure history of network control addressing logic (LC47) failures. The failure history is displayed in field 2.

The MAAP key sequence for entering this test from another test is:

CHANGE; 1; ENTER; 1; ENTER

A 0 in field 2 indicates that no addressing failures have occurred.

Test 2:

Test 2 provides an audit of network circuit failures that have been detected during normal processing. A maximum of five failures can be displayed. The result of the audit is displayed in field 2.

The MAAP key sequence for entering this test from another test is:

CHANGE; 1; ENTER; 2; ENTER

A 0 in field 2 indicates that no failures have been detected during normal call processing.

> ***NOTE:***
>
> When Test 2 is called in, the failure index appears in field 4. This display does not denote a failure, but simply indicates which item of the audit (1 through 5) is being displayed.

If a failure is indicated (field 2=1), the STEP key can be used to display the location of up to five port circuits (fields 6, 7, and 8). The first circuit is displayed automatically. Depressing the STEP key displays the next faulty circuit.

Test 3:

This tests the digital portion of the time division network in all port circuits. A summary of test results is displayed in fields 3 and 4.

C. TEST PROCEDURES (Contd)

The MAAP key sequence for entering Test 3 from another test is:

CHANGE; 1; ENTER; 3; ENTER; EXECUTE

EXECUTE initiates network testing of all port circuits starting with the first in line carrier 0. Depressing the EXECUTE key again reinitiates the test. Successful completion is indicated by a zero in field 2.

Test 4:

This tests the digital portion of the time division network in all port circuits and displays the location of each failing circuit. A summary of test results is displayed in fields 3 and 4. The location of a failing circuit is shown in fields 5 through 8.

The MAAP key sequence for entering Test 4 from another test is:

CHANGE; 1; ENTER; 4; ENTER; EXECUTE

EXECUTE initiates network testing of all port circuits starting with the first in line carrier 0. Depressing the EXECUTE key again reinitiates the test. Successful completion is indicated by a zero in field 2.

If a failure is indicated (field 2=1), the STEP key can be used to display the location of each faulty circuit. Each time the STEP key is depressed, another failed circuit is displayed.

D. REPAIR GUIDE

When a network fault is indicated, the following steps should be performed in the order shown to isolate and repair the faulty unit.

Step	Isolation Procedure
1.	If Test 1 appears when Procedure 52 is called in, go to Step 2. If Test 2 appears, go to Step 4.
2.	Replace LC47 and execute Test 3. When the fault is cleared, the NET, MAJOR and MINOR ALARM lamps on the Alarm Panel are turned off. If the fault is not cleared, go to Step 3.
3.	Investigate processor addressing leads MA13*, MA15*, IODN*, WRIO*, and RDIO*.
4.	If Test 2 appears, record the indicated failures; go to Step 5.
5.	Execute Test 3 to determine the number of failing circuits.
6.	If display field 3 equals field 4: (a) Replace LC47 and retest. (b) Replace LC46 and retest. (c) If fault persists, run microdiagnostic tests. If field 3 is not equal to field 4, go to Step 7.
7.	Execute Test 4 to identify each failing circuit (STEP button).
8.	Based on the results of Test 4, take the corrective action indicated in Table 52-1. Perform the corrective action sequences in the order indicated. Repeat the test after each action is taken (EXECUTE key). If the failure persists (same number of failing circuits), go to the next action.

Table 52-1

Procedure 52 – Network Indicator and Test Repair Procedure

Fault Category	Corrective Action
Single or individual port circuits failed.	Replace each port circuit displayed (fields 5 through 8), one at a time.
All port circuits in same slot failed.	Replace each port circuit in displayed slot, one at at time. Replace LC49/LC41 in displayed carrier.
Common port circuit in all slots in a carrier failed.	Replace LC49/LC41 in displayed carrier. Disconnect port circuits in displayed carrier, one at a time, until fault is cleared.
All port circuits in a group of four slots (slots 2-5, 6-9, 11-14, or 15-18) failed.	Replace LC49/LC41 in displayed carrier. Disconnect port circuits in displayed carrier, one at a time, until fault is cleared.
All port circuits in a carrier failed.	Replace LC49/LC41 in displayed carrier. Replace LC50. Replace LC47. LC46.
Number of failures change in more than one carrier.	Replace LC47. Replace LC46. Disconnect LC49/LC41 buffer circuits one at a time.
Number of failures change in a single carrier.	Replace LC49/LC41 in displayed carrier. Replace LC47. Replace LC46.
Other failure patterns.	Replace LC49/LC41. Replace each associated port circuit, one at a time, until fault is cleared.

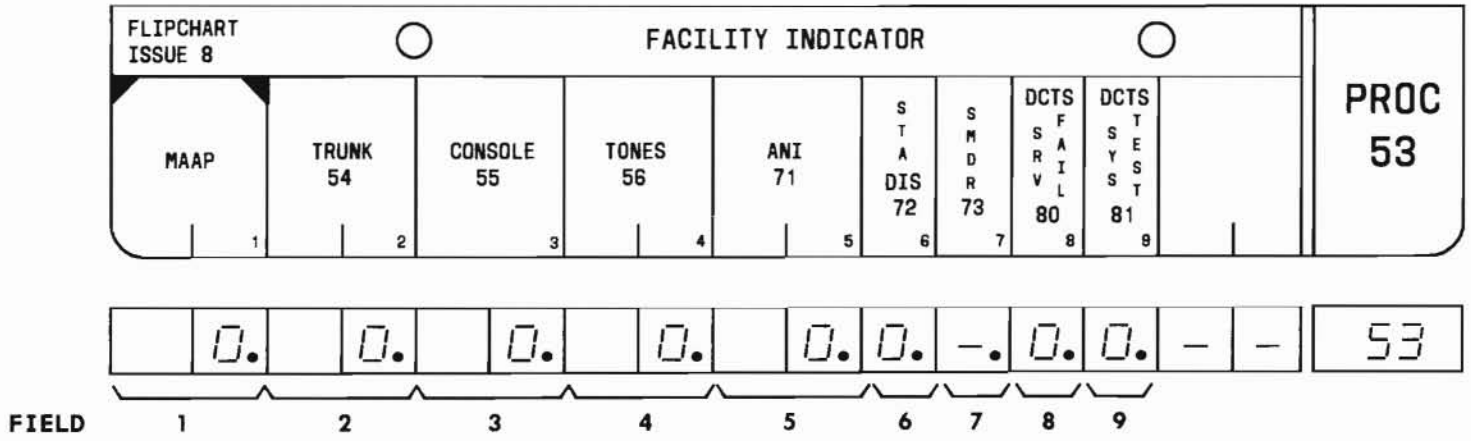
END

A. DESCRIPTION

This procedure is run when the FACILITY lamp on the Alarm Panel is on. The test isolates the function that turned on the lamp.

Each field in the flip chart (except field 1) references a procedure that is the follow-up test to be run if a 1 appears in that field.

> ***NOTE:***
> A dash will be displayed in field 7 (SMDR) or in fields 8 and 9 (ECTS) when the applicable function is not part of the system being tested.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1-9	0	Function not at fault.
	1	Function at fault.

C. TEST PROCEDURE

Call in Procedure 53:

PROC NO.; 53; ENTER

Display fault indicators:

Call in Procedure 53 and check the MAAP display for ls in fields 1 through 9. If a 1 appears in field 1, refer to the Repair Guide for corrective action. If a 1 appears in fields 2 through 9, refer to the procedure indicated in the flip chart for further testing.

NOTE:
When an LC17 is being used in FP10 and FP15 and a 1 is displayed in field 4, refer to both Procedure 56 and Procedure 75.

When a 1 appears in more than one field, refer to the applicable procedures in a left-to-right order starting with the left-most 1 first.

CAUTION:
If DIMENSION PBX Electronic Custom Telephone Service (ECTS) is provided, calling in Procedure 81 will disrupt ECTS service.

D. REPAIR GUIDE

If a 1 appears in field 1, proceed as follows:

Step	Isolation Procedure
1.	Unplug the MAAP. The FACILITY lamp should go off if field 1 is the only nonzero field.
2.	Wait 2 minutes and reconnect the MAAP. Call in Procedure 53 again. If field 1 still displays a 1, replace LC44. Otherwise, a transient failure caused the alarm. Unplug the MAAP.

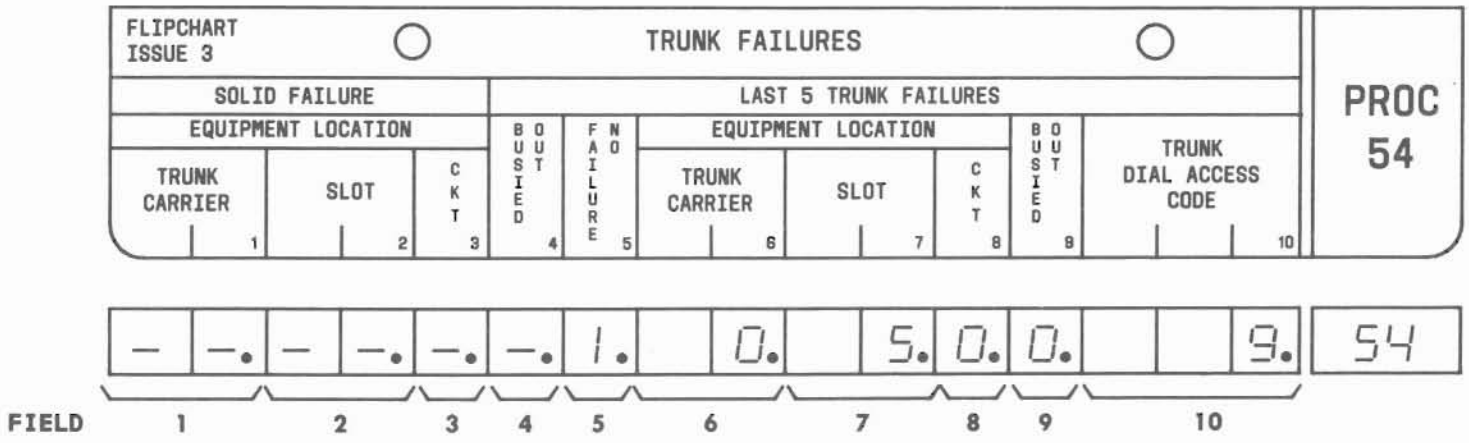
END

PROCEDURE 54 — TRUNK FAILURES

A. DESCRIPTION

This procedure is run when:

- Procedure 53 indicates a trunk failure (field 2 displays a 1) with the FACILITY lamp on,
- Procedure 66, field 8 displays a 1, or
- A trunk-oriented trouble report occurs.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	00-06	Trunk carrier designation.
2	00-18	Slot number.
3	0, 1	Circuit number.
4	0	Circuits not busied out.
	1	Circuits busied out.
5	1-5	Number of trunk failures.
6	00-06	Trunk carrier designation.
7	00-18	Slot number.
8	0, 1	Circuit number.
9	0	Circuits not busied out.
	1	Circuits busied out.
10	000-999†	Trunk dial access code.
†DID trunks have access code "0".		

C. TEST PROCEDURES

Call in Procedure 54:

PROC NO.; 54; ENTER

Display trunk failures:

Call in Procedure 54 and observe the MAAP display for trunk failures. Use STEP key to display another failure number. If a transient failure is displayed, the next trunk failure is shown.

Changing the status of the trunk:

Call in Procedure 54 and display the desired circuit. Depress the BUSY OUT or RLS BSY/OUT key to change the trunk status as follows:

(a) BUSY OUT – busies out the displayed trunk; field 4 or 9 changes to 1, and the BUSY OUT lamp is turned on if not already on.

(b) RLS BSY/OUT – returns displayed trunk to service; field 4 or 9 changes to 0 and the BUSY OUT lamp is turned off if no other circuits are busied out.

Reset failure data and alarm:

> ***NOTE:***
> Use the following sequence only after all information from the display has been checked.

Call in Procedure 54; RESET;EXECUTE

The trunk failure data is zeroed out and the FACILITY and MINOR ALARM lamps are turned off.

D. REPAIR GUIDE

If the Solid Failure fields are displayed, replace the indicated trunk circuit pack. Verify that the trouble has been cleared by running Procedure 62.

If 9s are displayed in all fields, a translation error probably exists. Check trunk records using Procedures 10, 11, and 13.

If 8s are displayed in all fields, refer to the DIMENSION 400 PBX Software Engineering Maintenance Manual, Volume 1 (Select Code 500-384).

If the Last 5 Trunk Failures fields are displayed (fields 6 through 10), proceed as follows:

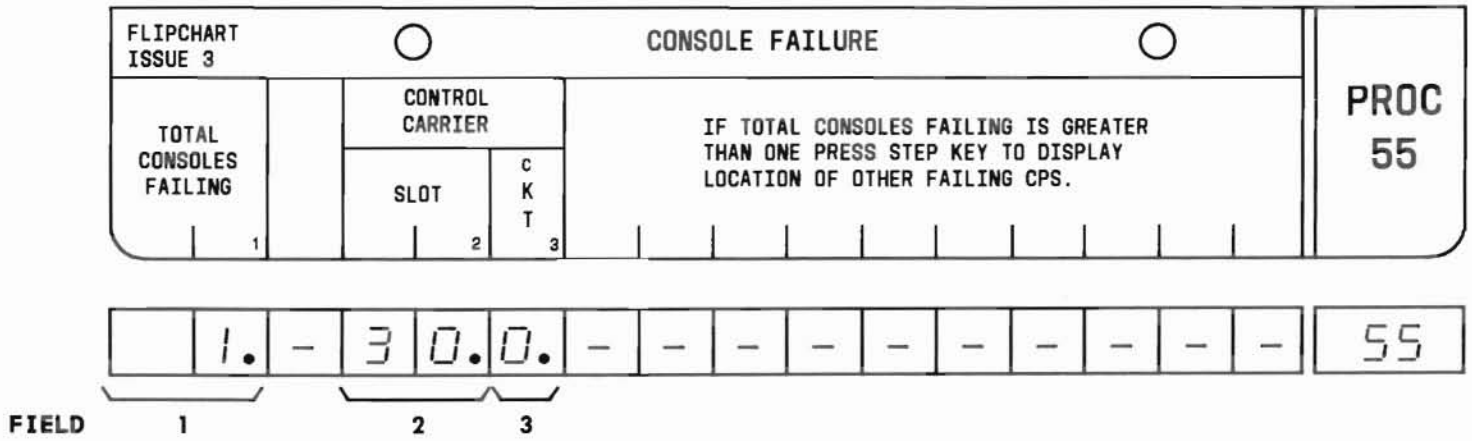
1. Use Procedure 62 to place test calls through the displayed trunks to verify trunks are failing.
2. If a single trunk fails, replace that circuit pack. If more than one trunk in the same carrier fails, replace LC49B in that carrier. Verify by placing test calls.
3. If the trouble is not cleared, replace LC50 in that carrier.

A. DESCRIPTION

This procedure is run when:

- Procedure 53 indicates a console failure (field 3 equals a 1) with the FACILITY lamp on,
- Procedure 66, field 9 displays a 1, or
- A console trouble report occurs.

This procedure displays the location of circuit pack LC34B or LC366 used by the failing console(s).



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-4	Number of total failures.
2	30, 31	Slot number.
3	0, 1	Circuit number.

C. TEST PROCEDURES

Call in Procedure 55:

PROC NO.; 55: ENTER

Display console failures:

Call in Procedure 55 and observe the MAAP display. If more than one console is failing, use the STEP key to display the next failing LC34B or LC366 location. Depress the EXECUTE key to rerun the console test.

Retire alarm:

> ***NOTE:***
> Use this sequence only after all information from the display has been checked.

RESET; EXECUTE. The FACILITY and MAJOR ALARM lamps are turned off if this is the only alarm cause in the system.

D. REPAIR GUIDE

> ***NOTE:***
> Be sure headsets are plugged in.

1. If more than one console is failing, replace LC44 and rerun the test (see note below). If the problem still exists, replace the LC34B or LC366 circuit pack indicated on the MAAP display.
2. If the system has more than one console but only one is failing, replace the LC34B or LC366 circuit pack displayed on the MAAP. Rerun the test and if the problem persists, remove the bottom cover of the affected console and check the output voltages at MW-1 (Table 55-1). If voltages are correct, replace circuit pack MN-4 (TC-1 or TC-2). If voltages are incorrect, replace MW-1.

Table 55-1

MW-1 Output Voltages

Connector	Pin	Voltage
P2	9	−5 Vdc
P2	8	−17 Vdc

3. If the system contains one console and it is failing, replace the LC34B or LC366 circuit pack indicated on the MAAP display. Rerun the test serveral times. If trouble persists, replace LC44. If trouble still exists, check voltages at the affected console on circuit pack MW-1 (Table 55-1). If voltages are correct, replace MN-4 (TC-1 or TC-2); if not, replace MW-1.

D. REPAIR GUIDE (Contd)

> ***NOTE:***
> If the MAAP display indicates that no consoles are failing when Procedure 55 is read in but Procedure 53 indicates a console failure, depress the EXECUTE key 5 to 10 times to catch heavy transient faults.
>
> If the MAAP display still indicates no consoles are failing, unplug headsets and rerun the tests by depressing the EXECUTE key. If consoles are now failing, replace the LC45 circuit pack corresponding to the LC34B or LC366 pack being displayed.

END

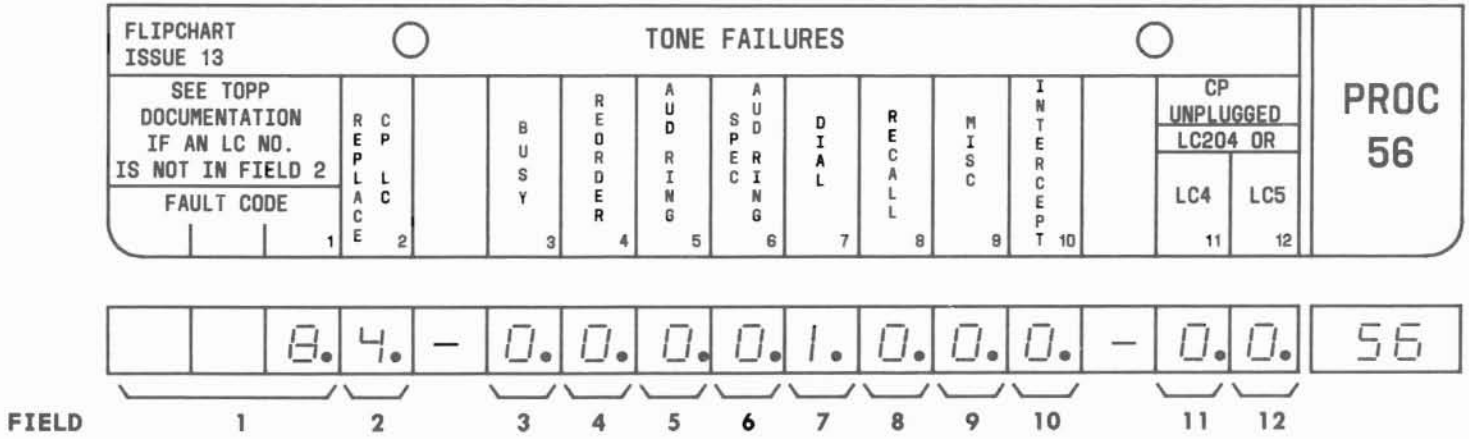
A. DESCRIPTION

This procedure is run to determine if LC04, LC05, or LC204 is at fault as indicated by either:

- Procedure 53 indicating a tone failure (field 4 displays a 1) with the FACILITY and MAJOR ALARM lamps on,
- Procedure 66, field 10 displaying a 1, or
- Any one of the other remaining tones turning on the MINOR ALARM lamp.

This procedure also permits the testing of all eight tone ports and the monitoring of the connection status for circuit packs LC04, LC05B, or LC204. If LC04 and/or LC05B (or LC204, if provided) is disconnected, the MINOR ALARM lamp is turned on.

The FACILITY lamp is turned off automatically if the tone circuits pass the tests and if no other facility circuits are failing. The MAJOR and MINOR ALARM lamps are also turned off if no other lamps are on.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-255	Binary weighted decimal equivalent of fields 3 through 10.
2	4	Indicated circuit pack for fault code less than 16.
	5	Indicated circuit pack for fault code greater than 16 but not equal to 128, 244, or 255
	–	Fault code = 0, 128, 244, or 255.
3-10	0	Tone passed test.
	1	Tone failed test.
11*	0	LC04 or LC204 plugged in.
	1	LC04 or LC204 unplugged.
12*	0	LC05 or LC204 plugged in.
	1	LC05 or LC204 unplugged.

*When LC204 is provided (replacing LC04 and LC05B), both fields 11 and 12 will display a "0" when LC204 is plugged in and a "1" when unplugged.

C. TEST PROCEDURE

Call in Procedure 56:

PROC NO.; 56; ENTER

Perform tone test:

Call in Procedure 56; EXECUTE

The eight tones are tested sequentially in the order indicated in the flip chart.

The testing time for each tone is 12 seconds with a total test time of 96 seconds. The dash in the field for the tone being tested flashes at a 60-ipm rate.

D. REPAIR GUIDE

1. LC04, LC05B, or LC204 unplugged indications
   (a) Replace LC49B in line carrier 0.
   (b) Replace LC04, then LC05B (or LC204, if provided).
   (c) Check SS2 status wire to LC04, LC05B, or LC204. (Refer to SD-1E445-01).
2. Fault Code = 0
   If centralized attendant service (CAS) or code call (LC17) is provided, use Procedure 75.
3. Fault Code = 1
   (a) Replace LC04 or LC204.
   (b) Check 620-Hz and 150-ipm wiring. (Refer to SD-1E445-01).
4. Fault Code = 4
   (a) Replace LC05B or LC204.
   (b) Check 300-ipm and tone monitor wiring. (Refer to SD-1E445-01).
5. Fault Code = 128
   (a) Replace LC204, if provided.
   (b) Listen for busy tone. If busy tone and dial tone are heard, replace LC04. Otherwise, replace LC05B.

D. REPAIR GUIDE (Contd)

6. Fault Code = 244
   Dial the first digit of a line extension number;
   (a) Replace LC204 (if provided).
   (b) If reorder or steady audible ringback tone is heard, replace LC05B.
   (c) If dial, miscellaneous, 620-Hz, or intercept tone is heard, replace LC04.
   (d) Check 25 ms on LC05B (test point 4) or LC204 (test point 5) with the logic probe. If a blinking indication occurs, replace LC05B, or LC204. If blinking is not observed, check 25 ms wiring. (Refer to SD-1E445-01).

7. Fault code = 255
   Listen for dial tone. If dial tone is not heard, replace LC04 or LC204. Otherwise, check the time division network.

NOTE:
Further testing may be performed using Procedure 63.

END

PROCEDURE 58 – PERIODIC PEG COUNT

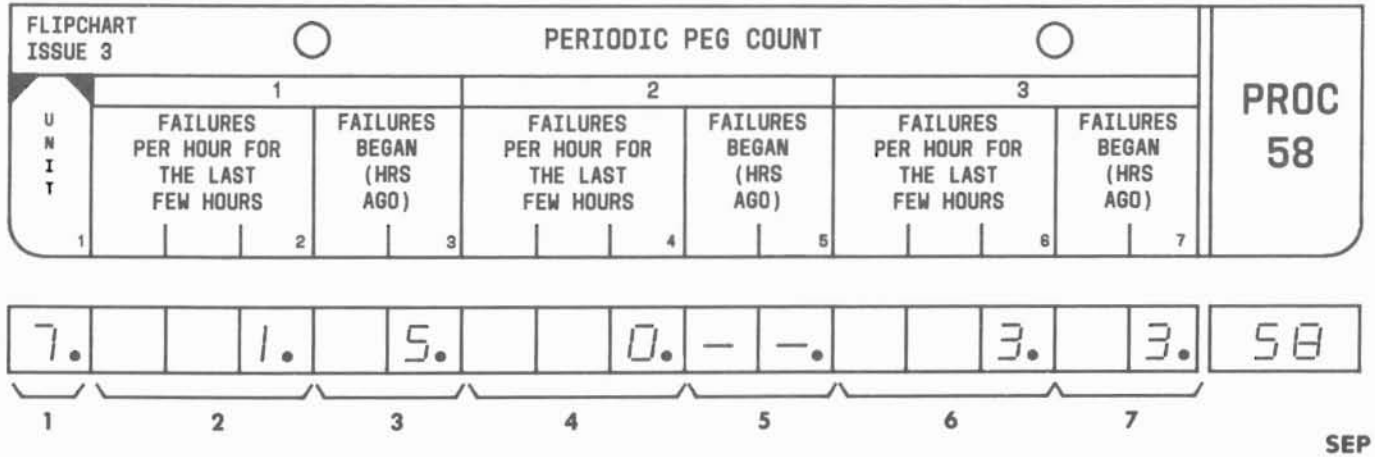
A. DESCRIPTION

Periodic tests are performed on the units listed in Table 58-1 by the on-line maintenance software. Failures of these tests are peg counted. Procedure 58 is used to display an approximate failure rate and the number of hours since the failures began for each unit (17 hours maximum).

Table 58-1
Peg Count Units

Unit	Definition	Field Numbers	Associated Procedures
0	Total of periodic peg counts.	2,3	–
1	Initializations attempted.	2,3	64,68
2	Tape failures.	2,3	–
3	Scanner CF failures.	2,3	51
4	Scan bus failures.	2,3	51
5	Network audit failures.	2,3	52
6	Tone failures (LC04, LC05B). LC204 replaces LC04/LC05B in some systems.	2,3 – LC04 4,5 – LC05B	56,63
7	Console failures (consoles 1-4).	†	55

† First time: Fields 2-7
Second time (after STEP): Fields 2 and 3 only



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-7	Refer to Table 58-1.
2,4,6	0-999	Approximate failures per hour over a period of not more than 17 hours.
3,5,7	0-17	Approximate number of hours since failures began.

C. TEST PROCEDURE

Call in Procedure 58:

PROC NO.; 58; ENTER; CHANGE; 1; ENTER; (Unit); ENTER

NOTE:
If a unit number larger than 7 is entered, the ERROR indicator will light.

Depressing the STEP key displays the peg count for the next unit in sequence.

Depressing the RESET and EXECUTE keys resets the peg count of the unit displayed to zero. If the unit is 0, all peg counts are zeroed.

When Procedure 58 is called in or whenever the STEP key is used to select unit 0, the contents of the peg count buffer are displayed. Failures that occur after the buffer is displayed are not included in the display until the buffer is displayed again.

To display new failure information, the procedure must be stepped through unit 0 and then back to the desired unit. The display for each unit is kept static during one pass through all units. This enables the operator to see the frequency of failures for each unit compared to the other units.

D. REPAIR GUIDE

Procedure 58 can be an early warning trouble indicator because it indicates failures that may or may not affect service. When a particular unit has a high enough failure rate to be of interest, use the associated procedures (Table 58-1) for further information. When failures are truly transient, the associated procedures may not provide the required information. When this is the case, wait awhile or return the next day to sample the peg count for the suspect unit. If the failure rate has increased or remains high, a circuit pack is probably in a marginal condition and should be replaced.

END

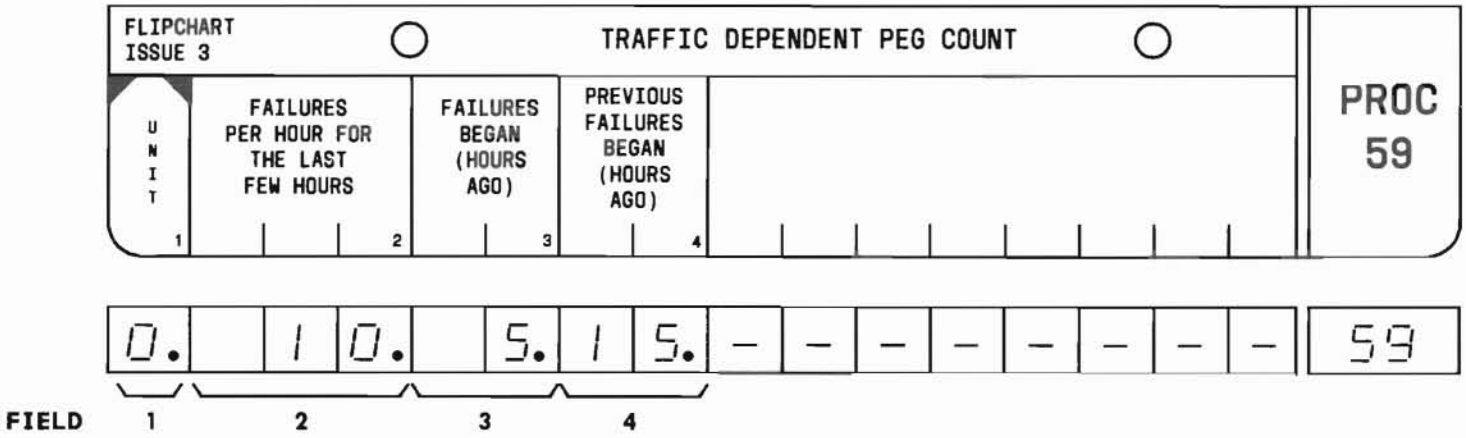
A. DESCRIPTION

The traffic dependent peg count is necessary to test the units listed in Table 59-1. When a call is dropped or when a retry occurs in the scanner/distributor (S/D) or network control, the appropriate peg count is incremented. Procedure 59 is used to display for each unit an approximate failure rate, the number of hours since the failures began, and the number of hours since other failures have occurred (17 hours maximum).

Table 59-1

Traffic Dependent Peg Count Units

Unit	Definition	Associated Procedures
0	Total aborted calls.	61, 62
1	Aborted calls due to trunk failures.	54, 62
2	Scanner/distributor retries.	51
3	Network control retries.	52



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-3	Refer to Table 59-1.
2	0-999	Approximate failures per hour over a period of not more than 17 hours.
3	0-17	Approximate number of hours since failure began.
4	0-17	Approximate number of hours since other failures began.

C. TEST PROCEDURE

Call in Procedure 59:

PROC NO.; 59; ENTER; CHANGE; 1; ENTER; (Unit); ENTER

> ***NOTE:***
> If a unit number larger than 3 is entered, the ERROR indicator will light.

Depressing the STEP key displays the peg count for the next unit in sequence.

Depressing the RESET and EXECUTE keys resets the peg count of the unit displayed to zero. If the unit is 0, all peg counts are zeroed.

When Procedure 59 is called in or whenever the STEP key is used to select unit 0, the contents of the peg count buffer are displayed. Failures that occur after the buffer is displayed are not included in the display until the buffer is displayed again.

To display new failure information, the procedure must be stepped through unit 0 and then back to the desired unit. The display for each unit is kept static during one pass through all units. This enables the operator to see the frequency of failures for each unit compared to the other units.

D. REPAIR GUIDE

Procedure 59 reports failures that may or may not affect service. If the S/D has failed once and has passed when a retry occurred, service interruption has not occurred. If a trunk has sequenced incorrectly, the call will have been dropped, causing a service interruption. Interpretation of a Procedure 59 display is much the same as a Procedure 58 display, with the following exception:

Procedure 58 displays information collected by tests run periodically. Procedure 59 depends on traffic.

If no traffic is flowing through the machine, the peg count will not be incremented, even though a bad trunk circuit pack is in the system. This condition makes necessary the display of when previous failures began (field 4). For instance, if a trouble report is received late in the afternoon, a craftsperson may not arrive at the site until the following morning. In this case, the failure rate for the intervening hours might be low due to decreased overnight traffic. However, the previous failure display would probably contain a nonzero value, indicating failures had occurred (up to a maximum of 17 hours previously).

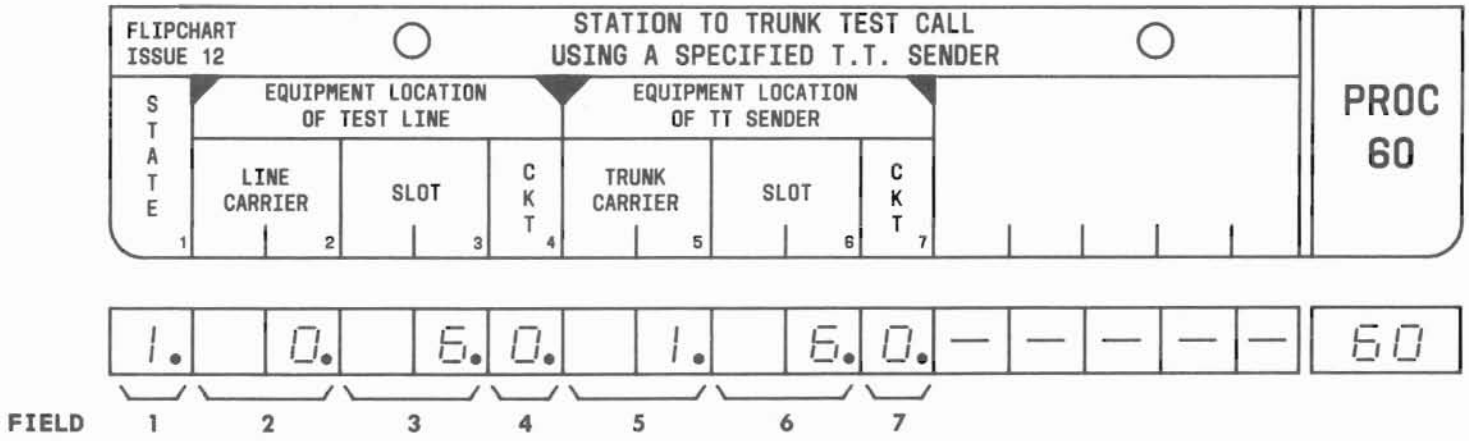
When a particular unit has a high enough failure rate to be of interest, use the associated procedures (Table 59-1) for further information. When failures are truly transient, the associated procedures may not provide the required information. When this is the case, wait awhile or return the next day to sample the peg count for the suspect unit. If the failure rate has increased or remains high, a circuit pack is probably in a marginal condition and should be replaced.

PROCEDURE 60 — STATION TO TRUNK TEST CALL USING A SPECIFIED TOUCH-TONE DIALING SENDER

A. DESCRIPTION

This procedure tests TOUCH-TONE dialing senders by allowing an outgoing trunk call to be placed from any station via any TOUCH-TONE dialing sender.

> ***NOTE:***
> A TOUCH-TONE telephone must be used; however, a rotary dial telephone can be used if it is assigned TOUCH-TONE dialing in the line class of service and a speed call is made. An Electronic Custom Telephone Service (ECTS) telephone cannot be used.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0	Either test line or test trunk not ready.
	1	Test line idle or test trunk not ready.
	2	Test line receiving dial tone.
	3	Talk or ringing state.
	4	Test line receiving busy or intercept tone.
	5	Not applicable.
	6	Call aborted.
	7	Not applicable.
	8	No facility available (eg, no time slot or no register).
	9	No trunk available.
2	0†	Line carrier designation.
3	6†	Location of circuit pack associated with test line. Required for all tests.
4	0†	Circuit dedicated to test line.
5	0-3	Trunk carrier designation.
6	2-9	Location of circuit pack associated with trunk.
7	0,1	Circuit designation.

† The values shown select the test line available in the DIMENSION PBX. To select a different line, the appropriate values for the carrier, slot, and circuit must be entered.

C. TEST PROCEDURES

Call in Procedure 60:

PROC NO.; 60; ENTER
Field 2 goes blank, all other fields show dashes.

> ***NOTE:***
>
> If after entering a line or trunk location, the ERROR lamp comes on, one of the following is possible.
>
> - Illegal location number.
> - Unequipped line.
> - Busied-out line.
> - Unequipped trunk.
> - Busied-out trunk.

Testing all TOUCH-TONE dialing senders:

Call in Procedure 60 and enter values for Equipment Location of Test Line fields.

eg: 00; ENTER; 06; ENTER; 0; ENTER

Perform the steps indicated below:

1. Depress the STEP key to select the TOUCH-TONE sender with the lowest internal trunk number. Fields 5, 6, and 7 display the Equipment Location of the TOUCH-TONE senders.
2. Place the telephone on-hook and depress the EXECUTE key. Verify that field 1 displays a 1. Go off-hook and field 1 changes to a 2 with dial tone present.

> ***NOTE:***
>
> If the handset is initially off-hook when the EXECUTE key is depressed, field 1 will display a 0 indicating off-hook status.

3. Dial a valid outgoing trunk number (via ARS or speed calling) and verify the following:
   - Ringing tone is heard.
   - Field 1 displays a 3.
4. Use the STEP key to advance to the next trunk and repeat Steps 1 and 2. Depressing the STEP key repeatedly selects the TOUCH-TONE sender trunks starting with the lowest internal trunk number and continuing to the highest internal trunk number and then finally starting over again.

Testing a selected TOUCH-TONE dialing sender:

Call in Procedure 60 and enter values for Equipment Location of Test Line and Equipment Location of the selected TOUCH-TONE dialing sender.

eg: 00; ENTER; 06; ENTER; 0; ENTER; 00; ENTER; 07; ENTER; 1; ENTER

Perform the steps indicated below:

1. Place the telephone on-hook and depress the EXECUTE key. Verify that field 1 displays a 1. Go off-hook and field 1 changes to a 2 with dial tone present.
2. Dial a valid outgoing trunk number (via ARS or speed calling) and verify the following:
   - Ringing tone is heard.
   - Field 1 displays a 3.

D. REPAIR GUIDE

If outgoing calls using the TOUCH-TONE dialing sender have not completed properly, perform the following steps in the order shown to isolate and repair the faulty unit.

1. Test the 2-out-of-7 codes for TOUCH-TONE dialing digits through the TOUCH-TONE dialing sender, by selecting a valid outgoing trunk number that exercises at least one digit in each row and column on the TOUCH-TONE dialing pad including 0. For example, a test call to an outgoing trunk number 9-469-3208 uses at least one digit in each column and row on the TOUCH-TONE dialing pad (see chart below) and completely tests the 2-out-of-7 code through the TOUCH-TONE dialing sender.

2-out-of-7 Code	H1	H2	H3
L1	1	2	3
L2	4	5	6
L3	7	8	9
L4	*	0	#

2. If the test call does not complete properly, test the TOUCH-TONE calling register by using Procedure 61.
3. If all TOUCH-TONE calling registers are functional, replace LC12.

END

A. DESCRIPTION

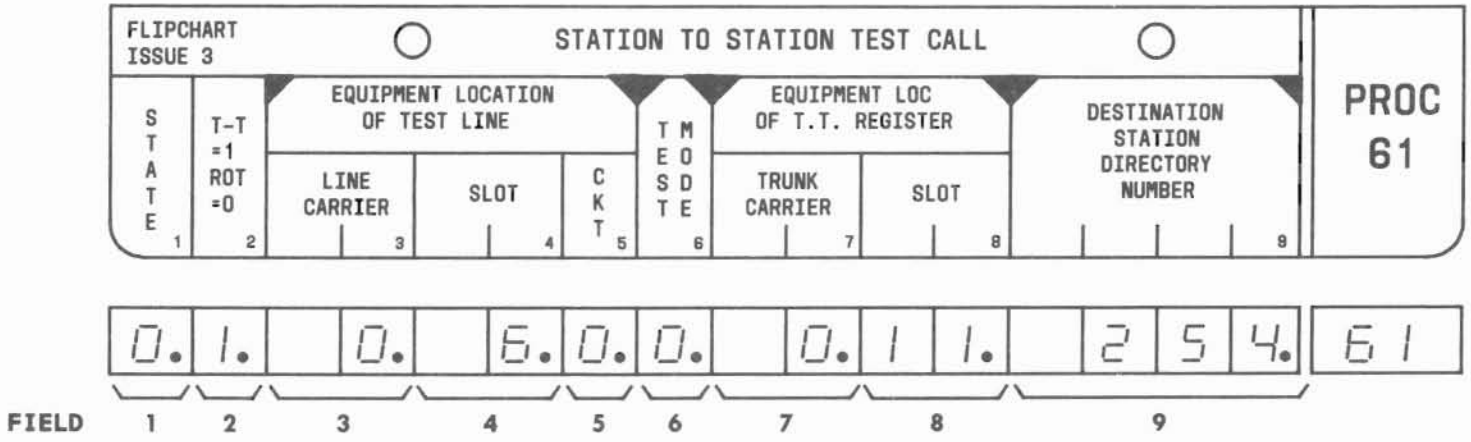
This procedure tests TOUCH-TONE calling registers by allowing a call to be placed from any station via any TOUCH-TONE calling register. It displays the digits dialed as decoded by the TOUCH-TONE calling register.

Three modes of operation are possible as defined by field 5 as follows:

- Mode 0 – Used to test any TOUCH-TONE calling register.
- Mode 1 – Used to test a specific TOUCH-TONE calling register.
- Mode 2 – Used to test rotary dial digit collection.

NOTE:

A TOUCH-TONE telephone must be used for modes 0 and 1. A DIMENSION PBX Electronic Custom Telephone Service (ECTS) telephone cannot be used for this procedure.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0	Test line or specified register not ready.
	1	Test line on-hook.
	2	Dial tone through dial completion.
	3	Ringing or talking.
	4	Busy or intercept tone.
	5	End-of-group test.
	6	Call dropped.
	7	No time slot available.
	8	No register available.
2	1	TOUCH-TONE telephone.
	0	Rotary telephone.
3	00†	Line carrier designation required for all tests.
4	06†	Location of circuit pack associated with test line. Required for all tests.
5	0†	Circuit dedicated to test line required for all tests.
6	0	Tests all TOUCH-TONE calling registers.
	1	Tests a specific TOUCH-TONE calling register.
	2	Tests rotary dial collection.
7	0-3	Input required only when field 6 = 1.
8	2-9 11-18	Input required only when field 6 = 1.
9	2-,3-,or 4-digit number	Optional field: enter in this field the number being dialed to prevent hunting.

† The values shown select the test line available in the DIMENSION PBX. To select a different line, the appropriate values for carrier, slot, and circuit must be entered.

C. TEST PROCEDURES

Call in Procedure 61:

PROC NO.; 61; ENTER

Field 2 goes blank, all other fields show dashes.

> ***NOTE:***
>
> If after entering a line or trunk location, the ERROR lamp comes on, one of the following is possible:
>
> - Illegal location number.
> - Unequipped line.
> - Busied-out line.
> - Unequipped trunk.
> - Busied-out trunk.

Testing all TOUCH-TONE calling registers (test mode = 0):

Call in Procedure 61 and enter values for Equipment Location of Test Line fields and mode = 0.

eg: 00; ENTER; 06; ENTER; 0; ENTER; 0; ENTER

Upon entering circuit value, field 1 displays a 1. Upon entering mode 0, fields 7 and 8 display the first TOUCH-TONE calling register to be tested.

> ***NOTE:***
>
> To disable hunting, enter the destination number in field 9.

Perform the steps indicated below:

1. Place the telephone on-hook and depress the EXECUTE key. Verify that field 1 displays a 1. Go off-hook and field 1 should change to 2 with dial tone present.

> ***NOTE:***
>
> If the handset is initially off-hook when the EXECUTE key is depressed, field 1 will display a 0 indicating off-hook status.

2. Dial an extension number in service and verify the following:

   Ringing tone is heard,
   Field 1 displays a 3,
   Field 9 displays the dialed digits.

   While dialing, field 9 should display the line extension number dialed. If a different number is displayed, the TOUCH-TONE calling register is at fault.

   If hunting is enabled and the number dialed is busy, field 9 will display the number hunted to. If hunting is disabled, field 9 continues to display the number dialed.

3. Depress the STEP key to advance to the next TOUCH-TONE calling register and repeat Steps 1 and 2. When all TOUCH-TONE calling registers have been tested, field 1 should display a 5, end-of-group test.

C. **TEST PROCEDURES** (Contd)

Testing a selected TOUCH-TONE calling register (test mode = 1):

Call in Procedure 61 and enter values for the Equipment Location of Test Line fields, and mode = 1.

eg: 00; ENTER; 06; ENTER; 0; ENTER; 1; ENTER

Now enter values for fields 7 and 8 as follows:

(Trunk Carrier); ENTER; (Slot); ENTER

Perform Steps 1 and 2 as given in the previous test – Testing All TOUCH-TONE Calling Registers.

Testing rotary dial digit collection (test mode = 2):

Using the test line and a rotary telephone, dial an extension number in service. Verify that the telephone rings and field 1 changes from 1 through 3 as decribed for TOUCH-TONE telephone.

> ***NOTE:***
>
> Fields 7 and 8 are not applicable to rotary dial tests, and field 9 shows dashes.

D. **REPAIR GUIDE**

To test the 2-out-of-7 code for TOUCH-TONE dialing digits through the TOUCH-TONE calling register, select a valid destination station number that exercises at least one digit in each row and each column on the TOUCH-TONE dialing pad including 0. For example, test calls to stations 610 and 657 use at least one digit in each column and row on the TOUCH-TONE dialing pad (see chart below) and completely tests the 2-out-of-7 code through the TOUCH-TONE calling register.

2-Out-Of-7 Code	H1	H2	H3
L1	1	2	3
L2	4	5	6
L3	7	8	9
L4	*	0	#

To test a TOUCH-TONE calling register, perform the steps given below.

Step **Isolation Procedure**

1. Choose a valid directory number from the following list:

159	195	168	186	249
294	267	276	357	375
348	384	429	492	438
483	519	591	537	573
618	681	627	672	726
762	735	753	816	834
843	861	915	924	942
951				

D. REPAIR GUIDE (Contd)

2. Dial the number. If while dialing, field 9 displays a number different from the one dialed, the TOUCH-TONE calling register is failing. Test other registers in a similar manner. If the register does not fail, try another call using a directory number that contains a 0.

> ***NOTE:***
>
> In some machines, circuit pack LC10C has replaced circuit packs LC54B and LC10B. Where this is the case, substitute LC10C wherever LC54B or LC10B is mentioned in the following steps.

3. If all registers fail, replace LC49B and rerun the tests. If the trouble is not cleared, replace LC50.

   If the test call is stuck in a certain state and if another test call over the same line and register is desired, depress the EXECUTE key an place another call.

4. If a single register fails, determine whether LC10B or LC54B is at fault by performing the following steps:

   (a) Select the bad register and dial the number that was dialed before.

   (b) Observe the 2-out-of-7 code LEDs on LC10B. If the LEDs are correct for the directory number, replace LC10B and retest. If the trouble is not cleared, check wiring.

   (c) If the LEDs are not correct, check TP 1 on LC10B. If the signal is absent, replace LC10B. If the signal is present, check TP2 on LC10B. If the signal is absent, replace LC54B. If the signal is present, dial a single digit and check TP 1 through TP 7 on LC54B for the 2-out-of-7 code.

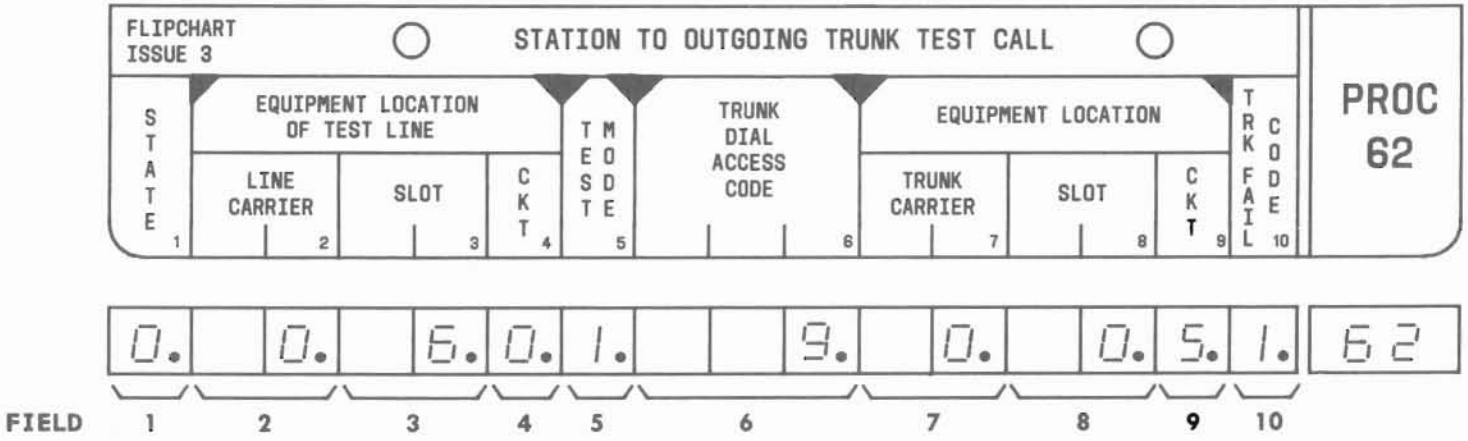
   If 2-out-of-7 code is not correct, replace LC54B; otherwise, replace LC10B. If the problem persists, check TP 9 through TP 12 on LC54B for correct voltages. If voltages are not correct, replace LC54B.

A. DESCRIPTION

This procedure checks trunks by allowing calls to be placed from any line via any outgoing trunk. Three modes of operation are possible as defined in field 5:

- Mode 0 – Tests all trunks having a specific dial access code.
- Mode 1 – Tests a specific trunk.
- Mode 2 – Used to place a call in the normal manner.

> ***NOTE:***
> A DIMENSION PBX Electronic Custom Telephone Service (ECTS) telephone cannot be used for this procedure.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0	Test line or specified trunk not ready.
	1	Test line on-hook.
	2	Dial tone through dial completion.
	3	Central office response (dial tone or busy).
	4	Invalid access code is dialed or busy tone is provided.
	5	End-of-group test.
	6	Call aborted at DIMENSION PBX (state trunk failed and is given in field 10).
	7	This field is not used.
	8	No register available.
	9	No trunk available.
2	00†	Line carrier designation required for all tests.
3	06†	Location of circuit pack associated with test line. Required for all tests.
4	0†	Circuit dedicated to test line. Required for all tests.
5	0	Used to test all trunks with a particular access code.
	1	Used to test a specific trunk.
	2	Used to make a call and receive a call in a normal manner.
6	0-999	Dial access code of trunks being tested.
7	0-3	Outgoing trunk carrier value. Required when field 5 = 1.
8	2-9 11-18	Outgoing slot value. Required when field 5 = 1.
9	0-7	Outgoing circuit value. Required when field 5 = 1.
10	1	Outgoing seizure.
	2‡	Incoming seizure.
	3	Central office distant end disconnect.
	4‡	Incoming call answer.
	5	PBX disconnect.
	6*	Tie trunk or advanced private line termination (APLT)/common control switching arrangement (CCSA) waiting for distant answer.
	6-9	Trunk sequence failure.

* Feature Package 15 only.

† These values select the test line in the PBX. If a different line is desired, the appropriate values for these fields must be entered.

‡ These responses are highly unlikely.

C. TEST PROCEDURES

Call in Procedure 62:

PROC NO.; 62; ENTER

Field 2 goes blank, all other fields show dashes.

NOTES:

1. If the ERROR lamp comes on after a trunk or line value is entered, one of the following may be the cause.
   - Location number is illegal.
   - Line is unequipped.
   - Line is busied out.
   - Trunk is unequipped.
   - Trunk is busied out.
2. If the ERROR lamp lights when entering data, reenter all fields with valid data.
3. Code 3 in field 1 is displayed only when dialing is completed or the originating register is released (10 seconds after last digit is dialed).

Testing all outgoing trunks (Test mode = 0):

Call in Procedure 62 and enter values for Equipment Location of Test Line fields, mode 0, and a trunk dial access code.

eg: 00; ENTER; 06; ENTER; 0; ENTER; 0; ENTER; 9; ENTER

Upon entering the dial access code, fields 7, 8, and 9 display the carrier, slot, and circuit values of the first trunk.

Perform the steps below:

1. Place telephone on-hook and depress the EXECUTE key. Verify that field 1 displays a 1. Go off-hook and field 1 should change to a 2 with dial tone present.

   NOTE:

   If the telephone handset is initially off-hook when the EXECUTE key is depressed, field 1 will display a 0.

2. Dial an outgoing trunk number and verify that field 1 changes to 3.

   NOTE:

   If a trunk is tested for an extended period of time (approximately 20 minutes), the trunk is dropped and the test line receives intercept tone.

3. Use the STEP key to advance to the next trunk and repeat Steps 1 and 2. When all trunks have been tested, field 1 should display a 5, End of Group Test.

C. TEST PROCEDURES (Contd)

Testing a specific outgoing trunk (Test mode = 1):

Call in Procedure 62 and enter values for Equipment Location of Test Line fields and mode 1.

eg: 00; ENTER; 06; ENTER; 0; ENTER; 1; ENTER

Now enter values for the specific trunk to be tested.

(Trunk Carrier); Enter; (Slot); ENTER; (Circuit); ENTER

> ***NOTE:***
>
> If the correct dial access code is not entered when changing the trunk equipment location of the trunk to be tested, an incorrect reading may be displayed on the MAAP.

Upon entering the trunk carrier, slot, and circuit of the trunk to be tested, the dial access code of the trunk is displayed in field 6. Perform Steps 1 and 2 as given in the previous operation, Testing All Outgoing Trunks. A 3 in field 1 indicates the successful dialing of an outgoing trunk.

Make a call and seize a trunk in a normal manner (Test mode = 2):

This procedure is similar to Test mode = 0 except that the trunks may be seized in a faster manner than in mode = 0. This mode is especially helpful when heavy traffic conditions exist.

D. REPAIR GUIDE

Make a test call through various trunks, and depending upon the outcome, perform one of the steps below:

1. If a single trunk fails (State field = 6 or State stuck at 2), replace the circuit packs.
2. If more than one trunk in the same carrier fails, replace LC49B in that carrier. Verify correction by placing test calls. If the trouble is not cleared, replace LC50 in that carrier.
3. If the state field is stuck at 2, and another test call is to be placed over the same trunk, depress the EXECUTE key and place another test call.

END

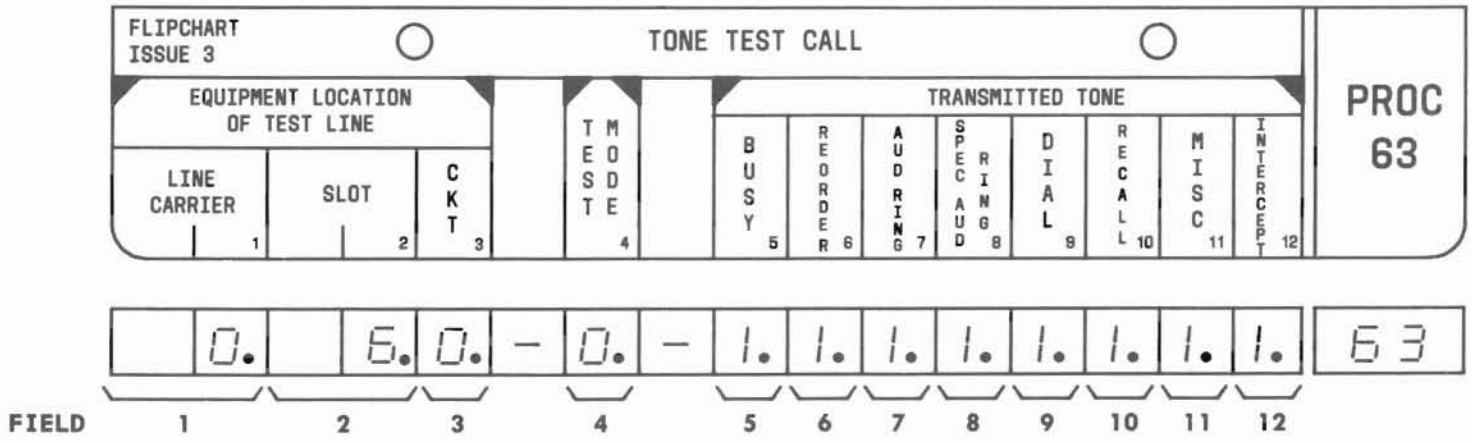
A. DESCRIPTION

This test transmits up to eight tones for listening or measurement purposes (eg, nonalarmed tone failures including attenuation or improper interruption rate problems).

The test checks circuit packs LC04 and LC05B on which the tone generators are located. The test also checks circuit pack LC204 when it replaces circuit packs LC04 and LC05B.

The test tones may be transmitted in one of two modes as follows:

- Mode 0 – All eight tones generated separately in the order in which they appear in fields 5 through 12
- Mode 1 – Any tone or tones in the same order in which the 1s were entered into fields 5 through 12.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	00†	Carrier value for test line.
2	06†	Slot value for test line.
3	0†	Circuit value for test line.
4	0	Transmit all tones in a left to right order starting with field 5.
	1	Transmit only those tones where 1's have been entered. The tones are transmitted in the order in which the 1's were entered.
5-12	0	Inhibits tone (used in mode = 1 only).
	1	Activates tone. The 1 flashes at a 60-imp rate.
† These codes select the hardwired test line in the DIMENSION 100/400 PBX. If a different test line is desired, the user must input the proper codes for the desired line.		

C. TEST PROCEDURES

Call in Procedure 63:

PROC NO.; 63; ENTER

Field 1 goes blank, fields 2 and 3 display dashes, field 4 displays a 0, and fields 5 through 12 display all 1's.

Testing all tones (Test mode = 0):

Call in Procedure 63 and enter values for the Equipment Location of Test Line fields and depress the EXECUTE key.

eg: 00; ENTER; 06; ENTER; 0; ENTER; EXECUTE

Go off-hook and verify that a busy tone is heard while a 1 flashes in field 5 of the MAAP display.

Depress the STEP key repeatedly and verify that after each depression, the tone heard agrees with the 1 on the MAAP display.

> ***NOTE:***
>
> If the telephone is inititally off-hook when the EXECUTE key is depressed, the WAIT lamp is turned on and remains on until an on-hook status is restored. Depressing the EXECUTE key a second time terminates the tone.

Testing selected tones (Test mode = 1):

Call in Procedure 63 and enter values for the Equipment Location of Test Line fields and mode = 1.

eg: 00; ENTER; 06; ENTER; 0; ENTER; CHANGE; 4; ENTER; 1; ENTER

Fields 5 through 12 should display 0's. Proceed to enter 1's in those fields whose tones are to be activated.

Depress the EXECUTE key to turn on the tone and depress the EXECUTE key a second time to terminate the tone.

Verify that the tone heard corresponds to the 1 flashing on the MAAP display. the STEP key is used to advance to the next tone.

D. REPAIR GUIDE

Listen to or measure each tone using test mode 0. The voltage values for each tone are given in Table 63-1.

If more than one but not all tones are defective, test mode 1 may be used to activate only the defective tone during the repair procedure.

The various symptoms that can occur and the corresponding repair sequences are numbered below.

> *NOTE:*
>
> In some machines, circuit board LC204 replaces boards LC04 and LC05B. Where this is the case substitute LC204 wherever LC04 or LC05B is mentioned in the following steps.

1. Invalid Level or Missing Frequency

   (a) Measure the oscillator levels on LC04 and LC05B (2.6 ± 0.5 Vac) at the circuit pack test points.

   (b) If an invalid oscillator level is obtained, replace LC04 or LC05B. If trouble persists or is not cleared, replace the other circuit pack. If trouble still remains, check the 440-Hz and 620-Hz wiring between LC04 and LC05B.

   (c) If the oscillator levels are correct but all tones have incorrect levels, the fault is in the PAM network. Otherwise, replace the circuit pack associated with the faulty tone or tones. Table 63-1 indicates the applicable circuit pack. If trouble is not cleared, replace the other circuit pack.

Table 63-1

Tone Voltage Levels

Tone	Type (S=Steady) (I=Interrrupted)	Ckt Pack	Level (Vac)
Busy	I (0.5 sec on, 0.5 sec off)	LC05	0,0.04-0.07
Reorder	I (0.2 sec on, 0.2 sec off)	LC05	0.015-0.025, 0.038-0.062
Audible ringback	I (0.8 sec on, 3.2 sec off)	LC05	0,0.075-0.125
Special audible ringback	I (1 sec on, 3 sec off)	LC05	0.075-0.125
Dial	S	LC04	0.13-0.22
Recall	I (0.1 sec on, 0.1 sec off)	LC04	0.065-0.11
Miscellaneous	S	LC04	0.09-0.15
Intercept	S	LC04	0.065-0.11

D. REPAIR GUIDE (Contd)

2. Invalid Interruption Rate

   Replace LC05B.

3. Invalid Oscillator Frequency

   (a) Listen to dial tone and busy tone.

   (b) If dial tone sounds incorrect, replace LC04.

   (c) If busy tone sounds incorrect, replace LC05B.

4. A Tone in All Time Slots

   Replace the circuit pack that contains the valid tone.

> ***NOTE:***
>
> In Table 63-1, voltage levels are measured with a digital voltmeter KS-20599 (set to 10 Vac scale) across an off-hook 500-type telephone set (or 600 ohms). For some of the interrupted tones, the measured value varies between the two values given in the table.

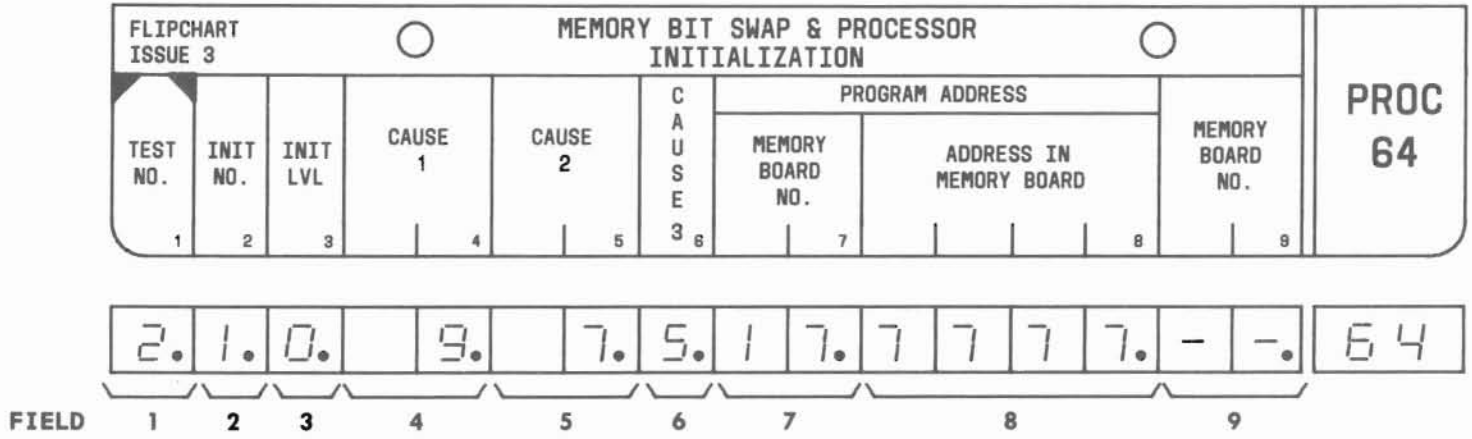
END

A. DESCRIPTION

This procedure comprises two tests:

- Test 1 – Displays the faulty memory board number and the swapped bit position that caused the BIT SWAP and MINOR ALARM lamps on the Alarm Panel to be turned on.
- Test 2 – By maintaining a log of intermittent processor and/or memory faults, this test will display the cause or causes of the last five interrupts to normal PBX operation.

> *NOTE:*
> Use Procedure 68 to perform memory tests for Feature Package 15.



B. FIELD DEFINITIONS AND CODES

Test 1

Field	Code	Definition
1	1	Memory test 1.
2	–	Field not valid; dashes displayed.
3	–	Field not valid; dashes displayed.
4	–	Field not valid; dashes displayed.
5	–	Field not valid; dashes displayed.
6	–	Field not valid; dashes displayed.
7	0,17,99	Bad memory board (octal). A 99 means no bit swap. See Tables 64-2 through 64-8.
8†	0-7777, 9999	Bad address block in a board (octal). A 9999 means no bit swap. See Tables 64-2 through 64-8.
	0-15	Flashed to indicate position of bad data bit in word.
9	–	Field not valid; dashes displayed.

Test 2

Field	Code	Definition
1	2	Memory test 2.
2	1-5	Age of past initialization cause (1 is most recent).
3	0-5	Number of interrupts at 2-minute intervals.
4*	0-15,18, 19	Cause of interrupt.
5*	0-15,18, 19,–	Second possible cause.
6*	0-9,–	Third possible cause.
7	0-17	Octal program address board number where interrupt occurred. A 0 denotes no cause. See Tables 64-2 through 64-8.
8†	0-7777	Octal program address in memory board where interrupt occurred (bad bit flashing). Blanks denote no cause. See Table 64-2 through 64-8.
	0-15	Flashed to indicate position of bad data bit in word.
9	–	Field not valid; dashes displayed.

* See Table 64-1 for code descriptions.

† If a bit swap occurs, field 8 will display the bad address block (0-7777) in a board and may intermittently display the bad data bit (0-15) in the memory word.

Table 64-1
Code Descriptions

Code	Definition	Cause
0,–	No cause found.	–
1	Processor error.	LC53
2 3 4 5 6 7	Illegal operation. Write protect error. Branch allow error. Main memory parity error. Sanity timer time-out. Microsanity timer time-out.	LC25, LC28, LC128, or LC346; LC39 or LC40
8	Read only memory (ROM) parity error.	LC19 or LC23B
9	Short power failure.	Power Supply
10 11 12	No cause found. Hold get area underflow. Interrupt area underflow/ overflow.	–
13	Power failure.	
14 15 18 19	Memory reload due to system error. Branch to zero error. Battery back-up memory failure. Bit swap occurred.	

C. TEST PROCEDURES

Call in Procedure 64:

PROC NO.; 64; ENTER

Field 1 automatically set to 2.

Test 1:

Call in Procedure 64 and set field 1 to 1 by:

CHANGE; 1; ENTER; 1; ENTER; EXECUTE

If this test is executed when not in bit swap, 999999 is displayed in fields 7 and 8.

Test 2:

Call in Procedure 64. The most recent cause of initialization is displayed. Use the STEP key to display the next older cause of the interrupt.

Reset initialization level and clear all fault causes:

RESET; EXECUTE

The BIT SWAP and MAJOR and MINOR ALARM lamps are turned off if no other alarm causes are present. Run Procedure 66 if the MAJOR and MINOR ALARM lamps are not turned off.

D. REPAIR GUIDE

1. Memory test 1 (bit swap):
   (a) At alarm panel, set GO/HALT switch to HALT. Replace the memory board number displayed in field 7, reinitialize the system; depress the NIGHT button on attendant console and rerun test 1. Reload memory and if bit swap occurs again, run microdiagnostic tests 0 through 9. If the problem is not found, refer to SD-1E442-01 with primary consideration to LC35 or LC135B, LC36 or LC236, and LC37 or LC238.

   (b) If memory board 0 is displayed, a fault on the memory bus affecting the memory bit position flashed in field 8 may be the cause. This is especially true if the Address in Memory Board field is blank, implying a zero in the lowest dashed position.

2. Memory test 2 (processor initialization):

   Repeated display of the same memory board in field 7 indicates a fault in that board. Refer to SD-1E442-01.

Table 64-2

"DIMENSION" 100 PBX 4K MEMORY BOARDS (LC25) AND 8K MEMORY BOARDS (LC28) – 20K MEMORY – AND "DIMENSION" 400 PBX 4K MEMORY BOARDS (LC25) – 64K MEMORY					
Memory Board No.	DIMENSION 100 Memory Board Slot No. and Board Type		DIMENSION 400 Memory Board Slot No.	Memory Address Octal Start	Memory Address Octal End
00	01C(LC25)		1	000000	007777
01			2	010000	017777
02			3	020000	027777
03			4	030000	037777
04			5	040000	047777
05			6	050000	057777
06			7	060000	067777
07			8	070000	077777
10			9	100000	107777
11			10	110000	117777
12			11	120000	127777
13			12	130000	137777
14	13C(LC25)	15C (LC28)	13	140000	147777
15	14C(LC25)		14	150000	157777
16	15C(LC25)	16C (LC28)	15	160000	167777
17	16C(LC25)		16	170000	177777

Table 64-3

"DIMENSION" 100 PBX 8K MEMORY BOARDS (LC28) – 24K MEMORY			
Memory Board No.	DIMENSION 100 Memory Board Slot No.	Memory Address Octal Start	Memory Address Octal End
00 13	01C	000000 130000	007777 137777
14 15	15C	140000 150000	147777 157777
16 17	16C	160000 170000	167777 177777

Table 64-4

"DIMENSION" 100 PBX 8K MEMORY BOARDS (LC28) – 32K MEMORY			
Memory Board No.	DIMENSION 100 Memory Board Slot No.	Memory Address	
		Octal	
		Start	End
00	01C	000000	007777
11		110000	117777
12	14C	120000	127777
13		130000	137777
14	15C	140000	147777
15		150000	157777
16	16C	160000	167777
17		170000	177777

Table 64-5

"DIMENSION" 100 PBX 8K MEMORY BOARDS (LC28) – 40K MEMORY			
Memory Board No.	DIMENSION 100 Memory Board Slot No.	Memory Address	
		Octal	
		Start	End
00	01C	000000	007777
07		070000	077777
10	13C	100000	107777
11		110000	117777
12	14C	120000	127777
13		130000	137777
14	15C	140000	147777
15		150000	157777
16	16C	160000	167777
17		170000	177777

Table 64-6

"DIMENSION" 100/400 PBX 16K MEMORY BOARDS (LC128) – 48K MEMORY				
Memory Board No.	DIMENSION 100 Memory Board Slot No.	DIMENSION 400 Memory Board Slot No.	Memory Address Octal	
			Start	End
00	13C	1	000000	007777
05			050000	057777
06			060000	067777
07			070000	077777
10	15C	3	100000	107777
11			110000	117777
12			120000	127777
13			130000	137777
14	16C	4	140000	147777
15			150000	157777
16			160000	167777
17			170000	177777

Table 64-7

"DIMENSION" 100/400 PBX 16K MEMORY BOARDS (LC128) – 64K MEMORY				
Memory Board No.	DIMENSION 100 Memory Board Slot No.	DIMENSION 400 Memory Board Slot No.	Memory Address Octal	
			Start	End
00	13C	1	000000	007777
01			010000	017777
02			020000	027777
03			030000	037777
04	14C	2	040000	047777
05			050000	057777
06			060000	067777
07			070000	077777
10	15C	3	100000	107777
11			110000	117777
12			120000	127777
13			130000	137777
14	16C	4	140000	147777
15			150000	157777
16			160000	167777
17			170000	177777

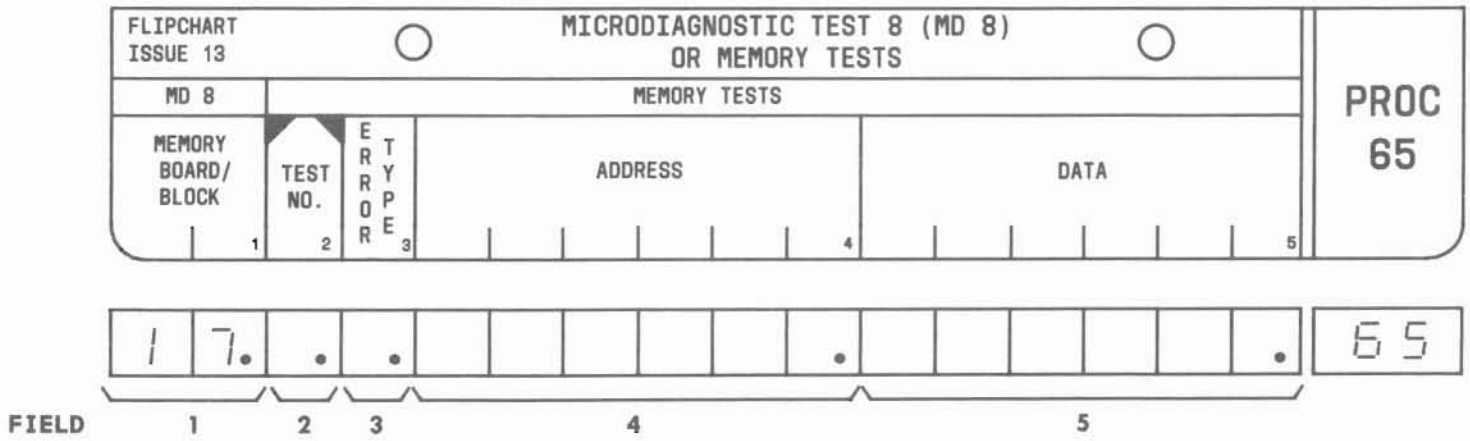
Table 64-8

"DIMENSION" 100/400 PBX 64K MEMORY BOARDS (LC346) – 64K MEMORY			
Memory Board No.	Board Slot No.	Memory Address Octal	
		Start	End
00	16	000000	007777
01		010000	017777
02		020000	027777
03		030000	037777
04		040000	047777
05		050000	057777
06		060000	067777
07		070000	077777
10		100000	107777
11		110000	117777
12		120000	127777
13		130000	137777
14		140000	147777
15		150000	157777
16		160000	167777
17		170000	177777

This procedure covers microdiagnostic test 8 and five memory tests as follows:

- Memory parity test.
- Upper memory data test.
- Memory address test.
- Zero maintenance data.
- Display upper memory errors (if feature is loaded).

Field 1 applies only to microdiagnostic test 8.
Fields 2 through 5 apply to the five memory tests.



MICRODIAGNOSTIC TEST 8

A. DESCRIPTION

Microdiagnostic test 8 does *not* require the calling in of Procedure 65 as do the five memory tests. Field 1 of the flip chart applies only to microdiagnostic test 8 and indicates either the faulty 4K memory block within the first 64K, or the 64K block subsequent to the first if more than 64K of memory is used in the system. If 4K memory boards are used, the number shown in field 1 represents the faulty memory board number - not the slot number.

B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-7,10-17	Octal 4K board/block number, not slot number.
	20-22	Subsequent 64K block number.
2-5	Blank	Not applicable.

C. TEST PROCEDURE

> ***CAUTION:***
>
> ***Running microdiagnostic test 8 disables call processing. Maintenance data and hotel/motel billing data are destroyed. Billing data should be printed out before running this test.***

At the Alarm Panel, set the SELECT switch to 8 and depress the ENABLE switch. If the FAIL lamp goes on, refer to field 1 of the flip chart for the memory board or block number at fault.

> ***NOTE:***
>
> Certain classes of memory board failures are not detected by microdiagnostic test 8. If, upon executing this test, the fail lamp does not light and there is still reason to suspect the memory system, there is an additional procedure that can be tried. It involves unplugging all the memory circuit packs in the carrier and placing them individually in memory board 01 slot and running microdiagnostic test 8 on each circuit pack. This procedure may locate failed memory circuit packs that were previously undetected.

D. REPAIR GUIDE

Replace the memory board corresponding to the memory block number displayed in field 1. This number is not the slot position.

If memory board 1, block 00 is displayed, a memory control board may have failed. The suggested replacement sequence is shown below. If these replacements do not correct the failure, run the other microdiagnostic tests since the problem may be in the processor, I/O bus, or wiring.

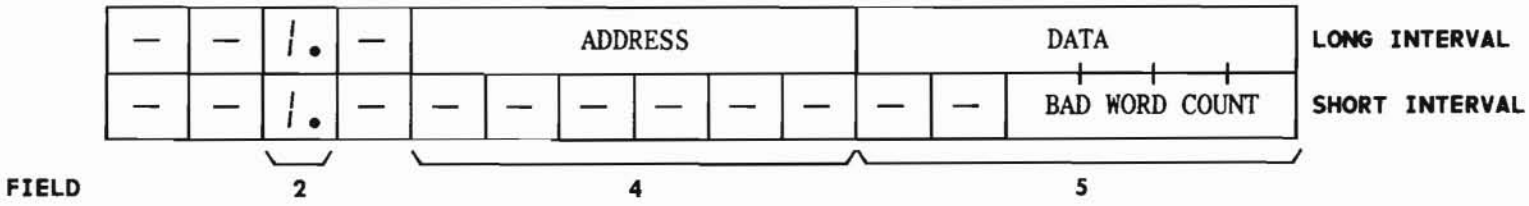
Memory Configuration	Replacement Sequences
LC25s (4K)	LC25 (MEM board 00), LC36, LC37, LC35
LC28s (8K)	LC28 (MEM board 00), LC36, LC37, LC35
LC128s (16K)	LC128 (MEM board 00), LC236, LC238, LC135
LC346s (64K)	LC346 (slot 16), LC236, LC368, or LC238

MEMORY PARITY TEST (TEST NO. 1)

A. DESCRIPTION

This test is a parity test of the entire memory.

Data for the memory test is presented as a flashing display. The address and data content of a memory fault are displayed for 2 seconds (long interval). The number of bad words detected may appear in the right four digits of the data field during the short interval every 3 seconds.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	–	Not applicable.
2	1	Memory test 1 (flashed while testing).
3	–	Not applicable.
4	0-177777 0-377777	Address of fault (long interval). -FP1, 2, 3, 4, 5, 10 -FP15
5	0-177777 0-9999	Data content at address (long interval). Number of bad words (short interval).

C. TEST PROCEDURE

Call in Procedure 65:

PROC NO.; 65; ENTER

Memory parity test:

Call in Procedure 65; EXECUTE

The WAIT lamp goes on and the 1 in field 2 flashes to indicate that the test is running and results are not yet available.

If no faults are found, field 5 shows a flashing 0. For FP15, the 0 will propagate through field 5 instead of flashing.

D. REPAIR GUIDE

Record the fault data and try a memory reload (microdiagnostic test 9). Also note on the trouble ticket if the parity faults have disappeared.

If a single fault or multiple faults occurred on a single board, replace the memory board; otherwise; refer to SD-1E442-01.

If the PBX is equipped with 4K (LC25), 8K (LC28), or 16K (LC128) memory boards, refer to Tables 65-1 through 65-6 to determine the memory board number and slot location.

When 64K (LC346) memory boards are used, the left-most octal digit of the address field determines the memory board as follows:

Left Most Address Digit	Memory Board	Slot No.
0, 1	0	16
2, 3	1	15

Table 65-1

"DIMENSION" 100 PBX 4K MEMORY BOARDS (LC25) AND 8K MEMORY BOARDS (LC28) – 20K MEMORY – AND "DIMENSION" 400 PBX 4K MEMORY BOARDS (LC25) – 64K MEMORY					
Memory Board No.	DIMENSION 100 Memory Board Slot No. and Board Type		DIMENSION 400 Memory Board Slot No.	Memory Address Octal Start	Memory Address Octal End
00	01C(LC25)		1	000000	007777
01			2	010000	017777
02			3	020000	027777
03			4	030000	037777
04			5	040000	047777
05			6	050000	057777
06			7	060000	067777
07			8	070000	077777
10			9	100000	107777
11			10	110000	117777
12			11	120000	127777
13			12	130000	137777
14	13C(LC25)	15C (LC28)	13	140000	147777
15	14C(LC25)		14	150000	157777
16	15C(LC25)	16C (LC28)	15	160000	167777
17	16C(LC25)		16	170000	177777

Table 65-2

"DIMENSION" 100 PBX 8K MEMORY BOARDS (LC28) – 24K MEMORY			
Memory Board No.	DIMENSION 100 Memory Board Slot No.	Memory Address Octal Start	Memory Address Octal End
00 13	01C	000000 130000	007777 137777
14 15	15C	140000 150000	147777 157777
16 17	16C	160000 170000	167777 177777

Table 65-3

"DIMENSION" 100 PBX 8K MEMORY BOARDS (LC28) – 32K MEMORY			
Memory Board No.	DIMENSION 100 Memory Board Slot No.	Memory Address	
		Octal	
		Start	End
00	01C	000000	007777
11		110000	117777
12	14C	120000	127777
13		130000	137777
14	15C	140000	147777
15		150000	157777
16	16C	160000	167777
17		170000	177777

Table 65-4

"DIMENSION" 100 PBX 8K MEMORY BOARDS (LC28) – 40K MEMORY			
Memory Board No.	DIMENSION 100 Memory Board Slot No.	Memory Address	
		Octal	
		Start	End
00	01C	000000	007777
07		070000	077777
10	13C	100000	107777
11		110000	117777
12	14C	120000	127777
13		130000	137777
14	15C	140000	147777
15		150000	157777
16	16C	160000	167777
17		170000	177777

Table 65-5

"DIMENSION" 100/400 PBX 16K MEMORY BOARDS (LC128) – 48K MEMORY				
Memory Board No.	DIMENSION 100 Memory Board Slot No.	DIMENSION 400 Memory Board Slot No.	Memory Address Octal	
			Start	End
00	13C	1	000000	007777
05			050000	057777
06			060000	067777
07			070000	077777
10	15C	3	100000	107777
11			110000	117777
12			120000	127777
13			130000	137777
14	16C	4	140000	147777
15			150000	157777
16			160000	167777
17			170000	177777

Table 65-6

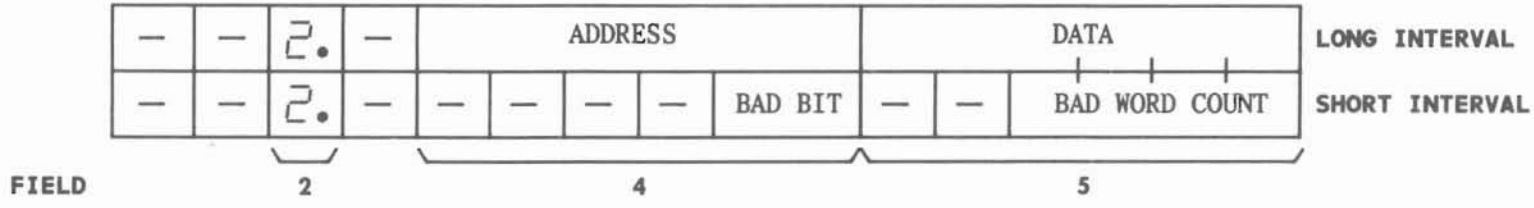
"DIMENSION" 100/400 PBX 16K MEMORY BOARDS (LC128) – 64K MEMORY				
Memory Board No.	DIMENSION 100 Memory Board Slot No.	DIMENSION 400 Memory Board Slot No.	Memory Address Octal	
			Start	End
00	13C	1	000000	007777
01			010000	017777
02			020000	027777
03			030000	037777
04	14C	2	040000	047777
05			050000	057777
06			060000	067777
07			070000	077777
10	15C	3	100000	107777
11			110000	117777
12			120000	127777
13			130000	137777
14	16C	4	140000	147777
15			150000	157777
16			160000	167777
17			170000	177777

UPPER MEMORY DATA TEST (TEST NO. 2)

A. DESCRIPTION

This test makes three data tests on each upper memory location and can record up to three faults per address.

Data for the memory test is presented as a flashing display. The address and data content of a memory fault are displayed for 2 seconds (long interval). The bad bit number appears in the right two digits of the address field for one second (short interval). The number of bad words detected may appear in the right four digits of the data field during the short interval every 3 seconds.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	–	Not applicable.
2	2	Memory test 2 (flashed while testing).
3		Not applicable.
4	0-177777 0-377777 0-16	Address of fault (long interval). -FP1, 2, 3, 4, 5, 10 -FP15 Bad data bit (short interval).
5	0-177777 0-9999	Data content at address (long interval). Number of bad words (short interval).

C. TEST PROCEDURE

Call in Procedure 65:

PROC NO.; 65; ENTER

Run upper memory test:

Call in Procedure 65; CHANGE; 2; ENTER; 2; ENTER; EXECUTE

The 2 in field 2 flashes to indicate that the test is running and results are not yet available.

If a fault is detected, used the STEP key to advance display to the next fault.

The RESET key clears the upperr memory fault record and zeros upper memory alarm causes.

D. REPAIR GUIDE

Record the fault data and reload memory using microdiagnostic test 9. Test again.

Replace the memory board as indicated. If fault still exists, refer to SD-1E442-01.

If the PBX is equipped with 4K (LC25), 8K (LC28), or 16K (LC128) memory boards, refer to Tables 65-1 through 65-6 to determine the memory board number and slot location.

When 64K (LC346) memory boards are used, the left-most octal digit of the address field determines the memory board as follows:

Left Most Address Digit	Memory Board	Slot No.
0, 1	0	16
2, 3	1	15

If fault exists on more than one memory board, perform the replacement sequence below, and rerun the microdiagnostic tests.

Memory Configuration	Replacement Sequence
LC25s (14K)	LC25 (MEM board 00), LC36, LC37, LC35
LC28s (8K)	LC28 (MEM board 00), LC36, LC37, LC35
LC128s (16K)	LC128 (MEM Board 00) LC236, LC238, LC135
LC346s (64K)	LC346 (slot 16), LC236, LC368, or LC238

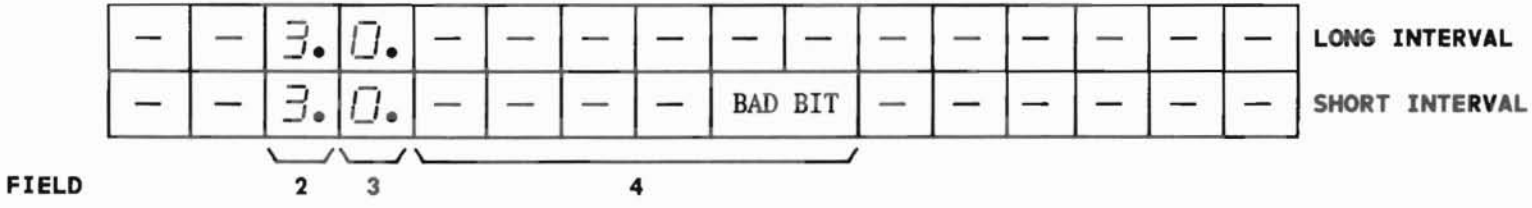
MEMORY ADDRESS TEST (TEST NO. 3)

A. DESCRIPTION

This test checks for correct addressing of upper memory. For systems using up to 64K of memory, upper memory represents the upper 1024 locations.

For Feature Package 15, upper memory refers to the 14K of status memory directly beneath the 2K paging buffer.

Data for the memory test is presented as a flashing display. The address and data content of a memory fault are displayed for 2 seconds (long interval). The bad bit number appears in the right two digits of the address field for 1 second (short interval).



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	–	Not applicable.
2	3	Memory test 3.
3	0	No fault.
	–	Fault detected.
4	------	Six dashes means no fault (long interval).
		Faulty address bit position (short interval).
	0-9	-FP1, 2, 3, 4, 5, 10
	0-13	-FP15
5	–	Not applicable.

C. TEST PROCEDURE

Call in Procedure 65:

PROC NO.; 65; ENTER

Run memory address test:

Call in Procedure 65; CHANGE; 2; ENTER; 3; ENTER; EXECUTE

If a fault is detected, field 3 will display a 1. Use the STEP key to advance display to next fault.

D. REPAIR GUIDE

For Systems Using 4K or 8K Memory Boards

If an addressing bad bit position is flashed in field 4, record the bad bit position and perform the following:

(1) If the bad bit position is 9 or less, replace memory board 17 (slot no. 16) since the address fault is in this board. Reload memory (microdiagnostic test 9) and retest.

(2) If the bad bit position flashing in field 4 is 10 or more, or if replacing memory board 17 does not clear the fault, replace LC37, LC35, LC36 in the order given.

(3) If the bad bit flashing in field 4 is 16, indicating a parity bit fault, replace LC21.

For Systems Using 16K Memory Boards

If an addressing bad bit position is flashed in field 4, record the bad bit position and perform the following:

(1) If the bad bit position is 9 or less, refer to Tables 65-5 or 65-6 and replace the board in the slot which corresponds to memory board 17. Reload memory and retest.

(2) If the bad bit position flashing in field 4 is 10 or more and replacing the board in the previous step did not clear the fault, replace LC238, LC135B, LC236 in the order given.

(3) If the bad bit flashing in field 4 is 16, indicating a parity bit fault, replace LC21.

D. REPAIR GUIDE (Contd)

For Systems Using 64K Memory Boards

If an addressing bad bit position is flashed in field 4, record the bad bit position and perform the following:

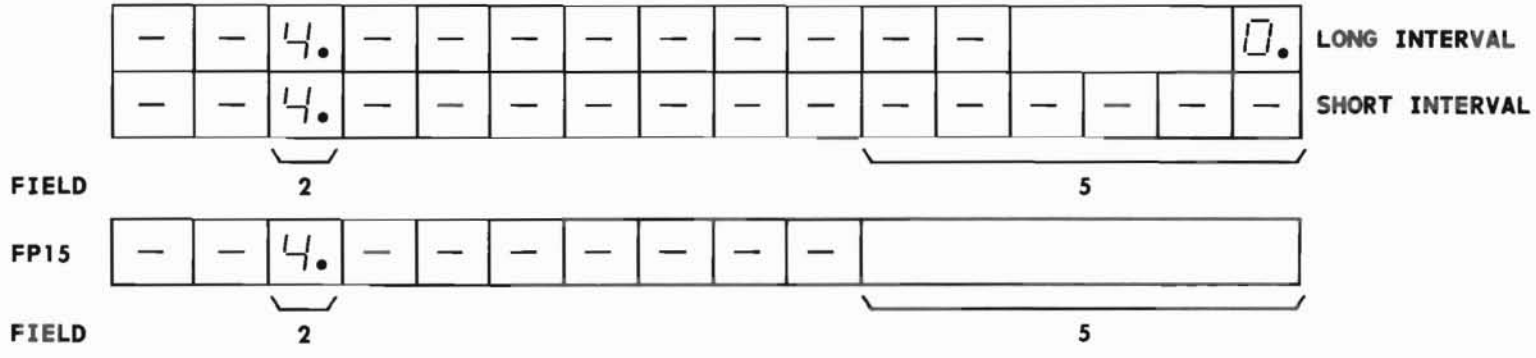
(1) If the bad bit position is 9 or less and this is ***not*** an FP15 system, then replace the LC346 memory board, or if FP3 is provided, replace the LC39 or LC40 if supplied.

(2) If the bad bit position is 13 or less and this ***is*** an FP15 system, then replace memory board 01.

(3) Reload memory (microdiagnostic test 9) and retest.

(4) If the bad bit position flashing in field 4 is 14, or more, or if replacing the memory board did not clear the fault, replace LC368 (or LC238) and LC236 in the order given.

(5) If the bad bit flashing in field 4 is 16, indicating a parity bit fault, replace LC21.



ZERO MAINTENANCE DATA (TEST NO. 4)

A. DESCRIPTION

This test is used only to zero upper memory maintenance data. Hotel/motel billing data is destroyed.

B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	–	Not applicable.
2	4	Memory test 4.
3	–	Not applicable.
4	–	Not applicable.
5	------	Six dashes prior to RESET; EXECUTE sequence.
	0	Flashing 0 after RESET; EXECUTE; sequence indicating data has been zeroed. For FP15, the 0 will propogate thru field 5 instead of flashing.

C. TEST PROCEDURE

Call in Procedure 65:

PROC NO.; 65; ENTER

Zero maintenance data:

Call in Procedure 65; CHANGE; 2; ENTER; 4; ENTER; RESET; EXECUTE

> ***CAUTION:***
>
> ***RESET; EXECUTE will zero maintenance data as well as hotel/motel billing data (where applicable). If necessary, print out this data before execution.***

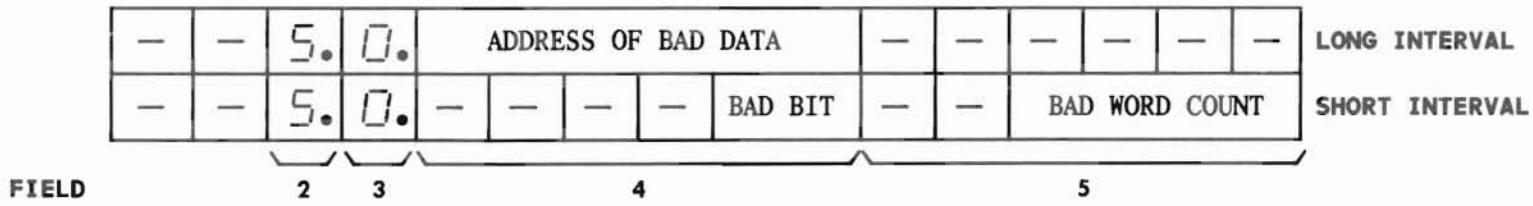
Upper memory fault causes are cleared by RESET; EXECUTE. Upper memory alarms are turned off as well as MAJOR and MINOR ALARM lamps. Use Procedure 66 if these lamps do not go off.

DISPLAY UPPER MEMORY ERRORS

A. DESCRIPTION

Performing this test displays upper memory failures detected on-line. This test reads two words in memory which are written by hardware tests performed on LC39 or LC40 battery backed memory boards. If these boards are not used, the test has no meaning and the test will result in a display indicative of this fact.

Data for the memory test is presented as a flashing display. The address and data content of a memory fault are displayed for 2 seconds (long interval). The bad bit number appears in the right two digits of the address field for 1 second (short interval). The number of bad words detected may appear in the right four digits of the data field during the short interval every 3 seconds.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	–	Not applicable.
2	5	Memory test 5.
3	0	No fault.
	1	Address fault.
	2	Data fault.
	3	Data and address fault.
	9	No battery back up for memory feature.
4	–	No fault.
	0-177777	Data fault address (long interval).
	0-9	Bad bit position for address fault (short interval).
5	–	Not applicable.
	0-9999	Number of data faults detected (short interval).

C. TEST PROCEDURE

Call in Procedure 65:

PROC NO.; 65; ENTER

Run on-line failure display:

Call in Procedure 65; CHANGE; 2; ENTER; 5; ENTER; RESET; EXECUTE

If a failure is detected, field 3 will display the error type.

D. REPAIR GUIDE

Record the data and use test 3 or 4 to verify the fault. Follow the repair procedure given by these tests. If no fault is detected, check SD-1E442-01.

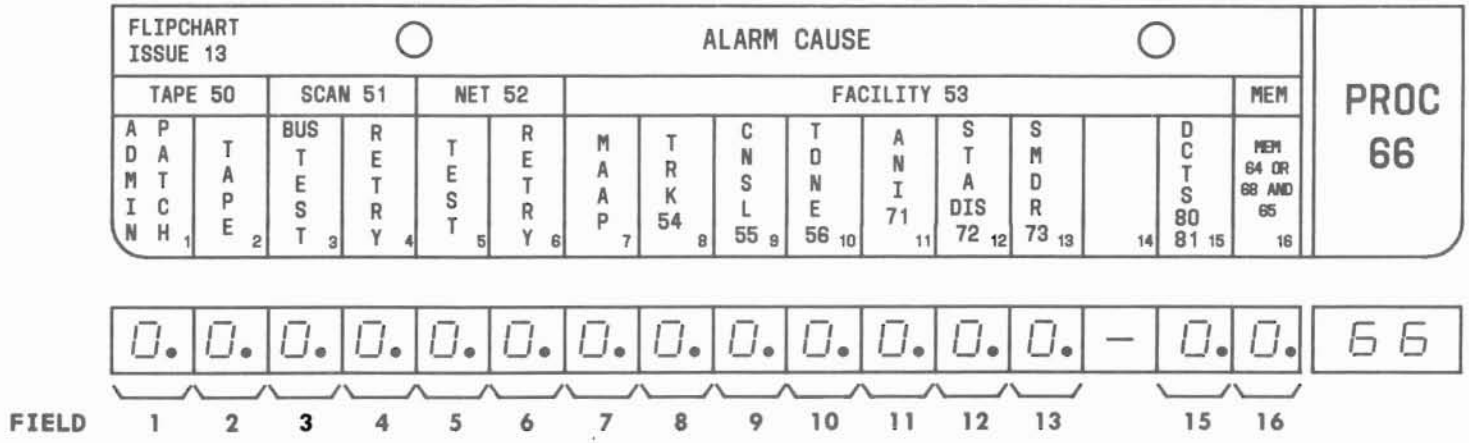
END

PROCEDURE 66 – ALARM CAUSE

A. DESCRIPTION

This procedure is run when either the MAJOR or MINOR ALARM lamps are on. This alarm test isolates which function turned on the lamp(s).

> *NOTE:*
> Each field in the flip chart references a procedure that is the follow-up test to be run if a 1 appears in that field.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0	Alarm function not set.
	1	RUN TAPE key not depressed after entering a patch.
	2	RUN TAPE key not depressed after changing translation code.
	3	RUN TAPE key not depressed after both of above.
2-13	0	Alarm function not set.
	1	Alarm function set.
	2	CAS tone alarm function set (field 10 only).
15	0	Alarm function not set.
	1	ECTS service failure.
	2	ECTS system test.
	3	Both of above.
16	0	Alarm function not set.
	1	Bit swap fault.
	2	Upper memory fault.
	3	Both of above.
CAS – Centralized attendant service ECTS – Electronic Custom Telephone Service		

C. TEST PROCEDURE

Call in Procedure 66:

PROC NO.; 66; ENTER

Display alarm faults:

Call in Procedure 66 and check MAAP display for faults. If 0s are displayed, no alarm exists.

If a fault condition appears in a field, refer to the procedure indicated in that field for further testing.

NOTES:

1. When Feature Package 10 or 15 is used and field 10 displays a 2, refer to Procedure 75.
2. When maintenance polling indicates a major or minor alarm and Procedure 66 at an RMATS center indicates no alarm conditions, the probable cause is a blown fuse or over-temperature condition.

When more than one field indicates a fault condition, reference procedures in a left-to-right order starting with the leftmost field.

D. REPAIR GUIDE

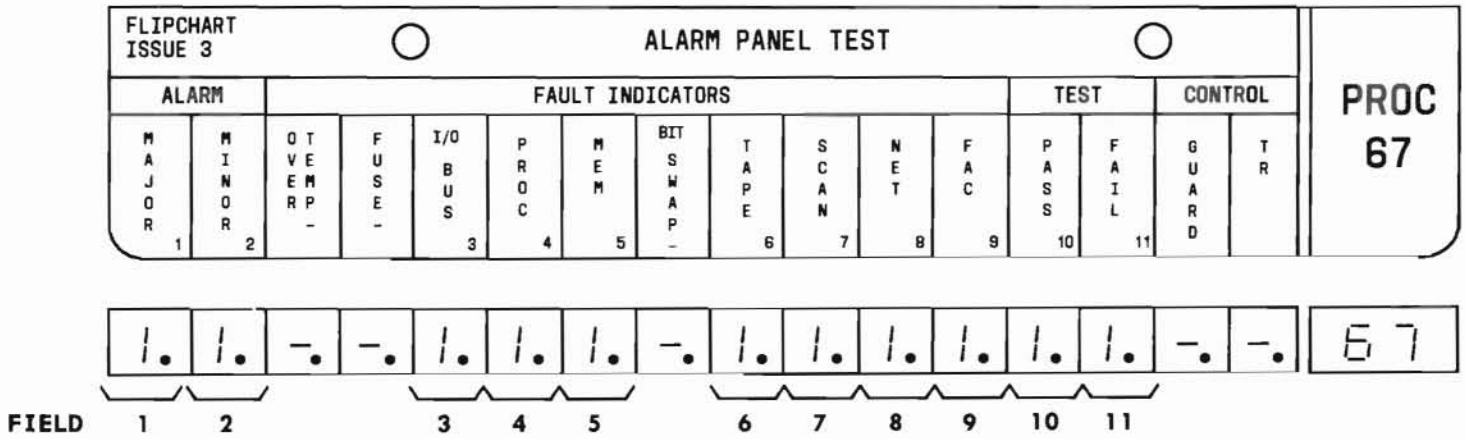
None.

END

A. DESCRIPTION

This procedure is used to test the eleven on-line lamps on the Alarm Panel. It also tests the MAJOR and MINOR ALARM lamps on the MAAP since these lamps are in parallel with those on the Alarm Panel when the MAAP is plugged in.

> ***NOTE:***
>
> Hardware controlled lamps [OVER TEMP, FUSE, BIT SWAP, GUARD, and TRANSFER (TR)] are not checked by this test. The fields for these lamps will display dashes when the test is run.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1-11	0	Lamp is off.
	1	Lamp flashes on and off at a 1-second-on, 1-second-off rate.

C. TEST PROCEDURE

Call in Procedure 67:

PROC NO.; 67; ENTER

After loading, fields 1 through 11 contain 1s and ***all*** on-line indicators flash on and off continually. The MAJOR and MINOR ALARM lamps on the MAAP also flash.

Perform lamp test:

> ***NOTE:***
>
> In the test that follows, the PASS lamp will continue to flash. Since this test refreshes the alarm panel lamps every 25 ms, only brief flashes of the normal lamps from the on-line program are possible.

Depress the STEP key repeatedly and after each depression observe that the proper lamp flashes as shown below.

Step	Lamp
1 (first time)	All lamps are off except PASS
2	MAJOR ALARM only
3	MINOR ALARM only
4	I/O BUS only
5	PROC only
6	MEM only
7	TAPE only
8	SCAN only
9	NET only
10	FAC only
11	PASS only
12	FAIL only
13	All lamps are off except PASS. Dashes displayed on the MAAP.

> ***NOTE:***
>
> The next depression of the STEP key loops control to the beginning of the test.

D. REPAIR GUIDE

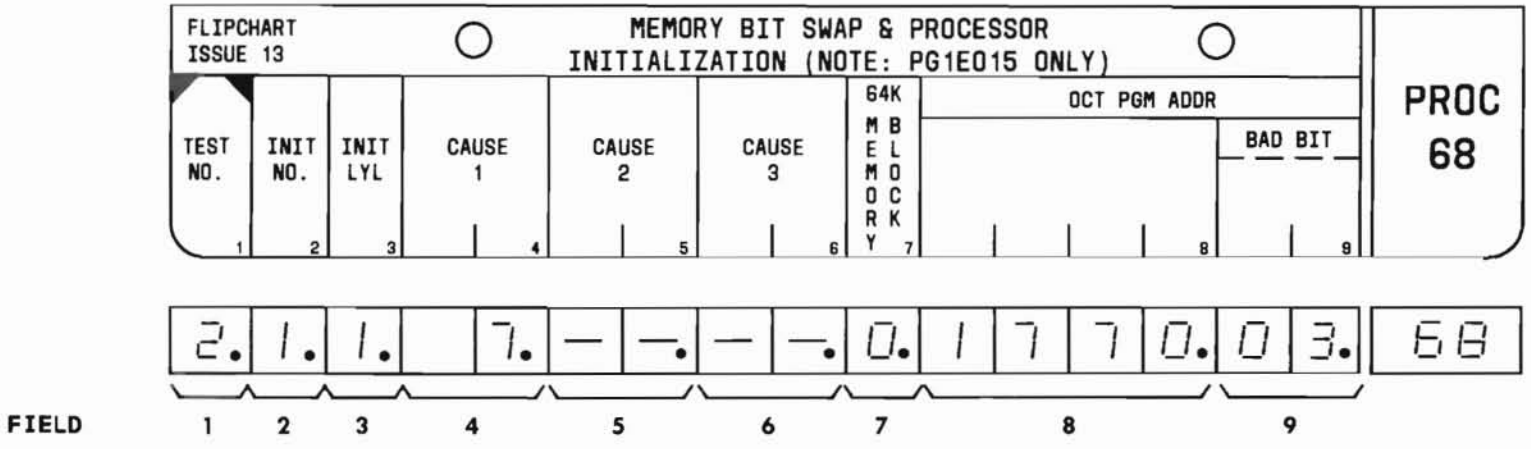
1. If an alarm panel lamp does not flash in accordance with a 1 in the MAAP display, check the alarm panel itself or check circuit pack LC18B.
2. If no on-line lamps can be flashed, check one of the following:
   (a) +5 Vdc to the alarm panel which uses parallel fuses to limit voltage drops.
   (b) +5 Vdc to circuit pack LC18B via circuit breaker 5CBAC4.

PROCEDURE 68 – MEMORY TEST

A. DESCRIPTION

This procedure comprises two tests:

- ***Test 1*** – Displays the faulty 64K memory block number and the swapped bit position that causes the BIT SWAP and MINOR ALARM lamps on the Alarm Panel to be turned on.
- ***Test 2*** – By maintaining a log of intermittent processor and/or memory faults, the test will display the cause or causes of the last five interrupts to normal PBX operation.



B. FIELD DEFINITIONS AND CODES

Test 1

Field	Code	Definition
1	1	Memory test 1.
2-6	–	Fields not valid for test 1.
7*	0,1†	Bad memory block.
	9	No Bit Swap.
8*	0-3777	Bad address block. Upper 12 bits of address.
	9999	No Bit Swap.
9*	0-16	Flashed with alternating "--" to indicate bad bit position (decimal) in word.
	99	No Bit Swap.

* If address is not available or data is unmeaningful, dashes will fill these fields.
† 0 corresponds to slot 15, 1 corresponds to slot 16.

Test 2

Field	Code	Definition
1	2	Memory test 2.
2	1-5	Age of past initialization (1 is most recent).
3	0-5	No. of interrupts at 2-minute intervals.
4*	0-15, 18,19	Cause of interrupt.
5*	1-15,18, 19,-	Second possible cause.
6*	1-15,18, 19,-	Third possible cause.
7†	0,1‡	Memory board containing address where interrupt occurred.
8†	0000-3777	Upper 12 bits of address where interrupt occurred.
9†	00-77	Lower 6 bits of address where interrupt occurred unless Bit Swap occurred, then indicated decimal bit position flashes with "--".

* See Table 68-1 for code descriptions.
† Dashes are displayed in fields 7, 8, and 9 if no initialization cause is found, if address is not available, or if data is unmeaningful.
‡ 0 corresponds to slot 15, 1 corresponds to slot 16.

Table 68-1

Code Descriptions

Code	Definition	Cause
0,–	No cause found.	–
1	Processor error.	LC53
2 3 4 5 6 7	Illegal operation. Write protect error. Branch allow error. Main memory parity error. Sanity timer time-out. Microsanity timer time-out.	LC346
8	Read only memory (ROM) parity error.	LC20 or LC23C
9	Short power failure.	Power supply
10 11 12	No cause found. Hold get area underflow. Interrupt area underflow/overflow.	–
13	Power failure.	
14 15 18 19	Memory reload due to system error. Branch to zero error. Battery back up memory failure. Bit swap occurred.	

C. TEST PROCEDURES

Call in Procedure 68:

PROC NO.; 68; ENTER

Field 1 automatically set to 2.

Test 1:

Call in Procedure 68 and set field 1 to 1 by:

CHANGE; 1; ENTER; 1; ENTER; EXECUTE

If this test is executed when not in bit swap, 9999999 is displayed in fields 7, 8, and 9.

Test 2:

Call in Procedure 68. The most recent cause of initialization is displayed. Use the STEP key to display the next older cause of the interrupt.

Reset initialization level and cause:

RESET; EXECUTE

All fault causes are cleared. The BIT SWAP and MAJOR and MINOR ALARM lamps are turned off if no other alarm causes are present. Run Procedure 66 if the MAJOR and MINOR ALARM lamps are not turned off.

D. REPAIR GUIDE

1. Memory test 1 (bit swap):

   Replace the memory board corresponding to the 64K block displayed in Field 7, reinitialize the system; depress the NIGHT button on attendant console and rerun test 1. Reload memory and if bit swap occurs again, run microdiagnostic tests 0 through 9. If the problem is not found, refer to SD-1E442-01 with primary consideration to LC236 and LC238 (or LC368).

2. Memory test 2 (processor initialization):

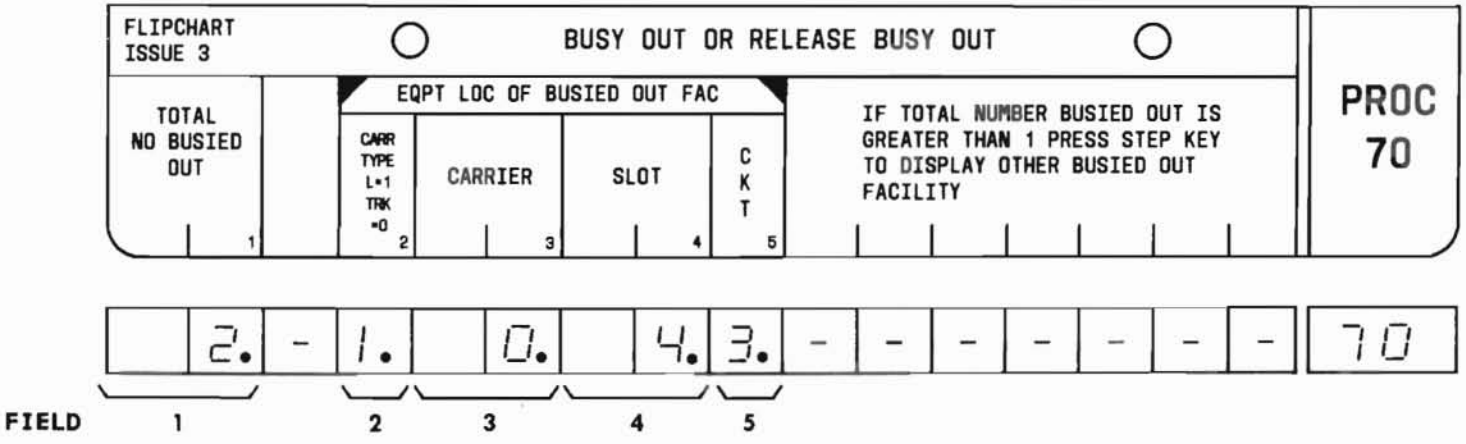
   Repeated display of the same memory block in field 7 indicates a fault in that block. Refer to SD-1E442-01.

PROCEDURE 70 – BUSY OUT OR RELEASE BUSY OUT

A. DESCRIPTION

Procedure 70 is used to:

- Search for busied-out lines, trunks, and TOUCH-TONE calling registers.
- Busy out or release from a busied-out state any or all lines, trunks, and TOUCH-TONE calling registers.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1-99	Total number of busied out circuits.
2	0	Trunk carrier.
	1	Line carrier.
3	0-6	Carrier designation. **Memory Size — Line Carrier* — Trunk Carrier*** A — 0,1 — 0,1 B — 0-3 — 0-3 C — 0-6 — 0-3 * For the DIMENSION 100 PBX, the range is 0,1 for all memory sizes.
4	2-9 11-18	Slot number. **Line Carrier — "DIMENSION" PBX — Slots** J58881CB — 100 — 2-9,11-14 J58879AA — 100/400 — 4-9,11-18 J58879AC — 400 — 2-9,11-18 **Trunk Carrier — "DIMENSION" PBX — Slots** J58881CC-1 or J58881CA-2 — 100 — 3-9 J58881CB — 100 — 11-18 J58879CC — 100/400 — 2-8 J58879BA — 400 — 2-9,11-18
5	0-3	Circuit number. Line Carrier: 0-3 Trunk Carrier: 0,1

C. TEST PROCEDURES

Call in Procedure 70 and search for busied-out line, trunks, or TOUCH-TONE calling registers:

PROC NO.; 70; ENTER

> ***NOTE:***
>
> If more than one circuit is busied-out, use the STEP key to display each busied-out circuit.

> ***CAUTION:***
>
> ***Do not busy out a line or trunk that is not idle unless necessary. Failure to do so will disrupt service on the circuit being busied out.***

Busy out a line, trunk, or TOUCH-TONE calling register:

PROC NO.; 70; ENTER; CHANGE; 2; ENTER; (Carrier Type Encode); ENTER; (Carrier No.); ENTER; (Slot No.); ENTER; (Circuit No.); ENTER; BUSY OUT

Total No. Busied-Out field (field 1) should increment by one. BUSY OUT lamp is turned on if this is the first busied-out circuit.

Release a busied-out line, trunk, or TOUCH-TONE calling register:

Search for the desired busied-out circuit; RLS BUS/OUT

Total No. Busied-Out field (field 1) should decrement by one. BUSY OUT lamp is turned off if there are no other busied-out circuits.

C. **TEST PROCEDURES** (Contd)

Release all busied-out lines, trunks, and TOUCH-TONE calling registers:

PROC NO.; 70; RESET; EXECUTE

Total No. Busied-Out field (field 1) contains a zero. All other fields contain dashes. BUSY OUT lamp is off.

D. **REPAIR GUIDE**

None.

A. DESCRIPTION

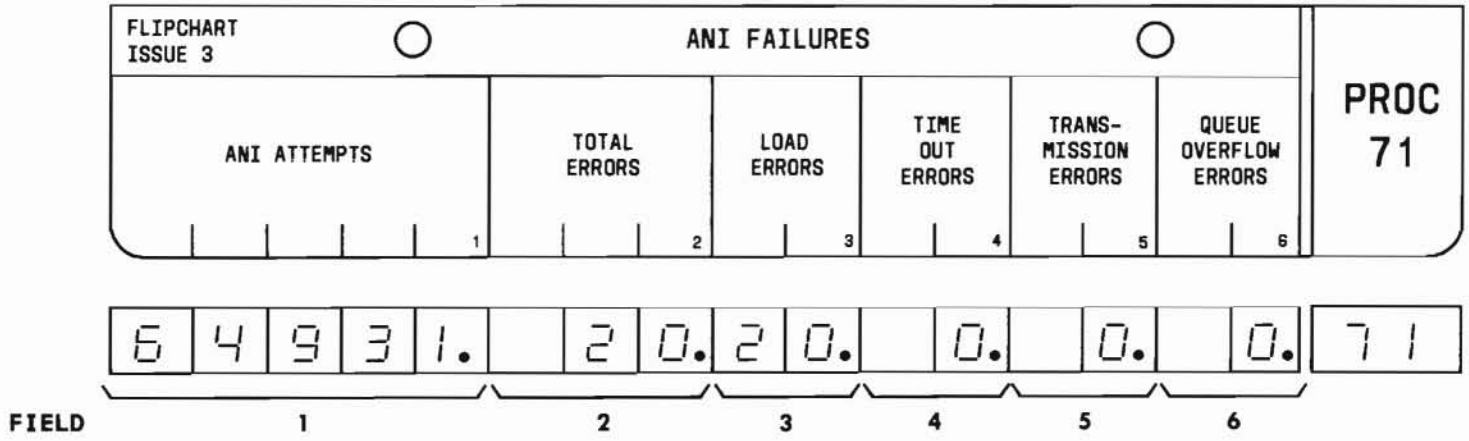
Procedure 71 should be called in when:

- Procedure 53 indicates an automatic number identification (ANI) fault (field 5 displays a 1),
- Procedure 66, field 11 displays a 1, or
- ANI trouble is reported.

Procedure 71 is used to:

- Display the total number of ANI attempts, and the errors encountered with these ANI attempts during normal operation of the ANI feature.
- Clear the Software record of the fault.

> ***NOTE:***
>
> The number of errors indicates the severity of the problem.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	0-65535	Total number of ANI attempts.
2	0-999	Total number of errors encountered with the ANI attempts specified in field 1.
3-6	0-99	A breakdown of the total number of errors specified in field 2.

C. TEST PROCEDURE

Call in Procedure 71:

PROC NO.; 71; ENTER

NOTES:

1. If the ANI error total in memory is invalid, the Total Errors field (field 2) will alternate between blanks and dashes at a 0.5-second rate.
2. The EXECUTE key can be used to periodically obtain a snapshot of the ANI error software record.

Clear the ANI error software record:

Call in Procedure 71; RESET; EXECUTE
Fields 1 through 6 should contain dashes.

D. REPAIR GUIDE

If the number of errors indicate a severe problem, the following sequence should be followed for fault isolation and repair.

Step **Isolation Procedure**

1. Based on the type of fault, perform the corrective action listed below.

If a severe error is indicated in field:	Then:
3	Replace LC31.
4	Replace LC32.
5	Replace LC31, LC32 and check wiring.

2. Clear the ANI error software record.
3. Make at least ten ANI calls. After each call, obtain a snapshot of the ANI error software record by depressing the EXECUTE key. If the ANI Attempts count (field 1) increments to 10 while the Total Error count (field 2) remains at 0, the trouble has been cleared. If no other faults exist, the MAJOR and MINOR ALARM lamps on the Alarm Panel are turned off.

A. DESCRIPTION

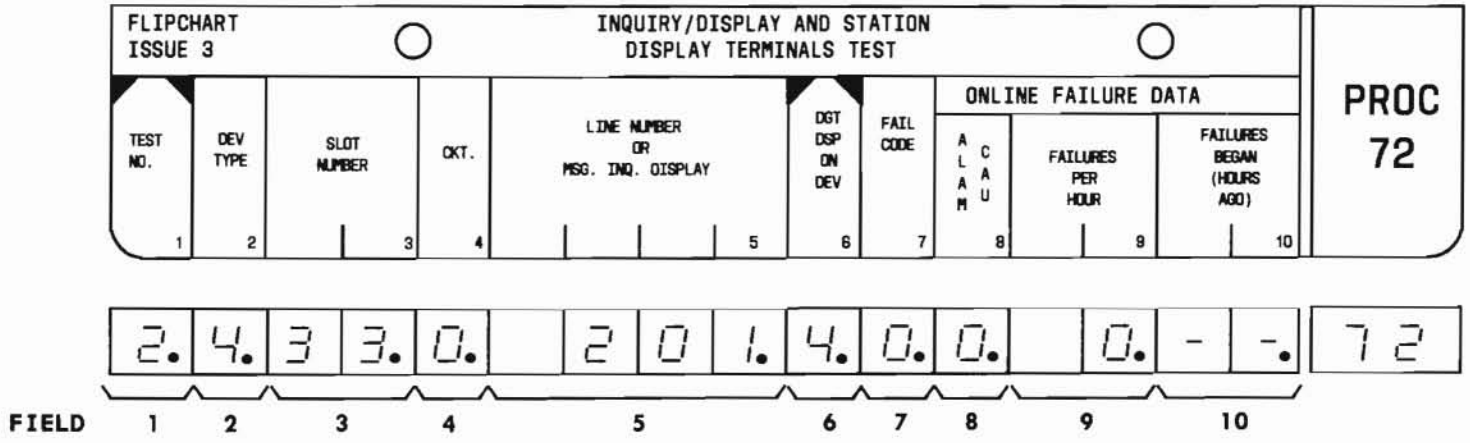
Procedure 72 should be called in if field 6 of Procedure 53 or field 12 of Procedure 66 contains a 1. The procedure displays failures detected during regular on-line operation with the following terminals:

- 102E Message Waiting Inquiry/Display
- 102E Message Register Inquiry/Display
- 102E Calling Number Display to Station
- 102E Message Register/Message Waiting Inquiry/Display.

The procedure also tests each terminal by supplying test displays for transmission to the selectable terminal for fault isolation. Each display has a 2-second on interval and a 1-second off interval.

Three tests are available:

- Test 1 – Single message test
- Test 2 – Cycle test (selectable digit display)
- Test 3 – Cyclic test (cyclic digit display).



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1	Test 1.
	2	Test 2.
	3	Test 3.
2		Type of terminal under test:
	1	102E Message Waiting Inquiry/ Display.
	2	102E Message Register Inquiry/ Display.
	3	102E Message Register/Message Waiting Inquiry/Display.
	4	102D Calling Number Display to Station.
3	32-37	Location of LC34B or LC366 in the control carrier associated with the terminal under test.
4	0,1	Circuit on LC34B or LC366 dedicated to the terminal under test.
5	1-9999	The extension number of the telephone that is associated with a station display terminal or a number associated with an inquiry/display terminal.
6	Dash, 0-9, ⊟	Digit to be displayed on the terminal under test. Eight is the default value. *Test 1.* Dash is displayed on the MAAP and flashed once on the 102D Calling Number Display to Station.
6 (Contd)	Dash, 0-9, ⊟	*Test 2.* Selected digit (0 thru 9) is displayed on the MAAP and across display of the terminal. *Test 3.* Dash, digits 0 thru 9, and ⊟ are displayed on the MAAP and across display of the terminal.
7*	0	Passed test, no fault.
	1	CF failure.
	2	Reply not received.
	3	Codes 1 and 2 combined.
	4	Reply not correct.
	5	Codes 1 and 4 combined.
	6	Codes 2 and 4 combined.
	7	Codes 1, 2, and 4 combined.
	8	LC34B or LC366 loop test failure.
8	0	No alarm cause.
	1	Message unit inquiry display or calling number display alarm cause set.
9	0-99	Average failures per hour (weighted average).
10	0-17	Hours since failures began occurring.

* Field 7 displays a fail-once code during the 1-second blanking display and the last detected failure code during the 2-second digit display. A fail-once code denotes a failure that occurred only once during the execution of the entire test. The last detected failure code denotes a failure that occurred with the transmission of the digit currently selected.

C. TEST PROCEDURES

A list of the inquiry/display and station display terminals test, what each one does, and how each is run follows:

NOTES:

1. The RESET-EXECUTE key sequence can be used to:

   (1) Zero the key count record.
   (2) Zero the alarm cause.
   (3) Turn off the MINOR and MAJOR ALARM lamps if there are no other alarm causes. (Use Procedure 66 if MAJOR or MINOR lamps are not turned off.)

2. Before stepping to the next terminal, terminate the current test. Otherwise, the ERROR lamp will turn on and the test will stop. To recover, depress the STEP key again.

3. Failures with the dialed inputs on each inquiry/display terminal (102D, 102E) are isolated by using the "Customer" test procedure for the terminal.

4. A failure code sequence of 4, 6, 4, 6, ... for the last detected failure code, fail-once code display (after running test 2 or 3 for 10 seconds), indicates that the reply echo data is inverted with respect to the transmitted data. Check the wiring between the processor data bus and the type 102 display terminal.

NOTES: (Contd)

5. A reply echo for a 0 transmitted to a terminal is identified to the reply received when no terminal is connected. Therefore, when zeros are transmitted over a channel that is not terminated, a failure code of 0 will be observed. However, a fail-once code of 2 will be displayed.

Call in Procedure 72:

PROC NO.; 72; ENTER

Procedure 72 automatically selects Test 1 and the first terminal to be tested.

Test 1:

This is a noncyclic test that tests the selected terminal and associated data equipment. The circuit on LC34B or LC366 dedicated to the terminal is also checked by a loop-around test. The result of the test is displayed in field 7.

The MAAP key sequence for entering this test from another test is:

CHANGE; 1; ENTER; 1; ENTER; EXECUTE

EXECUTE will run the test within 1 second. Successful completion is indicated by a 0 in field 7.

Depression of the STEP key will advance fields 2 through 5 to test the next terminal.

C. TEST PROCEDURES (Contd)

Test 2:

This is a cyclic test that tests the selected terminal. It sends the digit specified in field 6 to the selected terminal causing the terminal to flash the digit in all display positions. In addition, the MESSAGE WAITING ON and the CLEAR lamps (on the 102D Calling Number Display to Station) or the CLEAR lamp (on the 102E Message Register/Message Waiting Inquiry/Display) will also flash. The test will also identify LC44 addressing faults or translation errors in assigning the terminal by checking that the address of the terminal providing the display agrees with the slot, circuit, and line number field data (fields 2 through 5).

Test 2 sends two messages to the selected terminal every 3 seconds. The result of each test is displayed in field 7 during the 2-second display interval. A fail-once indication is displayed in field 7 during the 1-second display interval. This 1-second display shows any intermittent failure that occurred during the test.

The MAAP key sequence for entering this test is:

CHANGE; 1; ENTER; 2; ENTER; CHANGE; 6; (0 through 9); ENTER; EXECUTE

EXECUTE starts the test and EXECUTE a second time stops the test. Successful completion is indicated by a 0 in field 7.

Depression of the STEP key will advance fields 2 through 5 to test the next terminal.

Test 3:

This is a cyclic test similar to test 2. It causes the display on the selected terminal to cycle through ten digits (0 through 9), a dash, and the symbol ⊟. A 1-second blank interval is provided between digit displays. Each digit, dash, or symbol is displayed in all positions of the display. Also, if the 102D Calling Number Display to Station or the 102E Message Register/Message Waiting Inquiry/Display is the selected terminal, the MESSAGE WAITING ON lamp and/or CLEAR lamp will flash with each display.

The MAAP key sequence for entering this test is:

CHANGE; 1; ENTER; 3; ENTER; EXECUTE

EXECUTE starts the test and EXECUTE a second time stops the test. Successful completion is indicated by a 0 in field 7.

Depression of the STEP key will advance fields 2 through 5 to test the next terminal.

D. REPAIR GUIDE

On-line failure data (fields 8 through 10) indicate either solid or intermittent faults with the selected terminal. Because a single alarm cause is displayed in field 8 for all terminals, use this procedure to isolate the faulty terminal.

D. REPAIR GUIDE (Contd)

Step	Isolation Procedure
1.	If the fail code equals 1, 3, 5, 7, or 8, go to Step 2. Otherwise, go to Step 4.
2.	Replace LC34B or LC366 and repeat Procedure 72. If the fail code equals a 7 or an 8, assume trouble in the backplane or cabling. If not, replace LC44 and go to Step 5.
3.	If the fail code equals a 2 or 4, check for +5 Vdc between terminal 8 (+5 Vdc) and terminal 7 (grd) on the display unit adapter. If the voltage is correct, suspect the terminal. Otherwise, the power supply is suspect. Replace suspect device.
4.	Repeat Procedure 72.
5.	If fail code equals 0, test isolation procedure is completed. Otherwise, go to Step 1.

A. DESCRIPTION

Procedure 73 should be called in when the MAJOR and MINOR ALARM lamps on the alarm panel light or when field 13 displays a 1 in Procedure 66.

> ***NOTE:***
>
> The first indication of a fault may come from the Station Message Detail Recording (SMDR) printout (Figure 73-1 and 73-2). Remember that a partial printout (and thus an apparent fault indication) can be caused by heavy traffic conditions in which the number of messages sent to the SMDR overloads its memory capacity.

This procedure displays failures detected during regular on-line operation with the SMDR equipment. It supplies test messages and selectable test words for transmission to the SMDR for fault isolation.

Four tests are available:

- Test 1 – Loop and echo test.
- Test 2 – Alternating zeros and ones patterns test.
- Test 3 – All digits printout test.
- Test 4 – Selected word test.

FLIPCHART ISSUE 13

STATION MESSAGE DETAIL RECORDING TEST

TEST NO. 1	TEST WORD: OP CODE 2	TEST WORD: DATA 3	FAIL CODE: ONCE 4	FAIL CODE: LAST 5	ON LINE FAILURES: ALARM / CAUSE 6	ON LINE FAILURES: FAILURES PER HOUR 7	ON LINE FAILURES: FAILURES BEGAN (HOURS AGO) 8	NOTE: LC366 OR LC34 IN SLOT 32 CKT 0. HIGH SPEED
4.	03	252	5.	4.	4.	1.	19.	3. – –

PROC 73

FIELD 1 2 3 4 5 6 7 8

B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1	Test 1.
	2	Test 2.
	3	Test 3.
	4	Test 4.
2	0-7 10-17	Octal Op Code displayed for Test 2, 3, and 4.
3	0-7777	Data† content of lower 12 bits of the word displayed in octal for Tests 2, 3, and 4 (8s and 9s not allowed).
4		Single failure detected since test was executed. The fault codes are defined as follows:
	0	Passed test, no fault.
	1	I/O failure.
	2	No reply.
	3	Codes 1 and 2 combined.
	4	Bad reply.
	5	Codes 1 and 4 combined.
	6	Codes 2 and 4 combined.
	7	Codes 1, 2, and 4 combined.
	8	Loop-Around Test failure.
	9	SMDR equipment failure.
5	0-9	Last fail code received (same fault codes as field 4).
6	0 1	No SMDR alarm cause. SMDR alarm cause set.
7	0-99	Average failures per hour – weighted average.
8	0-17	Hours since failures began occurring.

† Selectable op codes for Test 4 only are shown in Figure 73-3.

C. TEST PROCEDURES

CAUTION:

In Feature Package 4, Program Issue 1, Tests 2, 3, and 4 prevent normal call processing from recording call data (records lost). In all other feature packages and program issues, recording call data to the SMDR during Tests 2, 3 and 4 is stored and output when the maintenance tests have been completed.

A list of SMDR tests, what each does, and how each is run follows:

Call in Procedure 73:

PROC NO; 73; ENTER
Calling in Procedure 73 automatically selects Test 1.
Pressing EXECUTE runs the test within 1 minute.

NOTE:

While running Procedure 73, the RESET; EXECUTE key sequence can be used to:

- Zero the peg count record.
- Zero the SMDR alarm cause.
- Turn off the MINOR and MAJOR ALARM lamps if there is no other alarm cause. Use Procedure 66 if MINOR and MAJOR ALARM lamps remain on.

Test 1:

Test 1 sends a sequence of no-op commands to test (1) the LC34B, LC171B, or LC366 circuit pack in the loop-around test mode and (2) the interface with the SMDR equipment. This test does not interrupt normal call recording and produces no printout.

The MAAP key sequence for entering this test from another test is:

CHANGE; 1; ENTER; 1; ENTER; EXECUTE

Successful completion of the test is indicated by a zero in fields 4 and 5.

Test 2:

NOTES:

1. Test 2 cannot run unless SMDR has been deactivated using Procedure 21, Word 5 (except in Feature Package 4, Program Issue 1).
2. Prior to using this test, the customer's tape should be unloaded (with customer's permission) and a space tape loaded.

Test 2 is a cyclic test that sends a continuous alternating one-zero pattern with normal word operation codes (op codes), followed by an end-of-message op code. This test blocks normal call recording.

The MAAP key sequence for entering this test is:

CHANGE; 1; ENTER; 2; ENTER; EXECUTE

EXECUTE starts the test and EXECUTE a second time stops the test.

Successful completion of the test is indicated by the printout of the last data word, similar to the following:

```
Real
Time      .5E5    55 5    5-55    55-5    555    55
TT:TT
```

NOTE:

Test 2 should only be stopped when the end of message has been sent (10 displayed in field 2).

C. **TEST PROCEDURES** (Contd)

Test 3:

This test sends 16 consecutive messages or 31 consecutive messages (when Feature Package 4, Program Issue 1 is used) to the SMDR equipment. The 16 are sent 25 milliseconds apart. This allows the printer memory to fill to its capacity and check all digit and character encodes by stepping through all binary coded decimal characters (binary 0000 through 1111). The retransmit normal word op code is contained in message 2 and the retransmit end-of-message op code is contained in message 3.

The MAAP key sequence for entering this test is:

CHANGE; 1; ENTER; 3; ENTER; EXECUTE

When testing the magnetic tape SMDR equipment, execute Test 3 twice to dump both 16 message buffers (except in Feature Package 4, Issue 1). On completion of the test, control is automatically returned to normal call recording.

When using Direct Output SMDR equipment, successful test completion results in a printout similar to that shown in Figure 73-1 or Figure 73-2. The 9-track magnetic tape option displays only numerical characters.

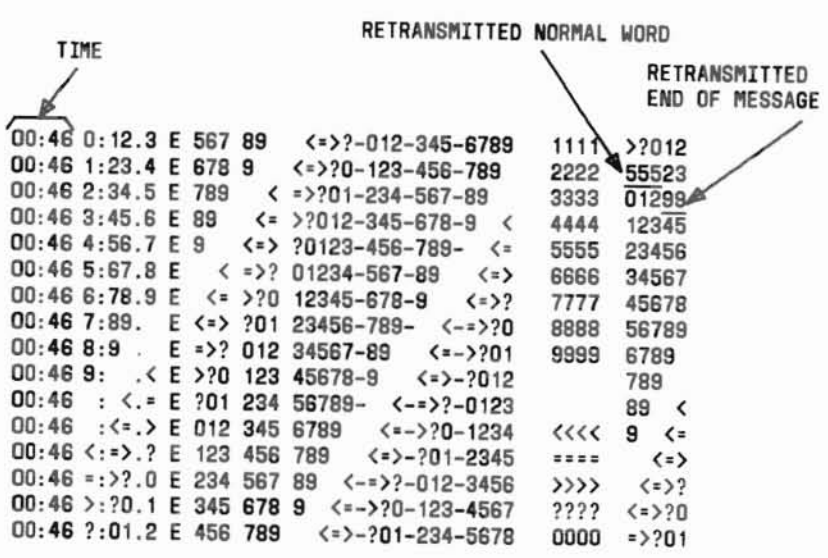


Figure 73-1. Data Pattern for 16 Messages in Test 3

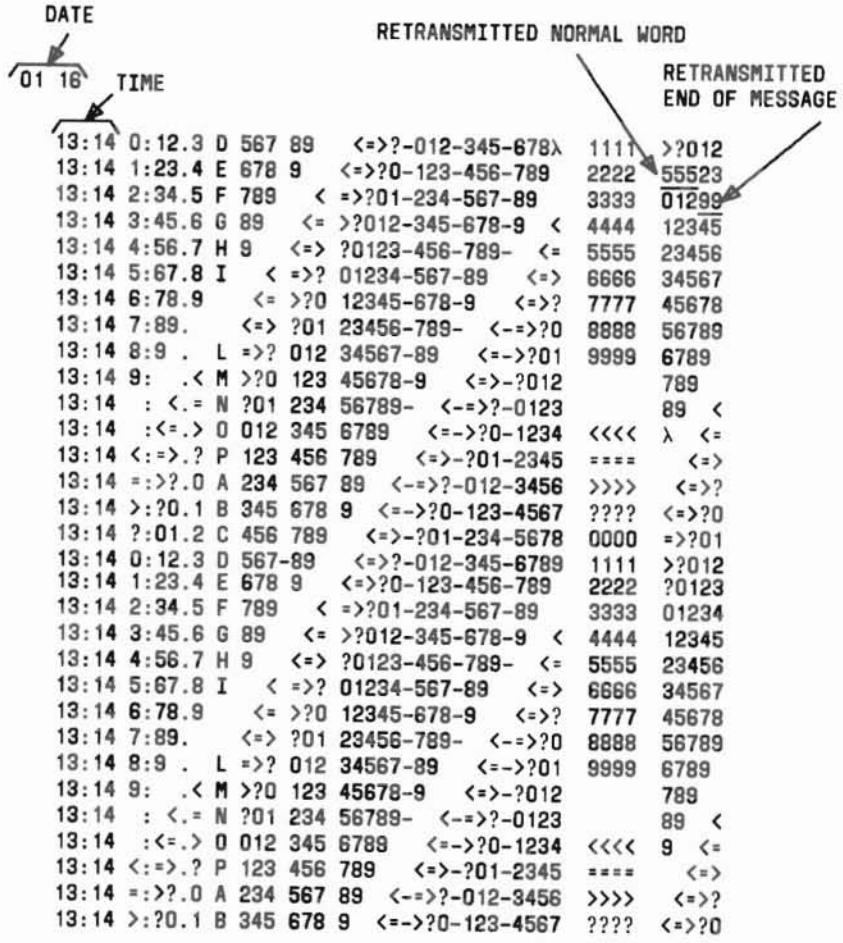


Figure 73-2. Data Pattern for 31 Messages in Test 3

C. TEST PROCEDURES (Contd)

Test 4:

Test 4 allows selection and transmission of a single word to the SMDR equipment. A list of 10 test words (Figure 73-3) may be entered using the STEP key. In addition, any octal op code can be written into field 2, and any octal data word can be written into field 3 for transmission to the SMDR. A data pattern for this test consisting of zero-one pattern words is shown in Figure 73-4.

The MAAP key sequence for entering this test is:

CHANGE; 1; ENTER; 4; ENTER; (Press STEP until 0.2525 is displayed in fields 2 and 3); Press EXECUTE 11 times; (Press STEP until 10.2525 is displayed in fields 2 and 3); EXECUTE

Successful test completion is indicated when the data pattern shown in Figure 73-4 is printed out.

> ***NOTE:***
>
> Test 4 cannot run unless SMDR has been activated using Procedure 21, Word 5 (except in Feature Package 4, Program Issue 1).

Field 2

Op Code

Field 3 Data

03.2525	No Operation Op Code With 01 Pattern
03.5252	No Operation Op Code With 10 Pattern
14.2525	Retransmission, End Of Message With 01 Pattern
14.5252	Retransmission, End Of Message With 10 Pattern
04.2525	Retransmission With 01 Pattern
04.5252	Retransmission With 10 Pattern
10.2525	End Of Message Op Code With 01 Pattern
10.5252	End Of Message Op Code With 10 Pattern
00.2525	Normal Data Word Op Code With 01 Pattern
00.5252	Normal Data Word Op Code With 10 Pattern

Figure 73-3. Selectable List of Op Codes and Data Patterns Using the STEP Key in Test 4

10:06 5:55.5 E 555 555 55555-555-555-5555 5555 55555

(Uses 11 normal data word op codes and data pattern zero-one words followed by an end-of-message op code with the same data pattern.)

Figure 73-4. Data Pattern for Test 4 (Printer Output)

D. REPAIR GUIDE

The repair guide should aid the craftsperson in isolating the failure of the data channel or SMDR equipment.

> ***NOTE:***
>
> When an LC374 is provided, the baud rate must be set equal to the terminal.

Direct Output Repair Procedure

The following sequence should be followed for fault isolation.

(1) Execute Test 1 - If a failure code (1-8) is displayed, clear the trouble using Table 73-1. Execute Test 1 again to determine if fault is cleared.

(2) Execute Test 3 - If a failure code (1-8) is displayed, clear the trouble using Table 73-1. Execute Test 3 again to determine if fault is cleared.

If both tests pass (fault code 0 displayed), refer to Table 73-2.

9-Track Tape Repair Procedure

The following sequence should be followed for fault isolation.

(1) Execute Test 1 - If a failure code (1-9) is displayed, clear the trouble using Table 73-1. Execute Test 1 again to determine if fault is cleared.

(2) Execute Test 3 (Twice for a 31-message tape buffer) - If a failure code (1-9) is displayed, clear the trouble using Table 73-1. Execute Test 3 again to determine if fault is cleared.

If both tests pass (fault code 0 displayed), refer to Table 73-3 for corrective action.

> ***NOTE:***
>
> For maintenance information (including adjustment procedures) on the tape drive, refer to the following:
> - Peripheral Equipment Maintenance Manual
> - SMDR (TOP 554-010-410)
> - SMDR (Section 554-010-122)

Table 73-1

Failure Code	Corrective Action
	DIRECT OUTPUT
1, 3, 5, 7, 8	(1) Replace LC34B, LC366, or LC171B. (2) Replace LC62. (3) Replace LC44. (4) Check wiring associated with replaced circuit packs.
2	(1) Verify LC34B, LC171B, or LC366 is set for high speed data. (2) Replace LC62. (3) Replace LC34B, LC366, or LC171B. (4) Replace LC44. (5) Check wiring associated with replaced circuit packs.
4	(1) Replace LC62. (2) Replace LC34B, LC366, or LC171B. (3) Replace LC44. (4) Check wiring associated with replaced circuit packs.
6	(1) Check for blown fuse. (2) Replace LC62. (3) Replace LC34B, LC366, or LC171B. (4) Replace LC44. (5) Check wiring associated with replaced circuit packs.

Table 73-1 (Contd)

Failure Code	Corrective Action
	9-TRACK
1, 3, 5, 7, 8	(1) Replace LC34B, LC366, or LC171B. (2) Replace LC62. (3) Replace LC44. (4) Check wiring associated with replaced circuit packs.
2, 4, 6	(1) Replace LC62. (2) Replace LC34B, LC366, or LC171B. (3) Replace LC44. (4) Check wiring associated with replaced circuit packs.
9	(1) Use logic probe and monitor signal at test point 8 on LC68. (2) If logic probe is not flashing: (a) Replace LC62. (b) Check wiring associated with replaced circuit pack. (3) If logic probe is flashing: (a) Replace LC68. (b) Replace LC63. (c) Replace LC40. (d) Replace LC71 or LC177. (e) Replace LC174 or LC178. (f) Check wiring associated with replaced circuit packs.

Table 73-2

A. Time or Date is Incorrectly Displayed:

(1) Replace LC66 (time).
(2) Replace LC67 (date).
(3) Check the wiring before replacing the clock assembly.

B. Bad Message or No Messages Are Printed*:

Execute Test 2 - Check for invalid printout message or no printout message at printer.

(1) No Printout Message:
  (a) At LC63 or LC374, insert a logic probe into test point TP8 for at least 5 seconds.
  (b) Execute Test 3.
  (c) If the logic probe is not flashing:
    1. At LC62, insert a logic probe into test point TP1.
      a. If logic probe is not flashing, replace LC62.
      b. If logic probe is flashing, replace LC63 or LC374.
  (d) If the logic probe is flashing and no characters are being sent to printer:
    1. If the date is not printed, replace LC65.
    2. If the date is printed, replace LC64.
(2) Invalid Printout Message:
  (a) Replace LC63 or LC374.
  (b) Replace LC40 (LC39).
  (c) Replace LC64.

* Execute Test 2 until final repair is made. Verify correct operation of the SMDR equipment, using Test 3.

Table 73-3

A. Time and/or Date Failure

(1) Replace LC66 (time).
(2) Replace LC67 (date).
(3) Check wiring associated with replaced circuit packs before replacing the clock assembly (SD-1E449).

Use the following steps to repair magnetic tape SMDR equipment. Execute Test 1 and/or Test 3 until final repair is made. Execute Test 3 to verify repair and correct operation of the SMDR equipment.

B. Data Not Recorded on Tape

(1) Load spare 9-track tape.
  NOTE: Make sure ***write enable*** ring is installed on tape and verify tape is threaded correctly.
(2) Correct logic probe to Test Point TP1 on LC174 or LC178 and execute Test 3 twice.
  (a) If logic probe didn't flash:
    1. Check for blown fuse.
    2. Replace LC71 or LC177.
    3. Replace LC68.
    4. Replace LC175.
    5. Replace LC174 or LC178.
    6. Replace LC63.
    7. Replace LC40.
    8. Check wiring associated with replaced circuit packs.
  (b) If logic probe flashes:
    1. Replace LC175.
    2. Replace LC69.
    3. Replace LC71 or LC177.

Table 73-3 (Contd)

4. At Formatter, replace board 4062.
5. At Formatter, replace board 4257.
6. At Tape Drive, replace board 3842.
7. At Tape Drive, replace board 4843.
8. At Tape Drive, replace board 4207.
9. At Tape Drive, replace board 4188.
10. At Tape Drive, replace board 4209.
11. At Tape Drive, replace board 3844 and adjust photosensors.
12. Check cabling between Formatter, Tape Drive, and SMDR carrier and wiring associated with replaced circuit packs (SD-1E449).
13. Replace Formatter.
14. Replace Tape Drive.

C. Data not Displayed at System Control Panel:

(1) Connect logic probe to Test Point TP1 on LC174 or LC178 and execute Test 3 twice.
NOTE: Make sure ***write enable*** ring is installed on tape.

(2) If logic probe flashed:
(a) Replace LC175.
(b) Replace LC69 or LC176.
(c) Replace LC71 or LC177.
(d) At Formatter, replace board 4062.
(e) At Formatter, replace board 4257.
(f) At Tape Drive, replace board 3842.
(g) At Tape Drive, replace board 4843.
(h) At Tape Drive, replace board 4207.
(i) At Tape Drive, replace board 4188.
(j) At Tape Drive, replace board 4209.
(k) At Tape Drive, replace board 3844 and adjust photosensors.

Table 73-3 (Contd)

(l) Check cabling between Formatter, Tape Drive, and SMDR carrier and wiring associated with replaced SMDR carrier circuit packs (SD-1E449).
(m) Replace Formatter.
(n) Replace Tape Drive.

(3) If logic probe did not flash:
(a) Check for blown fuse at SMDR carrier.
(b) Check output voltages on 207B power supply.
(c) Replace the first circuit board listed below. If a logic probe still does not flash, replace the next circuit board, etc.
1. Replace LC71 or LC177.
2. Replace LC68.
3. Replace LC175.
4. Replace LC174 or LC178.
5. Replace LC63.
6. Replace LC40.
(d) Check wiring associated with replaced circuit packs (SD-1E449).

D. Incorrect Data Displayed at System Control Panel:

(1) Replace LC68.
(2) Replace LC63.
(3) Replace LC175.
(4) Replace LC69 or LC176.
(5) Replace LC71 or LC177.
(6) Replace LC174 or LC178.
(7) Check for trouble in DIMENSION PBX software.

E. Tape Fails to Load:

(1) Make sure ***write enable*** ring is installed (WRITE ENABLE lamp lighted at Tape Drive).

(2) If tape does not advance to load point:
(a) At Tape Drive, adjust photosensors on board 3844.

Table 73-3 (Contd)

(b) At Tape Drive, replace board 3844.
(c) At Tape Drive, replace board 4843.
(d) At Tape Drive, replace board 3645 and adjust tape speed and ramp time.
(e) At Tape Drive, replace board 4306 and adjust capstan servo zero and tension arm travel.
(f) Replace Tape Drive.

(3) If tape does not stop at load point:
(a) At Tape Drive, adjust photosensors on board 3844.
(b) At Tape Drive, replace board 3844 and adjust photosensors.
(c) At Tape Drive, replace board 4062.
(d) Check cabling between Tape Drive and Formatter (SD-1E449).
(e) Replace Formatter.
(f) Replace Tape Drive.

(4) If ON LINE lamp on tape drive does not light, go to Step H.

F. Tape Fails to Rewind:

(1) Verify tape is threaded correctly.
(2) At Tape Drive, adjust photosensors on board 3844.
(3) If tape fails to rewind completely onto supply reel:
(a) At Tape Drive, replace board 4843.
(b) At Tape Drive, replace board 3645 and adjust tape speed and ramp time.
(c) Replace Tape Drive.
(4) If tape fails to rewind to load point:
(a) Replace LC71 or LC177.
(b) If UNLOAD lamp on LC71 or LC177 does not light when TAPE UNLOAD button is depressed, check wiring between LC71 or LC177 and TAPE UNLOAD button (SD-1E449).
(c) Replace LC175.

Table 73-3 (Contd)

(d) At Formatter, replace board 4062.
(e) At Tape Drive, replace board 3842.
(f) At Tape Drive, replace board 4843.
(g) At Tape Drive, replace board 3645, and adjust tape speed and ramp time.
(h) At Tape Drive, replace board 4306 and adjust capstan servo zero and tension arm travel.
(i) Check wiring associated with replaced circuit packs and cabling between SMDR carrier, Formatter, and Tape Drive (SD-1E449).
(j) Replace Formatter.
(k) Replace Tape Drive.

G. Tape Fails to Move When DUMP MEMORY Button is Depressed:

(1) Connect logic probe to Test Point TP10 on LC71 or LC177, and observe logic probe when DUMP MEMORY is depressed.
(2) If logic probe didn't flash:
(a) Replace LC68.
(b) Depress DUMP MEMORY. If logic probe didn't flash, replace LC71 or LC177.
(c) Check wiring associated with replaced circuit packs (SD-1E449).
(3) If logic probe flashed:
(a) Verify tape is threaded correctly.
(b) Replace LC71 or LC177.
(c) At Formatter, replace board 4062.
(d) At Tape Drive, replace board 3842.
(e) At Tape Drive, replace board 4843.
(f) Check wiring between LC71 or LC177 and Formatter and cabling between Formatter and Tape Drive (SD-1E449).
(g) Replace Formatter.
(h) Replace Tape Drive.

Table 73-3 (Contd)

H. ON LINE Lamp Does Not Light at Tape Drive:
(1) At Tape Drive, replace board 4843.
(2) Check cabling between Tape Drive and Formatter.
(3) Replace Tape Drive.

END

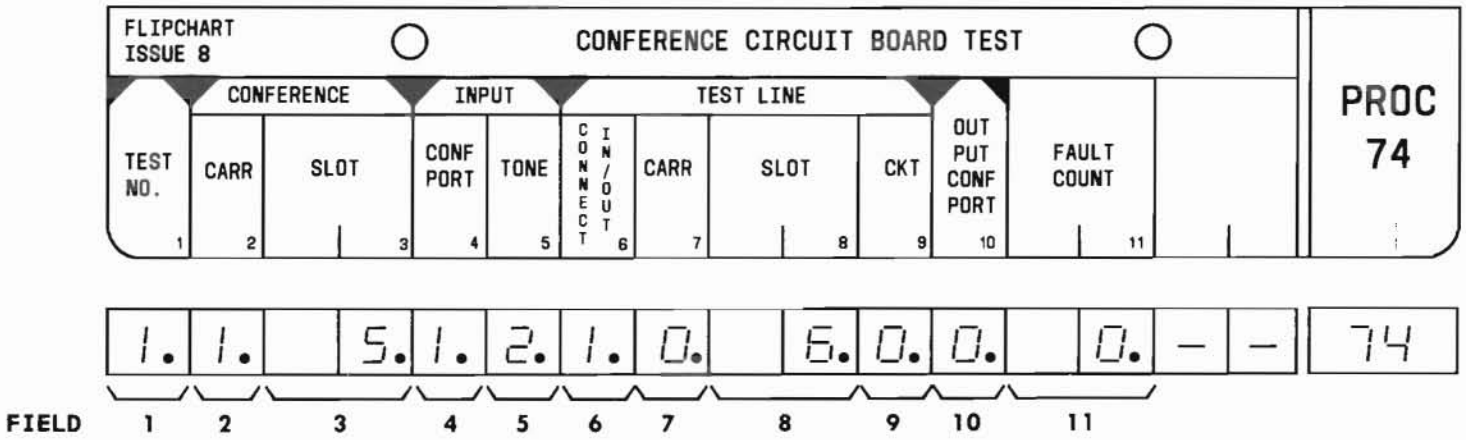
A. DESCRIPTION

Procedure 74 should be called in when trouble with a conference call has been reported.

Procedure 74 is used to locate a fault in a replaceable LC06 attendant conference circuit pack. After selecting the carrier and slot number of the circuit pack to be tested, either of two tests can be run:

- Test 1 – Automatic port-to-port transmission test.
- Test 2 – Manual selection port-to-port transmission test.

Both tests allow a selected tone to be connected to one of the eight attendant conference circuit pack ports designated as an input. The tone monitor and test line are connected to a different one of the attendant conference ports designated as an output port. The tests then monitor the transmission.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	1	Test 1.
	2	Test 2.
2	0-3	Trunk carrier for LC06.
3	2-8	Carrier slot for LC06.
4	0-7	LC06 port selected for tone input.
	8,9	No input port connected.
5		Input tone:
	0	Dial tone.
	1	Recall tone.
	2	Miscellaneous tone.
	3	Interrupt tone.
	4	Busy tone (noticeably lower level).
	5	Reorder tone (noticeably lower level).
	6	Audible ringback tone.
	7	Special audible ringback tone.
	8,9	No tone.
6	0	Test line and tone monitor connected to input port.
	1	Test line and tone monitor connected to output port.
7	0-6†	Line carrier for test line.
8	2-9 11-18†	Carrier slot for test line.
9	0-3†	Circuit number for test line.
10	0-7	LC06 port selected for tone output.
	8,9	No output port connected.
11	0-56	Number of transmission failures detected by the tone monitor.

† The test line is assigned to carrier 0, slot 6, and circuit 0. Only carrier 0, slots 2 through 9 will allow the tone monitor to sample the signal under test.

C. TEST PROCEDURES

Call in Procedure 74:

PROC NO.; 74; ENTER

Calling in Procedure 74 automatically selects Test 1.

C. TEST PROCEDURES (Contd)

Test 1:

Test 1 automatically steps through each of 56 different port-to-port transmission tests and increments the fault count each time the tone sampled at the output port is below the tone monitor threshold. This test steps to a new input port-to-output port measurement each 0.5 seconds for a selected steady tone or each 12 seconds for an interrupted tone.

The MAAP key sequence for entering Test 1 is:

Call in Procedure 74; CHANGE; 2; ENTER; (Carrier No.); ENTER; CHANGE; 3; ENTER; (Slot No.); ENTER; EXECUTE

Depressing the EXECUTE key once starts the test. Depressing the EXECUTE key again stops it. The WAIT lamp comes on after EXECUTE key is depressed and remains on until the test is automatically completed or is manually terminated. The fault count in field 11 contains dashes until all the facilities requested for the test have been selected. The fault count then goes to a numerical value when the test is running.

As long as the fault count field contains dashes (after EXECUTE key is depressed, with the WAIT lamp on), this procedure tries to seize the selected facilites. Otherwise, a bad MAAP selection request has been encountered. This usually results in the faulty request field being blanked.

Successful completion is indicated by a fault count of zero in field 11.

Test 2:

This test allows the user to manually step through the 56 port-to-port connections. At each pair of ports selected, the user can monitor or listen to the tone transmisssion.

The MAAP key sequence for entering this test from another test is:

CHANGE; 1; ENTER; 2; ENTER; CHANGE; 2; ENTER; (Carrier); ENTER; CHANGE; 3; ENTER; (Slot); ENTER; CHANGE; 5; ENTER; (Tone); ENTER; CHANGE; 10; ENTER; (Output Conference Port); ENTER; EXECUTE

STEP; EXECUTE sequence can be used to advance the input conference port to the next selection and test it.

The MAAP key sequence to change the output conference port is:

CHANGE; 10; ENTER; (Output Conference Port); ENTER

Successful completion is indicated by a fault count of zero in field 11.

D. REPAIR GUIDE

When an attendant conference circuit pack fault is suspected, the following steps should be performed, in the order shown, to isolate and repair the fault:

Step	Isolation Procedure
1.	Enter the carrier and slot number of the suspect circuit pack in fields 2 and 3 and execute test 1.
2.	If the fault count (field 11) is greater than zero, replace the suspect circuit pack and repeat test 1.
3.	If no other faults are detected, but the failure remains, select the test line to listen to each of the 56 port-to-port transmissions.

> ***NOTE:***
>
> Some moderate variations in tone amplitude will be heard because ports 6 and 7 have a gain amplitude fixed for trunk connections and other ports have a gain amplitude set for line connections.

4. If one or more port-to-port transmissions sound noticeably decreased in amplitude when compared with the others, replace the associated LC06 circuit pack and rerun that selected port-to-port transmission test (test 1).
5. If a port-to-port transmission sounds marginally decreased in level, run test 2. Using EXECUTE key to turn the test on or off, a controlled listening interval can be achieved. STEP key can be depressed repeatedly to cycle through each of the other ports to input the selected tone for comparative transmission tests.

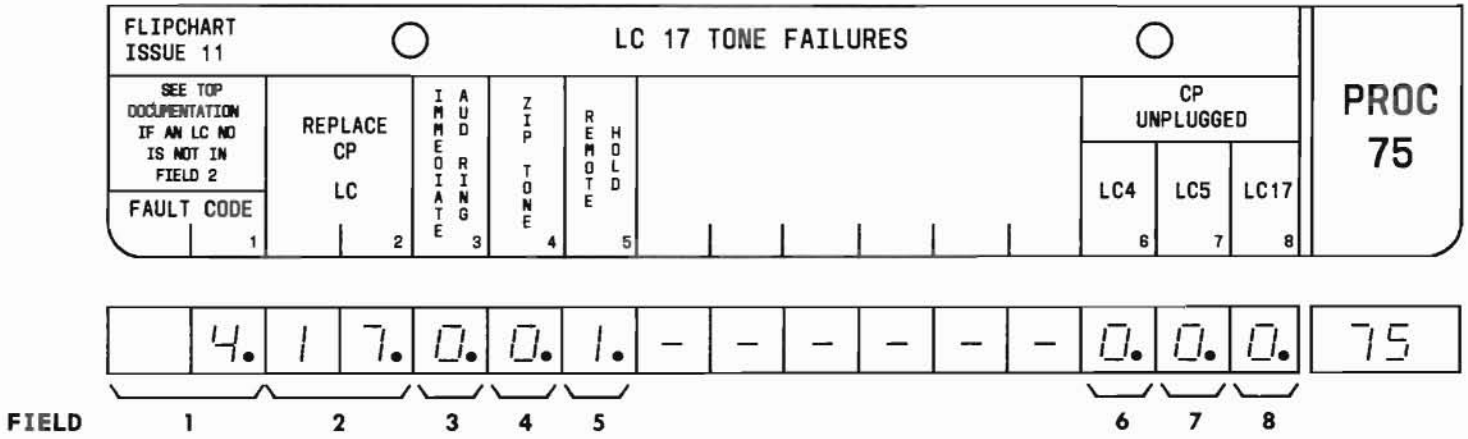
> ***NOTE:***
>
> Other tones can be selected using field 5. This may result in a lower level test signal in some cases, such as the busy or reorder tones that are about 10 dB lower in amplitude than the dial tone.

PROCEDURE 75 — LC17 TONE FAILURES

A. DESCRIPTION

Procedure 75 should be called in when a centralized attendant service (CAS) tone failure occurs.

Procedure 66, field 10 displays a 2 or Procedure 53, field 4 displays a 1 when an LC17 tone failure occurs in Feature Packages 10 and 15. Procedure 75 is used to test for CAS tone failures and display the results.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1		Fault code:†
	0	No tone failures.
	1	Remote hold tone failure.
	2	Zip tone failure.
	3	Combination of fault codes 1 and 2.
	4	Immediate audible ring tone failure.
	5	Combination of fault codes 1 and 4.
	6	Combination of fault codes 2 and 4.
	7	All tones failing.
2	00,17	Failing circuit pack number (LC17).
3-5	0	Tone passed test.
	1	Tone failed test.
6-8‡	0	Circuit pack plugged in (connected).
	1	Circuit pack not plugged in (connected).

† The fault code in field 1 is the decimal equivalent of the binary number created by the codes in fields 3, 4, and 5.

‡ If an LC204 replaces the LC04/LC05B tone boards, fields 6 and 7 will both display 0 when the LC204 is plugged in and 1 when it is not plugged in.

C. TEST PROCEDURE

Call in Procedure 75:

PROC NO.; 75; ENTER

EXECUTE initiates the CAS tone tests. When the EXECUTE key is depressed, fields 1 through 5 contain dashes. As each of the tones associated with fields 3, 4, and 5 are tested, the dash in the associated field flashes. When an individual tone test is completed successfully, the flashing dash is replaced by a zero. Depressing the EXECUTE key again reinitiates the test. Successful test completion is indicated by a fault code of 0 in field 1.

D. REPAIR GUIDE

When a CAS tone failure occurs, the following steps should be performed in the order shown to isolate and repair the faulty unit.

Step	Isolation Procedure
1.	If a fault code greater than one appears in field 1, replace circuit pack LC17 in line carrier 00, slot 7 and retest.
2.	If a 1 is displayed in field 8, replace LC17 in carrier 00, slot 7 and retest.
3.	If the corrective action in step 1 or 2 does not clear the fault, investigate the wiring associated with LC17.

END

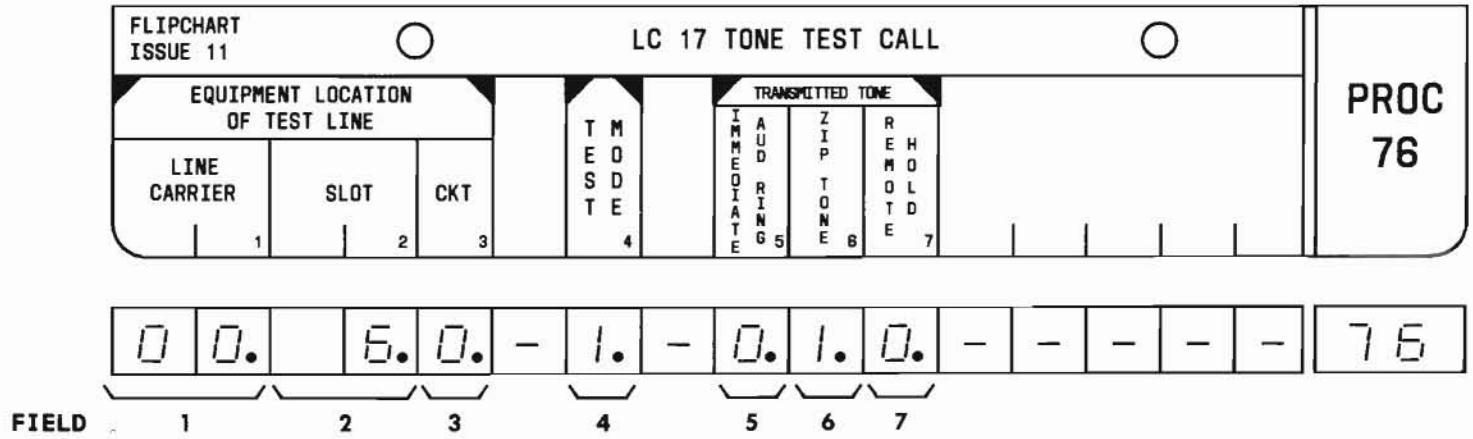
PROCEDURE 76 – LC17 TONE TEST CALL

A. DESCRIPTION

Procedure 76 should be called in when a centralized attendant service (CAS) tone needs to be tested.

Two test modes are available:

- Mode 0 – Tests all three CAS tones.
- Mode 1 – Tests selected CAS tones.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	00	Test line carrier number.
2	6	Test line slot number.
3	0	Test line circuit number.
4	0	Mode 0.
	1	Mode 1.
5-7	0	Tone not to be transmitted.
	1	Tone to be transmitted. The 1 flashes while the tone is being transmitted.

C. TEST PROCEDURES

A list of tone test call modes, what each one does, and how each is run follows.

Call in Procedure 76:

PROC NO.; 76; ENTER

Mode 0:

Test Mode 0 transmits all three CAS tones in the order shown on the flip chart (fields 5, 6, and 7).

The MAAP key sequence for entering Mode 0 is:

Call in Procedure 76; 0; ENTER; 6; ENTER; 0; ENTER; EXECUTE

EXECUTE causes the first tone (field 5) to be transmitted. Transmission of the tone is indicated by a flashing 1 in the appropriate field. Depressing the STEP key initiates transmission of the next tone. Depressing the STEP key again transmits the last tone.

Mode 1:

This mode transmits selected tones (fields 5, 6, and 7).

The MAAP key sequence for entering Mode 1 is:

Call in Procedure 76; (If test line is not displayed, enter equipment location:0; ENTER; 6; ENTER; 0; ENTER); CHANGE; 4; ENTER; 1; ENTER; CHANGE; (Field No. of tone to be transmitted); ENTER; 1; ENTER; (Repeat change procedure for each tone to be transmitted); EXECUTE

EXECUTE key transmits the first tone. Transmission is indicated by a flashing 1 in the appropriate field. STEP key transmits the next tone selected.

D. REPAIR GUIDE

The following steps should be performed in the order shown to monitor CAS tones:

Step	Procedure
1.	Monitor the tone (Table 76-1) using the test line.
2.	Check the voltage level of the tone output.
3.	If the tone is not within specified limits, replace circuit pack LC17.
4.	Run Procedure 75 to verify repair.

Table 76-1
Tone Parameters

Tone	Interrupt Rate	Circuit Pack	Level† (Volts)
Immediate audible ringing	Steady 440 and 480 Hz mixed	LC17	0.075-0.125
Zip (interrupt remote hold)	440 Hz, 50 ms on, 50 ms off	LC17	0.03-0.07
Remote hold	Steady 440 Hz	LC17	0.075-0.125

† Tone levels shown were obtained using a KS-20599-L4 digital voltmeter set on the 10 Vac scale.

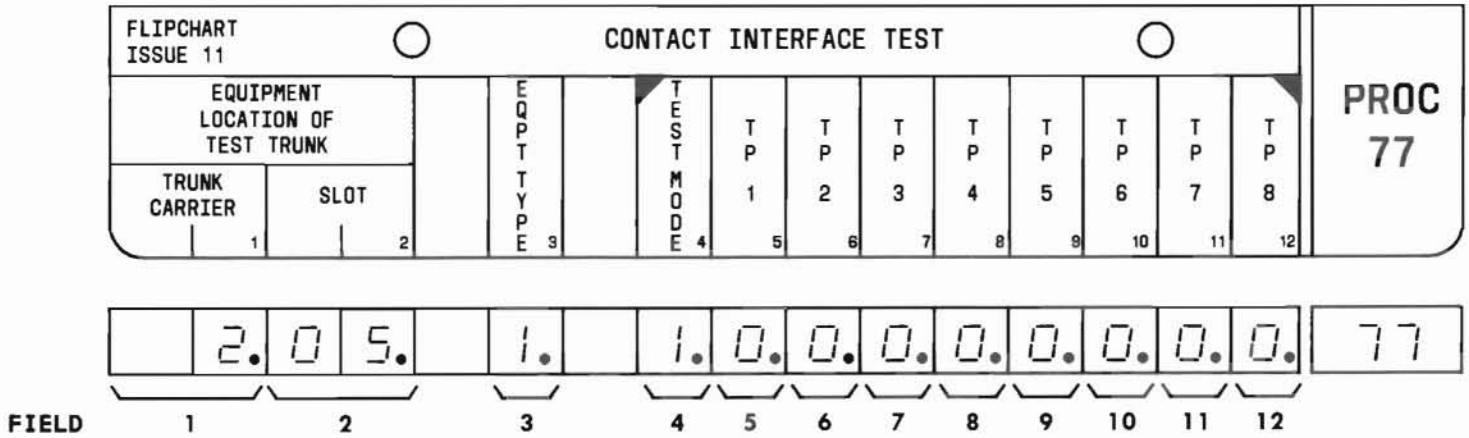
END

A. DESCRIPTION

Procedure 77 is used to test the contact interface circuit board (LC15).

Two test modes are available:

- Mode 0 – Sequentially test eight test points on the LC15.
- Mode 1 – Sequentially test a set of test points on the LC15.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	00-06	Trunk Carrier Designation.
2	00-18	Slot number.
3	0	Centralized Attendant Service.
	1	UCD/DDC.
4	0	Mode 0.
	1	Mode 1.
5-12	0	Test point not being tested.
	1	Test point to be tested. A flashing 1 indicates relay operating and releasing at a 60-ipm rate.

C. TEST PROCEDURES

The LC15 relays are tested via Test Mode 0 and Test Mode 1.

Call in Procedure 77:

PROC NO.; 77; ENTER

> ***NOTE:***
>
> After initially calling in Procedure 77, depressing the EXECUTE key will automatically default to Mode 0, (eg, PROC; 77; ENTER; EXECUTE).

Fields 1 and 2 display the equipment location of an LC15 and field 3 displays the equipment type (0=CAS, 1=UCD/DDC).

Depress the DISPLAY key to sequence through the LC15 equipment locations until the LC15 to be tested is displayed on the MAAP.

Test Mode 0:

Call in Procedure 77; CHANGE; 4; ENTER; 0; ENTER; EXECUTE

Before the EXECUTE key is depressed, a "1" is automatically entered in test point fields 5 through 12. After the EXECUTE key is depressed, a flashing "1" in fields 5 through 12 indicates relays are operating and releasing at a 60-ipm rate.

To sequentially test the eight relays (test points 1 through 8), the STEP key must be depressed. Each depression of the STEP key will operate and release the working relay beginning with the relay associated with test point 1 (field 5).

Test Mode 1:

Call in Procedure 77; CHANGE; 4; ENTER; 1; ENTER

A "1" is entered in field 4 and a "0" is entered in fields 5 through 12. Now enter a "1" in test point field(s) to be tested.

eg: CHANGE; 7; ENTER; 1; ENTER; CHANGE; 11; ENTER; 1; ENTER

Depress the EXECUTE key to start test. A flashing "1" associated with the first test point to be tested indicates the relay is operating and releasing.

The STEP key must be depressed next to test the next test points.

D. REPAIR GUIDE

The following table associates the 30A8 lamps with the LC15. The MJ and MN lamps (TP 7 and 8) are terminated on 00CX01, terminals 45 and 47, respectively.

Trk Carrier Equip Loc			Ckt No.	Test Point No.	Lead Design (LC15)	Conn Cable Color Code	Conn Blk 0_TX0_TERM. No. On Purple Cross-connect Conn Field	30A8 Lamps
Conn Cable								
0_TX01	0_TX02	0_TX03						
SLOT 02	SLOT 05	SLOT 08	0	1	CIG	BL-W	2	RLT1
			1	2	CIG	O-W	4	RLT2
			2	3	CIG	G-W	6	RLT3
			3	4	CIG	BR-W	8	RLT4
			4	5	CIG	S-W	10	CONTROL
			5	6	CIG	BL-R	12	OVERFLOW
SLOT 03	SLOT 06	SLOT 09	0	1	CIG	BR-R	18	RLT1
			1	2	CIG	S-R	20	RLT2
			2	3	CIG	BL-BK	22	RLT3
			3	4	CIG	O-BK	24	RLT4
			4	5	CIG	G-BK	26	CONTROL
			5	6	CIG	BR-BK	28	OVERFLOW
SLOT 04	SLOT 07		0	1	CIG	O-Y	34	RLT1
			1	2	CIG	G-Y	36	RLT2
			2	3	CIG	BR-Y	38	RLT3
			3	4	CIG	S-Y	40	RLT4
			4	5	CIG	BL-Y	42	CONTROL
			5	6	CIG	O-V	44	OVERFLOW

1. If a relay is not operating or releasing at the test point being tested, replace LC15. If trouble is not cleared, reinitialize, troubleshoot wiring. See SD-1E446.
2. If indication at the test point is correct, use the table to isolate the trouble. A 17B KTU circuit may be used as an interface between LC15 and 30A8 status indicator.

END

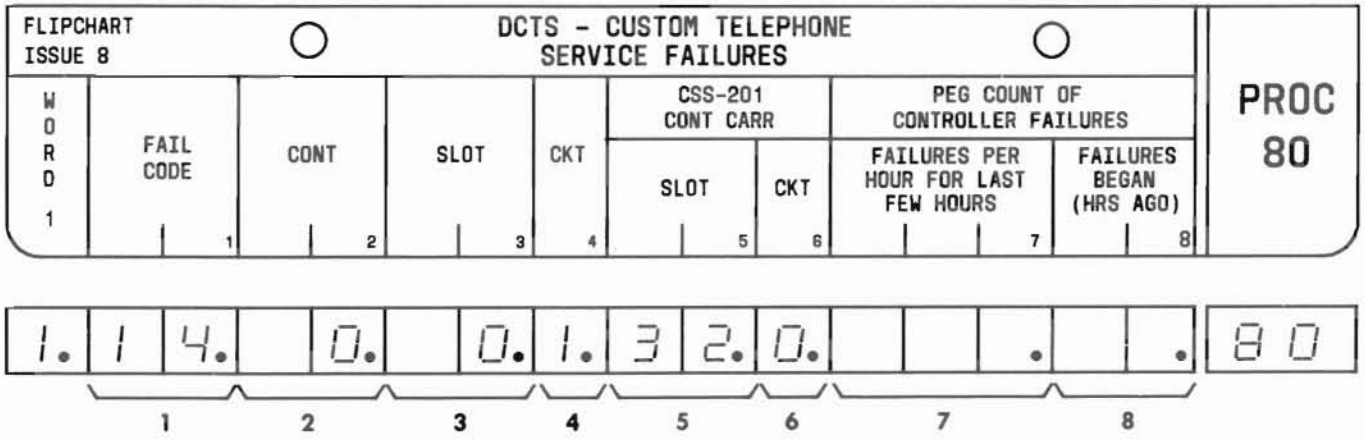
PROCEDURE 80, WORDS 1 AND 2 — CUSTOM TELEPHONE SERVICE FAILURES

A. DESCRIPTION

Procedure 80, Word 1 should be called in if field 8 of Procedure 53 displays a 1, or field 15 of Procedure 66 displays a 1 or 3.

Procedure 80, Words 1 and 2 are used to:

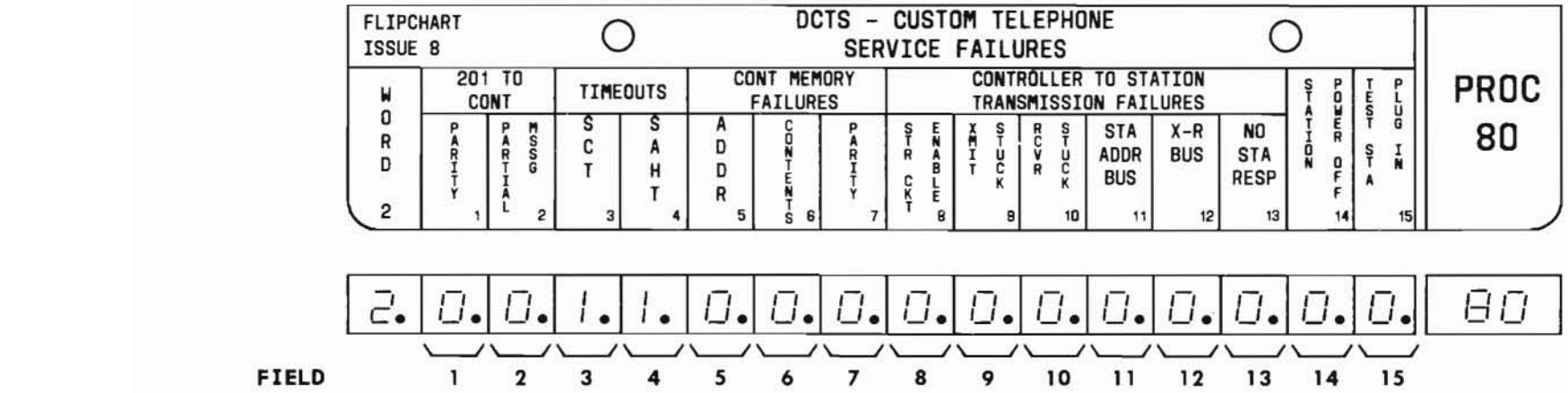
- Display on-line maintenance failure history.
- Test DIMENSION PBX Electronic Custom Telephone Service (ECTS) circuits and display the test results.



B. FIELD DEFINITIONS AND CODES

Word 1

Field	Code	Definition
1	1-15, 99	Fail code. See Table 80-1.
2	0-2	Controller designation. Memory Size — Range: DIM 100 / DIM 400 A: – / 0 B: – / 0,1 C: 0 / 0-2
3	0-20	Location of circuit pack under interrogation.
4	0-7	Circuit on specified circuit pack.
5	32-37	Location of LC34B or LC366 in the DIMENSION PBX control carrier that is associated with the controller.
6	0,1	Circuit on LC34B or LC366 dedicated to the controller.
7	0-999	Average failures per hour.
8	0-17	Hours since failures began occurring.



B. FIELD DEFINITIONS AND CODES (Contd)

Word 2

Field	Code	Definition
1-13	0	Alarm not set by corresponding function.
	1	Alarm set by corresponding function. See Table 80-1.
14	0	Station power status is off.
	1	Station power status is on.
15	0	Test station is not plugged into the test jack.
	1	Test station is plugged into the test jack.

C. TEST PROCEDURE

Display on-line maintenance failure history for each Controller:

(1) Display failure history (Word 1) for first Controller.

PROC NO.; 80; ENTER

(2) Failure history for a particular Controller-slot-circuit is displayed. If fail code equals 0, go to Step (3). Otherwise, go to Repair Guide.

(3) Operate the DISPLAY key to increment fields 3 and 4 through all circuits of the specified Controller. If fail code equals 0, go to Step (4). Otherwise, go to Repair Guide.

(4) Depress the STEP key to display failure history of next Controller.

(5) Repeat Steps (2) through (4) until all circuits have been interrrogated.

Test each Controller:

(1) Test the first Controller

PROC NO.; 80; ENTER; EXECUTE

(2) If fail code equals 0, go to Step (3). Otherwise, go to Repair Guide.

(3) Operate the STEP and then EXECUTE keys to test the remaining Controllers. If fail code equals 0, the test is complete. Otherwise, go to Repair Guide.

D. REPAIR GUIDE

Step	Isolation Procedure
1.	If fail code equals 99, go to Step 4. Otherwise, go to Step 2.
2.	Display word 2. WORD; 2
3.	Maintenance information for the Controller specified in field 2 of Word 1 is displayed. Using the fail code (Word 1, field 1) and the bits set in Word 2, refer to Table 80-1 for a description of the fail code and the corrective action.
4.	Perform Procedure 81.

Table 80-1

Procedure 80 – Fail Code Dictionary

Word 1 Fail Code	Word 2 Bit Set	Fault Description	Circuit Pack Replacement Sequence	Associated Fault Register Leads
0	None	No fault found	–	–
1	None	LC34B or LC366 loop around	LC34B or LC366, LC44	–
2	None	LC34B or LC366, LC60 loop around	LC34B or LC366, LC60	–
3	2	Fault reg bit stuck at 0	LC59, LC60	FR2L*
3	3	Fault reg bit stuck at 0	LC59, LC58	POA*
3	4	Fault reg bit stuck at 0	LC59, LC58	P1A, RF25*
3	5	Fault reg bit stuck at 0	LC59, LC57, LC58	MARE0, MARE1
3	6	Fault reg bit stuck at 0	LC59, LC57, LC58	MARE0, MARE1
3	7	Fault reg bit stuck at 0	LC59, LC57, LC58	FR4LP
3	10	Fault reg bit stuck at 0	LC59, LC56, LC57	FR12L*
3	13	Fault reg bit stuck at 0	LC59, LC56, LC57	FR1011L*
3	15	Fault reg bit stuck at 0	LC59, LC56	TSP
4	2	Fault reg bit stuck at 1	LC59, LC60	FR2L*
4	3	Fault reg bit stuck at 1	LC59, LC58	POA*
4	5	Fault reg bit stuck at 1	LC59, LC57, LC58	MARE0, MARE1
4	6	Fault reg bit stuck at 1	LC59, LC57, LC58	MARE0, MARE1
4	7	Fault reg bit stuck at 1	LC59, LC57, LC58	FR4LP
4	8	Fault reg bit stuck at 1	LC59, LC56	FR15

Table 80-1 (Contd)

Procedure 80 – Fail Code Dictionary

Word 1 Fail Code	Word 2 Bit Set	Fault Description	Circuit Pack Replacement Sequence	Associated Fault Register Leads
4	9	Fault reg bit stuck at 1	LC59, LC56	FR13L*, XMC
4	11	Fault reg bit stuck at 1	LC59, LC56, LC57	FR16L
4	12	Fault reg bit stuck at 1	LC58, LC56	FR14L
4	14	Fault reg bit stuck at 1	LC59, LC56, LC58	SCB*
5	None	Minor memory read/write	LC57, LC58, LC60	–
6	None	Station	LC55, Station	–
7	None	Steering circuit	LC55, Fuse	–
8	None	Hyperactive station	LC55, Station	–
9	2	Message abort	LC60	FR2L*
10	None	Minor change	LC56, LC58, LC57	–
11	None	Button count	LC56, LC58	–
12	None	Major change	LC58, LC58, LC57	–
13	None	Station power	LC59, LC58, LC56	–
14	1	Message parity	LC60	FR1L*
14	2	Partial Message	LC60	FR2L*
14	3	Station activity buffer cycle timer (SCT) timeout	LC59	POA*
14	3 and 4	SCT and Station address high timer (SAHT) timeout	LC58, LC59	RF25*, P1A, POA*
14	4	SAHT timeout	LC59	RF25*, P1A
14	4 and 6		LC57	RF25*, P1A, MARE0, MARE1

Table 80-1 (Contd)

Procedure 80 – Fail Code Dictionary

Word 1 Fail Code	Word 2 Bit Set	Fault Description	Circuit Pack Replacement Sequence	Associated Fault Register Leads
14	5	Memory address	LC57, LC58	MARE0, MARE1
14	6	Memory contents	LC57, LC58	MARE0, MARE1
14	7	Memory parity	LC57, LC59	FR4LP
14	8	Steering circuit enable bus†	LC56, LC55	FR15
14	8,11,12	Steering circuit enable, station address, and transmit-receive bus	LC56, LC59, LC55	FR14L, FR15L, FR16L
14	9	Transmit stuck†	LC56	FR13L, XMC
14	9 and 11	Transmit stuck and station address bus	LC56	FR13L,XMC,FR16L
14	10	Receiver stuck	LC56, LC57	FR12L
14	11	Station address bus†	LC56, LC55	FR16L
14	12	Transmit – receive bus†	LC56, LC55	FR14L
14	13	No station response	LC56, LC55	FL1011L*
15	None	Major memory read/write	LC57, LC58, LC60	–
99	None	System failure – Load Procedure 81‡	–	–

† No station response and receiver stuck indications can be expected.
‡ Executing Procedure 81 removes the Controller from service.
* Signal designations shown with an asterisk (FR13L*, for example) indicate normal logic is high (1), and primary function of the lead is performed in the low (0) logic state. No asterisk indicates logic level is normally low (0), and primary function of the lead is performed in the high (1) logic state.

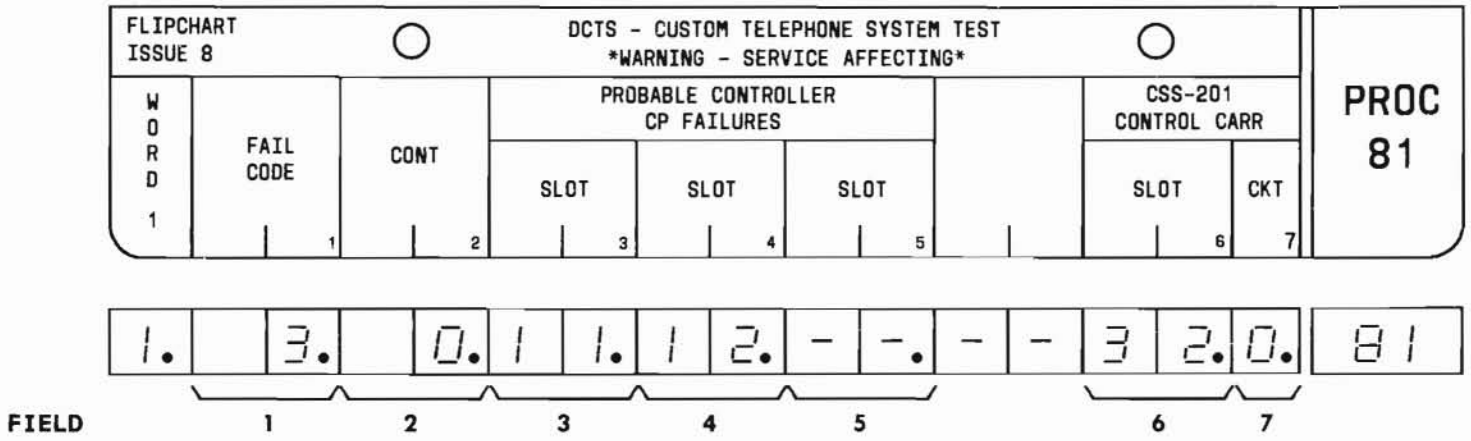
PROCEDURE 81, WORDS 1 AND 2 — CUSTOM TELEPHONE SYSTEM TEST PROC 81, WD1, 2

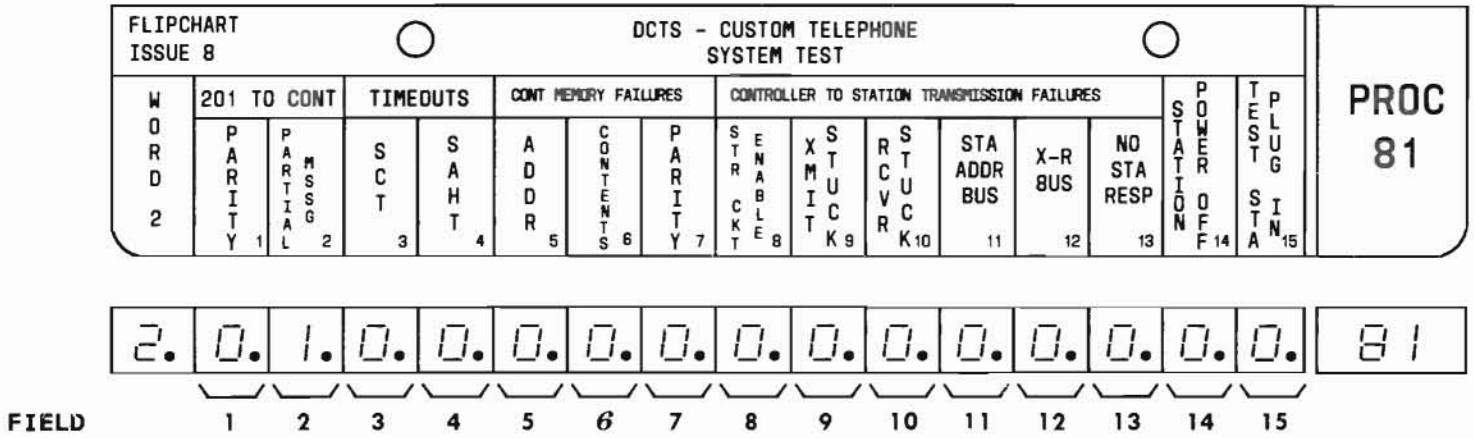
A. DESCRIPTION

Procedure 81, Word 1 should be called in if field 9 of Procedure 53 displays a 1, or field 15 of Procedure 66 displays a 2 or 3, or field 1 of Procedure 80 displays a 99.

Procedure 81, Words 1 and 2 are used to:

- Display Controller and data channel failures.
- Test the Controller and data channel.





B. FIELD DEFINITIONS AND CODES

Word 1

Field	Code	Definition
1	1-99	Fail code. See Table 81-1.
2	0-2	Controller designation. Range Memory Size — DIM 100 — DIM 400 A — – — 0 B — – — 0,1 C — 0 — 0-2
3-5	0-20	Location of suspected circuit pack(s).
6	32-37	Location of LC34B or LC366 in the DIMENSION PBX control carrier that is associated with the controller.
7	0,1	Circuit on LC34B or LC366 dedicated to the Controller.

Word 2

Field	Code	Definition
1-13	0	Alarm not set by corresponding function.
	1	Alarm set by corresponding function. See Table 81-1.
14	0	Station power status is off.
	1	Station power status is on.
15	0	Test station is not plugged into the test jack.
	1	Test station is plugged into the test jack.

C. TEST PROCEDURE

Display Controller and data channel failures:

(1) Display failures for first Controller.

PROC NO.; 81; ENTER

(2) If fail code equals 0, go to Step (3). Otherwise, go to Repair Guide.

(3) Operate the STEP key to increment field 2 through all Controllers. If fail code other than 0 is displayed, go to Repair Guide.

Test each Controller:

> ***CAUTION:***
>
> ***Executing the test will remove the specified Controller (field 2) from service.***

(1) Test the first Controller

PROC NO.; 81; ENTER; EXECUTE

WAIT lamp comes on and remains on for approximately 2 minutes.

(2) Observe the pass and fail LEDs (at test points 2 and 8, respectively) on LC56. If pass LED is on, go to Step (3). Otherwise, go to Repair Guide.

(3) Operate the STEP and the EXECUTE keys to test the remaining Controllers. If the pass indicator is on, the Controller passed the test. If the fail LED is on, go to Repair Guide.

D. REPAIR GUIDE

Step	Isolation Procedure
1.	Replace the circuit pack(s) specified in Word 1, fields 3 through 5. After each circuit pack is replaced, repeat the test to determine if the fault has been cleared. To reinitiate the test: • Set the POWER switch on the 207A Power Unit to OFF. • Wait approximately 5 seconds. • Set the POWER switch to ON.
2.	If the fault is not cleared, record the fail code and display word 2. WORD; 2
3.	Maintenance information for the Controller specified in field 2 of Word 1 is displayed. Using the fail code (Word 1, field 1) and the bit(s) set in Word 2, refer to Table 81-1 for a description of the fail code.

Table 81-1

Procedure 81 Fail Code Dictionary†

Word 1 Fail Code	Word 2 Bit Set	Fault Description	Associated Fault Register Leads
0	None	No fault found	–
1	None	LC34B or LC366 internal loop around	–
2	None	LC34B or LC366 – LC60 loop around	–
3	2	Fault reg bit stuck at 0	FR2L*
3	3	Fault reg bit stuck at 0	P0A*
3	4	Fault reg bit stuck at 0	P1A,RF25*
3	5	Fault reg bit stuck at 0	MARE0,MARE1
3	6	Fault reg bit stuck at 0	MARE0,MARE1
3	7	Fault reg bit stuck at 0	FR4LP
3	10	Fault reg bit stuck at 0	FR12L*
3	13	Fault reg bit stuck at 0	FR1011L*
3	15	Fault reg bit stuck at 0	TSP
4	2	Fault reg bit stuck at 1	FR2L*
4	3	Fault reg bit stuck at 1	P0A*
4	5	Fault reg bit stuck at 1	MARE0,MARE1
4	6	Fault reg bit stuck at 1	MARE0,MARE1
4	7	Fault reg bit stuck at 1	FR4LP
4	8	Fault reg bit stuck at 1	FR15
4	9	Fault reg bit stuck at 1	FR13L*,XMC
4	11	Fault reg bit stuck at 1	FR16L
4	12	Fault reg bit stuck at 1	FR14L

Table 81-1 (Contd)

Procedure 81 Fail Code Dictionary†

Word 1 Fail Code	Word 2 Bit Set	Fault Description	Associated Fault Register Leads
4	14	Fault reg bit stuck at 1	SCB*
5	None	Minor memory read/write	–
6	None	Station	–
7	None	Steering circuit	–
8	None	Hyperactive station	
9	2	Message abort	FR2L*
10	None	Minor change	–
11	None	Button count	–
12	None	Major change	–
13	None	Station power	–
14	1	Message parity	FR1L*
14	2	Partial message	FR2L*
14	3	SCT timeout	P0A*
14	3 and 4	SCT and SAHT timeout	RF25*, P1A P0A*
14	4	SAHT timeout	RF25*, P1A
14	4 and 6	SAHT timeout and memory contents	RF25*, P1A, MARE0, MARE1
14	5	Memory address	MARE0, MARE1
14	6	Memory contents	MARE0, MARE1
14	7	Memory parity	FR4LP

Table 81-1 (Contd)

Procedure 81 Fail Code Dictionary†

Word 1 Fail Code	Word 2 Bit Set	Fault Description	Associated Fault Register Leads
14	8	Steering circuit enable bus‡	FR15
14	8, 11 and 12	Steering circuit enable, station address, and transmit-receive	FR14L,FR15L, FR16L
14	9	Transmit bus‡	FR13L,XMC
14	9 and 11	Transmit and station address bus	FR13L,XMC,FR16L
14	10	Receive bus‡	FR12L
14	11	Station address bus‡	FR16L
14	12	Transmit – receive bus‡	FR14L
14	13	No station response‡	FR1011L*
15	None	Major memory read/write	–
21	None	Internal LC34B or LC366 – S10/CF	–
22	None	Internal LC34B or LC366 – T10/CF	–
23	None	Internal LC34B or LC366 – No message	–
24	None	Internal LC34B or LC366 – Echo	–
30	None	LC34B or LC366 – LC60 loop around	–
36	None	Memory test • All 0's pattern	–
37	None	Memory test • All 1's pattern	–
38	None	Memory test • Bit pattern	–
39	None	Memory test • Memory parity	–
44	None	Cannot power up stations	–
45	None	Cannot power down stations	–

Table 81-1 (Contd)

Procedure 81 Fail Code Dictionary†

Word 1 Fail Code	Word 2 Bit Set	Fault Description	Associated Fault Register Leads
47	3	SCT timeout bit stuck at 1	P0A*
48	5	Memory address bit stuck at 1	MARE0,MARE1
49	6	Memory contents bit stuck at 1	MARE0,MARE1
50	7	Memory parity bit stuck at 1	FR4LP
51	8	Steering circuit enable bit stuck at 1	FR15
52	9	Transmit stuck bit stuck at 1	FR13L*,XMC
53	11	Station address bus bit stuck at 1	FR16L
54	12	Transmit-receive bus bit stuck at 1	FR14L
55	14	Station power bit stuck at 1	SCB*
56	2	Message abort bit stuck at 0	FR2L*
57	3	SCT timeout bit stuck at 0	P0A*
58	4	SAHT timeout bit stuck at 0	RF25*,P1A
59	5	Memory address bit stuck at 0	MARE0,MARE1
60	6	Memory contents bit stuck at 0	MARE0,MARE1
61	7	Memory parity bit stuck at 0	FR4LP
62	10	Receiver bit stuck at 0	FR12L*
63	13	No station response bit stuck at 0	FR1011L*
64	15	Test station bit stuck at 0	TSP
66	1	Message parity	FR1L*
67	2	Message abort	FR2L*

Table 81-1 (Contd)

Procedure 81 Fail Code Dictionary†

Word 1 Fail Code	Word 2 Bit Set	Fault Description	Associated Fault Register Leads
68	3	SCT timeout	P0A*
69	4	SAHT timeout	RF25*,P1A
70	5	Memory addressing	MARE0,MARE1
71	6	Memory contents	MARE0,MARE1
72	7	Memory parity	FR4LP
73	8	Steering circuit enable	FR15
74	9	Transmit stuck	FR13L*,XMC
75	10	Receive stuck	FR12L*
76	11	Station address bus	FR16L
77	12	Transmit – receive bus	FR14L
78	13	No station response	FR1011L*
79	3,4	SCT and SAHT timeout	P0A*,RF25*,P1A
80	1,2,3	Message parity, message abort, and SCT timeout	FR1L*,FR2L*, P0A*
81	8,11,12	Steering circuit enable, transmit-receive bus, and station address	FR14L,FR15, FR16L
82	8,11	Steering circuit enable and station address bus	FR15,FR16L
83	11,12	Transmit-receive bus and station address bus	FR14L,FR16L
84	9,11	Transmit stuck and station address bus	FR13L*,XMC, FR16L

Table 81-1 (Contd)

Procedure 81 Fail Code Dictionary†

Word 1 Fail Code	Word 2 Bit Set	Fault Description	Associated Fault Register Leads
85	4,6	SAHT and memory contents	RF25*,P1A, MARE0,MARE1
86	5,6,7	Memory address, contents and parity	FR4LP,MARE0, MARE1
87	4,9	SAHT and transmit stuck	RF25*,P1A, FR13L*,XMC
88	5,11	Memory address and station address bus	MARE0,MARE1, FR16L
89	15	Test station	FR15
95	None	Minor change	–
96	None	Button Count	–
97	None	Major change	–
99	None	Analyze Word 2	–

Signal designations shown with an asterisk (FR13L, for example) indicates normal logic is high (1) and primary function of the lead is performed in the low (0) logic state. No asterisk indicates logic level is normally low (0), and primary function of the lead is performed in the high (1) logic state.

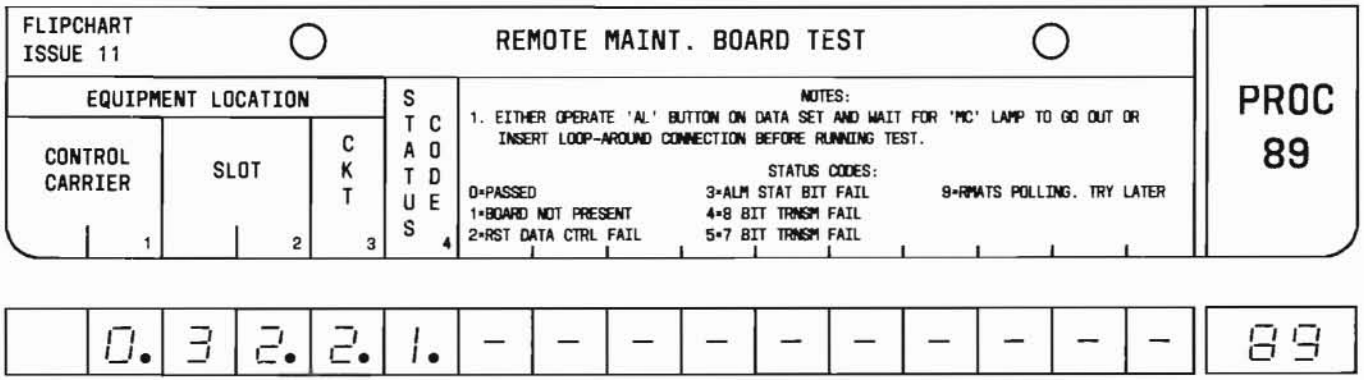
†Replace circuit packs in sequence displayed in Word 1, Fields 3 through 5.

‡No station response and receiver stuck bus indications can be expected.

PROCEDURE 89 — REMOTE MAINTENANCE BOARD TEST

A. DESCRIPTION

Procedure 89 is used to test the RMATS interface circuit board (LC171 or LC171B) sending and receiving I/O messages from the LC171 board.



B. FIELD DEFINITIONS AND CODES

Field	Code	Definition
1	00	Control carrier designation. Display only.
2	32	Slot location of circuit pack. Display only.
3	0,1	Circuit number. Display only.
4	0	Passed.
	1	Circuit board is not present.
	2	Reset data available control failed.
	3	Alarm status bits failed.
	4	8-bit transmission failed.
	5	7-bit transmission failed.
	9	RMATS polling taking place. Try this procedure again later.

C. TEST PROCEDURE

Call in Procedure 89:

PROC NO.; 89; ENTER

If a 9 appears in field 4, RMATS polling is taking place. Try this procedure again when RMATS is not polling.

Perform LC171 or LC171B test:

Depress the AL key on the data set or insert a loop-around connector. Wait until the MC lamp extinguishes.

Depress the EXECUTE key.

CAUTION:

The AL key on the data set must be depressed in the correct sequence as shown in the TEST PROCEDURE. If the AL key is depressed while RMATS is actively connected, RMATS is interrupted and disconnected from the DIMENSION PBX.

D. REPAIR GUIDE

If a 1, 2, 3, 4, or 5 appears in field 4, replace LC171 or LC171B.

END

A. DESCRIPTION

The organization of software programs for use in the DIMENSION 100/400 PBX makes extensive use of tables to store the features requested by the customer, call processing operations, hardware assignments, etc. Access to these tables is provided by Procedure 99. Using Procedure 99, the contents of any word can be determined by entering the octal address of that word.

B. FIELD DEFINITIONS AND CODES

The maximum value for Field 1 is as follows:

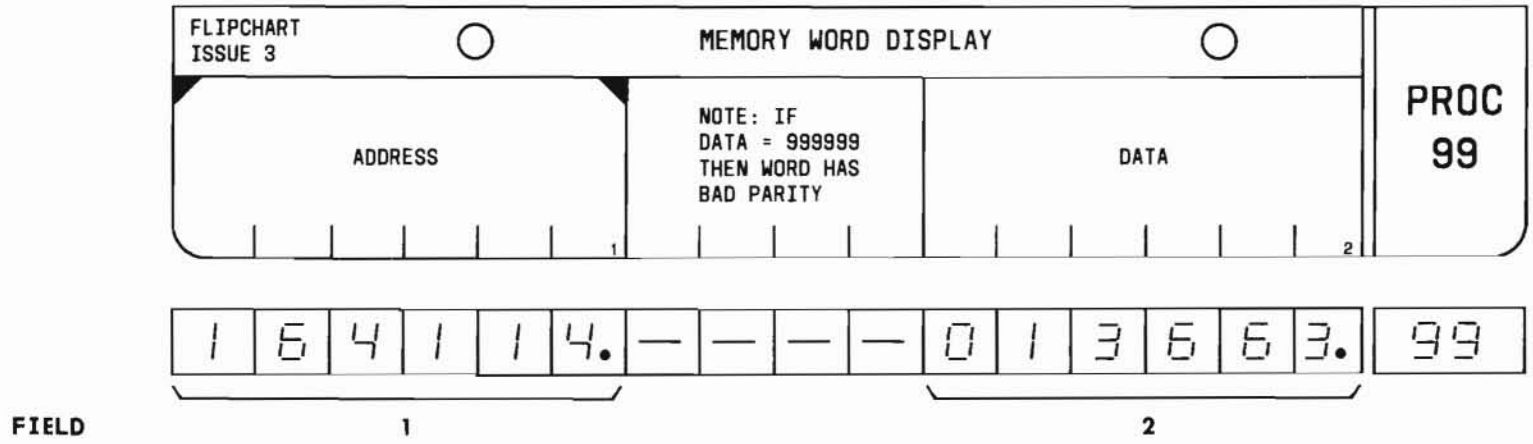
- Feature Package 1, 2, 3, 4, 5, 10 – 177777
- Feature Package 15 – 777777

C. TEST PROCEDURE

Instructions for calling in Procedure 99, a list of the starting and ending address of each table, descriptive information, and word format and interrelationships are presented in the DIMENSION 400 PBX Software Engineering Maintenance Manual, Volume 1 (Select Code 500-384).

D. REPAIR GUIDE

None.



EMERGENCY TRANSFER PREVENTION

A. DESCRIPTION

This procedure should be used to stop the processor during any maintenance activity that involves replacing circuit packs in the control carrier in order to prevent emergency transfer.

B. PROCEDURE

1. Set the EMER TRANSFER switch to the INHIB position.
2. Set the GO/HALT switch to the HALT position.
3. Remove or insert circuit pack(s) into the control carrier.
4. Depress the ALARM RETIRE button (removes the emergency transfer set by the processor sanity timer timeout).
5. Within 5 seconds after depressing the ALARM RETIRE button, set the GO/HALT switch to the GO position.
6. Set the EMER TRANSFER switch to the NORMAL position.

   If the machine is in emergency transfer, set the EMER TRANSFER switch to the ACT position (allowing the customer minimal service) while troubleshooting. When the fault is cleared, set the EMER TRANSFER switch to NORMAL position, depress the RETIRE ALARM button, and then verify the machine's performance.

END

MULTIBUTTON ELECTRONIC TELEPHONE (MET) TEST

A. DESCRIPTION

The multibutton electronic telephone test is used to check an electronic custom telephone (ECT) or electronic key telephone (EKT) for proper visual and audible indications.

B. TEST PROCEDURE

1. Pick up the handset and dial the test code (assigned in Procedure 29, Words 1 and 2).
2. At the dial tone (440-Hz tone), depress each button and verify that the visual and audible indications listed in Table MET-1 are received.

Table MET-1
Multibutton Electronic Telephone Test Response

Button Number	Status Lamp (Green) Indication	1-Use Lamp (Red) Indication	Ringer		
			20-Hz Ring Rate	Frequency	Volume
1	Wink (0.45 sec on, 0.05 sec off)	Steady	Station to Station (1 sec on, 3 sec off)	Low (750 Hz)	Low
2	Flash (0.5 sec on, 0.5 sec off)	Steady	DID-ATND (0.3 sec on, 0.4 sec off, 0.3 sec on, 3 sec off)	High (1500 Hz)	Low
3	Flutter (0.05 sec on, 0.05 sec off)	Steady	Priority 0.2 sec on, 0.2 sec off, 0.2 sec on, 0.2 off, 0.2 sec on, 3 sec off)	High (1500 Hz)	Full
4	Wink (0.45 sec on, 0.05 sec off)	Steady	Intercom (Ring rate is assigned in Procedure 39, Word 3)	Low (750 Hz)	Full
5 and above	Steady		Off		

END

TEST LINE SELECTION

A. DESCRIPTION

In Procedures 60 through 63, the field designated "Equipment Location of Test Line" will require input values for the designation (in terms of line carrier, slot, and circuit number) of the test line to be used. The craftsperson can either select the DIMENSION 100/400 PBX test line or a telephone already in service.

B. OPTIONS

Select the DIMENSION 100/400 PBX test line:

To select the DIMENSION 100/400 PBX test line, input the following values:

- Line carrier: 00
- Slot: 06
- Circuit: 0

In most installations, an auxiliary telephone is hand-wired to this test line. In those cases where no telephone is wired, the craftsperson must plug the tip and ring leads of the handset into the upper two jacks of the circuit pack in slot 6 of line carrier 00. For TOUCH-TONE telephones, the ring and tip connections must be observed (usually white lead uppermost jack, black lead below it).

Select a telephone in service:

To select a telephone already in service, use Procedure 00, Word 1 to obtain the line carrier, slot, and circuit values associated with the telephone. These values should then be entered into the Equipment Location of Test Line field.

END