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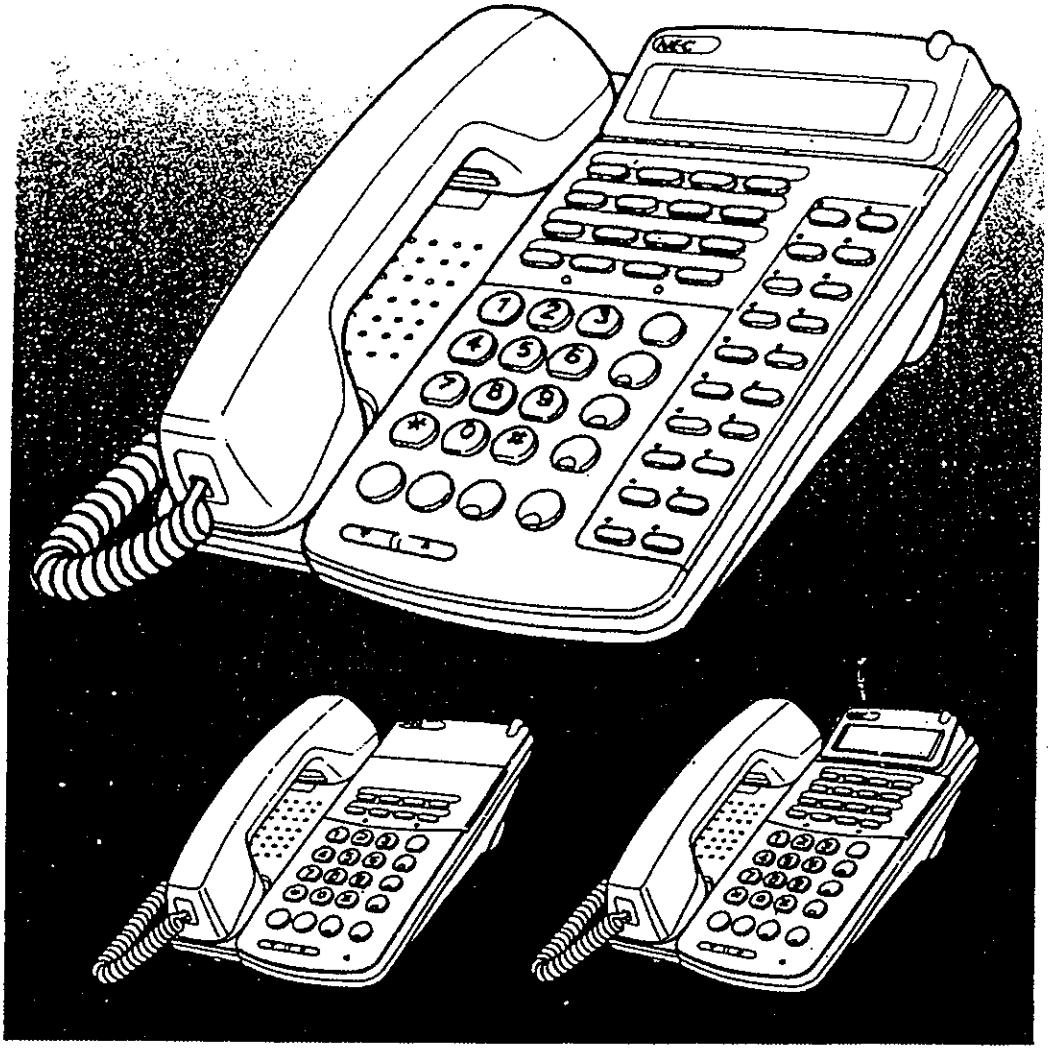

RANGER DK-824

BUSINESS TELEPHONE SYSTEM

INSTALLATION SERVICE MANUAL

NEC

RANGER DK – 824

INSTALLATION SERVICE MANUAL

March 1996

NEC Australia Pty. Ltd.

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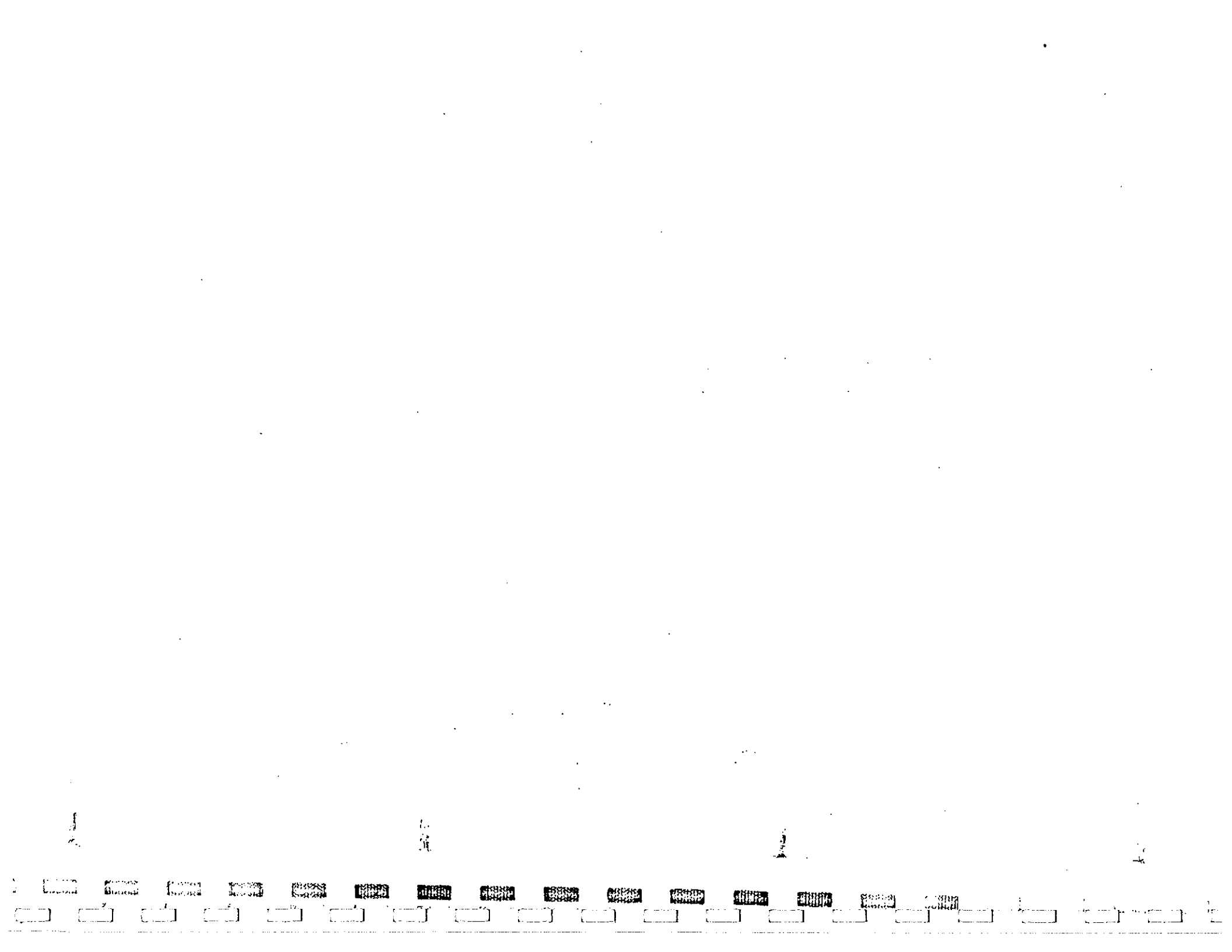
Issue 1



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Integrated Communications Products Group

PREFACE

HIS MANUAL

This *Installation Service Manual* provides the information required to install, program and maintain the RANGER DK – 824 system.

This manual is divided into three chapters as follows:

Chapter 1: Hardware Installation

Chapter 1 provides the information required to prepare and install the system including applicable requirements and AUSTEL regulatory information.

Chapter 2: Programming

Chapter 2 provides detailed instructions for performing System Programming.

Chapter 3: System Maintenance

Chapter 3 provides maintenance instructions and flowcharts for the system.

JPPORTING OCUMENTS

In addition to the Installation Service Manual, the RANGER DK – 824 system is supported by the following technical manuals:

RANGER DK – 824 Station Operations Manual
(Document No. A6-11760-72-01)

This manual explains in detail the station operations for all station user features. This manual is designed for use by installers and end users.

RANGER DK – 824 Job Specifications Manual
(Document No. A6-11760-72-03)

Used in conjunction with the Installation Service Manual, the Job Specifications Manual is designed for the service technicians who are responsible for planning the system installation, maintaining the system, and keeping records of system programming and configuration. (This manual is included with every ESF-G-13 KSU.)

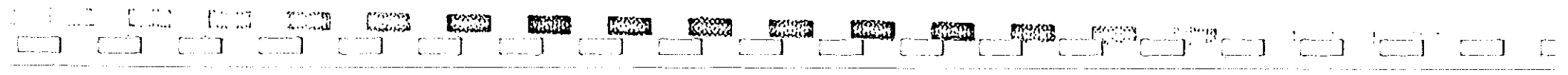
RANGER DK – 824 Features and Specifications Manual
(Document No. A6-11760-72-04)

Provides an expanded discussion of each feature that is available in the RANGER DK – 824 system. In addition, the Features and Specifications Manual provides Station Application, Operating Procedures, and Service Conditions.

RANGER DK – 824 General Description Manual
(Document No. A6-11760-72-05)

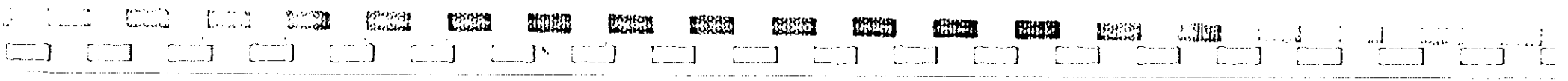
Designed and developed to provide a general overview of the RANGER DK - 824 system, its features, configuration, service features, specifications, and standards.

RANGER DK – 824 Station User Guide
(Document No. A6-11760-72-07)



CHAPTER 1

HARDWARE SPECIFICATIONS AND INSTALLATION



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CHAPTER 1
HARDWARE SPECIFICATIONS AND INSTALLATION

SECTION 1 SYSTEM SUMMARY

1.1 Introduction

The RANGER DK−824 is a fully digital telephone system serving a maximum of 8 outside (CO/PBX) lines and 24 stations. The system provides for flexible configuration allowing the customer to purchase only what is needed. The Basic KSU can accommodate a combined total of four CO/PBX lines and eight stations. As a customer's business grows, the system can be expanded to accommodate a combined total of 8 CO/PBX lines and 24 stations. Additional equipment such as: Single Line Telephones, external speakers, Voice Mail, facsimile machines, *etc.*, can be connected to the system to enhance the capabilities of the system. [Figure 1-1 - Outside View of the RANGER DK−824 KSU and Figure 1-2 - System Configuration Drawing (Example) provide diagrams of the available system configurations.]

This chapter is designed to provide the technician, installing the system, a comprehensive explanation of the RANGER DK−824 specifications, hardware, and installation procedures. The technician should read this chapter in its entirety before installing the system to enable a more efficient installation.

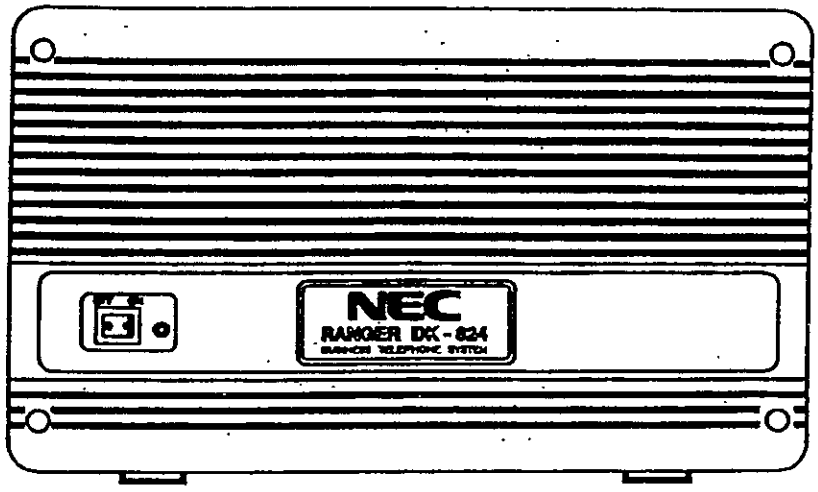


Figure 1-1 Outside View of the RANGER DK−824 KSU

1.2 Regulatory Information

1.2.1 Company Notification

Before connecting this telephone system to the telephone network, the following information must be provided to the Network Provider:

1. Telephone Line Numbers to equipment
2. Austel Permit No.

1.2.2 Battery Disposal

The RANGER DK – 824 system includes the following batteries. When disposing of these batteries, KSUs and/or KTUs, you must comply with the rules and regulations of your state regarding proper disposal procedures.

Unit Name	Type of Battery	Quantity
ESF-G-13 KSU	Lead Acid	2
	Lithium	1
VRS-G-13 KTU	NiCad	1

IMPORTANT SAFEGUARDS OF BATTERY DISPOSAL

The product that you have purchased contains a rechargeable battery. The battery must be disposed of properly.

1.2.3 Incidence of Harm

If the system is malfunctioning, it may also be causing harm to the telephone network. The telephone system should be disconnected until the source of the problem can be determined and until repair has been made. If this is not done, the Network Provider may temporarily disconnect the service.

1.2.4 Hearing Aid Compatibility

The NEC Multiline Terminals that are provided for this system are hearing aid compatible. The manufacture of Single Line Telephones for use with the system must provide notice of hearing aid compatibility to comply with Austel Technical Standards.

1.2.5 Service Requirements

In the event of equipment malfunction, all repairs should be performed by an authorized dealer of NEC Australia Pty. Ltd. or by NEC Australia Pty. Ltd. It is the responsibility of users requiring service to report the need for service to one of NEC Australia Pty. Ltd. authorized agents or to NEC Australia Pty. Ltd.

1.2.6 Austel Regulatory Information

This equipment has been tested to comply with all relevant Austel Technical Standards.

1.3 List of Abbreviations

The following abbreviations are used throughout this chapter.

Table 1-1 List of Abbreviations

Abbreviation	Description
CNF	Conference
CO	Central Office
COI	Central Office Line Interface
CPU	Central Processing Unit
CTX	Centrex
ECR	External Control Relay
EPC	External Page Control
ESI	Electronic Station Interface
EXSP	External Speaker
FAX	Facsimile Transceiver
I/O	Input, Output
LIU	Line Isolation Unit
MLT	Multiline Terminal
MMC	Memory Module Control
ODX	Outdoor Extension Unit
PBR	DTMF Signal Receiver Circuit Unit (Push Button Receiver)
PBX	Private Branch Exchange
PRN	Printer
PFT	Power Failure Transfer
PRT	Printer with RS-232C Interface
PSU	Power Supply Unit
RAM	Random Access Memory
ROM	Read Only Memory
RTC	Real Time Clock
SLT	Single Line Telephone
SLT ADP	Single Line Telephone Adaptor
SMDR	Station Message Detail Recording
SPKR	Speaker
TDSW	Time Division Switch
TIMS	Telephone Information Management System
TNG	Tone Generator
TP	Test Point
TRF	Transfer
VMS	Voice Mail Service Unit
VMU	Voice Mail Unit
VRS	Voice Recording Service Unit

1.4 System Configuration Drawing

Figure 1-2 - System Configuration Drawing (Example) shows an example of a system with standard and optional (some locally provided) functions that are available with the RANGER DK – 824 system.

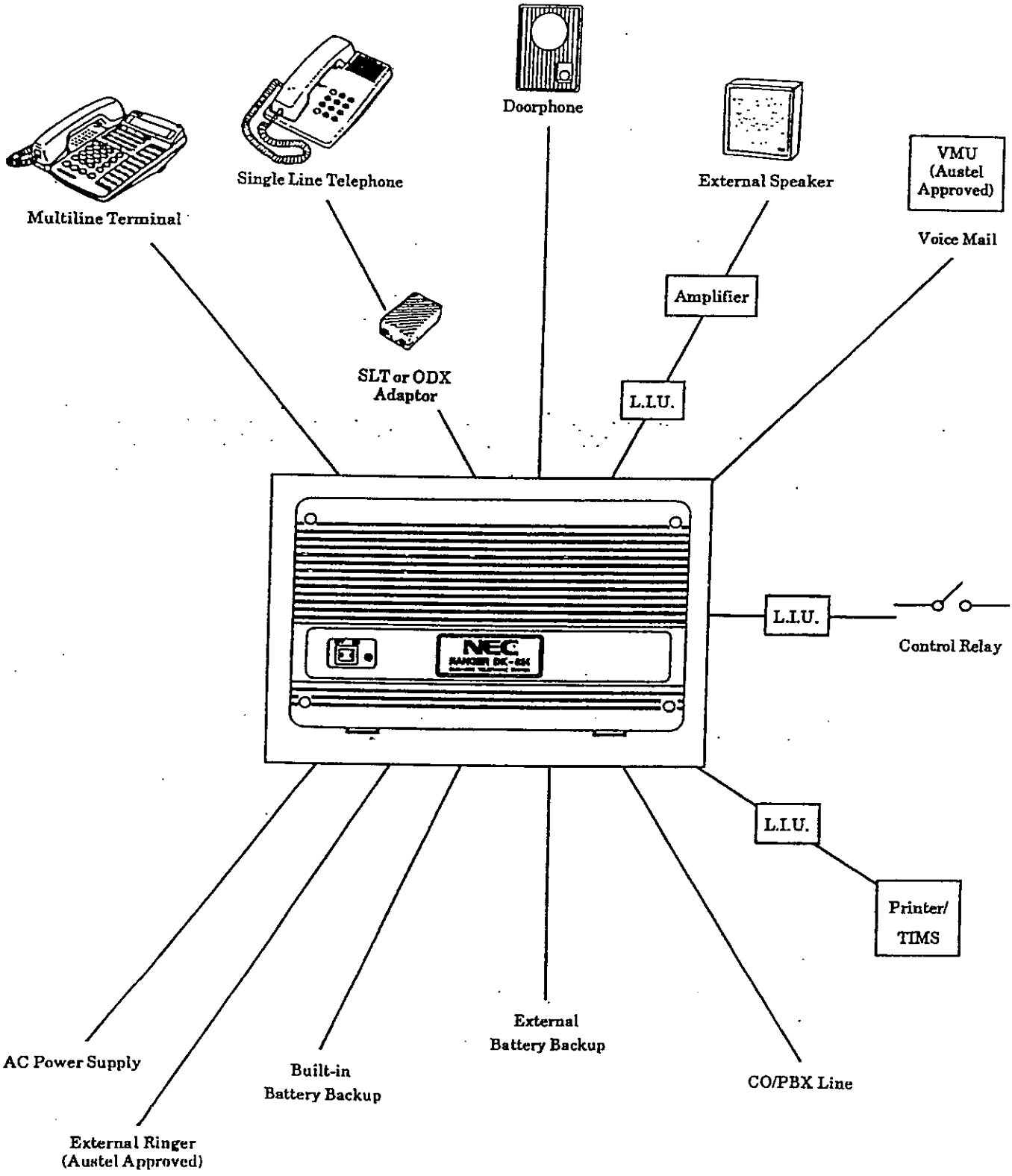


Figure 1-2 System Configuration Drawing (Example)

1.5 Equipment List

The following equipment is available for use in the system. The maximum quantities that can be installed in each system are listed in Tables 1-2 ~ 1-8.

Table 1-2 KSU and PSU

Equipment Designation	Maximum Quantity/System	Description
ESF-G-13 KSU	1	System KSU with PUF-G-13 PSU and batteries. Includes circuitry for: Tone Generator (TNG), Central Processing Unit (CPU), 4-channel Central Office Interface, 8-channel Station Interface, Conference, 8-channel Power Failure Transfer,Internal MOH, Memory Battery Backup, External Ringer Connection.
Battery	2	For system battery backup

Table 1-3 Station Interface KTU

Equipment Designation	Maximum Quantity/System	Description
ESI-G(8)-13 KTU	2	8-channel, 2-wire Electronic Station Interface

Table 1-4 Trunk Interface KTU

Equipment Designation	Maximum Quantity/System	Description
COI-G(2)-13 KTU	2	2-channel, Central Office Interface

Table 1-5 Other Optional KTUs

Equipment Designation	Maximum Quantity/System	Description
PBR-G-13 KTU	1	4-channel, DTMF/Push Button Receiver (PBR)
VRS-G-13 KTU	1	1-channel, Voice Recording Service (VRS)
PRN-G-13 KTU	1	Station Message Detail Recording (Printer)
FAX-G-13 KTU	1	1-channel, Facsimile Connection
TRF-G-13 KTU	1	2-channel Trunk to Trunk Transfer Card
DPG-G-13 KTU	1	2 Door Phone Interfaces, 1 Speaker Interface, 2 Control Relays

Table 1-6 RANGER DK – 824 Terminals

Equipment Designation	Maximum Quantity/System	Description
ETW-8E-1A (SW) TEL	23	8-line non-display terminal with built-in handsfree, ADA interface, and large LED, and eight function keys
ETW-16C-1A (SW) TEL	24	16-line Display Compact terminal with built-in hands-free, ADA interface, large LED, and eight function keys
ETW-16D-1A (SW) TEL	24	16-line Display Deluxe terminal with built-in handsfree, ADA interface, Large LED, eight function keys, and 20 programmable One-Touch keys with red LEDs
ADA (1)-W (GG) Unit	24	Ancillary Device Adaptor (for connection of headset)
ADA (2)-WA (GG) Unit	24	Ancillary Device Adaptor (for connection of cordless telephone, Single Line Telephone, facsimile, modem, answering machine, *etc.*)
WMU-W (GG) Unit	24	Multline Terminal Wall Mount Unit

Table 1-7 Single Line Telephone Adaptor

Equipment Designation	Maximum Quantity/System	Description
SLT-F(1G)-13 ADP	4	Single Line Telephone Adaptor
ODX-F(1A)-13 ADP	4	Outdoor Extension Analogue Adaptor

Table 1-8 External Equipment

Equipment Designation	Maximum Quantity/System	Description
DP-D-1D Unit	2	Doorphone Unit
AKB-A-ZD Unit	2	External Backup Battery Cabinet (Battery not included)

1.6 Equipment General Information

One *RANGER DK – 824 Job Specifications Manual* (Document No. A6-11760-72-03) is included with each ESF-G-13 KSU. All optional equipment: Line Isolation Units, external amplifiers, Music On Hold source, Background Music source, external speakers, *etc.*, must be locally provided.

1.7 Equipment Description

1.7.1 Key Service Units and Power Supply Units

ESF-G-13 KSU

The Key Service Unit (KSU) provides connection for CO/PBX lines, Multiline Terminals and other optional equipment. The basic KSU provides for the connection of 4 CO/PBX lines and 8 stations and can be expanded to 8 CO/PBX lines and 24 stations with expansion modules. A PUF-G-13 PSU Power Supply Unit and internal batteries are included with the KSU. A built-in Power Fail Transfer facility is also included for 8 Single Line Telephones.

Fixed slots are intended for COI-G(2)-13, ESI-G(8)-13, PBR-G-13, VRS-G-13, DPG-G-13, TRF-G-13, FAX-G-13, and PRN-G-13 KTUs.

PUF-G-13 PSU
The Power Supply Unit is provided with the KSU. It has a battery interface cable for battery backup, accepts 240 Vac, and outputs +5V and +28V to the system.

1.7.2 Station Interface Key Telephone Unit

ESI-G(8)-13 KTU
The Electronic Station Interface KTU contains eight circuits, each of which can support all types of Multiline Terminals or an SLT Adaptor.

Two ESI-G(8)-13 KTUs can be installed in the KSU.

1.7.3 Trunk Interface Key Telephone Unit

COI-G(2)-13 KTU
The Central Office Interface KTU complies with all relevant AUSTEL specifications. Electrical fuses (posistors) are built into this KTU. The COI-C(2)-13 KTU supports two outside (CO/PBX) lines and provides circuitry for ring detection, holding, and dialling. The outside lines can be any combination of loop start, DTMF, or dial pulse dialling trunks.

Two COI-G(2)-13 KTUs can be installed in the KSU.

1.7.4 Optional Key Telephone Units

PBR-G-13 KTU
The Push Button Receiver (PBR) 4-Channel KTU detects and translates DTMF tones received by the Automated Attendant, TRF-G-13 KTU (Remote Access) and generated by Single Line Telephones, modems, facsimile machines, *etc.*

The interface slots can accommodate one PBR-G-13 KTU for a maximum of four circuits per system.

VRS-G-13 KTU
The Voice Recording Service KTU provides voice recording messages for Automated Attendant, Internal Voice Mail, Hold Messages and Automatic/ Manual Answering of incoming CO/PBX calls by a voice recorded message.

One VRS-G-13 KTU can be installed in the KSU.

PRN-G-13 KTU
The Station Message Detail Recording KTU stores and generates detailed call records for all outgoing and incoming CO/PBX calls. Account codes can be entered after the number is dialled to identify each call with a particular customer for billing purposes, etc.

Information provided by PRN-G-13 KTU includes:

- Calling party's station number
- CO/PBX line used for the call
- Start time of call
- End time of call
- Number dialled (outgoing calls)
- Date of call
- Type of call (Outgoing, Incoming or Transferred)

One PRN-G-13 KTU can be installed in the KSU. The PRN-G-13 KTU mounts onto the main printed circuit board of the system.

A serial printer and isolator or other peripheral recording device and/or isolator must be locally supplied and terminated to the RS-232C connector from the PRN-G-13 KTU.

FAX-G-13 KTU
The Fax KTU provides for the direct connection of a locally provided facsimile machine. Additional dedicated CO/PBX lines are not required for the facsimile to operate. The facsimile shares usage of the fourth CO/PBX terminated line.

One FAX-G-13 KTU can be installed in the KSU.

DPG-G-13 KTU
This optional KTU provides a connection for two Door Phone units (DP-D-1D), two External Control Relays (locally supplied), one External Paging System and one Music-On-Hold/Background Music source input. The Control Relays may be associated with each Door Phone to provide a door lock release function. External Speakers must be connected behind a line isolator and amplifier unit when used with the External Paging and Background Music facilities.

One DPG-G-13 KTU can be installed per system.

TRF-G-13 KTU
This KTU provides the Trunk to Trunk Transfer facility, allowing an incoming CO/PBX call to be manually or automatically transferred to another CO/PBX number. The automatic operation could be used during after hours times etc, and can divert calls to one of two numbers automatically (eg. home, mobile phone, pager).

One TRF-G-13 KTU can be installed per system.

1.7.5 Multiline Terminals and Associated Equipment

ETW-8E-1A (SW) TEL
This Multiline Terminal is a fully modular instrument with eight Flexible Line keys (each with a two-color LED), eight function keys, built-in handsfree facility, ADA interface, and a large LED to indicate incoming calls and messages.

A maximum of 23 ETW-8E-1A (SW) TELs can be installed in a system.

ETW-16C-1A (SW) TEL
This Multiline Terminal is a fully modular instrument with 16 Flexible Line keys (each with a two-color LED), eight function keys, built-in handsfree facility, a 16-character Liquid Crystal Display (LCD), ADA compatibility and a large LED to indicate incoming calls and messages.

A maximum of 24 ETW-16C-1A (SW) TELs can be installed in a system.

ETW-16D-1A (SW) TEL
This Multiline Terminal is a fully modular instrument with 16 Flexible Line keys (each with a two-color LED), eight function keys, built-in handsfree facility, 20 programmable One-Touch keys with LEDs, ADA compatibility, and a large LED to indicate incoming calls and messages.

A maximum of 24 ETW-16D-1A (SW) TELs can be installed in a system.

ADA (1)-W (GG) Unit
The ADA(1)-W (GG) Unit (Ancillary Device Adaptor) provides the Multiline Terminal with connection for a headset. An ADA(1)-W (GG) Unit can be installed in any Multiline Terminal.

A maximum of 24 ADA(1)-W (GG) Units can be installed in a system, one per Multiline Terminal.

ADA (2)-WA (GG) Unit
The ADA(2)-WA(GG) Unit (Ancillary Device Adaptor) provides the Multiline Terminal with connection for single line equipment such as a cordless telephone, Single Line Telephone, modem, facsimile machine, or answering machine. An ADA(2)-WA(GG) Unit can be installed in any Multiline Terminal.

A maximum of 24 ADA(2)-WA (GG) Units can be installed in a system, one per Multiline Terminal.

WMU-W (GG) Unit
The WMU-W is a universal Wall Mount Unit, which can be used to mount any Multiline Terminal on a wall.

1.7.6 Single Line Telephone Adaptors

SLT-F(1G)-13 ADP
The Single Line Telephone Adaptor provides an interface for a Single Line Telephone Voice Mail, or similar device from an ESI channel.

A maximum of 4 SLT-F(1G)-13 ADP can be installed in the system.

ODX-F(1A)-13 ADP
This Outdoor Extension Adaptor allows a Single Line Telephone or similar device to be connected to the end of a long two-wire analogue line (up to approx 6km or 1800 Ohms). It connects to an ESI channel.

A maximum of 4 ODX-F(1A)-13 ADP adaptors can be installed in a system.

1.7.7 Optional External Equipment

DP-D-1D Unit
This weather resistant unit is used as a doorphone to originate a tone signal to preassigned Multiline Terminals via a call button. This unit is generally installed at front and rear doors of secured work areas. The DP-D-1D Unit can also be used as a 1-way room monitor to listen to an area.

A maximum of two DP-D-1D Units can be installed in a system.

AKB-A-ZD KTU
This cabinet is used for housing the extension battery (12VDC, 6.5AH), to backup the system during a power failure.

Two of these units are required per system.

SECTION 2 SYSTEM SPECIFICATIONS

2.1 General Information

The following diagrams and tables show specifications for the system. The technician should review these carefully before attempting to install the system.

2.2 System Block Diagram

The system block diagram shows a conceptual representation of an installed system. (Refer to Figure 1-3 - System Block Diagram. Refer also to Table 1-1 - List of Abbreviations.)

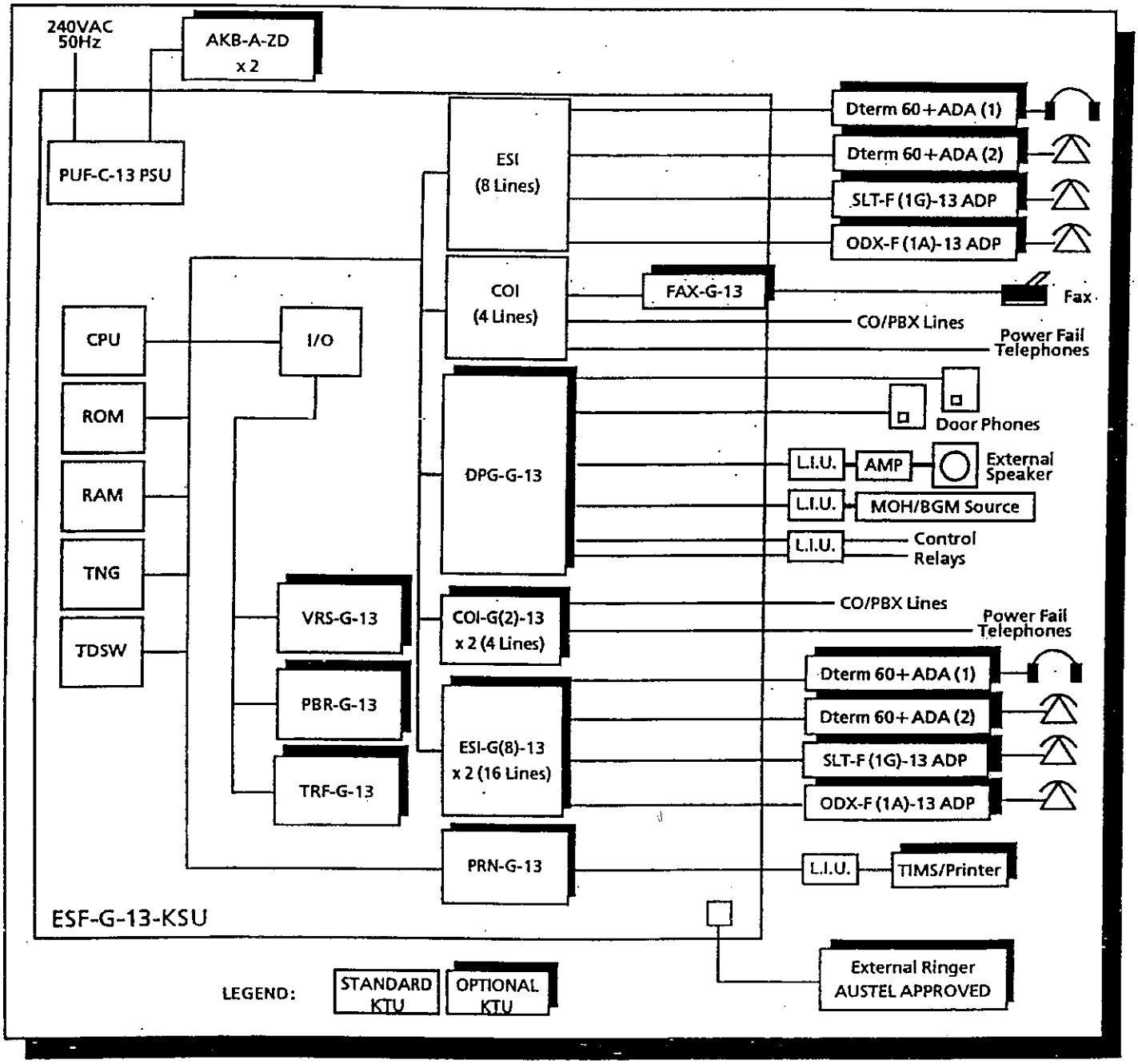


Figure 1-3 System Block Diagram

2.3 System Control Capacities

The control capacities of the system are shown in Table 1-9 - System Control Capacities.

Table 1-9 System Control Capacities

Item		Basic KSU	Basic + Optional KTUs	Unit	No. of Circuits or No. of Telephones to be Connected/Unit
Number of CO/PBX Line		4	8	KSU/ COI	*4/2/2
Number of Internal Lines		Non-Blocking		KSU	N/A
Number of Stations (Combined total of 24)	ESI	8	24	KSU/ ESI	*8/8/8
	SLT	0	4	SLT	1
External Speaker		0	1	DPG	1
DTMF Signal Receiver Circuit		0	4	PBR	4
Voice Recording Services		0	1	VRS	1
SMDR		0	1	PRN	1
Conference Trunk (4-party)		2	2	KSU	2
Tenant		4	4	KSU	N/A
Trunk Groups		3	3	KSU	N/A
System Speed Dial		80	80	KSU	N/A
Trunk to Trunk Transfer		0	2	TRF	2
Control Relays		0	2	DPG	2
Door Phones		0	2	DPG	2
Power Fail Circuits		8	8	KSU	8

* Denotes number of circuits in the KSU/Optional KTUs.

2.4 Cabling Requirements

2.4.1 Cabling Specifications

The KSU is connected with each of the Multiline Terminals and Single Line Telephones by a separate twisted 1-pair cable or 2-pair cable (only for Multiline Terminals). Table 1-10 - Multiline Terminal Loop Resistance and Cable Length and Table 1-11 - Single Line Telephone Connection Cable Length show the cables used for wiring between the KSU and individual terminals or adaptors.

2.4.2 Cabling Precautions

When selecting cables and Main Distribution Frames (MDF), future expansion or assignment changes should be given due consideration. Avoid running cables in the following places:

- A place exposed to wind or rain.
- A place near heat radiating equipment or where the quality of station cable covering could be affected by gases and chemicals.
- An unstable place subject to vibration.
- Close proximity to computer or radio frequency generating equipment.

2.5 Power Requirements

2.5.1 Power Supply Inputs

AC Input (PUF-G-13 PSU)

- 240 Vac −15% +10%
- 50 Hz ± 10%
- Single Phase
- Maximum Current: 1.1A
- A dedicated outlet, separately fused and grounded, is required.

2.5.2 Power Supply Outputs

Table 1-12 Power Outputs

DC Voltage	Minimum Current*	Maximum Current**
+28V	0.01A	2.3A
+ 5V	0.3A	3.0A

* Basic KSU Only
** Fully Loaded

Multiline Terminal

- Voltage: +11 Vdc ~ + 28 Vdc
- Maximum Current: 200 mA

Single Line Telephone Adaptor [SLT-F(1G)-13 ADP]:

- Nominal Current: 24 mA
- Ring Signal: 55 Vac RMS @ 20.8 Hz

2.5.3 Power Consumption and Dissipation

Basic KSU

- Maximum RMS Current: 0.3A
- Watts Used (Idle): 20W
- Watts Used (Maximum): 50W

Fully Loaded KSU

- Maximum RMS Current: 1.1A
- Watts Used (Idle): 37W

2.5.4 Fuse Replacement

Table 1-13 Fuse Replacement

Unit	Fuse No.	Specifications	Description	Dimensions
PUF-G-13 PSU	F1	250V, 2.5A	AC Input	5.2 ×20 mm
	F101	250V, 6.3A	Battery Input	5.2 ×20 mm

Note: All fuses are normal blow glass tube. **Do not use slow blow fuses.**

2.6 Environmental Conditions

Temperature

- Operating: 0° C ~ 40° C
- Recommended Long Term: 10° C ~ 32° C

Operating Humidity: max. 85% Non-condensing

2.7 Outside Line Types

- 2-wire

2.8 Network and Control Specifications

2.8.1 Transmission

- Data Length:
  From Multiline Terminal to Electronic Station Port: 23 bits
  From Electronic Station Port to Multiline Terminal: 23 bits
- Data Transmission Rates:
  Between Electronic Station Port and Multiline Terminal: 512 Kbits/sec.
- Scanning Time for Each Multiline Terminal: 64 ms.

2.8.2 Network

- TDM Switching: PCM (μ Law)
- TDM Clock: 2.048 MHz
- TDM Slot Period: 125 μs./32
- TDM Data Bus: 8 bits
- TDM Timeframe: 125 μs.

2.8.3 Control

- Control: Stored program with distributed processing
- Central Processor: 16-bit microprocessor
- Clock: 16 MHz
- Multiline Terminal: 4-bit, 1 chip microprocessor
- SLT Adaptor: 4-bit, 1 chip microprocessor

2.9 Dialling Specifications

2.9.1 Dial Pulse Address Signalling

- Pulse Rate: 10 ± 0.8 pps/20 ± 1.6 pps
- Make Ratio: 33 ± 3%
- Interdigit Interval: 800 ms.
- Minimum Pause: 600 ms. (10 pps)
  450 ms. (20 pps)

2.9.2 DTMF Address Signalling

- Frequencies: Low Group: 697 Hz, 770 Hz, 852 Hz, 941 Hz
  High Group: 1209 Hz, 1336 Hz, 1477 Hz
- Frequency Deviation: ± 1.5% maximum
- Nominal Level per Frequency: −5 dBm ~ −22 dBm
- Minimum Level per Frequency: Low Group: −10.5 ± 2.0 dBm
  High Group: −9 ± 2.0 dBm
- Rise Time: Within 5 ms.
- Duration: 70 ms. (default), 70 ms. (min.), 900 ms. (max.)
  Interdigit: 80 ms. (default), 60 ms. (min.), 200 ms. (max.)

Nominal Low Group Frequencies (Hz) \ Nominal High Group Frequencies (Hz)	1209	1336	1477
697	1	2	3
770	4	5	6
852	7	8	9
941	*	0	#

2.10 Battery Backup

The system has two battery backup functions: one is for system backup and a second for memory backup.

2.10.1 System Backup

The system is backed up by rechargeable batteries. These batteries will backup all of the system functions in the event of a power failure.

Table 1-14 System Battery Backup Time

Backup Battery Type	Approximate Backup Time	Approximate Recharge Time	Approximate Replacement Time
Built-in	10 minutes	20 hours	3 years
External	4 hours	80 hours	3 years

2.10.2 Memory Backup

The backup battery is equipped on the basic KSU and VRS-G-13 KTU. These NiCad batteries, when fully charged, retain the system memory in the event of a power failure. (Refer to Table 1-14 - KTU Battery Backup Time for the approximate back up times for the KTUs.)

Table 1-15 Memory Battery Backup Time

KTUs	Approximate Backup Time
Basic KSU	min. 3 months
VRS-G-13 KTU	2 hours

The functions that are supported by the backup batteries are:

- Background Music
- Call Forwarding
- Clock/Calendar
- Do Not Disturb
- Last CO/PBX Redial
- Message Waiting
- Microphone Status
- Night Transfer Status
- Room Monitor
- Save and Repeat
- Speed Dial Memories (System and Station)
- Store and Repeat
- System Program
- Timed Alarm
- Trunk to Trunk Transfer Destinations
- Volume Control/LCD Contrast
- VRS Data

2.10.3 System Backup Battery Replacement

Two locally provided 12Vdc, sealed lead acid storage batteries as follows are required:

Table 1-16 Internal and External Battery Specifications

Specification	Internal Battery	External Battery
Weight	350 g	2.6 kg
Contact Type	W2 (5 mm Quick Connect)	W2 (5 mm Quick Connect)
Size Length Width Height	 96 mm 25 mm 62 mm	 151 mm 65 mm 94 mm
Max. Discharge Current	2.1A	2.1A
Temperature Operating Storage	 0°C～40°C -20°C～40°C	 0°C～40°C -20°C～40°C
Voltage Rating	12V	12V
Current Capacity	0.7 Ah	6.5 Ah

CAUTION

Do not short circuit batteries. The battery could explode and cause damage to personnel and equipment.

2.11 Weights and Dimensions

Table 1-17 Weights and Dimensions

Unit	Shipping Weight *	Height	Width	Depth
ESF-G-13 KSU	Approx 4.5 kg	320 mm	540 mm	124 mm
ETW-8E-1A (SW) TEL	0.9 kg	101 mm	175 mm	223 mm
ETW-16C-1A (SW) TEL	1 kg	101 mm	175 mm	223 mm
ETW-16D-1A (SW) TEL	1.1 kg	101 mm	205 mm	223 mm
AKB-A-ZD KTU (excluding battery)	1.3 kg	133 mm	273 mm	85 mm

2.12 External Equipment Interface

2.12.1 Music On Hold (MOH)/Background Music (BGM)

- Connector: 2-position, quick connector
- Auxiliary Input: 1.0V RMS Signal Level max.
- Input Impedance: 600 Ω

2.12.2 Station Message Detail Recording (SMDR)

- RJ11 Socket (compatible with RS-232 serial output)

2.12.3 External Paging

- Output Level: −15.0 dBm Signal Level, +4 dBm max.
- Output Impedance: 600 Ω

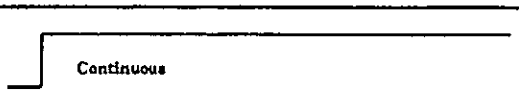
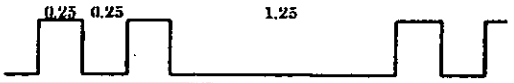
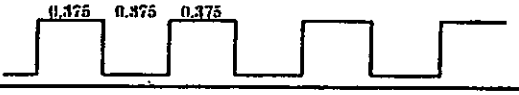
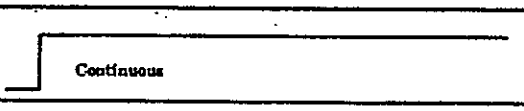
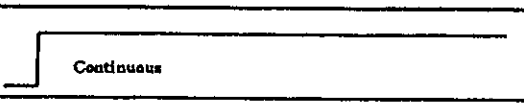
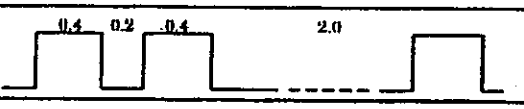
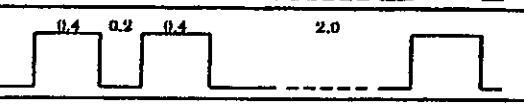
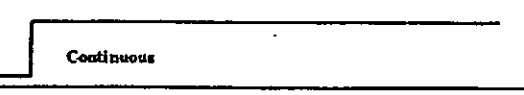
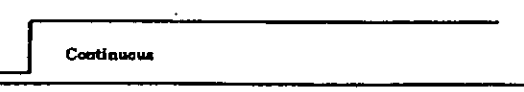
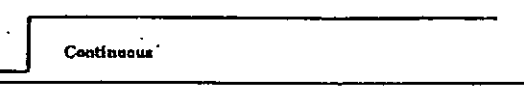
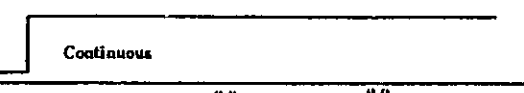
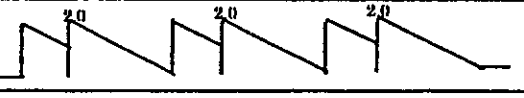
2.12.4 General Purpose Relays

- Contact Rating: 1 A @ 24 Vdc
  150 mA @ 48Vdc

2.13 Visual and Audible Indications

2.13.1 Tone Patterns Table

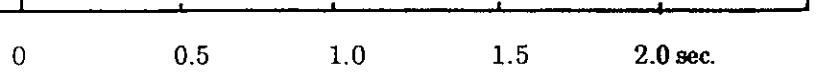
Table 1-18 Tone Patterns

Tone Name	Freq. Power	Intermit	Cycle
Dial Tone	450/350 –10 dBm	Contin-uous	
Second Dial Tone	440		
Special Dial Tone (Auto Attended)	440	240 IPM	
Busy Tone	420 –10 dBm	80 IPM	
Reorder Tone Error Tone (NU) Number Unobtainable Tone	420 –10 dBm		
Howler Tone	2400×20 0 dBm	Contin-uous	
Service Tone	800	Contin-uous	
ICM Ring Tone	420×30		
CO Ring Tone	420×30 –10 dBm		
Call Waiting Tone	440×20	60 IPM	
Suspected Dial Tone	400	Contin-uous	
Tone Bust (1)	800	Contin-uous	
Tone Bust (2)	400	Contin-uous	
Intrusion Tone	420 –10 dBm	Contin-uous	
Door Phone 1	1285/ 1024		
Door Phone 2	1024		

2.13.2 Multiline Terminal Flash Patterns Table

Table 1-19 Multiline Terminal LED Flash Patterns

LED	Condition	Colour	Flash Patterns
Line Key	I-Use	Green	
	Busy, T-T Outgoing Set, VRS Auto Answer Set	Red	
	T-T Incoming Set	Red	
	Incoming Call	Red	
	I-Hold	Green	
	Call Hold	Red	
	Hold Recall	Green	
	Transfer Recall	Green	
Microphone	ON	Red	
	Monitored	Red	
ICM	I-Use	Red	
	ICM Incoming Call	Red	
Large LED	Incoming Internal Call	Red	
	Incoming CO Line	Green	
	Voice Mail Message	Red	
	VRS Message	Red	
Speaker	ON	Red	
	System Data Entry	Red	
	Monitor	Red	
Conference	Conference in Progress	Red	
	All Conference Circuits in Use	Red	
	Hold Conference Call	Red	
	ICM Call Hold	Red	
	SPD Confirmation	Red	
Answer	Incoming Trunk	Red	
	Preset	Red	
Call	Trunk Selected	Green	
	Preset	Red	
	No Trunks Available	Red	
Function	Callback Set	Red	
	DND, Call FWD	Red	
	Auto Redial Set	Red	
	ON (to Set Function)	Red	
LNR/SPD	CO Line Key Seized	Green	
	Exclusive Hold	Green	
BLF or DSS Key	Use, Hold, ICM Called	Red	
	DND, Call Fwd All Set	Red	
	Special Mode (While pressing FNC key or going off-line)	Red	



2.13.3 DSS/BLF LED Indications Table

Table 1-20 DSS/BLF LED Indications

Function	Color	Status
Idle		OFF
Talking	Red	ON
Hold	Red	ON
FWD All and DND	Red (Flashing)	ON
Other Use (Multiline Terminal is in off-line mode, the station user is programming, Feature Access/One-Touch Key programming, *etc.*)	Red (Flashing)	ON

SECTION 3 HARDWARE REQUIREMENTS

3.1 General Information

Before configuring the system, complete the worksheets provided in the *RANGER DK – 824 Job Specifications Manual* (Document No. A6-11760-72-03). Make sure all types of station equipment, timeouts, and feature options are considered when completing the worksheets. It is necessary to understand System Programming to properly complete these worksheets. (Refer to Chapter 2 - Programming in this manual.)

Note: One *RANGER DK – 824 Job Specifications Manual* is included with each ESF-G-13 KSU.

The KSU can accommodate ten optional/interface KTUs.

When possible, the same type KTUs should be paired together within a cable binder. This will simplify MDF wiring.

3.1.1 Programming Stations

A maximum of two programming positions are available in the system. Station equipment, connected to the first two ports of the KSU, are automatically set as programming positions and must be an ETW-16C-1A (SW) TEL, or ETW-16D-1A (SW) TEL.

The first two programming positions are system Attendants and are fixed in system software.

3.1.2 Attendant Stations

A maximum of two Attendant positions can be installed in a system.

3.2 Determining Required Equipment

3.2.1 Station Equipment

Determine the type and quantity of station equipment being installed. The type of station equipment that is available includes:

- ETW-8E-1A (SW) TEL (8-line Multiline Terminal without LCD)
- ETW-16C-1A (SW) TEL (16-line Multiline Terminal with LCD)
- ETW-16D-1A (SW) TEL (16-line Multiline Terminal with LCD & 20 DSS Keys)
- Single Line Telephone
- SLT-F(1G)-13 ADP
- ODX-F(1A)-13 ADP
- Doorphones

3.2.2 Interface KTUs

Interface KTUs can be added to expand the system to full capacity. (Refer to Figure 1-5 - Full Capacity KSU.)

- ESI-G(8)-13 KTU: 8 Key Stations
- COI-G(2)-13 KTU: 2 CO Lines

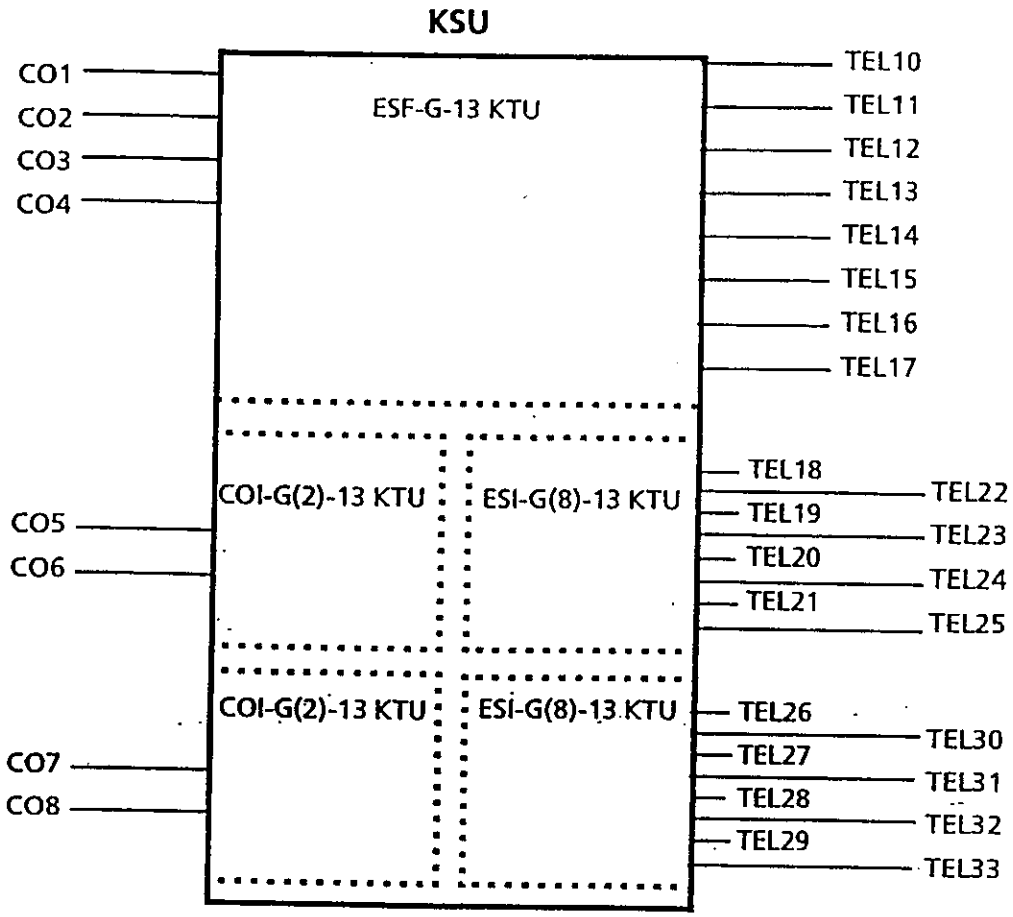


Figure 1-5 Full Capacity KSU

Table 1-21 Number of Required Interface KTUs

KTU	Circuits per KTU	Calculations/Comments	Max. KTUs per System
COI-G(2)-13 KTU	2	Required if the number of CO/PBX/Centrex lines being used is greater than 4.	2
ESI-G(8)-13 KTU	8	Required if the number of Multiline Terminals and SLT Adaptors being used is greater than 8.	2
PBR-G-13 KTU	4	Refer to section 3.2.3 - PBR Requirements.	1
VRS-G-13 KTU	1	Required for Automated Attendant, Auto/Manual Answer, and VRS-Internal.	1
PRN-G-13 KTU	1	Required for Station Message Detailed Recording.	1
FAX-G-13 KTU	1	Required for facsimile connection.	1
DPG-G-13 KTU	2/2/1/1	Required for Door Phone, Control Relay, External Speaker and MOH/BGM connection.	1
TRE-G-13 KTU	2	Required for Trunk to Trunk Transfer facility	1

3.2.3 PBR Requirements

The RANGER DK – 824 system has four channels of PBR circuits on the PBR-G-13 KTU. The PBR circuit can detect DTMF signals from a Single Line Telephone, facsimile, modem, voice mail and ADA (2).

3.3 Installation Example

The following example will aid in understanding some of the requirements when configuring an RANGER DK – 824 system. (Refer to Table 1-20 - System Configuration Example.) The equipment used in this example includes:

- 5 CO Lines
- 9 Multiline Terminals [ETW-16D-1A (SW) TEL only]
- External Voice Mail Connection (2 ports)
- SMDR
- External Paging

Table 1-22 System Configuration Example

Device Type	Units	Quantity
Key Service Unit	ESF-G-13-KSU	1
CO Line	COI-G(2)-13 KTU	1
Multiline Terminal Interface	ESI-G(8)-13 KTU	1
Multiline Terminal	ETW-16D-1A (SW) TEL	9
Voice Mail Connection (2 ports)	SLT-F (1G)-13 ADP	2
SMDR	PRN-G-13 KTU	1
PBR Circuit	PBR-G-13 KTU	1
External Paging	DPG-G-13 KTU	1
External Paging	LIU, Amplifier, Speaker	1 each

Connection:

The paging equipment terminates onto the PG connector using a Special Connector. If amplifier on/off control is required, this terminates onto one of the General Purpose Relay connectors CNT1 or CNT2, again using a Special Connector. Refer to Figure 1-36 - DPG-G-13 KTU showing an example of this.

- **Door Lock Release:**

While on a Door Phone call, the telephone user can enter an Access Code to operate the associated Door Lock Release momentarily so that the caller can enter the door. The two Control Relays (connections CNT1 and CNT2) may be assigned as Door Lock Releases.

Memory Blocks:

Memory Block	Title	Setting
1-48	General Purpose Relay Assignment	DLR 1 or DLR 2

Connection:

Connection between the CNT terminal and the door lock device is via a single pair cable, not polarity sensitive. [Refer to Figure 1-40 - Control Relay Connection]. A dry contact closure is provided to the external device.

- **External Music-On-Hold/Background Music Source:**

The DPG-G-13 KTU can be used to connect an external music source for use with the Music-On-Hold and Background Music facilities, eg. radio, CD player, tone source.

Memory Blocks:

(Music-On-Hold):

Memory Block	Title	Setting
1-51	External MOH Selection	Yes
1-48	General Purpose Relay Assignment	MOH/BGM

(Background Music):

Memory Block	Title	Setting
1-20	BGM Selection	Yes
1-48	General Purpose Relay Assignment	MOH/BGM

Connection:

Connect the two wires from the music source to the MOH/BGM connection of CN1 (using a Blue special connector). This is not polarity sensitive.

Adjust the music source to a suitable level by making an internal call, placing it on Hold and listening to the music whilst adjusting the output level of the

5.4.6 TRF-G-13 KTU

The TRF-G-13 KTU permits the transfer of incoming CO/PBX calls out another CO/PBX line. This process may be initiated manually in the same manner as transferring an ICM call, or automatically while the system is in Night Mode.

Only one TRF-G-13 KTU can be installed in the system. (Refer to Figure 1-37 - TRF-G-13 KTU).

To install the TRF-G-13 KTU:

1. Turn the system's power OFF.
2. Install the TRF KTU into slot CN3 on the KSU.
3. Turn the system's power ON.
4. Proceed with programming. (Refer to Chapter 2 - Programming, in this manual for instructions.)

A user may remotely dial in and, after entering a password, change/register the Destination Telephone Number of set/cancel the Automatic Trunk Transfer feature. In this case, an optional PBR-G-13 KTU must also be installed (refer to Section 5.4.2).

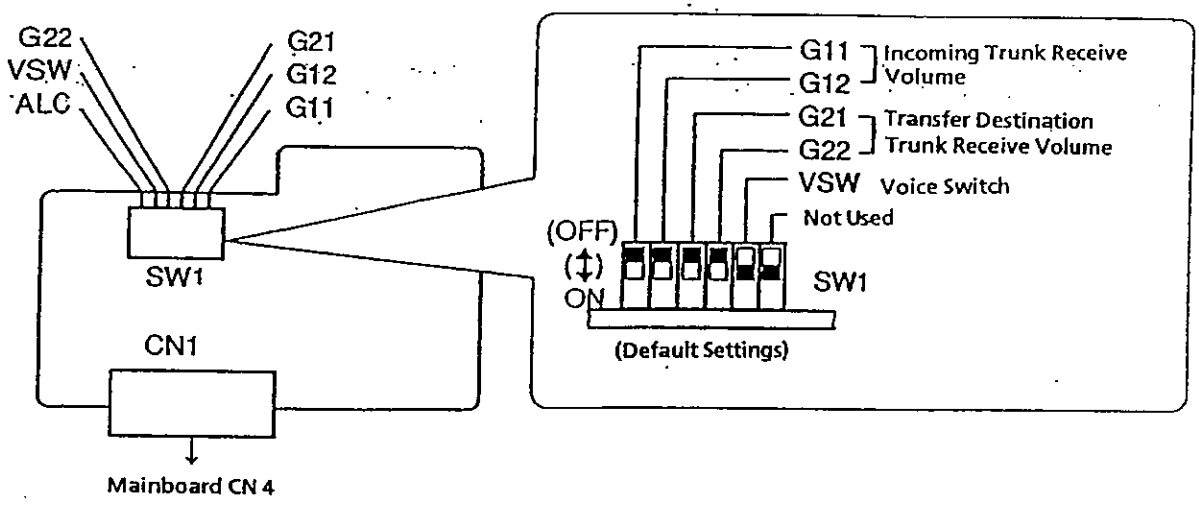


Figure 1-37 TRF-G-13 KTU

Memory Blocks:

Memory Block	Title	Setting
3-19	Automatic Transfer Assignment (Call)	Specify one destination trunk *1
3-20	Automatic Transfer Assignment (Receive)	Specify incoming trunk(s) *2

Note: *1. If required, specify a PBR circuit to be associated with this trunk. Select an exchange line with polarity reversal for the specified trunk (do not use PBX Lines).

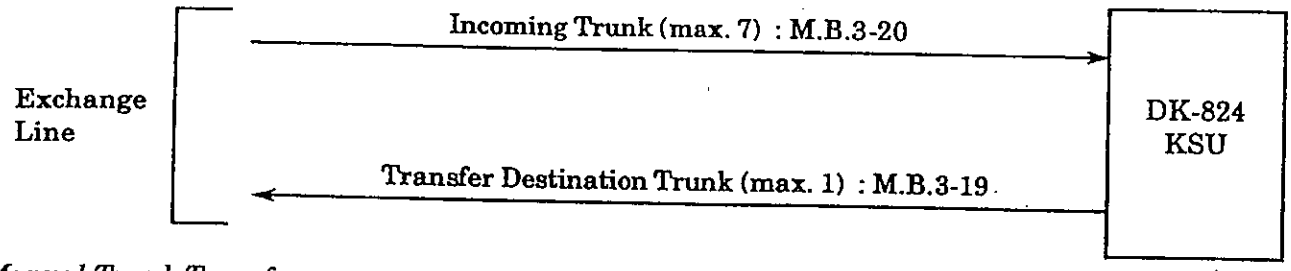
*2. Multiple trunks (except that specified as a trunk transfer destination) can be set.

GENERAL INFORMATION

Automatic Trunk Transfer:

When automatic trunk transfer is set, calls arriving on certain CO/PBX Lines are automatically transferred via the CO/PBX Line specified as the transfer destination trunk to the telephone number previously assigned.

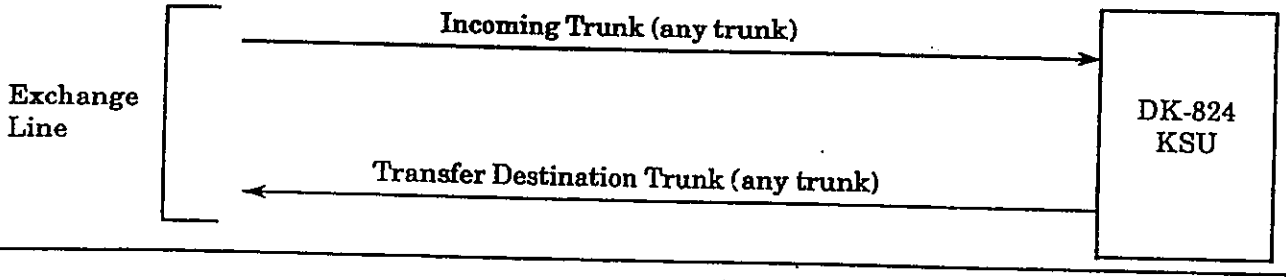
Refer to the Ranger DK-824 Station Operation Manual for the procedures on how to set/release the automatic trunk transfer feature and assigning the destination telephone number.



Manual Trunk Transfer:

Incoming CO/PBX calls may be transferred to an ouside destination using any available CO/PBX Line, in the same manner as transferring an ICM call. Only one CO/PBX call may be transferred externally at a time however.

Refer to the Ranger DK-824 Station Operation Manual for procedures on how to transfer a call.



- **Trunk Transfer Speech Volume Adjustment:**

  Refer to Table 1-26 TRF-G-13 KTU - Switch Settings and Table 1-27 - CO/PBX Line Loss Compensation if speech volume during a transferred call is too low.

  Where Side Tone Adjustment is to be performed on the Transfer Destination and Incoming Trunks (refer to Section 5.2.6), complete that procedure before continuing with the following adjustments.

  When operating with Auto Level Control and Voice Switches OFF, take note of the following points during transmission tests. If satisfactory settings cannot be achieved under the following conditions, operate with the Voice Switch ON.

  1. If the incoming trunk receiving volume is too low, change the G11/G12 switch setting to one level higher.
  2. If the transfer destination trunk receiving volume is too low, change the G21/G22 switch setting to one level higher.
  3. If the incoming trunk receiving signal contains a 'booming' noise, change the G11/G12 switch setting to one level lower.
  4. If the transfer destination trunk receiving signal contains a 'booming noise, change the G21/G22 switch setting to one level lower.

  Caution:
  - Speech levels may decrease during trunk transfer depending on line conditions.
  - Hold tones may become distorted when the Voice Switch is ON.

Table 1-28 TRF-G-13 KTU Switch Settings

Item	Switch	Default	Setting
Voice Switch Usage	Voice Switch (VSW)	ON	ON: Transmitter/receiver switching as in a transceiver. * Use same setting for destination trunk receiving volume switch and incoming trunk receving volume switch. * If speech volume cannot be adjusted using the procedure below, set switch to ON. OFF: Normal Speech
Speech Volume Control for Trunk Transfer	Incoming Trunk Receiving Volume Switch	G11: OFF G12: OFF	• Refer to Table 1-bb for details. * Adjust transfer destination trunk and incoming trunk speech volume during a trunk transferred call. • Set receiving volume level according to line loss (in dBm) in the circuit up to the exchange line destination point. * Adjust the transfer destination trunk specified in M.B.3-19. * Adjust the incoming trunk specified in M.B. 3-20. If multiple trunks are specified, adjust for the most commonly used trunk.
	Transfer Destination Receiving Volume Switch	G21:OFF G22:OFF	

Table 1-29 CO/PBX Line Loss Compensation

Level	CO/PBX Line Resistance	Compensation Level	• Incoming Trunk Receive Volume Switch (G11, G12) • Transfer Destination Trunk Receive Volume Switch (G21, G22)	
			G11 G21	G12 G22
4	1281 ~ 1880 Ω (9.0 ~ 14.0 dBm)	+12 dBm	ON	ON
3	911 ~ 1280 Ω (6.0 ~ 9.0 dBm)	+9 dBm	OFF	ON
2	551 ~ 910 Ω (3.0 ~ 6.0 dBm)	+6 dBm	ON	OFF
1	< 550 Ω (<3.0 dBm)	+3 dBm	OFF	OFF

5.5 Power Failure Backup

5.5.1 Operation in the Event of a Power Failure

In the event of a power failure, the built-in batteries or external batteries (locally provided) provide full backup of the service of the system for a period of 10 minutes, or longer if using external batteries (the period is dependent on the system configuration and service conditions). The Power Failure Transfer (PFT) Single Line Telephone Interface Circuits are built into the KSU. The KSU connects a Single Line Telephone directly to each CO/PBX line to allow origination and termination of calls. (Refer to Figure 1-36 - Power Failure Backup Flowchart.)

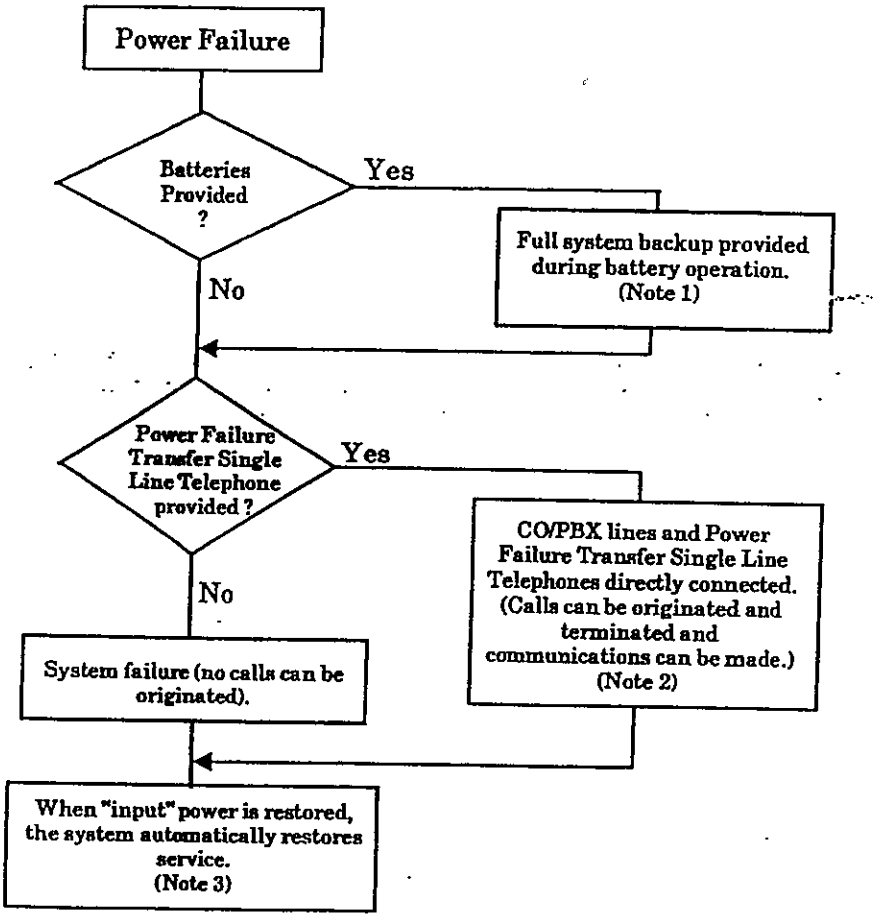


Figure 1-38 Power Failure Backup Flowchart

Note 1: The backup period for the RANGER DK – 824 system is approximately 10 minutes with built-in batteries or approximately 4 hours with external batteries added.

Note 2: All calls in progress are interrupted when switch over is made to connect the Power Failure Transfer Single Line Telephones directly to the CO/PBX line 1. This occurs after backup batteries have expired.

Note 3: If the power switch of the KSU is in the OFF position, the system will not automatically restart service.

Note 4: When power is restored, the system will not reset until all power fail telephones are idle, ie. calls in progress will not be interrupted.

5.5.2 Operation When Input Power Failure is Restored

When input power is restored, the system automatically resets and restores service.

5.5.3 Single Line Telephone for Power Failure Transfer

A Single Line Telephone can be used as a Power Failure Transfer telephone.

Refer to Section 5.2.4 Power Fail Telephone Connection for details.

5.5.4 Operating Procedure

To use the Single Line Telephone for power failure transfer during a power failure, proceed as follows:

- Originating
  1. Lift the handset. (Ensure that dial tone is heard.)
  2. Dial the desired number.
  3. Talk.
- Receiving
  1. Receive ringing tone.
  2. Lift the handset and answer.

Note: **The Single Line Telephone, designated for Power Failure Transfer, must match the dialling type of the corresponding CO/PBX line (10 pps, 20 pps or DTMF) where it is connected.**

SECTION 6 CABLE CONNECTIONS

6.1 General Information

6.1.1 Connection Requirements

The KSU is connected with each of the Multiline Terminals, Single Line Telephones, optional equipment, and CO by a separate twisted cable pair through the MDF.

6.1.2 Cabling Precautions

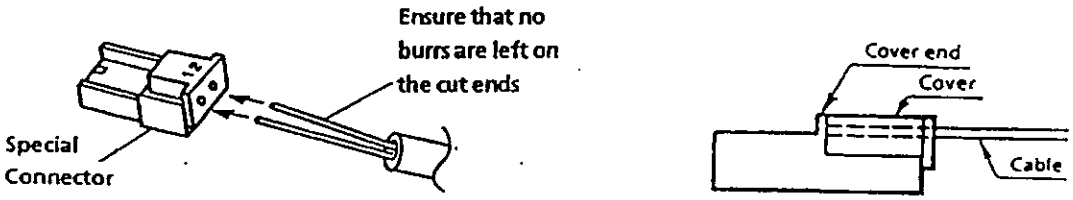
When selecting cables and the MDF, future expansion or assignment changes should be given due consideration. Avoid running cables in the following places:

- A place exposed to wind or rain.
- A place near heat radiating equipment or where the quality of PVC covering could be affected by gases and chemicals.
- An unstable place subject to vibration.
- Close proximity to computers or radio frequency generating equipment.

6.2 Terminating Cables to Special Connectors

When installing an ESF-G-13 KSU, ESI-G(8)-13 KTU, COI-G(2)-13 KTU, DPG-G-13 KTU or FAX-G-13 KTU, the cables must be terminated to the connectors provided in the KTU packing box. The following instructions explain this procedure.

1. Cut the two cables the same length and insert them into the connector. Ensure that each cable has been inserted all the way to the end of the cover. (Refer to Figure 1-39 - Attaching the Cables to the Connector.)



Adaptor Cable		
	Core Diameter	Insulation Outside Diameter
ICT Cable	0.40 mm	0.66 mm
	0.50 mm	0.80 mm
	0.65 mm *	1.20 mm

* remove insulation from wire before inserting into connector

Figure 1-39 Attaching the Cables to the Connector

2. Lightly hold the connector with the pliers. In this case, make sure that the crimping portion is held between the lower portion of the jaws of the pliers. (Refer Figure 1-40 - Holding the Connector with the Pliers).

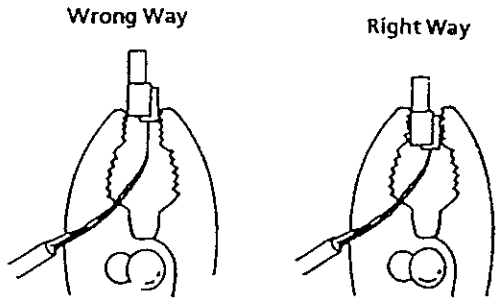


Figure 1-40 Holding the Connector with the Pliers

3. Squeeze the pliers to crimp the cables. If the cover is loose, press the cover again with the pliers.

Note: If sufficient pressure cannot be applied when the screw of the pliers is in the centre position, adjust the position of the screw to allow the jaws of the pliers to close. Be careful when squeezing the handles of the pliers as excessive pressure may cause damage to the connectors. (Refer to Figure 1-41 - Positioning the Screw of the Pliers).

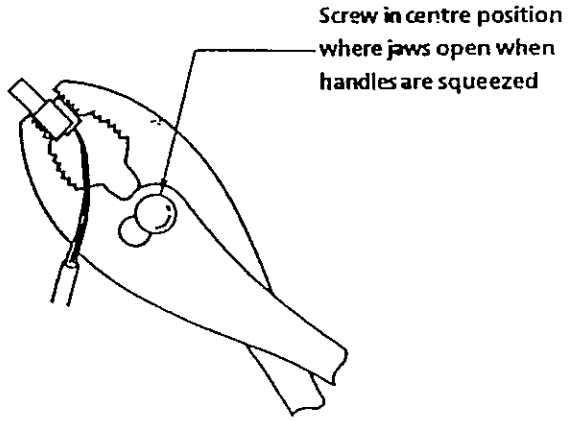


Figure 1-41 Positioning the Screw of the Pliers

4.
- After clinching the leads into the special connectors, insert them into the appropriate socket in the KSU, pushing firmly until the connector snaps securely into position.
- To disconnect the plug from the socket, grasp it firmly using a pair of pliers and pull while holding the unit in place. Do not pull on the wires directly.
- Use the black special connectors supplied for circuits in use during power fail conditions (ie. terminal block CN15 on the Mainboard).
- Do not reuse the plugs once they have been clinched as this may result in a poor connection.

6.3 Wiring to the KSU

6.3.1 Modular Terminal Connections

When connecting Multiline Terminals to the MDF, individually twisted 1-pair cabling must be used. [Refer to Figure 1- 42 - Modular Terminal for Connection of Multiline Terminals and SLT Adaptor].

Note: Polarity is not critical as the Multiline Terminals are not polarity conscious.

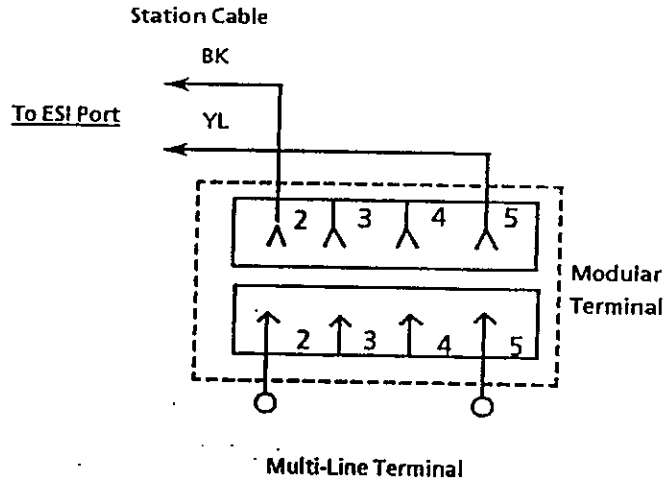


Figure 1-42 Modular Terminal for Connection of Multiline Terminals and SLT Adaptor

6.3.2 Single Line Telephone Connection

DTMF or DP dialling and Single Line Telephones can be used to dial within the system. One-pair cabling is required, it is recommended that twisted pair cabling be used. (Refer to Figure 1-43 - Simplified Schematic of Single Line Telephone Connection for station termination.)

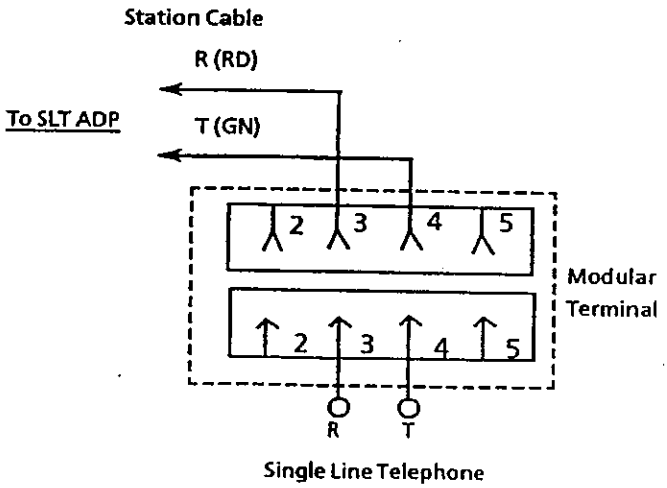


Figure 1-43 Simplified Schematic of Single Line Telephone Connection

6.2.3 KSU Cable Routing

All cabling should exit from the right side of the KSU. The cable routing for the KSU is shown in Figure 1-44 - KSU Cable Routing.

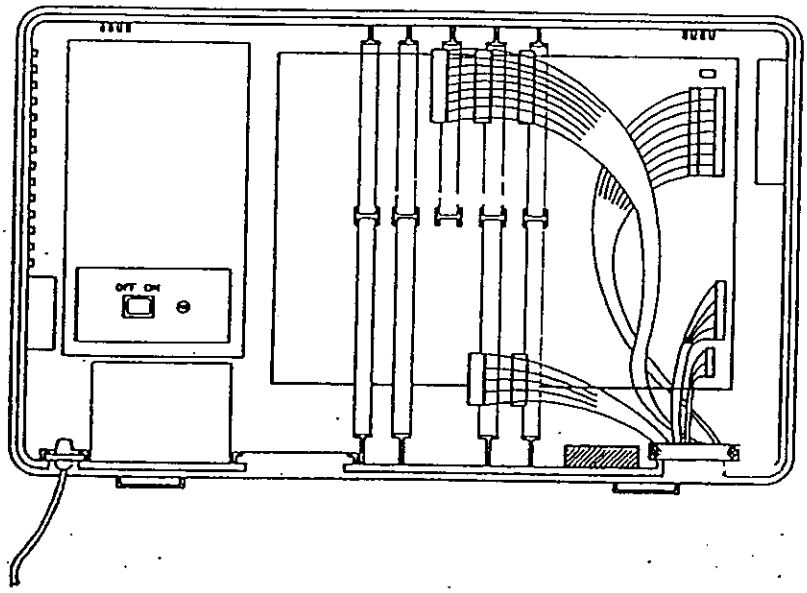


Figure 1-44 KSU Cable Routing

6.2.4 Outside Lines

CO/PBX lines can be connected to this system. Using only twisted pair wiring to cross-connect the lines from the RJ11 termination block to the system.

Do not use half-tapping or parallel connections on outside lines connected to the system. (Refer to Figure 1-35 - Connecting CO/PBX Lines.)

SECTION 7 TERMINAL INSTALLATIONS

7.1 General Information

The RANGER DK – 824 system has four kinds of Multiline Terminals and an SLT Adaptor, which allows connection of Single Line Telephones.

This section provides the instructions for wall mounting a Multiline Terminal, installing the plastic panels provided with the telephones, *etc.*

7.2 Multiline Terminals

7.2.1 ETW-8E-1A (SW) TEL

This Multiline Terminal is a fully modular instrument with eight flexible line keys (each with a two-color LED), eight function keys, a built-in handsfree facility, an ADA interface, and a large LED to indicate incoming calls and messages. (Refer to Figure 1-45 - ETW-8E-1A (SW) TEL Multiline Terminal.)

A maximum of 23 ETW-8E-1A (SW) TELs can be installed in a system.

Figure 1-45 ETW-8E-1A (SW) TEL Multiline Terminal

7.2.2 ETW-16C-1A (SW) TEL

This Multiline Terminal is a fully modular instrument with 16 flexible line keys (each with a two-color LED), eight function keys, a 2-line, 16-character Liquid Crystal Display (LCD), and a large LED to indicate incoming calls and messages. (Refer to Figure 1-46 - ETW-16C-1A (SW) TEL Multiline Terminal).

A maximum of 24 ETW-16C-1A (SW) TELs can be installed in a system.

Figure 1-46 ETW-16C-1A (SW) TEL Multiline Terminal

7.2.3 ETW-16D-1A (SW) TEL

This Multiline Terminal is a fully modular instrument with 16 flexible line keys (each with a two-color LED), eight function keys, 2-line, 16-character Liquid Crystal Display (LCD), 20 programmable One-Touch keys with BLFs, and a large LED to indicate incoming calls and messages. (Refer to Figure 1-47- ETW-16D-1A (SW) TEL Multiline Terminal).

A maximum of 24 ETW-16D-1A (SW) TELs can be installed in a system.

Figure 1-47 ETW-16D-1A (SW) TEL Multiline Terminal

7.2.4 Connecting a Multiline Terminal to the System

1. Plug a telephone cord into the modular jack on the bottom side of the Multiline Terminal. (Refer to Figure 1-48 - Connecting a Multiline Terminal to the System.)
2. Lead the cord out through the cord groove.

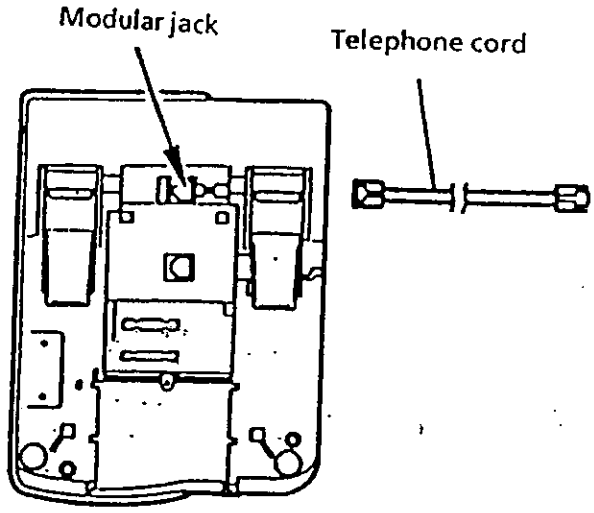
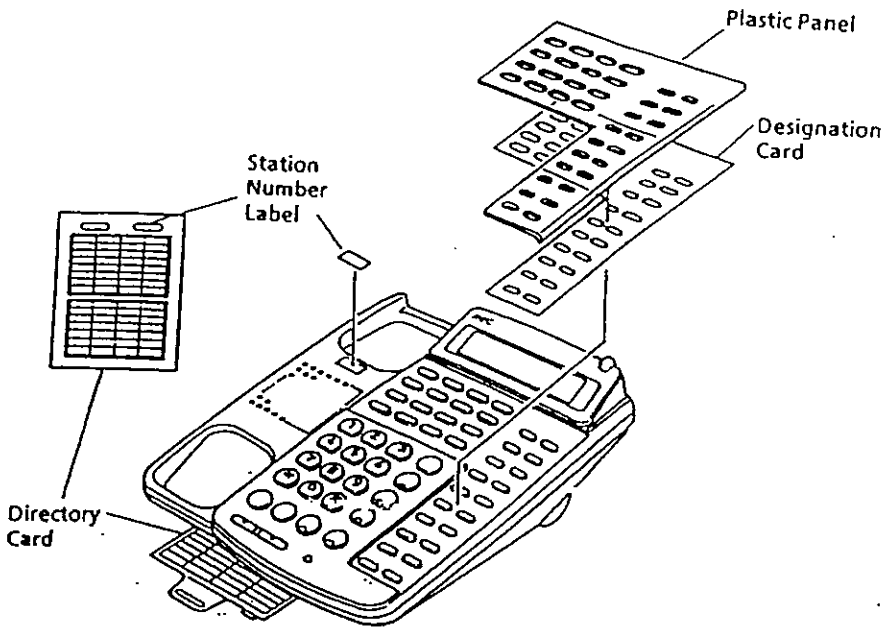


Figure 1-48 Connecting a Multiline Terminal to the System

7.2.5 Installing the Plastic Panel on a Multiline Terminal

1. Place the designation card over the keys on the Multiline Terminal. (Refer to Figure 1-40 - Installing the Designation Card, Plastic Panel and Labels on a Multiline Terminal.)
2. Insert the top hooks of the clear plastic panel in the appropriate holes on the Multiline Terminal, then place the bottom hooks in the Multiline Terminal. Snap the plastic panel into place to secure it. (Refer to Figure 1-49 - Installing the Designation Card, Plastic Panel and Labels on a Multiline Terminal.)
3. Remove the station number label and place on the handset hook.
4. Remove the directory card from the sheet and put it on the directory tray (Refer to Figure 1-40 - Installing the Designation Card, Plastic Panel and Labels on a Multiline Terminal.)

With DSS/BLF Keys



Without DSS/BLF Keys

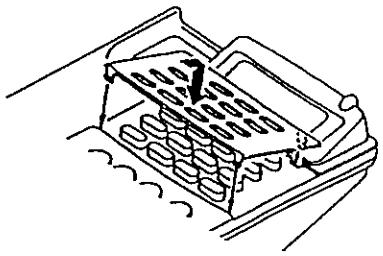


Figure 1-49 Installing the Designation Card, Plastic Panel, and Labels on a Multiline Terminal

7.3 SLT-F(1G)-13 ADP

This Single Line Telephone Adaptor provides an interface for a Single Line Telephone or similar device from an electronic station port KTU channel. This adaptor includes a built-in ringing signal (RSG) generator.

7.3.1 Switch Settings

One cable, with RJ11 connections at both ends, is provided with this unit. This cable is used to connect the adaptor to an ESI port. Another cable with RJ11 connectors is required to connect an SLT or similar devices. (Refer to Figure 1-52 - SLT-F(1G)-13 ADP Unit.)

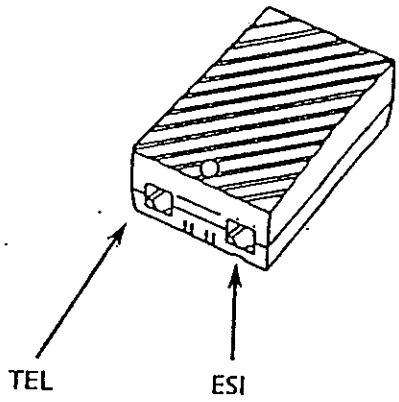


Figure 1-52 SLT-F(1G)-13 ADP Unit

7.3.2 Connection

The following diagram shows the connection from an ESI port to a Single Line Telephone using the SLT-F(1G)-13 ADP. (Refer to Figure 1-53 - Connecting a Single Line Telephone using the SLT-F(1G)-13 ADP.)

Note:

- Only one Single Line Telephone can be connected to one SLT Adaptor.
- If a DTMF type Single Line Telephone is connected to an SLT Adaptor, a PBR-G-13 KTU must be installed. (This is not required if a Decadic/DP type Single Line Telephone is used).
- Do not connect an SLT Adaptor to ESI ports 01 or 02 as these are reserved for system programming.
- If the device connected to the SLT Adaptor requires polarity reversal, it will not be able to originate calls from that device.
- After four SLT Adaptors have been connected, the number of Multiline Telephones which can be connected is reduced by two for every additional SLT Adaptor. This is shown in the following table.

No. of SLT ADPs	0	1	2	3	4	5	6	7	8	9	10	11	12	13
No. of MLTs	24	23	22	21	20	18	16	14	12	10	8	6	4	2

7.2.6 Tilt Stand Adjustment

1. To unfold the legs on the tilt stand:
   a. Turn the Multiline Terminal upside down.
   b. Unfold the legs until they lock. (Refer to Figure 1-50 - Unfolding the Legs of the Tilt Stand.)

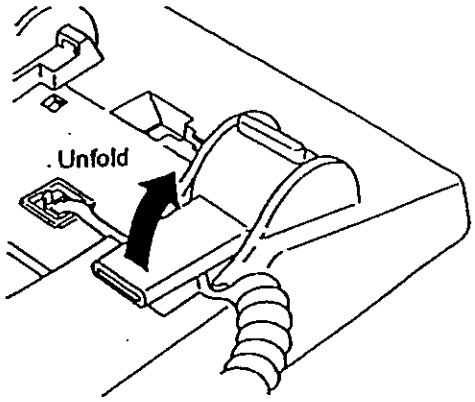


Figure 1- 50 Unfolding the Legs of the Tilt Stand

2. To fold the legs on the tilt stand:
   a. Turn the Multiline Terminal upside down.
   b. Press the mold labeled *Push*.
   c. Fold the legs toward the body of the telephone. (Refer to Figure 1-51 - Folding the Legs of the Tilt Stand.)

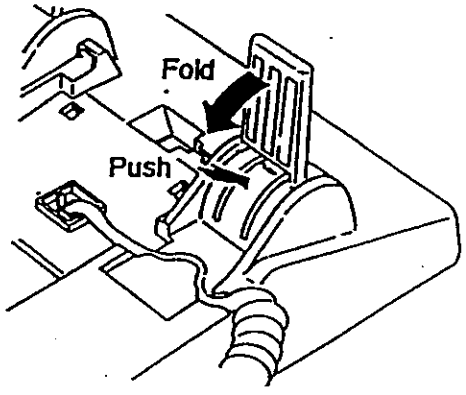


Figure 1-51 Folding the Legs of the Tilt Stand

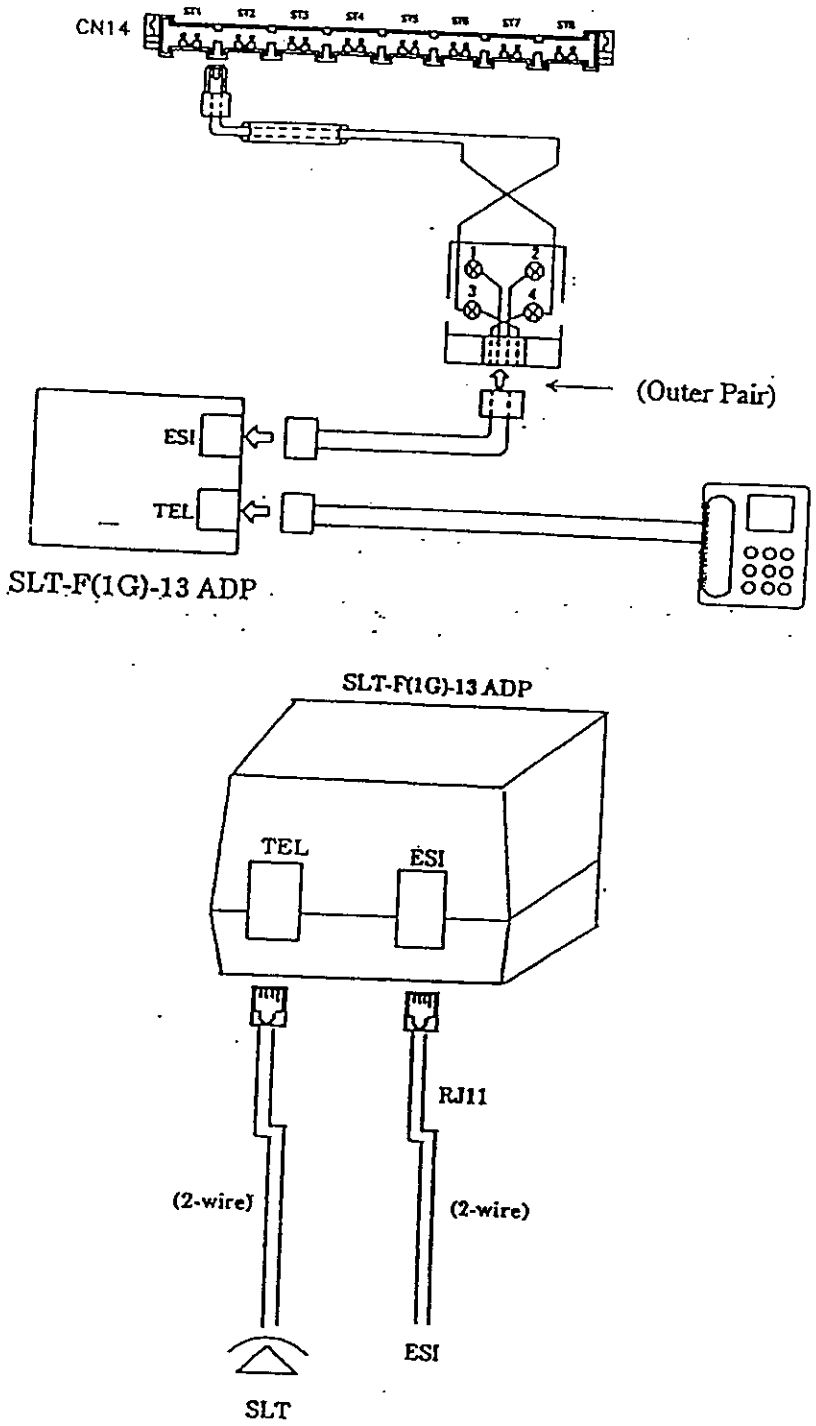


Figure 1-53 Connecting a Single Line Telephone using the SLT-F(1G)-13 ADP

7.3.3 Wall Mounting the SLT-F(1G)-13 ADP

There are two ways to wall mount this adaptor.

1. Use the wall mount location on the rear with one screw.

- OR -

1. Open the unit by removing the two screws from the top of the SLT-F(1G)-13 ADP. (Refer to Figure 1-54 - Removing the Screws from the Cover of the SLT-F(1G)-13 ADP.)

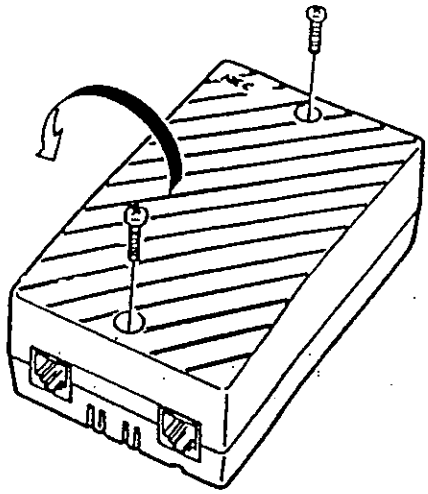


Figure 1-54 Removing the Screws from the Cover of the SLT-F(1G)-13 ADP

2. Using the two provided wood screws, attach the unit to the wall. Close the unit and secure with the two screws previously removed. (Refer to Figure 1-55 - Attaching the SLT-F(1G)-13 ADP to the Wall.)

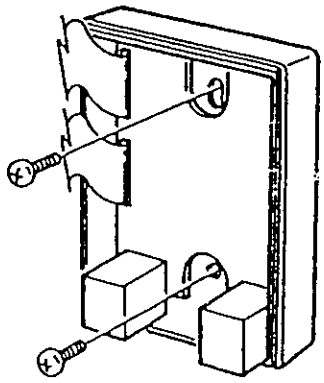


Figure 1-55 Attaching the SLT-F(1G)-13 ADP to the Wall

7.4 ODX-F(1A)-13 ADP

The Outdoor Extension Adaptor allows a Single Line Telephone or similar analogue device to be connected to the end of a long two-wire analogue line (up to approx. 6 km). It connects to an ESI port (except ports 1 or 2) and includes a built-in ringing signal generator (RSG) and line power source.

One cable, with RJ11 connections at both ends, is provided with this unit and this is used to connect the adaptor to an ESI port. The other RJ11 connector is used to connect to the line (via a terminal box) leading to the remote analogue device.

The connection and mounting of this device is the same as for the SLT-F(1G)-13 ADP unit described in Section 7.3 of this manual, with the exception of an AC Adaptor which is attached to the ODX unit and must be plugged into a 240V a.c. mains power point. (Refer to Figure 1-56 - ODX-F(1A)13 ADP Unit).

Note: The analogue device connected to the ODX-F(1A)-13 ADP unit will not operate during a mains power failure unless the AC/DC Adaptor is provided with its own backup power source (it will not be supplied by NDK system's backup battery facility).

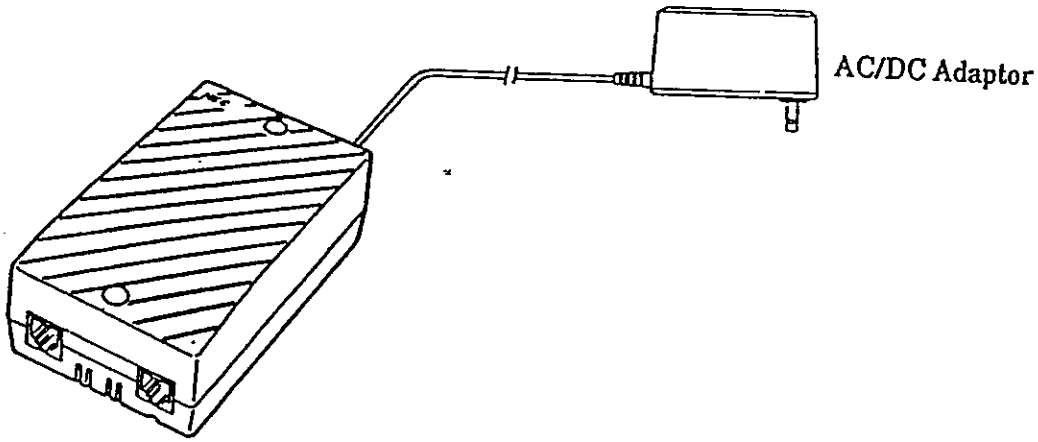


Figure 1-56 ODX-F(1A)-13 ADP Unit

7.5 Wall Mounting Unit

7.5.1 General Information

The WMU-W (GG) Unit is a universal Wall Mount Unit which can be used to mount any Multiline Terminal.

7.5.2 Installing the Wall Mounting Unit (WMU-W (GG))

The WMU-W Unit can be connected to any Multiline Terminal in the system.

1. Remove the station number plate and designation strip.
2. Remove the hanger by sliding it out. Remount it back in the original position with the projected side facing upward. (Refer to Figure 1-47 - Wall Mounting Preparation.)

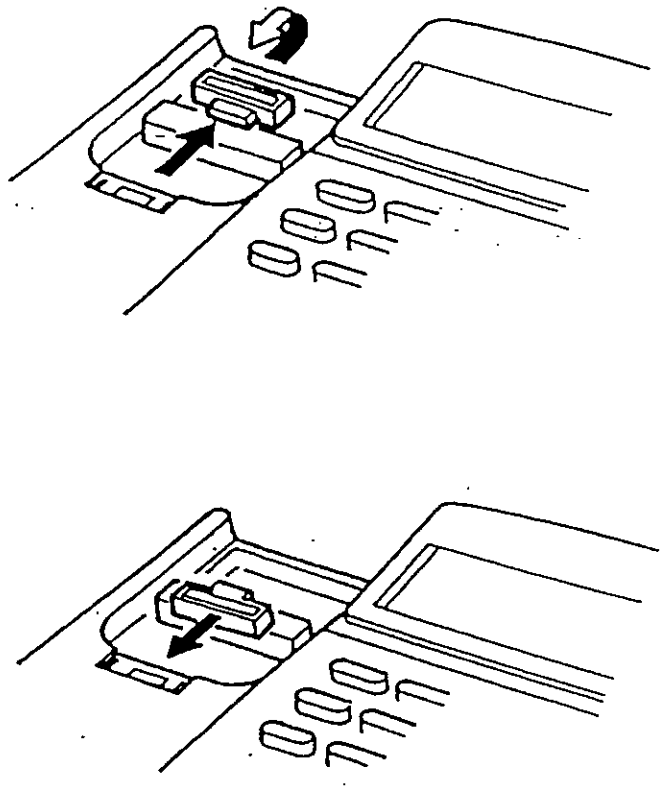


Figure 1-57 Wall Mounting Preparation

3. Reinstall the station number plate and designation strip.

4. Fasten the optional WMU-W (GG) Unit to the wall. (Refer to Figure 1-58 - Mounting the WMU-W (GG) Unit to the Wall.)

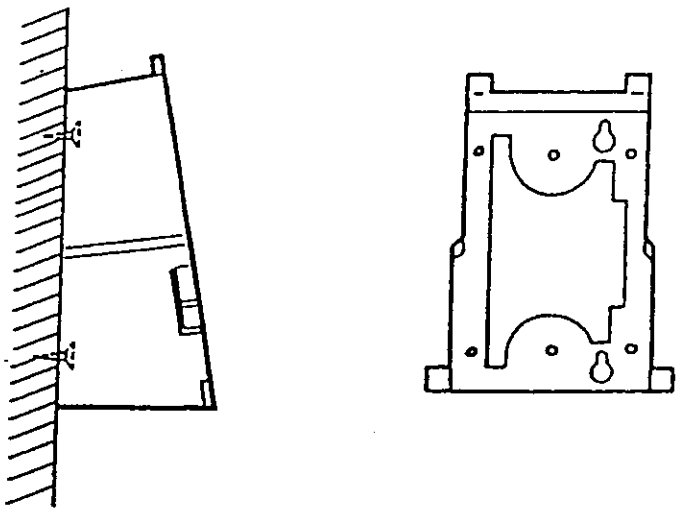


Figure 1-58 Mounting the WMU-W (GG) Unit to the Wall

5. Mount the telephone onto the wall mounting unit by aligning the notches on the bottom of the Multiline Terminal with the rails on the wall mounting unit. (Refer to Figure 1-59 - Mounting the Multiline Terminal to the WMU-W (GG) Unit.)

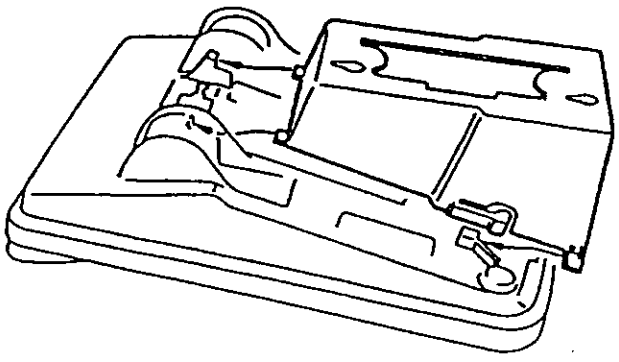


Figure 1-59 Mounting the Multiline Terminal to the WMU-W (GG) Unit

SECTION 8 ANCILLARY DEVICE CONNECTION

8.1 General Information

- ADA (1)-W (GG) Unit

This Ancillary Device Adaptor Unit provides the Multiline Terminal with connection for a headset. An ADA (1)-W (GG) Unit can be installed in any Multiline Terminal.

A maximum of 24 ADA (1)-W (GG) Units can be installed in a system, one per Multiline Terminal.

- ADA (2)-WA (GG) Unit

This Ancillary Device Adaptor Unit provides the Multiline Terminal with a Single Line Telephone interface. An ADA (2)-WA (GG) Unit can be installed in any Multiline Terminal and allows connection of a Single Line Telephone, cordless telephone, fax, modem, or an answering machine. The maximum distance between the ADA (2)-WA (GG) Unit and the equipment is 3 meters, using 24 AWG. An AC/DC adaptor is required for power supply to the ADA (2)-WA (GG) Unit. The ADA (2)-WA (GG) Unit has a built-in RSG; hold, hookflash detection, Message Wait, and disconnect signal are not supported.

A maximum of 24 ADA (2)-WA (GG) Units can be installed in a system, one per Multiline Terminal.

8.2 Installing the Ancillary Device Adaptor Unit (ADA (1)-W (GG) or ADA (2)-WA (GG)) in the Multiline Terminal

The ADA (1)-W (GG) Unit or ADA (2)-WA (GG) Unit can be connected to any Multiline Terminal in the system.

1. Unplug the line and handset cords.
2. Turn the Multiline Terminal upside down and place it on a dry surface.
3. Remove the knockout (second from the top) on the bottom of the Multiline Terminal. (Refer to Figure 1-60 - Removing the Knockouts to Install an ADA(1)-W(GG) Unit or ADA(2)-WA(GG) Unit.)

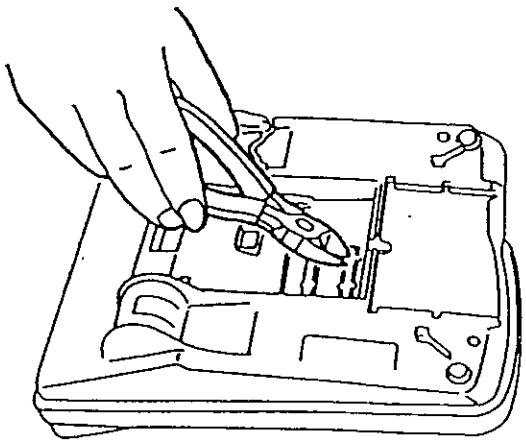


Figure 1-60 Removing the Knockouts to Install an ADA(1)-W(GG) Unit or ADA(2)-WA(GG) Unit

4. Plug the connector labeled CN1, from the ADA (1)-W (GG) Unit or ADA (2)-WA (GG) Unit, into the jack labeled CN4, on the Main Board. (Refer to Figure 1-51 - ADA(1)-W(GG) Unit or ADA(2)-WA(GG) Unit Installation and Table 1-28 - ADA(1)-W(GG) Unit or ADA(2)-WA(GG) Unit Cable Connection.)

5. Mount the ADA (1)-W (GG) Unit or ADA (2)-WA (GG) Unit into the Multiline Terminal using the screw provided (component side down). (Refer to Figure 1-61 - ADA (1)-W (GG) Unit or ADA (2)-WA (GG) Unit Installation.)

6. Connect the external device (headset, external handsfree facility, fax, answering machine, *etc.*) into the rear of the ADA Unit as appropriate (refer to Section 8-1).

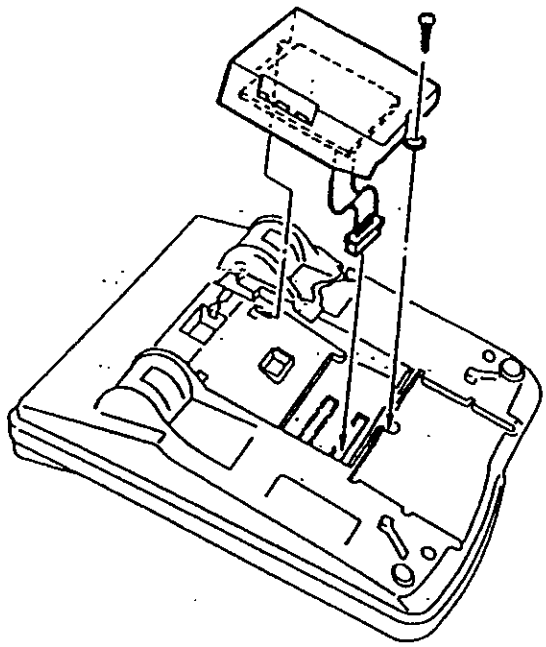


Figure 1-61 ADA (1)-W (GG) Unit or ADA (2)-WA (GG) Unit Installation

Table 1-30 ADA(1)-W(GG) Unit or ADA(2)-WA(GG) Unit Cable Connection

ADA(1)-W(GG) Unit or ADA(2)-WA(GG) Unit	
From ADA	To Telephone
CN1	CN4

7. For ADA(2)-WA(GG) Unit only:

   Plug the AC/DC Adaptor into the jack located on the side of the ADA(2)-WA(GG) Unit.

8. Plug the handset connector into the side of the ADA Unit and the line cord into its usual position in the base of the handset.

9. Test the operation of the Multiline Terminal and then test the operation of the

SECTION 9 OPTIONAL EQUIPMENT CONNECTION

9.1 General Information

This Section provides additional information on the following facilities:

- External MOH/BGM
- External Paging

IMPORTANT:

In compliance with Austel Regulations, any device or equipment that is to connect to the telephone system must be authorized by Austel. Equipment not authorized by Austel can be connected provided an authorized Line Isolation Unit (L.I.U.) is placed between that unit and the telephone system.

9.2 Music On Hold/Background Music

Provision has been made to allow connection of a locally provided external music source to provide Music On Hold for held calls and Background Music for external paging and station BGM.

Music source input is made using the special connector marked "MOH/BGM" located on the DPG-G-13 KTU. For music source input level and impedance, refer to section 2.12.1 - Music On Hold (MOH)/Background Music (BGM) in this chapter. One General Purpose Relay may be programmed to switch BGM on and off when required.

To install:

1. Shielded cable should be used from the MOH source to the KSU. The shield on this cable should be grounded. (Refer to Figure 1-62-MOH/BGM Source Connection.)
2. When BGM is specified in system programming, music will be automatically played over the External Paging system (if installed). To disable this, connect an external relay as shown in Figure 1-64 - External Paging without BGM.

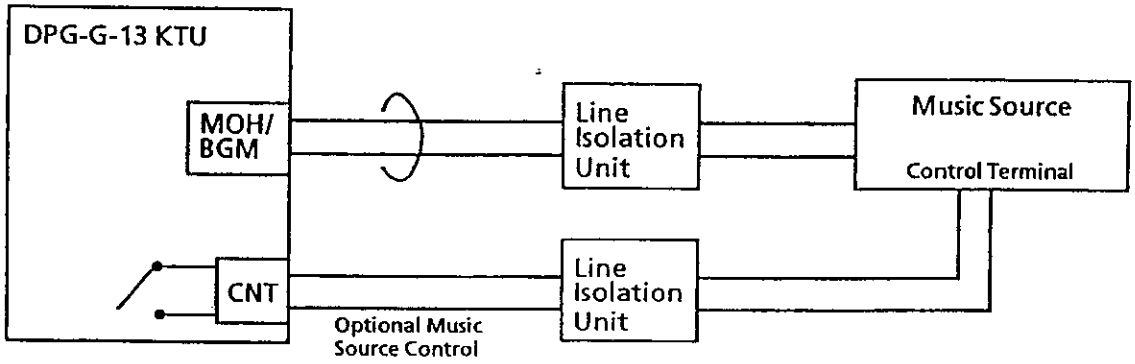


Figure 1-62 MOH/BGM Source Connection

9.3 External Paging

Audio output for external paging is an optional feature available at the PG jack on the DPG-G-13 KTU. Shielded cable should be used for external paging audio connections.

The DPG KTU provides one audio output for use in Paging with Meet-Me Answer. This output is labelled PG. A maximum of one zone of external paging can be installed.

It is necessary for the audio output to be connected to a locally provided amplifier and speaker(s). Only 1-way paging is available. For connection information to a locally provided amplifier, refer to Figure 1-63 - External Paging Equipment Connection. For external paging audio output level and impedance, refer to Section 2.12 - External Equipment Interface in this chapter.

With a locally provided amplifier, only one zone of paging and background music can be provided. A control relay may be provided for control of the external switching for applications with background music.

When External Paging is answered by Meet-Me Answer, the external paging audio circuit is released.

The PG output should not be connected directly to the output of an external amplifier.

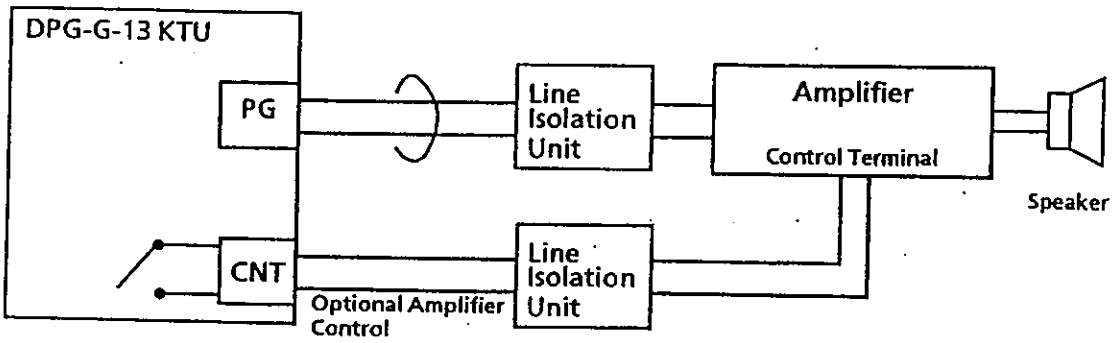


Figure 1-63 External Paging Equipment Connection

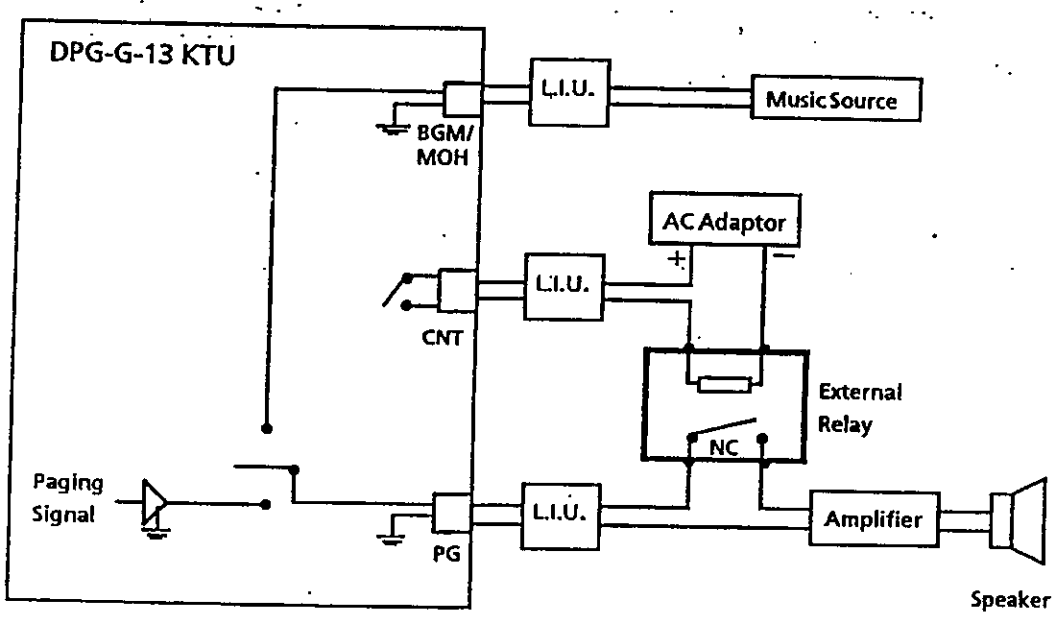


Figure 1-64 External Paging without BGM

Notes:
1. In Figure 1-63, the relay contact connected to one of the General Purpose Relays is closed when the external speaker is operated. This General Purpose Relay must be set to "External Speaker" in System Programming.
2. In Figure 1-64, the relay contact connected to one of the General Purpose Relays is opened when the external speaker is operated. This General Purpose Relay must be set to "MOH/BGM" in System Programming.
3. If ON/OFF control of the power supply of the external amplifier is desired ensure an external relay with sufficient current capacity is used.

SECTION 10 LCD INDICATIONS TABLE

The LCD Indications Table shows the LCD displays as they appear on the Multiline Terminal. For ease of use, the information is listed in alphabetical order according to the Display.

Table 1-31 LCD Indications Table

Display	Location	Definition
ADA2 RG ALL SET/CNCL	Originator	Setting/Cancelling ADA (2) Ringing Mode (All)
ADA2 RG CMN SET/CNCL	Originator	Setting/Cancelling ADA (2) Ringing Mode (Common)
ADA2 RG MODE [X]	Originator	Setting ADA (2) Ringing Mode X = Ring Assignment (0 ~ 2)
ADA2 RG STA SET/CNCL	Originator	Setting/Cancelling ADA (2) Ringing Mode (Station)
ALARM X CNCL	Originator	Cancelling the Alarm X = Alarm 1 (One Time) Alarm 2 (Daily)
ALARM: X	Originator	Alarm X = Alarm 1 (One Time) Alarm 2 (Daily)
ALARMX 00:00	Originator	Setting Alarm Time X = Alarm 1 (One Time) Alarm 2 (Daily)
ALARMXYY:YY	Originator	Displays Alarm Time X = Alarm 1 (One Time) Alarm 2 (Daily) YY:YY = Time
ALL ALARM CNCL	Originator	Cancelling Alarm System-Wide
ALL FWD CNCL	Originator	Cancelling Call Forward - All Calls System-Wide
ALL PAGE	Originator	Internal/External All Paging
ALL VRS MSG DEL	Originator	Deleting all Voice Recording Service - Internal Messages
BATTERY LOW	All Stations with LCD	Low Battery
BGM OFF	Originator	Turns off Background Music
BGM ON	Originator	Turns on Background Music
BUSY	Originator	Busy Indication
CALLBACK CNCL	Originator	Cancelling Callback Request
CO LINE	Originator	Type of Line Key
CO LINE X	Originator	Incoming Line Key X = CO/PBX Line 1 ~ 8
DATA ENTRY	Originator	Entering Data via System Programming
DND SET	Originator	Setting Do Not Disturb
DND CNCL	Originator	Cancelling Do Not Disturb
DOOR X RELEASE	Originator	Doorlock Release X = Doorphone 1 or 2
DOORPHONE X	Originator	Incoming Doorphone Number X = Doorphone 1 or 2
ENTRY ERROR	Originator	No Speed Dial Number Entered
ERROR	Originator	Error Indication

(Continued on next page.)

Display	Location	Definition
FAX RESERVE CNCL	Originator	Cancelling Fax Line Reservation
FAX RESERVE SET	Originator	Setting Fax Line Reservation
FNC LAMP OFF	Originator	Turns off the Function Key LED
FNC LAMP CNCL	Originator	Cancelling FNC Lamp System-Wide
FWD CNCL	Originator	Cancelling Call Forward - All Calls
FWD BNA →[YY]	Originator	Setting Call Forward - Busy/No Answer YY = Destination Station Number
FWD BNA CNCL	Originator	Cancelling Call Forward - Busy/No Answer
FWD XX →[YY]	Originator	Setting Call Forward - All Calls XX = Originating Station Number YY = Destination Station Number
GROUP [X]	Originator	Internal Zone Paging X = Zone A ~ C
INT ALL PAGE	Receiving	Receiving Internal All Zone Paging
INT ALL PAGE	Originator	Originating Internal All Zone Paging
LCD CONTROL	Originator	LCD Contrast Control
LINE IDLE	Originator	Trunk Queuing
LNR [#] / SPD [ ]	Originator	Press LNR/SPD Key
MONITOR CNCL	Originator	Resetting Room Monitor
MONITOR SET	Originator	Setting Room Monitor
MONITORED CNCL	Originator	Resetting Monitored Station
MONITORED SET	Originator	Setting Monitored Station
NIGHT MODE CNCL	Originator	Resetting Night Mode
NIGHT MODE SET	Originator	Setting Night Mode
NO ADA2	Originator	ADA (2)-WA (GG) Unit Not Installed
NO SMDR	Originator	Station Message Detail Recording Not Installed
NO PRINTER	Originator	No Printer Connected
NO VRS	Originator	Voice Recording Service Not Installed
OFFHOOK RING CTL	Originator	Off-Hook Ringing Control
OVRD→[XX]	Originator	Barge-In on Station XX = Destination Station Number
OVRD→CO[X]	Originator	Barge-In on CO X = CO/PBX Line 1 ~ 8
PBX LINE	Originator	Type of Line Key
PBX LINE X	Originator	Incoming Line Key X = CO/PBX Line 1 ~ 8
PBX NIGHT CNCL	Originator	Resetting PBX Night Mode
PBX NIGHT SET	Originator	Setting PBX Night Mode
PRINTER TROUBLE	Originator	Printer Problems
PROGRAM MODE	Originator	Programming Mode

(Continued on next page.)

Display	Location	Definition
RECALL:LKX	Originator	Hold Recall X = CO/PBX Line 1 ~ 8
RING CONTROL	Originator	Ring Control
SPKR	Originator	External Paging
SYSTEM REFRESH	Originator	System Refreshes
TEST PRINT	Originator	Test Print
TRUNK QUE CNCL	Originator	Cancelling Trunk Queue
TRUNK QUE SET	Originator	Setting Trunk Queue
VOLUME CNTRL[ ]	Originator	Volume Control
[VM]	Receiving	Voice Mail Message Waiting
VRS DELETED [X]	Originator	Deleting a Voice Recording Service Message X = Message 0 ~ 4
VRS DEL	Originator	Voice Recording Service Message Deleted
VRS MSG [XX]	Originator	VRS Message Retrieve XX = Originating Station Number
VRS MSG DEL [XX]	Originator	Deleting a Voice Recording Service - Internal Message XX = Destination Station Number
VRS MSG DELETED	Originator	Deleted a Voice Recording Service - Internal Message
VRS MSG PLAY [XX]	Originator	Playing a Voice Recording Service - Internal Message XX = Destination Station Number
VRS MSG REC [XX]	Originator	Recording a Voice Recording Service - Internal Message XX = Destination Station Number
VRS NIGHT CNCL	Originator	Resetting Voice Recording Service - Night Mode
VRS NIGHT SET	Originator	Setting Voice Recording Service - Night Mode
VRS NO MSG	Originator	No Voice Recording Service Message
VRS PLAY [X]	Originator	Playing a Voice Recording Service Message X = Message 0 ~ 4
VRS REC [X]	Originator	Recording a Voice Recording Service Message X = Message 0 ~ 4
VRS WEEKEND SET	Originator	Resetting Voice Recording Service - Holiday Mode
VRS WEEKEND CNCL	Originator	Setting Voice Recording Service - Holiday Mode
VRS DAYTIME SET	Originator	Automatic Answer/Automated Attendant Set
VRS DAYTIME CNCL	Originator	Automatic Answer/Automated Attendant Cancel
WAITING TRF LKX	Originator	Setting Hold Free Transfer X = CO/PBX Line 1 ~ 8
■ 7:43 PM SUN 2	All Stations with LCD	Night Mode On
7:43 PM SUN 2	All Stations with LCD	Clock/Calendar
XX= =[YY]	Originator/Receiving	Intercom Call XX = Originator YY = Destination

(Continued on next page.)

Display	Location	Definition
XX = =[YY] TRANSF	Originator	Automatic Ring Transfer XX = Originator YY = Destination
XX –→[YY] *	Originator	Tone Overriding XX = Originator YY = Destination
XX –→[YY]TRANSF	Originator	Call Forwarding XX = Originator YY = Destination
XX ← –[YY]TRANSF	Receiving	Call Forwarded XX = Originator YY = Destination - OR - Ring Transfer XX = Originator YY = Destination
XX ← –[YY] *	Receiving	Tone Overridden XX = Destination YY = Originator
XX – → [YY] #	Originator	Setting Callback Request XX = Originator YY = Destination
XX – → [YY] 0	Receiving	Setting Automatic Callback XX = Destination YY = Originator
XX ← –[YY] URGENT	Receiving	Voice Over Destination XX = Destination YY = Originator
XX – → [YY] URGENT	Originator	Voice Over Source XX = Originator YY = Destination
[XX] [YY] [ZZ]	Originator	Callback Request XX, YY and ZZ = Callback Station Numbers
"XX" "YY" "ZZ"	Originator	Voice Recording Service - Internal Message XX, YY and ZZ = VRS Setting Station Number
XX =TEL YY	Originator	Telephone Number XX = Station Number YY = Port Number
XX:EMPTY	Originator	Speed Dial Number Confirmation with No Data Entered XX = Buffer Number

Display	Location	Definition
XX:YYYYYYYYYYY	Originator	Originating Speed Dial Call XX = Buffer Number YY = Telephone Number - OR - Speed Dial Number Confirmation XX = Buffer Number YY = Telephone Number
XX==DOORPHONE Y	Originator	Doorphone Call XX = Originator's Station Number Y = Doorphone 1 or 2
<XX>XX	Receiving	Conference Party Placed On Hold XX = Station Number
[XX] LY LY		Two CO/PBX Line Conference XX = Station Number Y = CO/PBX Line Number

SECTION 11 FEATURE ACCESS CODES

This table shows the Access Codes that are used in the system. Some of the codes are set as system defaults and some codes have no default defined but are programmable in System Programming. The table is divided according to the status of the telephone. An explanation of the notes column is listed below, these are referenced throughout the table. (Refer to Table 1-25 - Access Code Tables.)

Explanation of Notes Column:

Installation: Operable only on telephones specified at the time of installation.

Single Line Only: Operable only on Single Line Telephones.

Single Line OK: Operable on Multiline Terminals or Single Line Telephones.

Note 1: The controls in parentheses are not necessary for your own telephone or own tenant.

Note 2: Enter the new values in the Access Code Table.

Note 3: No system default is defined, this code must be assigned in System Programming.

Table 1-32 Access Code Tables

When the telephone is idle (handset is on-hook):

Function	Operation	Notes
Internal Dial Tone	FNC → Dial 0	
Microphone ON/OFF	FNC → Dial 1	
Verifying Station Number	FNC → Dial 4	
Setting Timed Alarm	FNC → Dial XXX → Dial YY:YY → FNC XXX = 510 One Time Alarm 520 Daily Alarm YY:YY = Time according to 24-hour clock	
Confirming Timed Alarm	FNC → Dial XXX → FNC XXX = 511 One Time Alarm 521 Daily Alarm	
Cancelling Timed Alarm	FNC → Dial XXX → FNC XXX = 512 One Time Alarm 522 Daily Alarm	
Cancelling Timed Alarm System	FNC → Dial 58 → FNC	Installation
Setting/Cancelling Do Not Disturb	FNC → Dial 65 → FNC	
Setting Call Forward - All Calls	FNC → Dial 60 → Dial XX → FNC. XX = Station number where call is to be transferred	Installation
Cancelling Call Forward - All Calls	FNC → Dial 60 → FNC	Installation
Setting Call Forward - Busy/No Answer	FNC → Dial 67 → Dial XX → FNC XX = Station Number where call is to be transferred	Installation
Cancelling Call Forward - Busy/No Answer	FNC → Dial 67 → FNC	Installation
Cancelling Call Forward - All/Busy/No Answer	FNC→ Dial 68 →FNC	Installation
Analogue Telephone Ring Assignment via ADA(2)-WA (GG) KTU	FNC → Dial 69X → FNC X = 0 (All Mode) 1 (Station Mode) 2 (Common Mode)	Installation
VRS Message Record	FNC → Dial 70X → FNC X = 0 Hold Message 1 A.A./Auto Answer (Night) 2 A.A./Auto Answer (Day) 3 A.A./Auto Answer (Weekend) 4 Manual Message	Attendant Only

(Continued on next page.)

Function	Operation	Notes
VRS Message Verify	FNC → Dial 71X → FNC X = 0 Hold Message 1 A.A./Auto Answer (Night) 2 A.A./Auto Answer (Day) 3 A.A./Auto Answer (Weekend) 4 Manual Message	Attendant Only
VRS Message Clear	FNC → Dial 72X → FNC X = 0 Hold Message 1 A.A./Auto Answer (Night) 2 A.A./Auto Answer (Day) 3 A.A./Auto Answer (Weekend) 4 Manual Message	Attendant Only
Setting/Cancelling Night Mode Switch (System)	FNC → Dial 80 → FNC	Installation Attendant Only
Set/Cancel Auto Attendant/Auto Answer	FNC → Dial 8 X → FNC X = 1 Night 2 Day 3 Weekend	Attendant Only
Callback Cancel (System)	FNC → Dial 88 → FNC	Installation
SMDR Test Print	FNC → Dial 9 * → FNC	Installation
Cancelling FNC LED (Station)	FNC → Dial 99 → FNC	
Programming System Speed Dial Buffer Number	FNC → LNR/SPD → Dial XX → Dial YY → Dial ZZ ~ Z → FNC XX = Speed Dial Buffer Number (20 ~ 99) YY = Access Code (maximum two digits) ZZ ~ Z = Telephone Number (maximum 24 digits)	Installation
Programming Station Speed Dial Buffer Number	FNC → LNR/SPD → Dial XX → Dial YY → Dial ZZ ~ Z → FNC XX = Speed Dial Buffer Number (00 ~ 19) YY = Access Code (maximum two digits) ZZ ~ Z = Telephone Number (maximum 24 digits)	
Confirming System Speed Dial Number	CNF → LNR/SPD → Dial XX XX = Speed Dial Buffer Number (20 ~ 99)	
Confirming Station Speed Dial Number	CNF → LNR/SPD → Dial XX XX = Speed Dial Buffer Number (00 ~ 19)	
Cancelling System Speed Dial Number	FNC → LNR/SPD → Dial XX → FNC XX = Speed Dial Buffer Number (20 ~ 99)	Installation
Cancelling Station Speed Dial Number	FNC → LNR/SPD → Dial XX → FNC XX = Speed Dial Buffer Number (00 ~ 19)	
Placing a Call - Speed Dial	LNR/SPD → Dial XX XX = Speed Dial Buffer Number (00 ~ 99)	

(Continued on next page.)

Function	Operation	Notes
Confirming Last Number Dialled Memory	CNF → LNR/SPD → Dial #	
Placing a Call Using Store and Repeat/Save and Repeat	LNR/SPD → Dial *	
Setting/Cancelling Answer Preset (Ringing Line Preference)	FNC → ANS	
Call Key Set/Reset	FNC → CALL	
Last Dialled Number Memory to a Station Speed Dial Buffer Number	FNC → LNR/SPD → Dial XX → LNR/SPD → FNC XX = Speed Dial Buffer Number (00 ~ 19)	
BGM Station Speaker (On/Off)	FNC → Dial 93 → FNC	
Privacy Release	FNC → Dial 7 → FNC	
Room Monitor Terminal (Monitored)	FNC → Dial 56 → FNC	
Room Monitor Terminal (Monitor)	FNC → Dial 57 → FNC	
Confirming Feature Access Key/One-Touch Key	FNC → Feature Access Key/One-Touch Key	
Cancelling Feature Access Key/One-Touch Key	FNC → LNR/SPD → Feature Access Key/One-Touch Key → FNC	
Placing a Call with Feature Access Key/One-Touch Key	Press the Feature Access Key/One-Touch Key programmed for the desired feature.	
Programming Feature Access Key/One-Touch Key (for DSS/BLF)	FNC → LNR/SPD → Feature Access Key/One-Touch Key → Dial 1 → Dial YY → [Dial 1] → FNC YY = Station Number (2 digits) Operations enclosed in [ ] are optional. Dialing 1 in this optional step switches the call from Voice to Tone or from Tone to Voice.	
Programming Feature Access Key/One-Touch Key (for Station/System Speed Dial)	FNC → LNR/SPD → Feature Access Key/One-Touch Key → Dial 0 → Dial ZZ → FNC ZZ = Station or System Speed Dial Buffer Number	
Programming Feature Access Key/One-Touch Key for Nesting Dial)	FNC → LNR/SPD → Speed Dial Buffer Number → Dial Y → ANS → Dial ZZ → [ANS → Dial ZZ (repeat up to 3 times)] → FNC Y = CO/PBX Trunk Access Code (maximum 2 digits) ZZ = System or Station Speed Dial Buffer Number (00 ~ 99) Operations enclosed in [ ] are optional.	
Programming Feature Access Key/One-Touch Key for Feature Access)	FNC → LNR/SPD → Feature Access Key/One-Touch Key → Dial # → Dial YY → FNC YY = Feature Access Code (up to seven digits)	

While the station is being seized (handset is lifted or the SPKR key is pressed and ICM LED is lit):
Note: The default settings for the Access Codes are shown in this table.

Function	Operation (Default)	Notes
(Off-Hook) Ring Volume	Dial **971**	
Door/Monitor (Originate)	Dial **61**: Doorphone 1 Dial **62**: Doorphone 2	
Call Pickup Within Same Tenant	Dial **6 ***	
Call Pickup - All	Dial **6 #**	
Specified CO/PBX Line Seizure	Dial **63** → **X** **X** = CO/PBX Line Number (1 ~ 8)	
Setting Trunk Queuing	Dial **64** → Hang Up **Note:** When busy tone is heard.	Installation
Cancelling Trunk Queuing	Dial **65** → Hang Up	Installation
Internal All Zone Paging	Dial **70**	
Internal Zone A Paging	Dial **71**	
Internal Zone B Paging	Dial **72**	
Internal Zone C Paging	Dial **73**	
Answering a Page with "Meet-Me" (All Internal Zones)	Dial **74**	
External Paging	Dial **75**	
All Internal/External	Dial **77**	
Answering a Page with "Meet-Me" (External Page)	Dial **74**	
Trunk Group (0 ~ 2)	Dial **XX** **XX** = **0** (Group 0) **80** (Group 1) **81** (Group 2)	Installation
Programming Station Speed Dial Buffer Number	Dial **85** → Dial **XX** → Dial **YY** → Dial **ZZ ~ Z** **XX** = Speed Dial Buffer Number (00 ~ 19) **YY** = Trunk Access Code (maximum 2 digits) **ZZ ~ Z** = Telephone Number (maximum 24 digits)	Single Line Only
Clearing Station Speed Dial Buffer Number	Dial **85** → Dial **XX** → Hang Up **XX** = Speed Dial Buffer Number (00 ~ 19)	Single Line Only

(Continued on next page.)

Function	Operation (Default)	Notes
Placing a Call Using a Speed Dial Buffer Number	Dial * → Dial XX * = MF Type XX = Speed Dial Buffer Number (00 ~ 99)	Single Line Only
Last Number Dialled	Dial # # = MF Type	Single Line Only
Interrupting a Call on CO/PBX Line (Barge-In with Station Number)	FNC → CNF → Dial XX → FNC XX = Station Number to be interrupted	Single Line Only Installation
Interrupting a Call on CO/PBX Line (Barge-In with CO/PBX Line Number)	FNC → CNF → Dial * → Dial X → FNC XX = CO/PBX Line Number (1 ~ 6)	Installation

While calling a station:

Function	Operation	Notes
Tone/Voice Switching	Dial 1	
Callback Request	Dial #	Installation
ICM Seizure	FNC → 0	
MIC ON/OFF	FNC → 1	

While a call is waiting (when calling a station and Call Waiting Tone is heard):

Function	Operation	Notes
Automatic Callback	Dial 0 → Hang Up	Installation
Step Call	Dial 1	Single Line OK (only for DTMF type telephones)
Tone Override	Dial *	Installation
Callback Request	Dial #	Installation
ICM Seizure	FNC → 0	
MIC ON/OFF	FNC → 1	

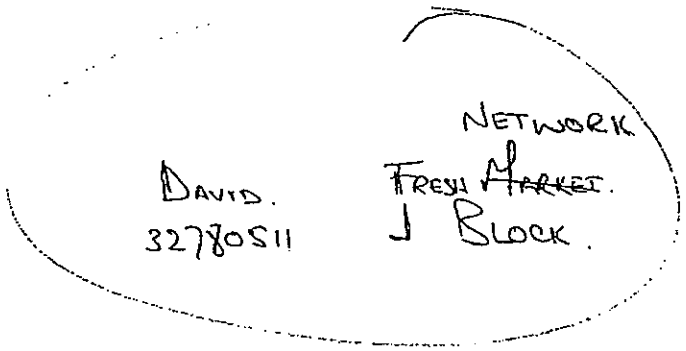
While seizing a CO/PBX line:

Function	Operation	Note
ICM Seizure	FNC → Dial 0	
Microphone ON/OFF	FNC → Dial 1	
Seized Outside Line Number Display	FNC → Dial 3	
Store and Repeat	FNC → Dial * → XXX—XXXX XXX – XXXX = Telephone Number	
Save and Repeat	FNC → Dial *	
Exclusive Hold	FNC → HOLD	
Privacy Release	CNF	
Automatic Redial	FNC → LNR/SPD	
Drop Key	FNC → 5	

DELETE LINE KEY 2/97 DELETE FROM ANY TENANT
2/104 CO LINE SELECTION.

CHAPTER 2

PROGRAMMING


NETWORK
DAVID.
FRESH MARKET.
3278051
J BLOCK.

CHAPTER 2
PROGRAMMING
TABLE OF CONTENTS

SECTION 1 GENERAL

1.1 Introduction

The RANGER DK – 824 system is a stored program controlled system. When the system is initially powered up, the CPU scans each of the possible interface KTUs to determine the hardware configuration. The system stores this information as well as the system default values in memory. This area of memory is referred to as the Resident System Program. After the system has been initially powered up, a trained technician can change the Resident System Program to meet the specific needs of the individual customer.

Before attempting to program the RANGER DK – 824 system, the Job Specifications Worksheets should be completed. These worksheets help organize the customer's programming needs. Copies of the worksheets should be retained at the job site and on file at the technician's office. (Refer to the *RANGER DK – 824 Job Specifications Manual* included with the KSU.)

WARNING

The battery on the KSU Main Board must be on (switch SW1 → HOLD). Failure to ensure the battery is on, before programming begins, may result in the loss of data in the event of a power outage.

1.2 Using This Chapter

This chapter is divided into the following sections:

Section 1 - General
Provides a general overview of System Programming.

Section 2 - System Programming
Presents the terms and structure that the technician should be familiar with before attempting to program the system.

Section 3 - System Data List
Presents a complete list of Data Numbers, Timer and Function Names, Default Values, and Timing Values.

Section 4 - Programming Procedures
Provides detailed instructions and procedures for programming all Memory Blocks.

1.3 Entering the Programming Mode

To program information into the RANGER DK – 824 system, an ETW-16C-1A or ETW-16D-1A Multiline Terminal can be used as programming stations. (Two stations are automatically assigned as programming stations. These stations are assigned to the two lowest interface circuits (Ports 01 and 02) in the system.

When entering any area of programming, the programming station must be in the OFF-LINE mode. To Go Off-Line:

1. Press the FNC key, then the HOLD key.
2. Dial #, 0, * in sequence.

After completing the above steps, the LCD on the Multiline Terminal will show:

PROGRAM MODE
TIME DISPLAY

While the programming terminal is OFF-LINE it cannot be signalled by any station in the system.

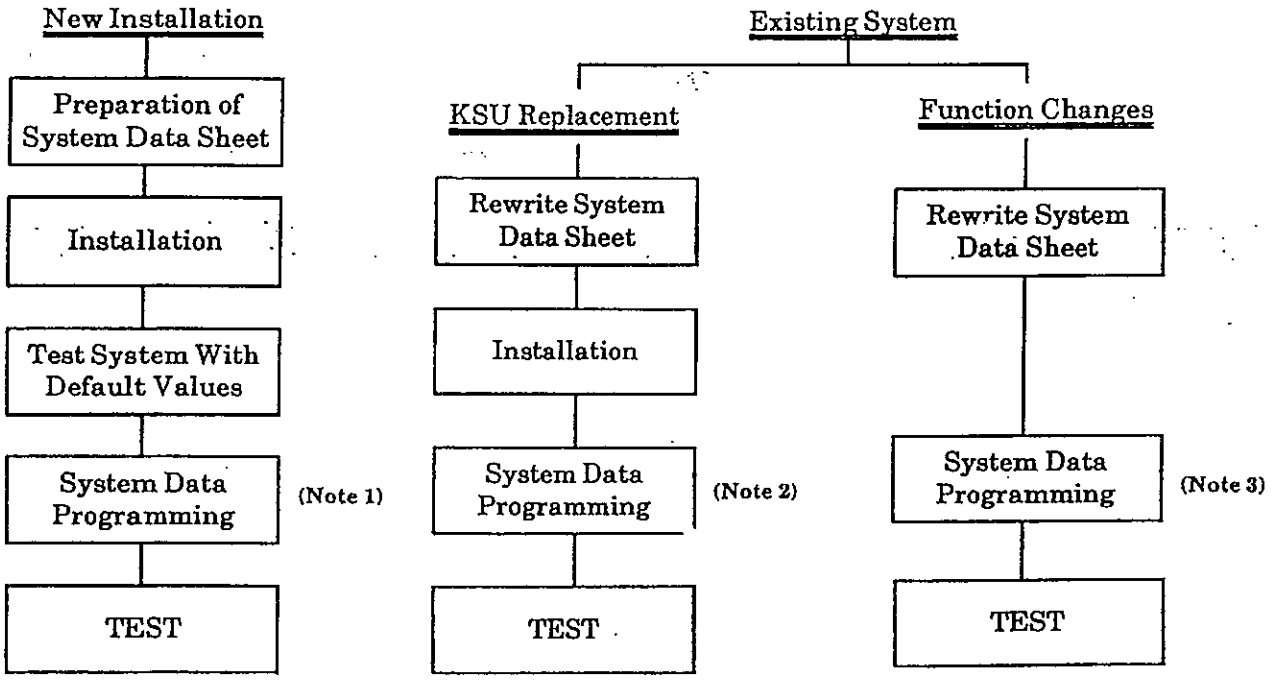
Note: The off-line mode does not time out.

1.4 System Data Programming

System Data Programming may be required for the following reasons:

- When the system is installed for the first time.
- When the KSU is replaced.
- When functions of an existing system are changed.

Refer to Figure 2-1 - Programming Flowchart for more information. There are five types of System Data: System Mode Data, Tenant Mode Data, CO/PBX Line Mode Data, Telephone Mode Data, and Special Mode Data.



Note 1: In new installations, system default values are assigned when the power is turned on. Therefore, program only the System Data to be changed.

Note 2: In KSU replacement, program the relevant System Data.

Note 3: In function changes, program the System Data that is to be revised.

Figure 2-1 Programming Flowchart

SECTION 2 SYSTEM PROGRAMMING

2.1 Features

The system operates from a default program after initial power up. Program only the parameters that need to be changed from the default assignment.

The System Programming characters are displayed on the LCD.

Only the first two Multiline Terminal (Ports 10 and 11) can be used to program the system.

2.2 System Programming

System Programming is divided into five modes.

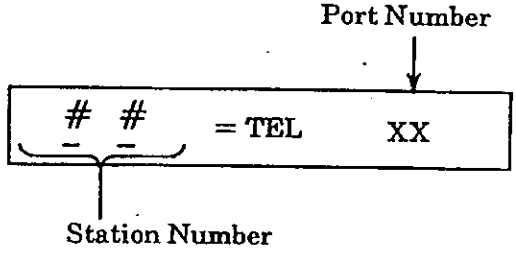
1 System Mode
2 Tenant Mode
3 CO/PBX Line Mode
4 Telephone Mode
5 Special Mode
- ROM Version Confirmation
- Speed Dial Clear (System)
- Speed Dial Clear (Station)
- DSS Memory Clear

2.3 Preparation Before Programming

1. Check Points:

Confirmation of ROM version	Some features may not be available depending on the ROM version. (Refer to "ROM Version Confirmation" in Section 4 - Programming Procedures.)
Confirmation of Port Number	Port numbers are used for System Programming.

<Confirmation operation> [FNC] → 4



2. Preliminary Points:

Selection of System Programming	Refer to Figure 2-1 - Programming Flowchart in Section 1.4 - System Data Programming to select the data to be programmed.
Prepare System Programming sheet	Refer to Section 4 - Programming Procedures to enter the data.

2.4 Writing System Data

After turning the system power on, program System Data from a Multiline Terminal (Port 01 or 02). The Multiline Terminal must be idle. Although System Programming can be performed while other Multiline Terminals are in use, some of the System Programming is registered (written in memory) immediately after the programming process, while other System Programming is not registered until the stations become idle. In the latter case, an in-use station display will show "DATA ENTRY" after the programming process is completed.

When in-use station(s) become idle, the data is registered and the display shows only the time.

The following System Programming is not registered while certain equipment is in use:

When telephones are in use:

- Memory Block 1-07 DP Interdigit Time Selection
- Memory Block 1-13 Bounce Protect Time Selection
- Memory Block 1-14 Hookflash Start Time Selection
- Memory Block 1-15 Hookflash End Time Selection
- Memory Block 1-18 Disconnect Time Selection
- Memory Block 3-13 CO Line Selection (Installed, DP/DTMF)
- Memory Block 4-01 SLT Connected Selection

When VRS is in use:

- Memory Block 1-35 VRS Message Recording Time Selection

When SMDR is in use:

- Memory Block 1-61 Printer Connected (Alarm) Selection
- Memory Block 1-62 SMDR Print Format

2.5 Programming Methods

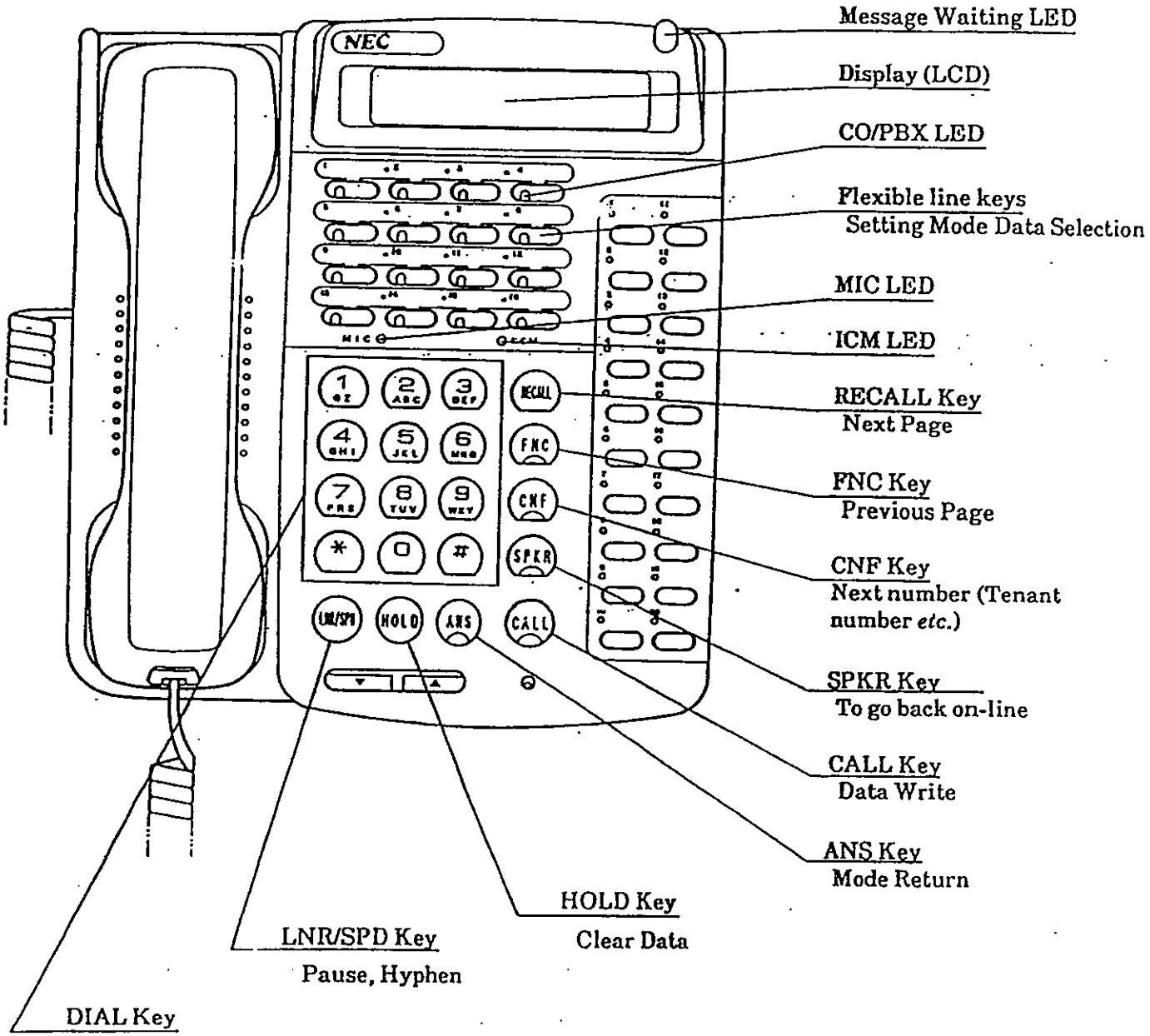
2.5.1 Initializing the System

Turn the Key Service Unit (KSU) power on. After approximately 20 seconds, the system will operate with system default values.

2.5.2 How To Use the Multiline Terminal For Programming

System Programming is performed using a Multiline Terminal (with LCD) connected to Ports 01 and 02.

Refer to Figure 2-2 - RANGER DK－824 system Multiline Terminal for a description of key operations, LED indications, and the display for System Programming.



* : Cursor movement (to the left)
\# : Cursor movement (to the right)
0～9 : Data input (from dial pad)

1) Key Functions:

CO/PBX ---------- The Flexible Line keys are used to specify a Mode when selecting a Memory Block or to select programming data for input.

FNC ---------- The FNC key is used to select Special Mode.

SPKR ---------- Used for exiting the programming mode (go back on-line).

(*) ---------- Used for moving the cursor. The cursor moves one character space to the left each time * is pressed.

(#) ---------- Used for moving the cursor. The cursor moves one character space to the right each time # is pressed.

CALL ---------- Used for writing data. After entering data, press the CALL key to write the data into memory and advance to the next Memory Block.

ANS ---------- Used for selecting another Mode. Press the ANS key to return to PROGRAM MODE.

HOLD ---------- The HOLD key is used to enter a pause in Speed Dial Programming Mode or to clear data in System Programming Mode.

LNR /SPD ---------- The LNR/SPD key is used to enter a pause, hyphen, *etc.*, and for entering * and #.

* : LNR /SPD → [*]

\# : LNR /SPD → [#]

(0) (9) -------- Used to enter data from the dial pad and to specify a Memory Block location in each input mode, or to select programming data for input.

2) Off-Line Program Mode:

A. To go off-line: ----- FNC → HOLD → # → 0 → *

After entering the off-line mode for programming, the following displays appear:

PROGRAM	MODE
TIME	DISPLAY

B. Selecting Memory Block locations

System Mode — LK 1

LK = Line Key

01 : FLSH	90 ms
TIME	DISPLAY

Tenant Mode — LK 2

00 / 01 : TNT - TRK 1 YS	
TIME	DISPLAY

CO/PBX Line Mode — LK 3

01 /	
TIME	DISPLAY

Telephone Mode — LK 4

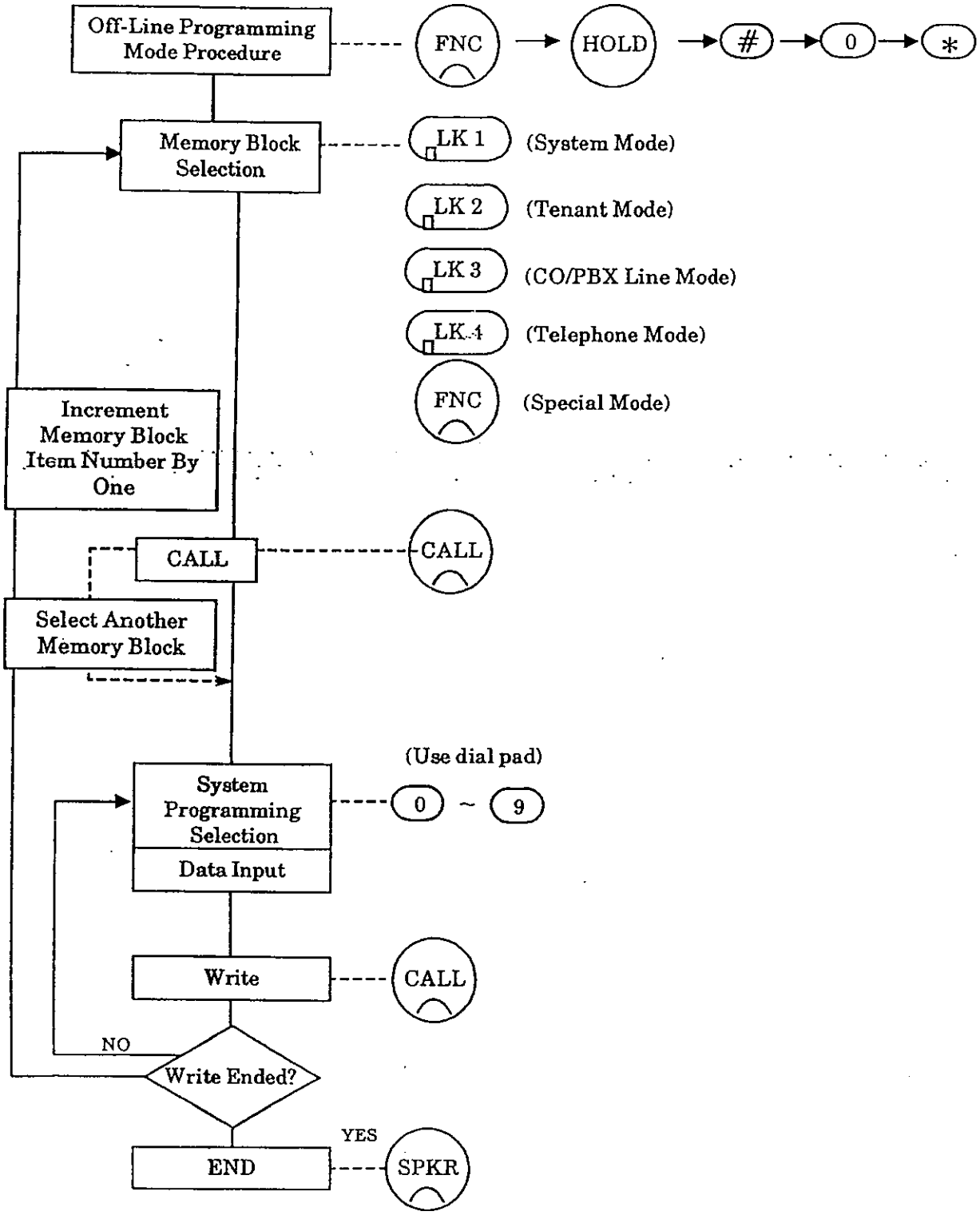
00 / 01 : = TEL	
TIME	DISPLAY

Special Mode — FNC

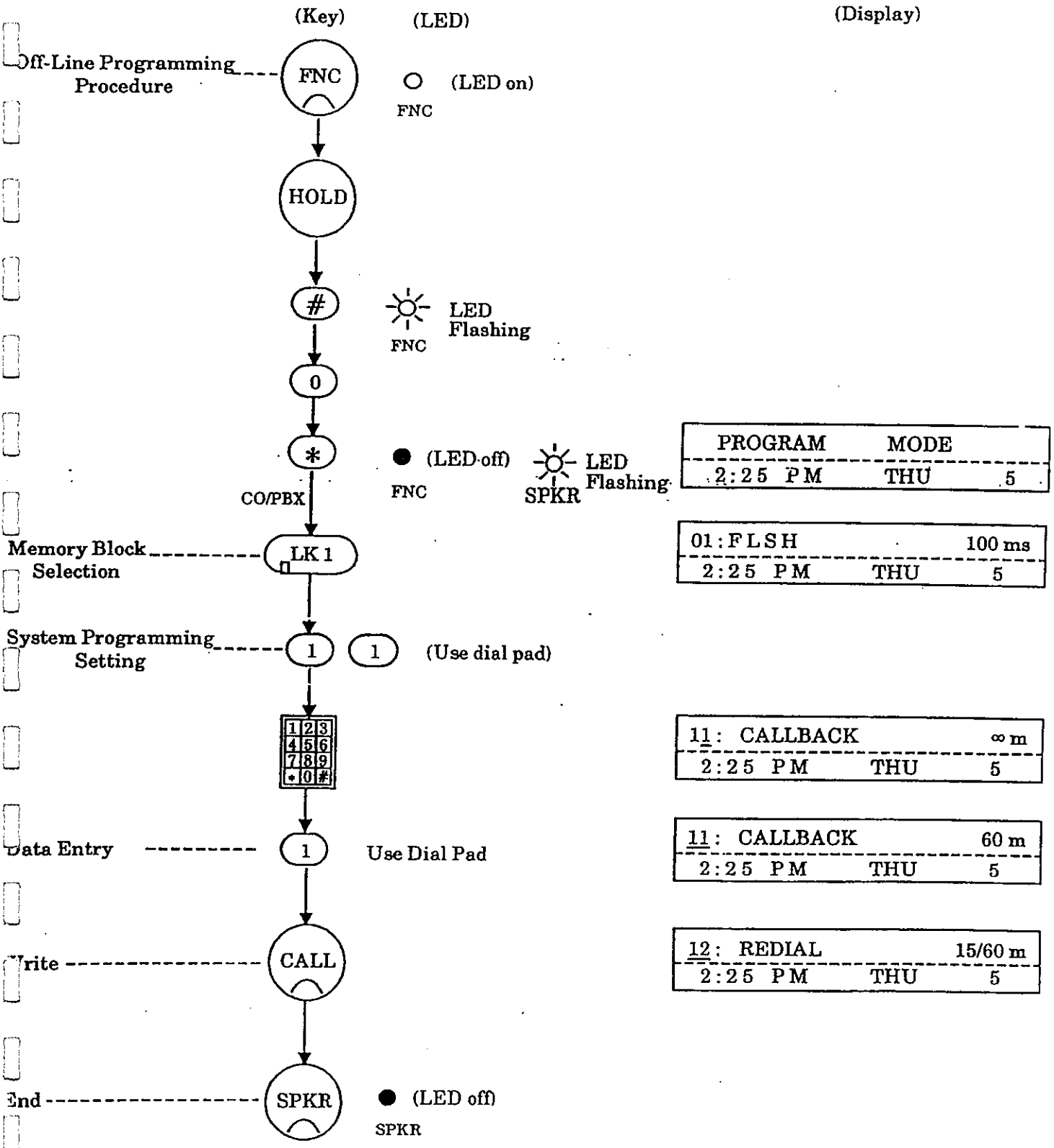
SPECIAL	MODE
TIME	DISPLAY

2.5.3 Data Entry Selection

System Programming is performed by using the keys on Multiline Terminals (Ports 10 or 11). During programming, System Data is shown on the LCD of the off-line terminal.

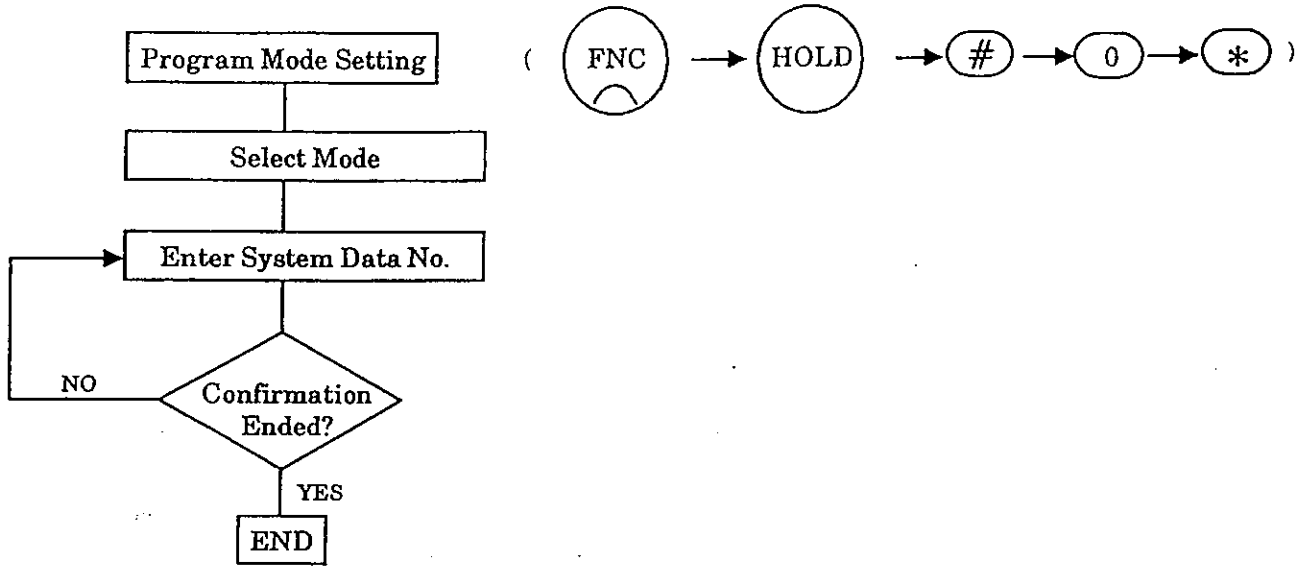


Example: Memory Block 1-11 (Automatic Callback Release Time Selection)
(Default) → 60 minutes



2.5.4 Confirmation

To confirm programmed data, select the desired Memory Block after entering the off-line programming mode and enter the Data Number. The data is shown on the display.



2.6 Test

After completion of programming, test the functions of System Programming for proper operation.

SECTION 3 SYSTEM DATA LIST

1. SYSTEM MODE LK1

Data No.	Function Name	Default	Programming Value
01	Hookflash Time Selection (Multiline Terminal)	90 ms.	40 ms., 90 ms., 140 ms., 200 ms., 400 ms., 600 ms., 800 ms., 1 sec., 1.5 sec., 2 sec.
02	Hold Recall Timer Selection (Non-Exclusive)	1 min.	1 min., 2 min., 3 min., 4 min., No Limit (0m)
03	Exclusive Hold Recall Time Selection	1 min.	1 min., 2 min., 3 min., 4 min., No Limit (0m)
04	Internal/External Paging Access Time Selection	90 sec.	90 sec., 120 sec., No Limit (0s)
05	Trunk Queuing Recall Time Selection	10 sec.	10 sec., 20 sec., 30 sec., 60 sec.
06	Pause Time Selection	3 sec.	1 sec., 3 sec.
07	DP Interdigit Time Selection	Pattern B	Pattern A, Pattern B
08	Receiver (PBR) Release Timer Selection	10 sec.	5 sec., 10 sec., 20 sec., 30 sec., 50 sec., 60 sec.
09	Doorphone Display Time Selection	15 sec.	15 sec., 30 sec., 60 sec., 90 sec.
10	CO Ring Transfer Recall Time Selection	60 sec.	30 sec., 60 sec., 120 sec., 240 sec.
11	Automatic Callback Time Selection	No Limit (∞m)	30 min., 60 min., 90 min., No Limit (∞m)
12	Automatic Redial Time Selection	Selection = 0 Calling Time 15 sec. Call Waiting Time 60 sec. Call Attempts 3 times	Selection 0 1 2 3 Calling Time 15 15 15 30 Call Waiting Time 60 120 180 120 Call Attempts 3 3 3 3
13	Bounce Protect Time Selection	300 ms.	0 ms., 300 ms., 600 ms., 900 ms.
14	Hookflash Start Time Selection	40 ms.	40 ms., 90 ms., 140 ms., 190 ms., 240 ms., 340 ms., 440 ms., 540 ms., 640 ms., 740 ms.
15	Hookflash End Time Selection	HST + 100 ms. HST = Hookflash Start Time	HST + 0 ms. HST + 100 ms. HST + 200 ms. HST + 400 ms. HST + 500 ms. HST + 700 ms. HST + 900 ms. HST + 1100 ms. HST + 1300 ms. HST + 1500 ms.

System Mode LK1 (continued)

Data No.	Function Name	Default	Programming Value
16	Call Forward Busy/No Answer Timer Selection	10 sec.	10 sec., 15 sec., 20 sec., 25 sec., 30 sec., 60 sec.
17	Elapsed Call and SMDR Timer Selection	10 sec.	10 sec., 20 sec., 30 sec.
18	Disconnect Time Selection	2.0 sec.	0.3 sec., 0.5 sec., 0.8 sec., 1.0 sec., 1.5 sec., 2.0 sec., 2.5 sec., 3.0 sec., 3.5 sec., 4.0 sec.
19	Voice/Tone Signal Selection	Tone	Tone, Voice
20	BGM Selection	No	No, Yes
21	System Speed Dial Override Selection	No	No, Yes
22	System Speed Dial Display Station Selection	Attendant Position	Attendant Positions All Multiline Terminals
23	Ring Transfer Selection	Yes	No, Yes
24	Time Display (12h/24h) Selection	12 hr.	12 hr., 24 hr.
25	Off-Hook Ringing Selection	Yes	No, Yes
26	Day/Night Mode Switching Time Assignment	Not Specified	Day Mode Start Time (24 hours) Night Mode Start Time (24 hours)
27	Receiving Volume Selection	Down	Down, Up
28	External Speaker Connection Selection	Yes	No, Yes
29	PBX/CTX Access Code Assignment	Access Code 1 0 - Access Code 2 Vacant	Up to six digits (three numeric, three pauses)
30	Private Line Assignment	Not Specified	CO/PBX Line Number, Tel. Port No., up to two lines/two stations
31	Doorphone Connection Selection	Yes	No, Yes - For DPH1 and DPH2
32	SLT Hookflash Signal Selection	Hold	Hold, Flash
33	Station Master Hunt Number Selection	No	No, Yes - For each tens group 10,20, 30, 40, 50.
34	CO/PBX Access/Release Selection	No	No, Yes

System Mode LK1 (continued)

Data No.	Function Name	Default	Programming Value
35	VRS Message Recording Time Selection	15 sec. × 16 messages	15 sec. × 16 messages 30 sec. × 8 messages 60 sec. × 4 messages 120 sec. × 2 messages
36	VRS Automatic Answer (Night) Selection	No	No, Yes
37	VRS Automatic Answer (Day) Selection	No	No, Yes
38	VRS Automatic Answer (Weekend) Selection	No	No, Yes
39	VRS Manual Answer Selection	No	No, Yes
40	VRS Automatic Answer (Night) Time Assignment	Not Specified	00:00 ~ 23:59
41	VRS Automatic Answer (Day) Time Assignment	Not Specified	00:00 ~ 23:59
42	VRS Automatic Answer (Off) Time Assignment	Not Specified	00:00 ~ 23:59
43	Doorphone Preference Selection	Yes	No, Yes
44	External Ring Selection (Day Mode)	No	No, Yes
45	External Ring Selection (Night Mode)	No	No, Yes
46	Manual Line Seizure Selection	Yes (Manual Line Seizure)	No = No Manual Line Seizure Yes = Manual Line Seizure
47	Trunk Queuing/Hold Free Transfer Selection	Trunk Queuing	Trunk Queuing Hold Free Transfer
48	General Purpose Relay Assignment	Non	Non, Doorphone 1, Doorphone 2, External Speaker, MOH/BGM, (For Relay 1 and Relay 2)
49	Synchronous Ringing Selection	Yes	No, Yes
50	Elapsed Time Display Selection	Yes	No, Yes
51	External MOH Selection	No	No, Yes

System Mode LK1 (continued)

Data No.	Function Name	Default	Programming Value
52	8-Digit Matching Table Assignment	T01, C1 = 000 T01, C2 = 1144X All Other Blank	Refer to Memory Block.
53	Class Allow/Deny Assignment	Class 0 YS (allow) [fixed] Class 1~4 YS (allow) Class 5~6 NO (deny) Class 7 NO (deny) [fixed]	No, Yes No = Deny Yes = Allow
54	8-Digit Matching Table to Class Assignment	Class 0 : No restriction Class 1-6 : Refer Table Class 7 : No Outgoing Call	0 = Deny, 1 = Allow 2 = Deny (OCC calls only) 3 = Allow (OCC calls only)
55	8-Digit Matching Table to Trunk Group Assignment	Enable	0 = Disable 1 = Enable
56	OCC Table Assignment	Refer to Memory Block.	Refer to Memory Block.
57	OCC Table to Trunk Group Assignment	Yes (All OCC Tables Assigned)	No = Not Assigned Yes = All OCC Tables Assigned
58	8-Digit Matching Table to OCC Table Assignment	No	No = Not Assigned Yes = All OCC Numbers Assigned
59	Internal/External Paging Alert Tone Selection	Yes	No, Yes
60	SLT Transfer Selection	Hook	Hook, Hang up
61	Printer Connected (Alarm) Selection	Yes	No, Yes
62	SMDR Print Format	OUT/ALL	OUT/ALL ALL/ALL OUT/MASK ALL/MASK
63	Voice Mail Access Code Assignment	Code 01~09 = All Blank Code 10 = 641 Code 11 = Blank	Refer to Memory Block.
64	Voice Mail DTMF Delay Timer Selection	1 sec.	0 sec., 0.1 sec., 0.5 sec., 1.0 sec., 2.0 sec., 4.0 sec., 6.0 sec., 8.0 sec., 10 sec., 14 sec.
65	Voice Mail DTMF Duration/Interdigit Time Selection	100/70 ms.	70/60 ms., 100/50 ms., 100/70 ms., 400/100 ms., 600/100 ms., 900/200 ms.
66	VRS Answer Mode Selection	No	No = Automatic Answer Yes = Automated Attendant
67	Automated Attendant Answer Delay Time Assignment	3 sec.	0 sec., 3 sec., 6 sec., 12 sec., 18 sec., 24 sec., 30 sec., 36 sec., 42 sec., 48 sec.

ystem Mode LK1 (continued)

Data No.	Function Name	Default	Programming Value
68	Automated Attendant PBR Release Timer Assignment	20 sec.	0 sec., 10 sec., 20 sec., 30 sec., 40 sec., 50 sec., 60 sec.
69	Automated Attendant Delay Ringing Time Selection	∞	10 sec., 20 sec., 30 sec., ∞
70	Automated Attendant No Answer Disconnect Time Selection	2 min.	1 min., 2 min., 3 min., 4 min.
71	Automated Attendant No DTMF Detect Selection	Normal Call	Normal Call Release
72	Automated Attendant Access Code Assignment	Not Specified	Refer to Memory Block.
73	Call Key-Trunk Group Automatic Selection	Trunk Group 0	Trunk Group 0, Trunk Group 1, Trunk Group 2
74	Remote Access Automatic Answer Delay Time Assignment	3 sec.	0 sec., 3 sec., 6 sec., 12 sec., 18 sec., 24 sec., 30 sec., 36 sec., 42 sec., 48 sec.
75	Trunk-to-Trunk Transfer Automatic Disconnect Time Selection	60 min.	30 min., 60 min, 120 min., 180 min.
76	Trunk-to-Trunk Transfer with Night Transfer Assignment	NON	NON, TRF1, TRF2

TENANT MODE LK2

Data No.	Function Name	Default	Programming Value
01	Trunk To Tenant Assignment	Tenant 00: CO 01~08 = Yes Tenant 01~03: CO 01~08 = No	No, Yes

3. CO/PBX LINE MODE LK3

Data No.	Function Name	Default	Programming Value
01~08	Telephone Number To Trunk Assignment	Not Specified	A maximum of 13 digits (numbers, hyphens, spaces)
09	CO/PBX DTMF Duration/Interdigit Assignment	DTMF Digit Duration: 70 ms. Interdigit Time: 80 ms.	50/70 ms., 70/80 ms., 100/70 ms., 500/100 ms., 900/200 ms., ∞/0
10	Trunk Status Selection	Out and In	Out and In, In
11	Reversal Detection Selection	No	No, Yes
12	Trunk Type Selection	CO	CO, PBX
13	CO Line Selection (Installed, DP/DTMF)	MF	Nil, DP 10 pps, DP 20 pps, DTMF
14	Trunk-to-Trunk Group Assignment	All CO/PBX Line Nos. = Trunk Group 0	Trunk Group Numbers 0~2
15	CO/PBX Line Code Restriction Override Selection	No	No, Yes
16	VRS Answer Yes/No Selection	No	No, Yes
17	PBX Night Transfer Selection	No	No, Yes
18	VRS Hold Message Assignment	No	No (deny) Yes (allow)
19	Automatic Transfer Assignment (Call)	Not Assigned	0 (Not Assigned), CO/PBX Lines 1~8
20	Automatic Transfer Assignment (Receive)	No	No, Yes
21	DIT Day Mode Ring Assignment	Not Specified	Tel Nos. 10~59
22	DIT Night Mode Ring Assignment	Not Specified	Tel Nos. 10~59
23	DIT Delay Answer Timer	0 sec.	0 sec., 5 sec., 10 sec., 20 sec., 30 sec., 40 sec., 50 sec., 60 sec.
24	DIT Night Mode Delay Answer Enable/Disable	Yes	No, Yes
25	Ring Cycle Selection	Pattern A	Pattern A Pattern B
26	External Ring Relay Controller	No	No, Yes

4. TELEPHONE MODE LK4

Data No.	Function Name	Default	Programming Value
01	SLT Connected Selection	Telephone	Telephone, SLT Adaptor
02	Telephone to Tenant Assignment	All Telephones Tenant 0	Tenant Numbers (0~3)
03	Internal Zone Paging Selection	Group A	No, Group A, Group B, Group C
04	Ringing Line Preference Selection	No	No, Yes
05	DTMF/DP SLT Type Selection	DTMF	DP, DTMF
06	Off-Hook Ringing Assignment	Yes	No, Yes
07	Station Number Assignment	Port No. Station No. 01 = 10 ↓ ↓ 24 = 33	Station Numbers (10~59) (2-digit Numbering Plan)
08	VRS Voice Message Set/Record/Verify/Cancel Assignment	Port No. 01~02 : Yes Port No. 03~24 : No	No, Yes
09	Voice Mail Connection Selection	No	No, Yes
10	Distinctive Ringing Tone to Telephone Selection	Low	Low, Medium, High
11	3-Minute Alarm Selection	No	No, Yes
12	HFU Selection	Yes	No, Yes
13	Headset Connection Selection	No	No, Yes
14	Barge-In Origination Assignment (CO/PBX Calls)	No	No, Yes
15	Barge-In Receive Assignment (CO/PBX Calls)	No	No, Yes
16	Prime Line Assignment	Non	Non, TK1, TK2, TK3, TK4, TK5, TK6, TK7, TK8
17	Voice Call Block Selection	No = Voice/Tone Call	No, Yes No = Voice/Tone Call Yes = Tone Only

Data No.	Function Name	Default	Programming Value
18	CO/PBX Ring Assignment (Day Mode)	Telephones connected to Port Nos. 01 and 02 ring on all incoming CO/PBX calls. Telephones connected to Port Nos. 03~24 do not ring on any incoming CO/PBX calls.	CO/PBX Trunk No. (1~8)
19	CO/PBX Ring Assignment (Night Mode)	Telephones connected to Port Nos. 01 and 02 ring on all incoming CO/PBX calls. Telephones connected to Port Nos. 03~24 do not ring on any incoming CO/PBX calls.	CO/PBX Trunk No. (1~8)
20	Doorphone Chime Assignment (Day Mode)	Telephones connected to Port Nos. 01 and 02 ring on all Doorphone calls. Telephones connected to Port Nos. 03~24 do not ring on any Doorphone calls.	No, Yes No = No Chime Yes = Chime
21	Doorphone Chime Assignment (Night Mode)	Telephones connected to Port Nos. 01 and 02 ring on all Doorphone calls. Telephones connected to Port Nos. 03~24 do not ring on any Doorphone calls.	No, Yes No = No Chime Yes = Chime
22	Do Not Disturb Assignment	No	No, Yes
23	Code Restriction Class Assignment (Day Mode)	All Telephones Class 0	Class (0~7) COS
24	Code Restriction Class Assignment (Night Mode)	All Telephones Class 0	Class (0~7)
25	Automated Attendant Delay Ring Assignment	Telephones connected to Port Nos. 01 and 02 ring on all incoming CO/PBX calls. Telephones connected to Port Nos. 03~24 do not ring on any incoming CO/PBX calls.	Refer to Memory Block.

5. SPECIAL MODE FNC
: ROM Version Confirmation
: System Speed Dial Memory Clear
: Station Speed Dial Memory Clear
: DSS Memory Clear

SECTION 4 PROGRAMMING PROCEDURES

Section 4 describes each Memory Block function and programming procedures.

EXAMPLE

PAUSE TIME SELECTION

System Data Name

System	Data No.
1	06

Mode
Data No.

OPERATION:

1. Go off-line.
2. Enter: Mode System LK 1 • LK 1
3. Enter: Data No. 0 6 (Dial Pad)

Data No.	Title	Setting Data
0 6 :	PAUSE	3.0s

TIME DISPLAY.

4. Press the corresponding Dial Pad key to change Setting Data option.
   - To change Pause Time from 3 seconds to 1 second, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
1 sec.	3 sec.			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad key ... Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-07 (DP Interdigit Time Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	19		
System (LK 1)	24		
System (LK 1)	25		
CO/PBX (LK 3)	01		
CO/PBX (LK 3)	91		

NOTES:

The NOTES section is used to alert the Technician of exceptions to programming.

Status indication LEDs
When Line Key 1 (System Mode) is pressed, the Line Key LED lights.

The OPERATIONS are for guiding the Technician through the procedures for programming a specific Memory Block.

Press these Dial Pad keys in this sequence.

Display

Data assigned to associated Dial Pad keys.

In some instances, additional data must be programmed before or after a specific Memory Block can be programmed. This table contains those additional Memory Blocks.

If additional information is needed on this page, some or all of the notes in the NOTES section will continue on the next page.

A brief description of the function(s) of a specific Memory Block.

GENERAL INFORMATION - PAUSE TIME SELECTION

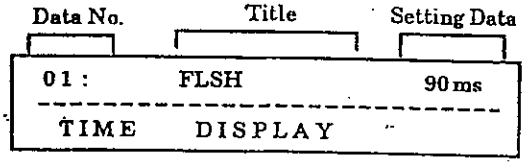
A pause may be inserted between digits dialled on CO/PBX lines. This Memory Block Specifies the length of the pause. A pause is

HOOKFLASH TIME SELECTION
(Multiline Terminal)

System	Data No.
1	01

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [0] [1] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 90 ms. to 2 sec., press Dial Pad key 9.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
40 ms.	90 ms.	140 ms.	200 ms.	400 ms.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
600 ms.	800 ms.	1 sec.	1.5 sec.	2 sec.

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-02 (Hold Recall Timer Selection).
6. Press the SPKR key to go back on-line.

■ **Additional Programming**

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	32		√

NOTES:

1. For Single Line Telephones, a hookflash from the SLT can put an existing call on hold or send a hookflash signal on the CO/PBX line.

GENERAL INFORMATION - HOOKFLASH TIME SELECTION
(Multiline Terminal)

This Memory Block specifies the length of break time for a hookflash signal (that breaks the DC loop of a CO/PBX line) sent to the CO or PBX when the RECALL key on a Multiline Terminal is pressed, or an SLT generates a hookflash and system is assigned to send the hookflash.

HOLD RECALL TIMER SELECTION (NON-EXCLUSIVE)

System	Data No.
1	02

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK1]
3. Enter: Data No. [0] [2] (Dial Pad)

Data No.	Title	Setting Data
02 :	HOLDRECL	1.0 m
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 1 min. to 2 min, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
1 min.	2 min.	3 min	4 min	No Limit
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-03 (Exclusive Hold Recall Timer Selection).
6. Press the SPKR key to go back on-line.

NOTES:

1. Calls put on Exclusive Hold will recall using the data selected in Memory Block 1-03 (Exclusive Hold Recall Timer Selection).

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	03		√

GENERAL INFORMATION - HOLD RECALL TIMER SELECTION (Non-Exclusive)

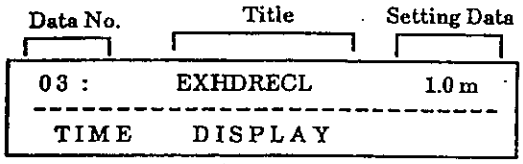
This Memory Block specifies the time interval of a non exclusively held CO/PBX call until a recall tone is

EXCLUSIVE HOLD RECALL TIMER SELECTION

System	Data No.
1	03

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [0] [3] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 1 min. to 2 min., press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
1 min.	2 min.	3 min	4 min	No Limit
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys — Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-04 (Internal/External Paging Access Time Selection).
6. Press the SPKR key to go back on-line.

NOTES:

1. Calls put on Non-Exclusive Hold will recall using the data selected in Memory Block 1-02 [Hold Recall Timer Selection (Non-Exclusive)].

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	02		√

GENERAL INFORMATION - EXCLUSIVE HOLD RECALL TIMER SELECTION

This Memory Block specifies the time interval for Exclusive Hold Recall tone. If "No Limit" is selected, no Exclusive Hold tone is provided.

INTERNAL/EXTERNAL PAGING ACCESS TIME SELECTION

System	Data No.
1	04

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [0] [4] (Dial Pad)

Data No. | Title | Setting Data

```
04 :      PAGING              90s
-------------------------------
TIME      DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 90 sec. to 120 sec., press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
90 sec.	120 sec	No Limit		
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

[ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-05 (Trunk Queuing Recall Time Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	28		√
Telephone (LK 4)	03		√

NOTES:

1. There are four types of paging:
   - Internal Zone Paging - 71~73
   - Internal All Zone Paging - 70
   - External Paging - 75
   - All Internal/External Zone Paging - 77
2. There are three selections for length of paging time: 90 sec., 120 sec., and No Limit.

GENERAL INFORMATION - INTERNAL/EXTERNAL PAGING ACCESS TIME SELECTION

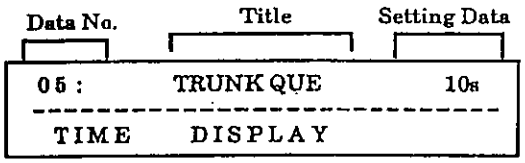
This Memory Block is used to program the length of time allowed for paging.

TRUNK QUEUING RECALL TIME SELECTION

System	Data No.
1	05

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [0] [5] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 10 sec. to 30 sec., press Dial Pad key 2.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
10 sec.	20 sec	30 sec.	60 sec.	
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-06 (Pause Time Selection).
6. Press the SPKR key to go back on-line.

NOTES:

1. When all trunks in a particular Trunk Group are busy, the station user can dial an Access Code to "queue" onto the busy Trunk Group. When a trunk (within that group) becomes idle, the queued station will be signalled.

■ Additional Programming

None

GENERAL INFORMATION - TRUNK QUEUING RECALL TIME SELECTION

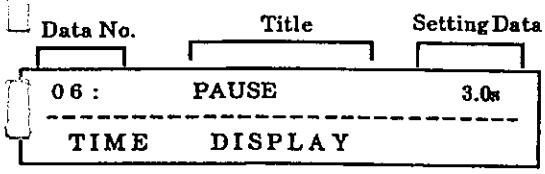
This Memory Block determines the length of time that an outgoing CO/PBX line will ring at the station where the queue was set, before the queue is automatically cancelled.

PAUSE TIME SELECTION

System	Data No.
1	06

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [0] [6] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 3 sec. to 1 sec., press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
1 sec.	3 sec.			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-07 (DP Interdigit Time Selection).
6. Press the SPKR key to go back on-line.

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	29		√
CO/PBX (LK 3)	12		√

NOTES:

1. A pause is automatically inserted following a PBX Access Code (for example, "0") by programming CO/PBX lines as PBX in Memory Block 3-12 (Trunk Type Selection).
2. Pauses can be stored as part of System and Station Speed Dial buffers when needed.

GENERAL INFORMATION - PAUSE TIME SELECTION

A pause may be inserted between digits dialled on CO/PBX lines. This Memory Block Specifies the length of the pause. A pause is automatically inserted following a "behind a PBX/CTX" Access Code (for example, "0") by programming for PBX line in Memory Block 3-12 (Trunk Type Selection)

DP INTERDIGIT TIME SELECTION

System	Data No.
1	07

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [0] [7] (Dial Pad)

Data No. | Title | Setting Data

```
07 :    DP INTER          B
----------------------------
 TIME   DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Pattern B to Pattern A, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Pattern A	Pattern B			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys; [ ] Default

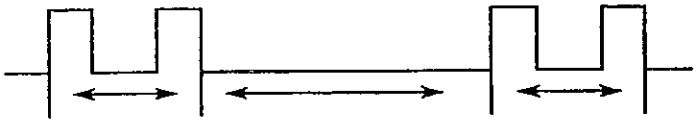
5. Pressing the CALL key will write the selected data and advance to Memory Block 1-08 [Receiver (PBR) Release Timer Selection].
6. Press the SPKR key to go back on-line.

NOTES:

1. This Memory Block is used when CO/PBX lines are assigned to send dial pulse signalling in Memory Block 3-13 (CO Line Selection).

■

Data \ DP Dial	10 pps.	20 pps.
Pattern A	650 ms.	500 ms.
Pattern B	800 ms.	800 ms.



■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
CO/PBX (LK 3)	13		√

GENERAL INFORMATION - DP INTERDIGIT TIME SELECTION

The DP Interdigit Time is the minimum pause time interval between Dial Pulse dialling. Either Pattern A or Pattern B can be selected.

RECEIVER (PBR) RELEASE TIMER SELECTION

System	Data No.
1	08

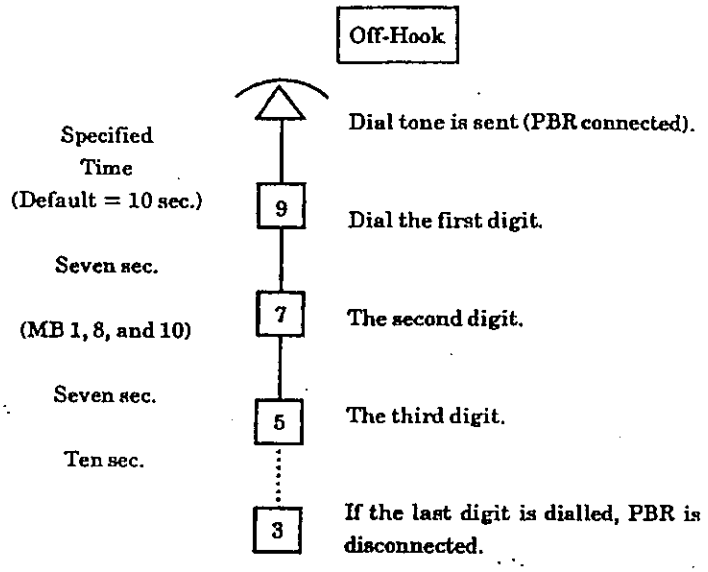
OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [0] [8] (Dial Pad)

Data No. | Title | Setting Data

0 8 : PBR RLS 10s

TIME DISPLAY



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 10 sec. to 20 sec., press Dial Pad key 2.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
5 sec.	10 sec.	20 sec.	30 sec.	50 sec.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
60 sec.				

Dial Pad keys Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-09 (Doorphone Display Time Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Telephone (LK 4)	01		√
Telephone (LK 4)	05		√

GENERAL INFORMATION - RECEIVER (PBR) RELEASE TIMER SELECTION

This Memory Block is used to specify the time [illegible]

DOORPHONE DISPLAY TIME SELECTION

System	Data No.
1	09

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [0] [9] (Dial Pad)

Data No.	Title	Setting Data
09 :	DPH DSP	15s
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 15 sec. to 30 sec., press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
15 sec.	30 sec	60 sec.	90 sec.	
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-10 (CO Ring Transfer Recall Timer Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	31	√	
System (LK 1)	43		√
Telephone (LK 4)	20		√
Telephone (LK 4)	21		√

GENERAL INFORMATION - DOORPHONE DISPLAY TIME SELECTION

This Memory Block is used to assign the length of time the Multiline Terminal will display an incoming Doorphone call indication.

CO RING TRANSFER RECALL TIMER SELECTION

System	Data No.
1	10

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [1] [0] (Dial Pad)

Data No. | Title | Setting Data

```
1 0 :    TRF RECL          60 s
-----------------------------
  TIME    DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 60 sec. to 120 sec., press Dial Pad key 2.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
30 sec.	60 sec.	120 sec.	240 sec.	
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys — [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-11 (Automatic Callback Time Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	23		√
Telephone (LK 4)	18		√
Telephone (LK 4)	19		√

NOTES:

1. Only CO/PBX line calls can be ring transferred.

GENERAL INFORMATION - CO RING TRANSFER RECALL TIMER SELECTION

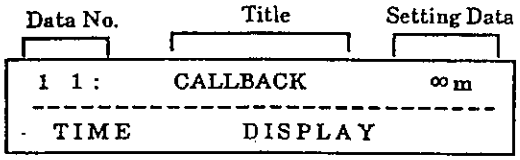
This Memory Block specifies the time interval from CO/PBX line ringing tone transfer until a recall tone is

AUTOMATIC CALLBACK TIME SELECTION

System	Data No.
1	11

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [1] [1] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No Limit to 30 min., press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
30 min.	60 min.	90 min.	∞ (No Limit)	
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys — Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-12 (Automatic Redial Time Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - AUTOMATIC CALLBACK TIME SELECTION

This Memory Block is used to determine the length of time allowed for an automatic callback to occur before the request is automatically cancelled.

AUTOMATIC REDIAL TIME SELECTION

System	Data No.
1	1 2

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [1] [2] (Dial Pad)

Data No.	Title	Setting Data
1 2 :	REDIAL	15/60
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 15 sec./60 sec. to 30 sec./120 sec., press Dial Pad key 3.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
15/60 sec.	15/120 sec	15/180 sec.	30/120 sec.	
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

[ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-13 (Bounce Protect Time Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

None

NOTES:

1. Definitions:
   Calling Time: The length of time that the system will automatically ring the busy CO/PBX number. After the specified time limit, the ringing will stop.

   Call Waiting Time: The length of time the system will wait before redialling the called party's station.

   Call Attempts: The number of times the system will redial the busy CO/PBX number.
2. Setting Data:

Dial No.	Calling Time	Call Waiting Time	Call Attempts
0	15 sec.	60 sec.	3
1	15 sec.	120 sec.	3
2	15 sec.	180 sec.	3
3	30 sec.	120 sec.	3

GENERAL INFORMATION - AUTOMATIC REDIAL TIME SELECTION

When a called party is busy, the station user dials an Access Code and restores the handset. As programmed in this Memory Block, the system will automatically redial the busy CO/PBX number and wait the specified

BOUNCE PROTECT TIME SELECTION

System	Data No.
1	13

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [1] [3] (Dial Pad)

Data No.	Title	Setting Data
1 3 :	BNCE	300 ms.
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 300 ms. to 900 ms., press Dial Pad key 3.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
0 ms.	300 ms.	600 ms.	900 ms.	
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

[ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-14 (Hookflash Start Time Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Telephone (LK 4)	01		√

GENERAL INFORMATION - BOUNCE PROTECT TIME SELECTION

This Memory Block is used to specify the necessary duration of a hookflash before it can be detected as a valid hookflash from a Single Line Telephone or Voice Mail port.

HOOKFLASH START TIME SELECTION

System	Data No.
1	14

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [1] [4] (Dial Pad)

Data No.	Title	Setting Data
1 4 :	FLSH ST	40 ms.
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 40 ms. to 340 ms., press Dial Pad key 5.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
40 ms.	90 ms.	140 ms.	190 ms.	240 ms.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
340 ms.	440 ms.	540 ms.	640 ms.	740 ms.

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-15 (Hookflash End Time Selection).
6. Press the SPKR key to go back on-line.

NOTES:

1. A hookflash during a CO/PBX call places the line on hold or sends a hookflash to the CO/PBX.
2. When a hookflash is 0.1 seconds or less, or 2.3 seconds or more, it is not considered to be a hookflash.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	15		√

GENERAL INFORMATION - HOOKFLASH START TIME SELECTION

This Memory Block is used to specify the start of a hookflash duration from a Single Line Telephone in order to receive a dial tone. The duration, plus the duration specified in the Hookflash End Time Memory Block,

HOOKFLASH END TIME SELECTION

System	Data No.
1	15

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [1] [5] (Dial Pad)

Data No.	Title	Setting Data
1 5 :	FLSH END	100 ms
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 100 ms. to 400 ms., press Dial Pad key 3.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
HST + 0	HST + 100 ms.	HST + 200 ms.	HST + 400 ms.	HST + 500 ms.
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**
HST + 700 ms.	HST + 900 ms.	HST + 1100 ms.	HST + 1300 ms.	HST + 1500 ms.

Dial Pad keys — Default

HST = Hookflash Start Time

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-16 (Call Forward Busy/No Answer Timer Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	14	√	

GENERAL INFORMATION - HOOKFLASH END TIME SELECTION

This Memory Block is used to specify a maximum duration from a Single Line Telephone in order to receive a dial tone.

CALL FORWARD BUSY/NO ANSWER TIMER SELECTION

System	Data No.
1	16

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [1] [6] (Dial Pad)

Data No. | Title | Setting Data

```
1 6 :      FWD NOANS      10 s
-------------------------------
 TIME        DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 10 sec. to 15 sec., press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
10 sec.	15 sec	20 sec.	25 sec.	30 sec.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
60 sec.				

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and continue with the CALL key to advance to Memory Block 1-17 (Elapsed Call and SMDR Start Timer Selection).
6. Press the SPKR key to go back on-line.

Additional Programming

None

NOTES:

1. CO/PBX calls will not follow the Forward unless the station is Forwarded to a Voice Mail port.

GENERAL INFORMATION - CALL FORWARD BUSY/NO ANSWER TIMER SELECTION

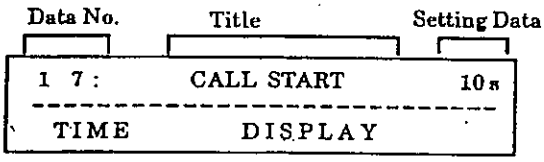
This Memory Block specifies the time before incoming internal calls and CO/PBX transferred calls are

ELAPSED CALL AND SMDR START TIMER SELECTION

System	Data No.
1	17

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [1] [7] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 10 sec. to 20 sec., press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
10 sec.	20 sec	30 sec.		
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-18 (Disconnect Time Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - ELAPSED CALL AND SMDR START TIMER SELECTION

This Memory Block specifies the time interval after dialling before displaying the call duration time on a Multiline Terminal.

DISCONNECT TIME SELECTION

System	Data No.
1	18

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [1] [8] (Dial Pad)

Data No.	Title	Setting Data
18 :	DIS TM	2.0 s
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 2.0 sec. to 3.0 sec., press Dial Pad key 7.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
0.3 sec.	0.5 sec.	0.8 sec.	1.0 sec.	1.5 sec.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
2.0 sec.	2.5 sec.	3.0 sec.	3.5 sec.	4.0 sec.

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and continued with the CALL key to advance to Memory Block 1-19 (Voice/Tone Signal Selection).
6. Press the SPKR key to go back on-line.

NOTES:

1. When a call, originating on a CO/PBX line, is interrupted or dropped while in progress and an attempt is made to re-access the line, the seized line must be disconnected and cleared before it can be accessed again.
2. The system must be idle before this data is written into memory.
3. The Drop Key timer is also affected by this Memory Block.

Additional Programming

None

GENERAL INFORMATION - DISCONNECT TIME SELECTION

This Memory Block specifies the minimum time before a CO/PBX line that has been disconnected can be accessed again.

VOICE/TONE SIGNAL SELECTION

System	Data No.
1	19

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [1] [9] (Dial Pad)

Data No. | Title | Setting Data

```
1 9 :    CALL          TONE
----------------------------
  TIME   DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Tone to Voice, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Tone	Voice			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

[ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-20 (BGM Selection).
6. Press the SPKR key to go back on-line.

NOTES:

1. Switching from voice to signal tone or from signal tone to voice can be accomplished by dialling a station number, then dialling the digit 1.
2. If signal tone is programmed in this Memory Block, the called party cannot answer handsfree unless the originator of the call switches to voice by dialling the digit 1.
3. Memory Block 4-17 (Voice Call Block Selection) can be used to restrict voice signalling.
4. Voice Mail ports can only send a tone signal.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Telephone (LK 4)	17		√

GENERAL INFORMATION - VOICE/TONE SIGNAL SELECTION

This Memory Block is used to determine if signal tone or voice is used first for an internal call.

BGM SELECTION

System	Data No.
1	20

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [2] [0] (Dial Pad)

Data No. Title Setting Data

```
2 0 :    BGM                NO
-------------------------------
  TIME   DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-21 (System Speed Dial Override Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	28		√

GENERAL INFORMATION - BGM SELECTION

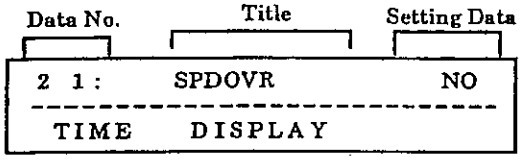
This Memory Block specifies if the tone from an external music source will be provided for background music to station speakers and/or external paging speaker.

SYSTEM SPEED DIAL OVERRIDE SELECTION

System	Data No.
1	21

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [2] [1] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

Yes = System Speed Dial buffers 60~99 for Code Restriction Classes 0~6 will override code restrictions.

No = System Speed Dial buffers 60~99 for Code Restriction Classes 0~6 will not override code restrictions.

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-22 (System Speed Dial Display Station Selection).
6. Press the SPKR key to go back on-line.

NOTES:

1. System Speed Dial buffers 20~59 cannot be programmed to override Code Restrictions.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	22		√

GENERAL INFORMATION - SYSTEM SPEED DIAL OVERRIDE SELECTION

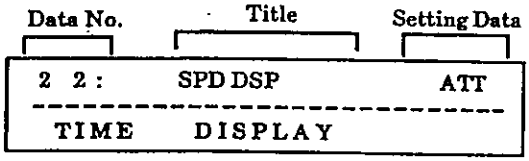
This Memory Block is used to allow or deny the override of Code Restrictions of System Speed Dial 60~99.

SYSTEM SPEED DIAL DISPLAY STATION SELECTION

System	Data No.
1	22

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [2] [2] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Attendant Position (ports 01 and 02) to All Multiline Terminals, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
	All			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys Default

Att: Attendant Positions (ports 01 and 02)

All: All Multiline Terminals

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-23 (Ring Transfer Selection).
6. Press the SPKR key to go back on-line.

Additional Programming

None.

GENERAL INFORMATION - SYSTEM SPEED DIAL DISPLAY STATION SELECTION

This Memory Block specifies the terminal that can display the telephone number of a System Speed Dial buffer.

RING TRANSFER SELECTION

System	Data No.
1	23

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [2] [3] (Dial Pad)

Data No. | Title | Setting Data

```
2 3 :   RING TRF          YS
-------------------------------
  TIME    DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-24 [Time Display (12h/24h) Selection].
6. Press the SPKR key to go back on-line.

NOTES:

1. All ports are affected by this Memory Block, including Voice Mail ports.

■ Additional Programming

None

GENERAL INFORMATION - RING TRANSFER SELECTION

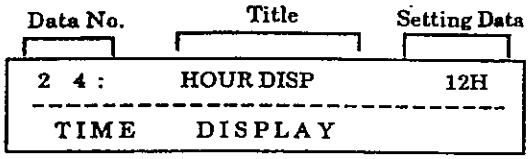
This Memory Block is used to allow or deny the use of the Ring Transfer feature.

TIME DISPLAY (12h/24h) SELECTION

System	Data No.
1	24

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [2] [4] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 12 hr. to 24 hr., press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
12 hr.	24 hr.			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-25 (Off-Hook Ringing Selection).
6. Press the SPKR key to go back on-line.

Additional Programming

None

GENERAL INFORMATION - TIME DISPLAY (12h/24h) SELECTION

This Memory Block is used to specify either a 12-hour (12:00 AM - 11:59 PM) or 24-hour (00:00 - 23:59) time display.

OFF-HOOK RINGING SELECTION

System	Data No.
1	25

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [2] [5] (Dial Pad)

Data No. | Title | Setting Data

```
2 5 :    OFHOOK RNG        Yes
-----------------------------
 TIME    DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

[ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-26 (Day/Night Mode Switching Time Assignment).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Telephone (LK4)	18		√
Telephone (LK4)	19		√

NOTES:

1. Off-hook ring tone volume is lower than on-hook ring volume.

GENERAL INFORMATION - OFF HOOK RINGING SELECTION

This Memory Block specifies if a ringing tone is generated at an MLT station for calls coming into a ring-assigned CO/PBX line when that station is off-hook.

DAY/NIGHT MODE SWITCHING TIME ASSIGNMENT

System	Data No.
1	26

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [2] [6] (Dial Pad)

Data No. Night Switch Day Switch

```
2 6 : NT     :      ,     :
-------------------------
  TIME    DISPLAY
```

4. Enter data by using the Dial Pad.
   - Example: To switch time, enter 08:00 and 20:00.

[←] [•] , [#] [→] : To move cursor.

Dial pad [0] ~ [9] : To enter data.

[HOLD] key : To clear all data when cursor is at Data No. position.

Default	Not Specified

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-27 (Receiving Volume Selection).
6. Press the SPKR key to go back on-line.

NOTES:

1. The system can be placed into Day or Night Mode at any time from a terminal assigned this feature.
2. The start times of Day Mode and Night Mode can be specified in System Programming to automatically switch modes at the specified times.
3. A start time for Day Mode only or Night Mode only cannot be programmed.
4. Day Mode and Night Mode should not be programmed to have the same start time.
5. The time is entered by the 24-hour time system (00:00 ~ 23:59) only.
6. The first input represents when Night Mode begins. The second input represents the beginning of Day Mode.

■ Additional Programming

None

GENERAL INFORMATION - DAY/NIGHT MODE SWITCHING TIME ASSIGNMENT

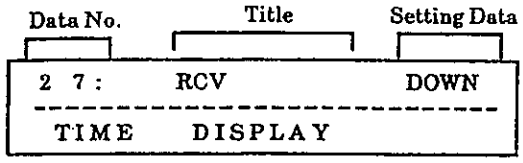
This Memory Block allows automatic switching of the system between Day Mode and Night Mode.

RECEIVING VOLUME SELECTION

System	Data No.
1	27

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [2] [7] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Down to Up, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Down	Up			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys Default

Down = Return to normal
Up = Volume remains up

5. Pressing the CALL key will write the selected data and continue with the CALL key to advance to Memory Block 1-28 (External Speaker Connection Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - RECEIVING VOLUME SELECTION

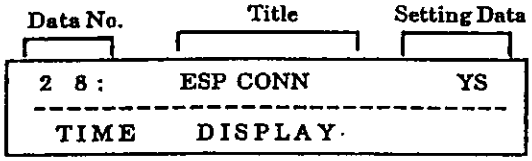
This Memory Block is used to specify whether the receiving volume is returned to normal (down) or remains (up) on a call after the handset is returned to the cradle.

EXTERNAL SPEAKER CONNECTION SELECTION

System	Data No.
1	28

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [2] [8] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys [ ] Default

Yes = External Speaker connected

No = External Speaker not connected

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-29 (PBX Access Code Assignment).
6. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - EXTERNAL SPEAKER CONNECTION SELECTION

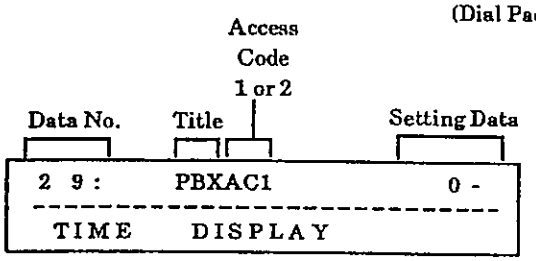
This Memory Block is used to specify whether an external speaker is connected to the system.

PBX/CTX ACCESS CODE ASSIGNMENT

System	Data No.
1	29

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [2] [9] (Dial Pad)



4. Enter the data by using the Dial Pad.
   Example: To program, dial: 0, LNR/SPD, 2, 2, LNR/SPD.
   (The LNR/SPD key is used to insert a pause.)

Default	Access Code 1 = 0 - Access Code 2 = Vacant

← [*] , [#] → : To move cursor.

Dial pad [0] ~ [9] : To enter data.

[LNR/SPD] key : To insert a pause.

[HOLD] key : To clear all data.

5. Pressing the CALL key will write the selected data and advance to the next PBX/CTX line Access Code. Press the CALL key to write the data and to advance to Memory Block 1-30 (Private Line Assignment).
6. Press the SPKR key to go back on-line.

NOTES:

1. Features such as Code Restriction do not operate properly unless an Access Code indicating "behind a PBX/CTX line" is specified.
2. An automatic pause is not inserted in the number of an outgoing call on a CO line.
3. Up to six characters, three numeric and three pauses, can be specified.
4. A pause cannot be inserted as the first digit.
5. Only PBX-type lines are affected by this Memory Block.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
CO/PBX (LK 3)	12		√

GENERAL INFORMATION - PBX/CTX ACCESS CODE ASSIGNMENT

This Memory Block specifies a PBX/CTX line Access Code together with pauses for PBX/CTX line outgoing calls from a station of the system when connected behind a PBX.

PRIVATE LINE ASSIGNMENT

System	Data No.
1	30

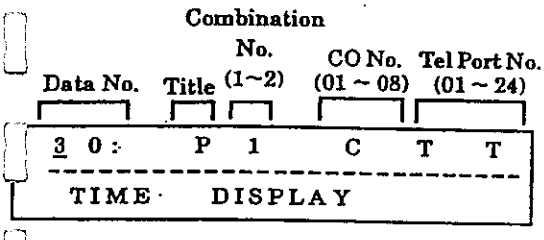
OPERATION:

Go off-line.

Enter: Mode System [LK 1]

▼

Enter: Data No. [3] [0] (Dial Pad)



Use the Dial Pad key to enter data.

- Example: CO line 5 is assigned as Private Line for Tel. Port No. 11.

[←] [*] , [#] [→] : To move cursor.

Dial pad [0] ~ [9] : To enter CO No.

[HOLD] key : To clear all data when cursor is at CO No.

Default	Not Specified

Press the CALL key to write the data and advance to the second Private Line Assignment.

After entering the desired data, press the CALL key to write that data and advance to Memory Block 1-31 (Doorphone Connection Selection).

Press the SPKR key to go back on-line.

NOTES:

1. A maximum of two Private Lines can be assigned.
2. The two Private Lines can be assigned in any combination (refer to chart below).
3. Private Lines can be assigned to Single Line Telephones.

Combination Chart		
Private Line 1 CO#	Tel #	
	Tel #	
Private Line 2 CO#	Tel #	
	Tel #	

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Tenant (LK 2)	01		√

GENERAL INFORMATION - PRIVATE LINE ASSIGNMENT

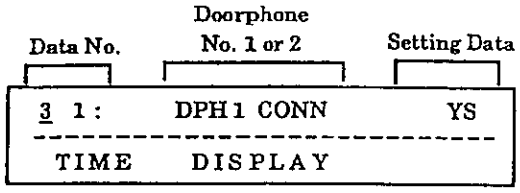
This Memory Block is used to assign an outside line for use as a Private Line. The Private Line cannot be utilized by any other telephone, and no LED indication is provided to other terminals.

DOORPHONE CONNECTION SELECTION

System	Data No.
1	31

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [3] [1] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Press the CALL key to write the data and advance to the second Doorphone option.
6. After entering the desired data, press the CALL key to write that data and advance to Memory Block 1-32 (SLT Hookflash Signal Selection).
7. Press the SPKR key to go back on-line.

NOTES:

1. Two Doorphones can be connected.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Telephone (LK 4)	20		√
Telephone (LK 4)	21		√
System (LK 1)	48		√

GENERAL INFORMATION - DOORPHONE CONNECTION SELECTION

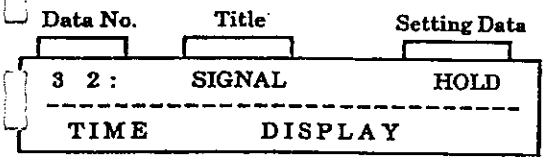
This Memory Block is used to specify whether Doorphones are connected to the system.

SLT HOOKFLASH SIGNAL SELECTION

System	Data No.
1	32

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [3] [2] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Hold to Flash, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Hold	Flash			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-33 (Station Master Hunt Number Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Telephone (LK 4)	01		√

NOTES:

1. If Hold is specified, the CO/PBX line is put on Exclusive Hold.
2. If FLASH is specified, a timed hookflash signal is sent to the outside line.

GENERAL INFORMATION - SLT HOOKFLASH SIGNAL SELECTION

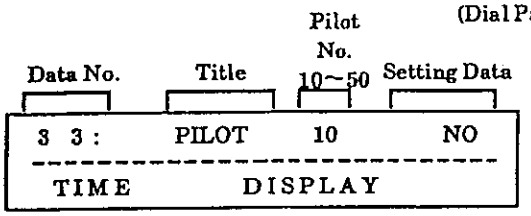
This Memory Block is used to specify whether a line is held, or if behind a PBX, a hookflash signal is sent to the CO/PBX when a Single Line Telephone user performs a hookflash.

STATION MASTER HUNT NUMBER SELECTION

System	Data No.
1	33

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [3] [3] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

[ ] Default

5. Pressing the CALL key will write the selected data and advance to the next pilot number or to Memory Block 1-34 (CO/PBX Access/Release Selection), after pilot number 50.
6. Press the SPKR key to go back on-line.

NOTES:

1. Each Master Hunt Number Selection will only hunt within the specified tens group (example: 10~19, 20~29, etc.).
2. Station numbers assigned in a hunt group will always hunt in sequence from the lowest station in the group to the highest.

Pilot No.	Station No.
10	10~19
20	20~29
30	30~39
40	40~49
50	50~59

■ Additional Programming

None

GENERAL INFORMATION - STATION MASTER HUNT NUMBER SELECTION

This Memory Block is used to assign a pilot number to a Master Station Hunt Number.

CO/PBX ACCESS/RELEASE SELECTION

System	Data No.
1	34

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [3] [4] (Dial Pad)

Data No.	Title	Setting Data
3 4 :	RELEASE	NO
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-35 (VRS Message Recording Time Selection).
6. Press the SPKR key to go back on-line.

Additional Programming

None

GENERAL INFORMATION - ON-HOOK DIALING/RELEASE SELECTION

This Memory Block is used to determine whether a CO/PBX line disconnects or no response is provided when pressing a CO/PBX line key that is already accessed.

VRS MESSAGE RECORDING TIME SELECTION

System	Data No.
1	35

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [3] [5] (Dial Pad)

Data No.	Title	Setting Data
35:	VRS	15s × 16
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change 16 messages to 8 messages, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
R.T. (15.0 sec.) * 16	R.T. (30.0 sec.) * 8	R.T. (60.0 sec.) * 4	R.T. (120.0 sec.) * 2	
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys [ ] Default

R.T. = Recording Time
* = No. of messages

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-36 [VRS Automatic Answer/Automated Attendant (Night) Selection].
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	36~42		√

NOTES:

1. VRS (Voice Recording Services) has a maximum of 240 seconds for message recording.
   - The number of messages that can be used in the VRS depends on the length of the particular messages (240 sec. ÷ Length of messages = No. of messages).

   Example:

   Message length 15 sec. : 16 messages
   " " 30 sec. : 8 messages
   " " 60 sec. : 4 messages
   " " 120 sec. : 2 messages

GENERAL INFORMATION - VRS MESSAGE RECORDING TIME SELECTION

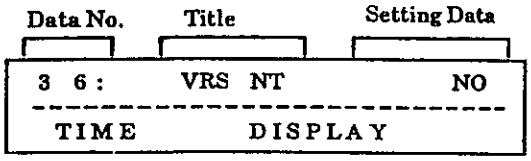
This Memory Block is used to specify the length and number of messages. (The number of messages is dependent on the length of the messages).

VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (NIGHT) SELECTION

System	Data No.
1	36

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [3] [6] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
[NO]	YES			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys [ ] Default

No = No Automatic Answer/Automated Attendant
Yes = Automatic Answer/Automated Attendant

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-37 [VRS Automatic Answer/Automated Attendant (Day) Selection].
6. Press the SPKR key to go back on-line.

Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

GENERAL INFORMATION - VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (NIGHT) SELECTION

This Memory Block is used to specify whether VRS Automatic Answer/Automated Attendant (Night) is

VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (DAY) SELECTION

System	Data No.
1	37

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [3] [7] (Dial Pad)

Data No.	Title	Setting Data
3 7 :	VRS DY	NO
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
NO	YES			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys Default

No = No Automatic Answer/Automated Attendant
Yes = Automatic Answer/Automated Attendant

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-38 [VRS Automatic Answer/Automated Attendant (Weekend) Selection].
6. Press the SPKR key to go back on-line.

■ Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

GENERAL INFORMATION - VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (DAY) SELECTION

This Memory Block is used to specify whether VRS Automatic Answer/Automated Attendant (Day) is allowed or denied.

VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (WEEKEND) SELECTION

System	Data No.
1	38

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [3] [8] (Dial Pad)

Data No. Title Setting Data

```
3 8 :    VRS WK          NO
---------------------------
 TIME      DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
NO	YES			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys [ ] Default

No = No Automatic Answer/Automated Attendant
Yes = Automatic Answer/Automated Attendant

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-39 (VRS Manual Answer Selection).
6. Press the SPKR key to go back on-line.

Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

GENERAL INFORMATION - VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (WEEKEND) SELECTION

This Memory Block is used to specify whether VRS Automatic Answer/Automated Attendant (Weekend) is

VRS MANUAL ANSWER SELECTION

System	Data No.
1	39

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [3] [9] (Dial Pad)

Data No. | Title | Setting Data

```
3 9 :    VRS MAN          NO
---------------------------------
 TIME        DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys; [ ] Default

No = No Manual Answer
Yes = Manual Answer

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-40 [VRS Automatic Answer/Automated Attendant (Night) Time Assignment].
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	35		√

GENERAL INFORMATION - VRS MANUAL ANSWER SELECTION

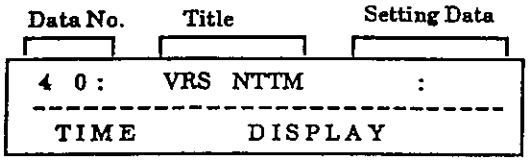
This Memory Block is used to specify whether VRS Manual Answer is allowed or denied.

VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (NIGHT) TIME ASSIGNMENT

System	Data No.
1	40

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK1]
3. Enter: Data No. [4] [0] (Dial Pad)



4. Enter the data by using the Dial Pad.
   - Example: To switch time, enter 20:00

[←] [*] , [#] [→] : To move cursor.

Dial pad [0] ~ [9] : To enter Setting Data.

[HOLD] key : To clear all data when cursor is at Data No.

Default	Not Specified

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-41 [VRS Automatic Answer/Automated Attendant (Day) Time Assignment].
6. Press the SPKR key to go back on-line.

■ Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

GENERAL INFORMATION - VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (NIGHT) TIME ASSIGNMENT

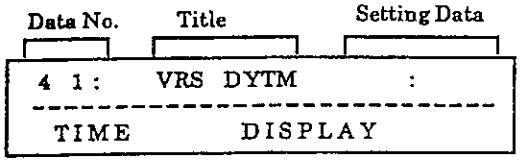
This Memory Block is used to allow automatic switching of the Automatic Answer/Automated Attendant

VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (DAY) TIME ASSIGNMENT

System	Data No.
1	41

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [4] [1] (Dial Pad)



4. Enter the data by using the Dial Pad.
   - Example: To switch time, enter 05:00

[←] [*] , [#] [→] : To move cursor.

Dial pad [0] ~ [9] : To enter Setting Data.

[HOLD] key : To clear all data when cursor is at Data No.

Default	Not Specified

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-42 [VRS Automatic Answer/Automated Attendant (Off) Time Assignment].
6. Press the SPKR key to go back on-line.

■ Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

GENERAL INFORMATION - VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (DAY) TIME ASSIGNMENT

This Memory Block is used to allow automatic switching of the VRS Automatic Answer/Automated Attendant feature into Day Mode.

SECTION 7 CODE RESTRICTION

7.1 General

The RANGER DK-824 system provides an advanced method for restricting outgoing calls based on the first eight digits dialled. Code Restriction denies placement of outside calls based on Trunk Groups and accommodates equal access to Other Common Carriers (OCC). This eliminates unauthorized calls and configures system calling functions to provide cost control.

There are eight Code Restriction Classes in System Programming. Class 0 is fixed and allows free dialling. Class 7 is fixed and denies all outside calls. Classes 1~6 are programmable in system software. Stations are assigned to Code Restriction Class on a per station basis. A separate Day Mode and Night Mode station to Code Restriction Class assignment is available.

7.2 Default Assignments

- At default, all stations are assigned to Code Restriction Class 0 for both Day and Night modes, this allows free dialling.
- At default, the Code Restriction Classes (listed below) are set up with the specified restrictions to provide the most common Code Restriction requirements and simplify Code Restriction programming.

  Class 1~6: Allow "000" and "1144X" calls

- At default, all OCC calls are denied for Code Restriction Classes 1 ~ 6.
- At default, System Speed Dial buffers 60 ~ 99 do not override Code Restriction for Classes 1 ~ 6.
- At default, Digit Restriction is not assigned.

  (Refer to Section 7.5 - Code Restriction Tables in this chapter for additional default values.)

7.3 Memory Blocks

The following is a list of related Memory Blocks used when assigning Code Restriction.

Title	Memory Block
PBX/CTX Access Code Assignment	1-29
Trunk to Tenant Assignment	2-01
CO/PBX Line Code Restriction Override Selection	3-15
Trunk Type Selection	3-12
Trunk-to-Trunk Group Assignment	3-14
8-Digit Matching Table Assignment	1-52
Class Allow/Deny Assignment	1-53
8-Digit Matching Table to Class Assignment	1-54
8-Digit Matching Table to Trunk Group Assignment	1-55
OCC Table Assignment	1-56
OCC Table to Trunk Group Assignment	1-57
8-Digit Matching Table to OCC Table Assignment	1-58
System Speed Dial Override Selection	1-21
Telephone to Tenant Assignment	4-02
Code Restriction Class Assignment (Day Mode)	4-23
Code Restriction Class Assignment (Night Mode)	4-24
Trunk Digit Restriction	4-25

7.4 Memory Block Description

7.4.1 General

This section describes the function of the Memory Blocks that are directly related to Code Restriction. Some Memory Blocks from the list in Section 7.3 - Memory Blocks are not described in this section, but are included on the list because of their indirect effect on Code Restriction (e.g., Trunk to Tenant Assignment).

Code Restriction is based on a Trunk Group basis. Therefore, consideration should be given to Memory Block 1-57 (OCC Table to Trunk Group Assignment) because stations are assigned to a Tenant and trunks are assigned to a Trunk Group.

7.4.2 OCC Assignment/Operation

OCC Table Assignment (Memory Block 1-56)

This Memory Block allows an OCC Access Code (maximum of eight digits) to be assigned. There are 16 OCC Tables (01~16) in System Programming. Each table can have one OCC Access Code assigned.

OCC Table to Trunk Group Assignment (Memory Block 1-57)

This Memory Block is used to assign Trunk Groups to the OCC Tables. Any combination of Trunk Groups can be assigned to the OCC Tables.

8-Digit Matching Table to OCC Table Assignment (Memory Block 1-58)

This Memory Block is used to assign the 8-Digit Matching Tables to the OCC Tables. Any combination of 8-Digit Matching Tables can be assigned to the OCC Tables.

OCC Operations

When a restricted station user dials an OCC Access Code, the system searches the OCC Tables for a match. If no match is found, the system searches the 8-Digit Matching Tables. If a match is found, the system monitors the next eight digits dialled and searches the 8-Digit Matching Tables assigned to the OCC Table. The system searches only the 8-Digit Matching Tables assigned to the Code Restriction Class where the station is assigned. The trunks are assigned to the station on a Trunk Group basis. While the station user is dialling on an outside line, the system searches the assigned tables. If the interdigit time duration of the dialling party exceeds 10 seconds, the system automatically drops the call.

7.4.3 8-Digit Matching Table Assignment/Operation

8-Digit Matching Table to Trunk Group Assignment (Memory Block 1-55)

This Memory Block is used to assign Trunk Groups to the 8-Digit Matching Tables. Any combination of Trunk Groups can be assigned to the 8-Digit Matching Tables.

8-Digit Matching Table Assignment (Memory Block 1-52)

This Memory Block is used to assign the 8-Digit Matching Tables. Each 8-Digit Matching Table can have eight, 8-digit entries. In order to cover the many possible combinations (without listing each individual number), code restriction letters can be used in place of digits. The code restriction letter used and its numerical value is:

X = 0~9, *, and #

Note: The Trunk Access Code should not be placed in the 8-Digit Matching Table because Code Restriction starts after a trunk is seized.

8-Digit Matching Table to Class Assignment (Memory Block 1-54)

This Memory Block is used to assign the 8-Digit Matching Tables to the Code Restriction Classes. The 8-Digit Matching Tables are also assigned as Allow/Deny Tables or as Allow/Deny (OCC only) Tables in this Memory Block A maximum of six, 8-Digit Matching Tables can be assigned to Code Restriction Classes 1~6. Classes 0 and 7 are fixed and are not programmable.

Class Allow/Deny Assignment (Memory Block 1-53)

This Memory Block is used to assign Code Restriction Classes (1~6) as Allow or Deny. This assignment is used when there is no match or when there is an overlap (duplicate numbers in tables with opposite Allow/Deny assignments) of numbers in the 8-Digit Matching Tables.

8-Digit Matching Table Operations

The 8-Digit Matching Tables are used to restrict or allow OCC calls and non OCC calls. To understand the relationship of the 8-Digit Matching Tables with OCC calls, refer to Section 7.4.2 - OCC Assignment/Operation.

When a restricted station user makes a non OCC call, the system monitors the first eight digits dialled and searches the 8-Digit Matching Tables assigned as Allow or Deny. The system searches only the 8-Digit Matching Tables assigned to the Code Restriction Class where the station is assigned. The trunks are assigned to the station on a Trunk Group basis.

If a match is found, the system looks at the 8-Digit Matching Table to Class Assignment for the Allow or Deny Assignment. If the table is assigned as Allow, the call is allowed. If the table is assigned as Deny, the call is denied.

If no match is found or a duplicate match is made with opposite Allow/Deny assignments, the system looks at the Class Allow/Deny Assignment. If the class is assigned as Allow, the call is allowed. If the Class is assigned as Deny, the call is denied. While the station user is dialling on an outside line, the system is searches the assigned tables. If the interdigit time duration of the dialling party exceeds 10 seconds, the system automatically drops the call.

7.4.4 System Speed Dial Override Selection (Memory Block 1-21)

This Memory Block is used to allow System Speed Dial buffers 60 ~ 99 to override or not override Code Restriction for Code Restriction Classes 1 ~ 6.

7.4.5 CO/PBX Line Code Restriction Override Selection (Memory Block 3-15)

This Memory Block is used to specify whether Code Restriction is applied on a per line basis.

7.4.6 Code Restriction Class Assignment (Day Mode) (Memory Block 4-23)

This Memory Block is used to specify, on a per station basis, the Code Restriction Class to be used when the system is in the Day Mode.

7.4.7 Code Restriction Class Assignment (Night Mode) (Memory Block 4-24)

This Memory Block is used to specify, on a per station basis, the Code Restriction Class used when the system is in the Night Mode.

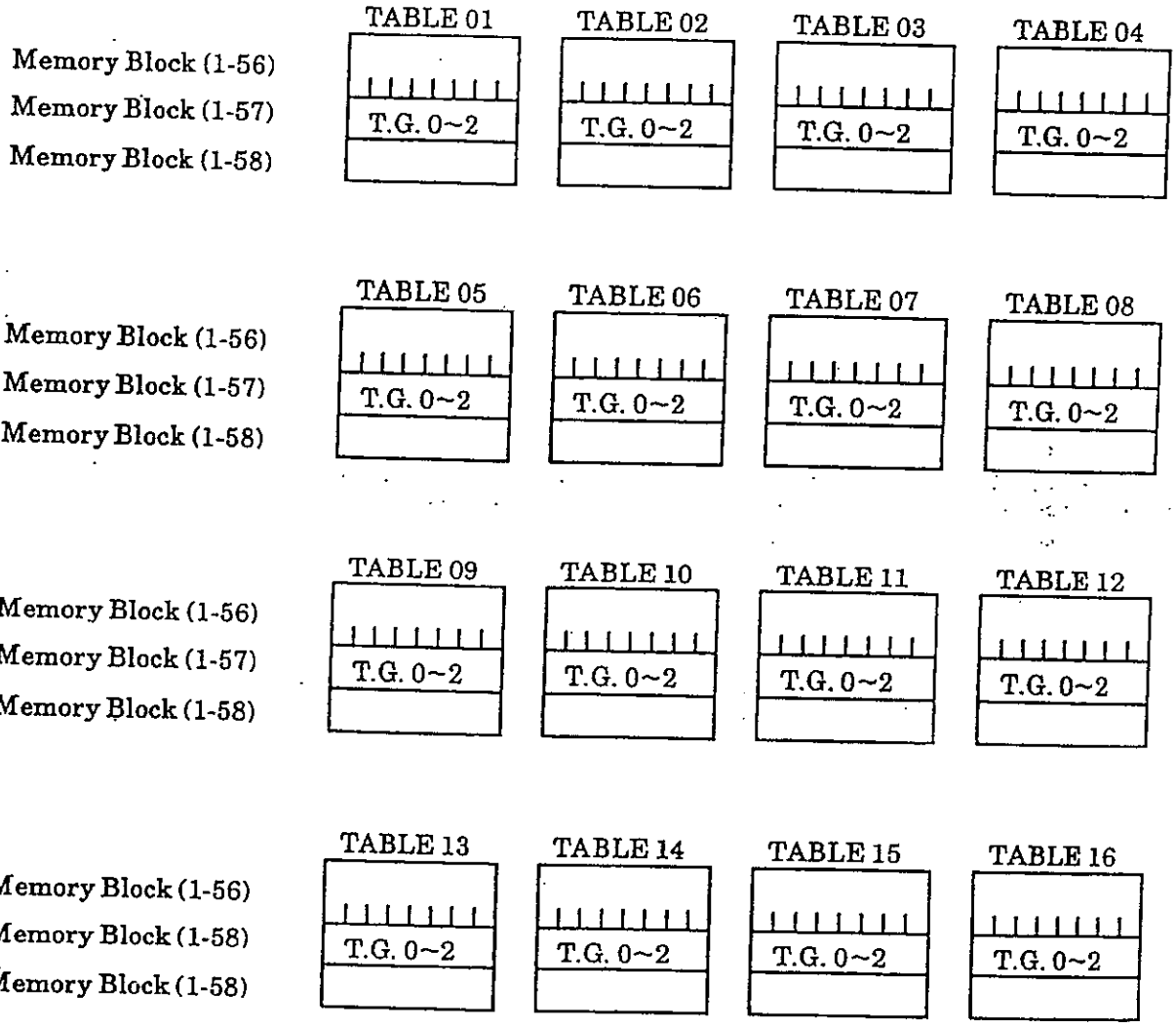
7.4.8 Trunk Digit Restriction (Memory Block 4-25)

This Memory Block is used to specify, on a per station basis, the maximum number of digits that can be dialled while on any outside line.

7.5 Code Restriction Tables

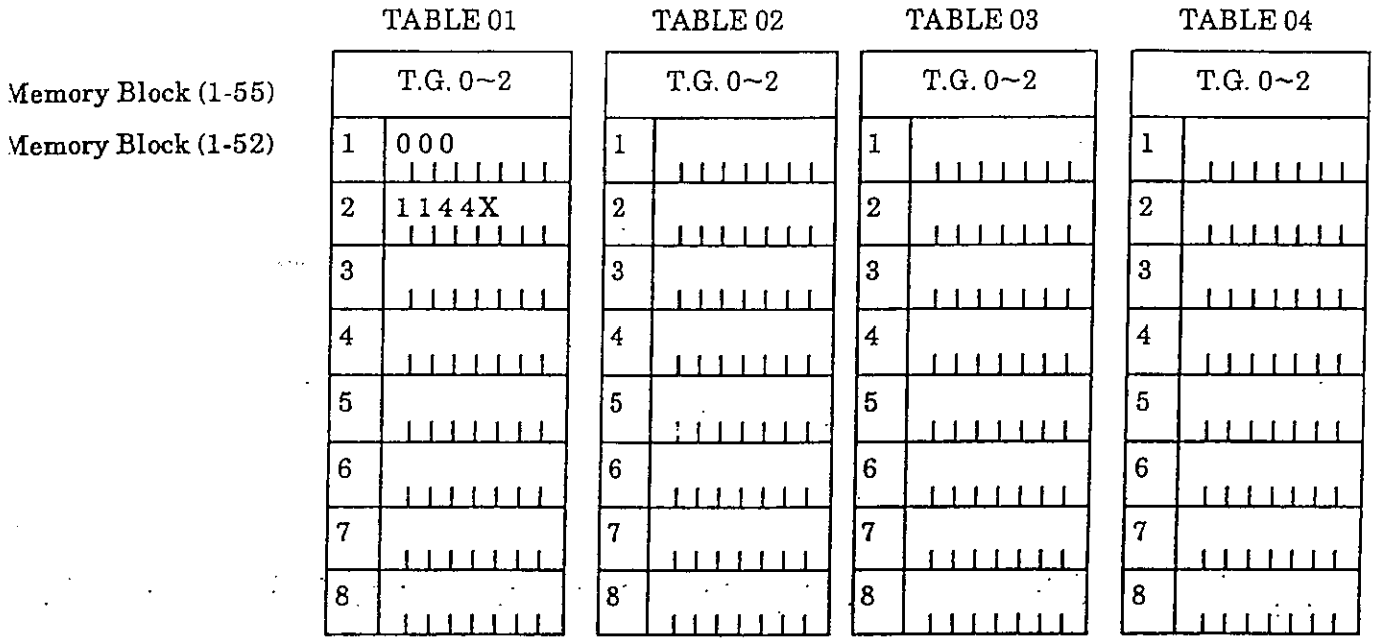
7.5.1 OCC Tables (Default Values)

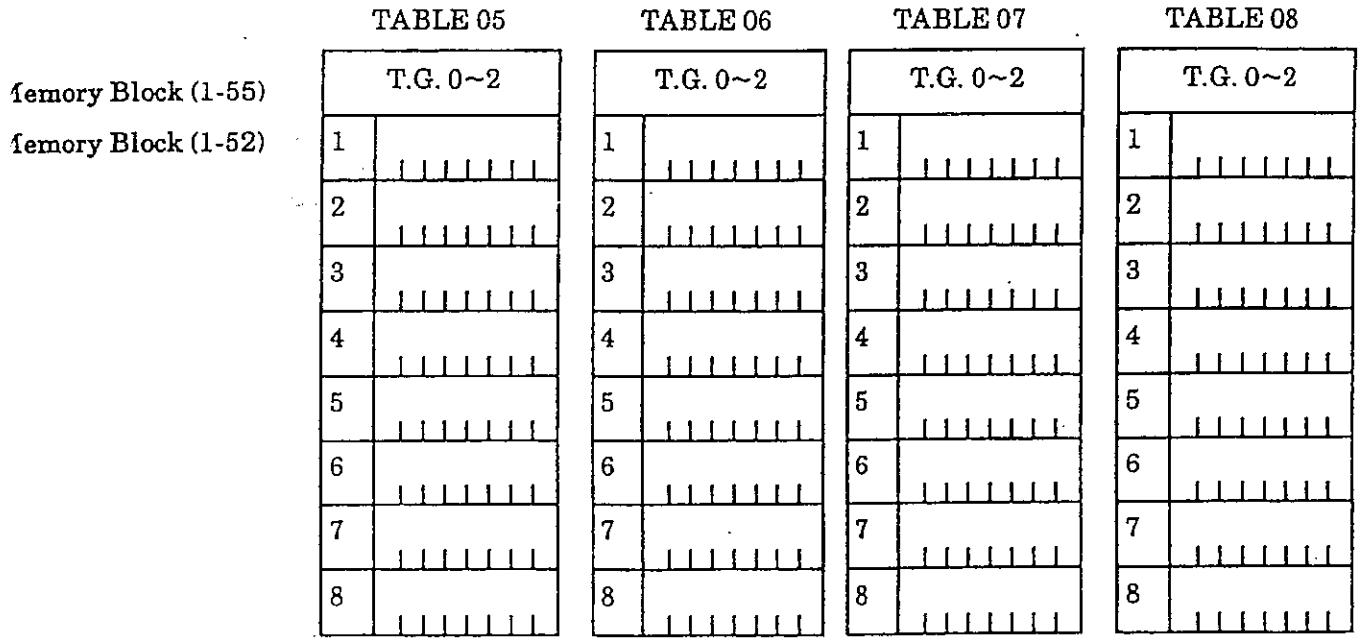
- OCC Table Assignment (1-56)
- OCC Table to Trunk Group Assignment (1-57)
- 8-Digit Matching Table to OCC Table Assignment (1-58)



7.5.2 8-Digit Matching Tables (Default Values)

- 8-Digit Matching Table to Trunk Group Assignment (1-55)
- 8-Digit Matching Table Assignment (1-52)

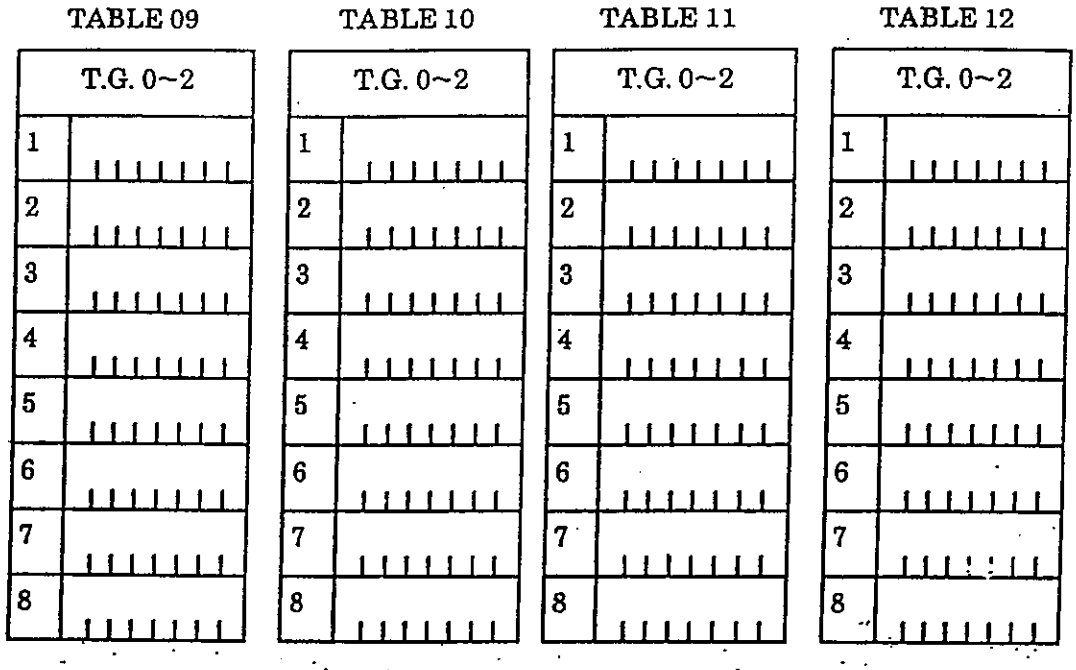




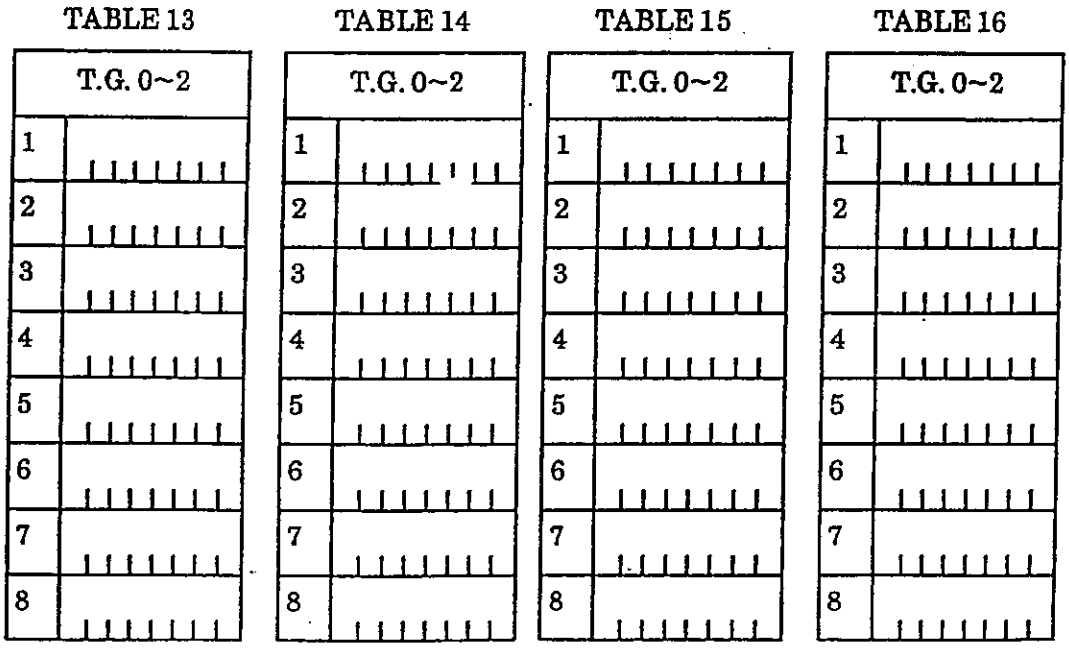
Note: X = 0~9, *, #

(Continued on next page.)

Memory Block (1-55)
Memory Block (1-52)



Memory Block (1-55)
Memory Block (1-52)



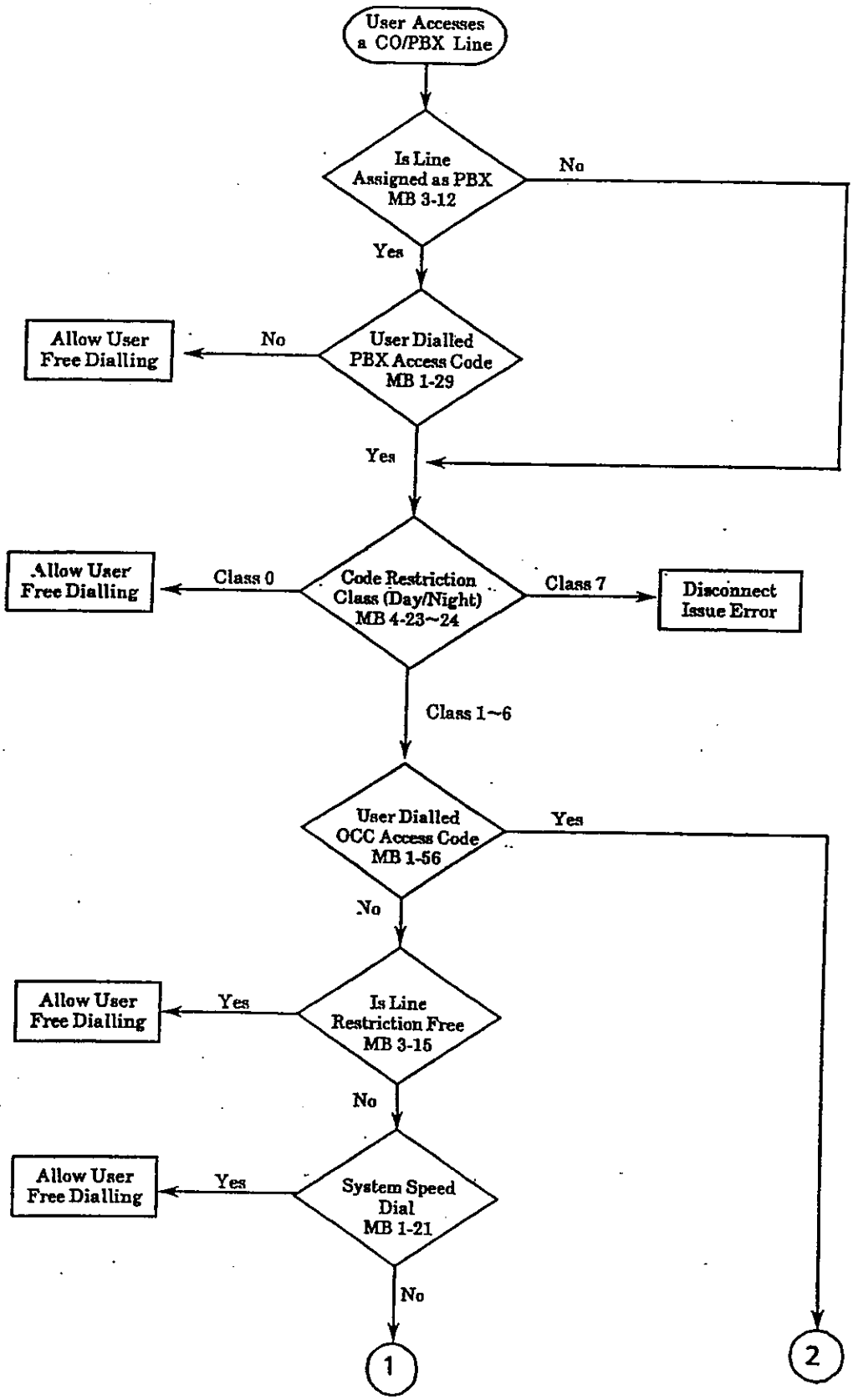
- Class Allow/Deny Assignment (1-53)
- 8-Digit Matching Table to Class Assignment (1-54)

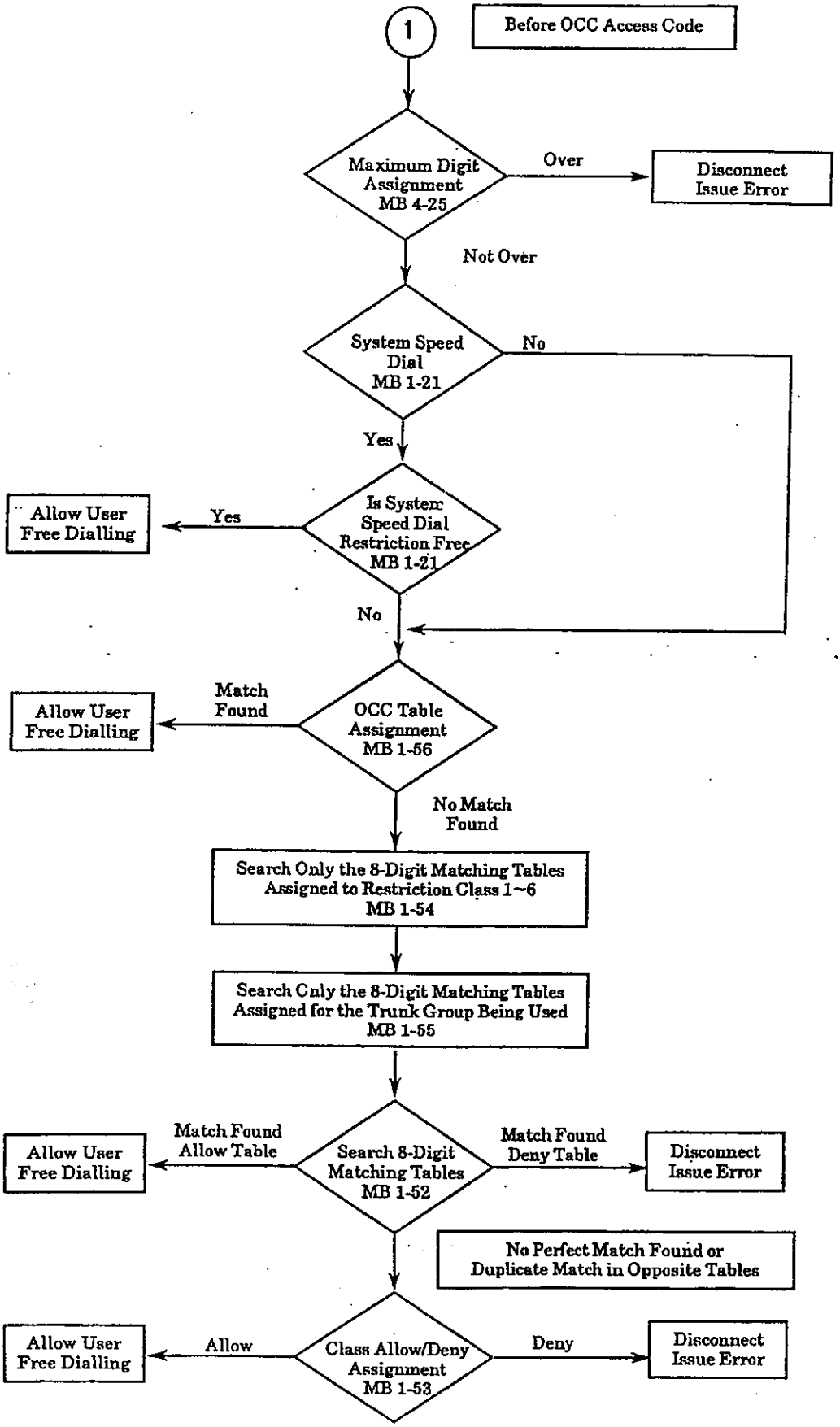
	8-Digit Matching Table To Class Assignment (M.B. 1-54)																Class Allow/Deny Assignment (M.B. 1-53)
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	
Class 1	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Allow
Class 2	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Allow
Class 3	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Allow
Class 4	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Allow
Class 5	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Deny
Class 6	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Deny

Note 1: 0 = Deny
1 = Allow
2 = Deny (OCC Calls Only)
3 = Allow (OCC Calls Only)
N/A = Not Applicable

Note 2: A maximum of six, 8-Digit Matching Tables can be assigned to each Class.

7.6 Code Restriction Algorithm





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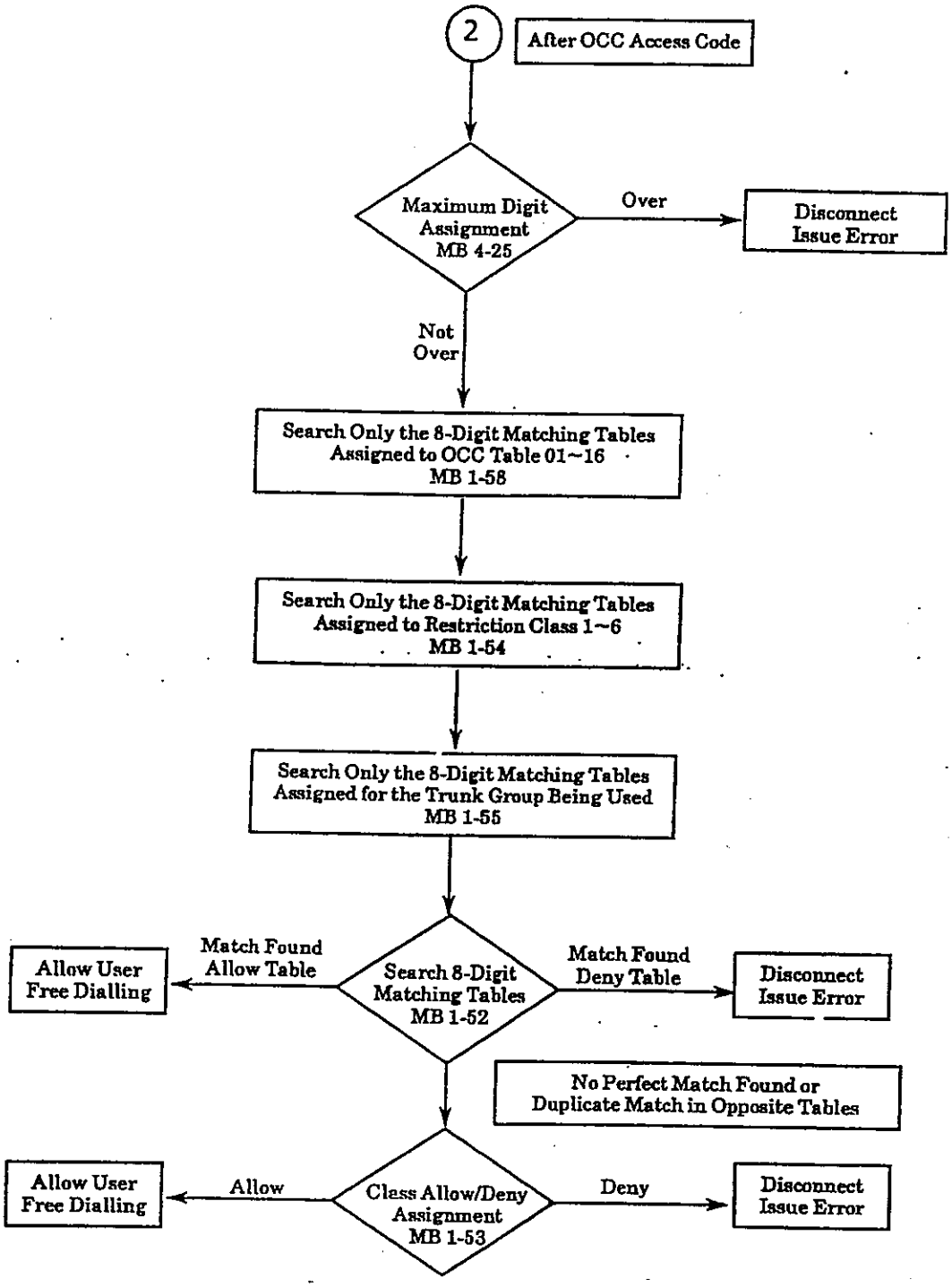
2
After OCC Access Code
Maximum Digit Assignment MB 4-25
Over
Disconnect Issue Error
Not Over
Search Only the 8-Digit Matching Tables Assigned to OCC Table 01~16 MB 1-58
Search Only the 8-Digit Matching Tables Assigned to Restriction Class 1~6 MB 1-54
Search Only the 8-Digit Matching Tables Assigned for the Trunk Group Being Used MB 1-55
Search 8-Digit Matching Tables MB 1-52
Match Found Allow Table
Allow User Free Dialling
Match Found Deny Table
Disconnect Issue Error
No Perfect Match Found or Duplicate Match in Opposite Tables
Class Allow/Deny Assignment MB 1-53
Allow
Allow User Free Dialling
Deny
Disconnect Issue Error

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SECTION 8 DISPLAY ABBREVIATIONS

The abbreviations as they appear in the display of the Multiline Terminal are listed on the following pages. The definition is listed to the right of each abbreviation.

AA	: automated attendant	DY	: day mode
ADD/DEL	: addition/deletion	DYTM	: daytime
AC	: access code	ENT	: entry
ALM	: alarm	ESP	: external speaker
ANS	: answer	EXT RG	: external ring
ARDT	: automatic release detect timer	EXHDRECL	: exclusive hold recall
ASSGN	: assignment	EXT	: external
ATO	: automatic	EXT MOH	: external music on hold
ATT	: attendant	FLSH	: flash
AUTO DIS	: automatic disconnect	FLSH END	: flash end
BGM	: background music	FLSH ST	: flash start
BI	: barge-in	FWD	: forward
BNCE	: bounce	FWD NOANS	: forward no answer
CD	: OCC table	FWDG	: forwarding
CHM	: chime	GP	: group
CL	: class	H	: high
CLR	: clear	HDFREE	: handsfree
CLS	: class	HDMSG	: hold message
CONN	: connection	HFU	: handsfree unit
CYL	: cycle	HOFREETRF	: hold free transfer
DIG	: digit	HOLD RECL	: hold recall
DIS	: disconnect	HR	: hour
DISP	: display	IN	: incoming
DIT	: direct inward termination	INTER	: interdigit
DLY	: delay signal time	L	: low
DND	: do not disturb	LCD	: liquid crystal display
DP	: dial pulse	LN	: line
DP INTER	: dial pulse interdigit	LNR/SPD	: last number redial/speed dial
DPH	: doorphone	m	: minute
DPH DSP	: doorphone display	M	: medium
DPH PRF	: doorphone preference	MAN	: manual
DSP	: display	MF	: dual tone multi frequency (DTMF)
DSS	: direct station selection	MOH	: music on hold
DUR	: duration	ms	: millisecond

MSG	:	message
MSTER	:	master
NBR	:	number
NOANS	:	no answer
NON	:	no assignment
NONREST	:	non restricted
NT	:	night mode
NT CHM	:	night chime
NTTM	:	night time
OF HK	:	off hook
OFTM	:	off time
ORG	:	originate
OUT	:	outgoing
PAG	:	paging
PBR	:	push button receiver
PBR RLS	:	push button release
PBX	:	private branch exchange
PBX AC	:	PBX access code
PRF	:	preference
PRI	:	prime
PRNT	:	print
QUE	:	queue
RCV	:	receive
RECL	:	recall
REST	:	restriction
RG	:	ring
RINGTONE	:	ringing tone
RL	:	relay
RLS	:	release
RLY	:	relay
RNG	:	ring
s	:	second
SEL	:	selection
SLT	:	single line telephone
SP	:	speaker
SPD	:	speed dial
SPDOVR	:	speed dial override
SYS	:	system:
TBL	:	table
TEL	:	telephone
TM	:	time
TNT	:	tenant
TR TY	:	trunk type
TRF	:	transfer
TRK	:	trunk
TRK GP	:	trunk group
TRNS	:	transfer
T-T	:	trunk-to-trunk
TYP	:	type
VM	:	voice mail
VMAIL	:	voice mail
VRS	:	voice recording service
WK	:	weekend
YS	:	yes

CHAPTER 3

SYSTEM MAINTENANCE

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FLOWCHARTS

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CHAPTER 3
SYSTEM MAINTENANCE

SECTION 1 INTRODUCTION

This chapter is to be used as a guide for diagnosis and troubleshooting problems during and after system installation. The troubleshooting flowcharts and general test procedures will help to identify the cause of a problem by defining the problem area.

SECTION 2 OPERATIONAL CURRENT AND VOLTAGE CHECKS

2.1 Power Requirements

The effectiveness of this portion of the maintenance section depends upon the technician's ability to answer correctly all questions, in the flowcharts, as accurately as possible. Due to external factors, it is important that no answer be assumed. For example, it cannot be assumed that a power supply is working properly because it has been replaced with another power supply. It is necessary to test the output of the power supply with a volt meter.

This can be done in the KSU by measuring +5V and +28V from the output lead on the PSU. Before a technician can attempt any troubleshooting, the correct tools should be available.

2.2 Equipment Needed

- Digital or Analog Multimeter
- Lineman's test set:
  1. Termination and Monitor Modes
  2. DTMF and Dial Pulse dialling
- Hand tools:
  1. Set of screwdrivers (Flat and Phillips head blades)
  2. Set of pliers, long nose and diagonals
  3. Punch down tool

SECTION 3 OPERATIONAL TEST PROCEDURES

3.1 General

When the system is first powered up, it runs through an initialization process. During this process, the CPU inside the basic KSU scans each of the KTUs to determine the hardware configuration used. This information is stored in the Resident System Program memory with the system default values. This section provides test procedures to be used before, during, and after the initialization process.

3.2 Before Installation

It is important that the following steps be taken by the technician installing the system:

WARNING

- **The socket-outlet shall be installed near the equipment and shall be easily accessible.**
- **Plug the system into the mains supply (240Va.c.) before terminating the telecommunications network conductors to the system.**
- **Do not unplug the system from the mains supply (240 Vac) unless the telecommunications network conductors are disconnected from the system.**

1. Cable Connections

   All wiring for power supplies, flat cable connectors, *etc.*, should be checked for solid connections. Refer to Chapter 1 - Hardware Specifications and Installation of this manual for connection instructions.

2. AC/DC Power

   Check all power with an AC/DC multimeter. (Refer to Table 3-1 - Voltage Measurement).

Table 3-1 Voltage Measurement

Voltages	Tolerance	Measuring Points
PUF-G-13 PSU + 5V + 28V	 + 5 ± 0.25V +28 ± 0.25V	Output 0V-BLK GND Lead 5V-YLW +5V 28V-RED +28V
AC Voltage (240 Vac) Line to Neutral Line to Conduit Ground Neutral to Conduit Ground	 240 ± 15% Vac 240 ± 15% Vac .05 V ac (max.)	AC TERMINAL STRIP Line L to N Line L to G N to G
Ring Generator (SLT)	55 Vac @ 20.8 Hz	Across TIP & RING of ringing SLT
CO Line Off-hook line current	 25 to 50 mA	In series with TIP side of CO line at MDF

3. Initialization Check

   To determine if the system is initializing correctly, it is suggested that all optional and expansion KTUs from the system be removed. After initialization, all terminals in the main board and ESI-G(8)-13 should be able to call each other internally. (These stations, by default, will be assigned station numbers 10~33.)

3.3 System Initialization

After the three steps in Section 3.2 are completed and verified, the entire system should be initialized.

With the power off, all the interface and option cards can be installed in the KSU as indicated on the Job Specifications Worksheet. It is important to ensure that the lithium battery on the ESF-G-13 KSU is OFF (SW1 → CLEAR). At this point the technician can power up the system. This performs a First Initialization of the system. After the initialization process, each station display will show default time and date indication. Example: 12:00 PM SUN 01.

3.4 After Initialization

Before any programming is attempted, the lithium battery on the ESF-G-13 KSU should be turned ON (SW1 → HOLD). This will prevent all completed programming from being lost if the system loses power.

After all previous steps have been performed and any problems corrected, the System Programming can be completed. Using the Job Specifications Worksheets from the *RANGER DK–824 Job Specifications Manual,* Document No. A6-11760-72-03 (supplied with the ESF-G-13 KSU) helps to simplify the programming process.

CAUTION

- **Ensure the lithium battery is ON in the ESF-G-13 KSU.**
- **Danger of explosion if battery is incorrectly replaced.**
- **Replace only with the same or equivalent type recommended by the manufacturer.**
- **Dispose of used batteries according to the manufacturer's instructions**

This completes the installation. The technician should check the operation of each Multiline Terminal to ensure the system is working properly.

SECTION 4 TROUBLESHOOTING FLOWCHARTS

4.1 Problem Solving

To find the cause of a problem, first consider all the symptoms carefully. It is imperative the problem be defined as accurately as possible so the most efficient steps to a solution can be taken. The troubleshooting flow charts in this section will help define problems and direct the technician through the troubleshooting steps. (Refer to Table 3-2 - Index Table of Flowcharts.)

- System Down :

  Although this term is used to describe many conditions, it will only be used in this section to describe one of the following situations:

  1. No access to internal dial tone on any Multiline Terminal or Single Line Telephone installed.
  2. No LED indications or no display indications on any Multiline Terminal installed.

- Partial Operation

  This term will refer to any situation that cannot be completely described under the conditions of a SYSTEM DOWN. (Refer to the Table 3-2 - Index Table of Flowcharts listing these conditions.)

- Reset Definition

  In the troubleshooting flowcharts, the technician is at times directed to reset the station and/or KTU.

  1. Terminal Reset - Is accomplished by unplugging the station line cord from the station and then plugging it back in.
  2. KTU Reset - The KTUs are reset by turning off the system power for approximately five seconds (ensuring firstly that all memory backup switches are turned on) and then turning it back on again.

3. Before reinstalling the following KTUs, the battery ON/OFF switches should be left off for at least two minutes:

   ESF-G-13 KTU (SW1)
   VRS-G-13 KTU (SW1)

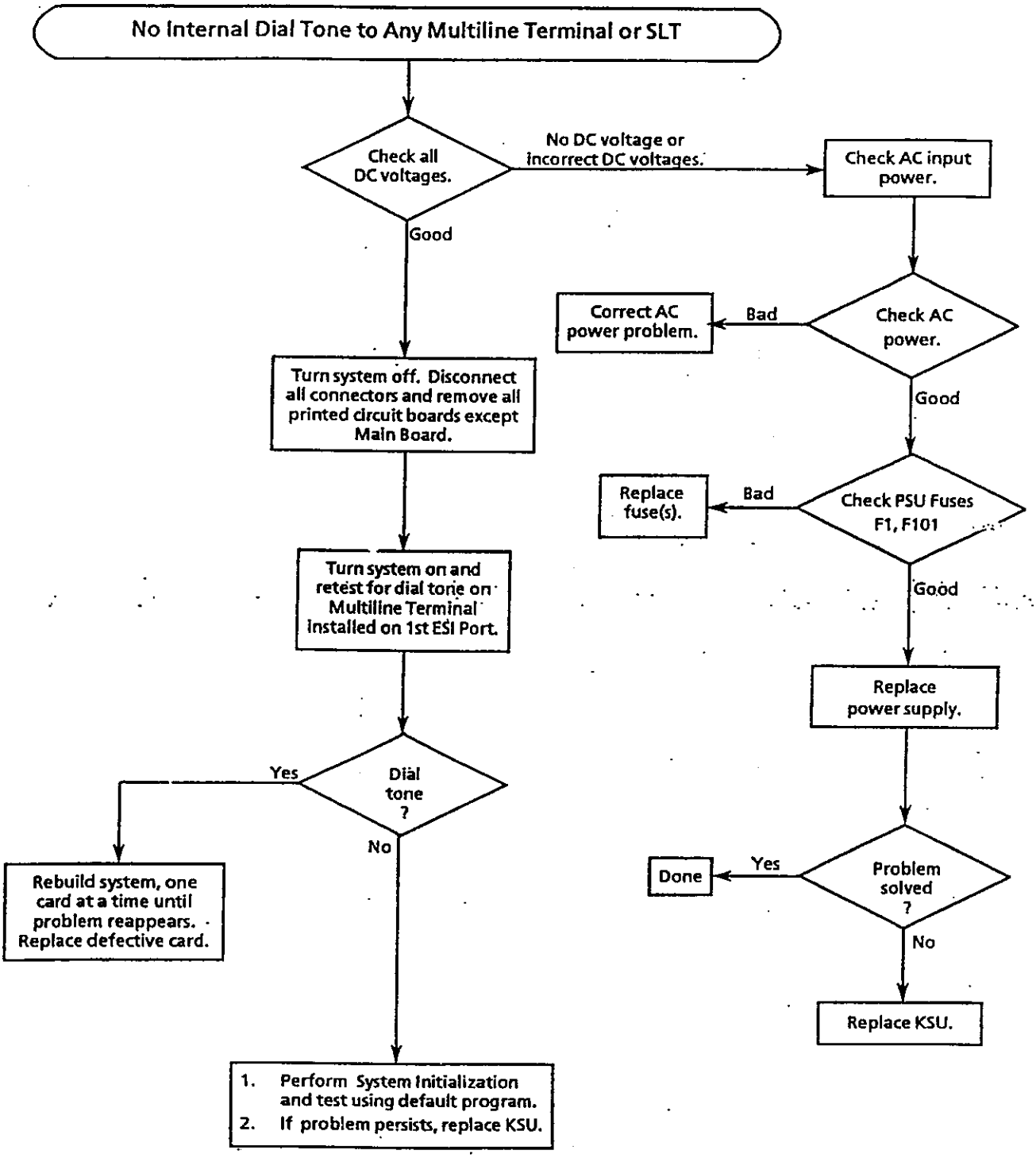
4. **Do not install any KTUs with the system power ON.**

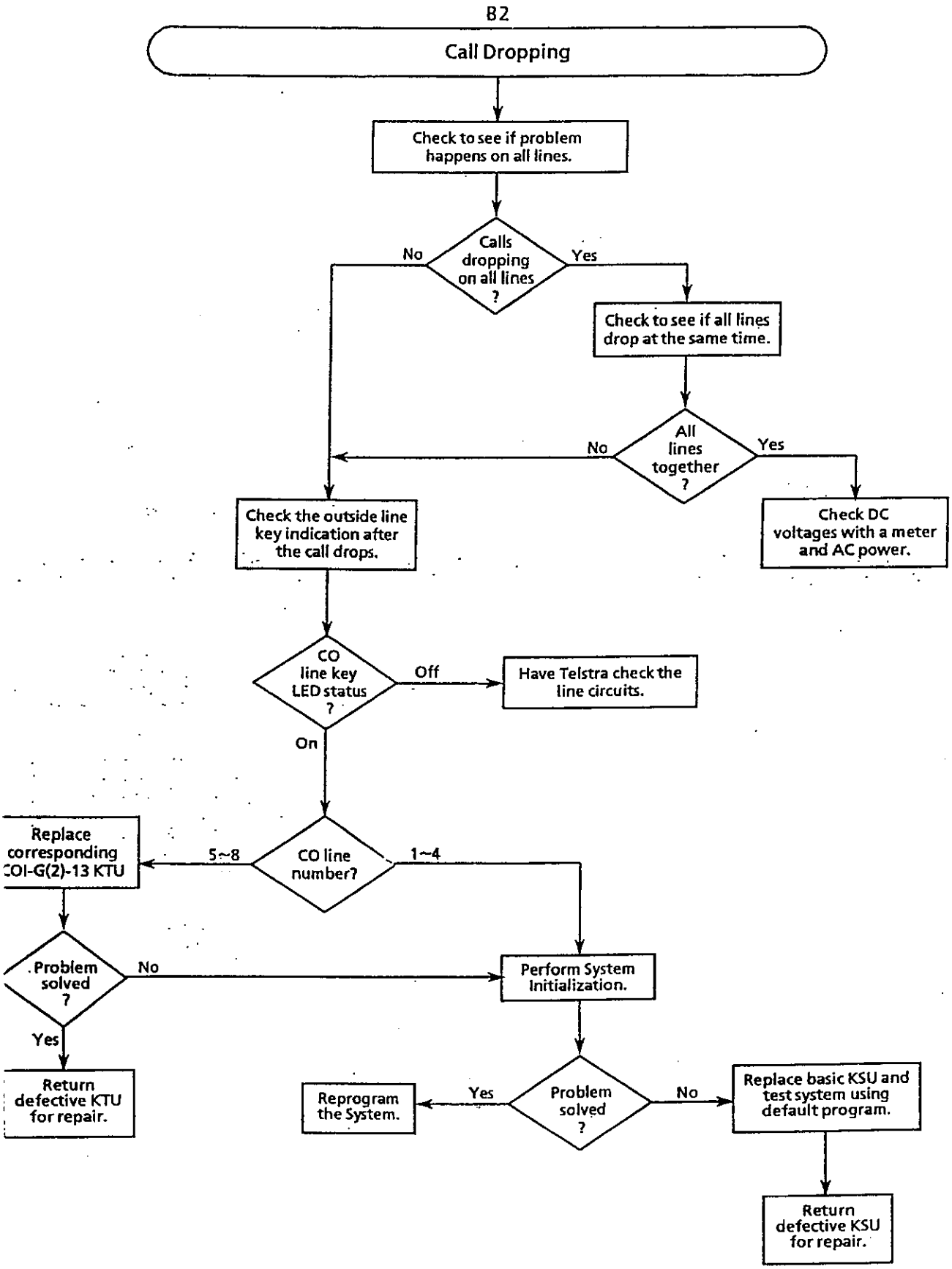
   COI-G(2)-13 KTU
   ESI-G(8)-13 KTU
   PBR-G-13 KTU
   VRS-G-13 KTU
   PRN-G-13 KTU
   FAX-G-13 KTU
   DPG-G-13 KTU
   TRF-G-13 KTU

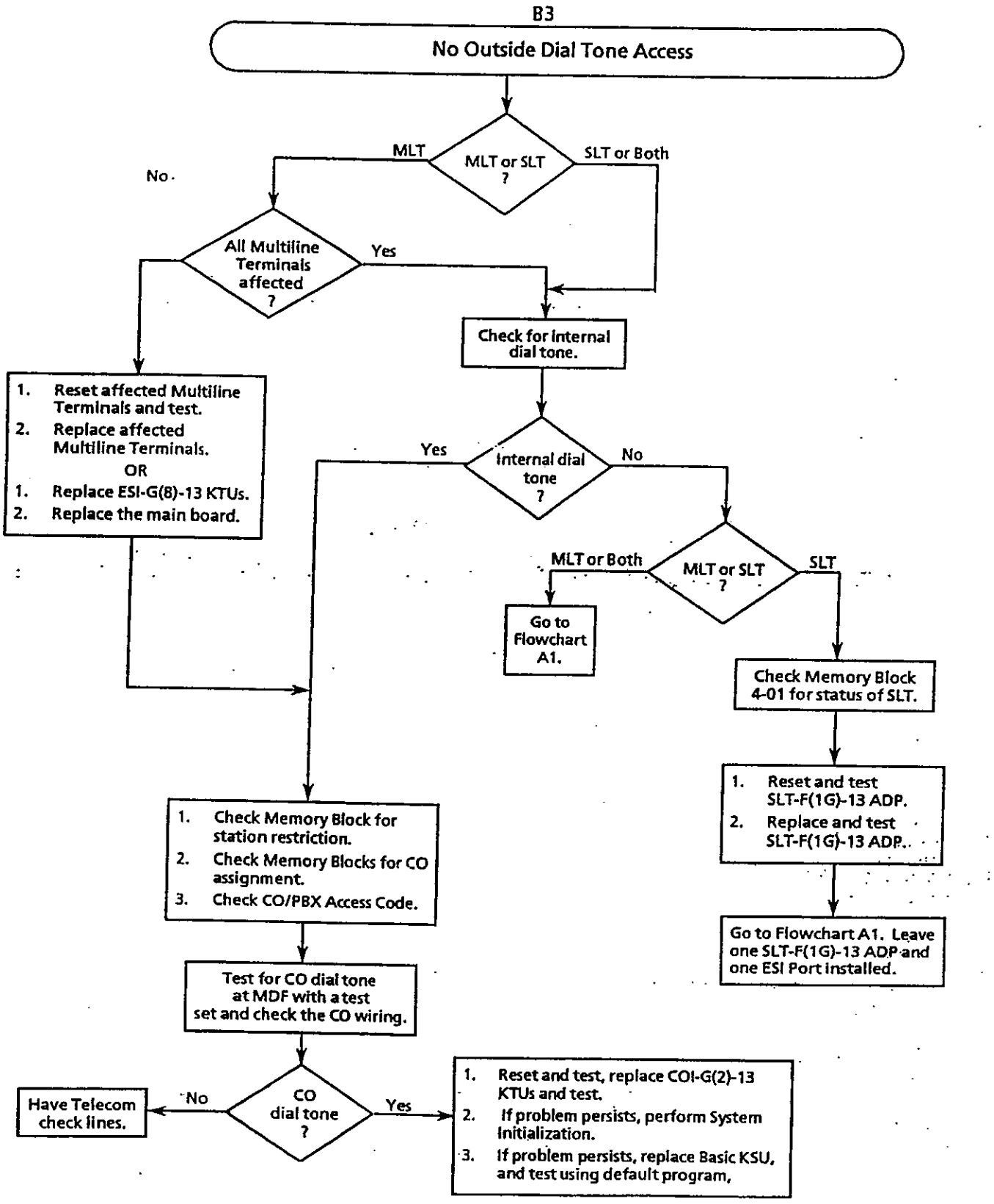
Table 3-2 Index Table of Flowcharts

Condition	Flowchart Number	Page Number
A. System Down		
1. No Internal Dial Tone to Any Multiline Terminal or Single Line Telephone	A1	3-5
2. No LED or Display Indications on Any Multiline Terminal	A2	3-6
B. Partial Operations		
1. Central Office Line Problems:		
A. No CO/PBX Ring or Intermittent CO/PBX Ring Problems	B1	3-7
B. Call Dropping	B2	3-8
C. No Outside Dial Tone Access	B3	3-9
D. CO/PBX Dialling Problem (Cannot Dial Out on CO)	B4	3-10
2. Multiline Terminal Problems:		
A. Multiline Terminal Function Problem	C1	3-11
B. Multiline Terminal Ringing Problems	C2	3-12
C. Multiline Terminal Dial Tone Access Problems	C3	3-13
3. Single Line Telephone Problems:		
A. No Dial Tone Access on Single Line Telephones	D1	3-14
B. Ringing Problem on Single Line Telephones	D2	3-15
C. No Dial Access to Features on Single Line Telephones	D3	3-16
4. Low Volume Problems	E1	3-17
5. External Paging Problem	F1	3-18
6. Station Message Detail Recording (SMDR) Output Problems (No Call Accounting System)	G1	3-19

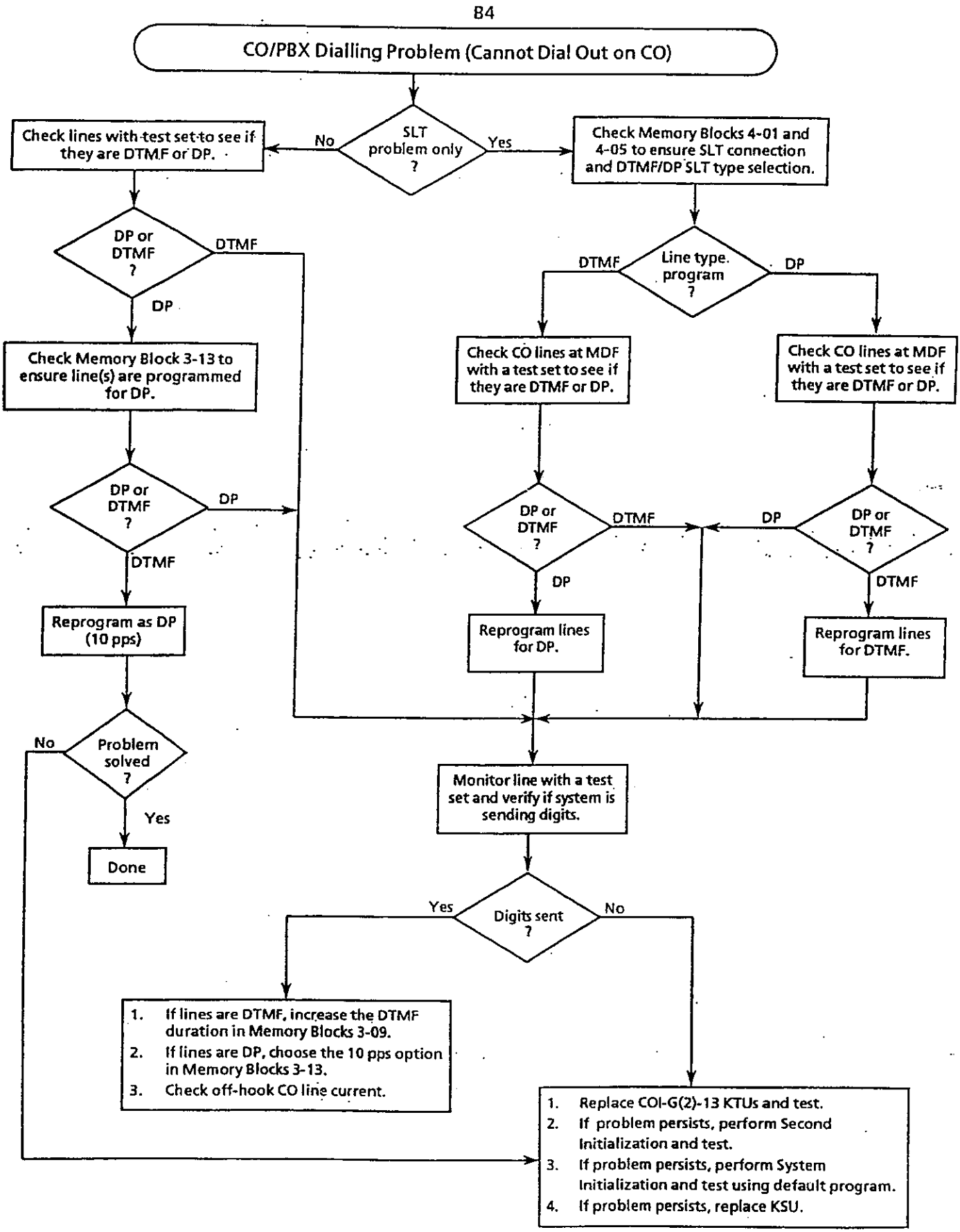
A1

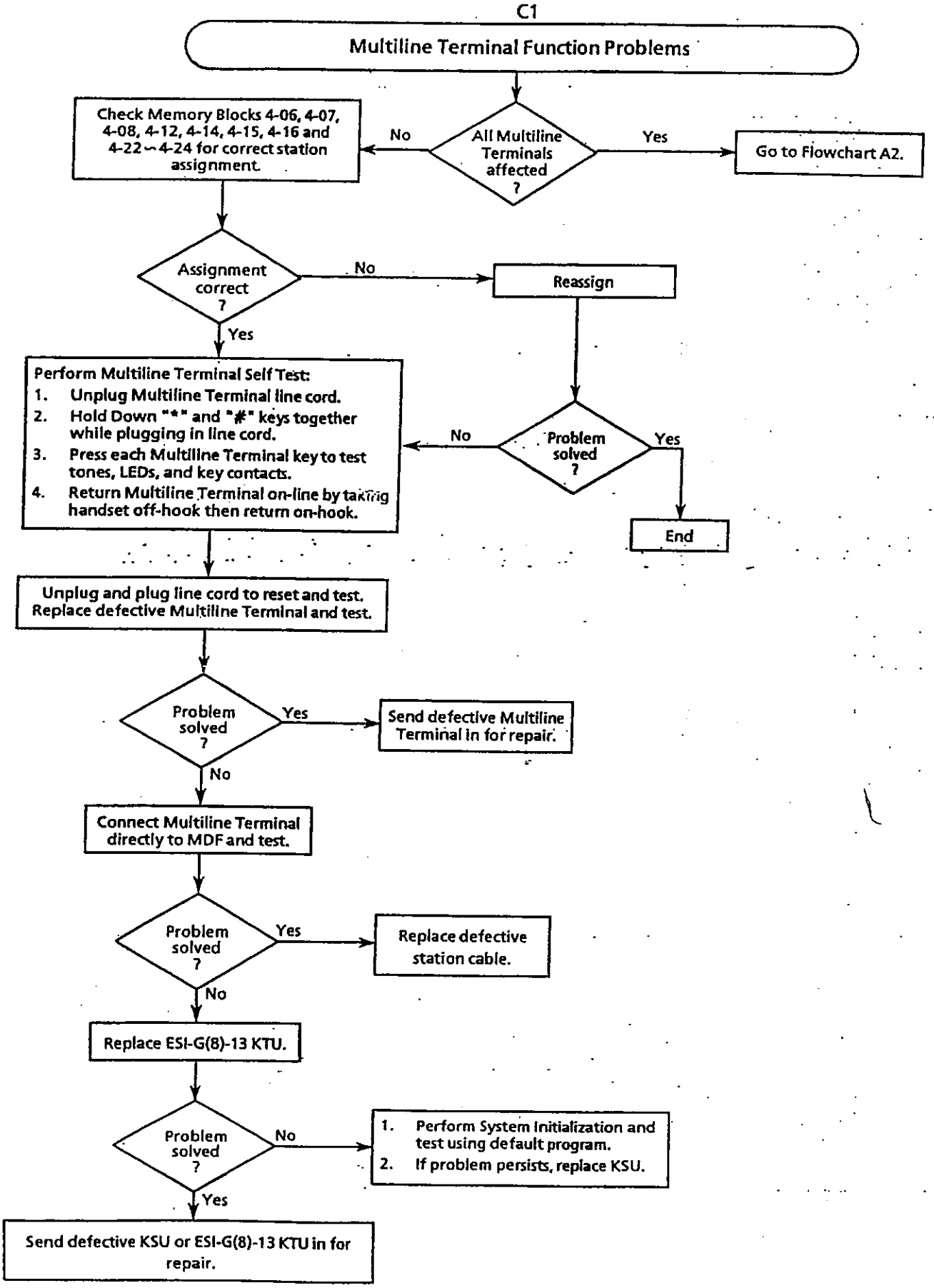

No Internal Dial Tone to Any Multiline Terminal or SLT
Check all DC voltages.
No DC voltage or incorrect DC voltages.
Check AC input power.
Good
Check AC power.
Bad
Correct AC power problem.
Good
Turn system off. Disconnect all connectors and remove all printed circuit boards except Main Board.
Check PSU Fuses F1, F101
Bad
Replace fuse(s).
Good
Turn system on and retest for dial tone on Multiline Terminal installed on 1st ESI Port.
Replace power supply.
Dial tone ?
Yes
No
Problem solved ?
Yes
Done
No
Rebuild system, one card at a time until problem reappears. Replace defective card.
Replace KSU.
1. Perform System Initialization and test using default program.
2. If problem persists, replace KSU.

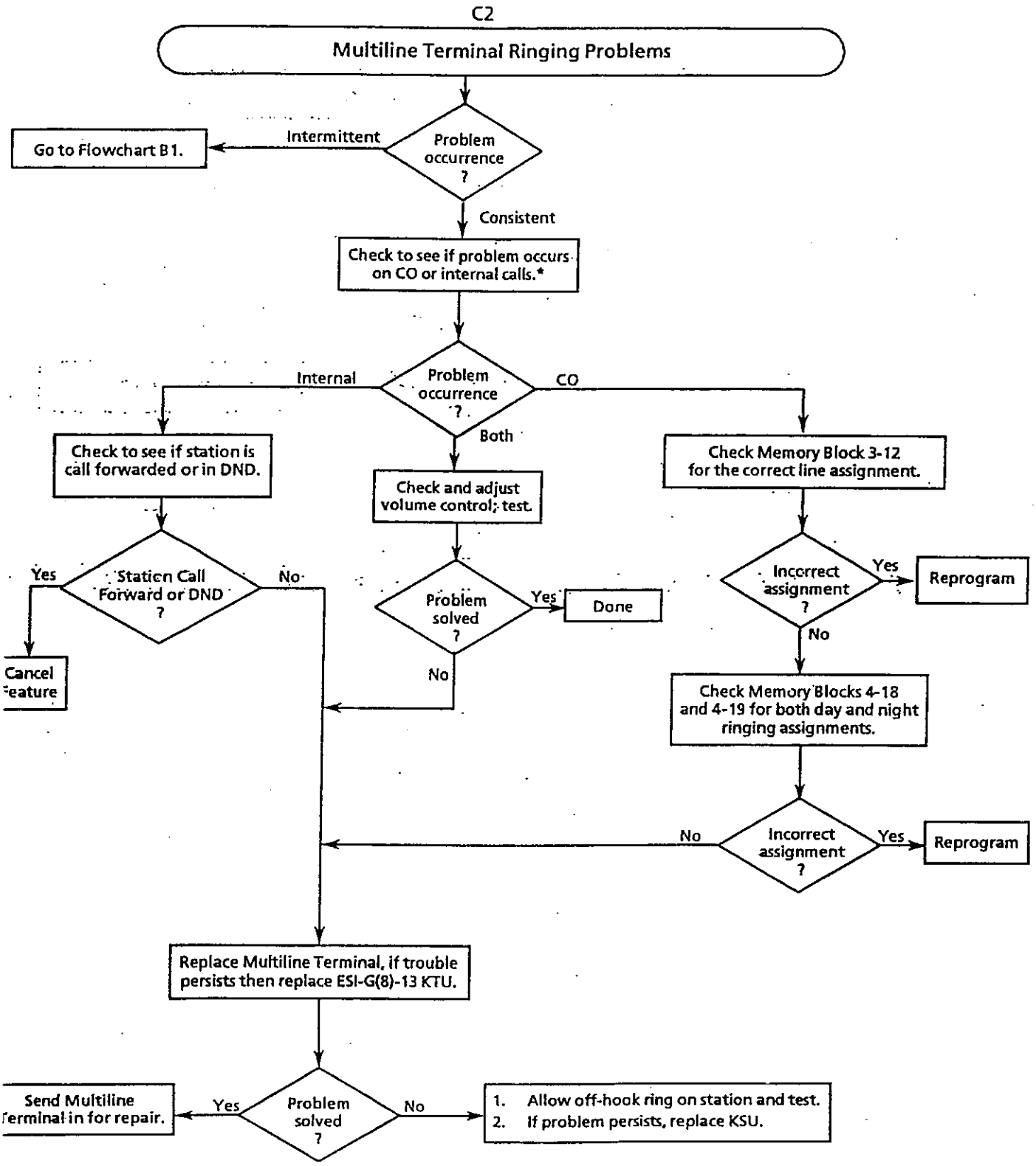



B3
No Outside Dial Tone Access
MLT or SLT ?
MLT
SLT or Both
No
All Multiline Terminals affected ?
Yes
Check for internal dial tone.
1. Reset affected Multiline Terminals and test.
2. Replace affected Multiline Terminals.
OR
1. Replace ESI-G(8)-13 KTUs.
2. Replace the main board.
Internal dial tone ?
Yes
No
MLT or SLT ?
MLT or Both
SLT
Go to Flowchart A1.
Check Memory Block 4-01 for status of SLT.
1. Reset and test SLT-F(1G)-13 ADP.
2. Replace and test SLT-F(1G)-13 ADP.
Go to Flowchart A1. Leave one SLT-F(1G)-13 ADP and one ESI Port installed.
1. Check Memory Block for station restriction.
2. Check Memory Blocks for CO assignment.
3. Check CO/PBX Access Code.
Test for CO dial tone at MDF with a test set and check the CO wiring.
CO dial tone ?
No
Yes
Have Telecom check lines.
1. Reset and test, replace COI-G(2)-13 KTUs and test.
2. If problem persists, perform System Initialization.
3. If problem persists, replace Basic KSU, and test using default program.

B4

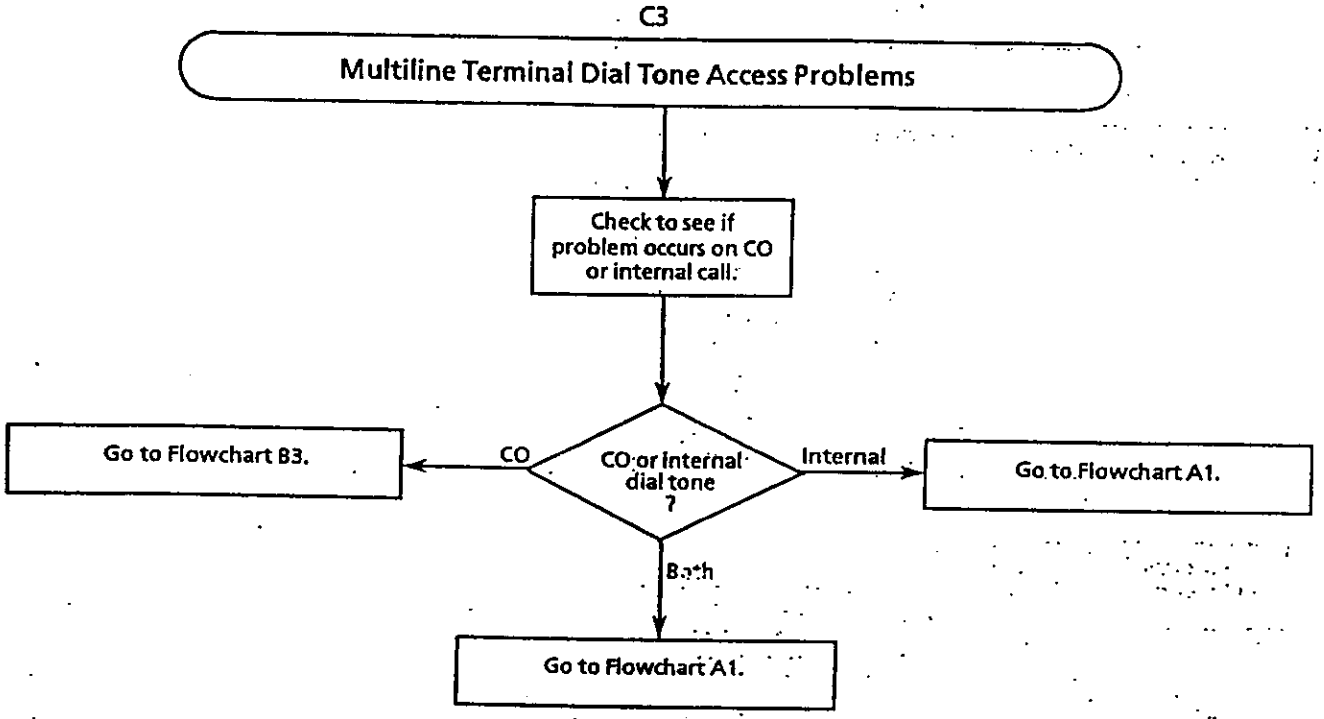



C1
Multiline Terminal Function Problems
All Multiline Terminals affected ?
No
Yes
Check Memory Blocks 4-06, 4-07, 4-08, 4-12, 4-14, 4-15, 4-16 and 4-22 ~ 4-24 for correct station assignment.
Go to Flowchart A2.
Assignment correct ?
No
Yes
Reassign
Perform Multiline Terminal Self Test:
1. Unplug Multiline Terminal line cord.
2. Hold Down "*" and "#" keys together while plugging in line cord.
3. Press each Multiline Terminal key to test tones, LEDs, and key contacts.
4. Return Multiline Terminal on-line by taking handset off-hook then return on-hook.
Problem solved ?
No
Yes
End
Unplug and plug line cord to reset and test. Replace defective Multiline Terminal and test.
Problem solved ?
Yes
Send defective Multiline Terminal in for repair.
No
Connect Multiline Terminal directly to MDF and test.
Problem solved ?
Yes
Replace defective station cable.
No
Replace ESI-G(8)-13 KTU.
Problem solved ?
No
1. Perform System Initialization and test using default program.
2. If problem persists, replace KSU.
Yes
Send defective KSU or ESI-G(8)-13 KTU in for repair.

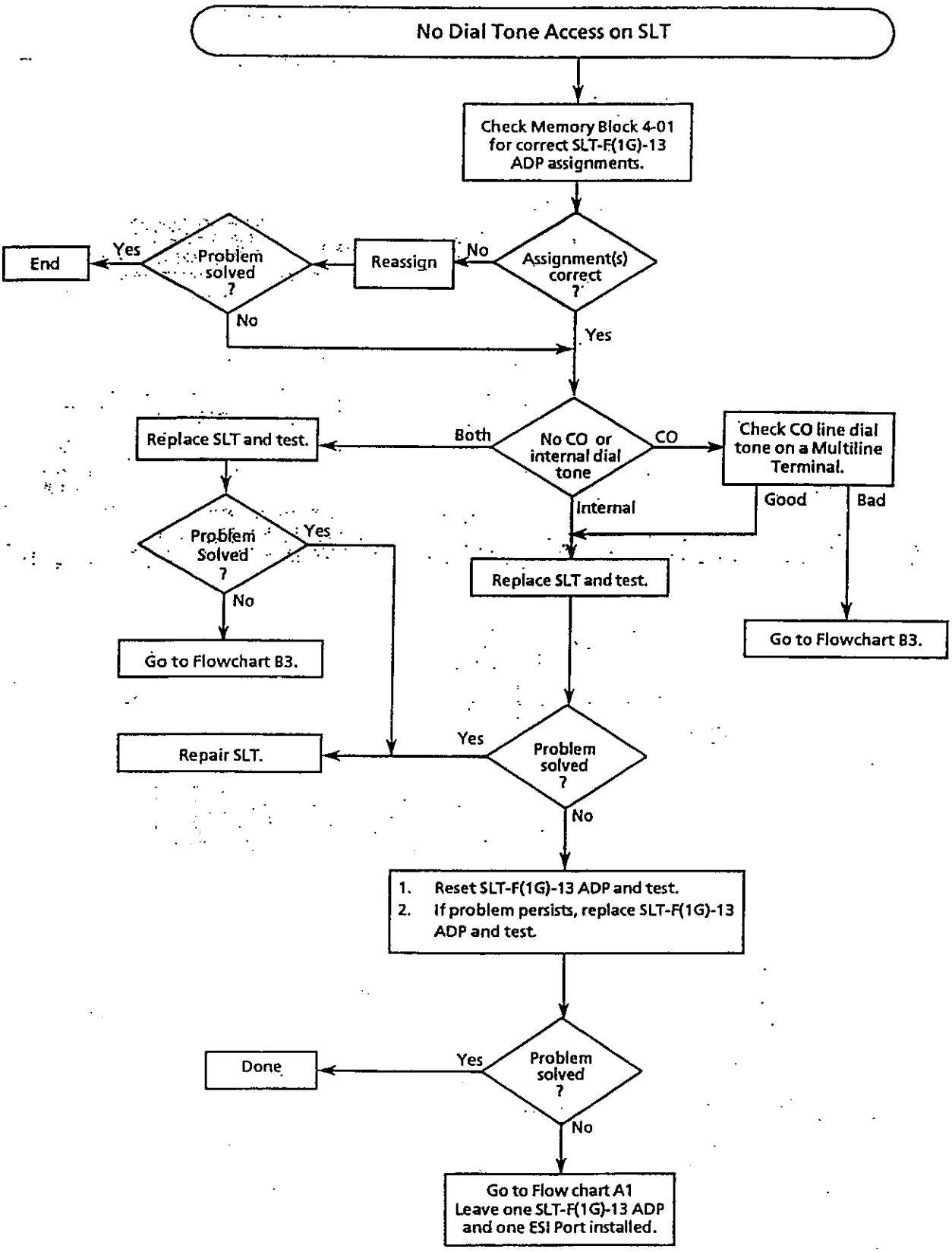


***Note:** Internal calls include station-to-station as well as transferred calls.

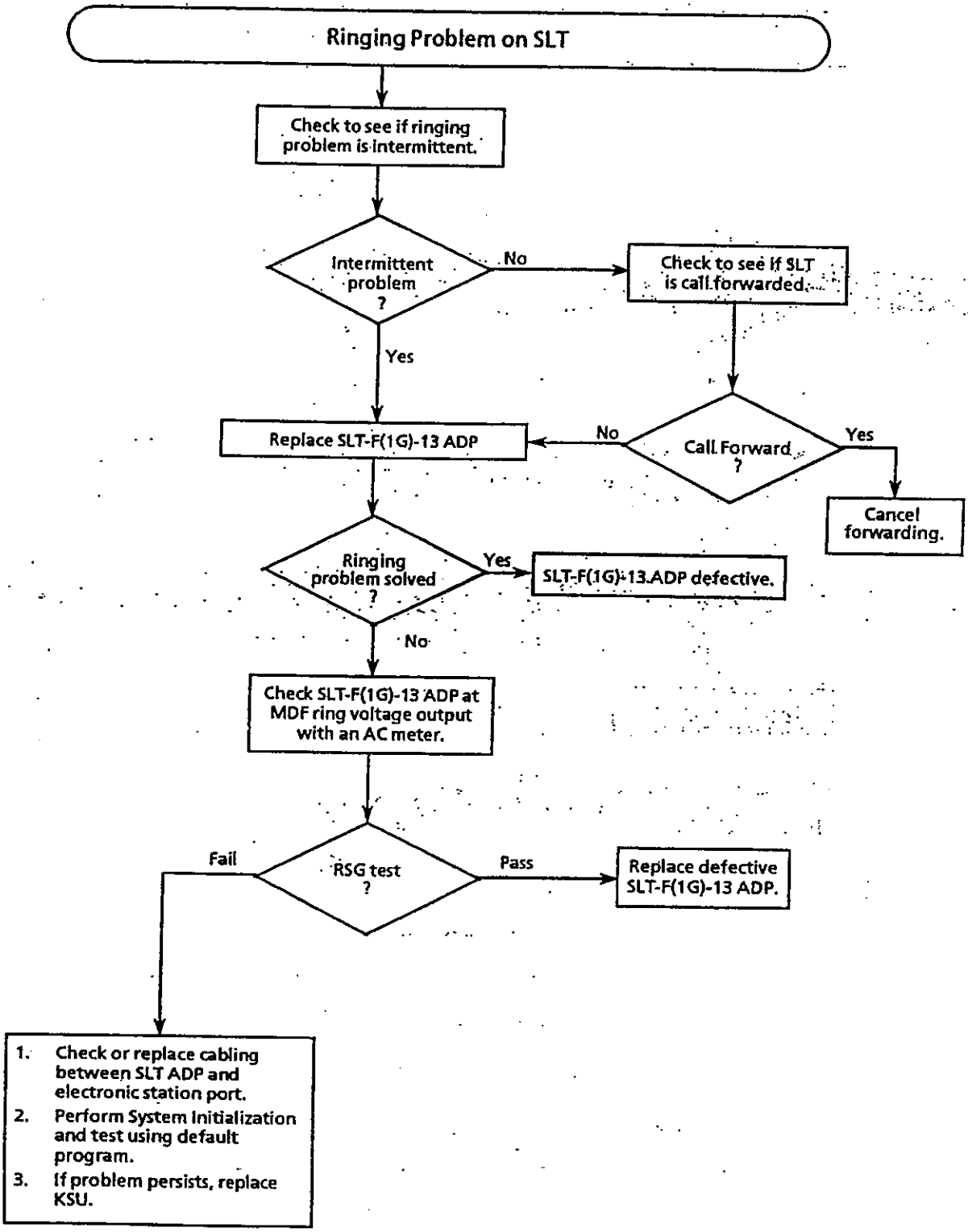
C3


Multiline Terminal Dial Tone Access Problems
Check to see if problem occurs on CO or internal call.
CO or internal dial tone ?
CO
Internal
Both
Go to Flowchart B3.
Go to Flowchart A1.
Go to Flowchart A1.

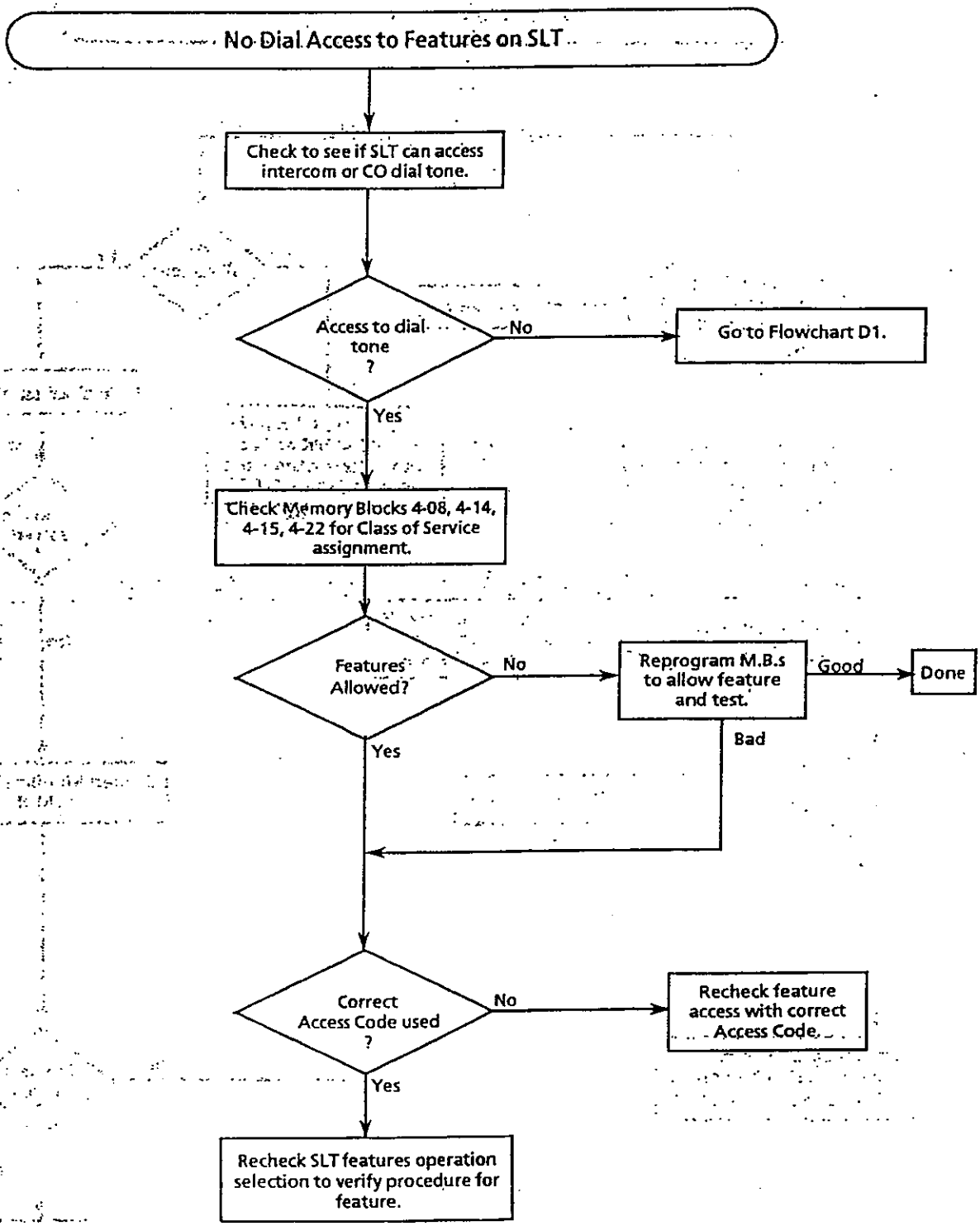
D1

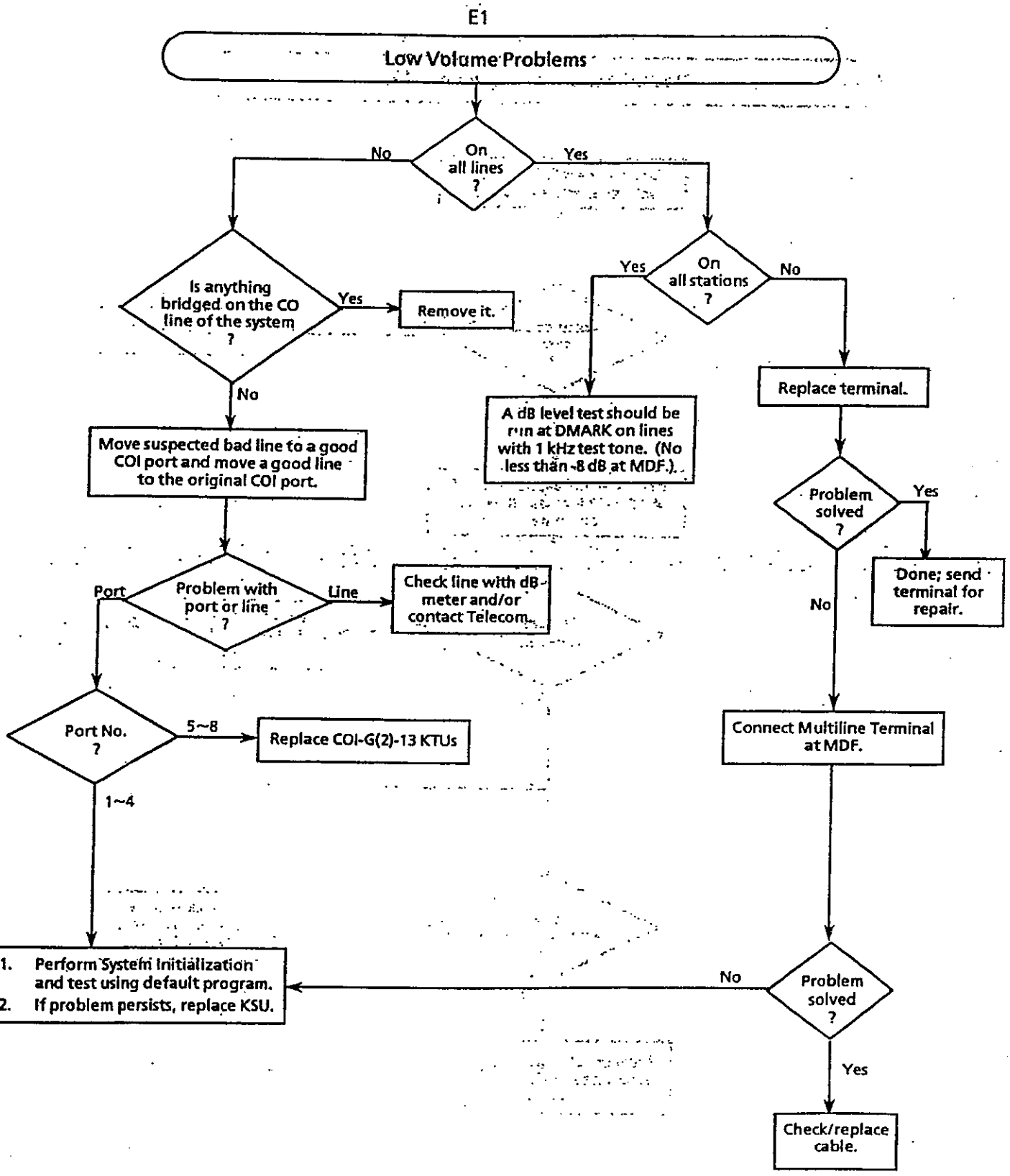


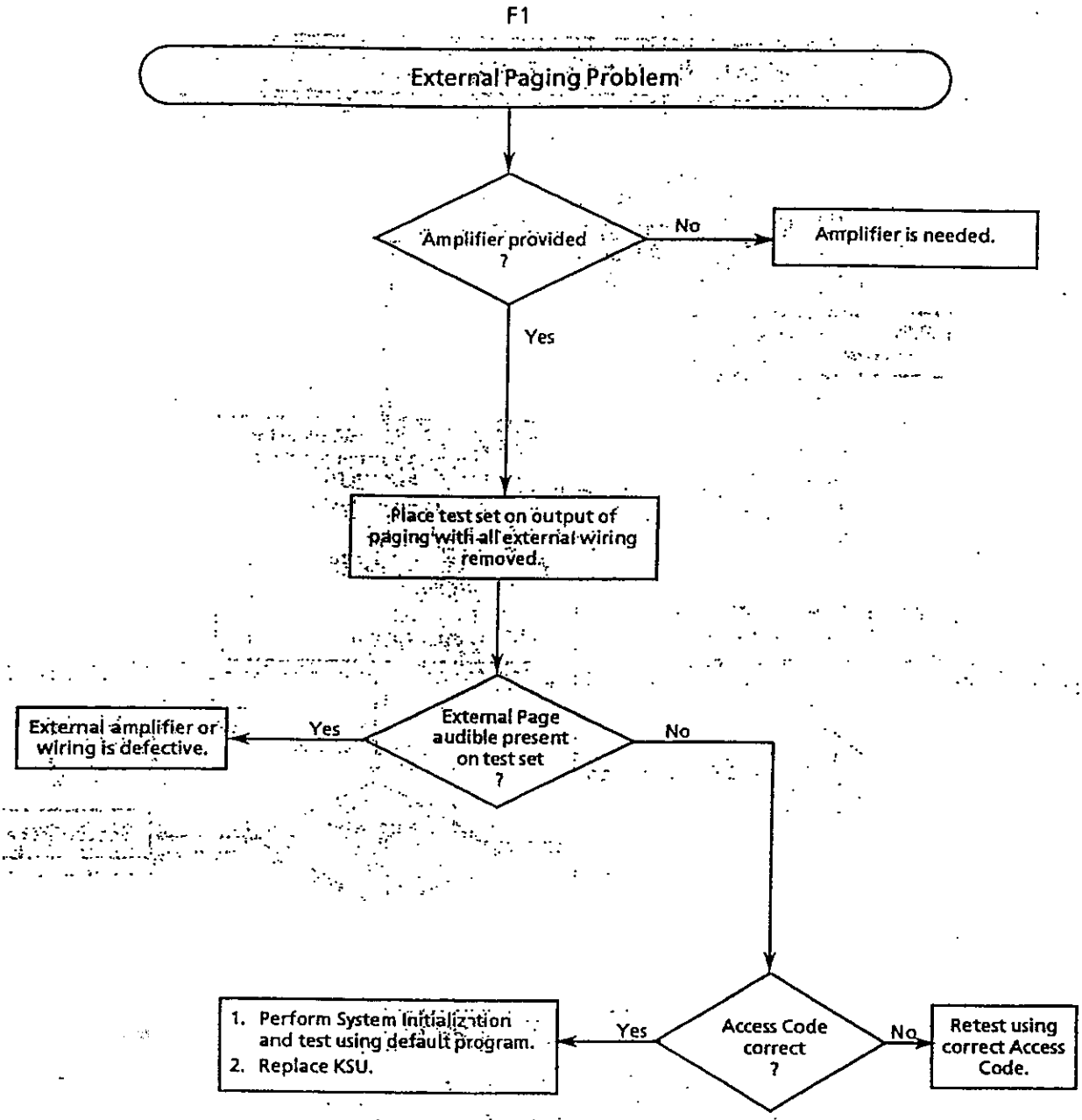
D2

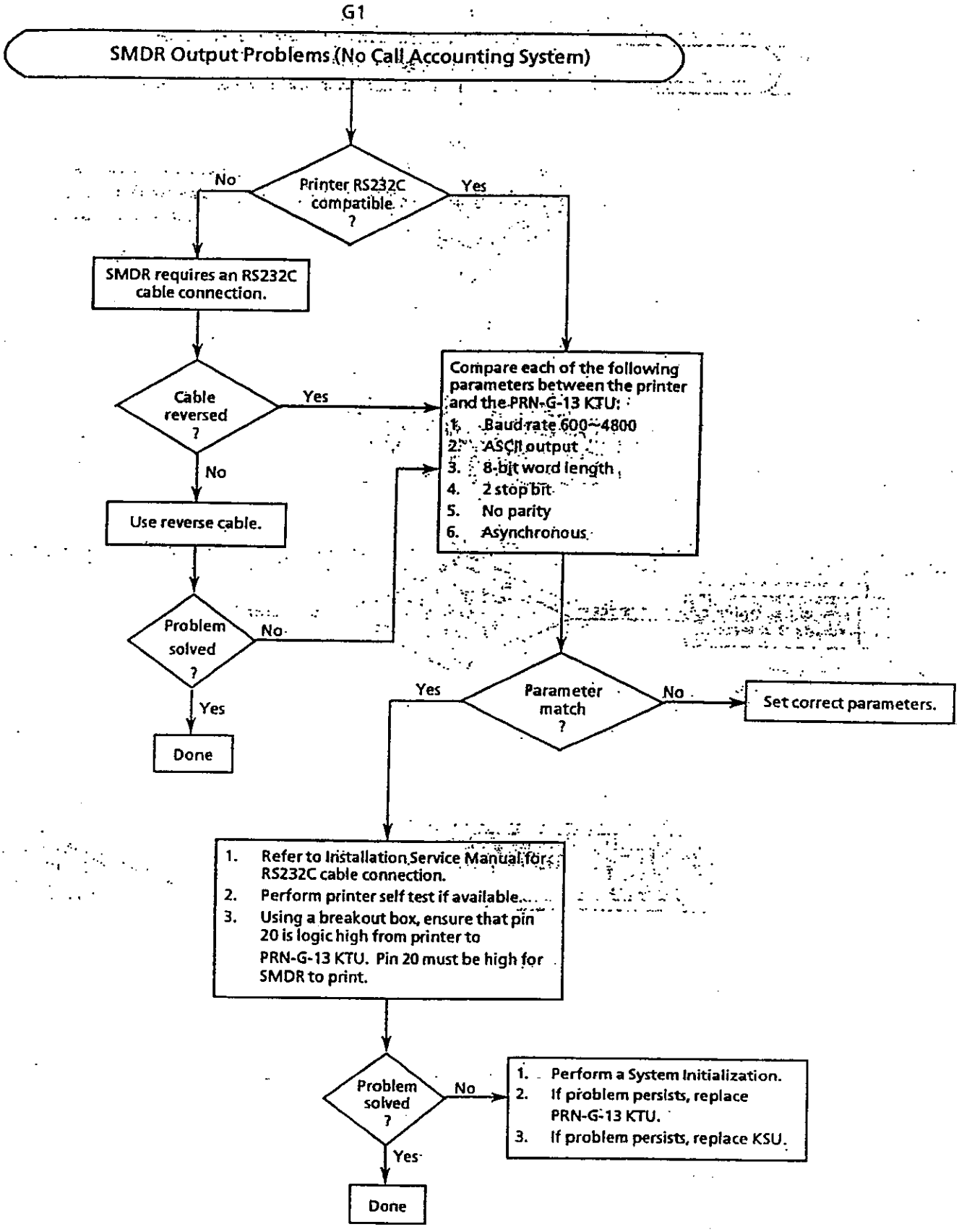

Ringing Problem on SLT
Check to see if ringing problem is intermittent.
Intermittent problem ?
No
Check to see if SLT is call forwarded.
Yes
Call Forward ?
Yes
Cancel forwarding.
No
Replace SLT-F(1G)-13 ADP
Ringing problem solved ?
Yes
SLT-F(1G)-13.ADP defective.
No
Check SLT-F(1G)-13 ADP at MDF ring voltage output with an AC meter.
RSG test ?
Fail
Pass
Replace defective SLT-F(1G)-13 ADP.
1. Check or replace cabling between SLT ADP and electronic station port.
2. Perform System Initialization and test using default program.
3. If problem persists, replace KSU.

D3


No Dial Access to Features on SLT
Check to see if SLT can access intercom or CO dial tone.
Access to dial tone ?
No
Go to Flowchart D1.
Yes
Check Memory Blocks 4-08, 4-14, 4-15, 4-22 for Class of Service assignment.
Features Allowed?
No
Reprogram M.B.s to allow feature and test.
Good
Done
Bad
Yes
Correct Access Code used ?
No
Recheck feature access with correct Access Code.
Yes
Recheck SLT features operation selection to verify procedure for feature.


E1
Low Volume Problems
On all lines ?
No
Yes
Is anything bridged on the CO line of the system ?
Yes
Remove it.
No
On all stations ?
Yes
No
A dB level test should be run at DMARK on lines with 1 kHz test tone. (No less than -8 dB at MDF.)
Replace terminal.
Move suspected bad line to a good COI port and move a good line to the original COI port.
Problem solved ?
Yes
Done; send terminal for repair.
No
Port
Problem with port or line ?
Line
Check line with dB meter and/or contact Telecom.
Port No. ?
5~8
Replace COI-G(2)-13 KTUs
1~4
Connect Multiline Terminal at MDF.
1. Perform System Initialization and test using default program.
2. If problem persists, replace KSU.
No
Problem solved ?
Yes
Check/replace cable.


F1
External Paging Problem
Amplifier provided ?
No
Amplifier is needed.
Yes
Place test set on output of paging with all external wiring removed.
External Page audible present on test set ?
Yes
External amplifier or wiring is defective.
No
Access Code correct ?
Yes
1. Perform System Initialization and test using default program.
2. Replace KSU.
No
Retest using correct Access Code.


G1
SMDR Output Problems (No Call Accounting System)
Printer RS232C compatible ?
No
Yes
SMDR requires an RS232C cable connection.
Cable reversed ?
Yes
No
Use reverse cable.
Problem solved ?
No
Yes
Done
Compare each of the following parameters between the printer and the PRN-G-13 KTU:
1. Baud rate 600~4800
2. ASCII output
3. 8-bit word length
4. 2 stop bit
5. No parity
6. Asynchronous
Parameter match ?
Yes
No
Set correct parameters.
1. Refer to Installation Service Manual for RS232C cable connection.
2. Perform printer self test if available.
3. Using a breakout box, ensure that pin 20 is logic high from printer to PRN-G-13 KTU. Pin 20 must be high for SMDR to print.
Problem solved ?
No
Yes
Done
1. Perform a System Initialization.
2. If problem persists, replace PRN-G-13 KTU.
3. If problem persists, replace KSU.

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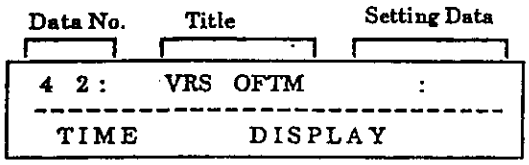
VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (OFF) TIME ASSIGNMENT

System	Data No.
1	42

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK1]
3. Enter: Data No. [4] [2] (Dial Pad)



4. Enter the data by using the Dial Pad.
   - Example: To switch time, enter 08:00

[←] [*] , [#] [→] : To move cursor.

Dial pad [0] ~ [9] : To enter Setting Data.

[HOLD] key : To clear all data when cursor is at Data No.

Default	Not Specified

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-43 (Doorphone Preference Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

GENERAL INFORMATION - VRS AUTOMATIC ANSWER/AUTOMATED ATTENDANT (OFF) TIME ASSIGNMENT

This Memory Block is used to automatically switch off the Automatic Answer/Automated Attendant feature.

DOORPHONE PREFERENCE SELECTION

System	Data No.
1	43

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [4] [3] (Dial Pad)

Data No. | Title | Setting Data

```
4 3 :   DPH PRF              YS
-------------------------------
 TIME        DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys | [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-44 [External Ring Selection (Day Mode)].
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	31	√	
Telephone (LK 4)	21		√
Telephone (LK 4)	18		√

GENERAL INFORMATION - DOORPHONE PREFERENCE SELECTION

This Memory Block is used to specify whether each station user is allowed to answer Doorphone calls by lifting the handset.

EXTERNAL RING SELECTION (DAY MODE)

System	Data No.
1	44

OPERATION:

Go off-line.

Enter: Mode System [LK 1]

▼

Enter: Data No. [4] [4]

(Dial Pad)

Data No.	Title	Setting Data
4 4 :	EXT RG DY	NO

TIME DISPLAY

Press the corresponding Dial Pad key to change the Setting Data option.

- To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

Pressing the CALL key will write the selected data and advance to Memory Block 1-45 (External Ring Selection (Night Mode)).

Press the SPKR key to go back on-line.

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	45		√

GENERAL INFORMATION - EXTERNAL RING SELECTION (DAY MODE)

3 Memory Block is used to specify whether ringing CO/PBX calls produce a ringing signal from the ernal Ringer Connection (CN16 "BZ" on the ESF-G-13 Mainboard) while the system is in Day Mode.

TRUNK QUEUING/HOLD FREE TRANSFER SELECTION

System	Data No.
1	47

OPERATION:

Go off-line.

Enter: Mode System [LK1]

Enter: Data No. [4] [7]

(Dial Pad)

ata No.	Title	Setting Data
7 :	BUSY TRK	QUE
TIME	DISPLAY	

Press the corresponding Dial Pad key to change the Setting Data option.

To change No to Yes, press Dial Pad key 1.

ial 0	Dial 1	Dial 2	Dial 3	Dial 4
HF	HFT			
ial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

[ ] Default

= Trunk Queuing
= Hold Free Transfer

Pressing the CALL key will write the selected data and advance to Memory Block 1-48 General Purpose Relay Assignment).

Press the SPKR key to go back on-line.

NOTES:

1. When Hold Free Transfer is assigned, trunk queuing cannot be accessed by pressing a specific CO/PBX line.

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GENERAL INFORMATION - TRUNK QUEUING/HOLD FREE TRANSFER SELECTION

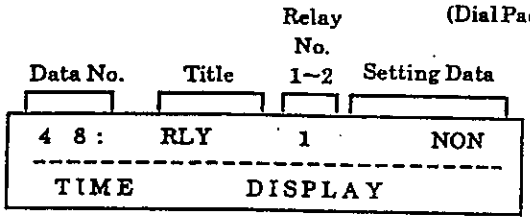
Memory Block specifies whether Hold Free Transfer or Trunk Queuing is initiated when a busy CO/PBX Key is pressed.

GENERAL PURPOSE RELAY ASSIGNMENT

System	Data No.
1	48

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK1]
3. Enter: Data No. [4] [8] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Non to Doorphone 1, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Non	Door Lock Release 1	Door Lock Release 2	External Speaker	MOH/BGM
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

[*] , [#] : To move cursor.

Dial pad [0] ~ [1] : To change the Setting Data

5. Pressing the CALL key will write the selected data and advance to the next relay or to Memory Block 1-49 (Synchronous Ringing Selection).
6. Press the SPKR key to go back on-line.

NOTES:

1. The General Purpose Relays are assigned as follows:
   a. Door Lock Release (1 and/or 2)
   b. External Amplifier Control (for External Paging)
   c. External Music On Hold (MOH)/ Background Music (BGM) Control
2. The General Purpose Relays cannot be assigned to more than one function at the same time.

■ Additional Programming

None

GENERAL INFORMATION - GENERAL PURPOSE RELAY ASSIGNMENT

This Memory Block is used to assign a function to each of the General Purpose Relays.

SYNCHRONOUS RINGING SELECTION

System	Data No.
1	49

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [4] [9] (Dial Pad)

Data No. Title Setting Data

```
4 9 :  SYNCHRONUS        YS
-------------------------------
  TIME        DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-50 (Elapsed Call Time Display Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 3)	25		√

NOTES:

1. Synchronous Ringing does not apply to Off-Hook Ringing calls.
2. When Synchronous Ringing is off, incoming CO/PBX ring pattern is determined by MB 3-25, Ring Cycle Selection.

GENERAL INFORMATION - SYNCHRONOUS RINGING SELECTION

This Memory Block specifies whether incoming CO/PBX calls can be programmed for Synchronous Ringing.

ELAPSED CALL TIME DISPLAY SELECTION

System	Data No.
1	50

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [5] [0] (Dial Pad)

Data No.	Title	Setting Data
5 0 :	DSP TM	YS
TIME	DISPLAY	

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys — [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-51 (External MOH Selection).
6. Press the SPKR key to go back on-line.

Additional Programming

None

GENERAL INFORMATION - ELAPSED CALL TIME DISPLAY SELECTION

This Memory Block specifies whether elapsed call time display is allowed or denied on a system-wide basis.

EXTERNAL MOH SELECTION

System	Data No.
1	51

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [5] [1] (Dial Pad)

Data No. | Title | Setting Data

```
5 1 :   EXT MOH          NO
-------------------------------
  TIME      DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys; [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-52 (8-Digit Matching Table Assignment).
6. Press the SPKR key to go back on-line.

NOTES:

1. When external MOH is set to Yes, the internal music source is turned off.

■ Additional Programming

None

GENERAL INFORMATION - EXTERNAL MOH SELECTION

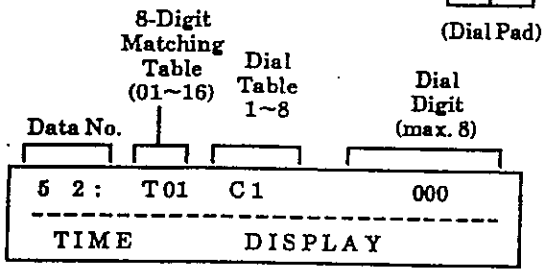
This Memory Block is used to specify whether External MOH is connected (Yes or No).

8-DIGIT MATCHING TABLE ASSIGNMENT

System	Data No.
1	52

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [5] [2] (Dial Pad)



4. Enter the data by using the Dial Pad.

   Data: Matching Table: 01~16 (8-digit)
   Dial Table: 1~8
   Dial Digit: 0~9, *, #, X (Max. eight digits)

   [←] [*] , [#] [→] : To move cursor.

   Dial pad [0] ~ [9] : To enter Setting Data.

   [HOLD] key : Set Data Clear

Operation Data	Dial Number	Operation
X	0~9, *, #	LNR/SPD key + 7
*	*	LNR/SPD key + *
#	#	LNR/SPD key + #

NOTES:

1. There are 16, 8-Digit Matching Tables. Each 8-Digit Matching Table contains eight Dial Tables. Each Dial Table can be assigned a maximum of eight digits, including *, # and X.

DEFAULT:

Matching Table	Dial Code	Setting Data
01	1	000
01	2	1144X
All other entries blank.		

5. Press the CALL key, the entered data will be written and the data for the next Dial Table/8-Digit Matching Table will be displayed.
6. After entering the desired data for the last Dial Tables and 8-Digit Matching Tables, press the CALL key to write the data and advance to Memory Block 1-53 (Class Allow/Deny Assignment).
7. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	53		√
System (LK 1)	54		√
Telephone (LK 4)	24		√

GENERAL INFORMATION - 8-DIGIT MATCHING TABLE ASSIGNMENT

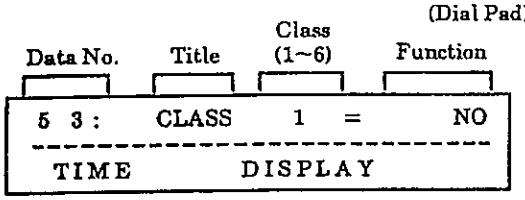
This Memory Block is used to assign the outgoing dial digits for Code Restriction (except OCC Dial Digits). There are two ways to program this assignment: a) If the user dials a digit(s) and there is a match, the system can Allow free dialling or Deny dialling by disconnecting. This is programmed in Memory Block 1-54 (8-Digit Matching Table to Class Assignment). b) If the user dials a digit(s) and there is not a match, the system can allow free dialling or deny dialling by disconnecting. This is programmed in Memory Block 1-53 (Class Allow/Deny Assignment).

CLASS ALLOW/DENY ASSIGNMENT

System	Data No.
1	53

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [5] [3] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys

No = Deny
Yes = Allow

Default	Class 0 Yes (allow) [fixed] Class 1~4 Yes (allow) Class 5~6 No (deny) Class 7 No (deny) [fixed]

5. Press the CALL key, the entered data will be written and the data for the next Class No. will be displayed.
6. After entering the desired data for the last Class No., press the CALL key to write the data and advance to Memory Block 1-54 (8-Digit Matching Table to Class Assignment).
7. Press the SPKR key to go back on-line.

NOTES:

1. Class 0 is fixed as Yes (allow).
2. Class 7 is fixed as No (deny).
3. Only Classes 1~6 are programmable and can be accessed from this Memory Block.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	52		√
System (LK1)	54		√

GENERAL INFORMATION - CLASS ALLOW/DENY ASSIGNMENT

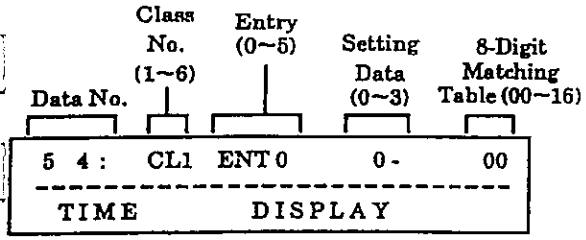
This Memory Block allows the assignment of allow or deny for the Class Assignment tables. This assignment is used when there is no match in the 8-Digit Matching Table or if numbers overlap (duplicate numbers with different Allow/Deny designations within the same Class of Service table) in the 8-Digit Matching Tables.

8-DIGIT MATCHING TABLE TO CLASS ASSIGNMENT

System	Data No.
1	54

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [5] [4] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.

   Class: 1~6
   Entry: 0~5
   Setting Data:
   0 = Deny
   1 = Allow
   ~~2 = Deny (OCC Calls Only)~~
   ~~3 = Allow (OCC Calls Only)~~
   8-Digit Matching Table
   01~16 = Specified
   00 = Not Specified

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Deny	Allow	Deny (OCC)	Allow (OCC)	
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys Default

5. Press the CALL key, the entered data will be written and the data for the next Class Assignment Table/Class No. will be displayed.
6. After entering the desired data for the last Class Assignment Tables and Classes, press the CALL key to write the data and advance to Memory Block 1-55 (8-Digit Matching Table to Trunk Group Assignment).
7. Press the SPKR key to go back on-line.

NOTES:

1. Class 0 is No Restriction.
2. Class 7 is No Outgoing Call.
3. Only Classes 1~6 can be accessed from this Memory Block.
4. Only six 8-Digit Matching Tables can be assigned to each class.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	52		√
System (LK1)	53		√
System (LK1)	55		√

GENERAL INFORMATION - 8-DIGIT MATCHING TABLE TO CLASS ASSIGNMENT

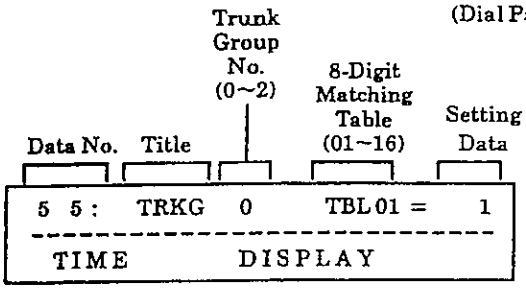
A Maximum of six 8-Digit Matching Tables can be programmed as Allow or Deny on a per class basis. Classes 0 and 7 are fixed (cannot be programmed). Classes 1~6 are programmable.

8-DIGIT MATCHING TABLE TO TRUNK GROUP ASSIGNMENT

System	Data No.
1	55

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [5] [5] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.

   Trunk Group No. : 0~2
   8-Digit Matching Table No. : 01~16
   Setting Data : 0 = Disable
   1 = Enable

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Disable	Enable			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Press the CALL key, the entered data will be written and the data for the next 8-Digit Matching Table/Trunk Group No. will be displayed.
6. After entering the desired data for the last 8-Digit Matching Tables and Trunk Groups, press the CALL key to write the data and advance to Memory Block 1-56 (OCC Table Assignment).
7. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	52		√
System (LK1)	53		√
System (LK1)	54		√
CO/PBX (LK3)	14		√

GENERAL INFORMATION - 8-DIGIT MATCHING TABLE TO TRUNK GROUP ASSIGNMENT

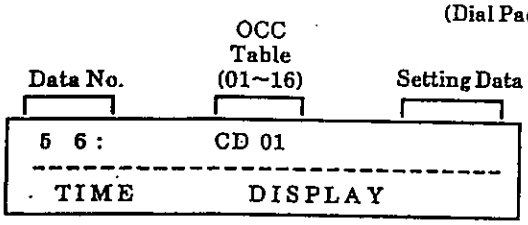
This Memory Block is used to assign each Trunk Group to the 8-Digit Matching Tables.

OCC TABLE ASSIGNMENT

System	Data No.
1	56

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [5] [6] (Dial Pad)



4. Use the Dial Pad keys to change the Setting Data option.

   Data: OCC Table : 01~16 (8-digit)
   Dial Digit : 0~9, *, #, X (Max. eight digits)

   ← [*] , [#] → : To move cursor.

   Dial pad [0] ~ [9] : To enter Setting Data.

   [HOLD] key : Set Data Clear

Operation Data	Dial Number	Operation
X	0~9, *, #	LNR/SPD key + 7
*	*	LNR/SPD key + *
#	#	LNR/SPD key + #

5. Press the CALL key, the entered data will be written and the data for the next OCC Table will be displayed.
6. After entering the desired data for the last OCC Tables, press the CALL key to write the data and advance to Memory Block 1-57 (OCC Table To Trunk Group Assignment).
7. Press the SPKR key to go back on-line.

Default	OCC Table 01~16	Blank

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	57		√
System (LK1)	58		√

GENERAL INFORMATION - OCC TABLE ASSIGNMENT

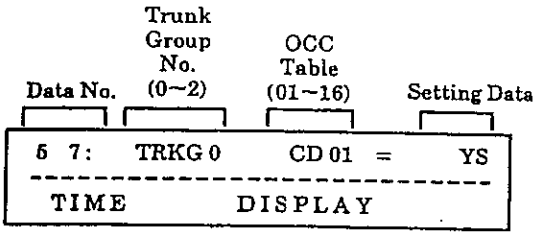
This Memory Block allows an OCC Code (maximum of eight digits) to be assigned in this table. Up to 16 numbers can be assigned in this table.

OCC TABLE TO TRUNK GROUP ASSIGNMENT

System	Data No.
1	57

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [5] [7] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

Trunk Group No. : 0~2
OCC Table No. : 01~16
Setting Data : Yes = Enable
No = Disable

5. Press the CALL key, the entered data will be written and the data for the next OCC Table/Trunk Group will be displayed.
6. After entering the desired data for the last OCC Table and Trunk Group, press the CALL key to write the data and advance to Memory Block 1-58 (8-Digit Matching Table to OCC Table Assignment).
7. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	56		√
System (LK1)	58		√

GENERAL INFORMATION - OCC TABLE TO TRUNK GROUP ASSIGNMENT

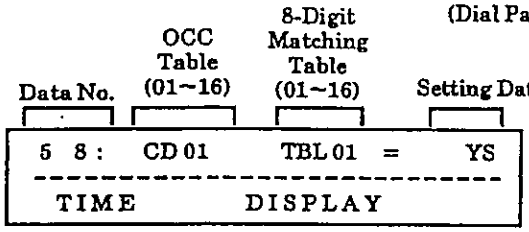
This Memory Block is used to assign each of the 16 OCC Tables to each Trunk Group.

8-DIGIT MATCHING TABLE TO OCC TABLE ASSIGNMENT

System	Data No.
1	58

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [5] [8] (Dial Pad)



4. Use the Dial Pad keys to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys

8-Digit Matching : 01~16
OCC Table No. : 01~16
Setting Data : Yes = All OCC Numbers Assigned
No = Not Assigned

Default	No (Not Assigned)

5. Press the CALL key, the entered data will be written and the data for the next 8-Digit Matching Table/OCC Table will be displayed.
6. After entering the desired data for all the last 8-Digit Matching Table and OCC Table, press the CALL key to write the data and to advance to Memory Block 1-59 (Internal/External Paging Alert Tone Selection).
7. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	52		√
System (LK1)	56		√
System (LK1)	57		√

GENERAL INFORMATION - 8-DIGIT MATCHING TABLE TO OCC TABLE ASSIGNMENT

This Memory Block is used to assign each of the 8-Digit Matching Tables to each of the OCC Tables.

INTERNAL/EXTERNAL PAGING ALERT TONE SELECTION

System	Data No.
1	59

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [5] [9] (Dial Pad)

Data No. Title Setting Data

```
5 9 :    PAG ALERT          YS
---------------------------------
  TIME       DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-60 (SLT Transfer Selection).
6. Press the SPKR key to go back on-line.

Additional Programming

None

GENERAL INFORMATION - INTERNAL/EXTERNAL PAGING ALERT TONE SELECTION

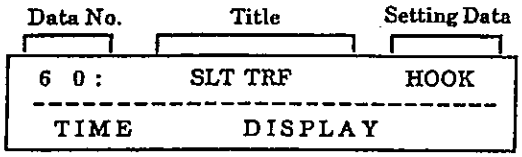
This Memory Block is used to determine whether a Call Alert Tone is provided when Internal/External Paging is used.

SLT TRANSFER SELECTION

System	Data No.
1	60

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [6] [0] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Hook to Hang Up, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Hook	Hang Up			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

Hook = Hooking (Hookflash→ Station Number → Hookflash → Hang up) [SLT]
Hang Up = On-Hook (Hookflash→ Station Number → Hang up) [Voice mail]

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-61 [Printer Connected (Alarm) Selection].
6. Press the SPKR key to go back on-line.

NOTE:

1. This Memory Block affects Single Line Telephone/Voice Mail Ports.

Additional Programming

None

GENERAL INFORMATION - SLT TRANSFER SELECTION

This Memory Block is used to select the transfer function of a Single Line Telephone Voice Mail Port.

PRINTER CONNECTED (ALARM) SELECTION

System	Data No.
1	61

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [6] [1] (Dial Pad)

Data No. | Title | Setting Data

```
6 1 :   PRINTER                YS
-------------------------------
  TIME        DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-62 (SMDR Print Format).
6. Press the SPKR key to go back on-line.

NOTES:

1. Program for Yes when a printer is connected.
2. SMDR cannot be used if this Memory Block is programmed for No.
3. Programming this Memory Block is required only when the PRN-G-13 KTU unit is installed.

■ Additional Programming

None

GENERAL INFORMATION - PRINTER CONNECTED (ALARM) SELECTION

This Memory Block must be programmed for Yes when a printer is connected. If the printer is disconnected from the system, an alarm will sound at stations connected to Ports 01 and 02.

SMDR PRINT FORMAT

System	Data No.
1	62

OPERATION:

1. Go off-line.
2. Enter: Mode System LK 1
3. Enter: Data No. 6 2 (Dial Pad)

Data No. Title Setting Data

```
6 2 :   FORMAT          OUT/ALL
-------------------------------
  TIME          DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Out/All to Out/Mask, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Out/All	Out/Mask	All/All	All/Mask	
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

Mask = Mask last 2 digits

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-63 (Voice Mail Access Code Assignment).
6. Press the SPKR key to go back on-line.

NOTES:

1. This Memory Block is required only when the PRN-G-13 KTU unit is installed in the system.
2. Out/All = Outgoing calls only, No digit masking.
   Out/Mask = Outgoing calls only, Mask last 2 digits.
   All/All = Incoming & Outgoing calls, No digit masking.
   All/Mask = Incoming & Outgoing calls, Mask last 2 digits.

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	61		√

GENERAL INFORMATION - SMDR PRINT FORMAT

This Memory Block specifies the format of the SMDR serial output. If Mask is specified, the last two digits of the dialled number (Outgoing calls only) will be masked and "XX" printed instead.

VOICE MAIL ACCESS CODE ASSIGNMENT

System	Data No.
1	63

OPERATION:

. Go off-line.

:. Enter: Mode System [LK1]

:. Enter: Data No. [6] [3] (Dial Pad)

Data No. | Access Code No. (1~11) | Title | Setting Data (max. 4 digits)

```
6 3 :   VM01   RLI
-------------------------
  TIME      DISPLAY
```

. Enter the data by using the Dial Pad.

←[*], [#]→ : To move cursor.

ial pad [0] ~ [9] : To enter Setting Data.

[LNR/SPD] + * = *

[LNR/SPD] + # = #

[HOLD] key : To clear Set Data

Default	Access Code 01~09:	All Blank
	Access Code 10:	641
	Access Code 11:	Blank

. Press the CALL key, the entered data will be written and the data for the next Voice Mail Access Code will be displayed.

. After enetering the desired data for the last Voice Mail Access Code, press the CALL key to write the data and advance to Memory Block 1-64 (Voice Mail DTMF Delay Timer Selection).

. Press the SPKR key to go back on-line.

NOTES:

1. A maximum number of four digits can be used as Access Codes.

Access Code No.	Access Feature
01	Remote Logon (Internal)
02	Direct Logon
03	Transfer Message
04	Record Message
05	Forward All Calls
06	Forward Busy
07	Forward No Answer
08	Remote Logon (Trunk)
09	DTMF Disconnect Signal
10	Message Wait Indication (set)
11	Message Wait Indication (cancel)

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	64		√
System (LK1)	65		√

GENERAL INFORMATION - VOICE MAIL ACCESS CODE ASSIGNMENT

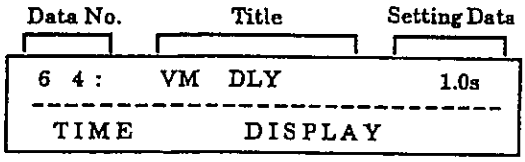
'his Memory Block is used to specify the Access Codes required for integrating to Voice Mail.

VOICE MAIL DTMF DELAY TIMER SELECTION

System	Data No.
1	64

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [6] [4] (Dial Pad)



4. Press the corresponding Dial Pad key to enter the Setting Data option.
   - To change 1.0 sec. to 2.0 sec., press Dial Pad key 4.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
0 sec.	0.1 sec.	0.5 sec.	1.0 sec.	2.0 sec.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
4.0 sec.	6.0 sec.	8.0 sec.	10.0 sec.	14.0 sec.

Dial Pad keys [ ] Default

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-65 (Voice Mail DTMF Duration/Interdigit Time Selection).
6. Press the SPKR key to go back on-line.

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	63	√	
System (LK1)	65		√

GENERAL INFORMATION - VOICE MAIL DTMF DELAY TIMER SELECTION

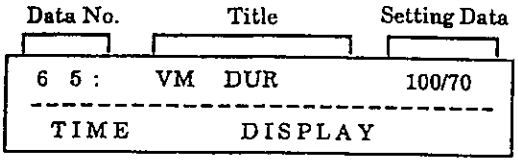
This Memory Block is used to specify the delay time before DTMF tones are sent to the Vocie Mail ports.

VOICE MAIL DTMF DURATION/INTERDIGIT TIME SELECTION

System	Data No.
1	65

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [6] [5] (Dial Pad)



4. Press the corresponding Dial Pad key to enter the Setting Data option.
   - To change 100/70 ms. to 600/100 ms., press Dial Pad key 4.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
70/60 ms.	100/50 ms.	100/70 ms.	400/100 ms.	600/100 ms.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
900/200 ms.				

Dial Pad keys [ ] Default

Default	Duration Time:	100 ms.
	Interdigit Time:	70 ms.

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-66 (VRS Answer Mode Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - VOICE MAIL DTMF DURATION/INTERDIGIT TIME SELECTION

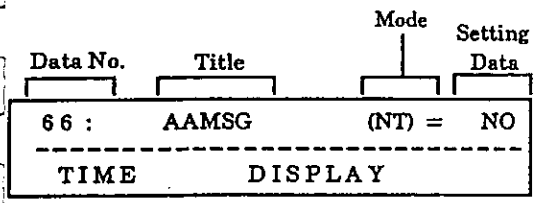
This Memory Block is used to specify the DTMF signal duration and Interdigit time for Voice Mail.

VRS ANSWER MODE SELECTION

System	Data No.
1	66

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1] ○ MIC ● ICM
3. Enter: Data No. [6][6] (Dial Pad)



Mode: DY = Day
NT = Night
WK = Weekend

Setting Data: NO = Automatic Answer
YS = Automated Attendant

4. Press the corresponding dial pad key to change setting data option.
   - To change NO to YS, press dial pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
NO	YS			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Pressing the CALL key writes the selected data and advances to the next Memory Block 1-67 (Automated Attendant Answer Delay Time Assignment.)
6. Press the SPKR key to go back on-line.

Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

GENERAL INFORMATION - VRS ANSWER MODE SELECTION

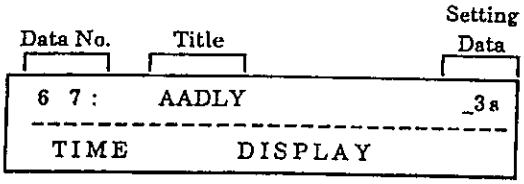
This Memory Block is used to specify the Day, Night, or Weekend Mode in which the Automatic Answer/Automated Attendant feature should answer incoming calls.

AUTOMATED ATTENDANT ANSWER DELAY TIME ASSIGNMENT

System	Data No.
1	67

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1] ○ MIC ● ICM
3. Enter: Data No. [6] [7] (Dial Pad)



Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
0 sec.	3 sec.	6 sec.	12 sec.	18 sec.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
24 sec.	30 sec.	36 sec.	42 sec.	48 sec.

Dial Pad keys [ ] Default

4. Use the dial pad to enter the seconds.
5. Pressing the CALL key writes the selected data and advances to the next Memory Block 1-68 (Automated Attendant PBR Release Timer Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

GENERAL INFORMATION - AUTOMATED ATTENDANT ANSWER DELAY TIME ASSIGNMENT

This Memory Block is used to assign the number of seconds before the Automated Attendant will answer an incoming CO/PBX call.

AUTOMATED ATTENDANT PBR RELEASE TIMER SELECTION

System	Data No.
1	68

OPERATION:

1. Go off-line.
2. Enter: Mode System — LK 1 (○ MIC, ● ICM)
3. Enter: Data No. — 6 8 (Dial Pad)

Data No.	Title	Setting Data
6 8 :	AA PBR TIME	20 s
TIME	DISPLAY	

4. Press the corresponding dial pad key to change setting data option.
   - To change 20 sec. to 30 sec., press Dial Pad key 3.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
0 sec.	10 sec.	20 sec.	30 sec.	40 sec.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
50 sec.	60 sec.			

Dial Pad keys [.] Default

5. Pressing the CALL key writes the selected data and advances to Memory Block 1-69 (Automated Attendant Delay Ringing Time Selection).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

GENERAL INFORMATION - AUTOMATED ATTENDANT PBR RELEASE TIMER SELECTION

This Memory Block is used to specify the time interval during which a receiver is connected when a calling party, through an Automated Attendant trunk, is dialling.

UTOMATED ATTENDANT NO ANSWER DISCONNECT TIME SELECTION

System	Data No.
1	70

OPERATION:

Go off-line.

Enter: Mode System [LK 1] ○ MIC ● ICM

▼

Enter: Data No. [7] [0]

(Dial Pad)

a No.	Title	Setting Data
0 :	AA DIS	2m

IME DISPLAY

ress the corresponding dial pad key to change etting data option.

- To change 2 min. to 3 min., press dial pad key 2.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
min.	2 min.	3 min.	4 min.	
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

ressing the CALL key writes the selected data nd advances to Memory Block 1-71 (Automated ttendant No DTMF Detect Selection).

ress the SPKR key to go back on-line.

NOTES:

1. If the called party does not answer within the predetermined time, the call is disconnected.

dditional Programming

fer to Section 6 - Guide to Feature Programming in this chapter.

GENERAL INFORMATION - AUTOMATED ATTENDANT NO ANSWER DISCONNECT TIME SELECTION

Memory Block is used to determine how long the Automated Attendant will ring a station before nnecting the caller.

AUTOMATED ATTENDANT NO DTMF DETECT SELECTION

System	Data No.
1	71

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1] ○ MIC ● ICM
3. Enter: Data No. [7] [1] (Dial Pad)

Data No.	Title	Setting Data
7 1 :	AA RES	NORMAL
TIME	DISPLAY	

4. Press the corresponding dial pad key to change data option.
   - To change Normal Call to Release, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Normal Call	Release			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Pressing the CALL key writes the selected data and advances to Memory Block 1-72 (Automated Attendant Access Code Assignment).
6. Press the SPKR key to go back on-line.

■ Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

NOTES:

1. Normal Call: If no DTMF tone(s) or undefined tone(s) is received from the calling party, before the PBR Release Timer expires, the system will ring at Delayed Ringing position(s) assigned in Memory Block 4-25 (Automated Attendant Delay Ring Assignment.
2. Release Set: If no DTMF tones are received from the calling party, before the PBR Release Timer expires, the system will disconnect the call.

GENERAL INFORMATION - AUTOMATED ATTENDANT NO DTMF DETECT SELECTION

This Memory Block is used to specify how a call answered by the Automated Attendant should be processed if a DTMF tone is not received.

AUTOMATED ATTENDANT ACCESS CODE ASSIGNMENT

System	Data No.
1	72

OPERATION:

Go off-line.

Enter: Mode System [LK 1] ○ MIC ● ICM

▼

Enter: Data No. [7] [2]

(Dial Pad)

Data No.	Title	Code No.	Setting Data
7 2 :	AA AC	0	=

TIME DISPLAY

Enter code number using the dial pad.

Dial pad [0] ~ [9] : To enter data.

Setting Data: Station Number (10 ~ 59)
Delayed Ringing Position (00)

Pressing the CALL key writes the selected data and advances to the next Code No.

After all data has been entered, pressing the CALL key writes the selected data and advances to Memory Block 1-73 (Call Key - Trunk Group Automatic Selection).

Press the SPKR key to go back on-line.

Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

NOTES:

1. A maximum of 10 extension can be called directly.
2. By assigning an Access Code to a Master Hunt number, a caller can dial a predefined group.

GENERAL INFORMATION - AUTOMATED ATTENDANT ACCESS CODE ASSIGNMENT

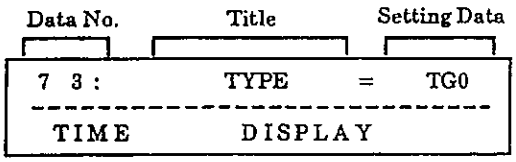
This Memory Block is used to route a call that has come in to the Automated Attendant by entering a 1-digit

CALL KEY-TRUNK GROUP AUTOMATIC SELECTION

System	Data No.
1	73

OPERATION:

1. Go off-line.
2. Enter: Mode System [LK 1]
3. Enter: Data No. [7] [3] (Dial Pad)



4. Press the corresponding Dial Pad key to enter the Setting Data option.
   - To change Trunk Group 0 to Trunk Group 1, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
TG0	TG1	TG2		
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

TG = Trunk Group

5. Pressing the CALL key will write the selected data and advance to Memory Block 1-74 (Remote Access Automatic Answer Delay Time Assignment).
6. Press the SPKR key to go back on-line.

■ Additional Programming

None.

GENERAL INFORMATION - CALL KEY-TRUNK GROUP AUTOMATIC SELECTION

This memory block is used to specify the call key for automatic trunk group selection.

REMOTE ACCESS AUTOMATIC ANSWER DELAY TIME ASSIGNMENT

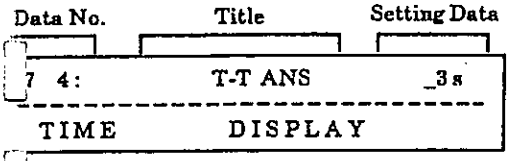
System	Data No.
1	74

OPERATION:

Go off-line.

Enter: Mode System [LK 1] ○ MIC ● ICM

Enter: Data No. [7] [4] (Dial Pad)



Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
0 sec.	sec.	6 sec.	12 sec.	18 sec.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
24 sec.	30 sec.	36 sec.	42 sec.	48 sec.

Dial Pad keys [ ] Default

Use the dial pad to enter the seconds.

Pressing the CALL key writes the selected data and advances to the next Memory Block 1-75 (Trunk-to-Trunk Transfer Automatic Disconnect Time Selection).

Press the SPKR key to go back on-line.

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
tem (LK1)	75		√
tem (LK1)	76		√
/PBX (LK3)	19		√
/PBX (LK3)	20		√

ENERAL INFORMATION - REMOTE ACCESS AUTOMATIC ANSWER DEALY TIME ASSIGNMENT

s Memory Block is used to specify the number of seconds before the system will automatically answer a ote Access call into the Automatic Trunk-to-Trunk Transfer outgoing assigned line.

NK-TO-TRUNK TRANSFER WITH NIGHT TRANSFER ASSIGNMENT

System	Data No.
1	76

OPERATION:

off-line.

nter: Mode System LK1

nter: Data No. 7 6

(Dial Pad)

a No.	Title	Setting Data
:	T-T NIGHT	NON
TIME	DISPLAY	

Press the corresponding Dial Pad key to change the Setting Data option.

- To change 60 min. to 180 min., press Dial Pad key 3.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
NON	TRF1	TRF2		
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys Default

NON = No Transfer
TRF1 = Transfer Destination 1
TRF2 = Transfer Destination 2

Pressing the CALL key writes the selected data and advances to the next Memory Block 1-01 [Hookflash Time Selection (Multiline Terminal)].

Press the SPKR key to go back on-line.

NOTES:

1. For example, if set to "TRF1", Automatic Trunk-to-Trunk transfer to Destination 1 will occur when the system is in night mode (for incoming calls to trunks specified in M.B.3-20, outgoing on the Trunk specified in M.B. 3-19).

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	74		√
System (LK1)	75		√
CO/PBX (LK3)	19		√
CO/PBX (LK3)	20		√

GENERAL INFORMATION - TRUNK-TO-TRUNK TRANSFER WITH NIGHT TRANSFER ASSIGNMENT

is Memory Block specifies which destination telephone number to dial for calls automatically initiated ing the Trunk-to-Trunk Transfer facility when the system is in night mode.

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TRUNK TO TENANT ASSIGNMENT

Tenant	Data No.
2	01

OPERATION:

1. Go off-line.
2. Enter: Mode Tenant [LK 2]
3. Enter: Data No. [0] [1] (Dial Pad)

Tenant No. (00~03) | Data No. | Title | Trunk No. (1~8) | Setting 0 or 1

```
00 / 00 : TNT—TRK 1 YS
TIME DISPLAY
```

4. Press the corresponding dial pad to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

[*] , [#] : To move cursor.

Dial pad [0] ~ [9] : To enter data.

Default		
	Tenant 00:	CO/PBX lines 01~08 Assigned (Yes)
	Tenant 01~03:	CO/PBX lines 01~08 Not Assigned (No)

5. Press the CALL key to write the selected data; data for the next Trunk No. and Tenant No. are displayed.
6. After entering the desired data for the last Trunk No. and Tenant No., press the CALL key to write the data (no advance).
7. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Telephone (LK 4)	02		√

GENERAL INFORMATION - TRUNK TO TENANT ASSIGNMENT

This Memory Block specifies assignment of CO/PBX lines to each tenant group.

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STATION NBMER ASSIGNMENT

Telephone	Data No.
4	07

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [0] [7] (Dial Pad)

Tel Port No. (01~24) | Data No. | Title | Setting Data (2-digit: 10~59)

```
0 1 /   07 : EXT      = 10
-------------------------
 TIME       DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Tel Port No. 01 to Station No. 11, enter 11 using the Dial Pad key.

   [←] [•], [#] [→] : To move cursor.

   Dial pad [0] ~ [9] : To enter Setting Data.

Default	
Tel. No.	Stn. No. 2-digit
01	10
02	11
03	12
04	13
05	14
06	15
∫	∫
16	25

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-09 (Voice Mail Selection).
7. Press the SPKR key to go back on-line.

NOTES:

1. Station Number Assignment is on a per station basis. (A telephone cannot have two station numbers and a station number cannot be assigned to more than one telephone.)

[Example]

Tel Port	Station Number	
	Default →	Change
01	10	11
02	11	10
03	12	46
04	13	59
05	14	Not changed (14)
06	15	Not changed (15)
∫	∫	∫
16	25	Not changed (25)

2. Station numbers can range from 10~59.

■ Additional Programming

None

GENERAL INFORMATION - STATION NBMER ASSIGNMENT

This Memory Block is used to assign a station number to each telephone.

VRS VOICE MESSAGE SET/RECORD/VERIFY/CANCEL ASSIGNMENT

Telephone	Data No.
4	08

OPERATION:

Go off-line.

Enter: Mode Telephone [LK 4]

▼

Enter: Data No. [0] [8]

(Dial Pad)

Tel Port No. (01~24) | Data No. | Title | Setting Data

0 1 /	0 8	VRS MSG	YS
TIME		DISPLAY	

Press the corresponding Dial Pad key to change the Setting Data option.

- To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

Default	Port Numbers 01 and 02:	YES
	Port Numbers 03 ~ 24:	NO

Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.

After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-09 (Voice Mail Connection Selection).

Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - VRS VOICE MESSAGE SET/RECORD/ VERIFY/CANCEL ASSIGNMENT

is Memory Block specifies which telephones are allowed to record/verify VRS messages and set/cancel VRS ıctions.

TELEPHONE NUMBER TO TRUNK ASSIGNMENT

CO/PBX	Data No.
3	01 ~ 08

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]
3. Enter: Data No. [0][1] ~ [0][8] (Dial Pad)

Data No. (CO/PBX No. 01–08) Setting Data (13 digits max.)

```
0 1 / _
--------------------------
 TIME        DISPLAY
```

4. Enter data using the dial pad.
   - To program 214-753-4000, enter 214-753-4000 using the dial pad.

← [*] , [#] → : To move cursor

Dial pad [0] ~ [9] : To enter data (13 digits max.)

[LNR/SPD] key : "--" (Hyphen)

[HOLD] key : To clear data

Default	Not Specified

5. Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.
6. After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-09 (CO/PBX DTMF Duration/Interdigit Assignment).
7. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - TELEPHONE NUMBER TO TRUNK ASSIGNMENT

This Memory Block specifies telephone numbers for the CO/PBX lines accommodated so that the telephone number of a seized CO/PBX line is displayed on the LCD of the telephone when originating or answering a CO/PBX call. (13 digits maximum)

CO/PBX DTMF DURATION/INTERDIGIT ASSIGNMENT

CO/PBX	Data No.
3	09

OPERATION:

Go off-line.

Enter: Mode CO/PBX [LK 3]

▼

Enter: Data No. [0] [9]

(Dial Pad)

CO/PBX No. (01~08) | Data No. | Title | Setting Data

0 1 /	09	MF	70/80

TIME DISPLAY

Move the cursor to the data position, and press the corresponding dial pad to change Setting Data option.

- To change Digit DTMF Duration - 70 ms. and Interdigit Time - 80 ms. to D.T.- 100 ms. and I.T. to 70 ms., press Dial Pad key 2.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
D.T. 50 ms. I.T. 70 ms.	D.T. 70 ms. I.T. 80 ms.	D.T. 100 ms. I.T. 70 ms.	D.T. 500 ms. I.T. 100 ms.	D.T. 900 ms. I.T. 200 ms.
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**
∞/0				

Dial Pad keys [ ] Default

D.T. = DTMF Digit Duration
I.T. = Interdigit Time

Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.

After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-10 (Trunk Status Selection).

Press the SPKR key to go back on-line.

NOTES:

1. When DTMF is selected using Memory Block 3-13 [CO Line Section (Installed, DP, DTMF)] specify the time duration and the interdigit interval between digits sent.
2. Dial Pad key 5 is used for Special Test Mode (internal use only).

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
CO/PBX (LK 3)	13		√

GENERAL INFORMATION - CO/PBX DTMF DURATION/INTERDIGIT ASSIGNMENT

s Memory Block is used to specify the tone duration and interdigit time of DTMF signals.

TRUNK STATUS SELECTION

CO/PBX	Data No.
3	10

OPERATION:

Go off-line.

Enter: Mode CO/PBX [LK3]

▼

Enter: Data No. [1] [0] (Dial Pad)

CO/PBX No. (01~08) | Data No. | Setting Data

```
0 1 /    10    OUT & IN
-----------------------
  TIME        DISPLAY
```

4. Move the cursor to the data position, and press the corresponding Dial Pad to change the Setting Data option.
   - To change Out & In to In, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Out & In	In			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.
6. After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-11 (Reversal Detection Selection).
7. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - TRUNK STATUS SELECTION

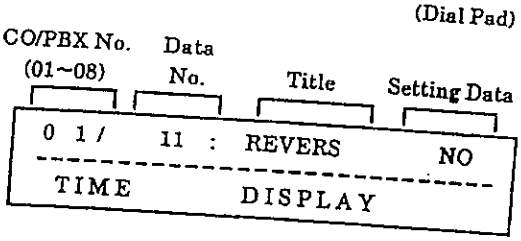
This Memory Block is used to specify whether a CO/PBX line is used for call origination and termination or termination only.

REVERSAL DETECTION SELECTION

CO/PBX	Data No.
3	11

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]
3. Enter: Data No. [1] [1] (Dial Pad)



4. Move the cursor to the data position, and press the corresponding Dial Pad to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

Yes = Line Reversal Detection ON
No = Line Reversal Detection OFF

Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.

After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-12 (Trunk Type Selection).

Press the SPKR key to go back on-line.

NOTES:

1. A line with Polarity Reversal facility must be used as the Trunk-to-Trunk Transfer Destination line (M.B.3-19).

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
CO/PBX (LK 3)	19		✓

GENERAL INFORMATION - REVERSAL DETECTION SELECTION

s Memory Block is used to specify whether Polarity Reversal signalling is available on each CO/PBX Line.

TRUNK TYPE SELECTION

CO/PBX	Data No.
3	12

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]

▼

3. Enter: Data No. [1] [2]

(Dial Pad)

CO/PBX No. (01~08) | Data No. | Title | Setting Data

```
0 1 /   12 :   TRTY        CO
-------------------------------
  TIME        DISPLAY
```

4. Move the cursor to the data position, and press the corresponding Dial Pad to change the Setting Data option.
   - To change CO to PBX line, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
CO	PBX			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys [ ] Default

5. Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.
6. After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-13 [CO Line Selection (Installed, DP, DTMF)].
7. Press the SPKR key to go back on-line.

Additional Programming

None

GENERAL INFORMATION - TRUNK TYPE SELECTION

This Memory Block is used to specify each external line as CO Line or PBX line.

CO LINE SELECTION (INSTALLED, DP, DTMF)

CO/PBX	Data No.
3	13

OPERATION:

Go off-line.

Enter: Mode CO/PBX [LK 3]

▼

Enter: Data No. [1] [3]

(Dial Pad)

CO/PBX No. (01~08) | Data No. | Title | Setting Data

```
0 1 /    13 :    TYPE        MF
-------------------------------
  TIME        DISPLAY
```

Move the cursor to the data position, and press the corresponding Dial Pad to change the Setting Data option.

- To change MF to DP 10 pps, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
NIL	DP 10 pps	DP 20 pps	MF	
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

[ ] Default

Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.

After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-14 (Trunk-to-Trunk Group Assignment).

Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	07		√

GENERAL INFORMATION - CO LINE SELECTION (INSTALLED, DP/DTMF)

is Memory Block is used to specify each external line as DP (10 pps or 20 pps), DTMF, or not connected
:L).

TRUNK-TO-TRUNK GROUP ASSIGNMENT

CO/PBX	Data No.
3	14

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]
3. Enter: Data No. [1] [4] (Dial Pad)

CO/PBX No. (01~08) | Data No. | Title | Trunk Group No. (0~2)

```
0 1 /   14   TRK GP  =   0
-------------------------
 TIME        DISPLAY
```

4. Move the cursor to the data position, and press the corresponding Dial Pad to change the Setting Data option.

   Example: Enter TRK GP 1 using the Dial Pad key.

   ← [*] , [#] → : To move cursor.

   Dial pad [0] ~ [9] : To enter data.

   Data { 0~2 : Trunk Group 0~2

Default	All CO/PBX line Group 0

5. Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.
6. After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-15 (CO/PBX Line Code Restriction Override Selection).
7. Press the SPKR key to go back on-line.

Additional Programming

None

NOTES:

1. There are three Trunk Groups available in the system.
2. Assign a Trunk Group Number to each CO/PBX Line (1~8).
3. When a Access Code corresponding to a Trunk Group is dialled, an idle CO/PBX line is automatically selected and seized from the same Trunk Group (CO/PBX line of either the same tenant or another tenant can be seized).

GENERAL INFORMATION - TRUNK-TO-TRUNK GROUP ASSIGNMENT

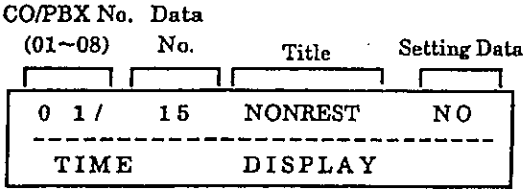
This Memory Block is used to assign trunks to each Trunk Group.

CO/PBX LINE CODE RESTRICTION OVERRIDE SELECTION

CO/PBX	Data No.
3	15

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]
3. Enter: Data No. [1] [5] (Dial Pad)



4. Move the cursor to the data position, and press the corresponding Dial Pad to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

Default

Yes = Not Restricted
No = Restricted (Code Table check)

5. Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.
6. After entering data for the last CO/PBX No., press the CALL key to write the data and continue with the CALL key to advance to Memory Block 3-16 (VRS Automatic Answer Yes/No Selection).
7. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - CO/PBX LINE CODE RESTRICTION OVERRIDE SELECTION

This Memory Block is used to specify CO/PBX lines to override the code restriction process on a per line basis.

VRS AUTOMATIC ANSWER YES/NO SELECTION

CO/PBX	Data No.
3	16

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]

   Enter: Data No. [1] [6] (Dial Pad)

CO/PBX No. (01~08) | Data No. | Title | Setting Data

```
0 1 /   16 : AASEL        NO
-------------------------------
  TIME        DISPLAY
```

Move the cursor to the data position and press the corresponding dial pad to change the Setting Data option.

- To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys

[ ] Default

No = Deny
Yes = Allow

Pressing the CALL key writes the selected data; data for the next CO/PBX No. is displayed.

After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-17 (PBX Night Transfer Selection).

Press the SPKR key to go back on-line.

Additional Programming

Refer to Section 6 - Guide to Feature Programming in this chapter.

NOTES:

1. The VRS Automatic Answer/Automated Attendant feature will answer calls in the Day, Night and Weekend Modes when assigned.

GENERAL INFORMATION - VRS AUTOMATIC ANSWER YES/NO SELECTION

This Memory Block is used to specify whether the Automatic Answer/Automated Attendant feature is allowed or denied.

PBX NIGHT TRANSFER SELECTION

CO/PBX	Data No.
3	17

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]
3. Enter: Data No. [1] [7] (Dial Pad)

CO Port No. (01~08) | Data No. | Title | Setting Data

```
0 1 /   17   PBX NT   NO
--------------------------
  TIME      DISPLAY
```

4. Move the cursor to the data position, and press the corresponding Dial Pad to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

Yes = PBX (PBX code is deleted during night mode.)
No = PBX (PBX code is not deleted during night mode.)

5. Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.
6. After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-18 (VRS Hold Message Assignment).
7. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - PBX NIGHT TRANSFER SELECTION

This Memory Block is used to automatically delete the PBX Access Code when the system is switched into Night Mode for each CO/PBX line.

VRS HOLD MESSAGE ASSIGNMENT

CO/PBX	Data No.
3	18

OPERATION:

Go off-line.

Enter: Mode CO/PBX [LK 3]

▼

Enter: Data No. [1] [8]

(Dial Pad)

Port No. (1~08)	Data No.	Title	Setting Data
1 /	18 :	HDMSG =	NO

TIME DISPLAY

Move the cursor to the data position, and press the corresponding Dial Pad to change the Setting Data option.

- To change No to Yes, press Dial Pad key 0.

al 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
al 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

= Allow
= Deny

Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.

After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-19 [Automatic Transfer Assignment (Call)].

Press the SPKR key to go back on-line.

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GENERAL INFORMATION - VRS HOLD MESSAGE ASSIGNMENT

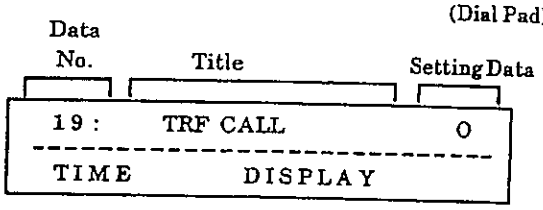
Memory Block area is used to specify whether to send a Voice Message to the outside party when a call is ed on hold.

AUTOMATIC TRANSFER ASSIGNMENT (CALL)

CO/PBX	Data No.
3	19

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]
3. Enter: Data No. [1] [9] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Not Assigned to CO/PBX Line 1, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Not Assigned	Line 1	Line 2	Line 3	Line 4
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
Line 5	Line 6	Line 7	Line 8	

Dial Pad keys [ ] Default

5. Press the CALL key to write the selected data and advance to Memory Block 3-20 [Automatic Transfer Assignment (Receive)].
6. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	74		√
System (LK 1)	75		√
System (LK 1)	76		√
CO/PBX (LK 3)	20	√	

GENERAL INFORMATION - AUTOMATIC TRANSFER ASSIGNMENT (CALL)

This Memory Block is used to specify which CO/PBX Line will be automatically selected when establishing an outgoing call for an Automatic Trunk-to-Trunk Transfer Operation.

UTOMATIC TRANSFER ASSIGNMENT (RECEIVE)

CO/PBX	Data No.
3	20

OPERATION:

Go off-line.

Enter: Mode CO/PBX [LK 3]

▼

Enter: Data No. [2] [0]

(Dial Pad)

PBX No.

1~08	Data No.	Title	Setting Data
1	/ 20	TRF RCV	NO

TIME DISPLAY

Press the corresponding Dial Pad key to change the Setting Data option.

To change No to Yes, press Dial Pad key 1.

10	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
al 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

YES = Automatic Transfer Active
NO = Automatic Transfer Inactive

Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.

After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-21 (DIT Day Mode Ring Assignment).

Press the SPKR key to go back on-line.

NOTES:

1. The trunk specified in MB 3-19 [Automatic Transfer Assignment (Call)]. must be set to NO. All other trunks may however, be set to YES.

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GENERAL INFORMATION - AUTOMATIC TRANSFER ASSIGNMENT (RECEIVE)

Memory Block is used to specify which trunks (CO/PBX Lines) will have the automatic trunk-to-trunk fer facility applied for incoming calls.

DIT DAY MODE RING ASSIGNMENT

CO/PBX	Data No.
3	21

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]

   ▼

   Data No. [2] [1]

   (Dial Pad)

CO/PBX No. (01 ~ 08) | Data No. | Title | Setting Data

```
01   /   21:      DITDY
-------------------------
TIME        DISPLAY
```

3. Enter data using the dial pad.

   Setting Data: 10 ~ 59 Station No.

   ← [*] , [#] → : To move cursor

   Dial Pad [0] ~ [9] : To enter data

Default	No Assignment

4. Pressing the CALL key will write the selected data and advance to Memory Block 3-22 (DIT Night Mode Ring Assignment).
5. Press the SPKR key to go back on -line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
CO/PBX (LK 3)	22		√
CO/PBX (LK 3)	23		√
CO/PBX (LK 3)	24		√

GENERAL INFORMATION - DIT DAY MODE RING ASSIGNMENT

This Memory Block is used to independently assign Day Mode station terminations to incoming trunk calls in DIT Mode.

DIT NIGHT MODE RING ASSIGNMENT

CO/PBX	Data No.
3	22

OPERATION:

Go off-line.

Enter: Mode CO/PBX [LK 3]

▼

Data No. [2] [2]

(Dial Pad)

CO/PBX No. 01 ~ 08 | Data No. | Title | Setting Data

```
01  /  22:      DITNT
-----------------------
TIME        DISPLAY
```

Enter data using the dial pad.

Setting Data: 10 ~ 59 Station No.

← [*] , [#] → : To move cursor

Dial Pad [0] ~ [9] : To enter data

Default	No Assignment

Pressing the CALL key will write the selected data and advance to Memory Block 3-23 (DIT Delay Answer Timer).

Press the SPKR key to go back on -line.

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
PBX (LK 3)	21		√
BX (LK 3)	23		√
3X (LK 3)	24		√

GENERAL INFORMATION - DIT NIGHT MODE RING ASSIGNMENT

Memory Block is used to independently assign Night Mode station terminations to incoming trunk calls T Mode.

DIT DELAY ANSWER TIMER

CO/PBX	Data No.
3	23

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]

   ▼

   Data No. [2] [3]

   (Dial Pad)

CO/PBX No. 01 ~ 08 | Data No. | Title | Setting Data

```
01 / 23:      DIT DLY     0s
----------------------------
TIME          DISPLAY
```

3. Press the corresponding Dial Pad key to change data option.
   - To change 0 sec. to 5 sec., press CO/PBX line key 2.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
0 sec.	5 sec.	10 sec.	20 sec.	30 sec.
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
40 sec.	50 sec.	60 sec.		

CO/PBX line keys

[ ] Default

5. Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.
6. After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-24 (DIT Night Mode Delay Answer Enable/Disable).
7. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
CO/PBX (LK 3)	21		√
CO/PBX (LK 3)	22		√
CO/PBX (LK 3)	24		√

GENERAL INFORMATION - DIT DELAY ANSWER TIMER

This Memory Block is used to specify the time an incoming CO/PBX call will ring before changing to a DIT call.

DIT NIGHT MODE DELAY ANSWER ENABLE/DISABLE

CO/PBX	Data No.
3	24

OPERATION:

Go off-line.

Enter: Mode CO/PBX [LK 3]

▼

Enter. Data No. [2] [4]

(Dial Pad)

CO/PBX No. (01~08) | Data No. | Title | Setting Data

```
01  /  24:   DITDLYNT   0s
-------------------------
TIME        DISPLAY
```

Press the corresponding Dial Pad key to change the Setting Data option.

- To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad Keys [ ] Default

Yes = Enable (DIT will operate in Night Mode)

No = Disable (DIT will not operate in Night Mode.

Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.

After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-25 (Ring Cycle Selection).

Press the SPKR key to go back on -line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
CO/PBX (LK 3)	21		√
CO/PBX (LK 3)	22		√
CO/PBX (LK 3)	23		√

GENERAL INFORMATION - DIT NIGHT MODE DELAY ANSWER ENABLE/DISABLE

Memory Block is used to specify whether DIT shall operate while the system is in Night Mode. If ed, incoming CO/PBX calls will not change to DIT during Night Mode.

RING CYCLE SELECTION

CO/PBX	Data No.
3	25

OPERATION:

1. Go off-line.
2. Enter: Mode CO/PBX [LK 3]
3. Enter. Data No. [2] [5] (Dial Pad)

CO/PBX No. (01 ~ 08) | Data No. | Title | Setting Data

```
01  /  25:  RNG CYL  A
-------------------------
TIME      DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Pattern A to Pattern B, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Pattern A	Pattern B			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

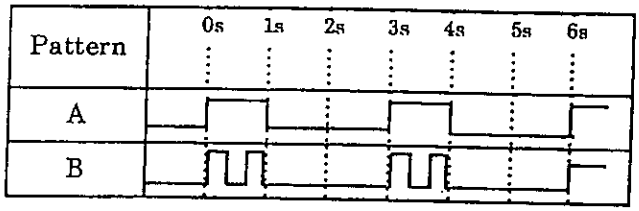
Dial Pad Keys [ ] Default

5. Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.
6. After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-26 (External Ring Relay Controller).
7. Press the SPKR key to go back on -line.

NOTES:

1. Synchronous ringing (MB 1-49) must be specified as "NO" for this pattern selection to take effect.
2. Ring patterns are as follows:

   s = seconds



■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	49		✓

GENERAL INFORMATION - RING CYCLE SELECTION

This Memory Block is used to select a specific ringing pattern for incoming CO/PBX calls.

EXTERNAL RING RELAY CONTROLLER

CO/PBX	Data No.
3	26

OPERATION:

Go off-line.

Enter: Mode CO/PBX [LK 3]

▼

Enter. Data No. [2] [6]

(Dial Pad)

CO/PBX No. 01~08 | Data No. | Title | Setting Data

```
01  /  25:   EXTRG RL   NO
----------------------------
TIME        DISPLAY
```

Press the corresponding Dial Pad key to change the Setting Data option.

- To change No to Yes, press Dial Pad key 1.

ial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
ial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad Keys [ ] Default

Yes = External Ringer will ring.

No = External Ringer will not ring.

Press the CALL key to write the selected data; data for the next CO/PBX No. will be displayed.

After entering data for the last CO/PBX No., press the CALL key to write the data and advance to Memory Block 3-01 (Telephone Number to Trunk Assignment 01).

Press the SPKR key to go back on -line.

■ Additional Programming

None

GENERAL INFORMATION - EXTERNAL RING RELAY CONTROLLER

s Memory Block is used to specify, on a per CO/PBX Line basis, whether the External Ringer connected to 5 (BZ) on the ESF-G-13 KSU mainboard will ring for incoming CO/PBX calls.

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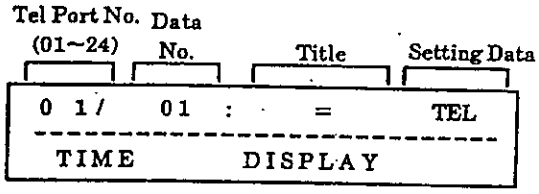
SLT CONNECTED SELECTION

Telephone	Data No.
4	01

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [0] [1] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change TEL to SLT, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
TEL	SLT			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys [ ] Default

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-02 (Telephone to Tenant Assignment).
7. Press the SPKR key to go back on-line.

NOTES:

1. Specify "SLT" if the port number displayed is a Single Line Telephone.
2. Specify "TEL" if the port number displayed is a Multiline Terminal.
3. Do not specify "SLT" for telephones in Ports 01 and 02.
4. This assignment is automatically made when an SLT-F(1G)-13 ADP is installed on an ESI Port at first power on, or after a first initialize.

Additional Programming

None

GENERAL INFORMATION - SLT CONNECTED SELECTION

This Memory Block is used to specify whether a Single Line Telephone adaptor is connected to a Multiline Terminal port.

TELEPHONE TO TENANT ASSIGNMENT

Telephone	Data No.
4	02

OPERATION:

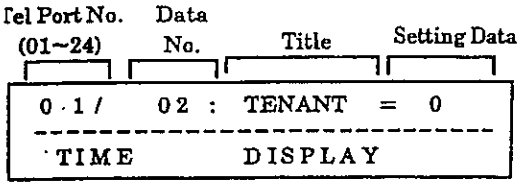
Go off-line.

Enter: Mode Telephone [LK4]

▼

Enter: Data No. [0][2]

(Dial Pad)



Enter data using the Dial Pad.

Example: To enter TENANT 1 for TEL 01, enter 1 using the dial pad.

← [*] , [#] → : To move cursor.

Dial pad [0] ~ [9] : To enter Setting Data.

Default	All Telephones Tenant 0

Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.

After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-03 (Internal Zone Paging Selection).

Press the SPKR key to go back on-line.

NOTES:

1. Stations can be assigned to four possible Tenant Numbers (0~3).
2. The system must be idle before this data is written into memory. Otherwise, "DATA ENTRY" is displayed on the programming terminal's LCD until the data takes effect.

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
enant (LK2)	01		√

GENERAL INFORMATION - TELEPHONE TO TENANT ASSIGNMENT

iis Memory Block is used to specify tenant assignment on a per station basis.

INTERNAL ZONE PAGING SELECTION

Telephone	Data No.
4	03

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [0] [3] (Dial Pad)

Tel Port No. (01~24) | Data No. | Title | Setting Data

```
0 1 /   03  :  PAGE      GP-A
-------------------------------
  TIME        DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Group A to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Group A	Group B	Group C	
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-04 (Ringing Line Preference Selection).
7. Press the SPKR key to go back on-line.

■ Additional Programming

None

NOTES:

1. Any of the following three zones can be specified.
   - Zone A: Paged by Dialling 71.
   - Zone B: Paged by Dialling 72.
   - Zone C: Paged by Dialling 73.
2. Telephones can be assigned to No Zone.
3. Single Line Telepohnes can initiate only an internal page.

GENERAL INFORMATION - INTERNAL ZONE PAGING SELECTION

This Memory Block is used to place stations into internal page zones.

RINGING LINE PREFERENCE SELECTION

Telephone	Data No.
4	04

OPERATION:

Go off-line.

Enter: Mode Telephone [LK 4]

▼

Enter: Data No. [0] [4] (Dial Pad)

Tel Port No. (01~24)	Data No.	Title	Setting Data
0 1 /	04 :	RING PRF	NO
TIME		DISPLAY	

Press the corresponding Dial Pad key to change the setting the data option.

- To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

[ ] Default

Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.

After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-05 (DTMF/DP SLT Type Selection).

Press the SPKR key to go back on-line.

NOTES:

1. This Memory Block programming applies to Ring Assigned telephones only.
2. An intercom call cannot be originated when a ring assigned CO/PBX line is ringing on the telephone.

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
elephone (LK 4)	18		√
elephone (LK 4)	19		√

GENERAL INFORMATION - RINGING LINE PREFERENCE SELECTION

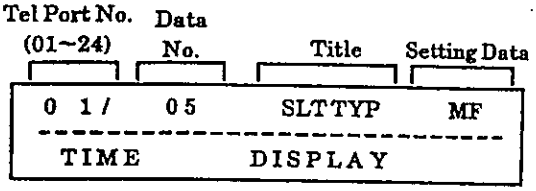
iis Memory Block is used to specify whether each station user can automatically answer incoming CO/PBX lls on ring assigned CO/PBX Lines by lifting the handset.

DTMF/DP SLT TYPE SELECTION

Telephone	Data No.
4	05

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [0] [5] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change Tel Port No. 01 from MF to DP, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
DP	MF			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-06 (Off-Hook Ringing Assignment).
7. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Telephone (LK4)	01		√

GENERAL INFORMATION - DTMF/DP SLT TYPE SELECTION

This Memory Block is used to specify the type of Single Line Telephone that is connected to the system (DP or DTMF) on a per port basis.

OFF-HOOK RINGING ASSIGNMENT

Telephone	Data No.
4	06

OPERATION:

Go off-line.

Enter: Mode Telephone [LK 4]

▼

Enter: Data No. [0] [6]

(Dial Pad)

Tel Port No. (01~24) | Data No. | Title | Setting Data

```
0 1 /   06   OFHK RNG   YS
-------------------------
  TIME      DISPLAY
```

Press the corresponding Dial Pad key to change the Setting Data option.

- To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys ▒ Default.

NO = Off-Hook Ring Not Provided
YES = Off-Hook Ring Provided

Default	Port Numbers 01 and 02: YES Port Numbers 03 ~ 24: NO

Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.

After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-07 (Station Number Assignment).

Press the SPKR key to go back on-line.

NOTES:

1. Off-hook ring tone volume is lower than on-hook ring volume.
2. Off-hook ringing selection is also made on a system-wide basis.
3. Single Line Telephones will not be provided with Off-hook Ring.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	25	√	
Telephone (LK4)	18	√	
Telephone (LK4)	19	√	

GENERAL INFORMATION -OFF-HOOK RINGING ASSIGNMENT

s Memory Block specifies whether or not a ringing tone is generated to a station for calls coming into a g-assigned CO/PBX line at a station that is off-hook.

VOICE MAIL CONNECTION SELECTION

Telephone	Data No.
4	09

OPERATION:

Go off-line.

Enter: Mode Telephone [LK 4]

▼

Enter: Data No. [0] [9]

(Dial Pad)

Tel Port No. (01~24)	Data No.	Title	Setting Data
0 1 /	09 :	VMAIL	NO

TIME DISPLAY

Press the corresponding Dial Pad key to change the Setting Data option.

To change No to Yes, press Dial Pad key 1.

0	Dial 1	Dial 2	Dial 3	Dial 4
[.]	Yes			
5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [.] Default

No = Voice Mail Not Connected
Yes = Voice Mail Connected

Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.

After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-10 (Distinctive Ringing Tone to Telephone Selection).

Press the SPKR key to go back on-line.

Additional Programming

None

GENERAL INFORMATION - VOICE MAIL CONNECTION SELECTION

Memory Block specifies whether an SLT port is used for connection of an external Voice Mail system.

HFU SELECTION

Telephone	Data No.
4	12

OPERATION:

o off-line.

nter: Mode Telephone LK 4

▼

ıter: Data No. 1 2

(Dial Pad)

t No. (24) | Data No. | Title | Setting Data

1 / 12 : HFU YS

IME DISPLAY

ess the corresponding Dial Pad key to change e Setting Data option.

To change Yes to No, press Dial Pad key 0.

0	Dial 1	Dial 2	Dial 3	Dial 4
	Yes			
5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys : Default

= Handsfree Unit not operational
= Handsfree Unit operational

ess the CALL key, the entered data will be itten and the data for the next Tel Port No. will displayed.

er entering the desired data for the last Tel t No., press the CALL key to write the data l advance to Memory Block 4-13 (Headset nnection Selection).

ss the SPKR key to go back on-line.

tional Programming

GENERAL INFORMATION - HFU SELECTION

emory Block is used to enable the built-in Handsfree Unit on a per station basis.

HEADSET CONNECTION SELECTION

Telephone	Data No.
4	13

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [1] [3] (Dial Pad)

Tel Port No. (01~24) | Data No. | Title | Setting Data

```
01 / 13 :   HEAD SET   NO
-----------------------------
  TIME        DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes , press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-14 [Barge-In Orgination Assignment (CO/PBX Calls)].
7. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - HEADSET CONNECTION SELECTION

This Memory Block is used to specify whether a headset is connected to the Multiline Terminal.

BARGE-IN ORIGINATION ASSIGNMENT (CO/PBX CALLS)

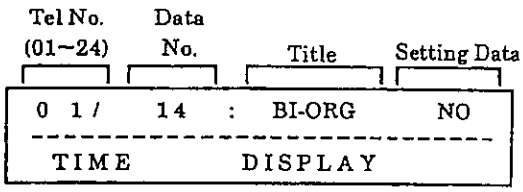
Telephone	Data No.
4	14

OPERATION:

Go off-line.

Enter: Mode Telephone [LK 4]

Enter: Data No. [1] [4]
(Dial Pad)



Press the corresponding Dial Pad key to change the Setting Data option.

- To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.

After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-15 [Barge-In Origination Assignment (CO/PBX Calls)].

Press the SPKR key to go back on-line.

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
elephone (LK 4)	15		√

GENERAL INFORMATION - BARGE-IN ORIGINATION ASSIGNMENT (CO/PBX CALLS)

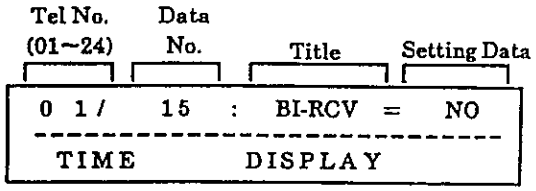
ıis Memory Block is used to specify which stations are allowed to originate a Barge-In to another station's O/PBX call.

BARGE-IN RECEIVE ASSIGNMENT (CO/PBX CALLS)

Telephone	Data No.
4	15

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [1] [5] (Dial Pad)



4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys [ ] Default

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-16 (Prime Line Assignment).
7. Press the SPKR key to go back on-line.

Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Telephone (LK 4)	14		√

GENERAL INFORMATION - BARGE-IN RECEIVE ASSIGNMENT (CO/PBX CALLS)

This Memory Block is used to specify which stations may receive a Barge-In to their CO/PBX calls from another permitted station.

PRIME LINE ASSIGNMENT

Telephone	Data No.
4	16

OPERATION:

Go off-line.

Enter: Mode Telephone [LK 4]

Enter: Data No. [1] [6]

(Dial Pad)

Tel No. (01–24)	Data No.	Title	Setting Data
0 1 /	16	: PRILN	= NO

TIME DISPLAY

Press the corresponding Dial Pad key to change the Setting Data option.

- To change Non to Trunk 2, press Dial Pad key 2.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Non	TK 1	TK 2	TK 3	TK 4
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
TK 5	TK 6	TK7	TK8	

Dial Pad keys [ ] Default

Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.

After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-17 (Voice Call Block Selection).

Press the SPKR key to go back on-line.

Additional Programming

None

GENERAL INFORMATION - PRIME LINE ASSIGNMENT

is Memory Block is used to enable the user to seize a specified trunk when going off-hook.

VOICE CALL BLOCK SELECTION

Telephone	Data No.
4	17

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [1] [7] (Dial Pad)

Tel Port No. (01–24) | Data No. | Title | Setting Data

```
00 / 17 :      V/RG      NO
-----------------------------
  TIME          DISPLAY
```

4. Press the corresponding Dial Pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

   Yes: Tone call only
   No: Voice/Tone call

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys [ ] Default

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-18 [CO/PBX Ring Assignment (Day Mode)].
7. Press the SPKR key to go back on-line.

Additional Programming

None

NOTES:

1. When voice calls are set as block, incoming internal calls send a ring tone.

GENERAL INFORMATION - VOICE CALL BLOCK SELECTION

This Memory Block is used to block stations from receiving voice announced calls.

CO/PBX RING ASSIGNMENT (DAY MODE)

Telephone	Data No.
4	18

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [1] [8] (Dial Pad)

Tel Port No. (01~24) | Data No. | Title | Setting Data

```
01 /  18  : DY      12345678
-----------------------------
 TIME        DISPLAY
```

4. Press the corresponding Dial Pad key (1~8) to change the Setting Data option.
   - The LCD indication changes to indicate the data each time a Dial Pad key is pressed.
   - If the Setting Data number appears on the LCD display, then an incoming call from the corresponding CO/PBX line will ring at the indicated station (1~24).

   Setting Data: Dial 1~8 (Trunk No.)

Default	Telephones connected to port numbers 01 and 02 ring on all incoming CO/PBX calls. Telephones connected to port numbers 03~24 do not ring on any incoming CO/PBX calls.

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-19 [CO/PBX Ring Assignment (Night Mode)].
7. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - CO/PBX RING ASSIGNMENT (DAY MODE)

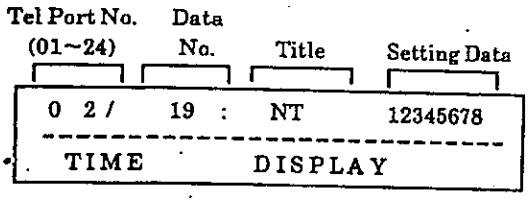
This Memory Block is used to assign Multiline Terminals to ring on incoming CO/PBX calls in the Day Mode.

CO/PBX RING ASSIGNMENT (NIGHT MODE)

Telephone	Data No.
4	19

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [1] [9] (Dial Pad)



4. Press the dial pad key corresponding to each CO/PBX number (1~8).
   - The LCD indication changes to indicate the data each time a Dial Pad key is pressed.
   - If the Setting Data number appears on the LCD display, then an incoming call from the corresponding CO/PBX line will ring at the indicated station (01~24).

   Setting Date: Dial 1~8 (Trunk No.)

Default	Telephones connected to port numbers 01 and 02 ring on all incoming CO/PBX calls. Telephones connected to port numbers 03~24 do not ring on any incoming CO/PBX calls.

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-20 [Doorphone Chime Assignment (Day Mode)].
7. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - CO/PBX RING ASSIGNMENT (NIGHT MODE)

This Memory Block is used to assign Multiline Terminals to ring on incoming CO/PBX calls in the Night Mode.

DOORPHONE CHIME ASSIGNMENT (DAY MODE)

Telephone	Data No.
4	20

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]

▼

3. Enter: Data No. [2] [0]

(Dial Pad)

Tel Port No. (01~24)	Data No.	Title	Doorphone No. 1~2	Setting Data
0 2 /	20 :	DYDPH	1	YS

TIME DISPLAY

4. Press the corresponding dial pad key to change the Setting Data option.
   - To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	**Dial 6**	**Dial 7**	**Dial 8**	**Dial 9**

Dial Pad keys

No = No Chime
Yes = Chime

Default	Yes: Telephones connected to port numbers 01 and 02 ring on all Doorphone calls. No: Telephones connected to port numbers 03~24 do not ring on all Doorphone calls.

5. Press the CALL key, the entered data will be written and the data for the next Doorphone No./Tel Port No. will be displayed.
6. After entering the desired data for the last Doorphone No./Tel Port No., press the CALL key to write the data and advance to Memory Block 4-21 [Doorphone Chime Assignment (Night Mode)].
7. Press the SPKR key to go back on-line.

NOTES:

1. Single Line Telephones can be set, but will not chime.

■ Additional Programming

None

GENERAL INFORMATION - DOORPHONE CHIME ASSIGNMENT (DAY MODE)

This Memory Block is used to assign which stations will chime on a Doorphone call when the system is in the Day Mode.

DOORPHONE CHIME ASSIGNMENT (NIGHT MODE)

Telephone	Data No.
4	21

OPERATION:

Go off-line.

Enter: Mode Telephone [LK 4]

▼

Enter: Data No. [2] [1]

(Dial Pad)

Tel Port No. (01~24)	Data No.	Title	Doorphone No. 1~2	Setting Data
02 /	21 :	NTDPH	1	YS

TIME DISPLAY

Press the corresponding dial pad key to change the Setting Data option.

- To change Yes to No, press Dial Pad key 0.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

No = No Chime
Yes = Chime

ault	Yes: Telephones connected to port numbers 01 and 02 ring on all Doorphone calls. No: Telephones connected to port numbers 03~16 do not ring on all Doorphone calls.

NOTES:

1. Single Line Telephones can be set, but will not chime.

5. Press the CALL key, the entered data will be written and the data for the next Doorphone No./Tel Port No. will be displayed.
6. After entering the desired data for the last Doorphone No./Tel Port No., press the CALL key to write the data and advance to Memory Block 4-22 (Do Not Disturb Assignment).
7. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - DOORPHONE CHIME ASSIGNMENT (NIGHT MODE)

Memory Block is used to assign which stations chime on a Doorphone call when the system is in Night e.

DO NOT DISTURB ASSIGNMENT

Telephone	Data No.
4	22

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]

▼

3. Enter: Data No. [2] [2]

(Dial Pad)

Tel Port No. (01~24)	Data No.	Title	Setting Data
01	/ 22 :	DND	NO
TIME		DISPLAY	

4. Press the corresponding dial pad key to change the Setting Data option.
   - To change No to Yes, press Dial Pad key 1.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
No	Yes			
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9

Dial Pad keys

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-23 [Code Restriction Class Assignment (Day Mode)].
7. Press the SPKR key to go back on-line.

■ Additional Programming

None

GENERAL INFORMATION - DO NOT DISTURB ASSIGNMENT

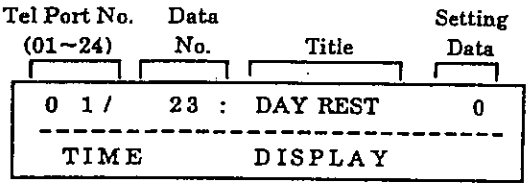
This Memory Block is used to specify whether or not a station is allowed to place itself in Do Not Disturb (DND) Mode.

CODE RESTRICTION CLASS ASSIGNMENT (DAY MODE)

Telephone	Data No.
4	23

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [2] [3] (Dial Pad)



4. Press the corresponding dial pad key to change the Setting Data option.
   - To change Class 0 to Class 2, press Dial Pad key 2.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Class 0	Class 1	Class 2	Class 3	Class 4
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
Class 5	Class 6	Class 7		

Dial Pad keys

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-24 [Code Restriction Class Assignment (Night Mode)].
7. Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK1)	52		√
System (LK1)	54		√

GENERAL INFORMATION - CODE RESTRICTION CLASS ASSIGNMENT (DAY MODE)

This Memory Block is used to specify Code Restriction Class in Day Mode on a per station basis.

CODE RESTRICTION CLASS ASSIGNMENT (NIGHT MODE)

Telephone	Data No.
4	24

OPERATION:

. Go off-line.

. Enter: Mode Telephone [LK 4]

▼

. Enter: Data No. [2][4]

(Dial Pad)

Tel Port No. (01–24)	Data No.	Title	Setting Data
0 1 /	24 :	NT REST	0
TIME		DISPLAY	

Press the corresponding dial pad key to change the Setting Data option.

- To change Class 1 to Class 2, press Dial Pad key 2.

Dial 0	Dial 1	Dial 2	Dial 3	Dial 4
Class 0	Class 1	Class 2	Class 3	Class 4
Dial 5	Dial 6	Dial 7	Dial 8	Dial 9
Class 5	Class 6	Class 7		

Dial Pad keys

Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.

After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-25 (Trunk Digit Restriction).

Press the SPKR key to go back on-line.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
System (LK 1)	52		√
System (LK 1)	54		√

GENERAL INFORMATION - CODE RESTRICTION CLASS ASSIGNMENT (NIGHT MODE)

This Memory Block is used to specify Code Restriction Class in Night Mode on a per station basis.

TRUNK DIGIT RESTRICTION

Telephone	Data No.
4	25

OPERATION:

1. Go off-line.
2. Enter: Mode Telephone [LK 4]
3. Enter: Data No. [2] [5] (Dial Pad)

Tel No. (01~25)	Data No.	Title	Setting Data
0 1 /	23	: REST DIG	=00
TIME		DISPLAY	

4. Enter the data using the Dial Pad.

   Setting Data: 00, 01~99 digits
   (00: No Limit)

Default	00 (No Limit)

5. Press the CALL key, the entered data will be written and the data for the next Tel Port No. will be displayed.
6. After entering the desired data for the last Tel Port No., press the CALL key to write the data and advance to Memory Block 4-26 (Automated Attendant Delay Ring Assignment).
7. Press the SPKR key to go back on-line.

NOTE:

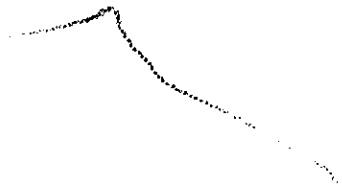
1. This feature will have no affect on a station assigned to Code Restriction Class 0 or 7 in Memory Blocks 4-21 [Code Restriction Class Assignment (Day Mode)] and [Code Restriction Class Assignment (Night Mode)] 4-22.

■ Additional Programming

Mode	Data No.	System Data	
		Required	May Be Required
Telephone (LK4)	21		√
Telephone (LK4)	22		√

GENERAL INFORMATION - TRUNK DIGIT RESTRICTION

This Memory Block is used to specify, on a per station basis, the maximum number of digits that can be dialled while on an outside line.

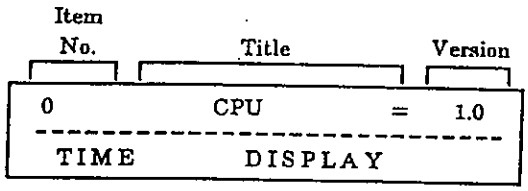


ROM VERSION CONFIRMATION

Special	Data No.
FNC	CNF

OPERATION:

1. Go off-line.
2. Enter: Mode Special FNC
3. Enter: Access CNF



Item	
0	CPU
1	COI

4. Pressing the CALL key displays the version of the next item.
5. Press the SPKR key to go back on-line.

current ver at 22/8/96 is Ver 1.1

GENERAL INFORMATION - ROM VERSION CONFIRMATION

This Memory Block is used to confirm the version of ROM installed in the system.

SYSTEM SPEED DIAL MEMORY CLEAR

Special	Data No.
FNC	-

OPERATION:

Go off-line.

Enter: Mode Special → FNC

Enter: Access → LNR/SPD

→ 1 (Dial Pad)

→ * (Dial Pad)

CLR SYS SPD?	
TIME	DISPLAY

Press the **CALL** key to confirm the operation and erase all System Speed Dial numbers.

Press the **SPKR** key to go back on-line.

WARNING:

efore performing this procedure, completely ıderstand implications of erasing all System ɔeed Dial buffers in the system.

NOTES:

1. Areas to be erased:
   - Speed Dial numbers 20 ∽ 99.

GENERAL INFORMATION - SYSTEM SPEED DIAL MEMORY CLEAR

his Memory Block is used to clear all System Speed Dial programming in the system.

STATION SPEED DIAL MEMORY CLEAR

Special	Data No.
FNC	-

OPERATION:

1. Go off-line.
2. Enter: Mode Special FNC
3. Enter: Access LNR/SPD
   3 (Dial Pad)
   # (Dial Pad)

CLR TEL SPD?	
TIME	DISPLAY

4. Press the CALL key to confirm the operation and erase all Station Speed Dial numbers.
5. Press the SPKR key to go back on-line.

WARNING

Before performing this procedure, completely understand implications of erasing all Station Speed Dial buffers in the system.

NOTES:

1. Areas to be erased:
   - Speed Dial numbers 00~19 of all stations.

GENERAL INFORMATION - STATION SPEED DIAL MEMORY CLEAR

This Memory Block is used to clear all Station Speed Dial programming from the system

DSS/BLF MEMORY CLEAR

Special	Data No.
FNC	-

OPERATION:

. Go off-line.

. Enter: Mode Special

FNC

▼

. Enter: Access

LNR/SPD

▼

2

(Dial Pad)

▼

0

(Dial Pad)

CLR	DSS ?
TIME	DISPLAY

. Press the CALL key to confirm the operation and erase all DSS/BLF Buffers in the system.

. Press the SPKR key to go back on-line.

WARNING

efore performing this procedure, completely nderstand implications of erasing all DSS/BLF uffers in the system.

NOTES

1. Areas to be erased:
   - DSS/BLF Buffers of all Stations.

GENERAL INFORMATION - DSS/BLF MEMORY CLEAR

his Memory Block is used to clear all DSS/BLF Buffers of all stations in the system.

CLOCK/CALENDAR SETTING

OPERATION:

FNC

▼

9

(Dial Pad)

▼

*

(Dial Pad)

```
11:08AM
--------------------------
TIME          DISPLAY
```

← * # → : To move cursor.

Dial pad 0 ~ 9 : To enter Time, Date, Month, Year.

RECALL key : To switch a.m./p.m. To switch month and weekdays.

HOLD key : To switch from Time Display to Date Display.

- Move the cursor to the data to be modified.
- Enter the new data using the dial pad.
- Press the RECALL key to switch a.m./p.m.
- Press the HOLD key to switch to set the Year, Month, and Day.

(Refer to the example on the next page.)

NOTES:

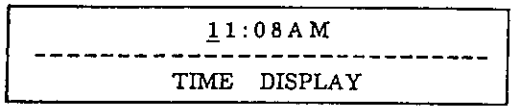
1. This is a station operation performed by the Attendant station.

GENERAL INFORMATION - CLOCK/CALENDAR SETTING

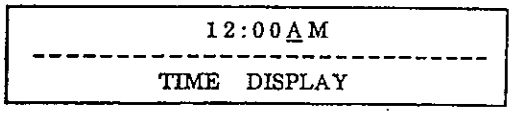
This Memory Block is used to program the year, month, day, hour, and minute, and a.m. or p.m.

EXAMPLE:

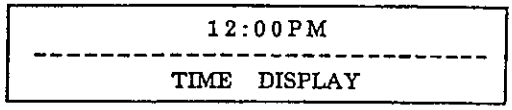
To change the time and date to 12:00 p.m. Monday, July 4, 1994:



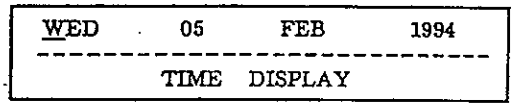
1. From the dial pad press 1 2 0 0.



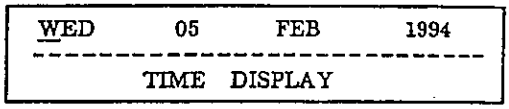
2. Press the **RECALL** key.



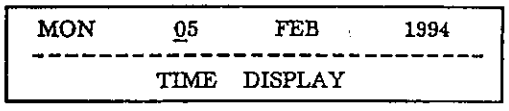
3. Press the **HOLD** key.



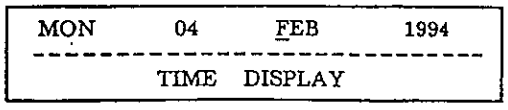
4. Press the **RECALL** key and select **MON**.



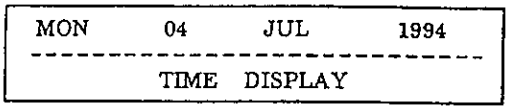
5. Move the cursor to the 05 position.



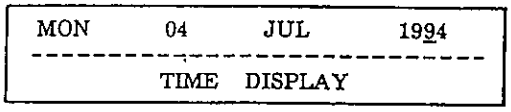
6. From the dial pad press 0 4.



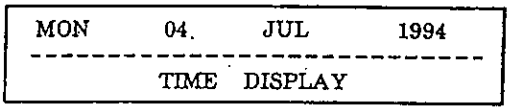
7. Press the RECALL key and select **JUL**.



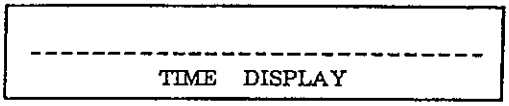
8. Move the cursor to the 1994 position



9. From the dial pad press 9 4.



10. Press the FNC key.



Station Hunting Memory Blocks

Tenant Service Memory Blocks

Trunk Group Memory Blocks

Trunk-to-Trunk Transfer Memory Blocks

Voice Mail Integration Memory Blocks

Voice Recording Service (VRS) Memory Blocks

VRS - Internal Memory Block

SECTION 5 FUNCTION TIMER CHART

Function Timer Chart

Timer	Memory Block	Definition	Timing Value		
			Min.	Default	Max.
Hookflash Time Selection	1-01	The break time for a hookflash signal (that breaks the DC loop of a CO/PBX line) sent to the CO or PBX when the RECALL key on a Multiline Terminal is pressed.	40 ms.	90 ms.	2 sec.
Hold Recall Timer Selection (Non-Exclusive Hold)	1-02	The interval of a held CO/PBX call until a recall tone is generated. If "No Limit" is selected, no hold alarm tone is generated.	1 min.	1 min.	No Limit
Exclusive Hold Recall Timer Selection	1-03	The interval for Exclusive Hold Recall tone. If "No Limit" is selected, no Exclusive Hold tone is provided.	1 min.	1 min.	No Limit
Internal/External Paging Timeout Selection	1-04	The length of time allowed for paging.	90 sec.	90 sec.	No Limit
Trunk Queuing Recall Time Selection	1-05	The time an outgoing CO/PBX line will ring at the station where the queue was set, before the queue is automatically cancelled.	10 sec.	10 sec.	60 sec.
Pause Time Selection	1-06	The length of the pause inserted between digits dialled on CO/PBX lines.	1 sec.	3 sec.	3 sec.
DP Interdigit Time Selection	1-07	The minimum length of the pause interval between Dial Pulse dialling.	650/500 ms.	800/800 ms.	800/800 ms.
Receiver (PBR) Release Timer Selection	1-08	The interval during which a receiver circuit is connected to a DTMF type Single Line Telephone waiting for each digit to be dialled.	5 sec.	10 sec.	60 sec.
Doorphone Display Time Selection	1-09	The duration of an incoming Doorphone call indication displayed at a Multiline Terminal.	15 sec.	15 sec.	90 sec.
CO Ring Transfer Recall Timer Selection	1-10	The interval from ringing tone transfer until a recall tone is generated to the originating telephone if the call is not answered.	30 sec.	60 sec.	240 sec.
Automatic Callback Time Selection	1-11	The length of time allowed for an Automatic Callback to occur before the request is automatically cancelled.	30 min.	No Limit	No Limit
Automatic Redial Time Selection	1-12	The call time, wait time, and number of attempts for an automatic redial. (Call Time/Wait Time/Attempts)	15 sec. 60 sec. 3 times	15 sec. 60 sec. 3 times	30 sec. 120 sec. 3 times
Bounce Protect Time Selection	1-13	The length of time before a valid hookflash can be detected from a Single Line Telephone or Voice Mail system.	0 ms.	300 ms.	900 ms.
Hookflash Start Time Selection	1-14	Specifies the minimum hookflash duration from a Single Line Telephone.	40 ms.	40 ms.	740 ms.
Hookflash End Time Selection	1-15	Specifies a maximum duration from a Single Line Telephone in order to receive a dial tone. HST = Hookflash Start Time	HST + 0	HST + 100 ms.	HST + 1500 ms.

Function Timer Chart (continued)

Timer	Memory Block	Definition	Timing Value		
			Min.	Default	Max.
:all Forward No .nswer Timer election	1-16	The time before incoming ICM calls or CO/PBX lines are forwarded to another station number when the called party does not answer.	10 sec.	10 sec.	60 sec.
:lapsed Call and MDR Time Selection	1-17	The interval after dialling until the start of call duration display.	10 sec.	10 sec.	30 sec.
'isconnect Time election	1-18	The minimum time for a circuit that has been disconnected until it can be accessed again.	0.3 sec.	2.0 sec.	4.0 sec.
ime Display 12h/24h) Selection	1-24	Specifies either a 12 hour or 24 hour time.	12 hr.	12 hr.	24 hr.
oice Mail DTMF elay Timer election	1-64	The length of delay before DTMF tones are sent to Voice Mail ports.	0 sec.	1.0 sec.	14 sec.
oice Mail DTMF uration/Interdigit ime Selection	1-65	Used to specify the DTMF duration and Interdigit time for Voice Mail.	70/60 ms.	100/70 ms.	900/200 ms.
utomated Attendant nswer Delay Time ssignment	1-67	The length of time before an incoming CO/PBX call is answered by the Automated Attendant.	0 sec.	3 sec.	48 sec.
utomated Attendant BR Release Timer lection	1-68	The amount of time an Automated Attendant remains connected when a calling party is dialling.	0 sec.	20 sec.	60 sec.
utomated Attendant elay Ringing Time lection	1-69	Specifies the time before the Automated Attendant changes to CO/PBX ringing when a transferred call is not answered.	10 sec.	∞	∞
utomated Attendant o Answer isconnect Time lection	1-70	The amount of time an Automated Attendant will ring a station before disconnecting the caller.	1 min.	2 min.	4 min.
unk-to-Trunk ansfer Automatic nswer Delay Time ssignment	1-74	The amount of time an incoming CO/PBX call will ring before being automatically transferred to a predetermined external destination.	0 sec.	3 sec.	48 sec.
unk-t-Trunk ansfer Automatic sconnect Time lection	1-75	The duration a Trunk-to-Trunk transfer call can be in progress before being automatically disconnected by the system.	30 min.	60 min.	180 min.
)/PBX DTMF ıration/Interdigit ssignment	3-09	Used to specify the tone duration and interdigit time of DTMF signals.	50/70 ms.	70/80 ms.	∞/0 ms.
[T Delay Answer mer	3-23	The amount of time an incoming CO/PBX call will ring before being automatically changed to a DIT call.	0 sec.	0 sec.	60 sec.
ng Cycle Selection	3-25	Used to specify a specific ring pattern for incoming CO/PBX calls.	Refer to MB	Pattern A	Refer to MB

SECTION 6 GUIDE TO FEATURE PROGRAMMING

This section lists features that may require programming of specific Memory Blocks in order to use these features properly. Features are listed in alphabetic order, and the associated Memory Blocks for each feature are listed in numeric order.

An asterisk (*) is used to indicate the Memory Blocks that must be programmed before the feature can be used. The other Memory Blocks listed for a feature may have to be programmed, depending on the user's application.

Call Transfer Memory Blocks

Code Restriction Memory Blocks

Refer to Section 7 of this chapter.

Direct Inward Termination (DIT) Memory Blocks

Do Not Disturb Memory Blocks

Door Lock Release Memory Blocks

Door/Monitor Phone Memory Blocks

External Paging (Meet-Me) Memory Blocks

External Ring Control Memory Blocks

Feature Access Keys - User Programmable Memory Blocks

Flexible Line Keys Memory Blocks

Flexible Station Numbering Plan Memory Blocks

General Purpose Relays Memory Blocks

(Refer to each Feature for additional programming.)

Headset Connection Via ADA (1)-W (GG) Unit Memory Blocks

Hold Free Transfer Memory Blocks

Internal Voice/Tone Signalling Memory Blocks

Multiple Trunk Groups Memory Blocks

Night Chime Memory Blocks

Off-Hook Ringing Memory Blocks

Prime Line Assignment Memory Blocks

Privacy Release Memory Blocks

Restriction (Outgoing) Memory Blocks

Ring Tone Variation Memory Blocks

Ringing Line Preference Memory Blocks

Single Line Telephone Access Memory Blocks

Speed Dial - System Memory Blocks