40/80

Hybrid Key Telephone System

Description, Installation, and Operation

ig.4

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SECTION 1 INTRODUCTION

1.1 Purpose

This manual provides the information necessary to program, install, operate and maintain the Siemens 40/80 Key Telephone System.

1.2 Regulatory Information

The Federal Communications Commission (FCC) has established rules which allow the direct connection of the Siemens 40/80 Key Telephone System to the telephone network. Certain actions must be undertaken or understood before the connection of customer provided equipment is completed.

A. Telephone Company Notification

Before connecting the Siemens 40/80 Key Telephone System to the telephone network, the local serving telephone company must be given advance notice of intention to use customer provided equipment and provided with the following information:

- The telephone numbers to be connected to the system.
- The FCC Registration Number located on the Key Service Unit (KSU): DLP82V-17568-MF-E. If no Key Telephones are programmed to have a pooled group button, FCC # DLP82V-17568-KF-E may be used.
- The Ringer Equivalence Number also located on the KSU: 0.5B

 The Universal System Ordering Code (USOC) jack required for direct interconnection with the telephone network: RJ21X

B. Incidence of Harm

If the telephone company determines that the customer provided equipment is faulty and possibly causing harm or interruption to the telephone network, it should be disconnected until repairs can be made. If this is not done, the telephone company may temporarily disconnect service.

C. Changes in Service

The local telephone company may make changes in its communications facilities or procedures. If these changes should affect the use of the Siemens 40/80 or compatibility with the network, the telephone company must give written notice to the user to allow uninterrupted service.

D. Maintenance Limitations

Maintenance on the 40/80 Key Telephone System is to be performed only by the manufacturer or its authorized agent. The user many not make any changes and/or repairs except as specifically noted in this manual. If unauthorized alterations or repairs are made, any remaining warranty may be voided.

E. Notice of Compliance

The 40/80 Key Telephone complies with rules regarding radiation and radio frequency emissions by Class A computing devices. In accordance with FCC Standard 15 (Subpart J), the following information must be supplied to the end user:

CAUTION

This equipment generates and uses RF energy and if not installed and used in accordance with the Instruction Manual, may cause interference to Radio Communications. It been tested has and found to comply with the limits for a Class A computing device, pursuant to Subpart J of Part 15 of

the FCC Rules, which designed to provide reasonable protection against such interference. operated in a commercial environment. Operation of this equipment in a dential area is likely to cause interference. in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

F. Hearing Aid Compatibility

The Siemens 40/80 Key Telephone is Hearing Aid Compatible, as defined in Section 68.316 of Part 68 FCC Rules.

SECTION 2 GENERAL DESCRIPTION

2.1 Technology

The Siemens 40/80 Hybrid Key Telephone System is a expandable modular system engineered for growth through modular card (PCB) expansion as well as KSU module expansion and provides a flexible assortment of features through software options and optional circuit cards. Figure 2-1 is a block diagram of the System.

The system is divided into two KSUs: one Basic and one Expansion KSU. The Basic KSU is housed in a wallmountable cabinet that contains the backplane, two pre-wired connectors Power Failure Transfer units, station and CO line boards, DC/DC Converter and an Applications board. This Basic KSU has a capacity of 24 CO lines and 48 Key Telephones and/ or Phone Boxes. DSS/DLS's can be installed in place of any Key Telephone. Standard single line telephones can be installed by exchanging key station interface boards. Eight single line telephones can replace eight Key Telephones for each board exchanged. An ON/OFF switch is located on the left side of the Basic KSU.

The Expansion KSU is also housed in a wall-mounted cabinet that contains station and CO line boards, two Option card slots for future feature applications and interconnection to extend matrix connections of the Expansion KSU to the Basic KSU.

The External Power Supply Housing (EPS) houses up to two Power Supplies (PS), a Single Line Telephone Ring Generator and Message Wait Power Supply (RG) and a Battery Charging card (BC). The EPS is also housed in a wall-mounted cabinet.

The Battery Charging board (BC) contains the necessary circuitry for complete battery charging to external batteries for backup operation.

The Ring Generator unit (RG) contains the circuitry to provide 20 Hz, AC ringing voltage to single line telephones. Also provided is 90V dc power for Message Waiting Lamp indication.

2.2 System Components

The following components are necessary to operate the Siemens 40/80 Hybrid Key Telephone System:

- Basic KSU
- Central Processor Board (CPB)
- A Feature Package Software (FP)
- DC/DC Converter (DCU)
- Key Station Interface Board (KSB)
- Central Office Interface Board (COI)
- Power Supply (PS)
- External Power Housing (EPS)
- Enhanced Key Telephone or
- Executive Key Telephone

A. Basic Key Service Unit (KSU)

The Basic KSU is housed in a wall-mount cabinet that contains card slots for modular boards and associated pre-wired connectors. The KSU provides card slot positions for 24 CO/PBX lines, 48 stations, DC/DC Converter (DCU), an Application Board (APB), and two Power Failure Transfer units (PFT).

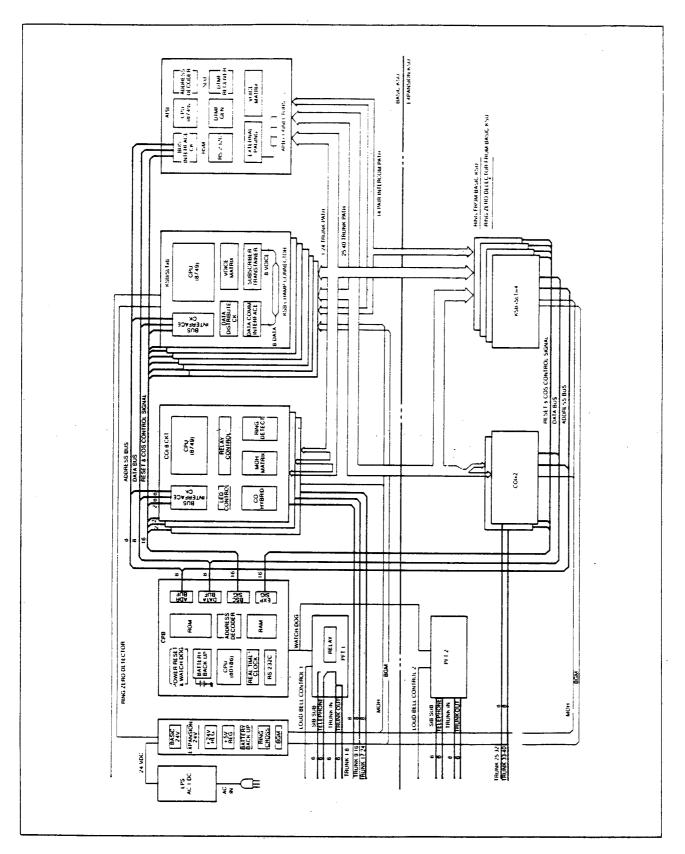


Figure 2-1 40/80 System Block Diagram

B. Central Processor Board (CPB)

This board provides the system's main 16 bit microprocessor and operating memory. It controls all system activity including switching functions and feature operation. This board houses the Programmable Read Only Memory (PROM) with generic operating instructions, and Random Access Memory (RAM) for customer data base programming. A lithium battery is included for protection of the RAM memory. An RS-232C connector for data base printout and SMDR is included. Feature Package software needs to be added to this board to make it operational.

C. CPB Feature Package (FPI-FPV)

- Feature Package (FPI). Provides all 40/80 System features the exception with of Least Cost Routing (LCR), Uniform Call Distribution (UCD), Remote Administration and Direct Inward System Access (DISA), supporting System configuration up to 32 outside lines and 64 stations.
- Feature Package II (FPII). Provides Least Cost Routing (LCR) in addition to all capabilities of Feature Package I, supporting System configuration up to 32 outside lines and 64 stations.

- Feature Package III Provides Uniform (FPIII). Call Distribution (UCD). Remote Administration, and Direct Inward System Access (DISA) in addition to all capabilities Feature of Package I, supporting System configuration up to 32 outside lines and 64 stations.
- Feature Package IV (FPIV). Provides Least Cost Routing (LCR), Uniform Call Distribution (UCD), Remote Administration, and Direct Inward System Access (DISA) in addition to all capabilities of Feature Package I, supporting System configuration up to 32 outside lines and 64 stations.
- Feature Package V (FPV).
 Provides all capabilities of Feature Package IV for 40 outside lines and 80 stations in the System.

D. DC/DC Converter (DCU)

A modular unit that converts the 24V dc power into 5V dc and 14V dc, the system operating voltages. The unit also provides LED voltage indicators, test points and adjustments, as well as an input jack for Background Music.

E. Key Station Interface Board (KSB)

Provides interface circuitry for eight Key Telephones. The KSB will support any Enhanced or Executive Key Telephone set, not including the capability for Off Hook Voice Announce. The board can be inserted or removed with the KSU power ON. An inuse LED and a switch to take the card out of service are provided. A DSS or Phone Box can be assigned to any one of the circuits. The KSB circuits are protected from mis-wiring and overcurrent.

F. Central Office Interface Board (COI)

Provides the interface for eight central office (DTMF or Dial Pulse) loop start lines. The board can be removed or inserted with KSU power ON. An in-use LED for each circuit and a switch to take the board out of service are provided. The CO circuits are equipped with current sensing circuitry that identifies distant end disconnect, if provided by the Central Office.

G. Power Supply Unit (PS)

This unit converts 117V ac to 24 volt power required for system operation. One power supply is required for the Basic KSU and an additional power supply is required for the Expansion KSU. Both units plug into the External Power Supply Housing (EPS).

H. External Power Supply Housing (EPS)

The External Power Supply Housing (EPS) is a wall mountable cabinet that houses the EPS motherboard (backplane), two Power Supply Units (PS), the Single Line Ringing Generator and Message Waiting Power Supply Unit (RG), and the Battery Charging Unit (BC). The EPS contains an ON/OFF power switch, an AC input cord. а DC output cord, battery connector panel for connecting 24V dc of battery power, an AC ON LED, a DC ON LED, and a CHARGE LED for the Battery Charging Board (BC).

The Power Supply Units (PS), Ring Generator Unit (RG) and the Battery Charging Unit (BC) all incorporate modular connectors that interface on the EPS motherboard allowing easy installation and removal of these units.

I. Enhanced Key Telephone

The Enhanced Key Telephone (Figure 2-2) is a fully modular, multi-line keyset voice and tone ringing volume controls. It contains 14 function buttons, 20 flexible buttons, and a speakerphone to provide Handsfree operation. Flexible buttons can be user programmed, for an individual choice of feature function. The Enhanced Key Telephone is also available with Off Hook Voice Announce (OHVA).

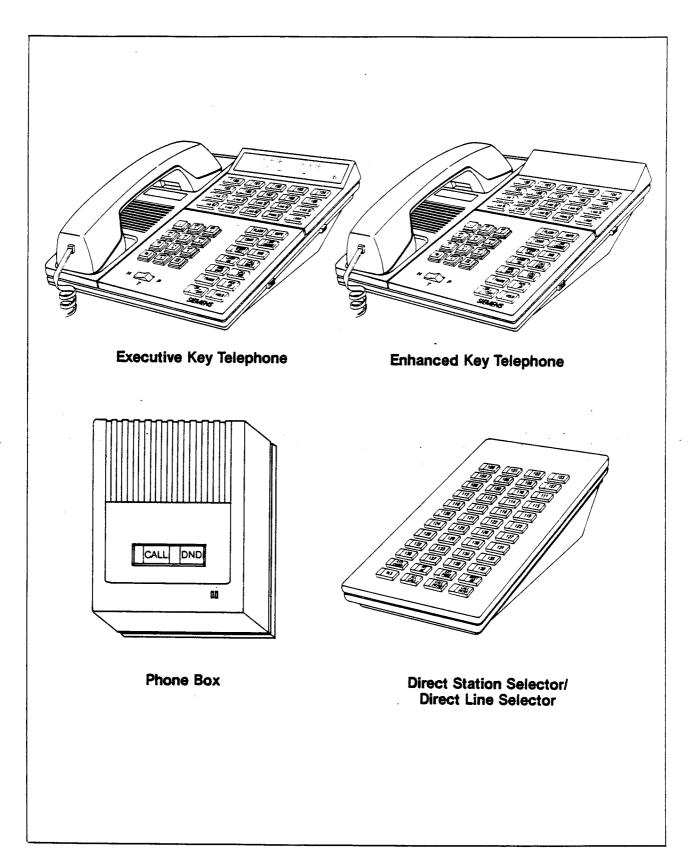


Figure 2-2 Station Instruments

J. Executive Key Telephone

The Executive Key Telephone (Figure 2-2) is identical to the Enhanced Key Telephone with the addition of an interactive LCD display. Displayed include calls to and from other extensions, number dialed, line Camp On, etc. used. Executive Key Telephone is also available with Off Hook Voice Announce (OHVA).

The following items are optional for additional System function:

K. Expansion Key Service Unit

The Expansion KSU is an add-on cabinet that mounts next to the Basic KSU with ribbon cable connectors to interface to the Basic KSU, card slots to support up to 8 PCB's and a pre-wired CO line interface connector (P2). The Expansion KSU will support a configuration of 16 CO lines and 32 Key Telephones/DSS Units/Phone Boxes. Two power supplies are required in the External Power Supply Housing (EPS) for Expansion KSU operation.

L. DSS/DLS Terminals

The station port used for a DSS/DLS terminal can be assigned as a Direct Station Select or Direct Line Select depending on customer need. The bottom two rows of buttons on the DSS/DLS (See Figure 2-2) contain 6-8 flexible buttons (depending on MAP chosen) which can be assigned by the station user in the same manner and functions as the flexible buttons on the keyset.

M. Phone Box

The Phone Box (See Figure 2-2) allows Handsfree conversations that do not need dialing privileges. Phone Boxes may be substitued for Key Telephones on a one-for-one basis.

N. Additional RS-232C Port

This Receiver/Sender Module (RSM) mounts on the Application Board and provides a second RS-232C connector. This connector may be used to output SMDR data while the standard RS-232C is used for system printout.

O. Battery Charging Card

The Battery Charging Card (BC) installs into the External Power Supply Housing (EPS) and provides the charging circuitry for a 24V dc battery package. The charging rate is 28V dc at 0.5 ampere for the Basic KSU or 2.0 ampere with the Expansion KSU (when the second Power Supply is added).

P. Power Failure Transfer Unit

There can be two Power Failure Transfer Units installed in the Basic KSU, each providing automatic direct cut-through connection of six CO/PBX lines to six single line telephones in case of commercial power failure or system processor failure. single line The telephones may or may not be intercom stations. For each PFT installed there is one set of Loud Bell Control contacts provided. This unit can be removed or inserted with power on on KSU. There is a manual

switch that activates the PFT for testing purposes.

Q. Application Board

The Application Board (APB) provides the matrix and controlling circuitry for DISA and one external page zone as well as circuitry for two DTMF receivers and two DTMF senders. The APB has provisions for the addition of a Single Line DTMFRS Unit (SLU), used to support single-line telephones, and an RS-232C Module (RSM) to add another RS-232 port for system input/ output. The APB also has a connection for the Recorded Announcement (RAN) input and its control contacts.

R. Single Line Telephone Interface Unit

The Single Line Telephone Interface Unit provides interface for eight single line (2500 type) telephones. Single Line Telephone Interface Units (SLT's) and Key Station Interface Boards (KSB's) are interchangeable within the system. Both standard DTMF and message waiting (90V) DTMF single line telephones may be used.

S. Key Station Interface Board with Off Hook Voice Announce

The Key Station Interface Board with Off Hook Voice Announce (KSB/OHV) provides interface circuitry for eight Electronic Key Telephones (Enhanced or Executive), including the capability for Off Hook Voice Announce (requires an OHVA equipped Key Telephone with a six conductor cord). This board can be inserted or removed with

the KSU power ON. A DSS or Phone Box can be assigned to any one of the circuits. Used in place of KSB board.

T. Single Line Ring Generator and M/W Power Supply Unit

Provides the 90V ac, 20 Hz, ringing supply for supporting single line telephones. Also provides the voltage to light single line telephone M/W lights when SLT cards are installed in the system. This unit plugs into the External Power Supply Housing.

U. Single Line DTMFRS Unit

Used to expand the DTMF receivers and senders in the System to support single line telephones. The module is added to the APB board and contains four DTMF receivers and one DTMF sender.

2.3 Capacity

The Siemens 40/80 Hybrid Key Telephone System is the upper end of a family of Electronic Key Telephone Systems designed to meet the needs of telephone users from small to large. The other members of this family are the 8/16 Key Telephone System (flat pack) and the 12/24 Key Telephone System (flat pack).

This Siemens 40/80 Hybrid Key Telephone System is a modular system designed for growth, using digital technology, and providing a flexible assortment of features.

This family of systems is engineered to allow the same telephones to migrate through the complete product line.

This system has a capacity of 40 outside lines and 80 internal telephone stations. The KSU is designed as two cabinets. The Basic cabinet will support 24 outside lines and 48 internal stations. The Expansion cabinet will support 16 outside lines and 32 internal stations. Standard single-line (2500 type) telephones can be installed in the system by exchanging key telephone boards for single-line boards. For each board exchanged, 8 single-line telephones can replace 8 Key Telephones.

A Direct Station Selector/Direct Line Selector console is available. There is no limit to the number of DSS units in the System other than that each DSS unit uses a Key Telephone circuit.

2.4 System Specifications

Electrical, environmental, and dialing specifications are listed in Tables 2-1, 2-2, and 2-3. Dimensions and weight are listed in Table 2-4.

Table 2-1 Electrical Specifications

AC Input to Power Supply Power Consumption	117V ac ± 10% 60 Hz
Fower Consumption	120 V ac @ 6 A
Station Cable Length (Max.)	500 ft. of 26 AWG Cable
(Key Telephone, SLT, DSS)	1000 ft. of 24 AWG Cable
(twisted 2-pair)	1500 ft. Of 22 AWG Cable
Power Supply Fuse – AC Input	5A 125V AC
Music Source (Input)	2 mW Max. at 0 dBm
	2 KΩ input impedance
Contact Rating	
External Page Control	1.0A, 24V dc
Loud Bell Control	1.0A, 24V dc
RAN Port Control	1.0A, 24V dc
External Page Port	
Output Impedance	600 ohms @ 0 dBm
Output Power	1 mW Maximum

Table 2-2 Environmental Specifications

Operating Temperature	32° to 104° F
Recommended	70° to 78° F
Humidity	5% to 90% non-condensing

Table 2-3 Dialing Specifications

DTMF Dialing	
Frequency Deviation	± 1 Hz
Rise Time	3 msec.
Duration of DTMF Signal	100 msec. minimum
Interdigit Time	100 msec. minimum
PULSE Dialing	
Pulse Dialing Rate	10 or 20 pps
Pulse Break/Make Duration	60/40 or 66/33
Dialing Memory	
System Speed Dialing	80 numbers (24 digits)
Station Speed Dialing	20 numbers (24 digits)
Save Number Redial	1 number (32 digits)
Last Number Redial	1 number (32 digits)
СО Туре	Loop Start

Table 2-4 Dimensions and Weight

BASIC KEY SE	ERVICE UNIT	EXPANSION	MODULE	
Height	17.8"	Height	17.8″	
Width	23"	Width	15.6"	
Depth	13.3″	Depth	13.3"	
Weight	60 lbs. (loaded)	Weight	45 lbs. (loaded)	
EXTERNAL PO	OWER SUPPLY HSG (EPS)	POWER SUP	PLY	
Height	13.1"	Height	4.75″	
Width	13.5"	Width	4"	
Depth	12.8"	Depth	9″	
Weight	36 lbs. (loaded)	Weight	5 lbs.	
DSS CONSOL	E	KEY TELEPH	IONE	. ,
Height	3"	Height	3.5"	
Width	5.5"	Width	8"	
Depth	9.125"	Depth	9.125"	
Weight	2 lbs.	Weight	3 lbs.	
PHONE BOX			•	
Height	1.75"			
Width	5.5 <i>"</i>			
Depth	4"			
Weight	1 lb.			

SECTION 3 FEATURE DESCRIPTION

The features of the Siemens 40/80 Hybrid Key Telephone System are listed and described below in alphabetical order. An abreviated feature index is provided in Table 3-1.

SYSTEM AND STATION FEATURES

3.1 Account Code

An account code is the last field within Station Message Detail Recording (SMDR), that provides the ability to track specific calls by entering up to a twelve digit identifier. The use of forced Account Codes is Optional, offered on a system wide basis.

3.2 Attendant Recall

When a line has been left on hold for a programmable period of time, the station placing that line on hold will be recalled. If that station fails to answer the recall, the call will be recalled to the attendant(s) for handling. There can be three attendants per system

3.3 Automatic Pause Insertion with Speed Dial

If a flash command is placed into System Speed dial numbers, Station Speed dial numbers, Save Number Redial or Last Number Redial, a pause will automatically be inserted after the flash. A pause will also be automatically inserted after a PBX dialing code has been used.

3.4 Automatic Privacy

Privacy is automatically provided on all calls. If one station is conversing, another station cannot intrude on that line. The Automatic Privacy feature can be disabled, allowing another station to join in on existing CO line conversation.

3.5 Automatic Selection

The user can select an outside line. intercom station, speed dial button. or dial a feature and automatically place the phone in the dialing mode without pressing the ON/OFF button or lifting the handset.

3.6 Background Music

Each Key Telephone user may receive music over their speaker when an optional music source is connected to the system. This feature can be allowed or denied on a system-wide basis by programming.

3.7 Battery Back-up (Memory)

A long-life lithium battery is located on the Central Processing Board (CPB) to save system memory in case of commercial power outage or the system power being turned off for a period of time.

3.8 Battery Back-Up (System)

When the optional Battery Charging Card and maintenance free batteries are installed, full system power can maintained in the event of commercial power outage. Calls in progress when power fails will without interruption. The continue batteries are recharged when the system returns to normal AC operation.

3.9 Busy Lamp Field

When a button on a Key Telephone is assigned as a DSS it also serves as a Busy Lamp Field to display the status of that telephone.

Table 3-1 Feature Index

FEATURE	STANDARD OR OPTIONAL	INTERNAL EQUIPMENT REQUIRED	EXTERNAL EQUIPMENT REQUIRED
Account Code Attendant Recall Automatic Pause Insertion Automatic Privacy Automatic Line Selection Background Music Battery Backup – Memory Battery Backup – System Busy Lamp Field Call Announce Privacy Call Back Call Forward Preset Call Forward Station Call Park Call Pick-up Group Call Transfer Camp On Camp On Recall CO Line Access CO Line Control CO Line Groups CO Line Queue CO Ring Detect Conference Dial Pulse Sending Dialing Priveleges DISA Direct Station Selection Directed Call Pickup Do Not Disturb DTMF Sending Emergency Transfer Exclusive Hold Executive/Sec. Transfer Flash Flash with Speed Dial	OR OPTIONAL SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	EQUIPMENT	EQUIPMENT
Flexible Attendant Flexible Button Assignment Hold Preference Hold Recall Intercom Calling Intercom Signaling Select	999999999	2 2 2 2 2	N N N N N

S = Standard; O = Optional; N = None

Table 3-1 Feature Index - Cont'd

FEATURE	AVAILABILITY	INTERNAL EQUIPMENT	EXTERNAL EQUIPMENT
		REQUIRED	REQUIRED
Last Number Redial	S	,N	N
Least Cost Routing	FPII, IV, V	N	N
Loud Bell Control	0	PFT	Gen. and Bells
Meet Me Page	S	N	N
Message Waiting	S S S S S	N	N
Msg. Waiting Reminder Tone	S	N	N
Music On Hold	S	N	34 BTN W/OHVA
Mute Key		N	N N
Off Hook Voice Announce	0	KSB/OHV	N
On Hook Dialing	<i>。。。。。。。。。。。。。。。。。</i> 。。	N	N
Outside Line Ring Assign	S	N	N
Paging	S	N	N
Paging Access Restriction	S	N	N
Pause Timer	S	N	N
PBX Dial Codes	S	N	N
Personalized Messages	S	·N	N
Preferred Line Answer	S	N	N.
Pulse-To-Tone Switchover	S	N	N
Private Line	S	N	N
Save Number Redial	S	N	N
SMDR	S	RSM	Printer
Speakerphone	S	N	N
Station Speed Dial	S	N	N
System Hold	S	N	N
System Speed Dial	S	N	N
Transfer Recall	S	N	N
Universal Call Distrib.	FP III, IV, V	N	N
Universal Night Answer	S	N	N
Volume Control	S	N	N

S = Standard; O = Optional; N = None

3.10 Call Announce - Privacy

Each telephone user can set their intercom signaling switch to receive intercom call announcements without having the calling party hear any conversations in progress.

3.11 Call Back

A station can initiate an automatic call back request to another busy station. As soon as that station becomes idle, the station that left the call back request is signaled.

3.12 Call Forward - Preset

The system may be programmed so that incoming CO lines, which are set to ring a particular station, can be forwarded to another predetermined station. This occurs when the station normally receiving the CO ring is busy or does not answer the call based on a programmable timer.

3.13 Call Forward - Station

Each Key Telephone user may direct intercom calls, incoming, and transferred outside lines to be forwarded to another station in the system.

3.14 Call Park

An outside line can be placed into one of six parking locations and can be retrieved by any station that has a direct line appearance or an available loop button. Parked calls have their own recall timer and will recall the originating station and if unanswered, the attendant(s).

3.15 Call Pick - Up - Group

Stations can be placed in one or more of four pick-up groups. Stations within a group can pick up tone ringing intercom calls, recalling outside line ringing, or transferred outside line calls for another station in that group.

3.16 Call Transfer

CO An outside line can be transferred from one keyset another. By using the TRANS button, screened (announced) or unscreened transfers can be made. The line transferred rings on being keyset and provides Exclusive Hold flashing indication to the receiving party's keyset. Any number attempts can be made to locate someone by calling different keysets without losing the call. If a line is transferred to a busy station, it will receive muted ringing.

3.17 Camp On

A station may alert a busy party that an outside line is on hold and waiting for them by using the CAMP-ON button. To camp on a call, press the TRANS button to transfer the call to the desired busy station, then press the CAMP ON button. The busy party will receive a muted ring over the keyset speaker, and a visual flashing CAMP ON LED. By pressing the CAMP ON button, the person called places his existing on hold outside call and connected to the person placing the Camp On. He can then pick up the call on the appropriate line. Calls cannot be camped on when a station is in DND or in Conference.

3.18 Camp On Recall

When a station does not answer a Camp On, that call will recall the person placing the Camp On, and if unanswered by them, will recall the attendant(s).

3.19 CO Line Access

Through programming, telephones are allowed or denied access to particular outside lines or line groups.

3.20 CO Line Control

There are two control contacts which may be individually programmed as either CO Line Control (to control ancilliary equipment) or Loud Bell Control to control a customer provided ringing device to external areas. When programmed as CO Line Control and assigned to a CO line, the corresponding contact will close whenever that CO line is accessed by a station.

3.21 CO Line Groups

Outside lines can be placed in one of eight groups if the customer's business requires such grouping. Stations are then individually assigned access to these lines and given the ability to dial on particular lines.

3.22 CO Line Queue

When all the outside lines in a group are busy, stations can be placed in queue awaiting a line in the same group to become available. If a station doesn't answer the queue signal within 15 seconds, that station is dropped from the queue.

3.23 CO Ring Detect

The duration of the ringing signal from the CO or the PBX is matched with ringing detection circuitry in the KSU. The ring detect can range from 200 to 900 msec, programmed in 100 msec increments. This timer helps prevent false ringing.

3.24 Conference

There are three different type of conferencing:

- Add on Conference. Up to five internal parties can engage in a conference, or four internal parties with a limit of one external party.
- Multi-Line Conference. One internal station can engage in a conference with two outside parties.
- Unsupervised Conference. conference initiator can exit a conference with two outside parties and leave them in an unsupervised conference. The re-enter initiator can the conference at any time. programmable conference timer will disconnect the unsupervised conference if the initiator does not re-enter. (Requires board).

3.25 Dial Pulse Sending

Each CO interface circuit for outside lines can be programmed to send dial pulse or DTMF signals. Dialing speed and break/make ratios are programmable.

3.26 Dialing Privileges

The system provides a flexible means of providing toll or dialing restriction. Through the assignment of class of service (both station and outside line) many combinations of allow and deny numbers can be set. Both area and office codes can be screened for allow/deny privileges.

3.27 Direct Inward System Access (DISA)

Allows as many as three simultaneous outside line calls to be programmed to provide direct access to the system and the use of features such as WATS lines, intercom dial tone or the ability to dial out on outgoing trunks without going through the attendant. If a DISAcaller attempts to call a station that is busy, they will be able to dial other stations without having to dial into the system again. A security code can be assigned to restrict unwanted use of the DISA circuits. Each DISA line can be programmed independently for 24 hour DISA use or night DISA use only. The APB card is required to provide the DISA feature.

3.28 Direct Station Selection

The user with DSS buttons assigned at his Key Telephone can call an intercom station by simply pressing the appropriate DSS button. the called station is automatically signaled.

3.29 Directed Call Pick Up

A station can pick up an intercom call; a transferred, incoming, or recalling outside line call to a specific unattended station, the call must be a tone ringing call.

3.30 Do Not Disturb (DND)

Placing a keyset in DND will eliminate incoming outside line ringing, intercom calls, transfers and paging announcements. A ringing station may go into DND to silence ringing. The attendant can override a station in DND. The station in DND can use the telephone to make normal outgoing calls. A station can be denied this feature through programming.

3.31 DTMF Sending

Each CO interface circuit for outside lines can be individually programmed to send DTMF (tone) or dial pulse signals.

3.32 Emergency Transfer

Two Power Failure Transfer cards may be installed so that in case of a power failure, up to 12 CO lines can be automatically connected to specified SLT's.

3.33 Exclusive Hold

When a line is placed on Exclusive Hold, no other station in the system can retrieve this call.

3.34 Executive/Secretary Transfer

There are four sets of Executive/ Secretary pairings available. When the Executive station is busy or in DND, the Secretary station will receive intercom calls and transfers. The Secretary station can signal the Executive in DND by using the Camp On feature.

3.35 Flash

Provides telephone users with the ability to terminate an outside call or transfer a call behind a PBX and restore dial tone without hanging up the handset. A FLASH button is located on each Key Telephone.

3.36 Flash with Speed Dial

A flash can be programmed within a speed dial number. When this is done, a pause will automatically be inserted before the remaining speed dial digits are sent.

3.37 Flexible Attendant

Any three Key Telephones in the system can be assigned as attendant stations. These stations will receive recalls and can place the system in Night Service.

3.38 Flexible Button Assignment

The upper 20 buttons on each Key Telephone are a flexible button field which can be individually programmed. One of the following six operations can be selected for each button.

Outside line. Automatically access assigned line.

- DSS/BLF. Automatically signal assigned station and provide BLF for off-hook and DND.
- Feature. Any feature with a dialing code can be assigned to a flexible button.
- Speed dial. Automatically dials a speed number (System or Station).
- Pooled group access. Some or all outside lines can be grouped; pressing this button accesses the highest numbered unused CO line in that group.
- Loop. Used to answer a transferred call on a line for which a user does not have a button assigned.

3.39 Hold Preference

The system allows either Exclusive or System hold as the primary hold on the first depression of the HOLD button, depending on programming.

3.40 Hold Recall

When an outside call has been on Hold for a programmable length of time, recall ringing tone is sent to the station placing the call on Hold. If this station does not answer the recall, a recall tone is sent to the attendant.

3.41 Intercom Calling

The System's architecture allows 14 intercom paths for internal traffic capability, 12 of these paths can be used by SLT's. A station is reached on intercom by dialing the associated three-digit number.

3.42 Intercom Signaling Select

Users can control the method by which they receive intercom calls and signals. A convenient intercom signal switch is located on each Key Telephone for easy selection. The choices are:

- Handsfree (H). The station user, upon hearing a tone burst and voice announcement over the speaker, can reply handsfree.
- Tone Ringing (T). A standard tone ring notifies the party of an incoming intercom call. The called party answers by lifting the handset or moving the switch to the handsfree (H) position or pressing the ON/OFF button.
- Privacy (P). The station user receives a burst of tone and a voice announcement over his/her speaker. The microphone is deactivated for privacy. The called party must lift the handset or press the ON/OFF button to answer the call. (Or move the switch to the handsfree (H) position.)

3.43 Last Number Redial

Permits the automatic redialing of the last telephone number dialed on an outside line. Up to 32 digits can be stored. Outside line selection is automatic.

3.44 Least Cost Routing

Allows the system to automatically select the least costly route available according to the number dialed, the time of day/day of week, the class of service (COS) assigned to the station, and CO line and trunk group priority level assigned.

3.45 Loud Bell Control

Two sets of relay-controlled contacts are provided to connect external signaling devices. Each set of contacts can be programmed to follow the ringing signals at any station.

3.46 Meet Me Page

Users may answer a page call from any phone in the System by dialing a special code. The party who initated the page must remain off-hook.

3.47 Message Waiting

Stations that are busy, unattended, or in DND can be left a message indication by other stations in the System. Up to five messages can be left at one keyset. Upon return to the station, the user can press the flashing MSG WAIT button to ring each party in sequential order.

3.48 Message Waiting Reminder Tone

A station with a message waiting can be reminded at a timed interval with a tone.

3.49 Music On Hold

A music source, when connected to the System, provides music to all lines on Hold, transferred calls and calls waiting to be answered by Universal Call Distribution (UCD).

3.50 Mute Key

Pressing the MUTE button while in the speakerphone mode or using the handset will disable the microphone but not affect the speech coming over the speaker or handset. Pressing the illuminated MUTE button again will reactivate the microphone.

3.51 Off Hook Voice Announce

Provides a means for the calling party of an attempted intercom call to make a voice announcement and receive a handsfree reply from a busy station; two conversations would be conducted on the same phone at the same time. All stations must be six-wire OHVA equipped keysets, and each must be programmed in data base.

3.52 On Hook Dialing

The Key Telephone user can place calls without lifting the handset. If the speakerphone is disabled, the handset must be lifted to converse.

3.53 Outside Line Ring Assignment

Outside lines are assigned to ring at individual stations by programming. Any Key Telephone may be programmed to ring for any outside line(s) during the Day and/or Night Mode, both or neither.

3.54 Paging

There are four types of paging available: External, Internal. Internal and All Call. There are one external zone and four internal zones available. Paging requires a two-digit dialing code.

3.55 Paging Access Restriction

Programming on a per-station basis. can deny any station the ability to make any type of page.

3.56 Pause Timer

When dialing a speed number, a timed pause between digit sending can be placed in the number. The length of this pause can be programmed in the system database.

3.57 PBX Dial Codes

The system will allow five one-or two-digit access codes to be entered into memory. When one of these codes is dialed, this signals the KSU that toll restriction is to be applied at the next dialed digits after the code. If one of these codes is not dialed. toll restriction does not apply. This allows the dialing of PBX extensions 100, 110, 111, etc. This functions on lines marked as PBX type lines in programming.

3.58 Personalized Messages

Each Key Telephone can select a preassigned message to be displayed on the LCD of the Key Telephone calling that station. There are ten possible messages which can be displayed.

VACATION
RETURN MORNING
RETURN AFTERNOON
RETURN TOMMORROW
RETURN NEXT WEEK
BUSINESS TRIP
MEETING
HOME
ON BREAK
LUNCH

3.59 Preferred Line Answer

A station with Preferred Line Answer can answer any assigned outside, transferred, or recalling line, or queue callbacks by lifting the handset or pressing the ON/OFF button.

3.60 Pulse-To-Tone Switchover

When commanded, the system will change the signaling on an outside line from dial pulse to DTMF (tone), allowing the use of common carriers behind a dial pulse outside line. This can be done manually when dialing, or can be stored within a speed dial number.

3.61 Private Line

Private line programming allows certain lines to ring at a specific station only. When placed on Hold, these lines are active at the programmed station only. A private line can be transferred to other stations.

3.62 Save Number Redial

Any number dialed on an outside line can be saved permanently to be used at any time.

3.63 SMDR (Station Message Detail Recording)

The Siemens 40/80 Key Telephone System provides one industry standard RS-232C port and a second port is optional for simultaneous use, each allowing connection to an external printer or call accounting device. The system provides details on both incoming and outgoing calls. This feature is programmable to allow all calls or just outgoing long distance calls to be recorded. The system tracks calls by outside line, number dialed, time of day, date, station that placed the call and duration of call. Account codes may also be entered and recorded.

3.64 Speakerphone

Each Key Telephone is equipped with a speakerphone. However, the speakerphone can be programmed to work in one of three ways:

- Normal speakerphone operation.
- Disabled for outgoing calls and incoming CO calls but handsfree talkback on intercom allowed.
- Disabled to allow headset operation.

3.65 Station Speed Dial

Each station user can program up to 20 frequently dialed numbers of up to 24 digits in length. Pauses, flash commands, pulse-to-tone switchover, and no-display characters take up digit spaces. There are a total of 640 speed locations to be divided among all telephones on a first-come, firstserve basis. Numbers are dialed by use of the SPEED CALL button and a two-digit code. This feature can additionally be assigned to any of 20 buttons in the flexible button field on each keyset for onebutton activation.

3.66 System Hold

When a line is placed on System Hold, any station in the system with access to that line can retrieve the call.

3.67 System Speed Dial

Up to 80 commonly dialed numbers can be programmed into System Speed Dial for use by stations allowed this feature. These numbers can be up to 24 digits including pause, flash commands, pulse-to-tone switchover, and no-display characters. The last 40 numbers will not be monitored by toll restriction.

3.68 Transfer Recall

Screened and unscreened transfers will recall the initiating party if unanswered for a programmable length of time, and then if unanswered, will recall the attendant(s).

3.69 Universal Call Distribution

Eight Uniform Call Distribution (UCD) groups can be programmed, each containing up to eight three-digit station numbers. Each group is assigned a pilot number. When this number is dialed. the first available station in that group is rung. An alternative UCD group may be specified during programming allowing overflow call distribution the alternate group. Recorded Announcement (RAN) feature is used with the Uniform Call Distribution feature to provide unanswered incoming CO calls or calls in queue with a Recorded Announcement while waiting for an available UCD station. The system can be programmed to connect the waiting caller to second and subsequent messages.

3.70 Universal Night Answer

Incoming CO lines can be programmed for Universal Night Answer (UNA). Stations which do not have access to a line during the day can answer that line while the System in in the Night Mode by dialing a UNA code.

3.71 Volume Controls

Both speaker and tone ringing volume can be separately adjusted by utilizing the two slide switches on the right side of the keyset.

Single Line Telephone Features

3.72 Call Forward

Single line telephones may direct intercom calls and transferred CO lines to be forwarded to another station.

3.73 Camp On

A busy station can be notified that an outside line is on hold and waiting for them. The busy station is notified of this by a beep tone. Single line telephones can receive a camp on indication or initiate one by using an access code.

3.74 Conference

An SLT user can initiate a conference with an outside line and one other internal station.

3.75 Direct Outside Line Access

Single line telephones can access outside lines by dialing CO line group access 9 or 81-87.

3.76 Direct Outside Line Ringing

Single line telephones can be set up to receive outside line ringing. Maximum: one line per SLT.

3.77 Directed Call Pick Up

Tone ringing intercom calls and transferred outside line calls to specific stations can be picked up by single line telephones. For this kind of pickup, the stations do not have to be in the same pickup group.

3.78 Do Not Disturb

Each telephone user can be allowed to place their phone in Do No Disturb. The user will receive error tone if they are not allowed feature. They will also receive a warning tone when lifting the handset to remind them they are in Do Not Disturb. The attendant can override a station in DND.

3.79 Group Call Pick Up

Tone ringing intercom calls and transferred outside line calls can be picked up by single line telephones by dialing a special pickup code. The telephones must be in the same pickup group.

3.80 Intercom Calling

Single line telephones can make and receive intercom calls.

3.81 Message Waiting

Single line telephones calling a station that is busy, idle, or in Do Not Disturb can leave message waiting indications.

3.82 Message Waiting Indication

Message waiting single line telephones may be connected to the system. The lamp will flash when a message has been left at that station.

3.83 Night Service

When outside lines are marked UNA and the system is placed into night service, a single line telephone can answer incoming calls on lines it does not normally have access to by dialing [7] [5]. An external ringing device must be provided.

3.84 Queuing

Single line telephones can be placed in a queue awaiting the first available outside line in a group to become available.

3.85 Station Speed Dial

Each telephone user may program up to 20 individual speed dial numbers. Seach speed dial number can be up to 24 digits in length. There are a total of 640 speed locations to be divided among all telephones ingle line telephones require an APB board be installed.

3.86 System Speed Dial

Each telephone user can be allowed access to system speed dial numbers on a programmable basis. Single line telephones reauire. an APB board The last forty system numbers speed override toll restriction.

3.87 Transfer

Outside lines may be transferred by or to single line telephones. These transfers can be either announced or unannounced.

Attendant Features

3.88 Attendant Position

The system identifies a maximum of three programmable stations attendants for line recalls and attendant features. The first programmed attendant can enter system date and time information as well as System Speed numbers from this position without entering the programming mode. The 40/80 System is placed in Night Service by any programmed attendant pressing the DND button.

3.89 Attendant Recall

A held CO call left unattended by a station will recall the attendant(s) after a programmable period of time has elapsed. A recalling CO line flashes at a distinctive rate that identifies the originating station of the unanswered call.

3.90 Time and Date Programming

This feature allows the first programmed attendant to set the time and date without entering the programming mode.

Attendant with DSS/DLS Features

3.91 Attendant Override

The DSS terminal (using MAP 1) provides an override key allowing the attendnat with a DSS to ring a busy station or a station in DND. While busy, pressing the override key provides override tone and a five second delay before voice cutthrough to the called party occurs, automatically placing any outside line call on Hold.

3.92 Attendant Search

Allows a user to make a series of intercom calls without hanging up the handset. An intercom connection is switched to another station whenever a DSS key is pressed. Pressing the next DSS key terminates the previous intercom call.

3.93 Busy Lamp Field Indicators

Each station key on the DSS console has a corresponding indicator which shows whether the station is idle or busy. The indicator is lit when the station is busy and unlit if the station is idle. A station in DND mode is shown by a flashing indicator (MAP 1 or 2 only).

3.94 Direct Station Calling

Enables the user to make an intercom voice call to any Key Telephone in the system. Permits you to automatically put an outside caller on hold and simultaneously make an intercom call to an internal station. Also allows you to transfer an intercom call or outside call that is on hold to another station (MAP 1 or 2).

3.95 Mapping Options

Each DSS terminal can be programmed in one of three ways:

- MAP 1. Station 100-139 appear in sequential order with the bottom two rows of buttons being two fixed feature buttons and six flexible buttons.
- MAP 2. Stations 140-179 appear in sequential order with the bottom two rows of buttons being eight flexible buttons.
- MAP 3. CO Line buttons 1-40 appear in sequential order with the bottom two rows of buttons being eight flexible buttons.

3.96 Release Key

Allows the user to disconnect calls while off-hook, speeding up call handling time (MAP 1 only).

SECTION 4 OPERATION

This section provides operating procedures for the features of the Siemens 40/80 Key Telephone System.

There is more than one way to use some features, depending on how the telephone is programmed. Options are listed below as applicable.

For a complete Numbering Plan to assist in using all features available on the Siemens 40/80 System refer to Table 4-1

4.1 Placing an Outside Call (Automatic Line Selection)

- a. Press outside line button.
- b. ON/OFF button will light and dial tone will be heard.
- c. Dial desired party.
- d. When called party answers, lift handset to converse or use speakerphone.

4.2 Answering an Outside Call

- a. Lift handset.
- b. Press slow flashing outside line button. (If your telephone is programmed with Preferred Line Answer, you may answer an outside line by lifting the handset.)

4.3 Speakerphone

- a. Press station key of desired party, or press available outside line button and dial number.
- b. Speakerphone is activated.
- c. Press ON/OFF button to end call.

4.4 Volume Controls

There are two volume control slide switches on the right side of the Key Telephone. Sliding the switch toward you decreases the volume. The front switch is for voice, background music, and speakerphone volume. The back switch is for tone ringing volume.

4.5 Mute Button

The MUTE button provides privacy during speakerphone or handset operation by disabling the microphone.

- a. Press while off-hook to activate (LED lights).
- b. Press again to deactivate.

4.6 Background Music (Optional)

- a. Press [77] on the dial pad (music is heard).
- Press [77] again and music is discontinued. (When you pick up the handset or press the ON/OFF button, music is discontinued automatically.)

4.7 Placing Outside Line on Hold

- a. If your system is programmed for Exclusive Hold Preference, press HOLD button once for Exclusive Hold and twice for System Hold.
- If your system is programmed for System Hold Preference, press HOLD button once for System Hold and twice for Exclusive Hold.

Table 4-1 40/80 System Numbering Plan

100-179	Station Intercom Numbers
74	LCR Queue Cancel
75	Night Answer SLT and Keyset
76	Time and Date Programming – Attnd
, c 77	
78	Background Music
	Personalized Messages (Key and SLT)
790-795	Call Park
80	Account Code Enter
81	CO Group 1 (if LCR enabled)
82	CO Group 2
83	CO Group 3
84	CO Group 4
85	CO Group 5
86	
87	CO Group 6
	CO Group 7
890-897	UCD Group Pilot Numbers
9	CO Group 1 or LCR if enabled
0	Attendant
*1	Internal Zone 1
*2	Internal Zone 2
*3	Internal Zone 3
*4	Internal Zone 4
*5	
*6	Internal All Call
	External page
*9	Meet Me Page Answer
*0	All Call
* *	Database Admin. Access
#1	SLT DND
#2	SLT Call Forward
#3	SLT Speed Dial Program
#4	
#5	SLT Message Wait/Callback Enable
	SLT Message Wait/Callback Return
#6	SLT Group Call Pickup
#7100-7179	SLT Directed Call Pickup
#790-795	Call Park Pickup
#8	SLT Clear Call FWD, Personalized
	Message and DND
#9	SLT Speed Dial Access
#0	SLT Flash Command to CO
##	
##	SLT CO Line Queue
15	SLT Camp-On
SPD+*	Save Number Redial
SPD+#	Last Number Redial

4.8 Answering a Recall

When an outside line has remained on hold for an extended period of time, you will be reminded with a recalling ring.

- a. Press outside line button flashing at very fast rate.
- b. Lift handset to converse.

4.9 Flash

When connected to an outside line, press FLASH button to disconnect outside line and reseize outside line dial tone.

4.10 PBX Transfer

- a. While connected to an outside line (PBX), press FLASH button.
- b. Receive PBX transfer dial tone.
- c. Dial PBX station number.
- d. Hang up to complete transfer.

4.11 Call Pickup

There are two ways to pick up a call ringing at another telephone:

Call Pickup (Group)

When intercom tone ringing, transferred outside line ringing, or recall ringing is heard at an unattended telephone, lift the handset and press the PICK UP button to be connected to the calling party. You must be in the same pick up group as the ringing telephone to pick up the call.

Call Pickup (Directed)

When incoming, transferred, or recalling outside line ringing; intercom ringing, or Camp On ringing is heard at an unattended telephone:

- a. Dial the station number of the know ringing telephone.
- b. Receive busy tone.
- c. Press the PICK UP button to answer the call.

4.12 Placing an Intercom Call

- a. Press station key of party to be called (if programmed at your phone); or dial station number (100 to 179).
- b. You will hear ringing if called station is in the "T" answering mode; or three bursts of tone if called station is in the "H" or "P" mode.
- Lift handset or use speakerphone, tone bursts stop.
- d. Hang up to end call.

4.13 Answering an Intercom Call

With your intercom signal switch in the T mode, you will hear repeated bursts of intercom tone ringing and the HOLD button will slow flash.

- a. Lift handset or press ON/OFF button to answer. If you receive a call from a Phone Box, you must press that DSS button to answer the call.
- b. Hang up to end call.

In the P mode, you will hear three bursts of tone and one-way announcement. The HOLD button will slow flash and the calling party cannot hear conversations in progress.

In the H mode, you will hear three bursts of tone and an announcement. Reply handsfree or lift handset for privacy.

4.14 Camp On

If you call a station that is busy and wish to alert them to your call:

- a. Press the CAMP ON button.
- b. Called station will receive two bursts of ringing.
- c. Wait for their response.

If a station is in DND, only the attendant can Camp On.

4.15 Off Hook Voice Announce

- a. If you dial a station that is busy and want to signal your call, press the CAMP ON button.
- b. If three bursts of tone are heard, your call has cut through the busy connection.
- You may speak to the called party.
 (If you hear ringing, you have placed a CAMP ON to that station; see Camp On feature.)

4.16 Answering a Camp On

If you are on a connected call, hear two bursts of muted ringing, and your CAMP ON button is flashing, you have a call waiting for you.

- To answer, press the CAMP ON button.
- Any outside line you are connected to will be placed on hold. You may converse with the station placing the call.

4.17 Leaving a Message Waiting Indication

Up to five messages can be left at any station. If you dial a station that is busy, unattended, or in DND, you can leave a message waiting indication.

- a. Press the MSG WAIT button.
- b. Called party's MSG WAIT button will slow flash.
- c. Hang up.

4.18 Answering a Message Waiting Indication

If your MSG WAIT button is flashing at a slow rate, you have a message waiting for you. The first message left will be the first one called.

- Pick up handset.
- b. Press flashing MSG WAIT button.
- Station that left message will be signaled with tone ringing.
- d. If called station does not answer, press MSG WAIT button once to leave message.

4.19 Call Back

If you dial a telephone that is busy or in DND and want to leave a Call Back indication:

- a. Press CALL BACK button.
- b. Hang up.
- c. When busy station hangs up, you will be signaled.
- d. Answer call; station you called will then be signaled. (If your station is busy when signaled, an automatic MSG WAIT will be placed at your phone.)

Only one Call Back request can be left at a station; the second request will receive busy.

4.20 Call Transfer

Outside lines can be transferred from one phone to another within the system. The transfer can be either screened (announced) or unscreened to either an idle or busy station.

Screened Transfer

- a. While connected to an outside line, press station button where call is to be transferred (if programmed on your telephone), or press TRANS button and dial station number (100 to 179).
- The called extension signals according to the intercom signal switch position.
- c. When that extension answers, announce the transfer.
- d. Hang up to complete transfer.

Unscreened Transfer

When the called extension begins to signal, hang up to transfer the call (Recall timer starts).

Transfer Search

- a. When attempting to locate a party, press a station key to signal a station.
- b. If the party is not located, press another station key to continue the search, or press the TRANS button and dial the station number.
- c. If the party is not located, press the TRANS button again and dial another station number to continue the search.
- d. When the called party answers, hang up to complete the transfer.

Answering a Screened Transfer

- Your intercom will be signaling according to the intercom signal switch position.
- b. Answer the intercom and receive the transfer notice.
- c. Press the outside line button or loop button flashing on hold.

4.21 Executive/Secretary Transfer

If you are designated the Executive station and your phone is busy or in DND, all calls will be routed to the Secretary station.

If you are the designated Secretary station, you can signal the Executive that is busy or in DND by using the Camp On feature.

4.22 Call Park

To place an outside call on hold and consult with, page, or call an internal party and/or transfer the outside call:

- a. While connected to an outside line, press TRANS button. The caller is put on Exclusive hold.
- b. Dial parking location (790 to 795). Hear confirmation tone.
- c. If you hear busy tone, press TRANS and dial another parking location.

4.23 Retrieving a Parked Call

- a. Lift handset or press ON/OFF button.
- b. Dial pound [#].
- c. Dial parking location (790 to 795) where the call was parked.

4.24 Conference Combinations

- Four internal and one external or five party internal (Add-On Conference).
- One internal and two external (Multi-Line Conference).

Establishing a Conference

A maximum of five parties can be included in a conference. The internal party must lift the handset.

- a. Lift handset.
 Select intercom station or dial desired outside party.
- b. When called party answers, press CONF button.
- Add next conference party by selecting another outside line or intercom station.
- d. When party answers, press CONF button twice.
- e. All parties are connected.

Exiting a Conference (controller only)

There are three methods of exiting a conference:

- Press the ON/OFF button to ON, press the MUTE button, and replace the handset (to monitor a conference).
- Press HOLD button to place outside parties on hold. Hold timer starts. If one of the two parties is internal, that party will be dropped.

Press CONF and hang up or press the ON/OFF button to leave the other conference parties still connected in an unsupervised conference. CONF button will flash and timer will start. There will be a warning tone before the other parties are dropped.

Re-entering a Conference

When the controller re-enters the conference, the disconnect timer is reset.

- a. Lift handset to re-enter a monitored conference.
- b. To re-enter a conference placed on hold, repeat steps for establishing a conference.
- c. To re-enter an unsupervised conference, lift handset and press flashing CONF button. The CONF button lights steady and confirmation tone will be heard.

Terminating a Conference

To terminate a conference the conference initiator who is actively in the conference replaces handset or push ON/OFF button to OFF. To terminate an unsupervised conference, press the flashing. CONF button while on hook, all parties will be dropped.

4.25 Do Not Disturb

Activating Do Not Disturb

- a. If you have been given the ability to place your phone in Do Not Disturb, press the DND button.
- b. DND button lights steady.

The DND button can be pressed while the phone is ringing to stop the ringing.

Removing Do Not Disturb

- a. Press DND button.
- b. The button LED extinguishes.

4.26 Queuing

A station can queue only one line at a time. If you see that a particular outside line is busy and you wish to be placed on a list waiting for that line to become available:

To Place a Queue

- Press desired busy outside line button.
- b. Press LINE QUEUE button.
- c. Hang up.

To Answer a Queue

If you hear ringing and an outside line of the line group queued is slow flashing:

- a. Lift handset.
- b. Press flashing outside line button to answer.

If you station has been programmed for Preferred Line Answer, you will have the line automatically upon lifting the handset.

4.27 Storing Speed Numbers

Station Speed numbers can be entered by keyset users. System Speed numbers must be entered by the first programmed attendant. If no attendant is specified, enter at Station 100.

- a. Press SPEED CALL once, then press a desired outside line key or select an outside line automatically by pressing the SPEED CALL button a second time.
- b. Dial the speed bin location. 00 to 10 for Station Speed numbers;
 20 to 99 for System Speed numbers.
- c. Dial telephone number.
- d. Press SPEED CALL.
- e. Hang up.

Pressing the TRANS button during number entry initiates a Pulse-To-Tone switch-over. Pressing the HOLD button during number entry inserts a Pause. Pressing the FLASH key inserts a Flash into the speed number. Pressing the TRANS button as the first entry in the speed bin inserts a no-display character causing the numbers stored in the bin not to appear on the Key Telephones display when the bin is accessed.

4.28 Dialing a Speed Number

If no outside line has been specified in programming, one will be chosen automatically or you can choose one now.

- a. Press SPEED CALL button and dial bin location, or press programmed speed bin button. Station Speed numbers are 00 to 19. System Speed numbers are 20 to 99.
- b. When called party answer, pick up handset or use speakerphone.

4.29 Last Number Redial

- a. Press SPEED CALL button.
- b. Press pound [#] key.

 The last number dialed over an outside line will be automatically redialed.

4.30 Save Number Redial

If you wish to save the last number you dialed:

- a. Keep handset off-hook.
- b. Press SPEED CALL button twice.

To Dial a Saved Number

- a. Press SPEED CALL button.
- b. Dial the asterisk [*] key.

4.31 Paging

Stations off-hook or in DND will not hear the page.

- a. Dial the two-digit paging code, or press programmed button.
- b. Speak in normal tone of voice to deliver message:
 - *1 Internal Zone 1
 - *2 Internal Zone 2
 - *3 Internal Zone 3
 - *4 Internal Zone 4
 - *5 Internal All Call
 - *6 External Zone
 - *0 All Call

4.32 Meet Me Page

To request another party meet you on a page:

- Dial the desired two-digit paging code or press programmed button.
- b. Request that party meet you on the page.
- Do not hang up; wait for the requested party to answer.

Answering a Meet Me Page

- a. Go to the nearest telephone and dial [#], [9].
- b. You will be connected to the party that paged you.

4.33 Call Forwarding

If you have been given the ability to forward your calls:

- a. Lift handset or press ON/OFF button.
- b. Press CALL FWD button.
- Press station key or dial intercom number where calls are to be forwarded.
- d. Hang up.

To Remove Call Forwarding

- a. Lift handset or press ON/OFF button.
- b. Press CALL FWD button.
- c. Hang up.

4.34 Personalized Messages

Each station can select a pre-assigned message to be displayed on the LCD of any Key Telephone calling that station. There are ten possible messages which can be left.

- a. Dial [7] [8] on the dial pad.
- b. Dial the two-digit code for the message which will appear.
 - 00 clears messages
 - -01 VACATION
 - -02 RETURN MORNING
 - -03 RETURN AFTERNOON
 - 04 RETURN TOMORROW

- 05 RETURN NEXT WEEK
- 06 BUSINESS TRIP
- 07 MEETING
- -08 HOME
- 09 ON BREAK
- 10 LUNCH

4.35 Night Service

- a. Any programmed attendant presses the DND button.
- b. To remove, any programmed attendant presses the DND button again.

4.36 Universal Night Answer

If you hear outside line ringing at another station and wish to answer it, dial [7] [5] on the dial pad. The connected outside line can be transferred or disconnected. Each telephone utilizing Universal Night Answer must have a loop button appearance if the ringing outside line does not appear at their phone.

4.37 Using Account Codes

When connected to an outside line call:

- a. Press pre-programmed account code button (Refer to Program Flexible Buttons).
- Dial account code up to 12 digits. (The other party will not hear the digits being dialed).
- c. If account code is less than 12 digits, an [*] must be entered to return to the call.

4.38 Setting System Time and Date

Must be set by the first programmed attendant.

a. Dial [7] [6] on the dial pad. Hear confirmation tone.

b. Enter date and time as follows:

YYMMDDHHMM

YY = year	00-99
MM = month	01-12
DD = day	01-31
HH = hour	00-23
MM = minute	00-59

When the correct number of digits are entered, confirmation tone will be heard and the display will update.

4.39 To Program Flexible Buttons

- a. Press SPEED CALL button twice.
- b. Press button to be programmed (it must be programmed in data base as a flexible button.)
- c. Dial desired code (See Button Programming Codes).

4.40 Flexible Button Programming Codes

DSS/BLF

100 to 179

Speed Number:

SPEED CALL plus bin no.

(00 to 19 = station speed bins)

(20 to 99 = system speed bins)

Paging

Paging Code

Account Code

80

Call Park

790 to 795

Last Number Redial

SPEED CALL plus #

Save Number Redial

SPEED CALL plus *

Personalized Messages:

78 plus two digits
00-clear messages
01-VACATION
03-RETURN MORNING
04-RETURN TOMMORROW
05-RETURN NEXT WEEK
06-BUSINESS TRIP
07-MEETING
08-HOME
09-ON BREAK
10-LUNCH

4.41 LCD Display

The display is arranged into an upper and lower field. The upper field displays the current activity of the telephone. The lower field is divided into two sections. The left section of the lower field dis-

plays the date, speed bin number, connected intercom station or outside line number. The right section of the lower field displays current time or elapsed time on an outside call. Below, Table 4-2 shows displays which are seen.

Table 4-2 40/80 LCD Display

FUNCTION	CALLING STATION'S DISPLAY	CALLED STATION'S DISPLAY
Idle Station	STATION 100 12/10/88 09:45 am	
Manually Dialing Outgoing Calls	18005551212 LINE 16 00:00:05	
Recalling Line from Hold	LINE 16 RECALLING 8/08/88 09:45 am	
Recalling Line from Another Station	RECALL FROM STA 101 LINE 16 00:00:05	
Connected to Incoming Line		STATION 100 LINE 16 00:00:10
Intercom Call	CALL TO STA 101 8/08/88 09:45 am	CALL FROM STA 100 8/08/88 09:45 am
Camp On	·	CAMP-ON BY STA 100 8/08/88 09:45 am
Conference	CONFERENCE 8/08/88 09:45 am	CONFERENCE 8/08/88 09:45 am
Internal Page	INTERNAL PAGE ZONE 1 09:45 am	PAGE FROM STA 100

Table 4-2 40/80 LCD Display - Cont'd

FUNCTION	CALLING STATION'S DISPLAY	CALLED STATION'S DISPLAY
External Page	EXTERNAL PAGE ZONE 1 09:45 am EXTERNAL PAGE ALL CALL 09:45 am	
All Call Page	ALL CALL PAGE 8/08/88 09:45 am	PAGE FROM STA 102 8/08/88 09:45 am
Message Waiting		MSG: 102 115 103 112 104 8/08/88 09:45 am
Replying to a Message Waiting	CALL TO STA 101 8/08/88 09:45 am	CALL FROM STA 100 8/08/88 09:45 am CALLBACK FROM STA 100 8/08/88 09:45 am
Station Call Forward (Originating Station)	FORWARDED TO STA 107 8/08/88 09:45 am	
Forwarded Call	FORWARDED TO STA 100 CALLED 110 09:45 am	CALL FROM STA 100 VIA STA 110 09:45 am
Preset Forward		FORWARD RING FROM 100 LINE 16 09:45 am

Table 4-2 40/80 LCD Display - Cont'd

FUNCTION	CALLING STATION'S DISPLAY	CALLED STATION'S DISPLAY
UCD Groups	CALL TO STA 110 VIA UCD 09:45 am	
Queuing	PLACED IN QUEUE FOR LINE 16 09:45 am QUEUE CALLBACK LINE 16 09:45 am	
Outside Line Transfer		TRANSFER FROM STA 100 LINE 16 09:45 am
Programmed Flash Command (F)	F*12	
Programmed Pause Command (P)	9500777P1234567 • SPEED 10 09:45 am	
Programmed Pulse-to- Tone Switchover (S)	9500777S1234567 SPEED 10 09:45 am	
Call Pickup	CALL TO 100 PICKED UP BY STA 110 09:45 am	CALL TO STATION 100 FROM STA 112 09:45 am XFER TO STA 100 PICKED UP LINE 16 09:45 am

Table 4-2 40/80 LCD Display - Cont'd

FUNCTION	CALLING STATION'S DISPLAY	CALLED STATION'S DISPLAY
Exclusive Hold	LINE HOLDING LINE 16 09:45 am	
Meet Me Page	ALL CALL 8/08/88 09:45 am CALL TO 100 8/08/88 09:45 am	PAGE FROM 100 8/08/88 09:45 am CALL FROM 110 8/08/88 09/45 am
Do Not Disturb	DO NOT DISTURB STA 110 8/08/88 09:45 am	STA IN DO NOT DISTURB 8/08/88 09/45 am
Ringing Lines		LINE RINGING LINE 16 09:45 am
Call Back	CALL BACK FROM STA 100 8/08/88 09:45 am	CALL FROM STA 114 8/08/88 09/45 am
Display Security Feature	DISPLAY SECURITY 8/08/88 09:45 am	

		·	

SECTION 5 INSTALLATION

5.1 Site Planning

The Siemens 40/80 Key Telephone System, like most electronic office equipment, should not be subjected to harsh environmental conditions. To assure easy servicing and reliable operation, several factors must be considered when planning the system installation. Always remember the following BEFORE installing the KSU and wiring:

- The Basic KSU, Expansion KSU and External Power Supply Housing are designed for wall mounting.
- Both power supplies operate on 117V ac, 60 Hz single phase electricity. A 3-wire (parallel blade with ground) receptacle must be provided on a dedicated, separately fused 15 ampere circuit.
- The KSU should be within 25 feet of the telephone company (Telco) RJ21X.
 The KSU should be centrally located and care should be taken to stay within prescribed cable lengths. It is recommended that 24 AWG 3-pair twisted cable be used.
- Mounting space for standard backboard, or a plywood type board for MDF blocks, if standard backboard is not used.
- A well ventilated area having a recommended temperature range of 70 to 78 degrees Fahrenheit and a humidity range of 5 to 90% (non-condensing).
- Lighting and accessibility of KSU for servicing.
- Protection from flooding, flammable materials, excessive dust, and vibration.

- Proximity of radio transmitting equipment, arc welding devices, copy machines, and other electrical equipment that are capable of generating electrical interference.
- Access to a good earth ground such as a metallic COLD water pipe. Inspect the pipe for non-metallic joints.

5.2 Unpacking the KSU

Remove the Key Service Unit from the shipping carton and stand it upright on a level working surface with the cover facing forward. Remove the cover by turning the two screws on the front of the cabinet 1/4 turn and tilting the cover outwards.

Remove all Basic System components from the packing box and inspect for shipping damage. The KSU should be empty when received. Inside the KSU packing box should be a mounting template, Installation Manual, DC/DC Converter (DCU), a COI, and two KSB's.

The items listed below are needed to have an operating system. The number and type of peripheral PCB's needed depends on the size of the system being installed.

- Basic System (Including a Basic KSU, DCU, COI, and two KSB's
- External Power Supply Housing (EPS)
- Power Supply (PS)
- Central Processor Board (CPB)
- Feature Package Software (FP)
- Bypass Board

Optional System items are:

- Central Office Interface Board (COI)
- Key Station Interface Board (KSB)
- Off Hook Voice Announce Board (KSB/OHV)
- Single Line Telephone Board (SLT)

- Applications Board (APB)
- Power Failure Transfer Unit (PFT)
- Single Line Telephone DTMFRS Unit (SLU)
- Battery Charging Board (BC)
- RS-232C Module (RSM)
- Single Line Ring Generator and Message Wait Power Supply (RG)

5.3 KSU Grounding

To ensure that the system will operate properly, a good earth ground is required. A metallic COLD water pipe usually provides a reliable ground path. Carefully check that the pipe does not contain insulated joints that could isolate the ground. In the absence of the COLD water pipe, a ground rod or other source may be used. A no. 8 AWG copper wire should be used between the ground source and the KSU (25 feet maximum). The farther from the ground source, the larger the ground wire used should be. The wire should be kept as short as possible and can be connected to the ground lug provided on the lower left side of the front face of the KSU (cover off) (See Figure 5-1).

5.4 KSU Installation

Refer to Figures 5-1, 5-2, and 5-3 for general mounting arrangements and dimensions. The KSU is mounted in the following manner:

A. The KSU is designed for wall mounting only, and should not be mounted directly on a masonry or dry walled surface. A wooden backboard (plywood or pressed board) of sufficient size should be attached to the wall for the KSU to be mounted upon. The KSU mounting template should be used to identify screw hole locations. It is important that the KSU and MDF connecting blocks be mounted on the backboard.

B. Insert four (No.10 or larger) screws into the backboard and tighten enough to hold the weight of the KSU. Lift the KSU and place it onto the screws. When the KSU is in position, the screws can be tightened and the KSU is securely mounted.

5.5 Lightning Protection

The Siemens 40/80 Key Telephone System should have Central Office lines and OPX stations protected with proper lightning surge arrestors. This will provide protection from damaging surges on sensitive cabling by non-direct lightning strikes.

The protection should contain a compliment of three-element gas-discharged tubes to ground high potential surges, and associated circuits to absorb and filter lower level surges. This type of lightning protection is available through telephone equipment supply houses. Care should be taken to ensure that such protection devices are installed in accordance with the manufacturer's instructions and to ensure that no more than one set of protectors be installed on central offical lines at the installation premises. Improper installation can be a serious safety hazard.

Failure to provide the proper lightning protection will increase maintenance expense and require more available spare parts.

5.6 External Power Supply Housing (EPS) and Power Supply (PS) Installation

NOTE

The second Power Supply (PS) must be added to the External Power Supply Housing when the Expansion KSU is added.

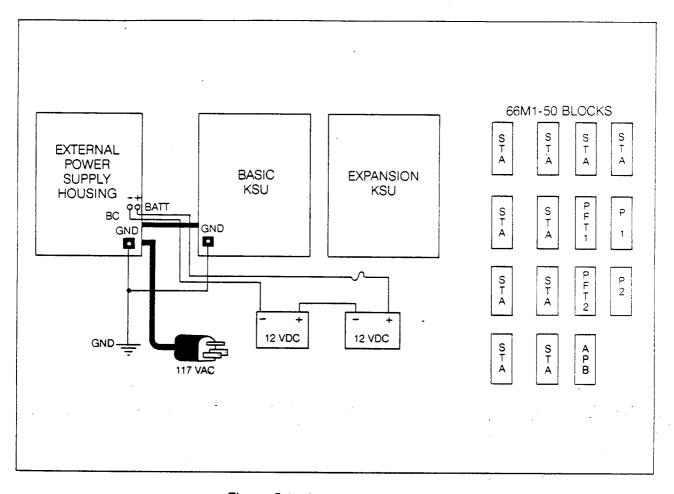


Figure 5-1 Mounting Arrangements

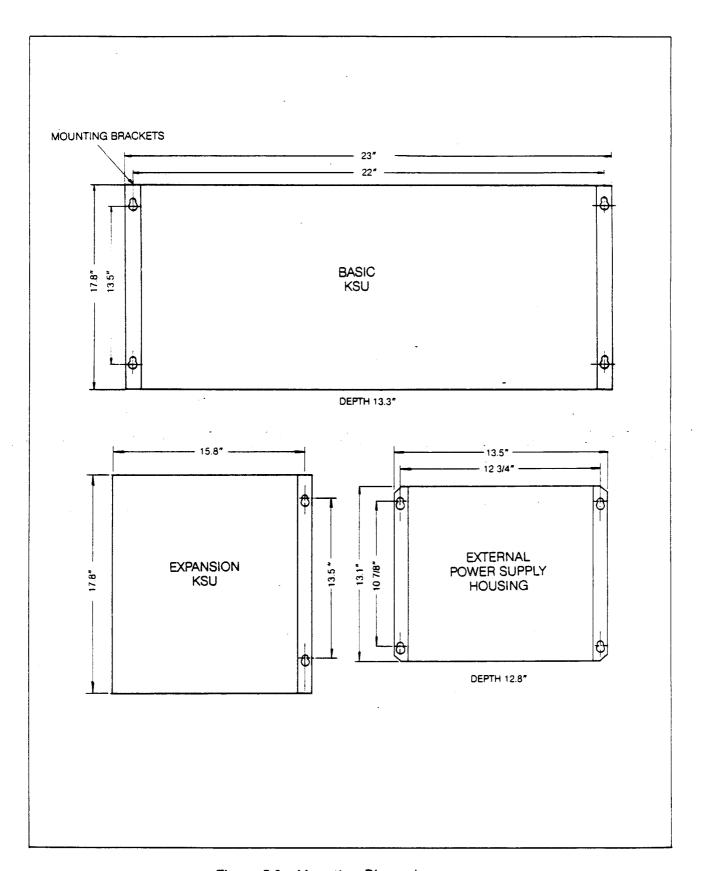


Figure 5-2 Mounting Dimensions

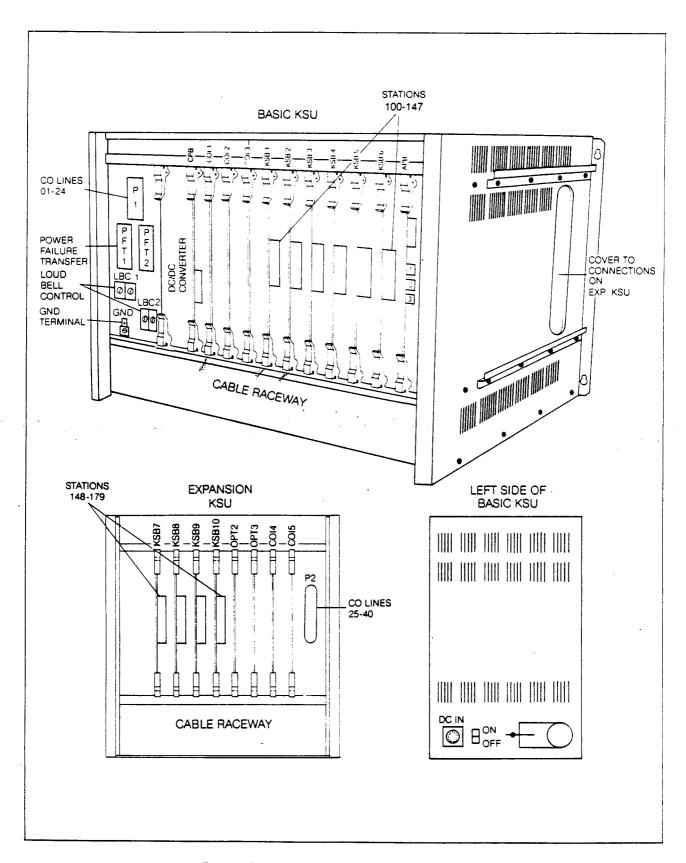


Figure 5-3 Basic KSU and Expansion KSU

The External Power Supply Housing should be wall mounted onto the same backboard as the KSU. The power supply must be located withing three feet of a separately fused 15 ampere, 117V ac power outlet. A four foot DC output cord is provided for interconnection of the KSU and External Power Supply. A battery backup Bypass Board is installed in the BC slot of the External Power Supply Housing (EPS). This is required to provide system power when a Battery Charging (BC) card is not installed.

The power supply may be located to the left of the Basic KSU or above the KSU.

NOTE

The right side of the Basic KSU should be reserved for the Expansion KSU (See Figure 5-1).

Using the template provided, spot punch the mounting surface through the template four corners. Install four (no. 10 or larger) screws into the backboard and tighten to about 1/8 inch from the mounting surface. Lift the EPS onto the four screws and tighten.

Connect the DC output cord of the EPS to the Basic KSU by aligning the connector pins, pressing inward, then turning the collar of the connector clockwise untill tight.

WARNING

Do Not connect AC power cord at this time.

Install the Power Supply(ies) into the EPS by sliding them into their respective mounting slots and pressing firmly into place. Lock the power supply(ies) into the EPS by sliding the mounting lock to the left and tightening by turning clockwise (See Figure 5-4).

5.7 Battery Back Up Installation

A Battery Charging Unit (BC) is an option that can be installed in the External Power Supply Housing and will maintain system operation during loss of AC power. A separate external 24V dc battery package must be provided.

WARNING

Do not make connections with the power applied to the External Power Supply Housing. Also remove power from the KSU by turning the power switch to off (located on the left side of the KSU.

Before installing the Battery Charging Unit (BC) turn off the AC power switch on the front of the EPS. To install the BC, remove the cover of the External Power Supply Housing (EPS). Locate the BC card slot and remove the Battery Bypass Board. The BC unit provides a Tone Emitter switch to enable (ON) or disable (OFF) tone signaling when System Battery Back Up is active (Refer to Figure 5-5). Install the Battery Charging (BC) card unit with components facing right into the BC card slot of the EPS.

Now remove the shorting strap from the battery connection terminals on the right side of the EPS. External batteries may now be connected using stranded wire with crimp on ring terminals. A 24V dc (normally two 12V dc batteries) package with a 40 ampere hour rating is considered maximum. It is recommended that maintenance free gel-type batteries be used. The following should be considered when connecting batteries:

 Batteries are to be placed in a limited access room or cabinet with adequate ventilation of any battery gases that may be present.

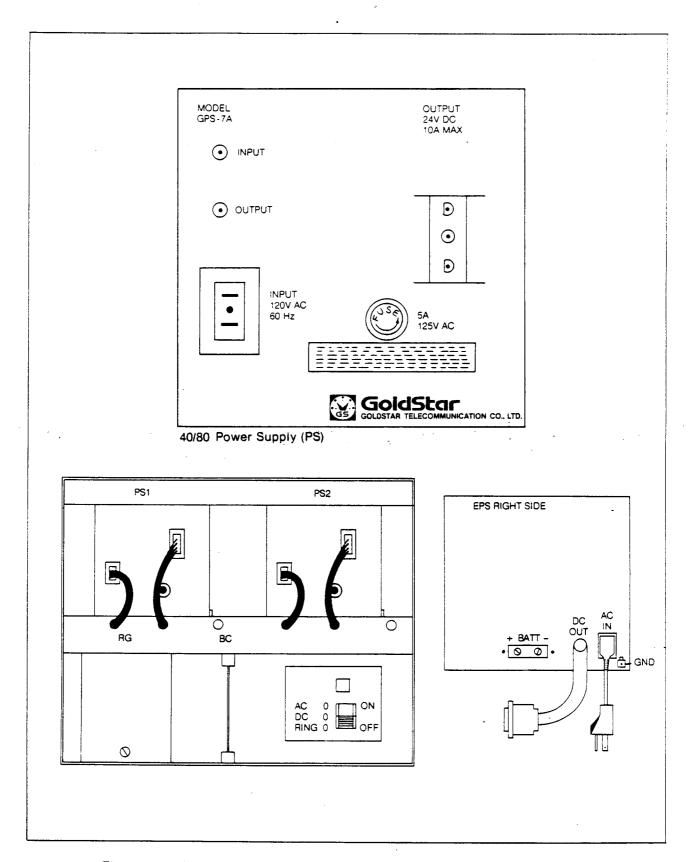


Figure 5-4 Power Supply (PS) and External Power Supply Housing (EPS)

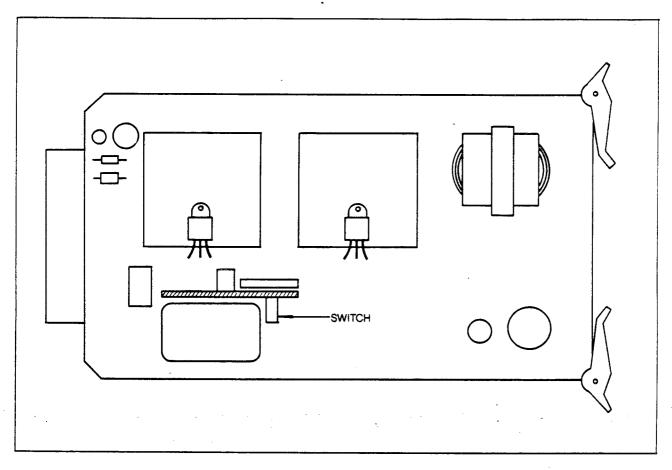


Figure 5-5 Tone Emitter On BC Card

Battery Amp	С	Configuration		
Hour Rating	16 × 32	24 × 48	40 × 80	
7 AH	1½ HR.	1 HR.	20 MIN.	
14 AH.	2½ HR.	2 HR.	1 HR.	
40 AH	7 HR.	51/2 HR.	3 HR.	

Figure 5-6 Battery Back Up Duration

- A battery rack or case should be used to secure the batteries and protect them.
- Use the shortest length of stranded wire possible to connect the batteries. Use wire sizes recommended by the National Electrical Code and/or local regulations.
- A 12 ampere, 32V minimum fuse or a 12 ampere DC instantaneous tripping circuit breaker should be installed in line with the battery negative lead to protect the batteries from damage. See the Typical Battery Interconnection Layout, Figure 5-7.

5.8 Printed Circuit Board Installation

The Printed Circuit Boards (PCB's) used to configure the system contain static sensitive components that will require a few simple handling precautions to avoid damage.

- Keep all PCB's in their protective anti-static bags until they are installed in the KSU. All PCB's that are not in protective bags should be handled by the card edges only.
- Never lay an unprotected PCB card on a carpeted surface.

WARNING

Always use a grounded wrist strap when handling PCB's. This will minimize the possibility of static damage.

Installing Feature Packge Software on the Central Processor

The Central Processor Board (CPB) is purchased without Feature Package software installed on it. Each Feature Package Software (FP) includes six EPROMs which contain the generic software of the Siemens 40/80 Hybrid Key Telephone System. To install Feature Package Software on the CPB:

- a. remove EPROMs from the packing tube.
- b. Install numbered EPROMs in matching numbered socket with the notched end facing toward the top edge of the CPB board as shown in Figure 5-8.
- c. Making sure all pins are aligned properly, press down gently until EPROMs are seated on the CPB.

Installing PCBs

NOTE

With the exception of the CPB and DCU, PCBs can be safely unplugged with the power on but it is suggested that power be turned off to insert them.

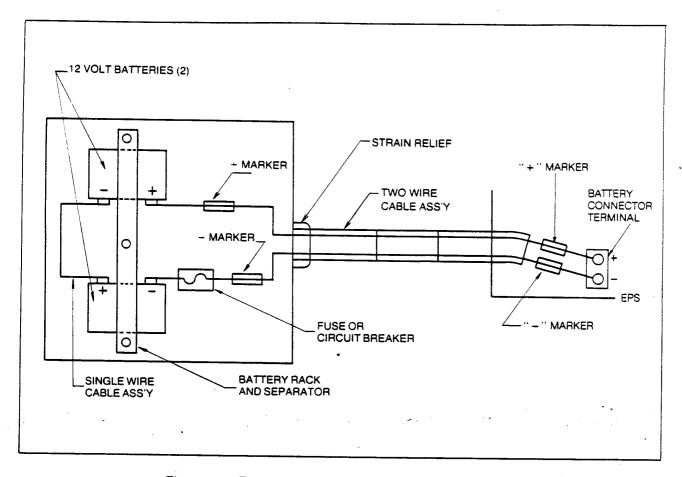


Figure 5-7 Typical Battery Interconnection Layout

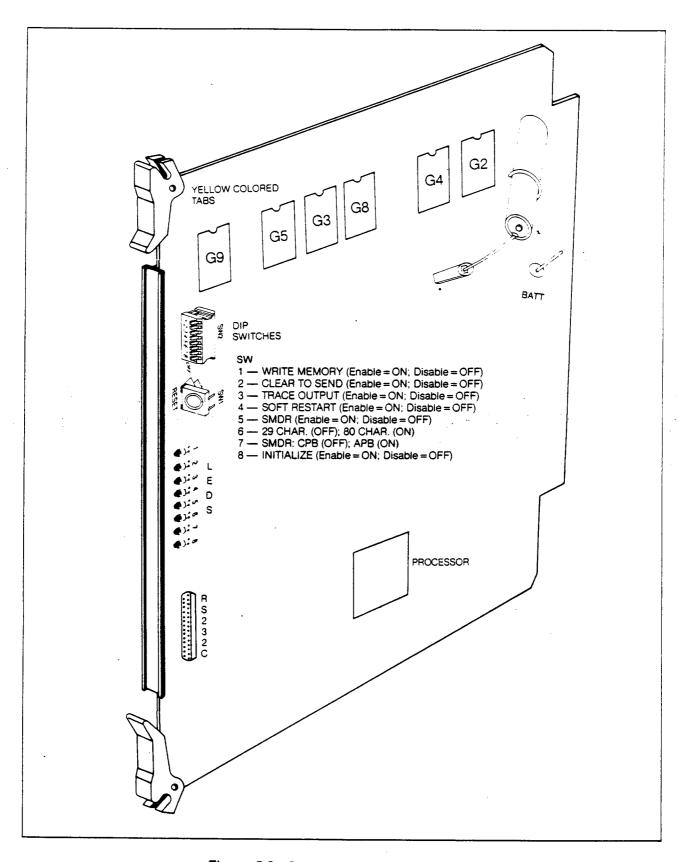


Figure 5-8 Central Processor Board (CPB)

When inserting a card into the KSU, make sure the card edges are aligned with the KSU card guides, that the service switch is in the service (down) position, and that the component side of the card faces to the right. Note, the card ejector tabs are color coded to match the designations on the KSU. Make sure the PCB's are securely seated in their respective card connectors.

Press firmly on the card ejector tabs once the PCB is mounted into the KSU. The service switch should be returned to the normal (up) position.

PCB Programming

The COI (Figure 5-9), KSB (Figure 5-10), and SLT cards each have a service switch on the front of the card. The switch should be in the Normal (up) position for normal operation.

The CPB has a DIP switch assembly for programming various system functions. Make sure the switches are positioned according to the functions described in Figure 5-8. The APB board provides connectors for the SLU and RSM.

5.9 Station Connections

There is a 50-pin female amphenol-type connector on each station SLT, KSB, and KSB/OHV card. These allow the system to be cabled to the main distribution frame (MDF). Twenty-five pair telephone cabling must be prepared with mating connectors to extend the KSU interface circuits to the cable clamps at the bottom of the KSU to the MDF. These cables are then terminated on industry standard 66MI- 50 type punchdown connector blocks (Refer to Tables 5-1, 5-2, and 5-3). It is recommended that 66M1-50 split blocks with bridging clips be used to simplify troubleshooting and to quickly isolate faults.

The amphenol type connectors will be on the front edge of the printed circuit boards which are plugged into the green colored card slots. These connectors require male plug-ended cables for proper attachment. The actual quantity of cable required depends on the size of the system. Each time a station card is added to the system, another connector is required. A maximum of six station boards can be installed in the basic KSU.

After the amphenol type cable connector has been attached, the cable should be anchored to the cable clamps at the bottom of the KSU with tie wraps in order to prevent accidental disconnection.

The Expansion KSU contains four station slots (See Figure 5-3).

5.10 CO/PBX Connections

An FCC approved RJ21X connector should be supplied by the Telco at the demarcation point. The RJ21X should be located within 25 ft. of the KSU. All CO/PBX line connections are made on the P1 and P2 cables. The P1 connector is located in the Basic KSU and the P2 connector in the Expansion KSU. A COI card must be installed in the associated KSU card slot in order for the CO/PBX line interface connections to be established (Refer to Tables 5-5 and 5-6).

5.11 Power Failure Transfer and Loud Bell Control Connections

The Power Failure Transfer Unit contains the Loud Bell Control contacts. The package should contain:

- -1 PFT
- 1 two-connector terminal strip
- 1 amphenol clip
- 2 jack screws
- 4 washer screws
- 1 plastic terminal strip protector

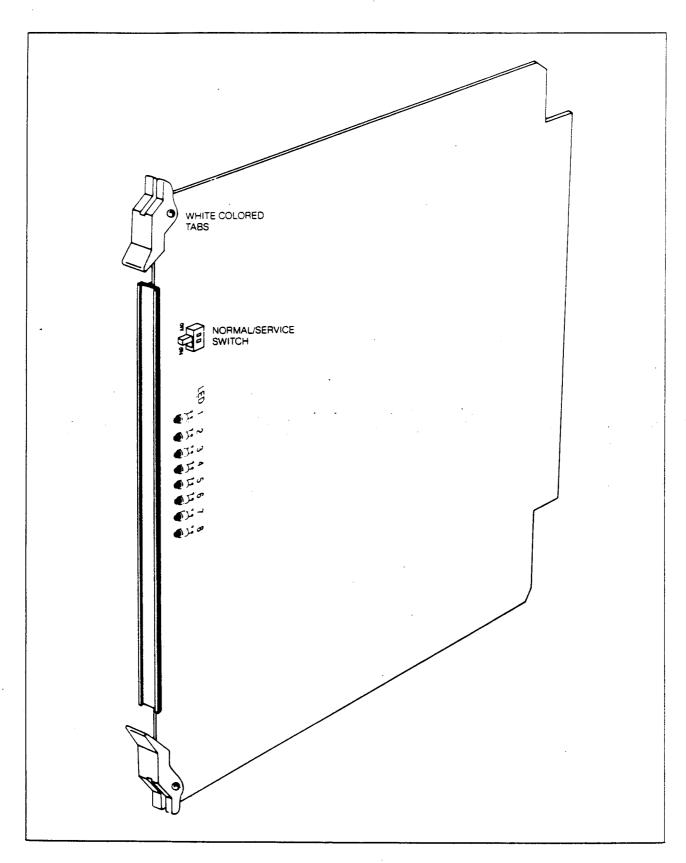


Figure 5-9 Central Office Interface Board (COI)

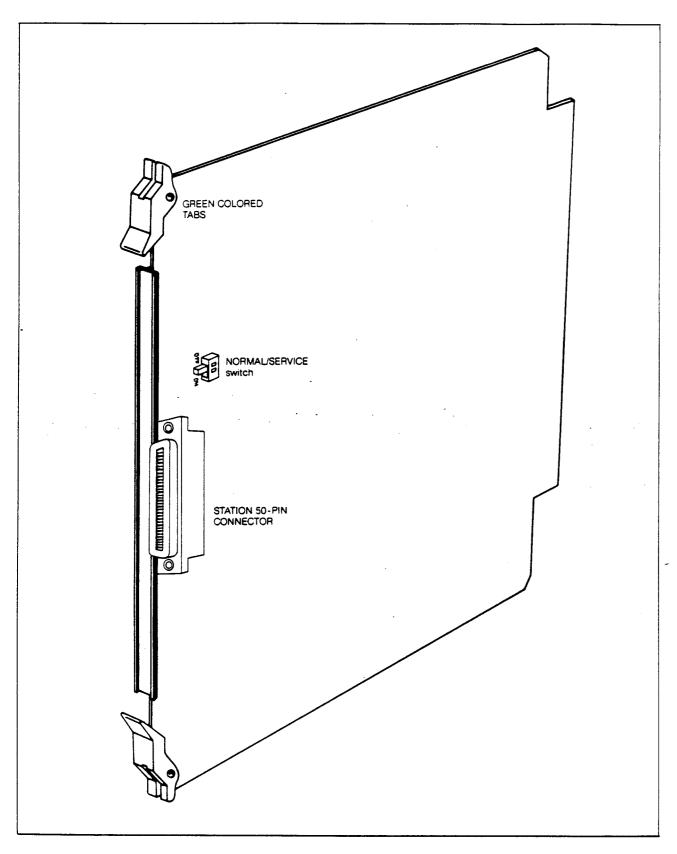


Figure 5-10 Key Station Interface Board (KSB)

Table 5-1 Station Connecting Block (KSB)

PAIR PIN COLOR DESIG 1 26 W/BL VT 100 1 BLW **VR 100** 2 27 W/OR DT 100 2 ORW **DR 100** 3 28 W/GN 3 **GN/W** 29 W/BR VT 101 4 BR/W **VR 101** 5 30 W/SL DT 101 5 SLW **DR 101** 31 6 R/BL 6 BUR 32 7 7 R/OR VT 102 OR/R **VR 102** R/GN 8 33 DT 102 8 **DR 102** GN/R 9 34 R/BN 9 BN/R 35 10 R/SL VT 103 10 SL/R **VR 103** 11 36 **BK/BL** DT 103 11 **BUBK DR 103** 12 37 **BK/OR** 12 OR/BK 13 38 **BK/GN** VT 104 13 **GN/BK VR 104** 14 39 **BK/BR DT 104** 14 BR/BK **DR 104** 15 40 **BK/SL** 15 SL/BK VT 105 16 41 Y/BL BLY 16 **VR 105** 17 42 Y/OR DT 105 17 OR/Y **DR 105** 18 43 Y/GN 18 GN/Y 19 44 Y/BN VT 106 19 BN/Y **VR 106** 20 45 Y/SL **DT 106** 20 SLY **DR 106** 21 46 V/BL 21 **BL/V** 22 47 V/OR VT 107 22 OR/V **VR 107** 23 48 V/GN DT-107 23 **GN/V DR 107** 49 24 V/BN 24 BN/V 25 50 V/SL SL/V

Table 5-2 Station Connecting Block (KSB/OHV)

(KSB/OHV)					
PAIR	PIN	COLOR	DESIG		
1	26	W/BL	VT 100		
2	1 27	BL/W W/OR	VR 100 DT 100		
_	2	OR/W	DR 100		
3	28	W/GN	OVT 100		
4	3 29	GN/W W/BR	OVR 100 VT 101		
7	4	BR/W	VR 101		
5	30	W/SL	DT 101		
6	5 31	SL/W R/BL	DR 101 OVT 101		
	6	BL/R	OVR 101		
7	32	R/OR	VT 102		
8	7 33	OR/R R/GN	VR 102 DT 102		
	8	GN/R	DR 102		
9	34	R/BN .	OVT 102		
10	9 35	BN/R R/SL	OVR 102 VT 103		
	10	SL/R	VR 103		
11	36	BK/BL	DT 103		
12	11 37	BL/BK BK/OR	DR 103 OVT 103		
	12	OR/BK	OVR 103		
13	38	BK/GN	VT 104		
14	13 39	GN/BK BK/BR	VR 104 DT 104		
	14	BR/BK	DR 104		
15	40	BK/SL	OVT 104		
16	15 41	SL/BK Y/BL	OVR 104 VT 105		
	16	BL∕Y	VR 105		
17	42	Y/OR	DT 105		
18	17 43	OR/Y Y/GN	DR 105 OVT 105		
	18	GN/Y	OVR 105		
19	44 19	Y/BN	VT 106		
20	45	BN/Y Y/SL	VR 106 DT 106		
	20	SĽY	DR 106		
21	46 21	V/BL BL/V	OVT 106		
22	47	V/OR	OVR 106 VT 107		
	22	OR/V	VR 107		
23	48 23	V/GN GN/V	DT 107 DR 107		
24	23 49	GN/V V/BN	OVT 107		
	24	BN/V	OVR 107		
25	50 25	V/SL SĽ/V	_		
	20	30 4	_		

Table 5-3 Station Connecting Block (SLT)

PAIR PIN COLOR **DESIG** 1 26 W/BL VT 100 BLW 1 **VR 100** 2 27 W/OR 2 OR/W 3 28 W/GN 3 **GN/W** 4 29 W/BR VT 101 4 BR/W VR 101 5 30 W/SL 5 SL/W 6 31 R/BL 6 **BL/R** 32 7 7 RVOR VT 102 OR/R **VR 102** 8 33 R/GN 8 GN/R 9 34 R/BN 9 BN/R 10 35 R/SL VT 103 10 SUR VR 103 11 BK/BL 36 11 **BUBK** 12 37 **BK/OR** 12 OR/BK 13 38 **BK/GN VT 104** 13 GN/BK **VR 104** 14 39 BK/BR 14 **BR/BK** 15 40 BK/SL SL/BK 15 16 VT 105 41 Y/BL 16 BLY **VR 105** 17 42 Y/OR 17 OR/Y 18 43 Y/GN 18 **GN/Y** 19 44 VT 106 Y/BN 19 BN/Y **VR 106** 20 45 Y/SL 20 SLY 21 46 V/BL 21 BL/V 22 47 V/OR VT 107 22 OR/V **VR 107** 23 48 V/GN 23 GN/V 24 49 V/GN BN/V 24 25 50 V/SL 25 SL/V

Table 5-4 Power Failure Transfer Unit Connections (PFT)

PAIR	PIN	COLOR	DECIC
	 	COLOR	DESIG
1	26 1	W/BL BL/W	1TOT 1TOR
2	27	W/OR	SPARE
_	2	OR/W	SPARE
3	28	W/GN	1STIT
	3	GN/W	1STIR
4	29	W/BR	1STOT
5	30	BR/W	1STOR
5	5	W/SL SL/W	2TOT 2TOR
6	31	R/BL	SPARE
	6	BL/R	SPARE
7	32	R/OR	2STIT
	7	OR/R	2STIR
8	33	R/GN	2STOT
9	8 34	GN/R R/BN	2STOR 3TOT
	9	BN/R	3TOR
10	35	R/SL	SPARE
İ	10	SL∕R	SPARE
11	36	BK/BL	3STIT
12	11	BL/BK	3STIR
12	37 12	BK/OR OR/BK	3STOT 3STOR
13	38	BK/GN	4TOT
	13	GN/BK	4TOR
14	39	BK/BR	SPARE
	14	BR/BK	SPARE
15	40 15	BK/SL	4STIT
16	41	SL/BK Y/BL	4STIR 4STOT
	16	BLY	4STOR
17	42	Y/OR	5TOT
	17	OR/Y	5TOR
18	43	Y/GN	SPARE
19	18 44	GN/Y	SPARE
13	19	Y/BN BN/Y	5STIT 5STIR
20	45	Y/SL	5STOT
	20	SLY	5STOR
21	46	V/BL	6TOT
00	21	BL/V	6TOR
22	47	V/OR	SPARE
23	22 48	OR/V V/GN	SPARE 6STIT
20	23	GN/V	6STIR
24	49	V/BN	6STOT
	24	BN/V	6STOR
25	50	V/SL	-
	25	SĽV	_

Table 5-5 P-1 Connecting Block

PIN PAIR COLOR DESIG. DESCRP. 26 W/BL CO1T **BL/W** CO1R 2 27 W/O CO2T 2 O/W CO2R CO3T CO3R 3 28 W/G G/W 3 CO CO4T 4 29 W/BR BR/W CO4R 4 5 30 W/S CO5T S/W CO5R 5 6 31 RD/BL CO6T BL/RD CO6R 6 CO7T CO7R 7 32 RD/O 7 O/RD 8 33 RD/G CO8T 8 G/RD CO8R 9 CO9T 34 RD/BR 9 **BR/RD** CO9R 35 10 RD/S **CO10T** 10 S/RD **CO10R** 11 36 BK/BL **CO11T** CO11R 11 **BL/BK** 12 BK/O CO12T С 37 CO12R 12 O/BK 0 13 38 **BK/G CO13T** 13 G/BK **CO13R** 14 39 **BK/BR CO14T** 14 **BR/BK** CO14R 15 40 BK/S S/BK CO15T 15 **CO15R** Y/BL 41 **CO16T** 16 16 BLY CO16R 17 42 Y/O CO17T 17 O/Y **CO17R** 18 43 Y/G **CO18T** 18 G/Y **CO18R** Y/BR 19 44 **CO19T** 19 **CO19R** BR/Y CO 20 45 Y/S CO20T 20 S/Y CO20R 21 46 V/BL **CO21T** 21 BLV **CO21R** 22 47 V/O **CO22T** 22 O/V CO22R 23 48 V/GR **CO23T** 23 **GR/V CO23R** 24 49 V/BR **CO24T** 24 BR/V CO24R 25 50 V/S 25 S/V

Table 5-6 P-2 Connecting Block

			1 ===:=	
PAIR	PIN	COLOR	DESIG.	DESCRP.
2	26 1 27	W/BL BL/W W/O	CO25T CO25R CO26T	
3	2 28 3	O/W W/G G/W	CO26R CO27T CO27R	
4	29 4	W/BR BR/W	CO28T CO28R	0 0
5	30 5	W/S S/W	CO29T CO29R	1
6	31 6	RD/BL BL/RD	CO30T CO30R	,
7	32 7	RD/O O/RD	CO31T CO31R	
8	33 8	RD/G G/RD	CO32T CO32R	
9	34	RD/BR BR/RD	CO33T CO33R	
10	35 10	RD/S S/RD	CO34T CO34R	
11	36 11	BK/BL BL/BK	CO35T CO35R	
12	37 12	BK/O O/BK	CO36T CO36R	CO
13	38 13	BK/G G/BK	CO37T CO37R	.I 5
14	39 14	BK/BR BR/BK	CO38T CO38R	
15	40 15	BK/S S/BK	CO39T CO39R	
16	41 16	Y/BL BL/Y	CO40T CO40R	
17	42 17	Y/O O/Y	_	
18	43 18	Y/G G/Y	_	
19	44 19	Y/BR BR/Y	- - - - - -	
20	45 20	Y/S S/Y	-	
21	46 21	V/BL BL/V	_	
22	47 22	V/O O/V	_	
23	48 23	V/GR GR/V	_	
24	49 24	V/BR BR/V	_	
25	50 25	V/S S/V	_	
	L.		1	

Power Failure Transfer

A maximum of two, optional Power Failure Transfer Units (PFT) can be installed in the Basic KSU. In the event of a commercial power failure, up to six CO/PBX lines per PFT can automatically transfer to single line telephones for emergency communications. These SLT's can be either rotary or DTMF but must be equipped with CO powered ringers. These SLT stations do not have to be used for intercom, but can be if so desired.

The PFT also provides the contact closure for Loud Bell Control/CO Line Control. The PFT has a 50-pin male amphenol connector that allows a 25-pair cable to be installed and terminated at the MDF. Refer to Figure 5-11 and Table 5-4 PFT connections.

Loud Bell Control

The Siemens 40/80 System provides relay contact closure to active optional external signaling equipment during incoming CO line ringing or to activate ancilliary equipment.

The stations for Loud Bell Control are selected as part of system programming. Either or both of the LBC circuits may be assigned to any one stataion, to separate stations, or to a CO Line to provide contact closure while that CO Line is busy. The dry contacts will follow the ringing condition of that station or will remain closed when assigned to a CO line.

The LBC contacts are installed underneath the PFT in the Basic KSU (See Figure 5-3).

 Using the two jack screws, mount the two-connector terminal strip to the KSU.

- b. Take the RD/OR wire on the back of the terminal strip and route through the slot where the PFT is mounted and connect to the RD/OR wire on the back of the PFT.
- c. Connect the appropriate wire (1 or 2) tie wrapped to the PFT mounting hole to the K1 connector on the PFT.
- d. Insert the PFT into the hole provided (See Figure 5-3) and fasten with two washer screws.
- Connect the customer provided ringing generator and ringing devices(s) to the LBC contacts (Refer to Figure 5-11).
- f. Replace the plastic terminal strip protector.

5.12 Key Telephone Installation

A maximum of 80 Key Telephones may be installed with the Siemens 40/80 Hybrid Key Telephone System (48 with the Basic KSU and 32 with the Expansion KSU). The Key Telephones are interfaced with KSB boards or (KSB/OHV boards) which each have eight circuits per board. Each KSB circuit interface is extended from the KSU to the MDF through the front edge connector on the KSB board.

Also at the MDF are the terminated distribution cables that are run from each Key Telephone location. Each Key Telephone requires three-pair twisted cable wiring to connect the Key Telephones to the System on a "home run" basis. The telephone end of the cable is terminated on a modular jack and the MDF end of the cable should terminate on a punchdown block making up the MDF (Refer to Figure 5-12).

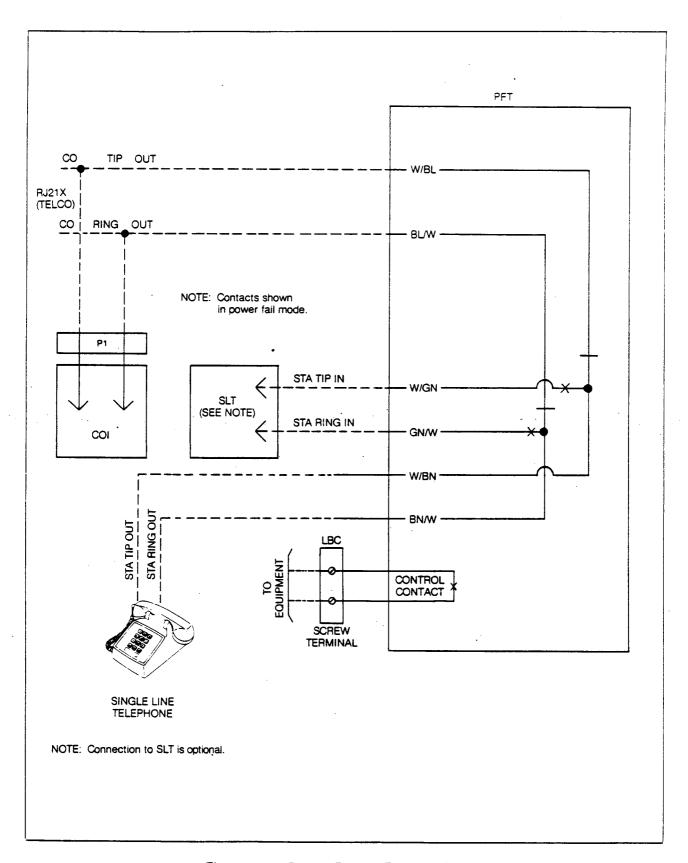


Figure 5-11 Power Failure Transfer Circuit

Cross connecting (jumper) wires connect the telephone to the KSB. Key Telephone is assigned a three-digit intercom directory number in accordance with the locations of the equipped KSB's.

The installer should exercise caution when connecting a Key Telephone while System power is on. The first pair of wires is reserved for voice transmission. The second pair supplies data. and the third pair (optional) is for Off Hook Voice Announce (OHVA). Power is distributed to the Keyset on the voice and data pair of wires, where the voice pair provides ground and the data pair Supplies Power (24V dc). The proper polarity of the wired connections must be maintained for proper operation.

5.13 DSS Installation

The DSS/DLS is assigned to operate with a Key Telephone. Up to three units can be assigned to a station. There is no limit to the number of units that can be installed in a System, but each unit uses a Key Telephone interface circuit and this reduces station capacity on a one-per-one basis.

A two-pair twisted cable is required for connecting the DSS unit. The cable should be placed from the DSS to the MDF in a "home run" manner. The DSS end of the cable is terminated on a three-pair modular jack and the MDF is "punched down" on a terminal block for cross connection to the appropriate station cable (See Figure 5-12 and Table 5-1).

Since the System supplies power to the DSS, no transformer or external power device is required.

5.14 Single Line Telephone Installation

Single Line Telephones (SLT's) can be exchanged for Key Telephones on an eightfor-eight basis. The following items are required for a System installing SLT's:

- 1 SLT board (installed in KSU)
- 1 RG unit (installed into EPS)
- 1 APB board (installed in Basic KSU)

The SLT is color coded with green ejector tabs and is plugged into any designated KSB or SLT card slot. Each SLT board supports eight telephones (standard DTMF Single Line Telephones and message waiting DTMF SLT's). The Ring Generator Unit (RG must be installed into the External Power Supply Housing (EPS) to provide power for ringing and message waiting for SLTs (See Figure 5-4). When the number of SLT's installed exceeds the traffic handling of the two DTMF receivers, the SLU module should be installed. The Single Line Telephone DTMFRS (Receiver/Sender) Unit (SLU) installs on the Application Board (APB) and provides four additional DTMF receivers and one additional DTMF sender to support Single Line Telephones.

Each SLT requires one-pair cable. The cable should be placed from the telephone location to the MDF in a "home run" manner. The telephone end of the cable run should be terminated in a modular jack (See Figrue 5-12). The MDF end should be "punched down" on a terminal block for cross connection to the appropriate station cable (See Table 5-3).

5.15 Installing a Single Line Telephone DTMFRS Unit (SLU)

The two DTMF receivers and two DTMF senders located on the APB board are sufficient to support up to 24 Single Line Telephones under moderate SLT usage. If more than 24 SLT's are installed, or SLT usage is heavy, then the SLU should be added to provide four additional DTMF receivers and one additional DTMF sender.

a. Remove the Application Board (APB) from the KSU.

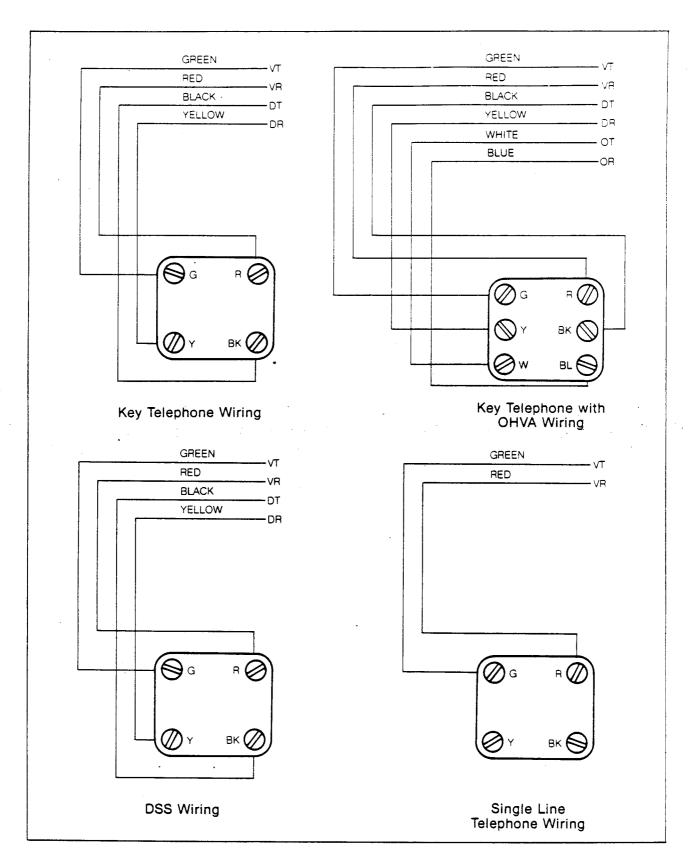


Figure 5-12 Station Modular Block Wiring

- Locate the K1 and K2 connectors on the Application Board (See Figure 5-13) and the K1 and K2 connectors on the SLU.
- c. Take the SLU and push the K1 pin connector gently onto the K1 pins on the APB board.
- d. Then push the K2 pin connector on the SLU gently onto the K2 pins on the APB board.

The Receiver/Sender Unit is now installed and the APB board can be replaced in the KSU.

5.16 Wall Mounting the Telephone

All connections to the Key Telephone are fully modular. To wall mount the Key Telephone, it is necessary to have one Wall Mount Kit and one standard-type jack assembly designed for normal wall hanging applications.

- a. Unplug the line cord from the phone. This line cord will not be required and should be retained as a maintenance replacement item.
- b. Lift the plastic number retainer upward and expose the screw underneath. Remove the screw and the handset tab. Replace it with the handset tab from the Wall Mount Kit.

Be careful to position the tab so that the protrusion faces the hookswitch. This will allow the handset to remain secure when the telephone is on the wall. Replace the screw and snap the number retainer into place.

c. Substitute the short modular cord from the Wall Mount Assembly into the modular connector vacated by the line cord.

- d. Align the wall mount baseplate with the holes on the bottom of the telephone. Snap in place.
- e. Now mate the two key hole slots on the baseplate with the lugs on the 630-A type jack. Align the modular connector and slide telephone into place (Refer to Figure 5-14).

5.17 Headset Installation

The Siemens 40/80 Key Telephones have been designed to operate with industry standard electret mic compatible modular headset adapters and operator headsets. To modify a Siemens Key Telephone to support an external headset, plug the headset adapter cord into the vacant handset jack on the Key Telephone base. Plug the telephone handset cord into the headset adapter box where indicated by the headset manufacturer's instructions.

In the programming section, under Station Programming, speakerphone operation must be disabled to allow headset operation. When this is done, such features as On-Hook Dialing and Handsfree Speakerphone operation become inoperable. However, incoming page/voice announcements, tone ringing and Background Music will still be heard over the Key Telephone speaker. The Key Telephone's (ON/OFF) button then controls the on-hook or off-hook status of the telephone.

5.18 Background Music and Music-On-Hold

Music-On-Hold and Background Music through Key Telephone speakers can be provided via a customer provided tuner, tape deck, etc. Connection is made with an RCA jack connector on the DC/DC Converter (DCU); a volume adjustment is also provided on the DCU (Refer to Figure 5-15). The input impedance of the music source is 2K ohms maximum.

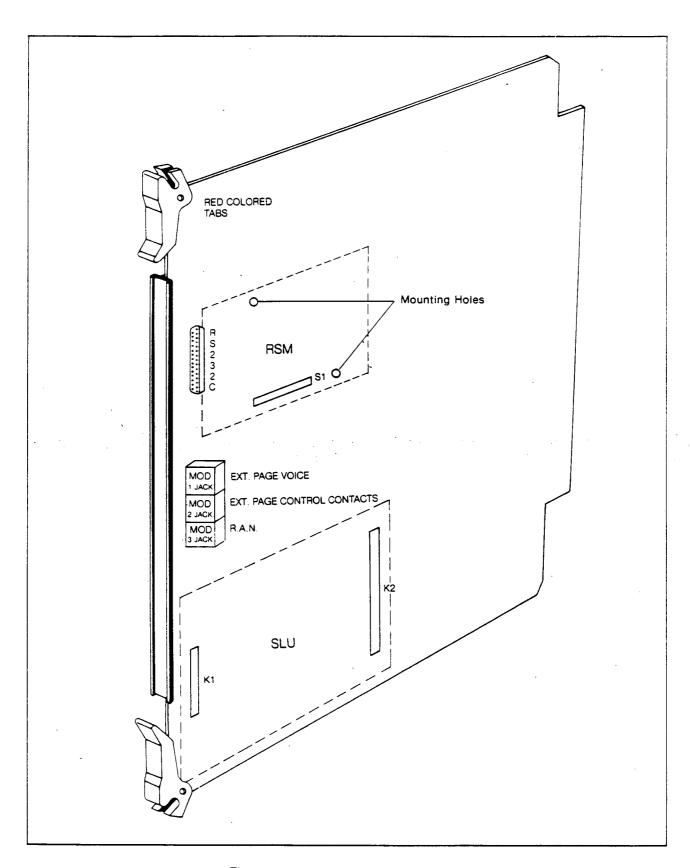


Figure 5-13 Application Board (APB)

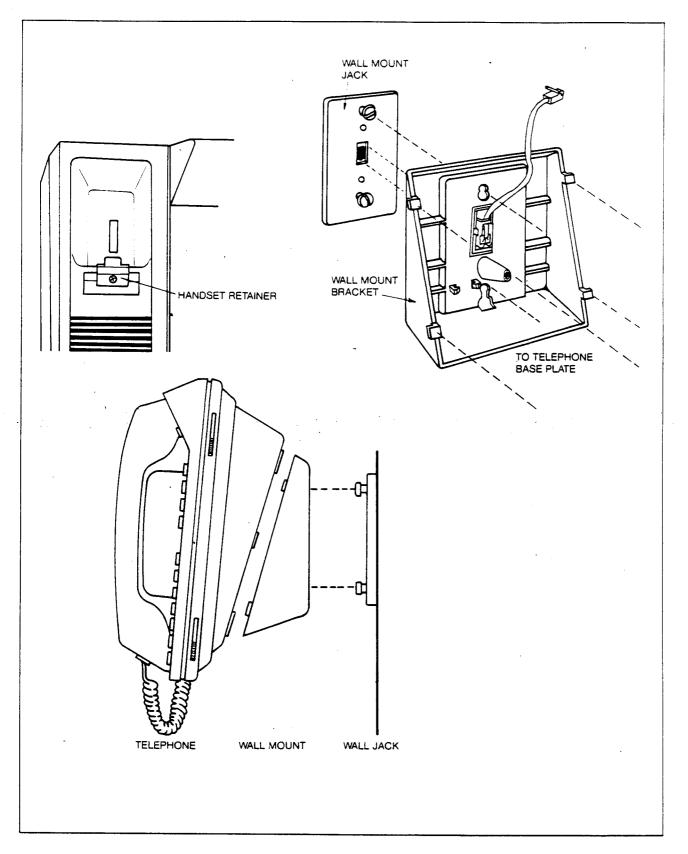
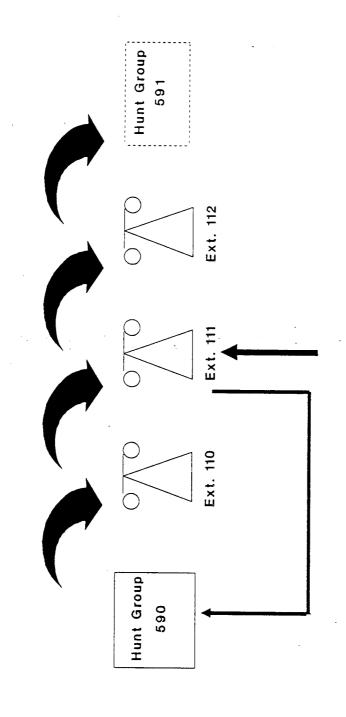


Figure 5-14 The 34 Button Key Telephone Wall Mounting

STATION HUNTING



- Chaining Possible
- Hunts To All Stations on Dialing Pilot Number or A Busy Extension Number

•

OFF-NET FORWARDING

INCOMING CO OFF-NET CALL FORWARD

Activated By The First Attendant

By CO Group Or ALL CO Lines

Same Code For Activation & Deactivation (586)

Forward Is Accomplished Via Speed Dial

STATION OFF-NET CALL FORWARD

- Forward ALL ICM Or Transferred CO Calls

Forward Is Accomplished Via Speed Dial

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REMOTE MAINTENANCE (RMAT)

- Remotely programs 40/80.
- Requires SLT/OPX port or dedicated line.
- Requires modem 300, 1200, 4800, or 9600.
- Can access through DISA.

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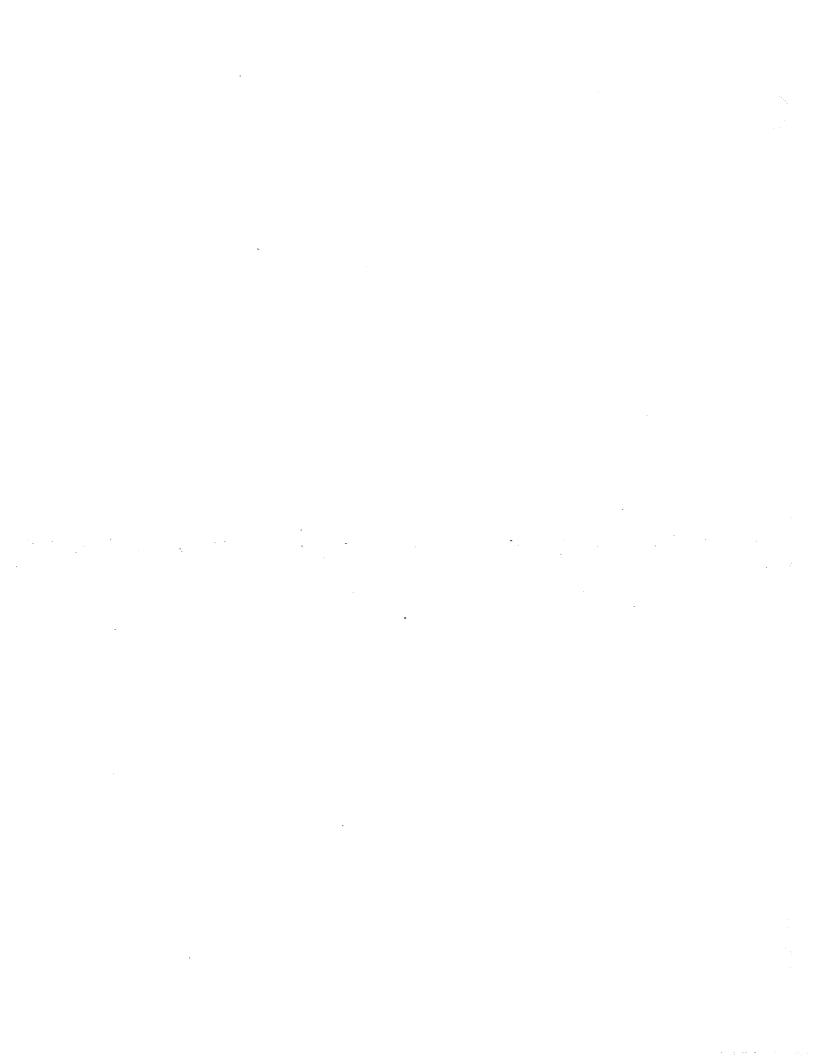
ENHANCED REMOTE MAINTENANCE

System Configuration

• In Service/Out Of Service Stations

System Options (Enabled/Disabled)

Enhanced High Level "Trace" Mode



LEAST COST ROUTING (LCR)

- Seven line groups.
- 16 Routes.
- Four times of day.
- Seven days a week.
- 22 digits input/16 digits delete
- Queue on cheapest group.

.

LEAST COST ROUTING ENHANCEMENTS (LCR)

- LCR DEFAULT DATA BASE
- * LCR up and running in minutes
- NNX (Local Office Codes Routed to Route 1)
- NPA's (Area Codes Routed to Route 1)
- Special Numbers (411, 911, 1800, 1900) (Routed DDD)
- LCR CENTREX COMPATIBLE
- Inserts * and #'s where needed

		. · · .		•	· .	-	

-EAST COST ROUTING ENHANCEMENTS (LCR) Continued

ROUTING FOR TOLL INFORMATION CALLS (555-1212)

- Allows Selection Of A Route For All Toll Information Calls

555-1212 or 1 + Area Code + 555-1212

4/90CZ

SINGLE LINE TELEPHONE ENHANCEMENTS

- ABILITY TO ENTER AN ACCOUNT CODE
- Account Code Can Be Entered Before Or During The Call.
- Account Code Can Be Up To 12 Digits In Length.
- SLT PERSONAL PARK (Code 392)
- To Accept Another Call Or Make Another Allows Stations Users To Park A Call Outgoing Call Then Return To The Original Caller. (Flip/Flop Hold)

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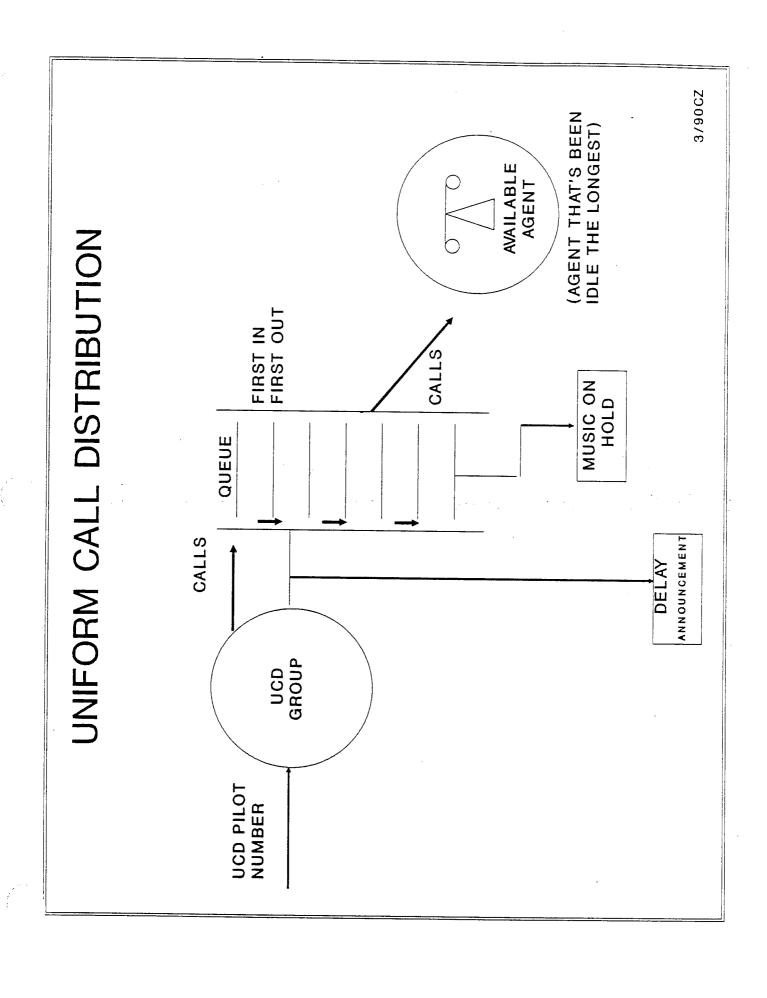
SINGLE LINE TELEPHONE ENHANCEMENTS (Continued)

SLT CONFERENCE WITH PERSONAL PARK

Allows An SLT To Initiate A Multi-Line Conference.

UNIFORM CALL DISTRIBUTION (NCD)

- Eight groups of eight stations.
- Each group can either overflow to another group or station.
- Two announcements:
- Direct ringing UCD calls could get a first and second announcement.
- Transferred calls could only receive a second announcement.
- UCD DSS button could be assigned as flexible button.



JCD ENHANCEMENTS

Auto "Wrap-Up" Timer

Display Number Of Calls In Queue

 Two Recorded Announcements For Incoming CO and Transferred CO Calls.

VOICE MAIL INTEGRATION

- Any Voice Mail systems that answers ringing and requests a "mailbox number", could be used with the 40/80.
- Eight voice mail groups with eight ports per group. (You will use one group 99.99% of the time)
- Personalized answer into a mailbox on transferred or internal calls.
- Message waiting.
- One button retrieval of messages.
- systems should not be assumed to work with the Auto attendant function from different Voice Mail 40/80. I.E., call screening on the VOX/Genesis does not function.



ENHANCED VOICE MAIL INTEGRATION

- CALLING TONE MODE OPTION (5#)
- Forces Tone Ringing Regardless of #TP Switch Setting.
- Facilitates Voice Mail & Auto Attendant Call Screening
- System Feature (Not Limited To Voice Mail Groups)

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ENHANCED VOICE MAIL INTEGRATION (Continued)

VOICE MAIL DISCONNECT SIGNAL

- 40/80 Passes On The CO Disconnect Signal Via "Inband" DTMF Signaling To Voice Mail Or Auto Attendant.

Reduced Port "TIE UPS" Due To Abandoned Calls.

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Communication Systems and Networks Groups

40/80 HYBRID KEY TELEPHONE SYSTEM FEATURE PACKAGE VI

Addendum to Issue 1, September 1988

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, EAGOIL	P	т		EQUIPMENT REQUIRED	
Account Code	1	IV	VI	 	REQUIRED
Account Code (Single Line)	S	S	S	N	Printer
Attendant Disable Outgoing Access			S	N	Printer
Amplified Central Office (COA)			S	N	N
Attendant Recall	0	0	0	COA	N
Automatic Pause Insertion	S	S	S	N	N
Automatic Privacy	S	S	S	N	N
Automatic Line Selection	i -	S	S	N	N
Background Music	S	S	S	N	N
Battery Backup-Memory	S	S	S	N	Music Source
Battery Backup-System	S	S	S	N	N
Busy Lamp Field	0	0	0	ВС	Battery Pkg
Call Announce Privacy	1	S	S	N	N
Call Back	S	S	S	N	N
Call Forwarding: Station	_	S	S	N	N
Forward All	_	S			
Forward Busy	S	S*	S	N	N
Forward No Answer	S* S*	S*	S	*** N	N
Forward Busy/No Answer	S*	S*	S	N	N
Forward to Pilet (UCD, VM, Hunt)	S.	5* S*	S	N	N
Station Off-Net Forward (via speed dial)		3	S	N	N
Call Forwarding: Preset			3	APB	N
Preset to Stations	s	s	s	5.1	
Preset to Hunt Groups	3	3	S	N	N
Preset to Off-Net (via speed dial)			S	N	N
Preset to UCD Groups			S	N	N
Preset to Voice Mail Groups			0	N	N
Call Forwarding: CO Lines			U	N	Voice Mail Syster
Incoming CO Lines Off-Net (via speed dial)			0	ADD	
Calling Station Tone Mode Option			s	APB N	N
Call Park	s	s	S		N
Call Pick-up Group	S	S	S	N N	N
Call Transfer	s	S	S		N
Camp-On	S	S	S	N N	N
Camp-On Recall	S	S	S	N	N
Centrex Compatability	S	S	S	N	N
Chaining Speed Bins	S	S	S	N	N
CO Line Access	S	S	S	N	N
	9	0	3	N	N

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40/80 Feature Index (Cont'd)

FEATURE		FEATURE PACKAGE			INTERNAL EQUIPMENT	EXTERNAL EQUIPMENT
		1	IV	VI	REQUIRED	REQUIRED
CO Line Groups		s	S	S	N	N
CO Line Loop Supervision		s	S	S	N	N
CO Line Queue		s	S	S	N	N
CO Line Incoming Ring Assignment:						14
Assigned Per CO Button Appearance		s l	s		N	N
Assigned Per CO Line			-	S	N	N
CO Ring Detect		s	s	S	N	N
Conference:					1	IN
Add-on		s	s	s	N	A1
Multi-Line	1	s	S	S	N	N
Unsupervised Trunk-to-Trunk	1		0	0	APB	N
SLT - Add-on	į į	s	S	S		N
SLT - Multi-Line	'	1	٦	S	N.	N
SLT - Conference with Personal Park				S	N	N
Conference Enable/Disable Per Station		830d	3	9		» N
Conference Enable/Disable Per CO Line			\	ွ	N.	N
Day/Night Class of Service (COS)				S	N	N
Dial Pulse Sending			S	S	N	N
Dialing Privileges	8		S	S	N	N
Direct CO Line Ringing:		'	3	3	N	N
To Stations	5			•		
To UCD Groups		,	S S	S	N	N
To Hunt Groups			5	S	N	N
To Off-Net (via speed dial)			ĺ	S	N	N
To Voice Mail Groups				S	N	N
DISA:			_	S	N	Voice Mail Systen
Programmable Access Code	0	- 1	0	0	APB	N
CO Line Group Access			S	S	N	N
Station Access		j	S	S	N	N
Direct Station Selection			S	S	N	N
Directed Call Pick-up:	S		S	S	N	N
Pick-up from Stations						
Pick-up from UCD Groups	S	- 1	s	S	N	N
Do Not Disturb (DND)	_		3*	S	N	N
One-Time Do Not Disturb	S		S	S	N	N
DTMF Sending				S	N	N
<u> </u>	S		S	S	N	N
Emergency Transfer Exclusive Hold	0	- 1	O	0	PFT	SLT's
	S		S	S	N	N
Executive Override				S	N	N

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40/80 Feature Index (Cont'd)

FEATURE		EAT		INTERNAL EQUIPMENT	EXTERNAL
	⊢ i	IV			EQUIPMENT REQUIRED
Executive/Secretary Transfer	S	s	s	N	N
Executive Speed Dial			S	N	N
Expanded Station Speed Bins (1280)			s	N	N
Flash	s	S	s	N	N
Flash on Intercom			S	N	N
Flash with Speed Dial	s	s	S	N	N
Flexible Attendant(s)	S	S	S	N	N
Flexible Button Assignment	S	s	S	N	14
Hunt Groups: (8 x 8)				IN .	
Pilot Hunting			s	N	
Station Hunting			S		N
Hunt Group Chaining			S	N N	N
Hold Preference	s	s	S	N	N
Hold Recall	S	S	S	IN N	N
Intercom Calling	S	S	9	N N	N
Intercom Signaling Select	S	S	S	N.	N
Last Number Redial		S	S	N	N
LCD Display	S	S	oge:	N	N
Least Cost Routing (LCR):	3	3	S	N.	Exec Telephone
3 Digit Tables		s	s	1	
6 Digit Tables		S	S	N	N
Route List Tables		S	S	N	N
Insert/Delete Tables		S	S	N	N
Weekly Time Tables		S	S	N	N
Daily Start Time Tables		S	S	N	N
Exception Tables		S	S	N .	N
Default LCR Database		3	S	N	N
LCR Routing for Toll Information			S	N	N
'*' and '#' Entries in Insert/Delete Tables			S	N	N
Loud Bell Control (LBC)				N	N
Meet Me Page	S	o s	o s	PFT	Gen & Bells
Message Waiting	S	S	S	N	N
Message Waiting Reminder Tone	S			N	N
Music On Hold	S	S S	S	N	N
Mute Key	S	S	S	N	Music Source
Name in LCD Display	0	0	S	N	N
Night Service:		į	S	N	Exec Telephone
Manual Operation					
Automatic Operation	S	S	S	N	N
			S	N	N



40/80 Feature Index (Cont'd)

FEATURE	1	EATU		INTERNAL EQUIPMENT	EXTERNAL EQUIPMENT
		IV		7 2501 1125	REQUIRED
Night Service: (Cont'd)	<u> </u>	1	+ ''		
Weekly Night Mode Schedule			s	N	N
Night Class of Service (COS)			S	N	N
Universal Night Answer (UNA)	s	S	S	N	N
Off-Hook Voice Announce (OHVA)	0	0	0		34 Btn w/OHVA
Off-Premise Extensions (OPX)	0	0	0	OPX/APB/RG	OPX Circuit
On Hook Dialing	S	S	S	N N	N OF A Circuit
Paging-External	0	0	0	APB	
Paging-Internal	S	S	S	N	Paging Equip
Paging Access Restriction	S	S	S	N	N
Pause Timer	S	S	S	N	
PBX Dial Codes	S	S	S	N.	N
Personalized Messages	S	s	S	N.	N
Personalized Message Code on a Flex Key			S	N.	N
Preferred Line Answer	S	s	S	N.	N
Pulse-To-Tone Switchover	S	S		N	N
Privacy Release:	1 m				· IN
System-wide Option	S	S		N.	. N.
Per Station Option			S	N	N
Per CO Line Option			S	N	N
Private Line	s	s	S	N	N
Remote Administration (Database)		S	S	N	N
Remote System Monitor and Maintenance	ĺ		S	N	Optional Modem
Save Number Redial (SNR)	s	S	S	N	N
Single Line Telephone (SLT) Compatability	0	0	0	SLT/APB/RG	2500 Type SLT
SLT Personal Park:				02.// 1 <i>5</i> /110	2300 Type 3L1
SLT Personal Park Transfer		j	S	N	N
SLT Conference with Personal Park	ł		S	N N	N
SLT "Flip-Flop" Hold			S	N	N
SMDR	s	s	S	RSM	Printer
Speakerphone	S	s	s	N	N
Station Speed Dial	s	s	S	N	N
System Capacity:	-		-		, •
up to 24x48 Configuration	S	s		N	N
up to 32x64 Configuration	o	0	0	Expansion KSU	N
up to 40x96 Configuration	ļ			Expansion KSU	N
System Hold	s	s	S	N	N
System Speed Dial	S	S	S	N	N
Transfer Recall	s	s	s	N	N

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40/80 Feature Index (Cont'd)

FEATURE		EATU		INTERNAL EQUIPMENT	EXTERNAL EQUIPMENT
Universal Call Birth II at a control	1	IV	VI	REQUIRED	REQUIRED
Universal Call Distribution (UCD): (8 x 8)					
Alternate UCD Group Assignments		S	S	N	N
Overflow Station Assignment	:	S	S	N	N
Incoming CO Direct Ringing		S	S	N	N
Recorded Announcements (RAN)	1	0	0	N	RAN Device
Two Recorded Announcements for Transferred CO Calls			0	N	RAN Device
Number of Calls in Queue Display			S	N 14	
UCD Auto Wrap-up with Timer			S	N	N
Universal Night Answer (UNA)	s	s	S	N	N
Voice Mail Groups: (8 x 8)	Ŭ			14	N Voice Mail O
In Band Signaling Integration		0*	0	APB (Rev 1A)	Voice Mail Syste
Voice Mail Message Waiting Indication		S*	s	N W	N
Voice Mail CO Disconnect Signal Pass thru			S	APB (Rev 1A)	N
Voice Mail Tone Mode Calling Option		33%	S	M L	N
Volume Control	ട	S	S	N.	** N N
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FP VI GENERAL DESCRIPTION

1 FEATURE PACKAGE VI SOFTWARE

This new Feature Package (FP VI), replacing the current Feature Package V, brings to the 40/80 system significant enhanced Features and Flexibility. This feature package is a composite of all previously released features contained in FP V, with the addition of the features described in the following sections.

FP VI is installed in the Central Processor Board (CPB) without the need for additional hardware or modifications to existing hardware. The software is intended to be backward compatible and will work with all existing hardware including KSU's, PCB's, and the complete line of Siemens key telephones.

2 SYSTEM AND STATION FEATURES

2.1 Attendant Disable Outgoing Access

This feature allows the first Attendant station to dial a code and disable a CO line from outgoing CO calls. This applies to all station(s) that have access to that line. Incoming status is not affected. This feature is a part of the "Maintenance" package.

2.2 Station Off-Net Forward

stations will be allowed to forward intercom and transferred CO line calls to an off-net location. This allows a station to reroute calls that would normally be lost. Calls can be forwarded to home or another off-net site. Initially ringing CO calls cannot be forwarded with this feature (see Incoming CO lines

Off-Net Forward, feature).

2.3 Call Forwarding: Preset

This feature allows the system data base to be configured so that incoming CO Lines, which are programmed to ring at a particular station, can be forwarded elsewhere in the system predetermined by programming. This feature is active if the station ringing is not answered in a specified time. This is particularly useful in "overflow" applications where a Voice Mail or Auto Attendant may be in use.

Each station in the system may, independently, have incoming CO calls preset forwarded to:

- another station in the system
- to a UCD, VM or Hunt group
- Off-Net (via Speed Dial)

A station may have one designated preset forward location defined in the data base.

2.4 Incoming CO Lines Off-Net Forward

Allows the first attendant to forward incoming CO calls to an off-net location. The attendant can forward one CO line, a group of CO lines or all CO lines to a off-net location. The attendant must have a direct appearance of the CO line(s) to be forwarded. Off-net forwarding is accomplished via use of a speed dial bin and requires the APB card to be installed in the system.

2.5 Calling station Tone Mode Option

This feature will provide a easy means for a Calling

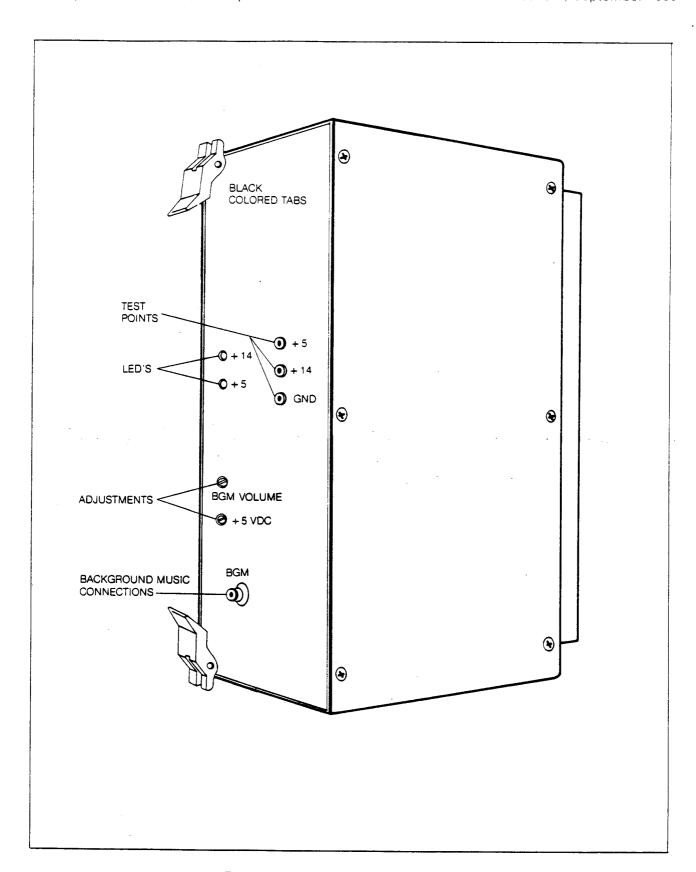


Figure 5-15 DC/DC Converter Unit (DCU)

5.19 External Paging Connections

External paging amplifier equipment (customer provided) may be connected to the System for dial access from any telephone in the System (except those denied paging access). One optional non-amplified external paging zone is provided with the APB board. The output impedance of the paging zone is 600 ohms at 0 dBm. The low level voice signal output is specified at 5 milliwatts maximum. Two sets of dry control contacts are provided to switch on the external amplifier equipment and/or to momentarily remove background music if supplied to the paging device. Connection is made on the APB board (Refer to Figures 5-13, 5-16, and 5-17).

The voice output is provided on the EPT and EPR pair. The break contacts are pair EPB and the make contacts are pair EPM.

5.20 RS-232C Connections

One RS-232C type connector is provided and is located on the CPB board. There is an optional second RS-232C connector which can be installed on the APB board. The RS-232C connector on the CPB can be used for either Station Message Detail Recording (SMDR) or for on-line (Remote) database programming through the RS-232C port using a data terminal. If the second RS-232C connector is installed on the APB board, this connector can be used for SMDR only. The RS-232C pinout is shown in Figure 5-18.

Either an 80 character or 29 character printing device may be connected to the RS-232C connector. Switch 6 on the CPB board must be programmed to provide either the desired 29 or 80 character display field and Switch 2 must be set in the on position to enable CTS signal.

5.21 Installing the RSM (Additional RS-232C port)

- a. Remove the Application Board (APB) from the KSU.
- b. Set the RSM baud rate (Refer to Figure 5-19).
- Locate the S1 connector on the APB board and the S1 pins on the RSM unit.
- d. Gently push the S1 pins of the RSM onto the S1 pin connector on the APB board (connections for the RS-232C output are shown in Figure 5-18).
- e. Re-insert the APB board.
- f. Set switch seven on the CPB to the APB (ON) position.

5.22 Installing the Expansion KSU

NOTE

The second Power Supply (PS) must be added to the External Power Supply Housing (EPS) when the Expansion KSU is added.

The Expansion KSU can be installed at the same time as the Basic KSU, or later. In either case the system power must be turned off prior to the installation.

a. Refer to section 5.3 – KSU Mounting. The Expansion KSU mounts directly to the right of the Basic KSU (Refer to Figure 5-1). Using the template provided, identify the screw hole locations. Insert the two screws into the wooden backboard and tighten enough to hold the weight of the unit.

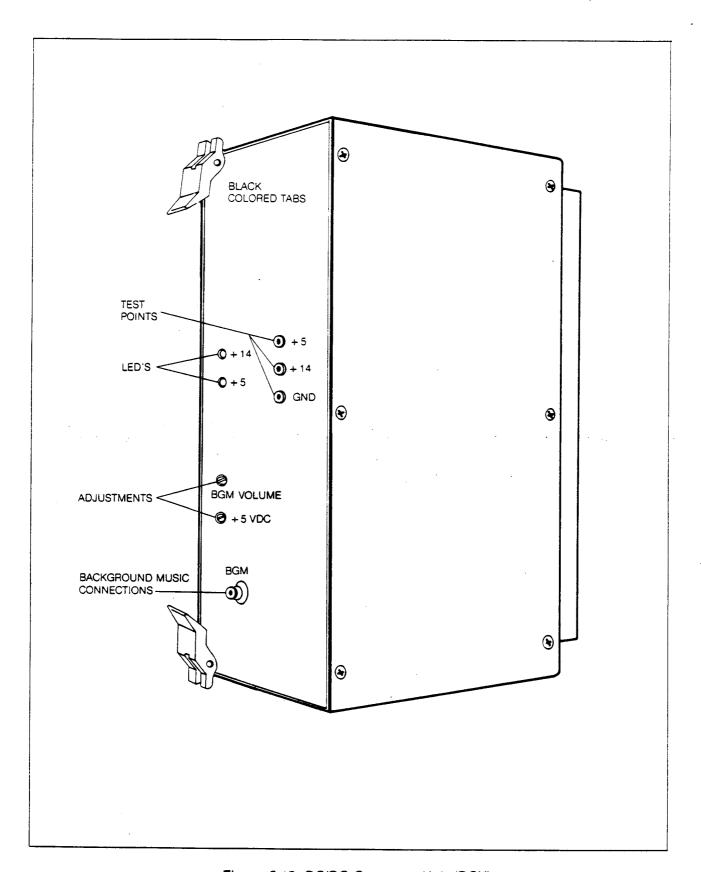


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- e. Re-insert the APB board.
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The Expansion KSU can be installed at the same time as the Basic KSU, or later. In either case the system power must be turned off prior to the installation.

a. Refer to section 5.3 – KSU Mounting. The Expansion KSU mounts directly to the right of the Basic KSU (Refer to Figure 5-1). Using the template provided, identify the screw hole locations. Insert the two screws into the wooden backboard and tighten enough to hold the weight of the unit.

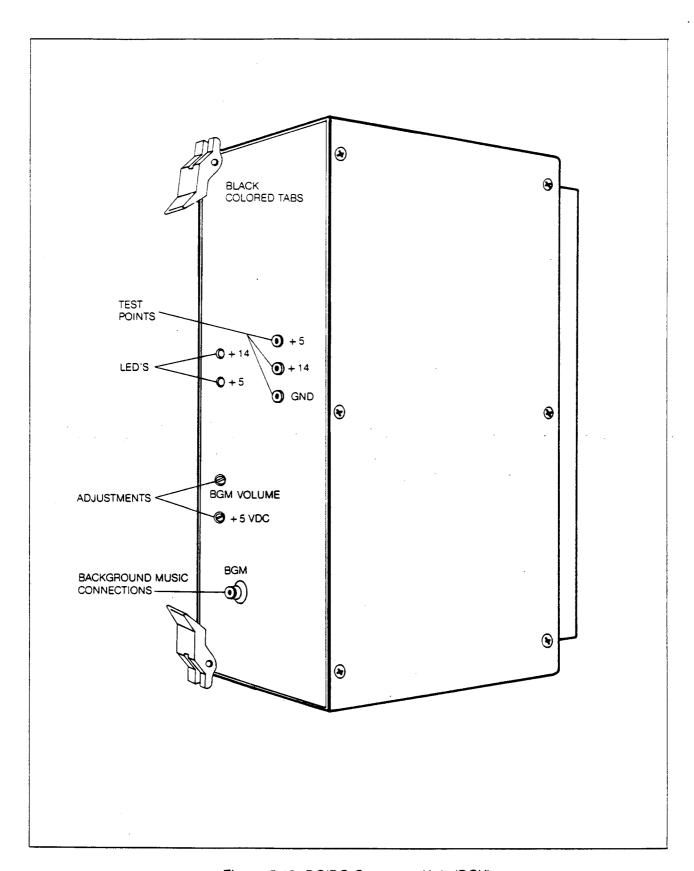


Figure 5-15 DC/DC Converter Unit (DCU)

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- b. Set the RSM baud rate (Refer to Figure 5-19).
- c. Locate the S1 connector on the APB board and the S1 pins on the RSM unit.
- d. Gently push the S1 pins of the RSM onto the S1 pin connector on the APB board (connections for the RS-232C output are shown in Figure 5-18).
- e. Re-insert the APB board.
- f. Set switch seven on the CPB to the APB (ON) position.

5.22 Installing the Expansion KSU

NOTE

The second Power Supply (PS) must be added to the External Power Supply Housing (EPS) when the Expansion KSU is added.

The Expansion KSU can be installed at the same time as the Basic KSU, or later. In either case the system power must be turned off prior to the installation.

a. Refer to section 5.3 – KSU Mounting. The Expansion KSU mounts directly to the right of the Basic KSU (Refer to Figure 5-1). Using the template provided, identify the screw hole locations. Insert the two screws into the wooden backboard and tighten enough to hold the weight of the unit.

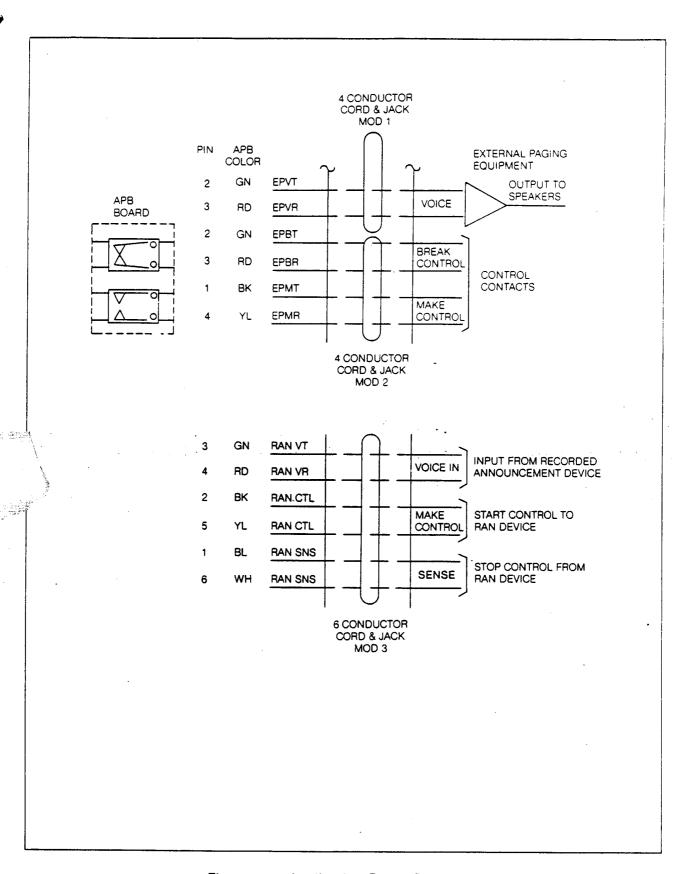
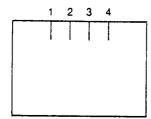


Figure 5-16 Application Board Connections

EXTERNAL PAGE OUTPUT CONNECTIONS

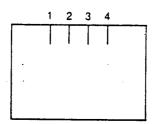
APB MOD 1 JACK



- 1 NOT USED 2 EPVT (VOICE)
- 3 EPVR (VOICE)
- 4 NOT USED

EXTERNAL PAGE CONTROL CONTACTS

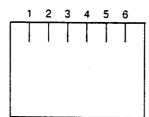
APB MOD 2 JACK



- 1 EPMT (MAKE CONTACT)
- 2 --- EPBT (BREAK CONTACT)
- 3 EPBR (BREAK CONTACT) 4 EPMR (MAKE CONTACT)

RECORDED ANNOUNCEMENT (RAN) JACK

APB MOD 3 JACK



- 1 RAN SENSE (STOP) 2 RAN CONTROL (START) 3 RAN VT (VOICE)
- 4 RAN VR (VOICE)
- 5 RAN CONTROL (START) 6 RAN SENSE (STOP)

Figure 5-17 Application Board Connectors

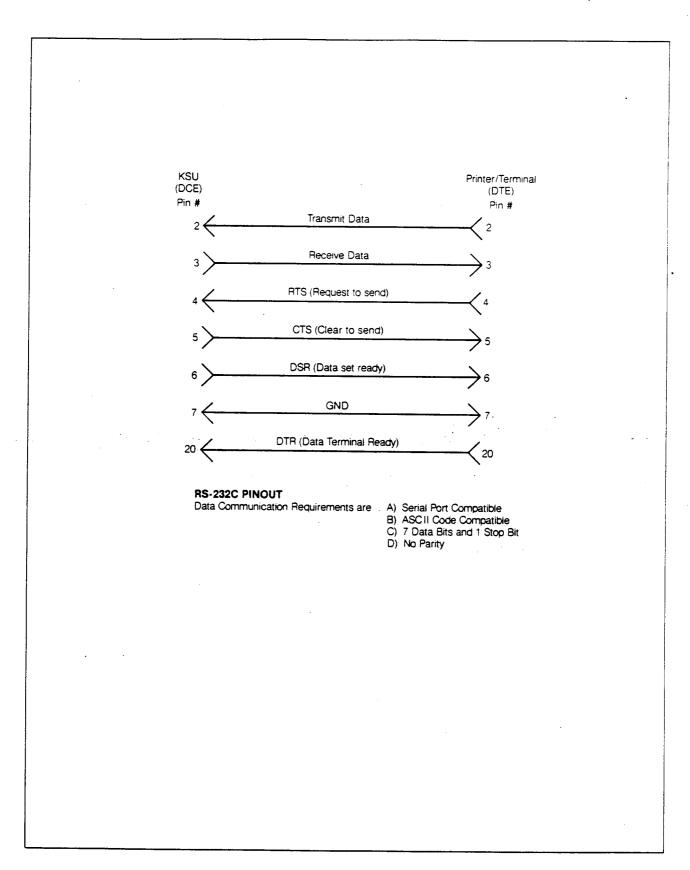


Figure 5-18 RS-232C Connections

Table 5-7 SMDR Printout

The SMDR feature provides detailed records of all outgoing and/or incoming, long distance only or all calls exceeding 30 seconds. This feature is enable or disabled in system programming. By default, SMDR is not enabled and is set to record long distance calls only. A printout format of 80 characters maximum or 29 character maximum may be selected in system programming. The standard format is 69 characters on a single line, A 29 character format will generate 3 lines per message. If the SMDR feature is enabled, the system starts collecting information about the call as soon as it starts and terminates when the call ends. If the call was longer then 30 seconds, the following information is printed:

80 Chararter format selected

29 Character format selected

- AAA = Station originator
- BB = Outside Line Number
- HH:HH = Duration of call in Hours and Minutes
- HH:MM:SS = Time of day in Hours, Minutes and Seconds
- CC....CC = Number Dialed
- MM/DD/YY = Date of call
- GG....GG = Account code (optional)
- H = Indicates Call Type
 - "I" = Incoming
 - "O" = Outgoing
 - "T" = Transferred
- (CR) = Carriage return
- (LF) = Line Feed

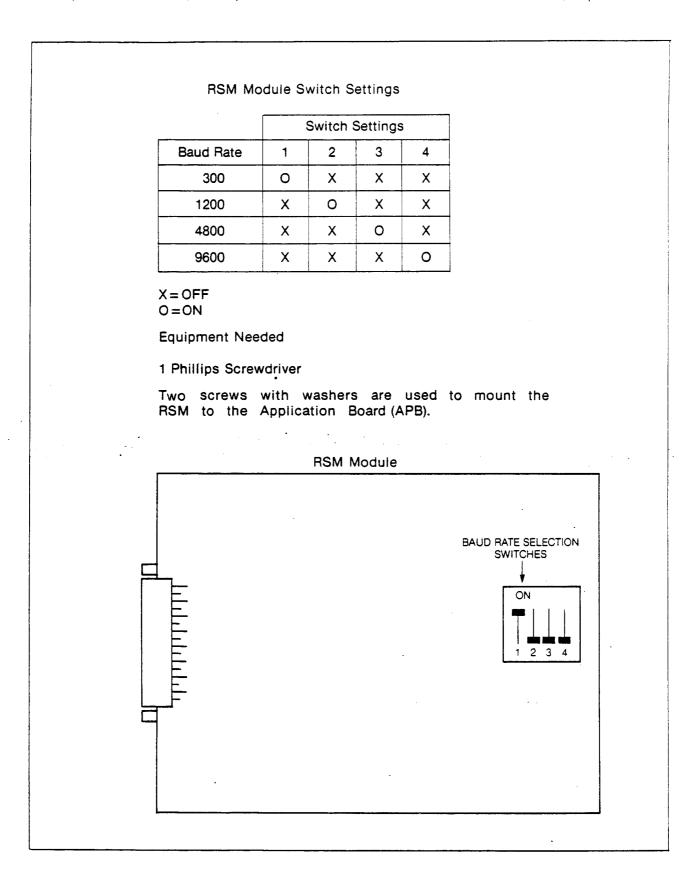


Figure 5-19 RSM Baud Rate Selection

- b. Remove the connector cover on the right side of the Basic KSU (Refer to Figure 5-3). Remove the last three cards on the right side of the Basic KSU.
- c. Secure the two cabinets together by hooking the mounting brackets on the left side of the Expansion KSU over the ones on the right side of the Basic KSU and at the same time position the Expansion KSU on the two screws inserted in Step a above. Tighten the screws on the right side of the Expansion KSU.
- d. Feed the three ribbon cables through the slot created by removing the side cover the plug them into the Basic KSU (Refer to Figure 5-20).
- e. Take the power cable located in the Expansion KSU and feed it through the slot in the Basic KSU and plug it in. Then take the ribbon cable previously connected to the Basic KSU and connect it to the Expansion KSU.

NOTE

KSB card slots (last two slots) and COI (last slot) must operate with Feature Package V software installed.

5.23 Installing the Single Line Ring Generator and Message Wait Power Supply Unit

When the Siemens 40/80 System is equipped with single line telephones, a Single Line Ring Generator and Message Wait Power Supply Unit (RG) is needed to provide ringing and power for message waiting SLT's. The RG is mounted inside the External Power Supply Housing (EPS) on the bottom shelf.

Insert the RG with components facing right (Refer to Figure 5-4).

5.24 Installing Recorded Announcement

The Recorded Announcement feature (RAN) is used with the Uniform Call Distribution feature (UCD) to provide unanswered incoming CO calls or calls in queue with a Recorded Announcement while waiting for an available UCD station. The System may be programmed to provide this announcement at specified RAN output ports on the System (unused SLT and COI ports, and the APB RAN port). The System can be programmed to connect the waiting caller to a different RAN port for the second, and subsequent RAN messages.

For connections made on the MOD 3 modular jack of the Applications Board (APB) refer to Figures 5-13, 5-16, and 5-17. The VT and VR pair are for connection to the customer supplied Recorded Announcement device. CTLT and CTLR pair are the control contacts that provide closure (momentary) when a call is connected to the RAN voice pair (VT, VR). The Sense leads are used by the 40/80 system to detect contact closure provided by RAN device when the message is completed.

When a CO line port is used, a 24V dc power source must be connected to the CO line port for talk battery. A Loud Bell Control contact assigned to that CO line port in programming would provide contact closure to start the Recorded Announcement device.

When an SLT port is used, the RAN device must be configured for ring trip operation. The 90V ac voltage sent to the SLT port will be recognized by the RAN device which will then answer the call.

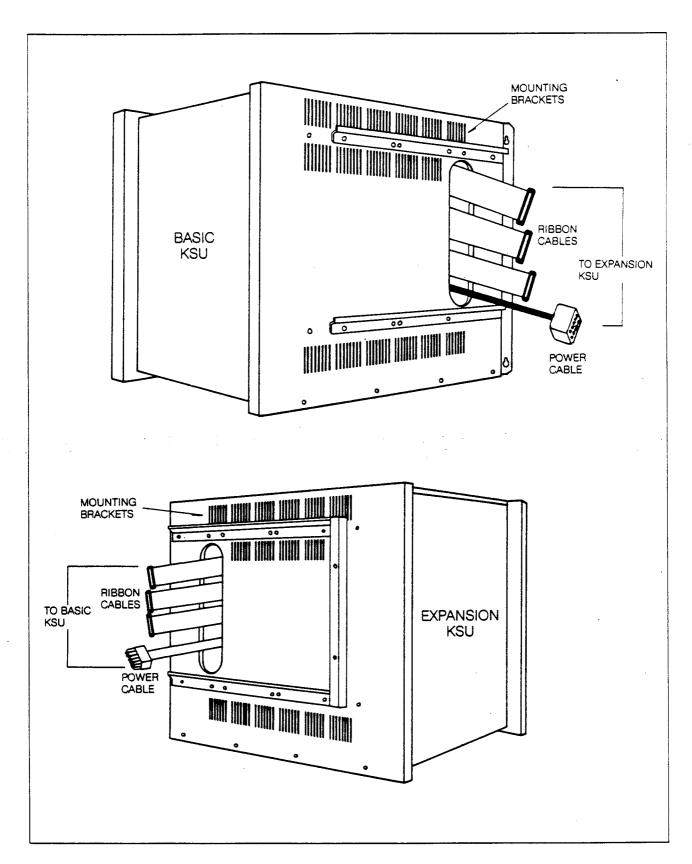


Figure 5-20 Installing the Expansion KSU

SECTION 6 CUSTOMER DATA BASE PROGRAMMING

6.1 Introduction

The Siemens 40/80 Key Telephone System can be programmed to meet each customer's individual needs. All programming is done at station 100 using the Enhanced or Executive model Key Telephone as the programming instrument. The Executive model is suggested since the display is designed to assist in programming.

When the program mode is entered, the Key Telephone being used no longer operates as a telephone but as a programming instrument with all of the buttons redefined. The keys of the dial pad are used to enter data fields (program codes) associated with system, station and CO line features. CO line buttons are used to determine CO line access, assign class of service, determine station features, etc. DSS buttons indicate stations, line group numbers, CO line configuration, system features, toll-tables, etc.

At the time the system is installed it must be initialized to load default data into memory. If this pre-programming suits the customer, initialization is all that is needed.

Any time data is to be changed, the program mode must be entered and then the individal data field (program code). A data field can be entered to determine current programming or to change a specific feature within that field.

During programming, the other Key Telephones in the system operate normally. If a data field is entered but nothing is changed, or changed but not entered into memory (FLASH 90), the previous data will remain intact upon leaving that data field. Data fields can be entered at random.

In many of the data fields, programming is performed by toggling LED's on or off, or entering digits on the keypad. If no changes are to be made to the line or station, exit the data field by either leaving the program mode (pressing the ON/OFF button to OFF) or entering another data field (pressing the FLASH button and entering that program code).

When features are being programmed, tones are provided to help the programmer determine if a correct or incorrect entry has been made. A solid one second tone indicates the data was accepted. An interrupted tone means an error was made. When this occurs, re-enter the data field and re-enter the information. Until new data is entered and accepted, the system will continue to operate under default or previously entered values.

When the Hold button is pressed to enter data, that data will be stored in a temporary buffer area. Data is not entered into system memory and has no effect on telephone operation until permanent update procedures are performed. This is done by pressing FLASH 90, and then HOLD. Then the data in the temporary buffer is copied into permanent memory. It is at this point that programming effects telephone operation. Until the permanent update procedures have been performed, the System will operate under default or previously programmed data.

Some features must have more than one data field programmed for that feature to work. Where this is the case, it will be stated in the instructions.

Depending on Feature Package software installed in the System, some program codes (data fields) may not be available, however, all program codes are described in this section.

6.2 Using a Data Terminal to Program

A data terminal connected to the RS-232C port on the CPB can be used for data base programming. When using a data terminal (I/O device) to program the System press return (enter) on the terminal, enter the password [SMOKIE], and press return again. Proceed with programming referring to Table 6-1 for terminal characters that represent the keyset buttons.

The plus (+) character can enable a feature; and the minus (-) character can disable a feature. The specific data key can also be entered again to toggle on and off a feature.

6.3 Program Mode Entry

Programming is performed at station 100 using either the Enhanced or Executive Key Telephone. Programming is always done at this station regardless of the class of service or which station has been assigned the attendant(s).

Before entering the program mode, the programmer must first verify that the Key Telephone is properly connected to station 100. To enter the program mode:

- a. Press ON/OFF button (LED lights and intercom dial tone is heard).
- b. On the dial pad, press the asterisk [*] twice.
- c. On the dial pad, enter the digits [2][3][6][6] (ADMN). Confirmation tone is heard and dial tone is removed.
- d. The HOLD button and the ON/OFF button LEDs are lit. The System is ready to program. (Other telephones connected to the system continue to function normally.)

NOTE

Initialize here if necessary.

- e. Press the FLASH button.
- f. Dial the two-digit program code for the desired data field.
- g. Enter customer data.
- h. To store the entered data, press the HOLD button. A burst of one second confirmation tone should be heard. If an interrupted (error) tone is heard, re-enter the data starting with step e.
- Repeat from step e. until all data has been stored.

For all new data to become effective and operational, press FLASH 90, then HOLD. To exit the program mode, press the ON/OFF button (LED will extinguish). All new data now becomes effective and operational.

6.4 Initialization

The system has been pre-programmed with certain features which are called default data (Refer to Table 6-2 and Figure 6-1). These features are loaded into memory when the system is initialized. The system should be initialized when installed or at any time the data base has been corrupted. To initialize the system to default values:

Set switches 1 and 8 on the CPB to ON to initialize upon system power-up. After initialization, switch 8 should be turned to the "OFF" position.

Use the procedures explained below to initialize only parts of the data base:

a. Enter the programming mode.

Table 6-1 Data Terminal Programming Code Cross Reference

When using a data terminal (I/O device) to program the system, the following chart presents the data terminal characters that are equivalent to the keyset button.

Key Button to Keyboard Terminal Key Definitions

Keyset	Terminal
HOLD FLASH 0 1 2 3 4 5 6 7 8	RETURN (ENTER) , 0 1 2 3 4 5 6 7 8 9
# FLEX 1 FLEX 2 FLEX 3 FLEX 4 FLEX 5 FLEX 6 FLEX 7 FLEX 8 FLEX 9 FLEX 10 FLEX 11 FLEX 12 SPEED TRANS CALLBACK DND ON/OFF PICK UP	# QWERASDFZXCVOTKLMP

In place of keyset button toggling to enable/disable a feature, the associated data terminal key can be toggled (pressed again) to enable/disable a feature.

Table 6-2 Default Values

FEATURE	PROGRAM CODE	VALUE
System Hold Recall Timer	Flash 01	060 sec.
Exclusive Hold Recall Timer	Flash 02	180 sec. 60
· Transfer Recall Timer	Flash 03	045 sec.
Preset Forward Timer	Flash 04	10 sec.
Pause Timer.	Flash 05	2 sec.
Call Park Timer	Flash 06	180 sec.
Conference Timer	Flash 07	10 min.
MSG Wait Reminder Tone	Flash 08	000 min.
Paging Timeout Timer	Flash 09	15 sec.
CO Ring Detect Timer	Flash 10	3 (100 msec.)
Hold Preference	Flash 11	System
Automatic Privacy	Flash 12	Yes
External Night Ring - LBC1	Flash 13	No
Attendant Override	Flash 14	No
Attendant Station Assignment	Flash 15	100
Loud Bell Control	Flash 16	None
PBX Dialing Codes	Flash 17	None
· Executive/Secretary Transfer	Flash 18 (Buttons 1-4)	None
UCD Groups	Flash 19 (Buttons 1-8)	None
SMDR (ON/OFF)	Flash 20 (Button 1)	Off
Call Type	(Button 2)	Long Dist.
Print Format	(Button 3)	80-Character
Baud Rate	(Button 4)	4800
Forced Account Codes	(Button 5)	No
Admin Passward	Flash 21	2366
Dial Pulse Ratio	Flash 22 (Button 1)	60/40
		(break/make)
Dial Speed	(Button 2)	10 pps
LCR Enable	Flash 23	Disabled
DISA Access Code	Flash 24	100
Phone Box Timer	Flash 25	20
Dedicated Attendant Intercom Path	Flash 26	Yes
Background Music	Flash 27	Enabled
Setting Time and Date	Flash 28	None
Hook Flash Time	Flash 29	10 (1 sec.)

Table 6-2 Default Values - Cont'd

FEATURE	PROGRAM CODE	VALUE
Page Warning Tone	Flash 30	Yes
Hook Switch Bounce Timer	Flash 31	010 msec.
Attendant Recall Timer	Flash 32	01 min.
UCD Timers	Flash 33	
Ring Timer	(Button 1)	60 sec.
MSG Int.	(Button 2)	60 sec.
Over Flow Timer	(Button 3)	60 sec.
Announcement Table	Flash 34	None
CO Line Attributes	Flash 40	1,0110
DTMF/Pulse	(Button 1)	DTMF
CO/PBX	(Button 2)	CO
UNA	(Button 3)	Yes
Loop Supervision	(Button 4)	No
DISA	(Button 5)	No
Flash Timer	(Button 6)	10
CO Line Group	(Button 7)	1
Line COS	(Button 8)	
Associated UCD Group Number	(Button 9)	None
· ·	Flash 50	140116
Station Attributes		Yes
Paging Access	Page 1 (Button 1)	Yes
DND Access	(Button 2)	Yes
System Speed Access	(Button 3)	i
Queuing Access	(Button 4)	Yes
Preferred Line Answer	(Button 5)	No
OHVA	(Button 6)	No
Call Forward Access	(Button 7)	Yes
Forced LCR	(Button 8)	No
LCR COS	(Button 9)	None
Station Type	Page 2 (Button 1)	0
Station Class of Service	(Button 2)	1
Speakerphone Operation	(Button 3)	0
Group Pickup Assignment	(Button 4)	1
Paging Zone Assignment	(Button 5)	1
Preset Forward Assignment	(Button 6)	None
CO Line Group Access	(Button 7)	1
CO Line Button Assignment	(Button 8)	See Fig. 6-1
Exception Tables	Flash 60	=
Allow Table A	(Button 1)	None
Deny Table A	(Button 2)	None
Allow Table B	(Button 3)	None
Deny Table B	(Button 4)	None
Special Table 1	(Button 5)	All
Special Table 2	(Button 6)	All
Special Table 3	(Button 7)	All
Special Table 4	(Button 8)	All
	· · · · ·	

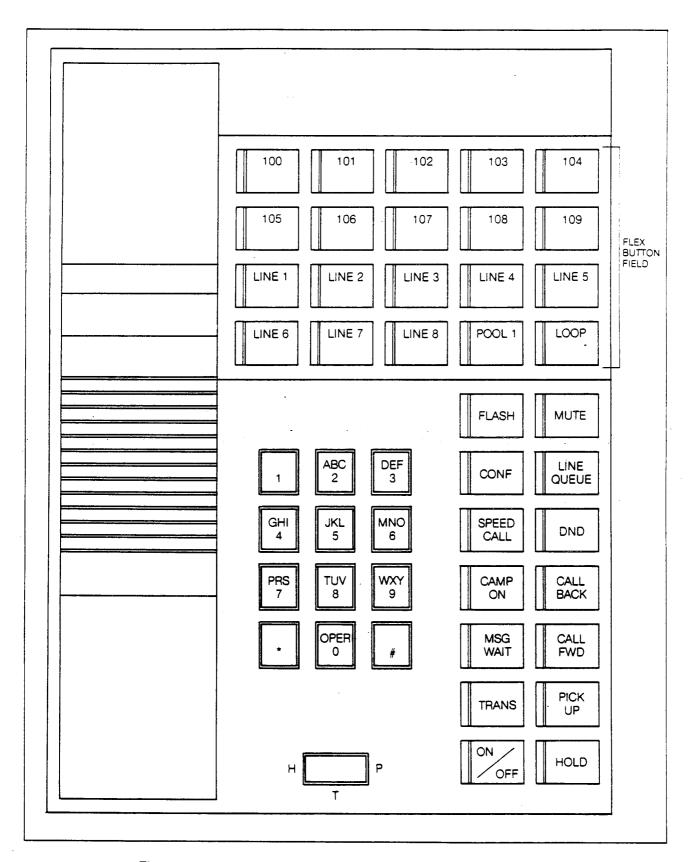


Figure 6-1 40/80 Key Telephone Default Button Assignments

- b. Press FLASH button.
- c. Dial [70] to initialize system parameters.
- d. Press HOLD button.
- e. Repeat from step b. for the other areas. In step c. use the following program codes:
 - 70 for system parameters
 - 71 for CO lines
 - 72 for station parameters
 - 73 for exception tables
 - 74 for system speed numbers
 - 75 for Least Cost Routing Tables

6.5 Customer Data Worksheets

Before any attempt at programming is made, it is strongly recommended that customer data worksheets be prepared (See Appendix A). These worksheets should become part of the permanent record of customer programming. Refer to the following sections when preparing the worksheets.

6.6 Data Base Fields

The data fields are used to set system timers, determine central office line features and Key Telephone features. When entering CO line data and station data, be sure to enter the exact number of digits specified. The data fields and features are further described in the following sections.

NOTE

Do a permanent update by pressing FLASH 90 whenever the program mode is exited. The program mode can be exited at any time during programming. However, if FLASH 90 is not done, the newly programmed data will not be saved.

6.7 System Hold Recall Timer (01)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [01]. The following message is shown on the display phone:

SYS HOLD RECALL 000-300 060

- b. Enter three digits on the dial pad (Refer to worksheet).
- c. Press HOLD button. Display will now update.

Description

Determines the amount of time before a call placed on System Hold will recall the station placing the hold. If unanswered by that station, the call will recall the attendant.

Default value is 060 seconds and is variable from 001 to 300 seconds. A 000 entry disables the timer and there will be no recall.

6.8 Exclusive Hold Recall Timer (02)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [02]. The following message is shown on the display phone:

EXC HOLD RECALL 000-300 180

- b. Enter three digits on the dial pad (Refer to worksheet).
- c. Press HOLD button. Display will now update.

Description

Determines amount of time before a call placed on Exclusive Hold recalls the station placing the Hold. If unanswered by that station, the call recalls the attendant.

The default value is 180 seconds and is variable from 001 to 300 seconds. An entry of 000 will disable the timer and there will be no recall.

6.9 Transfer Recall Timer (03)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [03]. The following message is shown on the display phone:

TRANSFER RECALL 000-300 045

- b. Enter three digits on the dial pad (Refer to worksheet).
- c. Press HOLD button. Display will now update.

6.10 Preset Forward Timer (04)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [04]. The following message is shown on the display phone:

PRESET FWD TIMER 00-99

- b. Enter two digits on the dial pad (Refer to worksheet).
- c. Press HOLD button. Display will now update.

Description

Determines amount of time a transferred call rings at the station receiving the transfer before it recalls the station making the transfer. If unanswered by that station, the call recalls the attendant.

Default value is 045 seconds and is variable from 001 to 300 seconds. A 000 entry disables the timer and there will be no recall.

Description

Determines the amount of time an outside line will ring before being forwarded to a predetermined station. This entry works with Preset Forward station assignments in Station Programming. More than one station can be forwarded to the same party.

Default time is set at 10 seconds and is variable from 01 to 99 seconds. A 00 entry disables the timer and there will be no forward.

6.11 Pause Timer (05)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [05]. The following message is shown on the display phone:

PAUSE TIMER	1-9
2	

- b. Enter one digit on the dial pad (Refer to worksheet).
- Press HOLD button. Display will now update.

Description

Determines the length of the pause for use with speed dialing.

Default is 2 seconds and is variable from 1 to 9 seconds. There is no 0 entry.

6.12 Call Park Recall Timer (06)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [06]. The following message is shown on the display phone:

CALL PARK TIMER	000-060
180	

- b. Enter three digits on the dial pad (Refer to worksheet).
- c. Press HOLD button. Display will now update.

Description

Determines the amount of time before a call placed in the call park location will recall the station placing the call park. If unanswered by that station, the call will recall the attendant.

Default is 180 seconds and is variable from 001 to 600 seconds. A 000 entry disables the timer and there will be no recall.

6.13 Conference Timer (07)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [07]. The following message is shown on the display phone:

CONFERENCE TIMER 00-99 10

- b. Enter two digits on the dial pad (Refer to worksheet).
- Press HOLD button. Display will now update.

6.14 Message Wait Reminder Tone (08)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [08]. The following message is shown on the display phone:

M/W TONE TIMER 000-104 000

- b. Enter three digits on the dial pad (Refer to worksheet).
- c. Press HOLD button. Display will now update.

Description

Determines the amount of time an unsupervised conference can continue after the initiator of the conference has exited the conference.

Default is 10 minutes and is variable from 01 to 99 minutes. A 00 entry disables the timer and means an automatic disconnect occurs.

Description

Determines the amount of time between repeated reminder tones to a telephone with a message waiting.

Default is 000 (disabled) and is variable from 000 to 104 minutes.

6.15 Paging Timeout Timer (09)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [09]. The following message is shown on the display phone:

PAGING TIMEOUT	00-60
15	

- b. Enter two digits on the dial pad (Refer to worksheet).
- c. Press HOLD button. Display will now update.

6.16 CO Ring Detect Timer (10)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [10]. The following message is shown on the display phone:

CO RING DETECT	2-9
3	20

- b. Enter two digits on the dial pad (Refer to worksheet).
- c. Press HOLD button. Display will now update.

Description

Determines the maximum length of a page. The system will automatically disconnect the page at the end of this time unless the person making the page has already hung up.

Default is 15 seconds and is variable from 01 to 60 seconds. A 00 entry disables the timer and pages will not be limited in length.

Description

This timer controls the time necessary to detect an outside line as ringing into the system.

Default is 3 (hundred milliseconds) and is variable from 2 to 9. There is no 0 or 1 entry.

6.17 Hold Preference (11)

Programming Steps

If this feature is to be changed:

a. Press FLASH and dial [11]. The following message is shown on the display phone:

> HOLD PREFERENCE SYS-EXC SYSTEM

 To make a change, press the top left button in the flexible button field.
 It will toggle on and off with each depression.

> LED off = Exclusive Hold LED on = System Hold

c. Press HOLD button.

6.18 Automatic Privacy (12)

Programming Steps

If this feature is to be changed:

a. Press FLASH and dial [12]. The following message is shown on the display phone:

AUTO PRIVACY YES-NO YES

 To make a change, press the top left button in the flexible button field.
 It will toggle on and off with each depression.

> LED off = no LED on = yes

c. Press HOLD button.

Description

The system may be programmed to have either Exclusive or System Hold preferred. If Exclusive Hold is preferred, the user will press the HOLD button once for Exclusive Hold and twice for System Hold. If System Hold is preferred, the user will press the HOLD button once for System Hold and twice for Exclusive Hold.

Refer to System Timer programming for recall times for both System and Exclusive Hold.

Default is System Hold.

Description

If desired, the system can be programmed to eliminate CO line privacy, allowing another station to join in on existing outside line conversations. If privacy is disabled and a station joins an existing call, both parties will hear an alert tone.

If privacy is eliminated, only one other station may join in on an existing conversation.

Default makes all calls private.

6.19 External Night Ring (13)

Programming Steps

If this feature is to be changed:

a. Press FLASH and dial [13]. The following message is shown on the display phone:

EXT NIGHT RING YES-NO

 To make a change, press the top left button in the flexible button field.
 It will toggle on and off with each depression.

> LED off = no LED on = yes

. Press HOLD button.

6.20 Attendant Override (14)

Programming Steps

If this feature is to be changed:

a. Press FLASH and dial [14]. The following message is shown on the display phone:

ATTN OVERRIDE YES-NO

To make a change, press the top left button in the flexible button field. It will toggle on and off with each depression.

> LED off = no LED on = yes

c. Press HOLD button.

Description

When this feature is set to yes, it activates external night ring through the loud bell 1 contacts. When outside lines are marked UNA, ringing will activate LBC 1 when an incoming call occurs on those lines during night service.

By default this feature is set at no.

Description

When this feature is set for yes, it allows the attendant with DSS Map 1 to override a busy station or a station in DND.

By default this feature is set at no.

6.21 Attendant Station (15)

Programming Steps

If this feature is to be changed:

a. Press FLASH and dial [15]. The following message is shown on the display phone:

ATTN STA ASSIGNMENT 100, ###, ###

- b. Enter up to three three-digit station number(s) on the dial pad.
- c. Press HOLD button.

6.22 Loud Bell Control (16)

Programming Steps

If this feature is to be assigned:

a. Press FLASH and dial [16]. The following message is shown on the display phone:

LOUD BELL CONTROL ASSIGN
###, ###

b. Enter a 0 or a 1 to indicate if a station or a CO line is being assigned the contacts.

0 = station (S)

1 = CO line (A)

- c. Enter three digit station numbers or two digit CO line numbers.
- d. To program another station or CO line, repeat from step c.
- e. Press HOLD button.

Description

The system will identify an attendant station for the purpose of receiving recalls and activating night service. The system can have up to three attendant(s) programmed.

By default station 100 is assigned as attendant. Entering three pounds [###] will remove that attendant assignment or different station numbers can be programmed.

Description

Two contacts are available to be assigned either as Loud Bell Control or as CO Line Control.

A Loud Bell Control contact can be assigned to any station and will follow the ringing assignments of that station including tone ringing intercom, and transferred CO lines.

Remember to assign ringing to any station programmed for LBC. Also, a station programmed for CO Line Control must be given that CO line appearance and will close that contact when a station accesses that line.

A CO Line Control contact can be assigned to any CO line.

Entering [###] will remove an assignment. By default no stations or CO lines are assigned.

6.23 PBX Dialing Codes (17)

Programming Steps

If Dialing Codes are to be assigned:

a. Press FLASH and dial [17]. The following message is shown on the display phone:

PBX DIAL CODES ##, ##, ##, ##, ##

- b. Enter two digit code numbers, one right after the other, on the dial pad up to a maximum of ten digits.
- c. Press HOLD button.

Description

Five one- or two-digit PBX access codes can be programmed into memory. When dialed, these codes signal the system so that toll restriction is applied at the next dialed digit. When a single digit code [9] is entered, it must be followed by the pound [#] as the second digit.

To delete an entry, enter two pounds [##] and press the HOLD button.

Lines must be programmed as PBX lines before these codes will apply.

By default no codes are assigned.

6.24 Executive/Secretary Pairs (18)

Programming Steps

- If Executive/Secretary pairs are to be assigned:
- a. Press FLASH and dial [18]. The following message is shown on the display phone:

EXEC SECY PAIRINGS ###/### PAIR 1

- b. The top left button in the flexible button field will be lit indicating the first pair may be programmed.
- c. Enter the three digit Executive station number.
- d. Enter the three digit Secretary station number.
- e. Press HOLD button.
- f. To program a second pair, press the second button in the flexible button field and enter station numbers as in steps c., d., and e.
- g. To program a third pair, press the third button in the flexible button field and enter station numbers as in steps c., d., and e.
- h. To program a fourth pair, press the fourth button in the flexible button field and enter station numbers as in steps c., d., and e.

Description

There are four Executive/Secretary pairs available. When an Executive station is busy or in DND, intercom calls and transfers will be automatically routed to the designated Secretary.

There can be only one pairing of stations, with no duplicates. You cannot pair Executive 100 to Secretary 101 and then pair Secretary 101 to Executive 100. You can have the same Secretary station for more than one Executive station (101 to 105 and 102 to 105).

An entry of six pounds [#####] will remove the assignments. Individual pairs may be changed by pressing the associated flexible button.

6.25 Universal Call Distribution (19)

Programming Steps

If this feature is to be assigned:

a. Press FLASH and dial [19]. The following message is shown on the display phone:

> UCD 890 ### ### ### ### ###, ###, ###, ###

- b. The top left button in the flexible button field will be lit for programming UCD group 890.
- To program an alternate group, press ALT button and enter the pilot number (890 to 87) of the desired group. Press HOLD.
- d. To program an overflow station, press OVR button and enter the three digit station number (100 to 179). Press HOLD.
- e. To program a Recorded Announcement, press RAN button and enter the following digits:
 - 1 = RAN port specified in Table 1 will be used.
 - 2 = RAN port specified in Table 2 will be used.
 - 1, 2 = Port 1 will answer the call; port 2 will provide a subsequent message.
 - 2, 1 = Port 2 will answer the call; port 1 will provide a subsequent message.

Description

There can be eight UCD groups of no more than eight stations each. The UCD groups use a pilot hunting technique. If the pilot number is dialed, the assigned stations in that UCD group are searched for the station which has been in an idle condition for the longest period of time.

An alternate UCD group can be programmed so that if no station in one group is available, the alternate group will be checked for an available station.

If a specific station number is dialed, only that station is rung; no hunting will be done if that station is busy.

To erase a station, press the pound key three times [###] and press HOLD.

Refer to Section 8 for Recorded Announcement descriptions.

By default no stations are assigned.

6.25 Universal Call Distribution - Cont'd

Programming Steps

- f. Enter the three digit station numbers of the stations in the UCD group in the order in which they will be checked. A maximum of eight stations may be entered.
- g. Press HOLD button.
- h. To enter further UCD groups (891 to 897), press the appropriate flexible button (see below) and repeat the above procedures.

890	891	892	893	894
895	896	897	ALT	OVR
STA	RAN			,

Description

An optional Recorded Announcement device may be connected to the system to provide an announcement if all stations in a UCD group are busy.

An overflow station may be assigned to route a station from the RAN announcement to the overflow station after a specified time. The overflow station may not be one of the UCD group stations.

6.26 SMDR (20)

Programming Steps

If Station Message Detail Recording is to be used:

a. Press FLASH and dial [20]. The following message is shown on the display phone:

SDR	TPE	PNT	BDR	ACC
NO	LD	80	4800	NO

b. To program SMDR features, use the top row of flexible buttons as follows:



- The SMDR, TYPE, PRINT, and ACC buttons toggle on and off. (Refer to worksheet).
 - LED on = SMDR enabled, LD only, 80 character, Forced account code entry.
 - LED off = SMDR disabled, All Calls, 29 character, Optional account code entry.
- d. To set baud rate, press BAUD flexible button and enter a one digit number to set baud rate.
 - 1 = 300 baud
 - 2 = 1200 baud
 - 3 = 4800 baud
- e. Press HOLD button.

Description

A call accounting device can be installed allowing the system to track calls by outside line number, number dialed, time of day, date, station that placed or received the call, and duration of the call.

By default SMDR is not enabled.

The system can be set to record either all outgoing calls or only outgoing long distance calls. Incoming calls are always recorded.

By default the system is set to record long distance (LD) calls only.

The system can be programmed to print in either an 80 character format or a 29 character format.

By default the 80 character format will print.

The system can force the use of account codes on all long distance calls. Once an account code has been used, the station is not subject to Class of Service restrictions.

By default the system does not force the use of account codes.

The baud rate for the printer can be set for 300 baud, 1200 baud, or 4800 baud. Default is 4800 baud.

6.27 Set Admin. Password (21)

Programming Steps

If this feature is to be assigned:

a. Press FLASH and dial [21]. The following message is shown on the display phone:

ADMIN PASSWORD 2366

- b. Enter four digits between 0000 and 9999.
- c. Press HOLD button.

6.28 Dial Pulse Parameters (22)

Programming Steps

If this feature is to be assigned:

a. Press FLASH and dial [22]. The following message is shown on the display phone:

DIAL PULSE RATIO SPEED 6040 10 pps

b. To program dial pulse features, use the flexible buttons one and two as follows:

RAT SPD

- c. The buttons toggle on and off:
 - LED on = 60/40 (RAT), 10pps (SPD)
 - LED off = 66/33 (RAT), 20pps (SPD)
- d. Press HOLD button.

Description

The password used to enter customer database programming can be individualized by each customer.

By default the numbers 2366 (ADMN) are assigned.

Descripiton

By default all lines are DTMF (tone) signaling. If outpulsing is required, the individual outside line must be programmed for pulse. Refer to CO line programming section. The break/make ratio and the dial speed can be programmed at this time.

By default the break/make ratio (RAT) is set at 60/40 but can be changed to 66/33.

By default the dialing speed (SPD) is 10pps but can be changed to 20pps.

NOTE

This program code is only used when an outside (CO) line has been programmed for dial pulse.

6.29 LCR Enable (23)

Programming Steps

If this feature is to be assigned:

a. Press FLASH and dial [23]. The following message is shown on the display phone:

LCR FEATURE ENABLE NO

- b. The top left button of the flexible button field will toggle on and off:
 - LED on = yes
 - LED off = no
- c. Press HOLD button.

6.30 DISA Access Code (24)

Programming Steps

If this feature is to be assigned:

 a. Press FLASH and dial [24]. The following message is shown on the display phone;

DISA ACCESS CODE

- Enter three digits on the dial pad.
- c. Press HOLD button.

Description ·

If Least Cost Routing is to be used, it must be enabled here. Before enabling LCR, refer to the Least Cost Routing section and programming tables (Appendix A). When the tables have all been programmed, you may then enable LCR for the system.

By default, LCR is not enabled (LED off).

Description

This allows a three digit access code to be assigned to the system. Anyone calling in on a DISA line must use the access code in order to gain access to system features.

Refer to CO line programming for assignment of DISA lines.

By default the access code is 100.

6.31 Phone Box Timer (25)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [25]. The following message is shown on the display phone:

ICM BOX TIMER 20

- b. Enter two digits on the dial pad (Refer to worksheet).
- c. Press HOLD button.

Description

Determines the amount of time programmed station will ring when a phone box user presses the CALL button.

Default is 20 seconds and is variable from 00 to 60 seconds. A 00 entry will cause programmed stations to ring until the call is answered.

6.32 Attendant Dedicated Intercom (26)

Programming Steps

If this feature is to be assigned:

a. Press FLASH and dial [26]. The following message is shown on the display phone:

> DEDICATED INTERCOM YES

- b. Press the top left button in the flexible button field. It will toggle on and off with each depression.
 - LED on = yes
 - LED off = no
- c. Prss HOLD button.

Discription

This directs the system to dedicate one intercom path for attendant use only.

Default enables a dedicated intercompath.

6.33 Music Channel (27)

Programming Steps

If this feature is to be changed:

a. Press FLASH and dial [7]. The following message is shown on the display hone:

BACKGROUND MUSIC CHANNEL YES

- b. Enter one digit on the dial pad (Refer to worksheet):
 - LED on = Background Music
 - LED off = No Background Music
- c. Press HOLD button.

6.34 Setting System Time and Date (28)

Programming Steps

To set the time and date which appears on display Key Telephones:

- a. Press FLASH and dial [28].
- b. Choose display format by pressing the appropriate button in the flexible button field:

1

2

3



- 1 = month/day; 12 hour
- 2 = day/month; 12 hour
- 3 = month/day; 24 hour
- 4 = day/month: 24 hour
- c. Enter time and date as follows (twelve digits):

YYMMDDHHMMSS

d. Press HOLD button.

Description

The system can be programmed to have Background Music in addition to Music-On-Hold.

By default the Background Music channel is enabled.

Description

The date can be displayed in either the month/day format or the day/month format. The time can be displayed in either 12 hour format or 24 hour format.

By default the date is set for month/day format and the time is in the 12 hour format.

When entering the time and date, use the follwing data:

- YY (year) = 00 to 99
- MM (month) = 01 to 12
- DD (day) = 01 to 31
- HH (hour) = 00 to 23
- MM (minute) = 00 to 59
- SS (second) = 00 to 59 (optional)

6.35 Hookswitch Timer (29)

Programming Steps

If this feature is to be assigned:

a. Press FLASH and [29]. The following message is shown on the display phone:

- b. Enter a two digit number on the dial pad.
- c. Press HOLD button.

6.36 Hookswitch Bounce Timer (30)

Programming Steps

If this feature is to be assigned:

a. Press FLASH and dial [30]. The following message is shown on the display phone:

- b. Enter a three digit number on the dial pad.
- c. Press HOLD button.

Description

This timer determines how long an SLT user should press the hookswitch in order for it to be considered an on hook request.

The timer is variable from 0.5 seconds to 2.0 seconds. The entry should be a two digit number between 05 and 20.

Default is 10 (one second).

Description

This timer determines the length of time that is needed to determine a valid on hook or off hook condition.

The timer is variable from 000 to 100 msec.

Default is 010 msec.

6.3 Page Warning Tone (31)

Programming Steps

If this feature is to be changed:

a. Press FLASH and dial [31]. The following message is shown on the display phone:

PAGE WARNING TONE YES- NO YES

- b. Toggle the top left button in the flexible button field on or off:
 - LED on = yes
 - LED off = no
- c. Press HOLD button.

6.38 Attendant Recall Timer (32)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [32]. The following message is shown on the display phone:

ATTN RECALL TIMER 00-60 01

- b. Enter two digits on the dial pad.
- c. Press HOLD button.

Description

Determines whether a page warning tone will be sounded over the Key Telephone speakers or external paging speakers.

Default is yes.

Description

Determines the amount of time before a recall to the attendant will be dropped from the system.

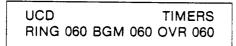
This timer is variable from 00 to 60 minutes and default is 01 minutes.

6.39 UCD Timers (33)

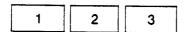
Programming Steps

If these timers are to be changed:

a. Press FLASH and dial [33]. The following message is shown on the display phone:



b. Flexible buttons 1, 2, and 3 set the timers for UCD ring timer, UCD message interval timer, and UCD overflow timer. Press the flexible buttons:



- c. Enter three digits on the dial pad for each timer.
- d. Press HOLD button.

Description

The UCD ring timer determines how long the call will ring before it receives the first recorded announcement. The timer is variable form 000 to 300 seconds.

The UCD message interval timer determines the length of time between the first recorded annuncement and the second recorded annuncement (or repeat of the first annuncement). The timer is variable from 000 to 600 seconds.

The UCD overflow timer determines the length of time between the beginning of the first recorded announcement and when the call is routed to the overflow station. The timer is variable from 000 to 600 seconds.

Default is 60 seconds for all three timers.

6.40 Announcement Tables (34)

Programming Steps

If this timer is to be changed:

a. Press FLASH and dial [34]. The following message is shown on the display phone:

ANNOUNCEMENT TABLE 1
TYPE # INDX ## TIME ###

- b. A string of six, seven, or eight digits is entered on the dial pad The order of data entry will be: Table Number (one digit), Type Number (one digit), Index (port) Number (one to three digits), and Message Time (three digits).
- c. Press HOLD button.
- d. To enter data for Table 2, enter 2 as the first digit in the string.

Description

Determines the type, index (port) number and message length for the two available Recorded Announcements (RAN). There are two RAN tables that can be programmed. Table 1 can be the answer port for unanswered incoming calls to a UCD group. Table 2 can provide the secondary message or vice versa.

The type can be either the RAN port on the APB, a CO line port, or a SLT port. The index number specifies which circuit for the type of interface.

The message length is used to match the maximum length of the message to the device that is used.

Example:

To program Table 1 for the APB RAN port:

- Dial [1] for Table 1.
- Dial [0] for RAN port on APB.
- Dial [0] for APB in Basic KSU.
- Enter message duration 000 to 300 seconds.

To program Table 1 for CO line port:

- Dial [1] for Table 1.
- Dial [1] for CO port interface.
- Dial [01 to 40] for CO line used.
- Enter message duration 000 to 300 seconds.

To program Table 1 for SLT port:

- Dial [1] for Table 1.
- Dial [2] for SLT port interface.
- Dial [100 to 179] for SLT station used.
- Enter message duration 000 to 300 seconds.

6.41 CO Line Programming (40)

Programming Steps

If the system is in the programming mode, continue using program codes. If starting to program here, enter the programming mode first (See Paragraph 6.3).

If any CO line features are to be changed:

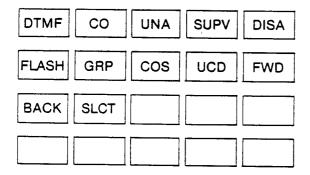
a. Press FLASH and dial [40]. The following message is shown on the display phone:

CO LINE ATTRIBUTES
SELECT A CO LINE RANGE

- b. Program button 12 (SLCT) will be lit. Enter a four digit number for the range of lines being programmed. If only one line is being programmed, enter that number twice (0101).
- c. Press HOLD button. The following message is shown on the display phone to indicate current programming of that line or group of lines.

CO ## ## DT CO UNA FL10 GRP1 COS 1 UCD

d. To program CO line features, use the flexible buttons as follows:



Description

DTMF. Each individual outside line can be programmed to be either DTMF (tone) or dial pulse (When a line is assigned as dial pulse, you can program the break/make ratio and dial speed). Refer also to ring detect timer.

By default all are set for DTMF.

CO. By default all lines are CO. (When programming line type, refer also to CO line group programming, flexible button programming, CO line ringing, flash timer, and recall timers. When a line is marked PBX, a one or two digit dial code may be entered after which toll restriction is applied.)

UNA. If a line is marked UNA, this activates night service answering of incoming calls on this line by stations not normally assigned access to the line(s). The station must have a loop key assigned to do this.

Default is yes.

SUPV. Loop supervision is used primarily with DISA and with unsupervised conferences. It provides the system with the ability to detect when loop current has been broken and an outside line is no longer being used. (To determine timer value for loop supervision, consult your local serving central office for type and duration of loop supervision signal.)

By default there is no loop supervision on any outside line(s).

DISA. By default there are no outside lines assigned as DISA lines. A line can be assigned as a DISA line during night service only or on a 24 hour basis.

6.41 CO Line Programming (Cont'd)

Programming Steps

- e. Buttons one through three toggle on and off.
 - LED on = DTMF, CO, UNA
 - LED off = Pulse, PBX, no UNA
- f. Press HOLD button.
- g. To set loop supervision for DISA, toggle on button four.
- h. Enter a one digit timer value between one and nine (100 to 900 msec).
- i. Press HOLD button.
- j. To set lines for DISA toggle on button five.
- k. Enter one digit to indicate type of DISA desired.
 - 1 = 24 hour
 - 2 = night only
 - 0 = no DISA
- Press HOLD button.
- m. Program buttons six through nine (Flash, Group, COS, UCD) require numeric entries. Press that button and then enter numeric data on the dial pad. Press HOLD after each entry.
- When all entries have been made for each CO line, press program button twelve (SLCT) and select a new line.

NOTE

Button ten (FWD) will take you to the next higher CO line. Button eleven (BACK) will take you to the next lower CO line.

Description

A maximum of three DISA lines can be programmed into the system. A DISA access code can also be programmed. See system parameters programming.

FLASH. Flash is a programmable opening on a line for signaling. When using an outside line, flash allows a user to obtain new dial tone without losing the line. This is particularly useful behind a PBX. Each individual CO line can be programmed for a flash time. Default is 10 (1.0 seconds) and is variable from 01 to 20 (1 msec. to 2 seconds).

GROUP. Eight line groups are available for CO line assignment. Groups should be assigned according to type (local, FX, WATS, etc.) Line group 0 is used for programming a line as a private line. All lines are placed in line group 1 by default.

COS. All lines are assigned Class of Service 1 by default. (When a CO line is marked PBX, COS restrictions apply to the station only if one of four codes are dialed first.) There are five possible classes of service to which a line may be assigned:

- •COS1 No restrictions.
- •COS2 Table A governs, Station COS 2 and 4 are monitored.
- •COS3 Table B governs, Station COS 3 and 4 are monitored.
- •COS4 Restricts 0,1,*,# as first digit, seven digit limitation.
- •COS5 Overrides station COS 2,3,4, and 5.

Refer to Tables 6-3 and 6-4 for Class of Service dialing privileges.

UCD. Any incoming CO line can ring a UCD group directly by pressing the UCD button and entering the three digit UCD group number.

S

Т

Α

С О

S

Table 6-3 Class of Service

CO Line COS — 2 3 4 5 1 Unre-Unre-Unre-Canned. Unre-1 stricted stricted stricted Restriction stricted Table Table Unre-Canned Unre-2 Α Α stricted Restriction stricted Table Unre-Table Canned Unre-3 В stricted В Restriction stricted **Tables** Table Table Canned Unre-4 A & B Α В Restriction stricted Canned Canned Canned Canned Unre-5 Restriction Restriction Restriction Restriction stricted Intercom Intercom Intercom Intercom Intercom 6 Only Only Only Only Only

Canned Restriction = no #, 0, *, 1 as first dialed digit, 7 digits maximum.

Table 6-4 Allow/Deny Rules

	Ent	ries	Condition	n & Result	
	Allow Tables	Deny Tables	Allow	Deny	
Rule 1	No	No	Allowed	Allowed	
Rule 2	Yes	No	Found – Allowed Not Found – Denied		
Rule 3	No	Yes		Found — Denied Not Found — Allowed	
Rule 4	Yes	Yes	Found – Allowed Not Found –	Found – Denied Not Found – Allowed	

6.42 Station Programming (50)

Programming Steps

If the system is in the programming mode, continue using program codes. If starting to program here, enter the programming mode first (See Paragraph 6.3).

If station features are to be changed:

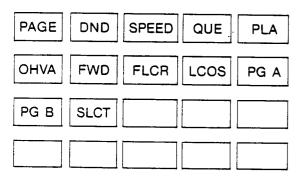
a. Press FLASH and dial [50]. The following message is shown on the display phone:

STATION ATTRIBUTES SELECT A STA RANGE

- b. Program button twelve (SLCT) will be lit. Enter a six digit number for station range being programmed. If only one station is being programmed, enter that number twice (100100).
- c. Press HOLD button.
- d. The display updates to current programming for Page A:

XXX-XXXA PAGE DND, LCOSO SPD QUE PLA OHVA FWD LCR

e. To program Page A features, use the buttons as follows:



Description

The features of Page A are described as follows:

Page. Stations can individually be allowed or denied the ability to make pages. (Do not use COS 6 to deny a station the ability to make a page.) Allowed by default.

DND. Stations can be individually allowed or denied the ability to place their telephone in Do Not Disturb. Allowed by default.

Speed. Stations can be individually allowed or denied the ability to use system speed dial numbers. Since the last forty system speed numbers are not monitored by toll restriction, refer to toll restriction programming. Allowed by default.

QUE. Stations can be allowed or denied the ability to queue for a busy group of lines. Allowed by default.

PLA. Stations can be given the ability to answer incoming outside line calls by going off hook (Preferred Line Answer). Allowed by default.

OHVA. The feature allows an OHVA keyset to secier OHVA calls.

FWD. Stations can be allowed or denied the ability to have calls forwarded to another station. Allowed by default.

FLCR. When a station is programmed for forced least cost routing that station must dial [9] to access an outside line.

LCOS. Stations can be given a class of service assignment for Least Cost Routing. The range is between 0 and 6 with 0 being unrestricted and 6 being the most restricted. By default all stations are given unrestricted access (0).

Programming Steps

- f. The buttons toggle on and off:
 - LED on = paging access, DND, System Speed, queuing, preferred line answer, call forward.
 - LED off = paging restricted, no DND, no System Speed, no queuing, no preferred line answer, no call forward.
- g. If LCR Class of Service is to be assigned, press LCOS button and enter a one digit number between 0 and 6 (refer to worksheet).
- h. Press HOLD button. Display will now update.

The remaining station features are located and programmed on Page B.

 Press [PG B] button. The display of current programming for those features will appear as follows:

XXX-XXX B IDO COS 1 SPO AAAA BBBB CC DDDDDDDD

- XXX = station range
- B = page
- ID = station identification
- COS = class of service
- SPK = speakerphone option
- A = pickup group
- B = paging zone
- CC = preset forward station
- DD = CO line group access

Description

Programming Steps

j. To program Page B features, use the flexible buttons as follows:

ID	cos	SPK	PK UP	PAGE
PREFW	ACC	FLEX	DSP	PG A
PG B	SLCT			

- k. These features all require a numeric entry. Press the desired flexible button and then enter the number on the dial pad.
- ID. Press flexible button and enter one digit (0 to 6) to identify station. Press HOLD button.

NOTE

When identifying a station as a DSS, you must also enter the station number of the Key Telephone the DSS is attached to.

COS. Press flexible button and enter one digit (1 to 6) to program class of service. Press HOLD button.

- ID. Each station must be identified as one of the following:
 - 0 = keyset
 - 1 = DSS with MAP 1 (Figure 6-2)
 - 2 = DSS with MAP 2 (Figure 6-3)
 - 3 = DSS with MAP 3 (Figure 6-4)
 - 4 = phone box
 - 5 = SLT or OPX
 - 6 = SLT with M/W

By default all are o (keyset).

COS. Each station must be assigned a class of service which governs that stations toll restriction. The six classes of service are:

- 1 = unrestricted
- 2 = governed by Table A
- 3 = governed by Table B
- 4 = governed by Tables A and B
- 5 = no 0,1,*,# as first digit, seven digits maximum
- 6 = intercom

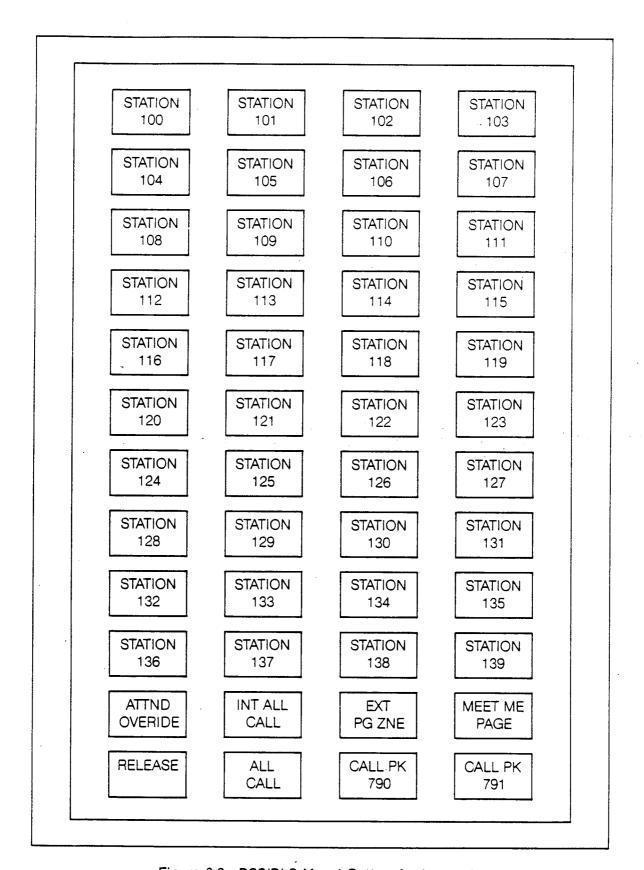


Figure 6-2 DSS/DLS Map 1 Button Assignments

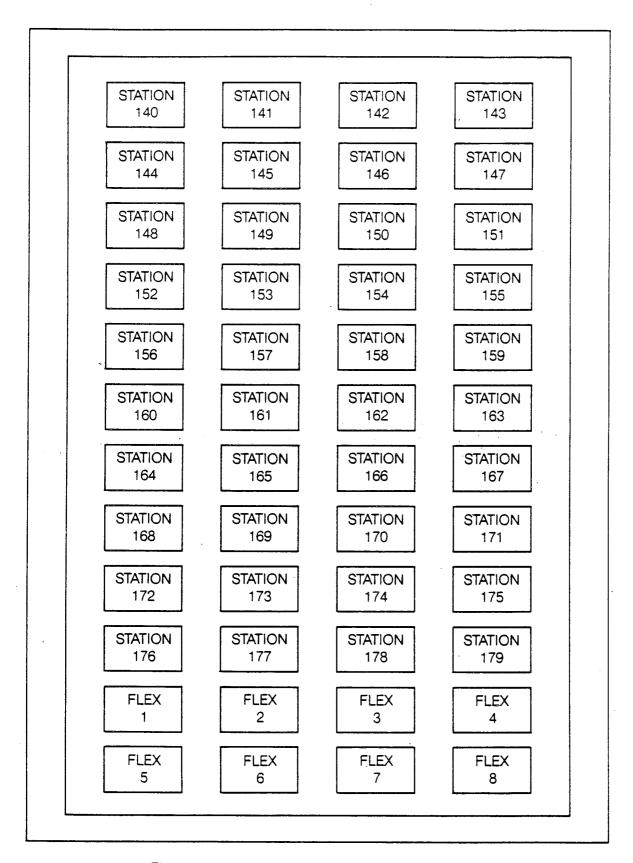


Figure 6-3 DSS/DLS Map 2 Button Assignments

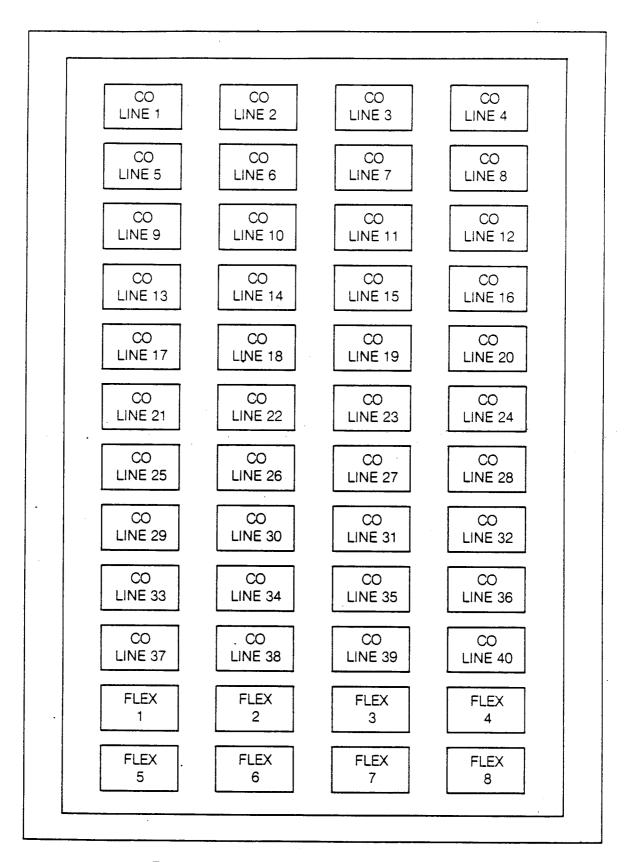


Figure 6-4 DSS/DLS Map 3 Button Assignments

Programming Steps

SPK. Press flexible button, then enter 0, 1, or 2 to program speakerphone. Press HOLD button.

PK. UP. Press flexible button, then enter one to four digits (0, or 1 to 4) to program pick up group. Press HOLD button.

Page. Press flexible button, then enter one to four digits (0, or 1 to 4) to program page zone. Press HOLD button.

Description

SPK. Each telephone's speakerphone ability is programmable.

- 0 = works as normal speakerphone
- 1 = intercom calls enabled.
 outgoing calls disabled
- 2 = disabled, headset operation

Default assigns all to 0.

PK. UP. Each station is assigned into pick up groups. Stations can be in any combination of the four groups or in no group at all.

- 0 = no group
- 1 = group 1
- 2 = group 2
- 3 = group 3
- 4 = group 4

By default all are in group 1.

Page. Each station is assigned to internal paging zones. A station can be in any or all zones or in no zone at all.

- 0 = no zone (no pages received)
- 1 = zone 1
- 2 = zone 2
- 3 = zone 3
- 4 = zone 4

Default assigns all to zone 1.

All Call is all page zones combined. If a station is not in any internal zone, it will not receive any all call pages.

Stations not assigned to a page group can still make page announcements if allowed in station programming. Stations can be assigned to a page group in order to receive pages but not allowed to make pages.

Programming Steps

PREFW. Press flexible button, then enter three digit station number (100 to 179) which is to receive the forwarded calls. Press HOLD button:

ACC. Press flexible button, then enter up to seven digits (0, or 1 to 7) for the outside line groups the station will have access to. Press HOLD button.

Description

PREFW. A station can be programmed so the incoming outside lines can be forwarded to a preset station if the first station does not answer after a programmable period of time. No stations are assigned by default.

Refer to flexible button programming. If a station has a preset forward to another station, that station must be programmed to have access to the forwarded line.

NOTE

No more than five preset call forwards can be in sequence.

ACC. A station is allowed access to any combination of outside line groups. Or a station may not be allowed any access to outside lines. The following are the line group numbers and their access codes.

- Group 0 = no access (private lines)
- Group 1 = code 9 or 81
- Group 2 = code 82
- Group 3 = code 83
- Group 4 = code 84
- . Group 5 = code 85
- Group 6 = code 86
- Group 7 = code 87

CO line groups are used primarily by single line telephones or for flexible buttons assigned as pooled group buttons on a Key Telephone. By default all stations are allowed access to all groups.

Programming Steps

 To program flexible button assignment, press FLEX button (button 8) in the flexible button field. The following message is shown on the display phone:

> FLEX BUTTON PROG ENTER BUTTON DATA

FLEX. When programming flexible buttons, first enter the two digit button number to be programmed (01 to 20). Then enter one digit to indicate button function:

- 0 = multi function
- 1 = CO line
- 2 = Loop
- 3 = Pooled Group

If a 0 or 2 (multi function or Loop) is entered, no further entries are required.

If a button is programmed as a CO line button, enter the two digit CO line number and one digit to indicate ring status:

- 0 = no ring
- 1 = day ring
- 2 = night ring
- 3 = both

If a button is programmed as a Pooled Group button, enter one digit to indicate which CO line group will be accessed by that button.

Press HOLD button after making these entries.

Description

Any time a display of button programming (default or changed) is needed, press the DSP button (button 9) on Page B and it will display four buttons programming assignments (starting with the lowest button number). With each subsequent depression of the DSP button the next four buttons will be displayed. The following message is shown on the display:

BUTTONS XXX-XXX BB123 BB123 BB123 B123

Where: BB is button number XXX is station number(s) 123 is button function

Button function can be any one of the following:

- MUL. Multi function button; a button which has not been given a function by the user.
- D###. Station button and station number; if the number is between 890 and 897, it is a UCD group button.
- S##. Speed bin and bin number.
- LP. Loop button.
- PL#. Pooled group and CO line group number.
- MUS. Music button.
- LNR. Last number redial button.
- SNR. Save number redial button.
- M##. Personalized message and message number.

Programming Steps

Description

- ACC. Account code enter.
- CP#. Call park and parking location.
- ACP. All call page button.
- IP#. Internal page and zone number.
- IAC. Internal all call page button.
- EPG. External page button.
- MMP. Meet me page answer button.

If a single line telephone is being programmed, enter 00 for button number. To erase a single line telephone assignment, enter 00# and press HOLD button.

To erase a flexible button assignment, enter the button number (01 to 20), #, and press HOLD button. This will render the button inoperable.

When programming a button as a CO line button, refer to CO line ringing. By default station 100 will ring on a line. However, if station 100 is not given button access to a line, another station must be programmed to ring on that line.

When programming a button as a pooled group button, refer to CO line group programming. Pooled group numbers match CO line group numbers.

All stations should be given a loop button so they can receive a transferred call on a line for which they have no button access.

6.43 Exception Tables Programming (60)

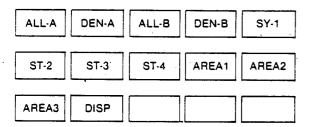
Programming Steps

If the system is in the programming mode, continue using program codes. If starting to program here, enter the programming mode first (See Paragraph 6.3).

a. Press FLASH and dial [60]. The following message is shown on the display phone:

EXCEPTION TABLES SELECT A TABLE

b. To program exception tables, use the program buttons as follows:



c. Press a button to program a table. The following message is shown on the display phone:

The first two bin locations are displayed.

d. Enter data on the dial pad (refer to worksheet).

Description

The Allow/Deny tables are organized into two sets of tables to support two different toll plans at one installed site.

Each table may contain up to twenty numbers and each deny table up to ten numbers. Each number may be up to eight digits in length including [don't care], [stop], and [search special table] entries.

The following rules should be remembered when setting up the Allow/Deny tables:

- If the tables have no entries, no restriction is applied.
- If entries are made in the allow table and only there, then only those numbers are allowed.
- If entries are made in the deny table and only there, then only those numbers are denied.
- If there are entries in both tables, the allow table is searched first and if a number is found, it is allowed. If no number is found, the deny table is searched and if the number is found there, it is denied. If a number is not found in either table, it is allowed.

The entries in the Allow tables that tell the system to search the special tables, as well as the entry of the home area code should be the last entries made. The entries should be as follows:

- 1 XXXDDDS (X = area code)
- 1 DDS (home area code)

6.43 Exception Tables Programming – Cont'd

Programming Steps

- Digits 0 to 9, *, # = numbers.
- DND button = don't care.
- TRANS button = search special table.
- HOLD button = end/enter data.

The command to search the special tables can only be entered in the Allow tables.

The entry format is BBXXXXXXXX

- BB = bin number
- XX = exception number
- e. Press HOLD button after each entry.
- f. When all entries for one table are complete, press the program button for the next table to be programmed and follow the same steps.

Description

6.44 Special Tables Programming

There are four special tables to expand the allow tables. These tables are composed of 800 three-digit office code bins. Three of these tables must be assigned an area code by which they are referenced. One table is reserved for the home area and requires no area code entry.

The following steps explain in more detail how to use the special tables:

- a. Determine what types of dialing privileges you want your employees to have. You may group them into four basic groups:
 - employees who are allowed to make any calls they want, unrestricted.
 - 2. employees who are allowed to make only local calls.
 - 3. employees who are to be restricted in a similar manner.
 - 4. employees who are to be restricted in a similar manner but different from group 3.
- Assign these groups to a station class of service:
 - Group 1 = COS 1
 - Group 2 = COS 5
 - Group 3 = COS 2
 - Group 4 = COS 3
- c. Fill out your Allow/Deny Tables.
 Group 3 will be restricted by Allow/
 Deny Table A. Group 4 will be
 restricted by Allow/Deny Table B.
 Remember the four basic rules for toll
 tables:
 - 1. The allow tables override the deny tables; if there are no entries in either table, all calls are allowed.

- 2. If there are entries only in the allow tables, only those numbers are allowed; all others denied.
- 3. If there are entries only in the deny tables, only those numbers are denied; all others allowed.
- 4. If there are entries in both tables, the allow table is checked first; if the number is found there, it is allowed; if it is not found, the deny table is checked; if the number is found there, it is denied; if the number is not found in either table, it is allowed.

Within the Allow tables, four area codes can be referred to special tables for further definition. One of these area codes is reserved for the home area code. When an area code is referred to a special table, entries must be made in the special table specifying what office codes will be allowed. Everything is denied by default.

References to special tables should be made in the last four bins of the Allow tables. The home area code entry MUST be entry twenty regardless of how many other entries are in the table.

d. Determine the Class of Service of each line. Refer to Appendix A (matrix chart) to determine the interaction of CO line COS and station COS. Determine the costs of the various long distance trunks to decide the appropriate COS. Local lines can be divided into groups and given different COS for different levels of access.

6.44 Special Tables Programming - Cont'd

NOTE

Refer to Class of Service programming for CO line Class of Service before assigning CO line button access to an individual station.

When a number is dialed, the system first checks CO line access for that station, then the COS of that line, then the station COS, and last it checks any appropriate toll tables before sending the call.

e. Press the button labeled [AREA 1] for programming the first special table. The following message is shown on the display phone:

SPECIAL TABLE 1 AC

- f. Enter the three digit area code.
- g. Press HOLD button.
- h. Press the associated [SPEC] (special table) button. Area Code 1 goes with Special Table 1, etc. To program the home area code, go directly to [SPEC 4] and enter office codes.
- i. Enter the three digit office code followed by a [1] which means to allow this code.
- j. Press HOLD button to enter.

6.45 LCR Programming (61)

A. Introduction

Least Cost Routing (LCR) selects the most economical programmed route for an outgoing call. When a station user dials an outside number, the LCR feature analyzes the number and then automatically chooses an outside line from the group that has been programmed as least costly. The LCR feature puts the responsibility of choosing the least expensive route for each area code and exchange code on the system, not on the station user. In order to make a routing decision, the LCR feature is programmed in the system database. The successful operation of this feature is completely dependent on the accuracy of the programming.

B. Description

There are eight different tables which are set up to monitor the dialing of digits and to select the best route for the call depending on time of day. These tables are:

- 1. Route List Table. Up to sixteen different routes can be programmed. Each route contains four routing lists, one for each of the four time periods. Within each list are programmed up to seven CO (outside) line groups and their corresponding Insert/Delete Tables. Tables are programmed in sequence so that the first line group entry is the least costly (and first selected) and the last line group is the most costly (and last selected).
- Daily Start Time Table. The least costly route for a particular area code may be different at different times of the day. To accommodate this situation, this table and the Weekly Schedule Table work to-

gether, dividing the day into four possible time periods. By default these tables are set at the standard divisions of 8AM. 5PM and 11PM. However, these times can be changed. These tables are then used in the Route List Table to program different CO (outside) line group priorities at different times of day. The times are entered in the 24 hour format.

- 3. Weekly Schedule Table. See Daily Start Time Table (above).
- 4. Insert/Delete Table. Digits can be either added or deleted when dialing a number. For instance, if a user dials a long distance call that should be placed on a home area code foreign exchange (FX) line, the digit [1] dialed by the user must be deleted before the call is placed on that line. An Insert/Delete Table can be programmed to do this. Digits can also be added to a number that has been dialed by the user. For instance, OCC access codes can be automatically inserted by the system.

There are twenty Insert/Delete Tables. Up to twenty digits (including pauses) can be inserted and up to sixteen digits can be deleted. Digits can be inserted before or after the number dialed but can be deleted only after the start of the number dialed.

 Exception Table. This table is used for operator calls and any other calls which would use a one- or two-digit entry rather than a three-digit area code. 6. 3 Digit Table. This table is divided into two sections — Leading 1 (a [1] is dialed before the number) and Non-Leading 1 (no [1] is dialed before the number). This gives the system the ability to handle call routing in areas that require a [1] before a long distance number, as well as in areas that do not require the [1].

This table includes area codes, office codes, and such numbers as 911. 411, etc. It also includes the route to be used, the number of digits likely to be dialed and if the 6 Digit Table is to be checked.

All local office codes must be entered in this table even if they do not require long distance calling.

- 7. 6 Digit Office Code Table. This table is used to determine route by individual office codes. Certain office codes within an area code can therefore be given a separate routing. If the office code dialed is not found in the 6 Digit Office Code Table, the call is then routed according to the route listed in the 3 Digit Table.
- 8. Class of Service Table. A station should be assigned a class of service for LCR. The COS can be between 0 and 6, with 0 being unrestricted and 6 the most restrictive. Within the Route List Table, line groups are given a priority assignment between 0 and 6. A station using LCR will be able to use only those CO (outside) line groups with a priority assignment of equal or higher value than the station's LCR Class of Service (i.e. a

station with LCOS 3 can use line groups with a priority of 3-6.) Station LCR class of Service is assigned in station programming.

C. Operation

To access the LCR feature:

- 1. Lift handset.
- 2. Dial [9] (dial tone).
- 3. Dial [1] if required.
- 4. Dial area code, if required.
- 5. Dial seven-digit telephone number.

The system first checks to see if the number dialed is more than two digits. If it is two digits or less, the call is processed according to instructions in the Exception Table. If the number is not found in the Exception Table, the call is denied.

If the number is more than two digits, it goes to the 3 Digit Table. The first three digits of the number (either office code or area code) are checked ot see if they are in the 3 Digit Table. If they are not found there, the call is denied. If the digits are found in the 3 Digit Table, the system then checks this table to see if the 6 Digit Table must be referenced. If the 6 Digit column is marked [yes], the number is then checked in the 6 Digit Table.

The 6 Digit Table contains codes. If the office code of the number dialed is found in the 6 Digit Table, the number is then checked against the toll restriction tables. When LCR is enabled, only station Class of Service is referenced. CO line of Service is no longer applicable. All CO lines are considered Class of Service 1.

If the call is not allowed through the toll restriction tables, the call is denied. If it is allowed, the call then goes to the Route List Table to sent by the route indicated in the 6 Digit Table.

After a call is sent to the Route List Table, LCR Class of Service becomes applicable. A station can use only those line groups with a priority number equal to or higher than the station's LCR Class of Service. If a line is not available in the first choice line group, the system advances to the next coice line group and searches for a free line. This process continues until an available line is found or the last available line group is searched or until a line group is reached with a priority assignment lower than the station's LCR Class of Service assignment.

If no lines are available in any of the CO line groups programmed for that route and allowed to that station, the call can be queued on to the first choice (least costly) line group. If the user waits three seconds after dialing the number, they will hear confirmation tone which indicates they are queued on the first choice line group.

If the office code is not found in the 6 Digit Table, the call is referred back to the 3 Digit Table. It then goes through the same procedures as described above.

NOTE

It is extremely important that the worksheets be completed before programming the LCR tables.

D. LCR Programming

If you are in the program mode, continue using the program codes. If you, are starting to program here, enter the program mode first.

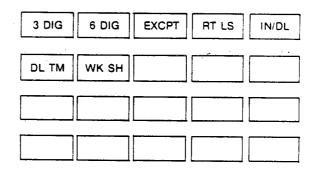
NOTE

LCR does not require FLASH 90 for permanent update. LCR should be disabled during programming.

To program the system for Least Cost Routing, press FLASH and dial [61]. The following message is shown on the display phone:

> LCR TABLES SELECT A TABLE

There are seven tables which can be programmed here for LCR (you must also program LCR Class of Service in Station Programming). Use the program buttons as follows to program these tables:



Press the button for the table to be programmed.

• Button 1 (3 DIG)

Press button 1 and the following message is shown on the display phone:

3 DIGIT ROUTING TABLE ENTER L NNN RR6 PP HOLD

Button 1 (3 DIG) – Cont'd

L=0 for non leading 1 ("1" not dialed) 1 for leading 1 ("1" is dialed)

NNN = area/office code

RR = route number 00-15

6 = 0 do not go to 6 digit table

1 go to 6 digit table

PP=number of digits expected to be dialed.

Press HOLD. Display will now update.

Button 2 (6 DIG)

Press Button 2 and the following message is shown on the display phone:

6 DIGIT ROUTING TABLE ENTER S AAA RR NNN HOLD

S = 0 to remove codes 1 to add codes AAA = area code RR = route number 00-15 NNN = office code

Press HOLD after each office code entry. Display will now update.

Press program button 2 again for further entries.

To delete any entry, enter 0 AAA RR ###.

Button 3 (EXCPT)

Press button 3 and the following message is shown on the display phone:

EXCEPTION CODE TABLE ENTER S XX RR HOLD

S = 0 to remove code from table 1 to add code to table

XX = exception codes (for single digit codes, use # as 2nd digit)

RR = route number, 00-15

HOLD must be pressed after each entry. Display will now update.

Press program button 3 again for further entries. Up to 20 Exception codes may be programmed in this table.

Button 4 (RT LS)

Press button 4 and the following message is shown on the display phone:

ROUTE LIST TABLE ENTER RR T G DD L HOLD

RR = route list number 00-15

T = time period Route List 1-4

G = CO Line Group 1-7

DD = Insert/Delete Table 00-19

L = Trunk Group Priority Level 0-6

Press HOLD. Display will now update.

To enter additional CO line groups in the SAME TIME PERIOD LIST for the same route list number:

Press G DD HOLD

To enter data for a different list within a route, press program button 4 and enter all data (RR T G DD).

Repeat above to program a new Route Number 00 to 15.

Button 5 (IN/DL)

Press button 5 and the following message is shown on the display phone:

DIGIT INSERT/DELETE TT X DDD HOLD

TT = Table Number 00-19

X = 0 Delete numbers in front of number dialed.

- 1 Insert numbers in front of number dialed.
- 2 Insert numbers behind number dialed.

DDD = digits

(up to 20 digits can be inserted and up to 16 deleted)
Press PICK UP for a pause.

Press HOLD after programming each table. Display will now update.

To add and delete numbers in the same table, enter the different insertions/ deletion as separate entries using the same table number.

Button 6 (DL TM)

Press button 6 and the following message is shown on the display phone:

Enter times in military form (2400 Hours). Default times are 0800, 1700, and 2300 (8 AM, 5 PM, and 11 PM).

will display if nothing is entered. HOLD must be pressed after the last entry. Display will now update.

• Button (WK SH)

Press button 6 and the following message is shown on the display phone:

WEEKLY SCHEDULE TABLE ENTER D TTTT HOLD

D = 0.6 day of week Mon = 0, Sun = 6

T = Time Period Route List (1-4) for All Routes (00-15) for that day (0-6).

TTTT

1st T=list in the Route for the FIRST Daily Start Time (All Routes).

2nd T = List in the Route for the SECOND Daily Start Time (All Routes), etc.

Press HOLD button after each complete daily entry. Display will now update.

DAILY START TIME TABLE

0	1	2	#	
8	6	3	#	
0	0	0	#	
0	0	0	#	

WEEKLY SCHEDULE TABLE D T T T T

		•	'	•	•	
Mon. Tues. Wed. Thur. Fri. Sat. Sun.	0 1 2 3 4 5	1 1 1 1 3 3	2 2 2 2 2 3 2	3 3 3 3 3 3	#######	Route List Numbers

Enable LCR at this point. Refer to system programming.

6.46 Data Base Printout Routine (80)

With a printer connected to the RS-232C port the currently stored customer data base can be printed.

If a complete printout of the database is desired, press FLASH and dial [80]. When the HOLD button is pressed, the following message is displayed and the data will print in either 29 or 80 character format.

PRINT SYSTEM DATA PRESS HOLD

The printer speed (baud rate) and character format is programmable within the system.

Individual data fields can be printed by dialing one of the following numbers and pressing HOLD:

FLASH 80	Complete System Printout
FLASH 81	System Parameters
FLASH 82	CO Line Attributes
FLASH 83	Station Attributes
FLASH 84	Exception Tables
FLASH 85	System Speed Dial Numbers
FLASH 86	LCR Tables

FLASH 81:

SYSTEM PARAMETERS

ENG.	VER.	XX X	×		
SHR	EHR	XFR	PFT	PT	CPT
60	180	45	10	2	180
CPT	MWT	PTO	COT	ART	ICM
10	0	15	3	1	20
HFT	HFD	DAC	HPR	PRI	ENR
10	10	100	Y	Y	N
AOR	INT	BGM	LCR	PWT	
Y	Y	Y	N	Y	

```
ATTENDANT STATIONS
100 ### ###
LOUD BELL ASSIGNMENTS
  #### ####
PBX DIALING CODES
## ## ## ##
EXECUTIVE/SECRETARY PAIRINGS
1 = ###
       ###
2 = ###
        ###
3 = ###
        ###
4 = ###
       ###
UCE ALT
           OVR ANO
                      STN#
890
      892
           115
                 1 2
                       112 114 125
                       163 115 132
                       141 145
891
892
893
894
895
896
897
UCD TIMERS
RING BGM
            OVER
60
      60
            60
ANNOUNCEMENT TABLE
TYPE
      INDEX TIME
        40
  1
            60
  #
       ###
            ###
SMDR
       TYPE
             PRNT
                    BAUD
                           ACCT
       LD
             80
                    4800
                           Ν
DIAL PULSE
RATIO SPEED
6040
       10PPS
```

FLASH 82:

The CO Line Attributes print program will allow the printing of individual CO line data, a range of CO lines, or all CO lines (by pressing HOLD).

CO LINE ATTRIBUTES

CO 01

SIGNAL TYPE UNA SUPV DTMF CO Y N

DISA FLTM GRP COS UCD Y 10 1 1 ###

COS 02

SIGNAL TYPE UNA SUPV DTMF CO Y N

DISA FLTM GRP COS UCD Y 20 1 2 890

FLASH 83:

The Station Attributes print program will allow the printing of individual stations, a range of stations. or all stations (by pressing HOLD).

STATION ATTRIBUTES

STA 100

PAGE DND SPD QUE PLA OHVA Υ Υ Υ Υ Ν Ν LCOS LCR **FWD** SID AID cos SPK 0 Ν Υ 0 1 0 PICKUP **PAGE** 1 1234

CO ACCESS

12345678

BUTTONS

PREFWD

01D100 02D101 03D102 04D103 05D104 06D105 07D106 08D107 09D108 10D109 11010 12020 13030 14040 15050 16060 17070 18080 19PL1 20LP

STA 101

PAGE DND SPD QUE PLA **OHVA** Υ Υ Υ Υ Ν Ν LCOS LCR **FWD** SID AID COS SPK 0 Ν Υ 5 1 0

PICK UP 1 PAGE 1
PREFWD COS ACCESS 1

SLT RING

FLASH 84:

The Exception Tables can be printed by table or by individual bin assignment. To print an individual table press the associated button (1 to 8 of the flexible field) and press the HOLD button. The bin entries in the allow/deny tables can be printed by dialing the bin number and pressing the HOLD button.

Button Number	Exception Display
1	PRINT ALLOW TABLE A ENTER BIN NO, PRESS HOLD
2	PRINT DENY TABLE A ENTER BIN NO, PRESS HOLD
3	PRINT ALLOW TABLE B ENTER BIN NO, PRESS HOLD
4	PRINT DENY TABLE B ENTER BIN NO, PRESS HOLD
5	PRINT SPECIAL TABLE 1 PRESS HOLD
6	PRINT SPECIAL TABLE 2 PRESS HOLD
6	PRINT SPECIAL TABLE 3 PRESS HOLD
8	PRINT SPECIAL TABLE 4 PRESS HOLD

Allow Table A

01	11
02	12
03	13
04	14
05	15
06	16
07	17
08	18
09	19
10	20

Deny Table A	
01 02 03 04 05	06 07 08 09 10
Allow Table B	
01 02 03 04 05 06 07 08 09	11 12 13 14 15 16 17 18 19 20
Deny Table B	
01 02 03 04 05	06 07 08 09 10
Special Tables Para	meters:
SPECIAL TABLE 1	AREA CODE 305
ALLOWED OFFICE 200 201 202 203 207 208 209 210	3 204 205 206
SPECIAL TABLE 2	AREA CODE 904
Allowed Office Cod	es
SPECIAL TABLE 3	AREA CODE 814
Allowed Office Cod	es
SPECIAL TABLE 4	HOME AREA CODE
Allowed Office Cod	es

FLASH 85:

The System Speed Dial Numbers print program will allow the printing of individual System Speed numbers, a range of System Speed numbers, or all System Speed numbers (by pressing HOLD).

SYSTEM SPEED NUMBERS

FLASH 86:

Individual tables may be printed by pressing the button that is associated with the table, entering a range if desired, and pressing the HOLD button. The following table shows the various options for printing LCR tables:

Button Number	LCR Display
1	PRINT 3 DIGIT TABLE ENTER RANGE, PRESS HOLD
2	PRINT 6 DIGIT TABLE ENTER RANGE, PRESS HOLD
3	PRINT EXCEPTION TABLE ENTER RANGE, PRESS HOLD
4	PRINT ROUTE LIST TABLE ENTER RANGE, PRESS HOLD
5.	PRINT DIGIT INSERT/DEL ENTER RANGE, PRESS HOLD
6	PRINT DAILY START TIME PRESS HOLD
7	PRINT WEEKLY SCHEDULE PRESS HOLD

Following are examples of the printouts for LCR tables:

3 DIGIT TABLE

CODE	LEADING 1		1 NON-LEADING		-	
	RR	PP	6	RR	PP	6
213	01	11	Υ	##	##	Ν
253	80	80	Ν	##	##	Ν
303	05	11	Ν	##	##	Ν
411	##	##	Ν	00	03	N
602	03	11	Ν	##	##	N
818	14	11	Υ	##	##	Ν
911	##	##	Ν	00	03	Ν

6 DIGIT TABLE					
	ROUTE NO	OFF	ICE C	ODES	,
213	00	224 249		245 456	
818	13	255	318	458	459

EXCEPTION CODE TABLE

CODE	ROUTE NO
0#	00
09	15
20	13

ROUTE LIST TABLE

RT	TIME	CO GRP	INS/DEL	GRP PR
0	1	5 3 2 6	01 19 16 03	5 5 3 1
	2	1 4	06 12	3 3
	3	5.	02	4
	4	6 3	07 18	5 5

DIGIT INS/DEL TABLE

TABLE	DIGITS	
01	DEL PRE	1602 345
02	DEL PRE POST	12144921792 1214306 8545

DAILY START TIME TABLE

TABLE	TIME
1	800
2	1700
3	2300
4	####

WEEKLY SCHEDULE TABLE

START TIME	М	Т	w	Т	F	S	S
800	1	1	1	1	1	3	3
1700	2	2	2	2	2	3	2
2300	3	3	3	3	3	3	3
####	3	3	3	3	3	3	3

			·	
	·			

SECTION 7 SYSTEM CHECKOUT

7.1 Introduction

Prior to actual power up and initialization, the Key System should be checked over to avoid start up delays or improper loading. A step-by-step checklist is provided for this purpose.

7.2 Preliminary Procedures

- Verify that the DC output power cord from the EPS housing is plugged into the DC connector on the KSU.
- Make sure that the KSU is properly grounded.
- The DC/DC Converter must be installed in the KSU and firmly seated in its card connector position.
- The ON/OFF switches of the EPS housing and the KSU should be OFF. The breaker switch of the EPS should be ON.
- Verify that all PCB's are firmly plugged into their correct color coded card. slot positions. This can be done by comparing the color of the PCB ejector tabs with the colored labels on the KSU shelves.
- The service switches on the PCB's should be in the NORMAL (up) position.
- Inspect the MDF for shorted wiring and improper polarity that would affect the Key Telephone or DSS console.
- All switches on the CPB should be ON so that default data can be loaded into memory when the system is powered up. Make certain that the lithium battery is connected to the battery (+) terminal.
- Make sure that plug-ended MDF cables connected to the KSU are secure and are plugged into the correct position.

7.3 Power Up Sequence

The power up sequence involves the proper application of AC power to the System. monitoring DC/DC Converter and CPB LED s. A successful power up is assured if the installation checklist has been followed. When System power is turned on, default data is loaded into memory.

- a. The eight white DIP switches on the front of the CPB should all be in the ON position.
- b. Plug the AC power cord of the EPS housing into the dedicated 117V ac outlet. Turn the power switch on the EPS to on. The input and output LEDs on the power supply should light. The AC, DC, and ring LED's on the front of the EPS should light.
- c. Turn the power switch of the KSU to ON. The EPS ring LED will now flicker (If RG unit is installed).
- d. The two red LEDs on the DC/DC Converter should light immediately.
- e. The CPB has eight red LED's located on the front of the card. If the power up is successful, LED's one. two, and three will light steady and then go off. LED eight will light and remain lit. LED five will flicker. LED's two and three will flicker faintly.
- f. Press the reset button on the CPB. The above CPB LED indications will repeat.
- g. Check for +5V and +14V operation on the DC/DC Converter and adjust the +5V. if necessary. A digital volt meter is required to adjust the 5 volts.
- h. Turn switch eight on the CPB to off to prevent accidental loading of default data in case of power outage.
- i. The system is ready for programming. If any problems have occurred, see the Troubleshooting Section (8).

40/80 Power Supply Tests

		DC/DC CONVERTER	
Voltage Designation	Voltage Reading	Test Point Location	Remarks
+ 5 VDC	+ 5V ± 1%	Front of DC/DC Converter	Adjustable on front cover of DC/DC Converter
+ 14 VDC	+ 14V ± 4%	Front of DC/DC Converter	_
		POWER SUPPLY	
117 VAC	117V ± 10%	Commercial power source	-
+ 24 VDC	+ 24V ± 5%	DC output terminals	If 24V is below 22V or above 29V, check AC power for 117V ± 10% No adjustments.

The DC/DC Converter is pre-set at the time of manufacturing, but should be checked at system initialization with a digital volt meter having an accuracy of $\pm 1\%$.

SECTION 8 MAINTENANCE AND TROUBLE SHOOTING

1. Central Processor Board (CPB)

KTU	FUNCTION	CONTROL	OPTIONS	FAULT CONDITIONS
CPB Color Code: Yellow	1. Central Processor Unit (CPB) to control system operation. 2. Read Only Memory (ROM) with factory set instructions. 3. Random Access Memory (RAM) protected by a lithium battery. 4. Hard Restart switch for manual system restart. 5. Provides RS232 port for SMDR.	Contains 8 process running indicators (LEDs) which indicate various conditions of the system. LED 1 — Dependability/ Recovery, flickers on/off in normal operation. LED 2 — Ringing, will flash steady when ring scan is functioning. LED 3 — Timers, will flicker timers are operating. LED 4 — Monitor LED 5 — LCD LED 6 — Call processing. LED 7 — Administration LED 8 — Idle If the system stops processing and LED 1 only is on, this indicates a ROM failure. If system halts and LED 1 and 2 are on, this indicates RAM failure.	Switch 1 – Write Memory OFF – Protects contents of data base. ON – Allows update of the data base from station 100. Switch 2 – Clear to Send Disable. OFF – For terminal equipped to send CTS signal. ON – Is normal terminal operation. Switch 3 – ON – Allows trace output. OFF – No trace output. Switch 4 – Soft restart. OFF – No soft restart. OFF – No soft restart. Switch 5 – SMDR OFF – Disabled. ON – Enabled. Switch 6 – Printer Type. OFF – Normal type 29-character. ON – Wide type 80-character.	 Complete system failure. Erroneous call processing. Inoperative features in system operation. Partial failures in system operation. Continual system restarts. Failure of SMDR. Loss of Unique customer data base programming.

1. Central Processor Board (CPB) (Cont'd)

KTU	FUNCTION	CONTROL	OPTIONS	FAULT CONDITIONS
CPB (Cont'd) Color Code: Yellow			Switch 7 – SMDR. OFF – SMDR goes to CPB port. ON – SMDR goes to APB port. Switch 8 – Init Protect. OFF – Database will not initialize. ON – Database will be initialized.	

2. DC/DC Converter

DC/DC Converter	Provides 5-14V logic voltages from PS. Provides LED indications if voltages are present. Provides BGM 1 and BGM 2 connections.	 Receives 24 VDC from PS. BGM volume. Has ON/OFF switch. 		1. Total system failure – no LEDs or voice. 2. Loss of music-on- hold and BGM.
Battery Charging Board (BC). (Located in the EPS).	Same as above.	Charges external battery package.	Battery Charging Board is used if the system is to be equipped for stand-by power operation.	Battery Backup failure.

3. Key Station Interface Board (KSB)

KTU	FUNCTION	CONTROL	OPTIONS	FAULT CONDITIONS
KSB Color Code: Green	Provides interface for 8 key phones.	Busy state LED that monitors circuits for busy condition. Service switch with normal/service mode.	None	 Unable to receive intercom dial tone. Poor transmission characteristics. Key telephone set inoperative. Key telephone unable to invoke features. No LED indications.

4. Off-Hook Voice Announce Board (KSB/OHV)

KSB/OiHV Provides interfaction 8 key telephones and provides the off-hook voice feature for those telephones.	monitors circuits for busy condition. Normal/Service switch.	None	 Key telephone set inoperative. Poor transmission characteristics. Loss of Off-hook voice announce.
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5. Central Office Interface Board (COI)

COI Color Code: White	Provides interface for 8 GO/PBX lines.	Busy state LED that monitors each CO/PBX line for ringing, busy and idle conditions. Service switch with normal/service mode.	None	 Unable to receive CO dial tone. Unable to break CO dial tone. CO line(s) not ringing. Crosstalk/noise.
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6. Single Line Interface Board (SLT)

SLT W/MW Color Code: Green	Provides interface for 8 SLTs. Contains the matrix for CO and intercom paths. Also provides for SLTs with MW lights.	1. Provides busy/idle state LED. 2. Normal/service switch.	None -	1. SLT can't receive dial tone. 2. Poor transmission characteristics.
----------------------------------	----------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------	-----------	-----------------------------------------------------------------------

7. Single Line Ring Generator and M/W Power Supply (RG)

KTU	FUNCTION	CONTROL	OPTIONS	FAULT CONDITIONS
RG Single Line Ring Generator and M/W Power Supply.	Externally mounted unit that provides 90 VAC 20 Hz ring supply to support SLTs. Also provides voltage to light M/W lights when SLT M/W cards are used.			1. SLTs won't ring. 2. M/W light will not function properly on all SLTs.

8. Application Board (APB)

APB Application Board Color Code: Red	Provides 2 DTMF receivers and 2 DTMF senders for SLTs and DISA. Matrix and control circuitry for DISA, unsupervised conference, 2 external page zones and supports SLU module and additional RS232C module (RSM).	RSM Module. RS232C Module.	1. DISA circuit does not work. 2. Loss of external page. 3. SLT cannot receive intercom dial tone.	
------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------	----------------------------------------------------------------------------------------------------	--

9. Single Line Receiver/Sender Unit (SLU)

RSM – Single Line. DTMF Module Added to APB Board.	Used to expand the DTMF receivers and senders in system to support SLTs.		
Board.	to support SLIS.		

10. RS232C Module (RSM)

RS232C Module	Provides 2nd		1. Loss of SMDR data.
Added to APB	RS232C port to		
Board.	system.		

11. Power Failure Transfer Unit (PFT)

KTU	FUNCTION	CONTROL	OPTIONS	FAULT CONDITIONS
PFT Power Failure Transfer Unit	Provides relay transter circuits for up to 6 CO lines in the event of a power or processor failure. Facilitates loud bell ringing.		Manual switch used for activating the PFT for testing purposes.	1. Power failure transfer does not function. 2. Loud bells do not ring.

System Parameters

PROG CODE	FLEX BTN	FUNCTION	FORMAT	DEFAULT	CUSTOMER DATA
FLASH 01		System Hold Recall	000-300 s	060	
FLASH 02		Exclusive Hold Recall	000-300 s	180	· · · · · · · · · · · · · · · · · · ·
FLASH 03	•	Transfer Recall	000-300 s	045	
FLASH 04		Preset Forward Timer	00-99 s	10	
FLASH 05		Pause Timer	1-9 s	2	
FLASH 06		Call Park Timer	000-600 s	180	
FLASH 07		Conference Timer	00-99 m	10	
FLASH 08		MSG Wait Reminder Tone	000-104 m	000	
FLASH 09		Paging Timeout Timer	00-60 s	15	
FLASH 10		CO Ring Detect Timer	200-900 msec	3	
FLASH 11	1	Hold Preference	Sys/Exc 1	System	-
FLASH 12	1	Automatic Privacy	Yes/NO	Yes	`
FLASH 13	1	External Night Ring	Yes/No	No	
FLASH 14	1	Attendant Override	Yes/No .	Yes	
FLASH 15		Attendant Assignment	100-179	100	
FLASH 16		Loud Bell Control	Sta #, Sta #	None	
FLASH 17		PBX Dial Codes	Five 2 digit	None	
FLASH 18	1	Exec/Sec Pair 1	Sta #, Sta #	None	1
FLASH 18	2	Exec/Sec Pair 2	Sta #, Sta #	None	
FLASH 18	3	Exec/Sec Pair 3	Sta #, Sta #	None	
FLASH 18	4	Exec/Sec: Pair 4	Sta #, Sta#	None	
FLASH 19	1	UCD Group 0 (890)	Up to 8 Sta	None	
FLASH 19	2	UCD Group 1 (891)	Up to 8 Sta	None	
FLASH 19	3	UCD Group 2 (892)	Up to 8 Sta	None	
FLASH 19	4	UCD Group 3 (893)	Up to 8 Sta	None	

System Parameters (Cont'd)

PROG CODE	FLEX BTN	FUNCTION	FORMAT	DEFAULT	CUSTOMER DATA
FLASH 19	5	UCD Group 4 (894)	Up to 8 sta	None	
FLASH 19	6	UCD Group 5 (895)	Up to 8 sta	None	
FLASH 19	7	UCD Group 6 (896)	Up to 8 sta	None	
FLASH 19	8	UCD Group 7 (897)	Up to 8 sta	None	
FLASH 20	1	SMDR	Yes/No	No	
FLASH 20	2	Cail Type	All/LD only	LD only	
FLASH 20	3	Print columns	80/29	80	
FLASH 20	4	Baud Rate	300/1200/4800	4800	
FLASH 20	5	Account Codes	Yes/No	No	
FALSH 21		Admin. Password	One 4 digit	2366	
FLASH 22	1	Dial Pulse	60/40, 66/33	60/40	-
FLASH 22	2	Dialing speed	10/20	10 pps	
FLASH 23	1	LCR Enable	Yes/No	No	
FLASH 24		DISA Access Code	100-999	100	
FLASH 25		Phone Box Timer	00-60 s	20 s	
FLASH 26	1	Attendant Intercom	Yes/No	Yes	
FLASH 27	1	Background Music	Yes/No	Yes	
FLASH 28		Time/Date Format	12/24 HR:M/D	12 hr:M/D	
FLASH 29		Hookswitch Timer	05-20	10	
FLASH 30		Hookswitch Bounce	000-100	010	
FLASH 31	1	Page Warning Tone	Yes/No	Yes	
FLASH 32		Attendant Recall Timer	00-60	01	
FLASH 33	1	UCD Ring Timer	000-300	60 s	
FLASH 33	2	UCD Message Timer	000-600	60 s	
FLASH 33	3	UCD Overflow Timer	000-600	60 s	
FLASH 34		Announcement Table	NYXXXMMM	None	

CO Line Programming (FLASH 40)

LINE NO.	TONE/ PULSE	CO/ PBX	UNA	LOOP SUP	DISA	FLASH TIME	LINE GRP	LINE COS	UCD RING	REMARKS
01										
02										
03										
04										
05					·					
06										· · · · · · · · · · · · · · · · · · ·
07										
08				- 1						
09				•						
10										
11										
12	•			· · · · · · · · · · · · · · · · · · ·						
13										
14										
15						78.7	***			
16										
17		· · · · · · · · · · · · · · · · · · ·				·				
18								·		
19										
20										
	Tone	СО	Yes	No	No	10	1	1		

CO Line Programming (FLASH 40) (Cont'd)

LINE NO.	TONE/ PULSE	CO/ PBX	UNA	LOOP SUP	DISA	FLASH TIME	LINE GRP	LINE COS	UCD RING	REMARKS
21										
22										
23										
24										
25										
26										
27				,,						
28										
29						•				
30										
31										
32	: .	•				• • • • • • • • • • • • • • • • • • • •				
33										-
34					·					. W. 17
35										
36			·							
37										
38								·		
39									·	-
40		7								
DEFAULT	Tone	СО	Yes	No	No	10	1	1	None	

Station Programming (FLASH 50)

DATA FLELD	Page/ BTN		·	,	STA	TIOI	N NL	JMB	ER	 		DEFAULT
PAGE ACC	A/1				-		-		_			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
DND	A/2	-+-+		-	 			_				Yes
SYS SPEED				-					_			Yes
	A/3											Yes
QUEUING	A/4											Yes
PREF LINE ANSWER	A/5											No
OHVA	A/6											No
CALL FWD	A/7					i					:	Yes
FORCED LCR	A/8											
LCR COS (0-6)	A/9									-		0
STAID (0-6)	B/1											0
COS (1-6)	B/2											1
SPEAKERPHONE (0-1)	B/3				-							0
PICKUP GRP (0-4)	B/4											1
PAGING ZONE (0-4)	B/5											1
PRE FWD	B/6							-				None
CO LINE GRP (0-8)	B/7											1
BTN ASSIGN	B/8											

Page A is selected by pressing Button 10 of the flexible buttons.

Page B is selected by pressing Button 11 of the flexible buttons.

Button Assignment Chart (FLASH 50)

		STATION NUMBER													
	100														
1					·										
2														i :	
3															
4															: : :
5															
6															
7															
8															
9	,														
10								•		 	·				
_ 11		,													
12															
13															
14		-													
15															
16															
17															
18	·														
19															
20															

Button Assignment Chart (FLASH 50) (Cont'd)

This chart is to be used to assign each each flexible button a function. By default, buttons 1 through 10 are assigned as stations 100 through 109, button 11 through 18 are assigned as CO lines 01 through 08, button 19 is a pooled group button for line group 1, and button 20 is a loop button.

WHERE:

BB = Button Number (01 through 20)
LL = CO Line Number (01 through 40)
R = Ringing (See Ringing Codes)
G = Ling Group (1 through 7)

Ringing codes are:

0 = no ringing 1 = day ringing 2 = night ringing

3 = day and night ringing

j. To assign a button as a multi-function button (user programmable) enter:

BB [0] HOLD

2. To assign a button as a CO line button enter:

BB [1] LLR HOLD

3. To assign a button as a loop button enter:

. BB [2] HOLD

4. To enter a button as a pooled group button (refer to Section 6 for CO line group numbers) enter:

BB [3]G HOLD

- 5. To unassign a button, rendering it inoperable enter:
- 6. When an SLT is being assigned to ring on an outside line, enter:

00 [1] LLR HOLD

System Speed Numbers

Programmed from the first attendant station.

20	45	70	95
21	46	71	96
22	47	72	97
23	48	73	98
24	49	74	99
25	. 50	75	
26	51	76	
27	42	77	
28	53	78	
29	54	79	
30	55	80	
31	56	81	
32	57	82	
33	58	83	
34	59	84	
35	60	85	
36	. 61	86	
37	62	87	
38	63	88	
39	64	89	
40	. 65	90	·
41	66	91	
42	67	92	
43	68	93	
44	69	94	

Exception Tables (FLASH 60)

Allow Table A

7.11.0 17 1 1 2 1 0 7 1
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18 -
19
20

Allow Table B

01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18
19
20

Exception Tables (FLASH 60) (Cont'd)

Demu Table A Deny Table B Special Table 1 Special Table 2 AREA CODE..... AREA CODE OFFICE CODES: OFFICE CODES:

Special Table 3	Special Table 4
AREA CODE	HOME AREA CODE OFFICE CODES:

LEAST COST ROUTING (FLASH) CO LINE GROUPS (FLASH)

 ь	1

Enter what type lines are programmed in each group.

DAILY START TIME TABLE

TABLE	DEFAULT TIME	CHANGED TIME
1		
2		
3		
4		

WEEKLY SCHEDULE TABLE

М	Т	W	Т	F	s	s
•						
		1	-			

ROUTE LIST TABLE

RTE	TIME	CO GRP 1		GRP	INS/ DEL PRIO	GRP	INS/ DEL PRIO	CO GRP 4	INS/ DEL PRIO	GRP	INS/ DEL PRIO	GRP	INS/ DEL PRIO	CO GRP 7	INS/ DEL PRIO
	1													-	
00	2														
	3													!	
	4														
	1										·				
01	2		2												
	3										-				
	4								i					İ	
	1					•									
02	2								·		•				
02	3			-							-	-			-
	4	•		·											
	1														
03	2												,		
03	3														
	4														
	1														
04	2														
	3														
	4					•									
	1														
05	2												1		
03	3														:
	4														

ROUTE LIST TABLE (CONT.)

RTE	TIME	CO GRP 1	INS/ DEL PRIO	CO GRP 2	DEL	GRP	INS/ DEL PRIO	CO GRP 4	INS/ DEL PRIO	CO GRP 5	DEL	CO GRP 6	INS/ DEL PRIO	CO GRP 7	INS/ DEL PRIO
	1												,		
06	2											100			
00	3												-		
	4														
	1														
	2						-								
07	3				1										
	4												-		
	1							-			b				
00	. 2										•				
80	3										-	-			
	4													·	
	1														
00	2														
09	3														
	4														
	1														
10	2												-		
10	3						-								
	4														
	1														
	2														
11	3														-
	4														

ROUTE LIST TABLE (CONT.)

RTE	TIME	INS/ DEL PRIO	INS/ DEL PRIO	CO GRP 3	INS/ DEL PRIO	CO GRP 4	INS/ DEL PRIO	INS/ DEL PRIO	GRP	INS/ DEL PRIO		INS/ DEL PRIO
	1											
12	2											
12	3	1						:			:	
	4	!										:
	1											1
13	2								_	,		:
13	3											!
	4											
	1											
14	2											
1-4	3			-								
	4				·							
	1											
15	2											
	3											
	4											

INSERT/DELETE TABLES

TABLE	DIGITS DIALED
00	PRE INSERT PORT
	DELETE (PRE)
01	PRE INSERT — PORT DELETE (PRE)
02	PRE INSERT PORT DELETE (PRE)
03	PRE INSERT PORT DELETE (PRE)
04	PRE INSERT POST DELETE (PRE)
05	PRE INSERT ————————————————————————————————————
06	PRE INSERT— POST DELETE (PRE)
07	PRE INSERT— POST DELETE (PRE)

INSERT/DELETE TABLES (CONT.)

TABLE	DIGITS DIALED
08	PRE INSERT
	POST DELETE (PRE)
09	PRE INSERT
	POST DELETE (PRE)
10	PRE
	DELETE (PRE)
11	PRE INSERT POST
	DELETE (PRE)
. 12	PRE INSERT
	POST DELETE (PRE)
13	INSERT POST
	DELETE (PRE)
14	PRE INSERT POST
	DELETE (PRE)
15	PRE INSERT————————————————————————————————————
	DELETE (PRE)

INSERT/DELETE TABLES (CONT.)

TABLE		DIGITS DIALED
	PRE	
16	POST	·
	DELETE (PRE)	
17	PRE INSERT	
••	POST	
	DELETE (PRE)	
18	PRE INSERT	·
10	POST	
	DELETE (PRE)	·
_	PRE	
19	POST	
	DELETE (PRE)	

LEADING 1 ("1" is dialed)

NON LEADING 1 ("1" is not dialed)

CODE	· RR	PP	6	RR	PP	6
5.	P.					
						·
		·				
		-	**************************************			
					<u>-</u>	

RR = refers to route in the route list table

PP = maximum number of digits likely to be dialed

6 = refers to 6-digit table (Y/N)

6 DIGIT OFFICE CODE TABLE

AREA	RTE	AREA	RTE	ATEA	RTE	AREA	RTE	AREA	RTE	AREA	RTE
		0.55:05		05510		0551		05510		OFFICE	
OFFICE	CODE	OFFICE	CODE	OFFIC	E CODE	OFFIC	E CODE	OFFIC	E CODE	OFFICE	CODE
	`									1	
					<u> </u>						
		·									
	•	v	-			-					
											-
OFFICE	CODE	OFFICE	CODE	OFFIC	E CODE	OFFIC	E CODE	OFFIC	E CODE	OFFICE	CODE

•										1	
										ļ	
-							· · · · · · · · · · · · · · · · · · ·	-			
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UPDATES TO 40/80 MANUAL, ISSUE 1

In an effort to provide you, the installer, with precise and up-to-date information, on SIEMENS products, the following list of clarifications, corrections and additions to the Siemens 40/80 Description Installation and Maintenance Manual have been compiled and are now being presented to the field.

Following the instructions, detailed in each step, listed below please take a moment and update your copy of the Siemens 40/80 Manual, Issue 1 (part # 00SMN202).

STEP	PAGE	PARAGRAPH	DESCRIPTION OF CHANGE
1.	2-3	C.	CLARIFICATION: The initial offering of 40/80 included five (5) sperate software Feature Packages (FP I through FP V). To help reduce confusion and potential Inventory problems this offering was reduced to three (3) software Feature Packages (FP I, FP IV, FP V). Thus the references defined for Feature Package II and III should be eliminated from the manual. (also delete the references to FP II and III in Table 3-1 on pg 3-2.)
2.	2-4	E, F	CLARIFICATION of the statements regarding the ability to <i>Insert and/or Remove</i> PCB's under power. The station (KSB, SLT), CO line (COI, COA) and application (APB) boards were designed so that they could be removed and reinserted into the KSU "under power". However the "Normal/Service" switch on these boards should be in the "Service" mode before removing or inserting the board into the system. It should be noted that PCB's critical and necessary for System Operation such as the Central Processor Board (CPB), DC/DC Converter (DCU), and Power Supplies (PS), Ring Generators (RG), and the Battery Charging boards must not be removed or installed "under power" as total system failure would be the result. Also see the Note under Installing PCB's on page 5-9.
3.	2-7	Q	CLARIFICATION of the words <i>input/output</i> . The RS-232C port of the RS-232C Module (RSM) is for out-putting SMDR information only. This port cannot be used for programming locally or remotely via a terminal.
4.	2-7	2.3	CLARIFICATION of the context in which <i>Digital Technology</i> is used. The Siemens 40/80 Hybrid Key Telephone system uses state of the art Digital Technology for switching control, command processing and also utilizes a CMOS based microprocessor controlled cross point voice switching matrix. Although the 40/80 system is a "analog voice switch" in fact the 40/80 system incorporates <i>Digital Technology</i> in much of its design.

STEP	PAGE	<u>PARAGRAPH</u>	DESCRIPTION OF CHANGE		
5.	3.2	Feature Index	CLARIFICATION the <i>RAN</i> feature is not individually listed on the Feature Index as <i>RAN</i> is a "sub-feature" to and described within the system feature of "UCD".		
6.	4.7	4.27, Item B	CORRECTION: The correct Station Speed Bins should read 00 - 19.		
			REPLACE TEXT: 00 - 10 With: 00 - 19		
7.	5-30	Table 5-7	CORRECTION: The 80 Character SMDR format example shows t MM/DD/YY (Date Of Call) in the wrong sequence and the Character Formats is missing the MM/DD/YY in the example. T correct formats are shown in the following table.		

80 Character format selected

29 Character format selected

AAA BB HH: MM HH: MM MM/DD/YY (CR) (LF) TCCCCCCCCCCCCCCCCCCCC (CR) (LF) GGGGGGGGG (CR) (LF)

8.	6-2	6.3, Item D	is lit when in programming mode.
			REPLACE TEXT: The HOLD button and the ON/OFF button LED's are lit. WITH: The ON/OFF button LED is lit.
9.	6-3	Table 6-1	ADDED COMMAND: A Help menu has been added to the system to aid in terminal programming. The additional command is "?", entering this command will produce, on the screen, a help menu similar to Table 6-1 of the Manual.
			ADD TO MANUAL: Under the Terminal heading "? = HELP".

STEP	PAGE	PARAGRAPH		DESCRIPTIO	N OF CHANGE
10.	6-5	Table 6-2			odes shown for "Page Warning Tone" per" are reversed in the table.
			REPLACE:	"Flash 31", for	Inder Program Code "Flash 30" with Page Warning Tone. And "Flash 31" " for Hook Switch Bounce Timer.
11.	6-5	Table 6-2	CORRECTION: (Program Code Page A and Pa	Flash 50) show	umbering for Station Programing vs Page 1 and Page 2 but should be
			REPLACE:		nder Program Code Flash 50, "Page A" and "Page 2" with "Page B ".
12.	6-10	6.12, a	Correction: text but the Dis		Recall Timer is correctly stated in the shows an incorrect range.
			REPLACE TEXT:	Display text	CALL PARK TIMER 000-060 180
			Wiтн:	Display text	CALL PARK TIMER 000-600 180
13.	6-11	Description			d be added under the Description unctions of the Conference Timer.
			ADD NOTE:	administrator caller is allo Trunk" call. Timer a tone withen one minurelease both	to control the length of time a DISA wed after establishing a "Trunk-to-At the expiration of the Conference will be presented to both DISA parties, atte later the system will automatically trunks. The Conference timer does control a DISA-to-Station call.
14.	6-12	6.16, b	CORRECTION: programing, no		Detect Timer is a one digit entry in ntry.
			REPLACE TEXT: WITH:		two digits one digit
15.	6-18	Item c	CORRECTION: the pilot UCD n		ade in paragraph c while referencing
			REPLACE TEXT: WITH:	(890 (890	- <u>87)</u> - <u>897</u>)

		,	
	•		
			: :-

STEP	PAGE	<u>PARAGRAPH</u>		DESCRIPTION OF CHANGE
16.	6-19	Item f	ADDED STEP: When programming stations into UCD groups programmer must first press the "STA" button (button 11) being entering the station numbers.	
			REPLACE TEXT: With:	Enter the three digit station numbers To program stations into a UCD group, first press the STA button (button 11), then enter the three digit station numbers
17.	6-24	ltem a		The programming code for programming the sic Channel is 27 not 7 as stated in the manual.
			REPLACE TEXT: WITH:	Press FLASH and dial [7]. Press FLASH and dial [27].
18.	6-32	PLA.		The default for Preferred Line Answer (PLA) is stated Manual. PLA is disabled by default.
			REPLACE TEXT: WITH:	Allowed by default. Disabled by default.
19.	6-34	Description	programming de An optional para	A note was missing from the Station ID, escription, pertaining to Phone Box programming. Ameter enables the Phone Box to receive Back BGM) through its speaker.
·				When assigning a station as a phone box enter a [4], then enter a [1] to enable BGM or a [0] to disable BGM.
20.	6-35	DSS Map 1	be flexibly assign default designation can be flexibly of ZNE, MEET ME 791. Note: ATTN	DSS/DLS Map 1 actually has 6 buttons that can need by the user. The Map on page 6-35 shows the cons for DSS Map 1. However the following buttons changed by the user; INT ALL CALL, EXT PG PAGE, ALL CALL, CALL PK 790, and CALL PK ID OVERRIDE and RELEASE are fixed feature keys changed by the user.
				E: Indicate FLEX, for flexible user in the following keys of DSS Map 1; INT ALL CALL = FLEX EXT PG ZNE = FLEX MEET ME PAGE = FLEX ALL CALL = FLEX CALL PK 790 = FLEX CALL PK 791 = FLEX

STEP	PAGE	PARAGRAPH	DESCE	IPTION OF CHANGE
21.	6-42	Item b		rrect designation to button #5 (last button "for Special Table #1, not "SY-1".
			REPLACE TEXT:	S <u>Y</u> -1
			W ітн:	S <u>T</u> -1
22.	6-42	Description	tables to search the spe Home Area code is inco	escription for entries into the Allow and Deny cial tables the entry given for searching the prrect. The correct entry for a search into ble is "1DDDS" not "1DDS".
			REPLACE TEXT: WITH:	- 1 DDS (home area code) - 1DD <u>D</u> S (home area code)
23.	6-49	Button 4 (RT LS)		The operation for entry of an LCR rout list grand "L" (Trunk group priority level) in the rentering groups in the same time period at number.
			REPLACE TEXT: WITH:	Press G DD HOLD Press G DD <u>L</u> HOLD
24.	6-50	first paragraph	table when entering da	The operation for entry of an LCR rout list ita for a different list within a rout is also d (Trunk group priority level).
			REPLACE TEXT:	press button 4 and enter all data (RR T G DD).
			W ITH:	press button 4 and enter all data (RR T G DD <u>L</u>).
25.	6-50	2nd column		atton # (7) is missing from the lead-in to (WK SH) programming.
			REPLACE TEXT: WITH:	Button (WK SH) Button 7 (WK SH)
26.	6-50	2nd column		rrect button number for programming the (WK SH) is button "7" not button "6".
			REPLACE TEXT: WITH:	Press button $\underline{6}$ and the following Press button $\underline{7}$ and the following



STEP	PAGE	<u>PARAGRAPH</u>	DESCR	RIPTION OF CHANGE
27.	8-1	CPB Function	of the RS232 port loca	dditional function should be listed for the use ated on the CPB. In addition to providing also provides for Terminal Programming.).
			ADD TEXT: To function 5	5 and Terminal/Remote programming.
28.	8-4	APB Function		PB provides connection and control to ONE TWO as stated in the "function" paragraph.
			REPLACE TEXT: WITH:	2 external page zones 1 external page port
29.	8-4	APB Function	MISSING FUNCTION: to the function of the A	The RAN port with control should be added RPB PCB.
			with E	APB Function column. Provides 1 RAN port & type controls for external recorded neement devices.
30.	A-7	item 5	MISSING OPERATION: inadvertently left out from	The operation to "un-assign a button" was om item 5.
			ADD OPERATION:	To Item 5; "To un-assign a button, rendering it inoperable enter: BB [#] HOLD"

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SIEMENS TECHNICAL FACT NOTICE

No. SIS0105 November 15, 1989

SIEMENS 40/80 OPX AND COA PCB'S

Siemens is pleased to provide to you documentation for the addition of the OPX (Off-Premise Extension) and the COA (Amplified Central Office) interface board to the 40/80 product line. These PCB's were not able to be included into the Siemens 40/80 Description, Installation, and Operations Manual. Please add the two Addendums to your copy of the 40/80 Manual.

COA (Amplified - Central Office Board)

The COA PCB (Part # 23SMN011) provides an option for enhancing audio levels on CO lines engaged in Conference or Trunk to Trunk DISA calls. The COA installs in place of any standard COI board and allows each CO line to be strapped with either a +3 db (gain) or 0 db (no gain). The gain/no gain affects all Conference and Trunk to Trunk DISA operation.

OPX (Off-Premise Extension)

The OPX PCB (Part # 21SMN004) provides four (4) registered OPS circuits for direct connection of OPS interfaces. This allows a 40/80 single line extension to be located "off-premise" from the 4080 KSU.

Note: The OPX interface board installs into a KSB card slot of the 4080 and reduces the maximum station capacity of the system by four (4) stations. The OPX interface board provides a "Precise" dial tone and ring back plan to stations connected to the OPX board. This differs from the dial tone and ring back plan used for stations connected to the standard KSB (Key Station Interface Board) and the SLT (Single Line Telephone Board) used for on-premise stations.

Documentation

See the attached two Addendums to Issue 1 (A-101, A-102), for further information on Installing and Programming the Siemens 40/80, OPX and COA PCB's.

Attachments: 3

File a copy of this Technical Facts in your Master Technical Facts File and in your Siemens 40/80 Description, Installation, and Operations Manual, TEC#00SMN202.

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	SIEMENS 40/80 ISSUE CONTROL						
ISSUE	DATE	CHANGE					
1	1 SEP 88	First Draft					
	7 NOV 89	TFN# SIS0104: Page V, Added Issue Control Sheet to Table of Contents Section Page 5-16, Changed Table 5-4 to show correct wiring designations for Power Fail Transfer circuits Page 5-19, Changed Figure 5-11 to show correct wiring designations for Power Fail Transfer circuits					
	15 NOV 89	TFN# SIS0105: Page V, Updated Issue Control Sheet Added: Amplified Central Office (COA) Interface Board, Addendum, A-SIS0101 Added: Off-Premise Extension (OPX) Interface Board, Addendum, A-SIS0102					
-		On-Fremise Extension (OFA) intended bodiu, Addendum, A-5150102					

SECTION 2 GENERAL DESCRIPTION

2.2 System Components

G. Amplified Central Office Interface Board

The Amplified Central Office Interface Board (COA) is an optional card that installs in place of any standard COI board. The COA enhances audio levels and contains all other attributes of the COI. The COA is recommended for DISA and multi-line conference applications and should not be used in the System behind a PBX because of possible feedback.

SECTION 5 INSTALLATION

5.11 Amplified Central Office Interface Board

There are eight CO line circuits per card. Each card has a jumper strap (one for each of the eight CO circuits) which is set by the installer during installation for either 0 db (no gain) or +3 db (gain). Gain/no gain affects multi-line conferences and trunk to trunk DISA calls. All other installation requirements are the same as for the standard COI. Refer to Section 5 of the Siemens 40/80 Installation and Maintenance Manual.

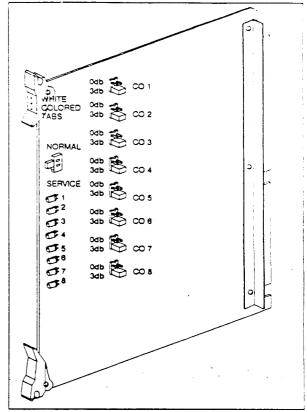


Figure 5-9 Amplified Central Office Interface Board (COA)

File a copy of this Addendum in your Siemens 40/80 Description, Installation, and Operations Manual, Part # TEC 00SMN 202.



SECTION 2 GENERAL DESCRIPTION

2.2 System Components

S. Single Line OPX Board

The Single Line OPX Board provides four FCC registered 2500-type single line interface ports. When an OPX is installed, the maximum number of stations in the System is reduced by four.

OPX station features are the same as SLT station features. The only exception is "Receiving Message Waiting Indication", which is not allowed. Thus, OPX stations cannot answer a message waiting indication since they are incapable of receiving such an indication. All other feature operation is identical to that of on-premise SLT stations.

Each OPX port requires an OL13C network circuit. An FCC registered interface, such as RJ21X, is required to connect to the public network. Only SLT devices capable of sending true DTMF can be used on an OPX circuit provided by the System. When an OPX board is installed, four station ports are rendered unusable, reducing the maximum number of stations in the System by four. For example, with an OPX board inserted into the second KSB card slot extensions 108 through 111 support four OPX circuits (extensions 112 through 115 are not usable).

Loop Resistance:	Each circuit operates with a Loop resistance up to 1400 ohms (including sta- tion resistance)
Maximum Current:	100 mA (terminals shorted)
Minimum Current:	20 mA (@1400 ohms)

Table 1 OPX Specifications

File a copy of this Addendum in your Siemens 40/80 Description, Installation, and Operations Manual, Part # TEC 00SMN 202.

SECTION 5 INSTALLATION

5.16 Off-Premise Extension (OPX) Installation

The OPX board can be installed in all but the first KSB card slot of the System. It can be inserted and removed with power on using the "Normal/Service" switch on its top front edge. It also has an adjustable control directly above the "Normal/Service" switch. This control is set at the factory for proper operation; DO NOT make adjustment to this control.

One Single Line Ring Generator and M/W Power Supply Unit (RG) and one Application Board (APB) are necessary to support the OPX card. An additional Single Line DTMFRS Unit (SLU) may also be needed if the combined traffic of OPX, SLT, and DISA calls affects the availability of receiver circuits.

A 50-pin amphenol type female connector is provided on the front edge of the OPX. This allows the OPX System extensions to be cabled to the Main Distribution Frame (MDF). Twenty-five pair cabling must be prepared with a male connector to extend the OPX extension to the MDF. The cable should be routed through the bottom cable access area of the KSU or Expansion cabinet. The cable(s) then should be terminated on industry standard 66M1-50 punch-down connector block(s). After the amphenol type cable connector has been attached, the cable should be secured to a cable clamp at the bottom of the KSU or Expansion cabinet.

Connection from the OPX punch-down block to an FCC approved RJ21X connector can be done by cross-connect wiring. See Figure 1 for pair identification for each of the OPX circuits.

Table 2 Station Connecting Block (OPX)

Table 2 Clation Connecting Block (C) A)				
PAIR	PIN	COLOR	DESIGNATION	
1	26 01	WH/BL BL/WH	T 1 R 1	
2	27 02	WH/0R OR/WH	UNUSED	
3	28 0 3	WH/GN GN/WH	UNUSED	
4	29 04	WH/BN BN/WH	T 2 R 2	
5	30 05	WH/SL SL/WH	UNUSED	
6	31 06	RD/BL BL/RD	UNUSED	
7	32 07	RD/OR OR/RD	T3 R 3	
8	33 08	RD/GN GN/RD	UNUSED	
9	34 09	RD/BN BN/RD	UNUSED	
10	35 10	RD/SL SL/RD	T4 R4	

NOTE: PAIRS 11 THROUGH 25 UNUSED

SECTION 6 Programming

In customer data base entries, all OPX station extensions must be programmed with a station ID code of "5". This is done in "Station Attributes" (FLASH 50).

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SIEMENS TECHNICAL FACT NOTICE

No. SIS0104 November 7, 1989

CORRECTIONS TO THE SIEMENS 40/80 INSTALLATION AND MAINTENANCE MANUAL

Please replace the following pages of the Siemens 40/80 Description, Installation, and Operation manual, Issue 1, September 1988, with the attached pages.

In Issue 1, September 1988:

Add:

Page V, Issue Control Sheet to end of Table of Contents,

Replace:

Page 5-16, Table 5-4, and

Replace:

Page 5-19, Figure 5-11

In Table 5-4, and Figure 5-11, the SLT STATION OUT (W/GN pairs) and SLT STATION IN (W/BN pairs) were shown reversed. The attached pages show the correct wiring designations for the power fail transfer connections.

Attachments: 3

File a copy of this Technical Facts in your Master Technical Facts File and in your Siemens 40/80 Description, Installation, and Operations Manual, TEC#00SMN202.

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SIEMENS 40/80 ISSUE CONTROL							
ISSUE	UE DATE CHANGE						
1	1 SEP 88 7 NOV 89	First Draft TFN# SIS0104: Page V, Added Issue Control Sheet to Table of Contents Section Page 5-16, Changed Table 5-4 to show correct wiring designations for Power Fail Transfer circuits Page 5-19, Changed Figure 5-11 to show correct wiring designations for Power Fail Transfer circuits					

Table 5-1 Station Connecting Block (KSB)

Table 5-2 Station Connecting Block (KSB/OHVA)

PAIR	PIN	COLOR	DESIG	DESCRP
1	26	WH/BL	VT 100	
į	1	BL/WH	VR 100	
2	27	WH/OR	DT 100	
	2	OR/WH	DR 100	
3	.28	WH/GN		
!	3	GN/WH		
4	29	WH/BN	VT 101	
_	4	BNWH	VR 101	
5	30	WH/SL SL/WH	DT 101	
6	5 31	RD/BL	DR 101	
0	6	BL/RD		
7	32	RD/OR	VT 102	
	7	OR/RD	VR 102	
8	33	RD/GN	DT 102	
	8	GN/RD	DR 102	
9	34	RD/BN		
	9	BN/RD		
10	35	RD/SL	VT 103	
	10	SL/RD	VR 103	
11	36	BK/BL	DT 103	K
40	11	BL/BK	DR 103	, ,
12	37	BK/OR		
13	12 38	OR/BK BK/GN	VT 104	S
13	13	GN/BK	VR 104	
14	39	BK/BN	DT 104	
	14	BN/BK	DR 104	В
15	40	BK/SL		
	15	SL/BK		
16	41	YL/BL	VT 105	,
	16	BL/YL	VR 105	
17	42	YL/OR	DT 105	
	17	ORYL	DR 105	
18	43	YL/GN		
	18	GN/YL		
19	44	YUBN	VT 106	
20	19 45	BN/YL YL/SL	VR 106 DT 106	
20	20	SL/YL	DR 106	
21	46	VI/BL		
	21	BL/VI		
22	47	VI/OR	VT 107	
	22	ORM	VR 107	
23	48	VI/GN	DT 107	
	23	GN/VI	DR 107	
24	49	VI/BN		
	24	BN/∕∕I		
25	50	VI/SL	SPARE	
	25	SLM	SPARE	

PAIR	PIN	COLOR	DESIG	DESCRP
			_	
1	26	WH/BL	VT 100 .	
	1	BL/WH	VR 100	
2	27	WH/OR	DT 100	
	2	ORWH	DR 100	
3	28	WH/GN	OVT 100	
3				
	3	GN/WH	OVR 100	
4	29	WH/BN	VT 101	
	4	BN/WH	VR 101	
5	30	WH/SL	DT 101	
	5	SLWH	DR 101	
6	31	RD/BL	OVT 101	
	6	BL/RD	OVR 101	
7	- 1			K .
′	32	RD/OR	VT 102	L/
_	7	OR/RD	VR 102	
8	33	RD/GN	DT 102	_
	8	GN/RD	DR 102	S ,
9	34	RD/BN	OVT 102	
	9	BN/RD	OVR 102	
10	35	RD/SL	VT 103	В
-	10	SL/RD	VR 103	i
11	36	BK/BL	DT 103	i
- 11	j			1
	11	BL/BK	DR 103	/
12	37	BK/OR	OVT 103	l
	12	OR/BK	OVR 103	_
13	38	BK/GN	VT 104	0
	13	GN/BK	VR 104	,"
14	39	BK/BN	DT 104	
	14	BN/BK	DR 104	Н
45		BK/SL	OVT 104	
15	40		į.	:
	15	SL/BK	OVR 104	V .
16	41	YL/BL	VT 105	٧ .
1	16	BL/YL	VR 105	
17	42	YL/OR	DT 105	
İ	17	ORYL	DR 105	Α .
18	43	YL/GN	OVT 105	
,0		GN/YL	OVR 105	
40	18]
19	44	YL/BN	VT 106	
	19	BN/YL	VR 106	
20	45	YL/SL	DT 106	
	20	SL/YL	DR 106	
21	46	VI/BL	OVT 106	
	21	BL∕VI	OVR 106	
22		I	-	
22	47	VI/OR	VT 107	1
	22	OR/VI	VR 107	
23	48	VI/GN	DT 107	
	23	GN/VI	DR 107	
24	49	VI/BN	OVT 107	
	24	BN/VI	OVR 107	İ
25		VI/SL	SPARE	
25	50 25	SLM	SPARE	
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Table 5-3 Station Connecting Block (SLT)

PAIR PIN COLOR **DESIG** DESCRP 1 26 WH/BL VT 100 **BL/WH** VR 100 1 2 27 WH/OR 2 OR/WH 3 28 WH/GN --3 GN/WH 4 29 WH/BN VT 101 4 BN/WH VR 101 5 30 WH/SL 5 SL/WH 6 31 RD/BL 6 8L/RD 7 32 RD/OR VT 102 **VR 102** 7 **OR/RD** 8 33 RD/GN _-8 GN/RD _. 9 34 RD/BN --9 BN/RD 35 10 RD/SL VT 103 10 SL/RD **VR 103** 11 36 BK/BL 11 BL/BK --12 37 BK/OR S 12 OR/BK 13 38 BK/GN VT 104 L GN/BK 13 VR.104 14 39 BK/BN T 14 BN/BK 40 15 BK/SL 15 SL/BK 16 YL/BL 41 VT 105 16 **BLYL** VR 105 17 42 YL/OR 17 OR/YL YL/GN 18 43 18 GN/YL 19 YL/BN 44 VT 106 BN/YL 19 **VR 106** 20 45 YL/SL 20 SLYL 21 46 VI/BL --21 BLM 22 47 VI/OR VT 107 22 **ORVI VR 107** 23 48 VI/GN 23 GN/M 24 49 VI/BN 24 BN/VI 25 VI/SL 50 25 SL/VI

Table 5-4 Power Failure Transfer Unit Connections (PFT)

PAIR	PIN	COLOR	DESIG	DESCRP
1	26	WH/BL	CO1T-IN	
•	1	BL/WH	CO1R-IN	
2	27	WH/OR	SPARE	
-	2	ORWH	SPARE	
3	28	WH/GN	ST1T-OUT	
3	3	GNMH	ST1R-OUT	
4	29	WH/BN	ST1T-IN	
4	4	1	l i	
5		BN/WH	ST1R-IN	
5	30	WH/SL SL/WH	CO2T-IN	
•	5		CO2R-IN	
6	31	RD/BL	SPARE	
-	6	BL/RD	SPARE	
7	32	RD/OR	ST2T-OUT	
•	7	OR/RD	ST2R-OUT	
8	33	RD/GN	ST2T-IN	
_	8	GN/RD	ST2R-IN	
9	34	RD/BN	CO3T-IN	i
	9	BN/RD	CO3R-IN	
10	35	RD/SL	SPARE	
	10	SL/RD	SPARE	
11	36	BK/BL	ST3T-OUT	
	11	BL/BK	ST3R-OUT	Ρ
12	37	BK/OR	ST3T-IN	F
	12	OR/BK	ST3R-IN	_
13	38	BK/GN	CO4T-IN	F
٠.	13	GN/BK	CO4R-IN	
14	39	BK/BN	SPARE	T
	14	BN/BK	SPARE	
15	40	BK/SL	ST4T-OUT	
	15	SL∕BK	ST4R-OUT	
16	. 41	YL/BL	ST4T-IN	
	16	BL/YL	ST4R-IN	
17	42	YL/OR	CO5T-IN	
	17	OR/YL	CO5R-IN	!
18	43	YĽGN	SPARE	
	18	GN/YL	SPARE	
19	44	YL/BN	ST5T-OUT	:
	19	BN/YL	ST5R-OUT	
20	45	YL/SL	ST5T-IN	:
	20	SL/YL	ST5R-IN	į
21	46	VI/BL	CO6T-IN	į
	21	BĽ∕∕∕I	CO6R-IN	
22	47	VI/OR	SPARE	
	22	ORVI	SPARE	!
23	48	VI/GN	ST6T-OUT	ļ
-	23	GNM	ST6R-OUT	
24	49	VI/BN	ST6T-IN	
	24	BN∕∕I	ST6R-IN	
25	50	VI/SL		
_•	25	SL/M		:

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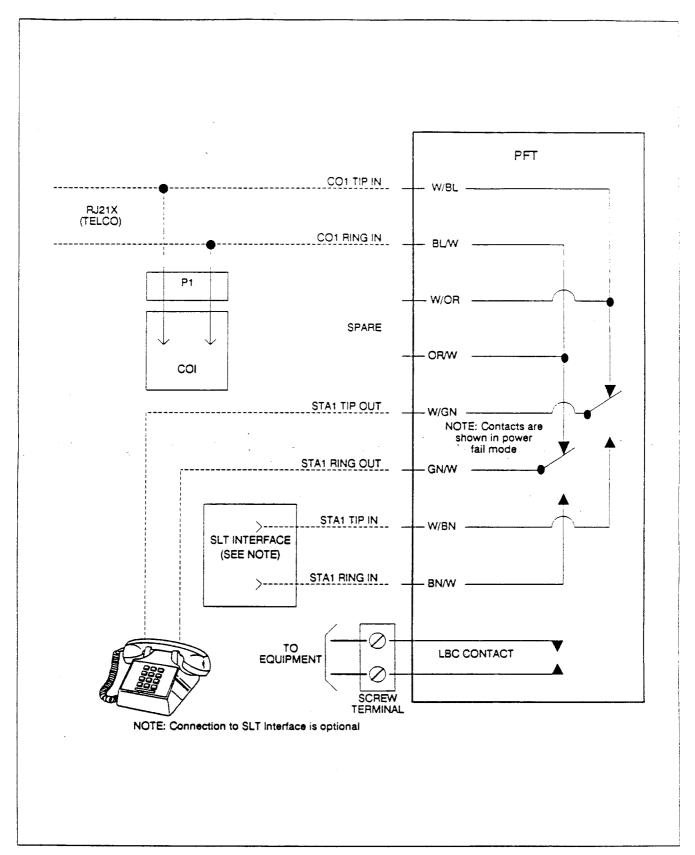


Figure 5-11 Power Failure Transfer Circuit

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SIEMENS TECHNICAL FACT NOTICE

No. SIS0106 November 28, 1989

NEW SIEMENS 40/80 SOFTWARE RELEASE

Siemens and TelPlus announces the release of Feature Package IV and V, Version 1.1F, software for the Siemens 40/80 Key Telephone System.

The new software, Version 1.1F, will be shipped as standard for Feature Package IV (23SMN005) and Feature Package V (23SMN006) beginning in December, 1989. The Following is a list of Enhancements provided in Version 1.1F.

FEATURE ENHANCEMENTS

1. Voice Mail Integration

The Voice Mail Integration is accomplished through "In Band" Signaling on analog SLT ports. Feature Package IV and V will offer the ability to configure up to eight (8) groups in the system. Each group can contain up to eight (8) voice mail stations each of which interfaces with a port on a SLT or OPX card.

Note: In addition to SLT or OPX PCB's, the VM feature also requires a Ring Generator (RG) and an APB (REV A) for proper operation.

2. Voice Mail Message Wait Indication

The Voice Mail Integration package also offers a unique Voice Mail Message Waiting whereby the voice mail can leave and cancel a message waiting signal to stations connected to the 40/80 system.

3. Call Forward - Busy, No Answer, and Busy/No Answer

In addition to the existing Station Forwarding three (3) new types of Station Forward have been added. Now Stations will have the ability to have calls forwarded when Busy, or when they don't Answer, or a combination Busy/No Answer to a designated station.

4. Call Forward - To Pilot UCD or Voice Mail Groups

Stations have been given the capability to forward Intercom or Transferred CO calls to Pilot UCD and Voice Mail Groups. The Station can utilize all forms of call forward when forwarding to Pilot numbers.

5. Directed Call Pick-Up of Ringing UCD Stations

Stations have been given the ability to perform a Directed Call Pick-Up to members of a UCD group. Stations attempting the pick-up do not have to be in the same pick-up group or be a member of the UCD group.

File a copy of this Technical Facts in your Master Technical Facts File and in your Siemens 40/80 Description, Installation, and Operations Manual, TEC#00SMN202.

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SOFTWARE ENHANCEMENTS

1. Camp-On Tone

In previous versions of Siemens 40/80 software the Camp-On tone presented to a busy station was heard by both the busy station and their outside party. This condition existed when the new 4080 OHVA keysets (non-display and display) were used. In version 1.1F, only the busy station will receive the Camp-On tone.

2. Auto-Attendant (SLT) CO Conference

In previous 4080 software versions, when Auto-Attendants were installed on SLT ports, CO lines were inadvertently locked out. If the Auto-Attendant attempted to transferred a CO line to an idle station in the H or P (Intercom mode) and then retrieved the CO line by performing a hook-flash, this could cause the CO line to be locked out from further activity. The system software version 1.1F has been enhanced to prevent this occurrence.

HOW TO OBTAIN ENHANCED SOFTWARE VERSION 1.1F

Version 1.1F will ship as the standard software in both Feature Package IV (TEC # 23SMN005) and Feature Package V (TEC # 23SMN006) Beginning in December, 1989.

INSTALLATION AND PROGRAMMING PROCEDURES

Refer to the software installation instructions shipped with each Feature Package for installation of the Feature Package onto the CPB board. Also see the attached Addendum to Issue 1 to the 40/80 Description Installation and Operation manual for more information and programming instructions.

Attachments: 2

File a copy of this Technical Facts in your Master Technical Facts File and in your Siemens 40/80 Description, Installation, and Operations Manual, TEC#00SMN202.

		SIEMENS 40/80 ISSUE CONTROL
ISSUE	DATE	CHANGE
1	1 SEP 88	First Draft
	7 NOV 89	TFN# SIS0104: Page V, Added Issue Control Sheet to Table of Contents Section Page 5-16, Changed Table 5-4 to show correct wiring designations for Power Fail Transfer circuits Page 5-19, Changed Figure 5-11 to show correct wiring designations for Power Fail Transfer circuits
	15 NOV 89	TFN# SIS0105: Page V, Updated Issue Control Sheet Added: Amplified Central Office (COA) Interface Board, Addendum, A-SIS0101 Added: Off-Premise Extension (OPX) Interface Board, Addendum, A-SIS0102
	28 NOV 89	TFN# SIS0106: Page V, Updated Issue Control Sheet Added: Voice Mail Integration, Voice Mail Message Waiting Indication, Call Forward - Busy No Answer, Call Forward - to Pilot UCD or Voice Mail Groups Directed Call Pickup, Addendum A-SIS0103.



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40/80 SOFTWARE FEATURE PACKAGES

- FEATURE PACKAGE I
- FEATURE PACKAGE IV
- FEATURE PACKAGE V
- FEATURE PACKAGE VI (AVAILABLE IN JUNE, 1990)

40/80 SYSTEM FEATURES FEATURE PACKAGE I

- 40/80 Basic System Features
- (Busy-No Answer Busy/No Answer) Enhanced Call Forwarding
- Limitations
- Voice Mail
- Automated Attendant
 - 32 Outside Lines
- 64 Stations

40/80 SYSTEM FEATURES FEATURE PACKAGE IV

- 40/80 Basic System Features
- (Busy-No Answer Busy/No Answer) **Enhanced Call Forwarding**
- Least Cost Routing (LCR)
- Uniform Call Distribution (UCD)
- Remote Administration
- Direct Inward System Access (DISA)
- 32 Outside Lines
- 64 Stations



40/80 SYSTEM FEATURES FEATURE PACKAGE V

- 40/80 Basic System Features
- (Busy-No Answer Busy/No Answer) Enhanced Call Forwarding
- Least Cost Routing (LCR)
- Uniform Call Distribution (UCD)
- Remote Administration
- Direct Inward System Access (DISA)
- 40 Outside Lines
- 80 Stations

40/80 FEATURE PACKAGE VI ENHANCEMENTS

- Basic Enhanced Flexibility
- Remote Maintenance
- Least Cost Routing
- Single Line Telephone Features
- Uniform Call Distribution
- Enhanced Voice Mail Integration

(Available in June, 1990)

ENHANCED FLEXIBILITY

Conference Enable/Disable Per Station

Privacy Release Per Station, Per CO Line

Personal Message Key (Code 78) On A Flex Button

• One Time DND

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ENHANCED FLEXIBILITY (Continued)

Flash Key On Intercom

 Preset Call Forward To VM, Hunt Group Or UCD Groups

Day & Night Class Of Service

Automatic Night Mode

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NAME IN DISPLAY



Call Back from Kandi 04/01/90 12:00pm Camp-On by Attendant 04/01/90 12:00pm

04/01/90 12:00pm

Do Not Disturb Doug Page From Terri

04/01/90 12:00pm

HUNT GROUPS

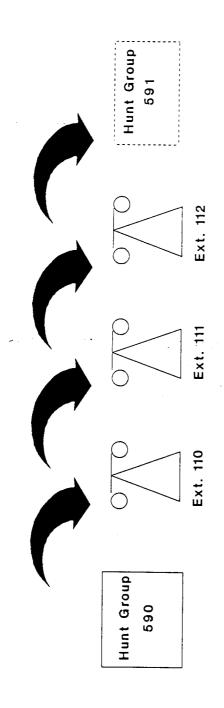
* 8 Groups Total * 8 Members Per Group

* Software Programmable

STATION

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PILOT



- Terminal Hunt
- Calls Directly To A Station In A Group Will Not Hunt

station to override a called stations H (handsfree) or P (call announce) intercom switch setting. A dial code has been added that is dialed in front of the extension number to force the tone ringing.

2.6 CO Line Ringing Assignment

Each CO line may be programmed (in data base admin) so that incoming ringing on the specified CO line(s) may be assigned initial ringing to one of the following destinations:

- one or more stations (Keyset or SLT)
- to a UCD, Voice Mail or Hunt Group
- Off-Net (via Speed Dial)

The ring-in will follow day Ring assignments unless Night Service mode is active, in which case all incoming CO calls will follow Night Ring assignments.

When ringing is assigned to a keyset, a direct line appearance or an idle Loop button must be available to receive the call. Station call forwarding of initial ringing CO call is possible and can be directed to other keysets with an available Loop button or direct appearance. If the initially ringing CO call cannot ring at the destination assigned, it will ring at the first Attendant station.

Note: You cannot Station Call Forward an initially ringing CO call to UCD, Voice Mail, or Hunt groups if the line is assigned to ring at more than one station.

2.7 Conference Enable/Disable

Programmable Per station
 This feature will allow the system to be administered on a per station basis for the

ability of a station to initiate a conference.

 Programmable Per CO Line
 CO lines can be individually programmed to allow Conference capabilities.

2.8 Day / Night COS of Service (COS)

This feature allows stations that are a certain COS during the day, to be assigned a different COS when the system is put in the night mode. The night COS goes into affect when the system is placed into the night mode, manually or automatically. This prevents the misuse of phones after hours.

2.9 One Time Do Not Disturb

Allows you to turn off muted ringing that occurs while you are off hook (handset or ON/OFF) on another call. Useful when you're having an important conversation and do not wish to be disturbed by ringing. The station while off hook (ON/OFF or handset) depress the DND button which eliminates muted ringing. When the station goes on-hook the DND button is extinguished and DND is canceled. This feature is not available to intercom Phone Box users.

2.10 Executive Override

This feature allows certain stations to be designated as executive stations with the ability to override and "Barge in" on other keysets engaged in conversation. In addition to the station programmable option a system programmable option will enable or disable a warning tone when the station marked as an executive is cut into the conversation.

2.11 Executive Speed Dial

2.12 Expanded station Speed Dial

Feature Package VI software expands the total number of pooled station Speed bins available in the 40/80 system from 640 to 1280. A station still will be able to store and access a maximum of 20 station speed dial numbers.

2.13 Flash On Intercom

This feature enables station users to utilize the Flash Key to terminate pages and intercom calls. While connected to a page zone or another internal station pressing the Flash key will terminate the call and return intercom dial tone.

2.14 Hunt Groups

The system can be arranged for up to eight hunt groups. Each hunt group can contain up to eight station each. Each hunt groups can be independently arranged to utilize either a pilot hunting technique or station hunting technique.

Pilot Hunting Incoming CO, transferred CO, and intercom calls can be directed to a pilot extension number of a hunt group. The system will search sequentially (in the order the extensions were entered in the data base programming) for an idle station in the group and will ring that station. Calls directed directly to stations (by calling the extension number) within the hunt group will not hunt but receive call progress tones from the extension.

Station Hunting

Incoming CO, transferred CO, and intercom calls that are presented to a busy, or DND station, that is a member of a Station Hunt group, will search sequentially (in the order the extensions were entered in data base programming) for an idle station in the group and will ring that station. Calls will still be allowed to be directed to the groups pilot number for hunting.

Hunt Group Chaining

Hunt Groups can be chained or joined together forming larger Hunt Groups. This is accomplished by assigning a pilot hunt group number as the last member of a group.

2.15 Least Cost Routing Enhancements

Default LCR Database

In an effort to decrease installation and set up time usually associated with LCR a default LCR data base has been incorporated into Feature Package VI. The default LCR data base will provide basic routing for local and long distance dialing.

- LCR Routing for Toll Information Calls
 This feature adds provisions to the LCR call
 processing which will allow common call
 routing for all toll information calls.
 1-(XXX)555-1212, (XXX)555-1212, 1-5551212 and 555-1212 calls will all be
 intercepted and sent to a selected route in
 the Route List Table. Numbers dialed will
 be integrated and if it is determined to be a
 toll information call, either preceded with an
 area code with or without or with a leading
 digit 1 or not, the call will be sent to the
 route designated in programming.
- "*" & "#" Entries in Insert Table



To provide for LCR compatibility with Centrex applications the digits "*" and "#" will be allowed as entries into the LCR Insert table.

2.16 Name in LCD Display

FP VI allows every extension (Key or SLT) the capability to program the users name, for that station, so that people using display telephones will see the name instead of the station number on their display. The name is programmed at each station by the user into station speed dial bin 00. When a name is programmed, the bin (00) is no longer used for station speed dial.

2.17 Night Service

- Automatic Night Mode Operation
 The 40/80 system can be programmed so that the system is automatically placed into night mode. A programmable weekly time schedule allows the system administrator to preset the time the system is put into night mode and the time to remove night mode on a daily basis including weekend operation.
- Night Class of Service (COS) The system allows each station to be assigned a different COS for night operation. The night COS goes into effect when the system is put into night mode manually or via the automatic schedule. Prevents the misuse of phones after hours.

2.18 Personalized Message Code on a Flex Key

This feature allows a station user to program the pre-selected message code (78) under a Flex key. This speeds access of the preselected messages.

In earlier versions you could only program a specific message on a flex key. Now you can program the [78] code on a flex key and then dial the code for any desired personalized message.

2.19 Privacy Release

Enabled Per station
 This feature allows each CO line to be individually programmed to enable or disable privacy release rather than on a system wide bases.

Privacy is insured on all communications in the system. If desired, the customer may elect to disable the Automatic Privacy feature on a per CO line basis. Thus allowing another station to join in on existing CO Line conversations.

Enabled Per CO Line

2.20 Remote System Monitor

The Remote Monitor feature provides capabilities which will benefit both the Field Service Technicians supporting the end user from Technical Assistance Center (TAC). Different levels of access, via password, allows authorized personnel to trace, monitor and "up-load" critical information directly from the 40/80 system remotely. This provides a much more accurate means of acquiring system information that leads to a quick resolution of problems that may occur. This is all done without interfering with ongoing call processing or normal system operation and in many cases without a site visit. An external modem connected to the CPB RS232-C is required for remote access.

Capabilities allowed and reserved for this "High level troubleshooting" in addition to the "Customer Technical Support features" are:

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- Monitor Mode
- Enable & Disable Event "Trace"
- Dump "Trace Buffer" (up-load)

2.21 Remote Maintenance

The Remote **Maintenance** feature allows the Distributors' technical staff to review the systems configuration data and individual card slot configuration data. This can be done "on site" using a data terminal or remotely using modem to modem access to a remote data terminal. In both cases connection to the RS232C connection on the CPB is required.

2.22 96 station Capability

Feature Package VI allows the two option slots in the Expansion KSU to be used for station PCB's. This will bring the total number of stations, key and SLT that the 40/80 system will support to 96 station. Both KSB's and SLT's can be installed into the two option slots in the expansion KSU.

Note: The Expansion KSU must be a Series 1 E-KSU for proper SLT operation. Contact your regional field service office for modification instructions to upgrade older E-KSU's.

2.23 UCD Enhancements

UCD Auto Wrap-Up /with Timer After completion of a UCD call (on-hook) the agent will not be subjected to another UCD call for the duration of the Auto Wrap-Up timer allowing the agent to finish call related work or access other facilities. This will allow agents to remove themselves from the group (ie. DND, Call Forward or originate another call. The auto wrap-up timer is programmed as part of the UCD

data base.

- Number of Calls In Queue Display
 There are two methods of viewing UCD
 Group call queue status.
 - 1. In-service UCD agents can see the quantity of calls in queue on the LCD of their station for the UCD group of which they are a member. If every member of a UCD group is busy and calls are in queue, the "XX CALLS IN QUEUE" display will be seen at all UCD members of that group. Note: If a UCD member is taken out of the group (ie. DND, Call Forward, etc.) they will not receive calls in queue.
 - 2. The group everflow station, or any station not assigned in a UCD group can by dialing the Display UCD Calls code (or a programmed FLEX button with this code) then the UCD group number can view the number of calls in queue for that UCD Group.
- Two Recorded Announcements for Transferred Calls

 FP VI will allow a CO call transferred into a UCD group to be routed to two recorded announcement if two are in operation. Currently in FP IV this is a limitation where transferred calls are only routed to the second RAN device.

2.24 Voice Mail Integration Enhancements

VM CO Disconnect Signal - Pass Thru To avoid Voice Mail ports from being tied up, as a result of callers abandoning the call or not exiting the VM system properly, a disconnect signal has been added to notify the VM system that a CO caller has abandon.



VM Tone Mode Calling Option
 Voice mail systems and/or Automated
 Attendants can utilize the Calling Station
 Tone Mode option. This is useful when
 using supervised transfer or call screening
 options on voice mail or auto attendant(s)
 requiring ringback tone for proper call
 handling.

3 SINGLE LINE TELEPHONE FEATURE ENHANCEMENTS

Single line Telephones have access to most of the system and station features listed in the previous section, however, additional features, listed below, are unique to Single Line Telephones.

3.1 SLT Account Code

SLT stations may enter an account code, up to 12 ligits in length, to identify calls for billing/tracking purposes. The account code may be entered either before the call or during the call (the outside caller is placed on hold while the account code is entered if during the call.). The account code will be recorded on the SMDR printout.

3.2 Personal Park

Single line telephones can be connected to two calls (Intercom or CO lines) at the same time and flip/flop between the two calls. This can be performed with originated or received calls. This feature is also used with SLT multi-line conference feature.

3.3 Conference /with Personal Park

Single Line Telephones (SLT) can initiate a conference between two outside (CO) calls. The

Personal Park feature is used in conjunction with the SLT conference code to make this possible. A combination of features are derived from these new dial codes (Personal Park, Flip/Flop, and Multi-line Conference).

4 ATTENDANT FEATURE ENHANCEMENTS

4.1 Attendant Disable Outgoing Access

The first attendant can disable CO lines, preventing outgoing access to those lines. This is useful for removing a faulty line from service, or for reserving CO lines for important use. All stations that can normally make calls on the lines are affected, but incoming calls are not affected. A CO line may be disabled while it is being used; when the trunk becomes idle, further outgoing access will be prevented.

4.2 Incoming CO Line Off-Net Forward

Allows the first attendant to forward incoming CO calls to an Off-Net location. The attendant must have a direct appearance of the CO line to be forwarded. Forwarding can be established on a per CO line basis, on a per CO line group basis, or all CO lines may be simultaneously forwarded to an off-net location.

4.3 Automatic Night Mode

In addition to the attendants capability to place the system into and out of night mode manually, by pressing the Night key, an automatic night mode schedule has been added to the system. The automatic schedule is set in data base programming on a week day bases, including saturday and sunday. The Attendant can override the automatic schedule by pressing the night key.

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5 PROGRAMMING

5.1 Executive Override Warning Tone

(This replaces the Automatic Privacy Option)

If this timer is to be changed:

a. Press FLASH and dial [12].

If you have a display telephone, you will see this display:

EXECUTIVE OVERRIDE YES/NO YES

- To make a change, press the top left button in the flexible button field. It will toggle on and off with each depression.
- LED off = Executive Override Tone disallowed
- LED on = Executive Override Tone allowed
- Press HOLD button. Display will now update.

This feature allows certain stations to be designated as "Executive" stations with the ability to override and "barge-in" on other keysets engaged in conversation.

An optional warning tone is programmed on a system wide basis to either enable it or disable the tone. This tone will be presented to all parties prior to actual cut thru of the third party.

5.2 UCD New Call Timer

If this timer is to be changed:

a. Press FLASH and dial [33].

If you have a display telephone, you will see this display:

UCD TIMERS RING XXX BGM XXX OVR XXX WRP XXX

- To make a change to the wrap-up timer, press Button #4 in the flexible button field.
- c. Enter 3 digits on the dial pad (000-999 sec.)
- d. Press HOLD button. Display will now update.

The currently fixed duration of the UCD Agent New Call Timer can now be flexibly assigned in programming. At the end of each UCD call, the UCD agent will be idle for the duration of the New Call timer allowing the agent to access other facilities before being subjected to UCD calls again. This will allow agents to remove themselves from the group (ie DND, UCD agent In/Out) or originate another call.

This timer is variable from 000-999 seconds.

Default is 04 seconds.

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5.3 Voice Mail CO Disconnect Signal

If this timer is to be changed:

a. Press FLASH and dial [37].

If you have a display telephone, you will see this display:

VOICE PREE MAIL 0 SUF E

- b. Dial [8] for Table 8. Then dial [0] for prefix.
- c. Enter 12 digit stream, including '*' and '#', which will be used as the disconnect signal.
- d. Press HOLD button. Display will now update.

To avoid Voice Mail ports from being tied up as a result of callers abandoning the call or not exiting the VM system properly, a disconnect signal can be added to the system to notify it that a call has been abandoned.

The 40/80 system will provide Loop Supervision monitoring while a CO call is connected to a port designated as Voice Mail.

If a disconnect signal is detected, the 40/80 will send a series of DTMF digits programmed in Database Administration to the Voice Mail port. This can be any digit stream up to 12 digits including "*" and "#"

5.4 Hunt Groups

If these are to be assigned:

a. Press FLASH and dial [38].

If you have a display telephone, you will see this display:

HUNT GROUP 590 ###,###, ###,###,###,####,####

- The top left button in the flexible button field will be lit for programming Hunt Group 590. Press a different flexible button 1-8 (590-597) to determine which Hunt Group is to be programmed.
- c. Enter the 3-digit station numbers up to a maximum of 24 digits (8 stations).
- d. Press HOLD betton Confirmation tone is heard.
- e. Press Button #9 (LED on) to indicate Station Hunting or (LED off) to indicate Pilot Hunting.

If a station is in DND or is forwarded to another station, it is considered busy.

Hunt groups can be joined together by programming another hunt group number as the last entry instead of a station number. This is not allowed if the group is specified as "station" hunting.

To remove stations from a hunt group, enter three ### (pounds) on the keypad and press HOLD button. This will remove all previous station in that group.

5.5 Weekly Night Mode Schedule

If these are to be assigned:

a. Press FLASH and dial [39].

If you have a display telephone, you will see this display:

NIGHT MODE SCHEDULE

- Press Button #1 (LED on) for automatic night mode or (LED off) for manual operation.
- c. Press Button #2. Dial a digit (0-6) for the day of the week followed by four digits to indicate the hour and minutes to end night mode.

DAY END START 0 0800 1700

- d. Then dial four digits to indicate the hour and minutes for the system to go into the night mode for that particular day.
- e. Button #3 will display the programmed times for each day one at a time.

This feature allows stations that are a certain COS during the day to have a different COS when the system is put in the night mode.

Night mode can be activated by one of two programmable methods: 1) Method 1 uses the current way of activating night mode manually by the attendant depressing the DND button. 2) Method 2 is via a programmed schedule. The schedule allows for programming the system on a daily basis to allow for weekend operation.

The default times for automatic night mode is as follows:

Monday thru Friday 08:00 17:00

Saturday and Sunday ##:## ##:##

(night mode operation)

An entry of "00:00 23:59" would indicate 24 hours of day mode.

5.6 CO Line Ringing Assignment

Each CO line in the system may be assigned initial incoming ringing to one of the following destinations:

- one or more stations (keyset or SLT)
- to a UCD, Voice Mail or Hunt Group
- Off-Net (via speed dial)
- a. Press FLASH and dial [40]

If you have a display telephone, you will see this display:

CO LINE ATTRIBUTES
SELECT A CO LINE RANGE

- Program Button 12 (SLCT) will be lit. Enter the 4-digit CO line range to be programmed (01-40). If only one line is being programmed, enter that number twice (0101).
- Press HOLD button. The following message will be displayed:

CO XX-XX DT CO UNA SUP DSA FL20 GRP1 COS5

d. Press Button 9 to toggle to the Ringing Assignment display. The display will show the following information:

CO XX-XX B RING DISP

Incoming calls directed Off-Net will be connected to an outgoing system speed bin. Stations that are assigned for initial ring-in can use a LOOP button(s) to answer the call(s).

CO lines assigned to ring multiple stations will not follow any stations forward to a UCD, Voice Mail, Hunt Group or Off-Net Forwarding to another station will be allowed.

Multiple station assignments are allowed for a particular CO line in a mixture of Day, Night, or Day & Night ring types. An incoming CO line may be programmed to any number of stations but it cannot be programmed to ring a mixture of stations and groups (ie. a Hunt Group and 4 stations, or more than one Hunt Group).

5.6 CO Line Ringing Assignment (Cont'd)

BUTTON

ATTRIBUTE

1

CO Ringing Assignments

2

Display CO Ringing Assignments

e. Press Button #1 to program ring assignments. The following information will be shown:

CO RING ASSIGNMENT ENTER DDDR

- f. Enter the 3-digit designation (DDD) and the single digit ring type (R) followed by the HOLD button.
- g. Press Button #2 to display ring assignments. Assignments will be displayed in sets of 8 up to the number programmed. Press Button #2 additional times to cycle to the next group of 8 ring assignments.

The following LCD format will be used to display the assignments:

DDDR DDDR DDDR DDDR DDDR DDDR DDDR

DDD= Destination, R=D for Day, N=Night or B=Both Day & Night.

Ring assignments will be continuous and will be displayed in order of the destination number from 001 to 987.

Valid 3 digit destinations are:

System Speed Bins 20-99
Station Numbers
Hunt Groups 1-8
Voice Mail Groups 1-8
UCD Groups 1-8

Valid Ring types are:

- 0 = unassigned (to delete a station)
- 1 = Day Ringing
- 2 = Night Ringing
- 3 = Day & Night Ringing

Multiple station assignments are accomplished by assigning another destination with ring status, DDDR, and pressing the HOLD button. This can be done for up to the maximum number of stations on the system.

5.7 Conference Enable/Disable (Per CO Line)

if any CO Line features are to be changed:

a. Press FLASH and dial [40]

If you have a display telephone, you will see this display:

CO LINE ATTRIBUTES
SELECT A CO LINE RANGE

- Program Button 12 (SLCT) will be lit. Enter the 4-digit CO line range to be programmed (01-40). If only one line is being programmed, enter that number twice (0101).
- c. Press HOLD button. The following message will be displayed:

COXX-XX DT CO UNA SUP DSA FLZO GRF1 COS5

- d. To program CO Line(s) for Conference Enable/Disable, use Button #13.
- LED on = Conference is enabled on CO Line
- LED off = Conference is disabled on CO Line
- e. Press HOLD button. Display will update.

CO XX-XX DT CO UNA SUP DSA FL20 GRP1 COS1 C This feature allows the system to be programmed on a per CO line basis for the ability to initiate a conference.

Only stations that have Conference enabled will be able to initiate a conference.

A station that is denied conferencing capabilities in programming can be a party to another stations conference provided that station does have conferencing privileges.

Conference is enabled for all CO lines in default.

,		

5.8 Automatic Privacy

If any CO Line features are to be changed:

a. Press FLASH and dial [40]

if you have a display telephone, you will see this display:

CO LINE ATTRIBUTES SELECT A CO LINE RANGE

- Program Button 12 (SLCT) will be lit. Enter the 4-digit CO line range to be programmed (01-40). If only one line is being programmed, enter that number twice (0101).
- c. Press HOLD button. The following message will be displayed:

CO XX-XX DT CO UNA SUP DSA FLZO GRP1 COS5

- d. To program CO Line(s) for Automatic Privacy, use Button #14.
- LED on = Automatic Privacy is enabled on CO Line
- LED off = Automatic Privacy is disabled on CO Line
- e. Press HOLD button. Display will now update.

CO XX-XX DT CO UNA SUP DSA FL20 GRP1 COS5 C P If desired, the system can be programmed to eliminate CO Line privacy, allowing another station to join in on existing outside line conversations.

If privacy is disabled and a station joins an existing call, both parties will hear an alert tone. (if programmed)

If privacy is enabled, only one other station may join in on an existing conversation.

Automatic Privacy is enabled for all CO Lines in default.

5.9 Conference Enable/Disable (Per Station)

If any Station features are to be changed:

a. Press FLASH and dial [50]

If you have a display telephone, you will see this display:

STATION ATTRIBUTES SELECT A STATION RANGE

- Program Button 12 (SLCT) will be lit. Enter the 6-digit Station range to be programmed (100-195). If only one station is being programmed, enter that number twice (100-100).
- c. Press HOLD button. The display updates to current programming for Page A:

XXX-XXX A PAGE DND LCOSO SPE QUE FWD

- d. To program Station(s) for Conference Enable/Disable, use Button #13.
- LED on = Conference is enabled on Station(s)
- LED off = Conference is disabled on Station(s)
- e. Press HOLD button. Display will now update.

NOTE: There is NO verification on the LCD display when Conference is enabled in Station Attributes.

This feature allows the system to be programmed on a per Station basis for the ability to initiate a conference.

Only stations that have Conference enabled will be able to initiate a conference.

A station that is denied conferencing capabilities in programming can be a party to another stations conference provided that station does have conferencing privileges.

Conference is enabled for all stations in default.

5.10 Executive Override

If any Station features are to be changed:

a. Press FLASH and dial [50]

If you have a display telephone, you will see this display:

STATION ATTRIBUTES
SELECT A STATION RANGE

- Program Button 12 (SLCT) will be lit. Enter the 6-digit Station range to be programmed (100-195). If only one station is being programmed, enter that number twice (100100).
- c. Press HOLD button. The display updates to current programming for Page A:

XXX-XXX A FAGE DND LCOSO SPD QUE FWD

- d. To program Station(s) for Executive Override, use Button #14.
- LED on = Executive Override is enabled on Station(s)
- LED off = Executive Override is disabled on Station(s)
- e. Press HOLD button. Display will now update.

NOTE: There is NO verification on the LCD display when Executive Override is enabled in Station Attributes.

This feature allows certain stations to be designated as "Executive" stations with the ability to override and "barge-in" on other keysets engaged in conversation.

An optional warning tone is programmed on a system wide basis to either enable it or disable the tone. This tone will be presented to all parties prior to actual cut thru of the third party.

Executive Override is disabled for all station in default.

5.11 Preset Forward

The remaining Station features are located and programmed on Page B.

a. Press Page B Button (Button #11 LED is lit).

If you have a display telephone, you will see this display:

XXX-XXX B ID0 COS1 1 SP0 AAAA BBBB CCC DDDDDDDD

- b. Press PREFW Button (Button #6 LED is lit) to program stations for preset forward to:
- another station in the system
- to a UCD, VM or Hunt Group
- Off-Net (via speed dial)...
- c. Enter a 3-digit number to determine the destination where calls are to be routed when the preset forward timer expires.

Valid 3 digit destinations are:

020-099	System Speed Bins 20-99
100-195	Station Numbers
590-597	Hunt Groups 1-8
690-697	Voice Mail Groups 1-8
890-897	UCD Groups 1-8

d. Press HOLD button. Display now updates.

This feature allows the system database to be configured so that incoming CO Lines, which are programmed to ring at a particular station, can be forwarded elsewhere in the system predetermined by programming. This feature is active if the station ringing is not answered in a specified time. This is particularly useful in "overflow" applications where a Voice Mail or Auto Attendant may be in use.

A station may have one designated preset forward location defined in the database.

Preset Call Forward is chainable only to other predatermined preset forward stations specified in the database up to a chain of 5 stations. If a CO Line forwarded by Preset Call Forward encounters a manually forwarded station (Call Forward - Station), or a station in DND, then the incoming CO Line will bypass that station and forward to the next in the chain. If that station is the last in the chain, then the call will not forward any further and will continue to ring at that station until answered or terminated.

Chainable Preset Call Forwarding will force the incoming CO Line to ring at each station preassigned in the database for the Preset Forward Ring Timer specified in the database before forwarding.

CO Lines can be forwarded to ring into a UCD, Voice Mail, Hunt Group or Off-Net from an attendant station. When the forward occurs to a group, the system will take control of the CO Line and any stations that were ringing will stop.

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5.12 Flexible Button Assignments

 To program flexible button assignment, press FLEX Button (Button #8 LED is lit) in the flexible button field.

If you have a display telephone, you will see this display:

FLEX BUTTON PROG ENTER BUTTON DATA

- When programming flexible buttons, first enter the 2-digit button number to be programmed (01-20). Then enter 1-digit to indicate button function:
- 0 = Multi function
- 1 = CO Line
- 2=Loop
- 3=Pooled Group

If a 0 or 2 (multi function or Loop) is entered, no further entries are required.

If a button is programmed as a CO Line button, enter the 2-digit CO Line number. NOTE: The ring status is not required in Feature Package VI since now the ring assignments are done in CO Line Attributes, Program Code 40.

If a button is programmed as a Pooled Group button, enter 1-digit to indicate which CO Line group will be accessed by that button.

Press HOLD button after making these entries.

Any time a display of button programming (default or changed) is needed, press the DSP button (Button #9 LED is lit) on Page B and it will display four button programming assignments (starting with the lowest button number). With each subsequent depression of the DSP button, the next four buttons will be displayed. The following message is shown on the display:

BUTTONS XXX-XXX BB123 BB123 BB123 BB123 BB123

Where: BB = Button Number, XXX = Station Number, 123 = Button function.

Refer to programming section of 40/80 manual for button functions.

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5.13 Automatic Privacy

a. Press the Station SLCT Button (Button #12).

STATION ATTRIBUTES
SELECT A STATION RANGE

- b. Enter the 6-digit Station range to be programmed (100-195). If only one station is being programmed, enter that number twice (100100).
- Press HOLD button. The following message will be displayed:

XXX-XXX A PAGE DND LCOS1 SPD QUE FWD

d. Press Page B Button (Button #11 LED is lit). The following message is displayed:

XXX-XXX B ID0 COS1 1 SP0 AAAA BBBB CCC DDDDDDDD

- To program Station(s) for Automatic Privacy, use Button #13.
- LED on = Automatic Privacy is enabled on Stations(s)
- LED off = Automatic Privacy is disabled on Station(s)
- e. Press HOLD button. Display now updates.

NOTE: There is NO verification on the LCD display when Automatic Privacy is enabled in Station Attributes.

If desired, the system can be programmed to eliminate CO Line privacy, allowing another station to join in on existing outside line conversations.

If privacy is disabled and a station joins an existing call, both parties will hear an alert tone. (if programmed)

If privacy is enabled, only one other station may join in on an existing conversation.

Automatic Privacy is enabled for all stations in default.

5.14 LCR "*" and "#" Enhancement

If you are in the program mode, continue using the program codes. If you are starting to program here, enter the program mode first.

NOTE: LCR does not require FLASH 90 for permanent update. LCR should be disabled during programming.

a. To program the system for Least Cost Routing, press FLASH and dial [61]. The following message is shown on the display phone:

LCR TABLES
SELECT A TABLE

b. To program the Insert/Delete Table, Press the IN/DL Button (Button #5). The following message is shown on the display phone:

DIGIT INSERT/DELETE ENTER TO X DOD HOLD

Where: TT=Table Number 00-19

X=0 (Delete numbers in front of number dialed) or "1" to insert numbers in front of number dialed, or "2" to insert numbers behind number dialed.

DDD = digits (up to 20 digits can be inserted and up to 16 deleted. "*" and "#" are now valid entries in the Insert Table. Press PICKUP Button for pause.

"*" and "#" can not be used as delete characters in the Insert/Delete Tables

c. Press HOLD after programming each table. Display will now update.

In the Insert/Delete tables for LCR programming, both the "*" and "#" will be allowed as valid digits for inserting digits dialed over the network. The "*" and "#" are valid entries for adding digits in front of or behind the number dialed.

The "*" and *#" can not be used as delete characters in the Insert/Delete Table.

5.15 Least Cost Routing for Toll Information Calls

If you are in the program mode, continue using the program codes. If you are starting to program here, enter the program mode first.

NOTE: LCR does not require FLASH 90 for permanent update. LCR should be disabled during programming.

a. To program the system for Least Cost Routing, press FLASH and dial [61]. The following message is shown on the display phone:

LCR TABLES ENTER BUTTON NUMBER

 To program LCR for Toll Information Calls, press the TOLL Button (Button #8). The following message is shown on the display phone:

> LCR ROUTE FOR 555-1212 ENTER ROUTE

- Enter 2-digit Route List number (00-15) for the Route to be referenced in the Route List Table.
- d. Press HOLD after programming the Route number. Display will now update.

This feature adds provisions to the LCR call processing which will allow common call routing for all toll information calls. Both 1-(XXX)555-1212 and (XXX)-555-1212 calls will be intercepted and sent to a selected "Route List" of the "Route List Table". The number dialed will be "looked at" before reaching the "Three Digit Table" and if it is determined to be a toll information call, preceded with an area code with or without a leading digit 1, the call will be sent to the "Route List" assigned in programmed for the LCR feature.

Default programming for Toll Information Calls will be to Route List table zero (0) which will allow toll information calls to be placed on the system at default.

The database route assignment for Toll Information will be printed using the system Print Routine (80).

A Toll Information route will be chosen over a 3-digit or 6-digit route assignment if both are assigned.

40/80 System Numbering Plan

100-195	Station International
3	Station Intercom Numbers Executive Override
296	Incoming CO Line Off N O
297	Incoming CO Line Off-Net Call Forward - 1st Designated Attendant
298	Attendant CO Line Disable/Enable
5#xxx	Tone Mode Ring Option
590-597	Hunt Group Pilot Numbers
60	Voice Mail enable MSG Wait
61	Voice Mail cancel MSG Wait
690-697	Voice Mail Group Pilot Numbers
74	LCR Queue Cancel
75	Night Answer SLT and Keyset
76	Time and Date Programming- Attendant
77	Background Music
78 -	Personalized Messages (Key and SLT)
790-795	Call Park
80	Account Code Enter
81	CO Group 1 (if LCR enabled
82	CO Group 2
83	CO Group 3
84	CO Group 4
85	CO Group 5
86	CO Group 6
87	CO Group 7
890-897	UCD Group Pitot Numbers
9	CO Group 1 or LCR if enabled
0	Attendant
*1	Internal Zone 1
* 2 *3	Internal Zone 2
*4	Internal Zone 3
*5	Internal Zone 4
*6	Internal All Call
*9	External Page
*0	Meet Me Page Answer
**	All Call
#1	Database Admin. Access
#2	SLT DND
#3	SLT Call Forward
#4	SLT Speed Dial Program
#5	SLI Message Wait/Callback Enable
#6	SLI Message Wait/Callback Return
#7100-7179	SLI Group Call Pickup
#790-795	SLT Directed Call Pickup
#8	Call Park Pickup
#9	SLT Clear Call Forward, Personalized Messages and DND
#0	Thous Did McC622
##	SLT Flash Command on CO
# *	SLI CO Line Queue
	SLT Camp-on
392	SLT Conference w/Personal Park
SPD + *	SLI Personal Park
SPD + #	Save Number Redial Last Number Redial
OI D T #	



A Siemens Company

DOC: <u>16</u> NO: ___

PRODUCT LINE:	Siemens 40/80 Hybrid Key Telephone System	
SUBJECT:	APB Modification	DATE: April 13, 1990
ISSUED TO:	Recipients of Service Guidelines for the Siemens 40/80 Hybrid Key Telephone System	

SERVICE BULLETIN

PRODUCT:

40/80 APB board TEC # 23SMN012

APPLIES TO ISSUE:

1 (manufactured before November 1989)

MODIFICATION DESCRIPTION:

This modification increases the DTMF signal level on the intercom path to enhance the "In-Band" signaling for connection to voice mail devices. This modification is only required when installing a voice mail onto the 40/80 system that has an Issue 1 APB (manufactured before November, 1989).

MATERIALS NEEDED:

- Solder Iron
- Lead Cutter
- Desolder Tool
- Small Long Nose Pliers
- 6 1K ohm 10% 1/4 watt Resistors
- Revision Label (adhesive)

i.e.

Rev A

INSTRUCTIONS:

NOTE: All work to be done in an ESD safe area with a wrist strap connected to the work station ground!

- Place the APB board on the ESD safe work station.
- 2. Locate Resistors R40 R45 (47K ohms).

Note: R40, R41, R43, R44 are located by the 8 pin IC labelled G32 on the PCB. R42 and R45 are located by the 14 pin IC labelled G13 on the PCB (see attached figure 1).

SUPERSEDES:

ISSUED: 4/90

PAGE 1 of 3

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DOC: <u>16</u> NO: ___

A Siemens Company

- Carefully desolder and remove the resistors (R40 R45) from the PCB.
- 4. Insert the 1K ohm resistors in R40-R45 and solder. Trim the excess leads.
- 5. Adhere the revision label (or mark with a permanent marker) on the PCB near the white silkscreened PCB identifier (see figure 1) "Rev A". Note, also mark the label of the unit box if applicable.

Attachment: 1

SUPERSEDES:

ISSUED: 4/90

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DOC: <u>16</u> NO: ___

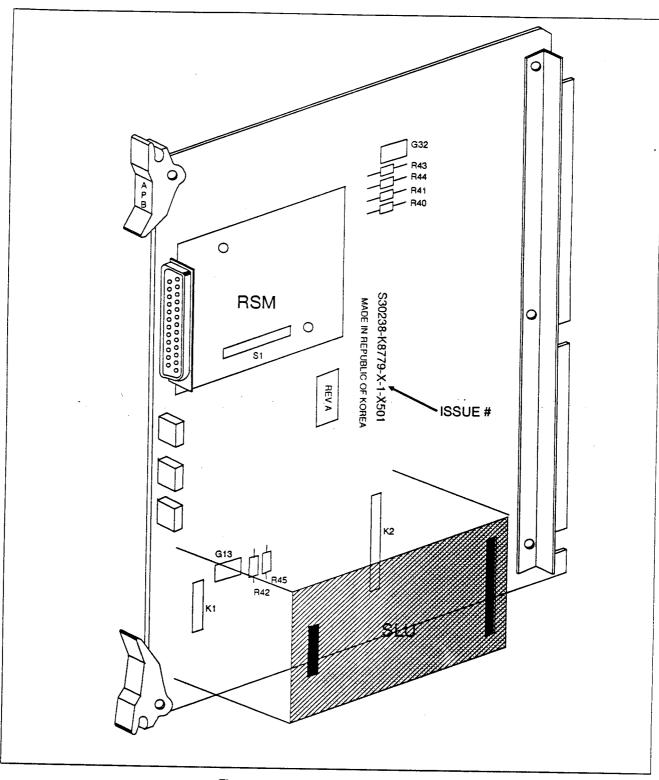


Figure 1 Application Board (APB)

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DOC: <u>16</u>	NO:
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PRODUCT LINE:	Siemens 40/80 Hybrid Key Telephone System	
SUBJECT:	Expansion KSU Modification	DATE: April 13, 1990
ISSUED TO:	Recipients of Service Guidelines for the Siemens 40/80 Hybrid Key Telephone System	

SERVICE BULLETIN

PRODUCT:
APPLIES TO ISSUE:

Expansion KSU, TEC # 20SMN004

1 (with a date code 908 or earlier)

MODIFICATION DESCRIPTION:

On Expansion KSU's manufactured before August 1989, this modification must be preformed for proper operation of Single Line Telephone Interface boards (SLT's) in the two Option slots. This modification increases the maximum number of station ports supported by the Siemens 40/80 Key Telephone System, from 80 to 96. Expansion KSU's manufactured after August 1989 will not require this modification, and many can be identified by a Series 1 mark located on the E-KSU serial number label.

MATERIALS NEEDED:

- Solder Iron
- Solder
- 30 AWG insulated jumper wire (minimum 6")
- # 2 Phillips screwdriver
- Wire Cutter
- Small Long Nose Pliers
- 1 Revision label

Rev A

- 2 Series labels (adhesive) or \$1 stamp. i.e.

S1

INSTRUCTIONS:

NOTE: All work to be done in an ESD safe area with a wrist strap connected to the work station ground!

1. Place the KSU with the front cover on the ESD safe work surface.

SUPERSEDES:

ISSUED: 4/90

PAGE 1 of 2

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DOC: <u>16</u> NO: ___

- Remove the six (6) screws that secure the back plate (cover) to the KSU.
- The Motherboard of the Expansion KSU (MBII) should now be exposed. Locate the silkscreen that identifies the edge connector(s) as:
 KSI 10, APL, APL (two APL connectors)
 The jumpers will be connected between these locations (see figure 1).
- 4. a) Connect from A22 (IDT T) of edge-connector KSI 10 to A22 of card edge-connector APL (Option 1) and APL (Option 2) with jumper wire.
 - b) Connect from B22 (IDT R) of edge-connector KSI 10 to B22 of card edge-connector APL (Option 1) and APL (Option 2) with jumper wire.

NOTE: This modification "bridges" the "A22" and "B22" solder traces to the two Option (APL) slots to allow KSI, KSI-OHV, SLT, and OPX pcb's to function.

- 5. Replace the back plate (cover) and install the screws. Tighten the screws, do not over-tighten.
- 6. Place the E-KSU upright and remove the front cover. Adhere the Revision "A" sticker near the top right portion of the mother board II.
- 7. Mark the unit serial number label located inside the KSU (on the lower card edge rail) with the "S1" label. Also mark the unit box label with "S1" if applicable. The "S1" mark may be applied using a label, or a permanent marker may be used.

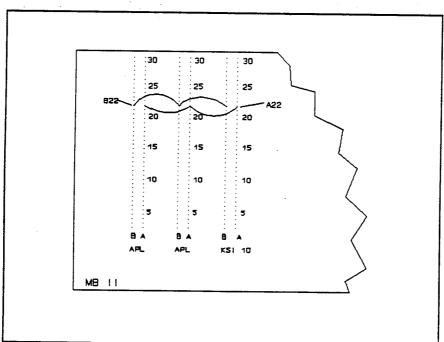


Figure 1 - Mother Board II (viewed with the back cover removed)

Siemens

40/80



HYBRID KEY TELEPHONE SYSTEM

FEATURE DESCRIPTIONS, SERVICE CONDITIONS, AND DISPLAY INDICATIONS

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ACCOUNT CODE - FORCED

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

When programmed, the system requires that all CO/PBX/CENTREX line calls have up to a 12-digit account code prior to processing the call. If the account code is less than 12 digits, an asterisk(*) can be entered.

Forced Account Code is only required to allow a user to overcome toll restriction and retain a record of it.

OPERATING PROCEDURE

- a. Press pre-programmed account code button.
- b. Dial account code up to 12 digits. (The other party cannot hear the digits being dialed.)
- c. If account code is less than 12 digits, an asterisk (*) must be entered to return to the call.

SERVICE CONDITIONS

- a. The systems database must be programmed for either YES or NO for this feature. The system default value is NO.
- b. Account codes cannot be included as a part of a speed dial.
- c. This feature requires the use of a 40/80 Key Set.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the idle mode, the following display is shown:

918005437309 LINE 08 00:00:00



ACCOUNT CODES

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

An account code is the last field within Station Message Detail Recording (SMDR) that provides the ability to track specific calls by entering up to a 12-digit identifier. The use of forced Account Codes is optional, and is offered on a system-wide basis.

OPERATING PROCEDURE

When connected to an outside line call or just after the other party has hung up.

- a. Press pre-programmed account code button.
- b. Dial account code, up to 12 digits. (The other party cannot hear the digits being dialed.)
- c. If the account code is less than 12 digits, an asterisk (*) must be entered to return to the call.

SERVICE CONDITIONS

A printer or call accounting device must be attached to review the account code print out.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the idle mode, the following display is shown.

918005437309 Line 08 00:00:000

ADD-ON CONFERENCE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Two internal stations can engage in a conference with one external party; or up to five internal parties can set up a conference.

OPERATING PROCEDURE

While engaged in a conversation with either an internal or external party, press the CONF button and then either press another line key and dial another party or press a DSS/DLF button. Upon connection to the second call, press the CONF button again to initiate the conference.

SERVICE CONDITIONS

- a. Every station can establish one CONFERENCE at a time.
- b. The system limit is based on the number of Central Office/ PBX/Centrex lines and stations.

DISPLAY INDICATION

CONFERENCE 08/08/88 09:45 AM

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

There are two control contacts which may be individually programmed as either A-lead indication (to control ancillary equipment) or Loud Bell Control. When programmed as A-Lead indication and assigned to a CO line, the corresponding contact closes whenever that CO line is accessed by a station.

OPERATING PROCEDURE

No special operating procedure is required for this optional feature.

SERVICE CONDITIONS

The system must be equipped with a PFTU to activate one A-Lead indication. The system can have a maximum of two cards.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.

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SIEMENS KEY SYSTEMS

SECTION: 40/80

FEATURE DESCRIPTION

Stations allowed to make pages may make voice paging announcements to all idle stations, phone boxes, and external paging ports at the same time.

OPERATING PROCEDURE

- a. Lift handset and dial the paging code (*0) or press programmed button.
- b. Speak in normal tone of voice to deliver message.

SERVICE CONDITIONS

- a. The system must be equipped with an APB card to activate External Paging.
- b. One page can be activated at a time.
- c. Page Warning Tone Determines whether a page warning tone is sounded over the Key Telephone speakers or external paging speakers.

Default is yes.

- d. Page Timeout Timer Determines the maximum length of a page. The system will automatically disconnect the page at the end of this time unless the person making the page has already hung up.
 - Default is 15 seconds and is variable from 01 to 60 seconds. A 00 entry disables the timer and pages will not be limited in length.
- e. Page Access Stations can individually be allowed or denied the ability to make pages. Allowed by default.
- f. When using external equipment to activate multi-zone and/or talk-back paging through the APB card, you may not use "ALL CALL PAGING"

DISPLAY INDICATION

CALLING STATION
DISPLAY

CALLING STATION DISPLAY

ALL CALL PAGE 12/06/88 10:48 am PAGE FROM STA 105 12/06/88 10:45 am

AMPLIFIED HANDSET

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

An amplified adapter may be connected to the Siemens Key Set handset to provide amplification for hearing impaired users or for use in noisy environments.

OPERATING PROCEDURE

The suggested amplified adapter, Plantronics/Walker W-10 unit, has a rotary volume control to adjust the volume higher or lower.

SERVICE CONDITIONS

One Plantronics/Walker W-10 unit must be purchased per station requiring amplification.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the idle mode, the following display is shown:

Station 100 12/10/88 09:45 am

ANNOUNCEMENT INTERFACE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The Recorded Announcement (RAN) feature is used with the Uniform Call Distribution (UCD) feature to provide a Recorded Announcement to unanswered incoming CO calls or calls waiting in queue for an available UCD station. The system can be programmed to connect the waiting caller to a different RAN port for the second and subsequent RAN messages.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The RAN feature is used with the (UCD) feature to provide a Recorded Announcement to unanswered incoming CO calls or calls waiting in queue for an available UCD station. The System may be programmed to provide this announcement at specified RAN output ports on the System (unused SLD and COI ports, and the APB RAN port). The System can be programmed to connect the waiting caller to a different RAN port for the second and subsequent RAN messages.

For connections made on the MOD 3 modular jack of the Applications Board (APB), the VT and VR pair connect to the customer supplied Recorded Announcement device. The CTLT and CTLR pair are the control contacts that provide closure (momentary) when a call is connected to the RAN voice pair (VT, VR). The Sense leads are used by the 40/80 system to detect contact closure provided by the RAN device when the message is completed.

When a CO line port is used, a 24V dc power source must be connected to the CO line port for the talk battery. A Loud Bell Control contact assigned to that CO line port in programming provides a contact closure to start the Recorded Announcement device.

When an SLT port is used, the RAN device must be configured for ring trip operation. The 90V ac voltage sent to the SLT port is recognized by the RAN device, which then answers the call.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.



SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Using the Preset Call Forward feature, any station that receives Central Office/PBX/Centrex ringing may have that station forwarded to ring at a another station after a predetermined period of time.

OPERATING PROCEDURE

This feature must be programmed into the system database during programming.

After the second, third, fourth (etc.) station rings, the original station may still answer the ringing line.

SERVICE CONDITIONS

- a. Every station may be programmed to ring at one other station. There is no limit to the number of forwards that one station may receive. Each station must have the line appearance.
- b. The systems default value entry is disabled at all stations. It can be activated on a per-station basis.
- c. The systems timer default value for Preset Call Forward is 30 seconds, and is variable from 00 to 99 seconds. The timer may also be deactivated.

DISPLAY INDICATION

	FORWARD	RING		
LINE	16	09:45	am	

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ATTENDANT OVERRIDE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The DSS terminal (using MAP 1) provides an override key allowing the attendant with a DSS to ring a busy station or a station in DND. While busy, pressing the override key provides override tone and a five-second delay before voice cut-through to the called party occurs, automatically placing any outside line call on Hold.

OPERATING PROCEDURE

Press the Attendant Override button on the DSS/BLF console.

SERVICE CONDITIONS

- a. A DSS/BLF/DLS terminal programmed in MAP1 can use this system feature.
- b. A maximum of three Mapis could utilize the Feature.
- c. The systems database must be programmed for either YES or NO for this feature. The system default value is NO.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

CALL TO STA 101 08/08/88 09:45 am CALL FROM STA 100 08/08/88 09:45 am

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SIEMENS KEY SYSTEMS

SECTION: 40/80

FEATURE DESCRIPTION

The system identifies a maximum of three programmable stations as attendants for line recalls and attendant features. The first programmed attendant can enter system date and time information as well System Speed numbers from this position without entering the programming mode. The 40/80 System is placed in Night Service by any programmed attendant pressing the DND button.

OPERATING PROCEDURE

Time and Date Programming:

This feature allows the first programmed attendant to set the time and date without entering the programming mode.

Setting System Time and Date:

System time and date must be set by the first programmed attendant.

a. Dial 76 on the dial pad. Confirmation tone is heard.

YYMMDDHHMM

b. Enter date and time as follows:

where:

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
YY = year	00-99
MM = month	01-12
DD = day	01-31
HH = hour	00-23
MM = minute	00-59

When the correct number of digits is entered, confirmation tone is heard and the display updates.

SERVICE CONDITIONS

Three Stations maybe assigned as attendants.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station; For example, if the station is in the idle mode, the following display is shown.

DATE 12/10/88	&	TIME 09:45	am	

ATTENDANT RECALL

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A held CO call left unattended by a station recalls the attendant(s) after a programmable period of time. A recalling CO line flashes at a distinctive rate that identifies the originating station of the unanswered call.

OPERATING PROCEDURE

When a recall occurs, the attendant must go off-hook and press a line key, or, if Preferred Line Answer is activated, just go off-hook.

SERVICE CONDITIONS

The systems timer default value for Attendant Recall is one minute, and is variable from 00 to 60 minutes. The timer can also be deactivated.

DISPLAY INDICATION

RECALL FROM STA 101 LINE 16 00:00:05

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ATTENDANT SEARCH

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The Attendant Search feature enables a user to make a series of intercom calls without hanging up the handset. An intercom connection is switched to another station whenever a DSS key is pressed. Pressing the next DSS key terminates the previous intercom call.

OPERATING PROCEDURE

- a. When attempting to locate a party, press a station key to signal a station.
- b. If the party is not located, press another station key to continue the search, or press the TRANS button and dial the station number.
- c. If the party is not located, press the TRANS button again and dial another station number to continue the search.
- d. When the called party answers, hang up to complete the transfer.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

CALL TO STA 101 08/08/88 09:45 am

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SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A station can initiate an automatic callback request to another busy station. As soon as that station becomes idle, the station that left the callback request is signaled.

OPERATING PROCEDURE

If you dial a telephone that is busy or in DND and want to leave a Callback indication:

- a. Press CALL BACK button.
- b. Hang up.
- c. When busy station hangs up, you will be signaled.
- d. Answer the call. The station you called will then be signaled. (If your station is busy when signaled, an automatic MSG WAIT is placed at your phone.)

Only one Callback request can be left at a station; the second request will receive busy.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

CALL BACK FROM STA 100 08/08/88 09:45 am

CALL FROM STA 114 08/08/88 09:45 am

AUTOMATIC HOLD

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Automatic Hold is provided whenever an attendant with a DSS/BLF/DLS console presses a DSS extension or page access button while engaged in a call; or when a key set user presses a programmed DSS or feature key.

OPERATING PROCEDURE

- a. Press station key of the party to be called (if programmed at your phone); or dial the station number (100 to 179).
- b. Ringing is heard if the called station is in the T answering mode; or three bursts of tone are heard if the called station is in the H or P position.
- c. Lift handset or use speakerphone; tone bursts stop.
- d. Hang up to end call.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

CALL TO STA 101 08/08/88 09:45 am

AUTOMATIC LINE SELECTION

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

With Automatic Line Selection, the user can select an outside line, intercom station, speed dial button, or dial a feature and automatically place the phone in the dialing mode without pressing the ON/OFF button or lifting the handset.

OPERATING PROCEDURE

- a. Press outside line button.
- b. ON/OFF button lights and dial tone is heard.
- c. Dial desired party.
- d. When called party answers, lift handset to speak or use speakerphone.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

18005551212 LINE 16 00:00:05

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AUTOMATIC PAUSE INSERTION

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

If a flash is programmed into system and station speed dial numbers and last number redial numbers, a pause is automatically inserted after the flash. A pause is also automatically inserted after a PBX/Centrex dialing code is used and after a pulse to tone switchover is programmed into speed dial numbers.

OPERATING PROCEDURE

While programming speed dial, press the HOLD button.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

9500777P1234567 SPEED 10 09:45 am

AUTOMATIC PRIVACY

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Privacy is automatically provided on all calls. If one station is conversing, another station cannot intrude on that line. The Automatic Privacy feature can be disabled, allowing another station to join in on existing CO line conversations.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

- a. The system default value entry is enabled for all stations. It can be deactivated on a per-system basis by the installer.
- b. Three tone bursts are heard by both stations and the outside party. The tone cannot be disabled.
- c. Only one station may be added to an existing conversation between an outside caller and internal station.

DISPLAY INDICATION

xxx105xxx Line 1 00:00:00

AUTOMATIC PRIVACY RELEASE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Privacy is automatically provided on all communications in the system. If desired, the system can be programmed to eliminate privacy, allowing any station to join an existing Central Office/PBX/Centrex line conversation.

OPERATING PROCEDURE

When privacy is set, a busy tone is heard when a station user tries to enter a conversation. When privacy is not set, a station user may go off-hook and enter a conversation by pressing a Central Office/PBX/Centrex line.

SERVICE CONDITIONS

- a. The systems default value entry is enabled for the system. It can be deactivated on a per-system basis.
- b. Three tone bursts are heard by both stations and the outside party cannot be disabled.
- c. Only one station may be added to an existing conversation between a outside caller and internal station.

DISPLAY INDICATION

xxx105xxx LINE 1 00:00:00

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BACKGROUND MUSIC

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Key telephone and phone box users may receive music over their speakers when an optional music source is connected to the system. The music can be turned on or off and the volume adjusted at each key telephone or phone box. The maximum loudness level can be adjusted on the KSU.

This feature can be allowed or denied on a system-wide basis by programming.

Phone boxes are programmed for music by disabling DND at the station.

OPERATING PROCEDURE

- a. Press [77] on the dial pad or programmable button (music is heard)
- b. Press [77] or programmable button again and music is discontinued. (When you pick up the handset or press the ON/OFF button, music is discontinued automatically.)

SERVICE CONDITIONS

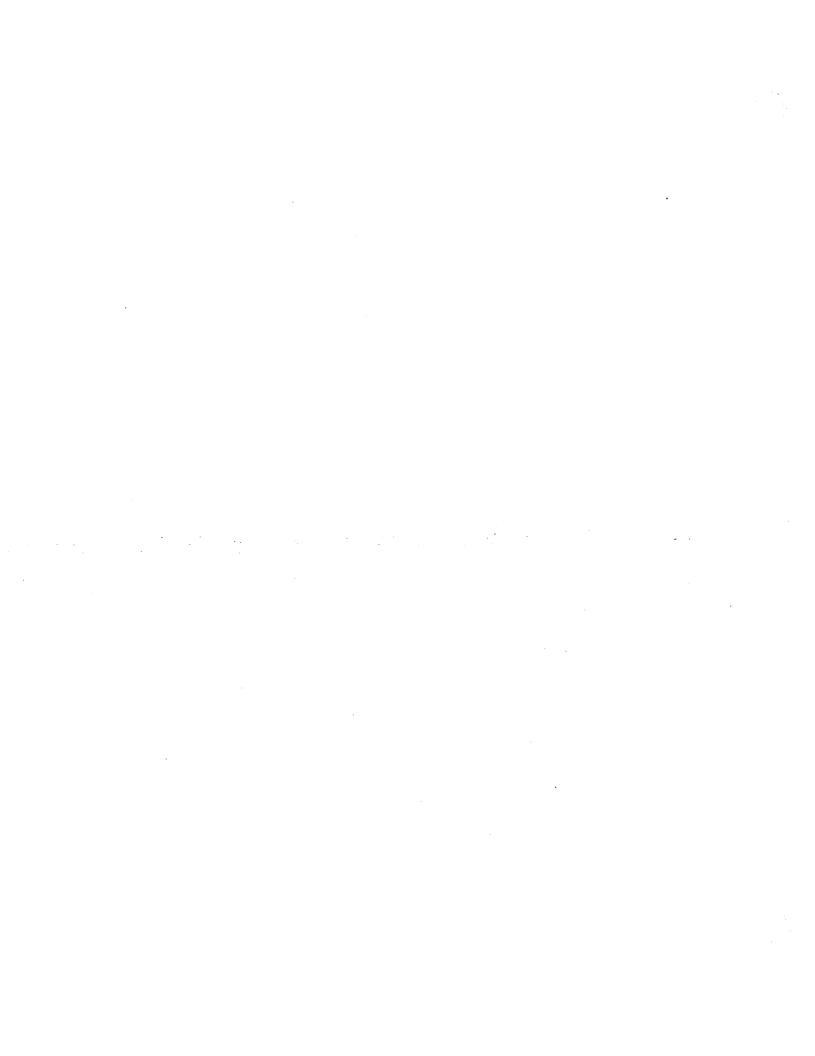
The suggested music source is the Valcom V-2950 FM Tuner. The same music source can be used concurrently as a Music-On-Hold and as background music for a paging system.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station; For example, if the station is in the Idle mode, the following display is shown.

Station 100 12/10/88 09:45 am

Bulground Music + Mot are 2 separate features



BATTERY BACK-UP (MEMORY)

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A long-life lithium battery is provided inside the KSU to prevent loss of system programming in the event of a power failure or the system power being turned off.

OPERATING PROCEDURE

This feature activates automatically upon a power failure condition.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

When the optional Battery Charging Card and maintenance-free batteries are installed, full system power can be maintained in the event of commercial power failure. Calls in progress when power fails will continue without interruption. The batteries are recharged when the system returns to normal AC operation.

OPERATING PROCEDURE

This feature activates automatically upon a power failure condition.

SERVICE CONDITIONS

- a. The system must be equipped with a BCB card and batteries.
- b. The duration of battery backup is based on the configuration of the system and the size of the battery. Three different configurations are available: 7, 14, and 40 amperes.

Battery Backup Chart (CO Lines Ports/Station Ports)

Dahhama Ama	Co	nfiguration	
Battery Amp- Hour Rating	16x32	24x48	40x80
7 AH	1-1/2 HR.	1 HR.	20 MIN
14 AH	2-1/2 HR.	2 HR.	1 HR.
40 AH	7 HR.	5-1/2 HR.	3 HR.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each station key on the DSS console has a corresponding indicator that shows whether the station is idle or busy. The indicator is lit when the station is idle. A station in DND mode is shown by a flashing indicator (MAP 1 or 2 only).

OPERATING PROCEDURE

Busy Station indications are provided while a station is in use.

SERVICE CONDITIONS

- a. Each DSS/BLF/DLS requires one port from either the KSB or KSB/OHV.
- b. Each DSS/BLF/DLS requires one three-pair cable run.
- c. The only limitation to the number of consoles is the number of spare KIB parts in the system.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

BUSY LAMP FIELD - STATION

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

When a button on a Key Telephone is assigned as a DSS, it also serves as a Busy Lamp Field to display the status of the telephone.

OPERATING PROCEDURE

After the station user assigns a button as DSS/BLF, the user has a BLF to the assigned station.

SERVICE CONDITIONS

The installation must program a button as a multi-function button and then the station user program his/her button as a DSS by pressing the speed call button twice the line button and dial the intercom number.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

Station 100 12/10/88 09:45 am

SIEMENS KEY SYSTEMS

SECTION: 40/80

FEATURE DESCRIPTION

Each telephone user can select the way that calls to his telephone are voice announced. By selecting the P position on the intercom signal switch, the user can receive voice-announced intercom calls without the calling party hearing conversations in progress. By selecting the H position, the user can reply handsfree to voice-announced intercom calls.

OPERATING PROCEDURE

With the intercom signal switch in the T mode, repeated bursts of intercom tone ringing are heard, and the HOLD button flashes slowly.

- a. Lift handset or press ON/OFF button to answer. If you receive a call from a Phone Box, press the DSS button to answer the call.
- b. Hang up to end the call.

In the P mode, three bursts of tone are heard, and one-way announcement is enabled. The HOLD button flashes slowly, and the calling party cannot hear conversations in progress.

In the H mode, three bursts of tone and an announcement are heard. Reply handsfree, or lift handset for privacy.

SERVICE CONDITIONS

There are no special service conditions required for this feature.

DISPLAY INDICATION

CALL FROM STA 100 08/08/88 09:45 am

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CALL ANNOUNCING PRIVACY

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each telephone user can select the way that calls to his telephone are voice announced. By selecting the P position on the intercom signal switch, the user can receive voice-announced intercom calls without the calling party hearing conversations in progress. By selecting the H position, the user can reply handsfree to voice-announced intercom calls.

OPERATING PROCEDURE

With the intercom signal switch in the T mode, repeated bursts of intercom tone ringing are heard, and the HOLD button flashes slowly.

- a. Lift handset or press ON/OFF button to answer. If you receive a call from a Phone Box, press the DSS button to answer the call.
- b. Hang up to end the call.

In the P mode, three bursts of tone are heard and one-way announcement is enabled. The HOLD button flashes slowly, and the calling party cannot hear conversations in progress.

In the H mode, three bursts of tone and an announcement are heard. Reply handsfree or lift handset for privacy.

SERVICE CONDITIONS

There are no special service conditions required for this feature.

DISPLAY INDICATION

CALL FROM STA 100 08/08/88 09:45 am

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	*.				
	*.	•			

Y SYSTEMS CALL ANNOUNCING HANDSFREE ANSWERBACK

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each telephone user can select the way that calls to his telephone are voice announced. By selecting the P position on the intercom signal switch, the user can receive voice-announced intercom calls without the calling party hearing conversations in progress. By selecting the H position, the user can reply handsfree to voice-announced intercom calls.

OPERATING PROCEDURE

With the intercom signal switch in the T mode, repeated bursts of intercom tone ringing are heard, and the HOLD button flashes slowly.

- a. Lift handset or press ON/OFF button to answer. If you receive a call from a Phone Box, press the DSS button to answer the call.
- b. Hang up to end the call.

In the P mode, three bursts of tone are heard and one-way announcement is enabled. The HOLD button flashes slowly, and the calling party cannot hear conversations in progress.

In the H mode, three bursts of tone and an announcement are heard. Reply handsfree or lift handset for privacy.

SERVICE CONDITIONS

There are no special service conditions required for this feature.

DISPLAY INDICATION

CALL FROM STA 100 08/08/88 09:45 am

SIEMENS KEY SYSTEMS 40/80

SECTION:

FEATURE DESCRIPTION

An automatic callback request can be left at a busy station or a station in DND. The initiating station is automatically signaled when the called station returns to idle status.

OPERATING PROCEDURE

If you dial a telephone that is busy or in DND and want to leave a Callback indication:

- Press CALL BACK button. a.
- b. Hang up. When busy station hangs up, you will be signaled.
- Answer call. The station you called will then be signaled. (If your station is busy when signaled, an C. automatic MSG WAIT is placed at your telephone.)

Only one Callback request can be left at a station; the second request will receive busy.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

CALL BACK FROM STA 100 08/08/88 09:45 am

CALL FROM STA 114 08/08/88 09:45 am

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CALL FORWARD - BOSS/SECRETARY (EXECUTIVE/SECRETARY TRANSFER)

FEATURE DESCRIPTION

Four pairs of key stations can be designated as executive/ secretary pairs. Whenever the executive telephone is in DND or busy, transferred Central Office/PBX/Centrex lines and intercom calls are directed to the secretary station. If the secretary station is busy, the calling party receives a busy signal. The secretary station may override the forward.

The programming may be set in one of three ways:

- a. Four executives to one secretary, or
- b. One executive to four secretaries, or
- c. Four executives to four secretaries.

OPERATING PROCEDURE

This feature must be preprogrammed. If the station user is busy or in DND, the call is forwarded.

SERVICE CONDITIONS

The feature must be enabled on a per-station basis.

DISPLAY INDICATION

Station Call	CALLING STATION'S DISPLAY	CALLED STATION'S DISPLAY
Forward (Originating Station)	FORWARDED TO STA 107 08/08/88 09:45 am	

Forwarded CALLED 110 09:45 am CALL FROM STA 100 VIA STA 110 09:45 am

CALL FORWARD - PRESET

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

System programming allows incoming CO/PBX/CENTREX lines that are programmed to ring a particular station to be forwarded to another predetermined station after a programmed period of time. This occurs when the station normally receiving the outside ring is busy or does not answer the call. Preset forward can be chained an unlimited number of times. Each station in the system can have a preset forward station.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

- a. The system must be programmed to assign forward location and the period of time to be forwarded.
- b. The system default value is 10 seconds, and is variable from 00 to 99 seconds. The timer can be deactivated by the installer.

DISPLAY INDICATION

FORWARD RING
LINE 16 09:45 am

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FEATURE DESCRIPTION

Each key telephone user may direct intercom calls, transferred outside lines, and incoming outside lines to be forwarded to another station in the system. A forwarded call will signal in the TONE mode regardless of the way the intercom signaling switch is set. A station with calls forwarded to it can forward its calls to another station. A call can be forwarded in this manner an unlimited number of times.

OPERATING PROCEDURE

To forward a call (if you have been given the ability to forward your calls):

- a. Lift handset or press ON/OFF button.
- b. Press CALL FWD button.
- c. Press station key or dial intercom number (within five seconds) where your calls are to be forwarded.
- d. Hang up.

To remove Call Forwarding:

- a. Lift handset or press ON/OFF button.
- b. Press CALL FWD button.
- c. Press your own station button or dial your own intercom number.
- d. Hang up.

SERVICE CONDITIONS

The systems default value entry is enabled for all stations. It can be deactivated on a per-station basis.

DISPLAY INDICATION

Station Call
Forward
(Originating Station)

DISPLAY

FORWARDED TO STA 107
08/08/88 09:45 am

CALLED STATION'S
DISPLAY

Forwarded Call

FORWARDED TO STA 100 CALLED 110 09:45 am

CALLING STATION'S

CALL FROM STA 100 VIA STA 110 09:45 am

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CALL PARK

SIEMENS KEY SYSTEMS

SECTION: 40/80

FEATURE DESCRIPTION

An outside line can be placed into one of six parking locations and can be retrieved by any station that has a direct line appearance or an available loop button. Parked calls have their own recall timer and will recall the originating station or, if unanswered, the attendant(s).

OPERATING PROCEDURE

To place an outside call on hold and consult with, page, or call an internal party and/or transfer the outside call:

- a. While connected to an outside line, press TRANS button. The caller is placed on Exclusive hold.
- b. Dial parking location (790 to 795). Confirmation tone is heard.
- c. If you hear busy tone, press TRANS and dial another parking location.

To retrieve a parked call:

- a. Lift handset or press ON/OFF button.
- b. Dial pound [#].
- c. Dial parking location (790 to 795) where the call was parked.

SERVICE CONDITIONS

For Park Recall Time, the system default value is 180 seconds, and is variable from 000 to 600 seconds. The timer can be deactivated by the installer.

DISPLAY INDICATION

Station 100 LINE 1 00:00:01

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FEATURE DESCRIPTION

Stations can be placed in one or more of four pickup groups. Stations in the same group can pick up tone ringing intercom calls, recalling or transferred CO/PBX/CENTREX line calls for another station, message wait callbacks, and station callbacks by dialing the pickup code.

OPERATING PROCEDURE

When intercom tone ringing, transferred outside line ringing, or recall ringing is heard at an unattended telephone, lift the handset and press the PICK UP button to be connected to the calling party. You must be in the same pickup group as the ringing telephone to pick up the call.

SERVICE CONDITIONS

Stations must be programmed into one of four pickup groups.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

STATION THAT PICKED UP DISPLAY

CALL TO 104 PICKED UP BY STA 103 04:15 pm CALL STATION 104 FROM STA 105 04:15 pm



FEATURE DESCRIPTION

An outside line can be transferred from one keyset to another. By pressing the STATION button of the desired party (or the TRANSFER button) and dialing a three-digit station number, screened or unscreened transfers with an announcement can be made. The line being transferred rings on the keyset and gives a flash indication to the receiving party's keyset. Several attempts can be made to find someone at different keysets without losing the call. If a line is transferred to a busy station, that station receives muted ringing.

OPERATING PROCEDURE

Outside lines can be transferred from one telephone to another within the system. The transfer can be either screened (announced) or unscreened to either an idle or busy station.

Screened Transfer

- a. While connected to an outside line, press station button where call is to be transferred (if programmed on your telephone), or press TRANS button and dial the station number (100 to 179).
- The called extension signals according to the intercom signal switch position.
- c. When the extension answers, announce the transfer.
- d. Hang up to complete transfer.

Unscreened Transfer

When the called extension begins to signal, hang up to transfer the call (Recall timer starts).

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CALL TRANSFER

SIEMENS KEY SYSTEMS SECTION: 40/80 (CONTINUED)

Transfer Search

- a. When attempting to locate a party, press a station key to signal a station.
- b. If the party is not located, press another station key to continue the search, or press the TRANS button and dial the station number.
- c. If the party is not located, press the TRANS button again and dial another station number to continue the search.
- d. When the called party answers, hang up to complete the transfer.

To answer a Screened Transfer:

- a. Your intercom is signaling according to the intercom signal switch position.
- b. Answer the intercom and receive the transfer notice.
- c. Press the outside line button or loop button flashing on hold.

SERVICE CONDITIONS

Either the line being transferred or a loop must be on the telephone the call is being transferred to.

DISPLAY INDICATION

TRANSFER FROM STA 100 LINE 16 09:45 am

CALLING STATION INDICATOR (BUSY LAMP FIELD)

FEATURE DESCRIPTION

Buttons programmed as station buttons on a telephone also serve as a Busy Lamp Field to display the status of other telephones in the system.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

Station users may assign their own DSS/BLF position via a multi-purpose button

DISPLAY INDICATION

There is no correlation between this feature and any display indication.

FEATURE DESCRIPTION

A busy station may be alerted that an outside line is on hold and waiting by pressing the CAMP ON button. The called station receives one muted ring, hold flash indication on the waiting line, and a flashing CAMP ON button if the camp-on initiator is waiting to announce the transfer. The busy party can press the CAMP ON button, which automatically places any active outside line on hold and allows him to converse with the camp-on initiator. If the busy party does not answer the camp-on, the camp-on initiator is recalled after the programmable period of time expires. Only the attendant can camp-on to a station in the DND mode. A camp-on cannot be made to a station in conference. The station designated EXECUTIVE in an Executive/Secretary pair can be camped-on only by the corresponding secretary.

OPERATING PROCEDURE

To alert a station when you receive a busy signal:

- a. Press the CAMP ON button.
- b. Called station receives two bursts of ringing.
- c. Wait for response.

If the called station is in DND, only the attendant can Camp On.

To Answer a Camp On:

If you hear two bursts of muted ringing while you are on a connected call, and your CAMP ON button is flashing, you have a call waiting.

- a. To answer, press the CAMP ON button.
- b. Any outside line you are connected to is placed on hold. You may converse with the station placing the call.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

CAMP-ON BY STA 100 08/08/88 09:45 am

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CAMP ON RECALL

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

If a station does not answer a Camp On, the calling station is recalled. If the calling station does not answer, the attendant(s) is recalled.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The system default value is one minute, and is variable from 00 to 60 minutes. The timer can be deactivated by the installer.

DISPLAY INDICATION

RECALL FROM STA 101 LINE 16 00:00:05

CENTRAL OFFICE LINE HUNT

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Using the Preset Call Forward feature, CO lines programmed to ring on a given telephone can be transferred to another telephone after a period of time. Up to eight transfers are possible.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

- a. The system must be programmed to assign forward location(s).
- b. Preset Forward Time The system default value is 10 seconds, and is variable from 00 to 99 seconds.

DISPLAY INDICATION

FORWARD RING
LINE 16 09:45 am

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CENTRAL OFFICE LINE RING ASSIGNMENT - DAY

FEATURE DESCRIPTION

Outside lines are assigned to ring at individual stations by programming. Any Key Telephone may be programmed to ring for any outside lines(s) in the Day or Night Mode (or both or neither).

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

- a. The system must be programmed to assign the ringing.
- b. CO line(s) must appear on the stations where ringing is required.

DISPLAY INDICATION

LINE RINGING
LINE 16 09:45 am

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SIEMENS KEY SYSTEMS

CENTRAL OFFICE LINE RING ASSIGNMENT - NIGHT

SECTION: 40/80

FEATURE DESCRIPTION

Outside lines are assigned to ring at individual stations by programming. Any Key Telephone may be programmed to ring for any outside line(s) in the Day or Night Mode (or both or neither).

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

- a. The system must be programmed to assign the ringing.
- b. CO Line(s) must appear on the stations where ringing is required.

DISPLAY INDICATION

LINE RINGING
LINE 16 09:45 am

FEATURE DESCRIPTION

Using the Central Office Line-To-Line Conference feature, the conference initiator can exit a conference with two outside parties and leave them in an unsupervised conference. The initiator can re-enter the conference at any time.

A Programmable conference timer disconnects the unsupervised conference if the initiator does not reenter.

OPERATING PROCEDURE

- a. Lift handset.
- b. Dial desired party.
- c. Press CONF button.
- d. Add next conference party by selecting another line.
- e. When party answers, press CONF button.
- f. All parties are connected.

SERVICE CONDITIONS

- a. This feature requires the installation of an APB card.
- b. The system default value is 10 minutes, and is variable from 00 to 99 minutes. The timer can be deactivated by the installer.
- c. Single Line Telephones or OPXs cannot establish a conference with two central office lines.

DISPLAY INDICATION

CONFERENCE 08/08/88 09:45 am

CENTRAL OFFICE RING DETECT

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The duration of the ringing signal from the Central Office is matched with ringing detection circuitry in the KSU. The ring detect can range from 200 to 900 milliseconds, programmed in 100 millisecond increments. This timer helps prevent false ringing.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The system default value is 300 milliseconds, and is variable from 200 to 900 milliseconds. The timer can be deactivated by the installer.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.

CENTRAL OFFICE LINE ACCESS

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each telephone can be programmed to be allowed or denied an appearance to individual outside lines or a pool of outside lines. Telephones denied this appearance can have that line transferred to them by another station, and the call will appear on the loop button.

Telephones can be programmed to answer calls on a particular line but not make calls on that line. Any station may be programmed to ring for any combination of lines during the day, and different stations can be programmed to ring on those lines at night.

OPERATING PROCEDURE

To answer a Central Office Call:

- a. Lift handset.
- b. Press slow flashing outside line button. (If your phone is programmed with Preferred Line Answer, you may answer an outside line by lifting the handset.)

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

When manually dialing outgoing calls:

18005551212 LINE 16 00:00:05

SIEMENS KEY SYSTEMS SECTION: 40/80

CENTRAL OFFICE LINE GROUPING

FEATURE DESCRIPTION

CO (outside) lines can be in one of up to seven groups to separate line types such as local, PBX, or FX. Stations are then individually assigned access to these lines via pooled group key.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

Lines must preprogrammed into line groups.

DISPLAY INDICATION

POOL GROUP 1 LINE 16 09:45 am

CENTRAL OFFICE LINE QUEUING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

When all Central Office lines in a group are busy, stations can be placed on a queue (list) waiting for that line to become available. Users are signaled when a line becomes available. If the waiting station is busy when the queued CO line becomes available, the station is placed at the bottom of the queue list. Three attempts are made to reach a busy station before that station is dropped from the queue list. If a station does not answer the queue signal in 15 seconds, that station is dropped from the queue list.

OPERATING PROCEDURE

A station can queue only one line at a time. If you see that a Central Office line is busy and wish to be placed in a queue waiting for that line to become available:

- a. Lift handset.
- b. Press LINE QUE button.
- c. Press desired busy outside line button or pool access button.
- d. Hang up.

To cancel a queue:

- a. Lift handset or press ON/OFF button.
- b. Press LINE QUE button.

To answer a ringing outside line of the line group you queued (when the line is slow flashing):

- a. Lift handset.
- b. Press flashing outside line button to answer. (If your station is programmed for Preferred Line Answer, you will have the line automatically upon lifting the handset.)

SERVICE CONDITIONS

There are no special service conditions required for this standard system feature.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

PLACED IN QUEUE FOR LINE 16 09:45 am

QUEUE CALLBACK
LINE 16 09:45 am

CENTREX FEATURE ACTIVATIONS BUTTON

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Using either station or system speed call, Centrex Feature Codes can be programmed as buttons for easier use. Each speed call buffer could include a hook flash, pound (#), asterisk (*), and digits.

OPERATING PROCEDURE

- a. Press SPEED CALL once, then press the desired outside line key; or select an outside line automatically by pressing the SPEED CALL button a second time.
- b. Dial the speed bin location (00 to 19 for Station Speed numbers; 20 to 99 for System Speed numbers).
- c. Dial telephone number.
- d. Press SPEED CALL.
- e. Hang up.

Pressing the TRANS button during number entry initiates a Pulse-To-Tone switchover. Pressing the HOLD button during number entry inserts a Pause. Pressing the FLASH key inserts a Flash into the speed number. Pressing the TRANS button as the first entry in the speed bin inserts a no-display character causing the numbers stored in the bin not to appear on the Key Telephone's display when the bin is accessed.

Station Speed numbers can be entered by keyset users. System Speed numbers must be entered by the first programmed attendant. If no attendant is specified, enter at Station 100.

If no outside line was specified in programming, one is chosen automatically, or you can choose one now.

- a. Press SPEED CALL button and dial bin location, or press programmed speed bin button. Station Speed numbers are 00 to 19. System Speed numbers are 20 to 99.
- b. When called party answers, pick up handset or use speakerphone.

SERVICE CONDITIONS

There are no special service conditions required for this Standard feature.

DISPLAY INDICATION

9947974 SPEED 10 10:45 am



CENTREX LINE ACCESS

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each telephone can be programmed to be allowed or denied an appearance to individual Centrex lines or a pool of Centrex lines. Telephones denied this appearance can have that line transferred to them by another station, and the call will appear on the loop button.

Telephones can be programmed to answer calls on a particular line, but not make calls on that line. Any station can be programmed to ring for any combination of lines during the day and different stations can be programmed to ring on those lines at night.

OPERATING PROCEDURE

To answer a Centrex Call:

- a. Lift handset.
- b. Press slow flashing outside line button. (If your phone is programmed with Preferred Line Answer, you may answer an outside line by lifting the handset.)

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

When manually dialing outgoing calls:

18005551212 LINE 16 00:00:05

CENTREX HUNT LINE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Using the Preset Call Forward feature, Centrex lines programmed to ring on a given telephone can be transferred to another telephone after a period of time. Up to eight transfers are possible.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

- a. The system must be programmed to assign forward locations(s).
- b. Preset Forward Timer value is 10 seconds, and is variable from 00 to 99 seconds.

DISPLAY INDICATION

FORWARD RING
LINE 16 09:45 am

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CENTREX LINE GROUPING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Centrex lines can be in one of up to seven groups to separate line types. Stations are then individually assigned access to these lines via pooled group key.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

Lines must be preprogrammed into line groups.

DISPLAY INDICATION

918005437309

LINE 16

XX:XX:XX

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SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

When all Centrex lines in a group are busy, stations can be placed in a queue waiting for a line to become available. Queued users are signaled when a line becomes available. If the waiting station is busy when the queued Centrex line becomes available, the station is place at the bottom of the queue list. Three attempts are made to reach a busy station before that station is dropped from the queue list. If a station does not answer the queue signal in 15 seconds, that station is dropped from the queue list.

OPERATING PROCEDURE

A station can queue only one line at a time. If you see that a particular outside line is busy and you wish to be placed in a queue waiting for that line to become available:

- a. Lift handset.
- b. Press LINE QUE button.
- c. Press desired busy Centrex line button or pooled access button.
- d. Hang up.

To cancel a queue:

- a. Lift handset or press ON/OFF button.
- b. Press LINE QUE button.

To answer a queue on an outside line of the line group you queued when it is slow flashing:

- a. Lift handset.
- b. Press flashing outside line button to answer. (If your station is programmed for Preferred Line Answer, you will have the line automatically upon lifting the handset.)

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

PLACED IN QUEUE FOR LINE 16 09:45 am

QUEUE CALLBACK
LINE 16 09:45 am

CENTREX LINE TO LINE CONFERENCE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The conference initiator can exit a conference with two outside parties and leave them in an unsupervised conference. The initiator can re-enter the conference at any time.

A programmable conference timer disconnects the unsupervised conference if the initiator does not reenter.

OPERATING PROCEDURE

- a. Lift handset.
- b. Dial desired party.
- c. Press CONF button.
- d. Add next conference party by selecting another line.
- e. When party answers, press CONF button.
- f. All parties are connected.

SERVICE CONDITIONS

- a. This feature requires the installation of an APB card.
- b. The system default value is 10 minutes, and is variable from 00 to 99 minutes. The timer can be deactivated by the installer.
- c. Single Line Telephones or OPXs cannot establish a conference with two centrex lines.

DISPLAY INDICATION

CONFERENCE 08/08/88 09:45 am

CENTREX DETECT RING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The duration of the ringing signal from the CO Centrex is matched with ringing detection circuitry in the KSU. The ring detect can range from 200 to 900 milliseconds, programmed in 100 millisecond increments. This timer helps prevent false ringing.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The system default value is 300 milliseconds, and is variable from 200 to 900 milliseconds. The timer can be deactivated by the installer.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.

SIEMENS KEY SYSTEMS COMMON AUDIBLE RINGING (LOUD BELL CONTROL) SECTION: 40/80

FEATURE DESCRIPTION

Incoming Central Office/PBX/CENTREX line ringing can be directed to relay-controlled contacts. There are two sets of dry contacts that can be assigned to stations as loud bell control (LBC) or to Central Office lines for A-lead indication. An external power source and ringing device is required.

OPERATING PROCEDURE

The system must be programmed to provide common Audible Ringing or A Lead control.

SERVICE CONDITIONS

One set of relay controlled contacts is standard on every Power Failure Transfer Unit (PFTU) card. A maximum of two PFTU cards can be used.

DISPLAY INDICATION

No special indication is provided for this system related feature.

DIAL PULSE SERVICE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each CO/CENTREX/PBX interface circuit for lines can be individually programmed to send either DTMF (Tone) or dial pulse.

OPERATING PROCEDURE

No special operating procedure is required for this standard system feature.

SERVICE CONDITIONS

The 40/80 system must be programmed for either DTMF or dial pulse on a per line basis.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.

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DIAL PULSE TO TONE SWITCHOVER

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The signaling on an outside line can be changed from dial pulse to tone (DTMF). This allows pulse telephones to use common carriers which require DTMF signaling. This feature can be stored and used with speed dial numbers.

OPERATING PROCEDURE

While programming speed dial, press the TRANS key.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

9500777S1234567 SPEED 10 09:45 am

DIRECT INWARD SYSTEM ACCESS (DISA)

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

DISA allows as many as three simultaneous outside line calls to be programmed to provide direct access to the system. Features such as WATS lines, intercom dial tone, and the ability to dial out on outgoing trunks without going through the attendant are also allowed. DISA caller that attempts to call a station that is busy can dial other stations without having to dial into the system again. A security code can be assigned to restrict unwanted use of the DISA circuits. Each DISA line can be programmed independently for 24-hour DISA use, or night DISA use only. An APB card is required to provide the DISA feature.

OPERATING PROCEDURE

No special operating procedure is required.

SERVICE CONDITIONS

- a. An APB card must be installed for this option.
- b. Feature Package IV or V is required for this feature.
- c. Up to three Line-to-Line conferences or DISA calls in any combination can be active simultaneously.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.

DIRECT STATION SELECT

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The user with a flexible button assigned as a DSS button on a key telephone can call an intercom station by pressing the appropriate DSS button. The called station is automatically signaled.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

Station users may assign their own DSS/BLF position via a multi-purpose button.

DISPLAY INDICATION

There is no correlation between this feature and any display indication.

DIRECTED CALL PICK UP

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A station can pick up an intercom call, a transferred outside line call, or incoming outside line ringing on a specific unattended station. The call must be a tone ringing call.

OPERATING PROCEDURE

When incoming, transferred or recalling outside line, intercom, or Camp On ringing is heard at an unattended telephone:

- a. Dial the station number of the ringing telephone.
- b. A busy tone is heard.
- c. Press the PICK UP button to answer the call.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALL TO 100 PICKED UP FROM STA 112 09:45 am

CALLED STATION'S DISPLAY

CALL TO STA 100 FROM STA 112 09:45 am

XFER TO ST 100 PICKED UP LINE 16 09:45 am

SIEMENS KEY SYSTEMS SECTION: 40/80

DIRECTORY TRAY

FEATURE DESCRIPTION

Each telephone comes standard with a directory tray located under the telephone to list speed dial codes or telephone numbers.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

This tray is not operational when the telephone is wall mounted.

DISPLAY INDICATION

No display is assigned to this feature.

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SIEMENS KEY SYSTEMS DIRECT STATION SELECT (DSS/DLS/BLF) CONSOLE SECTION: 40/80

FEATURE DESCRIPTION

Each DSS terminal can be programmed in one of three ways:

- a. MAP 1. Stations 100 through 139 appear in sequential order. The bottom two rows of buttons (eight buttons) include two fixed (Attendant Override and Release) feature buttons and six flexible buttons.
- b. MAP 2. Station 140 through 179 appear in sequential order. The bottom two rows (eight buttons) are flexible.
- c. MAP 3. CO Line buttons 1 through 40 appear in sequential order. The bottom two rows (eight buttons) are flexible.

OPERATING PROCEDURE

Normal DSS/BLF functions.

SERVICE CONDITIONS

- a. The system must be programmed to accept DSS/DLS/BLF.
- b. Each DSS/BLF requires one KIB interface port.
- c. Three terminals can be assigned per station.
- d. A maximum of three MAP 1s can use attendant Override and Release.
- e. A maximum of 60 terminals (20 stations, 20 MAP 1s, 20 MAP 2s and 20 MAP 3s) equal 80 KIB ports.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

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SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Placing a key telephone in Do Not Disturb (DND) eliminates incoming CO line ringing, intercom calls, CO line transfers, and All Call Page announcements on Camp-Ons. Pressing the DND button while the telephone is ringing eliminates that ringing. The secretary in an EXECUTIVE/SECRETARY pair can override the Executive DND by using the Camp-On feature. A station in DND can still use the telephone to make normal outgoing calls. A station can be denied this feature by programming.

OPERATING PROCEDURE

To activate Do Not Disturb:

- a. If you have been given the ability to place your phone in Do Not Disturb, press the DND button (DO NOT lift the handset).
- b. DND button lights steady.
- c. Press the DND button while your telephone is ringing to stop the ringing.

To remove Do Not Disturb:

- a. Remain on-hook.
- b. Press DND button.
- c. The button indicator goes off.

SERVICE CONDITIONS

The system default value entry is enabled for all stations. It can be deactivated on a per-station basis by the installer.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

DO NOT DISTURB STA 110 08/08/88 09:45 am

STA IN DO NOT DISTURB 08/08/88 09:45 am

DSS/CO AUTOMATIC LINE SELECT

FEATURE DESCRIPTION

The user can select an outside line, intercom station, or speed dial button and automatically place the telephone in the dialing mode without pressing the ON/OFF button or lifting the handset.

OPERATING PROCEDURE

Select a line button, dial an intercom or utilized Feature Key.

SERVICE CONDITIONS

No special service conditions are required for this feature.

DISPLAY INDICATION

CALL TO STA 101 108/08/88 09:45 am

DTMF SENDING

FEATURE DESCRIPTION

Each CO/CENTREX/PBX interface circuit for lines can be individually programmed to send DTMF (Tone) or dial pulse.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The 40/80 system must be programmed for either DTMF or Dial pulse on a per line basis.

DISPLAY INDICATION

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DTMF SERVICE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each CO/CENTREX/PBX interface circuit for lines can be individually programmed to send DTMF (Tone) or dial pulse.

OPERATING PROCEDURE

No special operating procedure is required for this standard system feature.

SERVICE CONDITIONS

The 40/80 system must be programmed for either DTMF or dial pulse basis.

DISPLAY INDICATION

EMERGENCY TRANSFER

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Two Power Failure Transfer cards may be installed so that in case of a power failure, up to twelve CO lines can be automatically connected to specified single line telephones (SLT).

OPERATING PROCEDURE

This feature activates automatically upon a power failure condition.

SERVICE CONDITIONS

A maximum of two optional Power Failure Transfer (PFT) units can be installed in the Basic KSU. In the event of a commercial power failure, up to six CO/PBX lines per PFT can automatically transfer to SLTs for emergency communications. These SLTs can be either rotary or DTMF, but they must be equipped with CO-powered ringers. These SLT stations do not have to be used for intercom, but can be if so desired.

DISPLAY INDICATION

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EXCLUSIVE HOLD

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

When a line is placed on Exclusive Hold, no other station in the system can retrieve the call.

OPERATING PROCEDURE

Press the HOLD button either once or twice depending on how the system is programmed.

SERVICE CONDITIONS

The system must be programmed to determine which HOLD is the primary Hold.

DISPLAY INDICATION

LINE HOLDING
LINE 16 09:45 am

EXECUTIVE/SECRETARY TRANSFER

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Four pairs of key telephones can be designated as executive/ secretary pairs. Whenever the executive telephone is in DND or busy, transferred CO/PBX/CENTREX lines and intercom calls are directed to the secretary station. If the secretary station is busy, a busy tone is received by the calling party. There are three combinations possible:

- a. Four pairs of Executive/Secretary pools
- b. One executive with one to four secretaries
- c. One Secretary for one to four executives.

The secretary station can signal the Executive in DND by using the Camp On feature.

OPERATING PROCEDURE

- a. If you are designated the Executive station and your telephone is busy or in DND, all calls are routed to the Secretary station.
- b. If you are the designated Secretary station, you can signal the Executive that is busy or in DND by using the Camp On feature.

SERVICE CONDITION

Four sets of Transfers must be preprogrammed into the database.

DISPLAY INDICATION

Station Call
Forward
(Originating Station)

DISPLAY

FORWARDED TO STA 107
08/08/88 09:45 am

CALLED STATION'S DISPLAY

Forwarded Call

FORWARDED TO STA 100 CALLED 110 09:45 am

CALLING STATION'S

CALL FROM STA 100 VIA STA 110 09:45 am

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FEATURE DESCRIPTION

The Siemens 40/80 hybrid key system can provide one-way or two-way paging, as well as multi-zone paging through its non-linear page port. Up to 36 zones could be accessed utilizing external equipment.

OPERATING PROCEDURE

A station off-hook or in DND will not hear the page.

- a. Dial the two-digit paging code, or press programmed button.
- b. Speak in normal tone of voice to deliver message:
 - *1 Internal Zone 1
 - *2 Internal Zone 2
 - *3 Internal Zone 3
 - *4 Internal Zone 4
 - *5 Internal All Call
 - *6 External Zone
 - *0 All Call (When using multizone or talkback paging it is not suggested to use ALL CALL)

SERVICE CONDITIONS

- a. This feature requires the installation of an APB card.
- Valcom Equipment is recommended for two-way and multi-zone paging.
- c. One page can be activated at a time.
- d. Page Warning Tone Determines whether a page warning tone is sounded over the Key Telephone speaker or external paging speakers. Default is yes.
- e. Page Timeout Timer Determines the maximum length of a page. The system automatically disconnects the page at the end of this time unless the person making the page has already hung up.

Default is 15 seconds and is variable from 01 to 60 seconds. A 00 entry disables the timer so that pages are not limited in length.

SIEMENS KEY SYSTEMS SECTION: 40/80 (CONTINUED)

EXTERNAL PAGING ACCESS - TWO-WAY

- f. Page Access Stations can individually be allowed or denied the ability to make pages. Allowed by default.
- g. When using external equipment to activate multi-zone and/or talkback paging through the APB card, ALL CARD PAGING cannot be used.

DISPLAY INDICATION:

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

ALL CALL PAGE 12/06/88 10:48 am PAGE FROM STA 105 12/06/88 10:48 am

EXTERNAL PAGING ACCESS - ONE-WAY

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The Siemens 40/80 hybrid key system can provide one-way or two-way paging, as well as multi-zone paging through its non-linear page port.

OPERATING PROCEDURE

A station off-hook or in DND cannot hear the page.

- a. Dial the two-digit paging code, or press programmed button.
- b. Speak in normal tone of voice to deliver message:
 - *1 Internal Zone 1
 - *2 Internal Zone 2
 - *3 Internal Zone 3
 - *4 Internal Zone 4
 - *5 Internal All Call
 - *6 External Zone
 - *0 All Call

SERVICE CONDITIONS

- a. This feature requires the installation of an APB card.
- b. A Valcom V-1094 is recommended for one way paging without background music.
- c. One page can be activated at a time.
- d. Page Warning Tone Determines whether a page warning tone is sounded over the Key Telephone speaker or external paging speakers.
- e. Page Timeout Timer Determines the maximum length of a page. The system will automatically disconnect the page at the end of this time unless the person making the page has already hung up.
 - Default is 15 seconds and is variable from 01 to 60 seconds. A 00 entry disables the timer and pages will not be limited in length.
- f. Page Access Stations can individually be allowed or denied the ability to make pages. Allowed by default.
- g. When using external equipment to activate multi-zone and/or talkback paging through the APB card, you may not use "ALL CALL PAGING."

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SIEMENS KEY SYSTEMS SECTION: 40/80 (CONTINUED) **EXTERNAL PAGING ACCESS - ONE-WAY**

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

ALL CALL PAGE 12/06/88 10:48 am PAGE FROM STA 105 12/06/88 10:48 am

FLASH

FEATURE DESCRIPTION

The Flash feature enables telephone users to terminate an outside call or transfer a call behind a PBX and restore dial tone without hanging up the handset. A FLASH button is located on each key telephone.

OPERATING PROCEDURE

When connected to an outside line, press FLASH button to disconnect outside line and reseize outside line dial tone.

SERVICE CONDITIONS

- a. Hook Flash Timer This timer determines the length of time needed to determine a valid on-hook or off-hook condition.
- b. The timer is variable from 000 to 100 milliseconds.
- c. Default is 010 milliseconds.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

Station 100 12/10/88 09:45 am

FLASH WITH SPEED DIAL

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A flash can be programmed within a speed dial number. When this is done, a pause is automatically inserted before the remaining speed dial digits are sent.

OPERATING PROCEDURE

While programming Speed Dial, press the FLASH button to enter the Flash.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

F*105 SPEED 00 11:10 am

		:

FLEXIBLE ATTENDANT

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Any three Key Telephones in the system can be assigned as attendant stations. These stations will receive recalls and can place the system in Night Service.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The system must be programmed to identify the attendants.

DISPLAY INDICATION

FLEXIBLE BUTTONS

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

There are 14 fixed feature buttons and 20 flexible buttons. The flexible buttons can be programmed in one of the following ways:

- a. Outside line automatically access assigned CO/PBX/CENTREX line.
- b. Multi-Function Key the user may program his/her own telephone for DSS/BLF, speed dial bin, or a page key etc.
- c. Pool Key some or all outside CO/PBX/CENTREX lines can be grouped; pressing this button accesses the highest numbered unused CO line in that group.
- d. Loop used to answer a transferred call on a line for which a user does not have a button assigned, LCR, Pickup and UNA.

OPERATING PROCEDURE

To Program Flexible Buttons:

- a. Lift handset or press ON/OFF.
- b. Press asterisk (*) twice.
- c. Press button to be programmed. (It must have been programmed in the database as a flexible button.)
- d. Dial desired code.
- e. Press HOLD.

Button programming codes:

DSS/BLF

100 to 179

Speed Number:

SPEED CALL plus bin no

(00 to 19 = station speed bins) (20 to 99 = system speed bins)

Paging

Paging Code

Account Code

80 700 to 1

Call Park

790 to 795

Music Last Number Redial

77

Save Number Redial

SPEED CALL plus #
SPEED CALL plus *

FLEXIBLE BUTTONS

SIEMENS KEY SYSTEMS SECTION: 40/80 (CONTINUED)

Personalized Messages:

78 plus two digits:

00 - clears messages

01 - VACATION

02 - RETURN MORNING

03 - RETURN AFTERNOON

04 - RETURN TOMORROW

05 - RETURN NEXT WEEK

06 - BUSINESS TRIP

07 - MEETING

08 - HOME

09 - ON BREAK

10 - LUNCH

NOTE

The speed bin must be programmed with a number before a flexible button can be assigned as a speed button.

SERVICE CONDITIONS

The buttons must be preprogrammed by the installer as multi-purpose buttons.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

FEATURE DESCRIPTION

Stations placed in one or more groups can pick up incoming tone ringing intercom calls and recalling or transferred CO Lines from a keyset or Single Line Telephone in the same group.

OPERATING PROCEDURE

When intercom tone ringing, transferred outside line ringing, or recall ringing is heard at an unattended telephone, lift the handset and press the PICK UP button to be connected to the calling party. You must be in the same pickup group as the ringing telephone to pick up the call.

SERVICE CONDITIONS

Stations must be programmed into one of four pickup groups.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

CALL TO 100 PICKED UP FROM STA 112 09:45 am

CALL TO STA 100 FROM STA 112 09:45 am

XFER TO ST 100 PICKED UP LINE 16 09:45 am

FEATURE DESCRIPTION

The 40/80 Key Telephones have been designed to operate with industry-standard Electret microphone-compatible modular headset adapters and operator headsets. To modify a Key Telephone to support an external headset, plug the headset adapter cord into the vacant handset jack on the Key Telephone base. Plug the telephone handset cord into the headset adapter box as indicated by the headset manufacturer's instructions.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

Speakerphone operation must be disabled to allow headset operation. When this is done, such features as On-Hook Dialing and Handsfree Speakerphone operation become inoperable. However, incoming page/voice announcements, tone ringing, and Background Music can still be heard over the Key Telephone speaker.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

No. No.		

SIEMENS KEY SYSTEMS

SECTION: 40/80

FEATURE DESCRIPTION

When a line is placed on Exclusive Hold, no other station in the system can retrieve the call.

OPERATING PROCEDURE

Press the HOLD button either once or twice depending on how the system is programmed.

SERVICE CONDITIONS

The system must be programmed to determine which HOLD is the primary hold.

DISPLAY INDICATION

LINE HOLDING 09:45 am LINE 16

HOLD PREFERENCE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Either Exclusive Hold or System Hold can be programmed to be the primary hold. A line on Exclusive Hold prohibits anyone from picking up a call placed on hold by another station.

A line placed on System Hold can be retrieved by any other telephone in the system.

OPERATING PROCEDURE

To place a CO/PBX/CENTREX line on hold:

- a. If your system is programmed to have Exclusive Hold preferred, press HOLD button once for Exclusive Hold and twice for System Hold.
- b. If your system is programmed to have System Hold preferred, press HOLD button once for System Hold and twice for Exclusive Hold.

SERVICE CONDITIONS

The system must be programmed on a per-system basis for its hold preference.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.

HOLD - SYSTEM

SIEMENS KEY SYSTEMS

SECTION: 40/80

FEATURE DESCRIPTION

When a line is placed on System Hold, any station in the system with access to that line can retrieve the call.

OPERATING PROCEDURE

Press the HOLD button either once or twice depending on how the system is programmed.

SERVICE CONDITIONS

The system must be programmed to determine which HOLD is the primary hold.

DISPLAY INDICATION

LINE HOLDING LINE 16 09:45 am

HOLD RECALL - EXCLUSIVE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

When an outside call has been on Hold for a programmable period of time, recall ringing tone is sent to the station placing the call on Hold. If this station does not answer the recall, a recall tone is sent to the attendant.

OPERATING PROCEDURE

When an outside line has remained on hold for an extended period of time, you will be reminded with a recalling ring.

- a. Press outside line button flashing at very fast rate.
- b. Lift handset to converse.

SERVICE CONDITIONS

The system default value is 180 seconds, and is variable from 000 to 300 seconds. The timer can be deactivated by the installer.

DISPLAY INDICATION

LINE 16 RECALLING 08/08/88 09:45 am

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SIEMENS KEY SYSTEMS SECTION 40/80

FEATURE DESCRIPTION

When an outside call has been on Hold for a programmable period of time, recall ringing tone is sent to the station placing the call on Hold. If this station does not answer the recall, a recall tone is sent to the attendant.

OPERATING PROCEDURE

When an outside line has remained on hold for an extended period of time, you will be reminded with a recalling ring.

- a. Press outside line button flashing at very fast rate.
- b. Lift handset to converse.

SERVICE CONDITIONS

The system default value is 060 (60 seconds), and is variable from 000 to 300 seconds. The timer can be deactivated by the installer.

DISPLAY INDICATION

LINE 16 RECALLING 08/08/88 09:45 am

INTERCOM CALLING

SIEMENS KEY SYSTEMS SECTION 40/80

FEATURE DESCRIPTION

The System's architecture allows 14 intercom paths for internal traffic capability, of which 12 can be used by SLTs. A station is reached on intercom by dialing the associated three-digit number. One path could be dedicated to the attendant.

OPERATING PROCEDURE

- a. Press station key of party to be called (if programmed at your phone); or dial station number (100 to 179).
- b. Ringing is heard if called station is the T answering mode; or three bursts of tone if called station is in the H or P position.
- c. Lift handset or use speakerphone. Tone bursts stop.
- d. Hang up to end call.

SERVICE CONDITIONS

There are no special service conditions required for this standard system feature.

DISPLAY INDICATION

CALL TO STA 101 08/08/88 09:45 am

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INCOMING INTERCOM SIGNALING SELECTION

SIEMENS KEY SYSTEM SECTION: 40/80

FEATURE DESCRIPTION

The key telephone user can select the method of receiving intercom calls. A slide switch located on the telephone is used to select the mode. The choices are:

Tone Ringing (T). A standard tone ring notifies the party of an incoming call. The called station answers by lifting the handset.

Page (P). The station user receives a tone burst and a voice announcement over the speaker. The microphone is deactivated, providing privacy. The called party must lift the handset or switch the selector the H (handsfree) position.

HandsFree (H). The station user, upon hearing a tone burst and voice announcement over the speaker, can reply handsfree.

OPERATING PROCEDURE

With the intercom signal switch in the T mode, repeated bursts of intercom tone ringing are heard and the HOLD button flashes slowly.

- a. Lift handset or press ON/OFF button to answer. If you receive a call from a Phone Box, press that DSS button to answer the call.
- b. Hang up to end call.

In the P mode, three bursts of tone and a one-way announcement are heard. The HOLD button flashes slowly, and the calling party cannot hear conversations in progress.

In the H mode, three bursts of tone and an announcement are heard. Reply handsfree or lift handset for privacy.

SERVICE CONDITIONS

There is no special service condition required for this standard system feature.

DISPLAY INDICATION

INTERCOM/TRANSFER GROUP PICKUP

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Stations placed in one or more groups can pick up incoming tone ringing intercom calls and recalling or transferred CO Lines from a keyset or Single Line Telephone in the same group.

OPERATING PROCEDURE

When intercom tone ringing, transferred outside line ringing, or recall ringing is heard at an unattended telephone, lift the handset and press the PICK UP button to be connected to the calling party. You must be in the same pickup group as the ringing telephone to pick up the call.

SERVICE CONDITIONS

Stations must be programmed into one of four pickup groups.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

CALL TO 100 PICKED UP FROM STA 110 09:45 am

CALL TO STA 100 FROM STA 112 09:45 am

XFER TO ST 100 PICKED UP LINE 16 09:45 am

INTERNAL ALL CALL PAGE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Stations allowed to make pages may make voice paging announcements to all idle stations at the same time. Stations off-hook or in DND will not hear the page.

OPERATING PROCEDURE

- a. Dial the paging code, or press programmed button.
- b. Speak in normal tone of voice to deliver message.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

ZONE 1 PAGE 09:45 am

PAGE FROM STA 100 06/13/88 09:45 am

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A station programmed to make pages can make voice announcements to idle stations in both internal zones at the same time, or to any one of the four internal zones separately. A flexible button can be programmed by the station user for one-button page operation. Stations off-hook or in DND will not hear the page.

OPERATING PROCEDURE

- a. Dial the paging code or press programmed button.
- b. Speak in normal tone of voice to deliver message.

SERVICE CONDITIONS

Stations must be programmed into one of four internal zones.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

INTERNAL PAGE
ZONE 1 09:45 am

PAGE FROM STA 100 06/13/88 09:45 am

LAST NUMBER REDIAL

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

This feature permits the automatic redialing of the last telephone number dialed on an outside line. Up to 32 digits can be stored. Outside line selection is automatic.

OPERATING PROCEDURE

- a. Press SPEED button
- b. Press pound (#) key. The last number dialed on an outside line is automatically redialed.

SERVICE CONDITIONS

There are no special service conditions required for this standard system feature.

DISPLAY INDICATION

99479774	•
SPEED 10	09:45 am

	We want		
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LEAST COST ROUTING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

This feature enables the system to automatically select the least costly route available according to the number dialed, the time of day, day of week, the class of service (COS) assigned to the station, and CO line and trunk group priority level assigned.

OPERATING PROCEDURE

Press [9] while in the intercom dial mode.

SERVICE CONDITIONS

The system default value entry is disabled for all stations. It can be activated on a system basis by the installer.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.

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LINE-TO-LINE CONFERENCE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The conference initiator can exit a conference with two outside parties and leave them in an unsupervised conference. The initiator can re-enter the conference at any time.

A programmable conference timer disconnects the unsupervised conference if the initiator does not reenter within a preset period of time.

OPERATING PROCEDURE

- a. Lift handset.
- b. Dial desired party.
- c. Press CONF button.
- d. Add next conference party by selecting another line.
- e. When party answers, press CONF button. All parties are connected

SERVICE CONDITIONS

- a. This feature requires the installation of an APB card.
- b. The system default value is 10 minutes, and is variable from 00 to 99 minutes. The timer can be deactivated by the installer.
- c. Single Line Telephones or OPXs cannot establish a conference with two outside lines.

DISPLAY INDICATION

CONFERENCE 08/08/88 09:45 am

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LONG HANDSET CORD

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each telephone set comes standard with a 13-foot handset cord.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

Station	100	
12/10/88	09:45	am

LOOP KEY

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A Loop Key(s) can be programmed on a per-station basis to allow a station user to retrieve a CO/PBX/CENTREX call, if the line appearance is not on the telephone.

OPERATING PROCEDURE

No special operating procedure is required for this standard system feature.

SERVICE CONDITIONS

Loop keys must be programmed by the installer.

DISPLAY INDICATION

There is no correlation between this feature and the display indication.

St. A.	
	1986 1997 1998 1998
	3
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LOUD BELL CONTROL

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Two sets of relay-controlled contacts are provided to connect external signaling devices. Each set of contacts can be programmed to follow the ringing signals at any station.

OPERATING PROCEDURE

No special operation procedure is required for the feature.

SERVICE CONDITIONS

The Siemens 40/80 System provides relay contact closure to activate optional external signaling equipment during incoming CO line ringing, or to activate ancillary equipment.

The stations for Loud Bell Control are selected as part of system programming. Either or both of the LBC circuits may be assigned to any one station, to separate stations, or to a CO Line to provide contact closure while that CO line is busy. The dry contacts will follow the ringing condition of that station or will remain closed when assigned to a CO line.

DISPLAY INDICATION

There is no correlation between this feature and any telephone instrument in this system.

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SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Users may answer a page call by going to the nearest telephone and dialing a code to be connected to the calling party. A flexible button can be programmed for one-button answer to a meet-me page by the station user.

OPERATING PROCEDURE

To request that another party meet you on a page:

- a. Dial the desired two-digit paging code or press programmed button.
- b. Request that the party meet you on the page.
- c. Do not hang up; wait for the requested party to answer.

To answer a Meet Me Page:

- a. Go to the nearest Telephone and dial [*] [9].
- b. You are connected to the party that paged you.

SERVICE CONDITIONS

There are no special service conditions required for this standard system feature.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

ALL	CALL	
08/08/88	09:45	am

PAGE 08/08/88	FROM	100 09:45	am
00,00,00			

CALL	TO	100		
08/08/88		09:45	am	

MESSAGE WAITING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

If a station user calls another station and receives ringing, busy tone, or DND tone, but no answer can activate a Message Waiting lamp at that station to indicate the call. The station user who missed the call can then press his flashing MSG WAIT button and ring the party leaving the message. Up to five messages may be left at each phone. A station with a message waiting can be reminded at a timed interval with a tone.

OPERATING PROCEDURE

If a station is busy, unattended, or in DND, you can leave a message waiting indication. Up to five messages can be left at any one key station. To leave a Message Waiting indication:

- a. Press the MSG WAIT button. The called party's MSG button will slow flash.
- d. Hang up.

If your MSG WAIT button is flashing at a slow rate, you have a message waiting. The caller that left the first message is called first. To answer a Message Waiting Indication:

- a. Pick up handset.
- b. Press flashing MSG WAIT button.
- c. Station that left message is signaled with tone ringing.
- e. If called station does not answer, press MSG WAIT button once to leave a message waiting indication.

SERVICE CONDITIONS

There are no special service conditions required for this standard system feature.

DISPLAY INDICATION

MSG:102 115 103 112 104 08/08/88 09:45 am

MESSAGE WAITING REMINDER TONE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A key station with a message waiting can be reminded at a timed interval with a tone.

OPERATING PROCEDURE

No special operating procedure is required for this standard system feature.

SERVICE CONDITIONS

The system default value is 000 (0 minutes, which holds the signal inactive), and is variable from 000 to 104 minutes. The timer can be deactivated by the installer.

DISPLAY INDICATION

MSG:102 115 103 112 104 08/08/88 09:45 am

MUSIC ON HOLD

SIEMENS KEY SYSTEMS

SECTION: 40/80

FEATURE DESCRIPTION

A music source, when connected to the System, provides music to all lines on Hold, transferred calls, and calls waiting to be answered by Universal Call Distribution (UCD).

OPERATING PROCEDURE

No special operating procedure is required for this standard system feature.

SERVICE CONDITIONS

Music-On-Hold and Background Music through Key Telephone speakers can be provided via a customer provided tuner, tape deck, etc. Connection is made with an RCA jack connector on the DC/DC Converter Unit (DCU). A volume adjustment is provided on the DCU. The maximum input impedance of the music source is 2K ohms.

DISPLAY INDICATION

		· · · · · · · · · · · · · · · · · · ·

MUTE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

During a handset or handsfree speakerphone operation, the key telephone microphone can be disabled for stations requiring privacy of transmission, or in areas with high ambient noise levels.

OPERATING PROCEDURE

- a. Press while off-hook to activate. (Indicator lights.)
- b. Press again to deactivate. (Indicator extinguishes.)

SERVICE CONDITIONS

. There are no special service conditions required for this standard feature.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

Station 100 12/10/88 09:45 am

MULTI-LINE CONFERENCE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The conference initiator can exit a conference with two outside parties and leave them in an unsupervised conference. The initiator can re-enter the conference at any time.

A programmable conference timer disconnects the unsupervised conference if the initiator does not reenter.

OPERATING PROCEDURE

- a. Lift handset.
- b. Dial desired party.
- c. Press CONF button.
- d. Add next conference party by selecting another line.
- e. When party answers, press CONF button. All parties are connected.

SERVICE CONDITIONS

- a. This feature requires the installation of an APB card.
- b. The system default value is 10 minutes, and is variable from 00 to 99 minutes. The timer can be deactivated by the installer.
- c. Single Line Stations or OPXs cannot established a multi-line conference.

DISPLAY INDICATION

CONFERENCE 08/08/88 09:45 am

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			14. 14.
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			:

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The attendant places the system in night service by pressing the DND button. This allows specific telephones to ring at night that may or may not ring during the day. A dial code is provided for Universal Night Answer; a direct CO line button appearance or a lop key is required for this feature.

OPERATING PROCEDURE

- a. To initiate night service, the attendant presses the DND button.
- b. To remove night service, the attendant presses the DND button again.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The upper 20 buttons on each Key Telephone constitute a flexible button field. The buttons in this field can be individually programmed. One of the following six operations can be selected for each button.

OPERATING PROCEDURE

No special operating procedure is required for this standard system feature.

SERVICE CONDITIONS

There are no special service conditions are required for this standard feature.

DISPLAY INDICATION

	None		** **
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OFF-HOOK DIALING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The Key Telephone user can place calls with or without lifting the handset. If the speakerphone is disabled, the handset must be lifted to converse.

OPERATING PROCEDURE

Press the on/off button.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

18005551212 LINE 16 00:00 05

OFF-HOOK VOICE ANNOUNCE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

This feature provides a means for the calling party of an attempted intercom call to make a voice announcement and receive a handsfree reply from a busy station. Two conversations can be conducted on the same telephone at the same time. All stations must be six-wire OHVA equipped keysets, and each station must be properly programmed in the database.

OPERATING PROCEDURE

- a. If you dial a station that is busy and want to signal your call, press the CAMP ON button.
- b. If three bursts of tone are heard, your call has cut through the busy connection.
- c. You may speak to the called party. (If you hear ringing, you have placed a CAMP ON to that station; see Camp On feature.)

SERVICE CONDITIONS

- a. Each station equipped for OHVA requires one port from the KIB with Off-Hook Voice Announce.
- b. Each station must be programmed for OHVA.

DISPLAY INDICATION

CALL FROM STA 100 08/08/88 09:45 am

OFF-PREMISES EXTENSION (OPX)

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The 40/80 can have special OPX cards installed to interface to the CO with -48 volts DC with FCC approval.

OPERATING PROCEDURE

No special operating procedure is required for this system feature.

SERVICE CONDITIONS

OPXs can be replaced for key telephones on a 4 to 8 (key telephone) basis. The following items are required:

- o One OPX board
- o One Ring Generator
- o One APB board

DISPLAY INDICATION

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ON-LINE PROGRAMMING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Changes to the system database can be made without interrupting normal system operation (except for flexible button programming). Programming is done at station port 1.

OPERATING PROCEDURE

No special operating procedure is required for this Standard System Feature.

SERVICE CONDITIONS

No special Service Conditions are required for this Standard System Feature.

DISPLAY INDICATION

All Programming Displays

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ON-HOOK DIALING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A telephone user can place calls without lifting the handset and can monitor the call while the called party's phone is ringing or on hold.

OPERATING PROCEDURE

No special operating procedure is required for this Standard System Feature.

SERVICE CONDITIONS

No Special Service Conditions are required for this standard system feature.

DISPLAY INDICATIOn

18005551212

LINE 16

00:00:05

OFF-HOOK SIGNALING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

If a station is programmed to receive direct outside line ringing and is busy on another call, that station will receive muted ringing to indicate another call is ringing in.

OPERATING PROCEDURE

No special operating procedure is required for this Standard System Feature.

SERVICE CONDITIONS

There are no special service conditions required for this Standard System Feature.

DISPLAY INDICATION:

LINE RINGING
LINE 16 09:45 am

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SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The Siemens 40/80 hybrid key system can provide one-way or two-way paging, as well as multi-zone paging through its non-linear page port.

OPERATING PROCEDURE

Stations off-hook or in DND cannot hear the page.

- a. Dial the two-digit paging code, or press programmed button.
- b. Speak in normal tone of voice to deliver message:
 - *1 Internal Zone 1
 - *2 Internal Zone 2
 - *3 Internal Zone 3
 - *4 Internal Zone 4
 - *5 Internal All Call
 - *6 External Zone
 - *0 All Call

SERVICE CONDITIONS

- a. This feature requires the installation of an APB card.
- b. Valcom Equipment is recommended for two-way multi-zone paging.
- c. One page can be activated at a time.
- d. Page Warning Tone Determines whether a page warning tone is sounded over the Key Telephone speakers or external paging speakers.

Default is yes.

e. Page Timeout Timer - Determines the maximum length of a page. The system will automatically disconnect the page at the end of this time unless the person making the page has already hung up.

Default is 15 seconds and is variable from 01 to 60 seconds. A 00 entry disables the timer and pages will not be limited in length.

PAGE ACCESS - ONE-WAY

SIEMENS KEY SYSTEMS SECTION: 40/80 (CONTINUED)

- f. Page Access Stations can individually be allowed or denied the ability to make pages. Allowed by default.
- g. When using external equipment to activate multi-zone and/or talkback paging through the APB card, you may not use "ALL CALL PAGING."

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

ALL CALL PAGE 12/06/88 10:48 am PAGE FROM STA 105 12/06/88 10:48 am

PAGE ACCESS RESTRICTION

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Stations can be programmed to be allowed or denied the ability to make page announcements on a perstation basis.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

Page access can be restricted on a per-station basis.

DISPLAY INDICATION

		*

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The Siemens 40/80 hybrid key system can provide one-way or two-way paging, as well as multi-zone paging through its non-linear page port.

OPERATING PROCEDURE

Stations off-hook or in DND cannot hear the page.

- a. Dial the two-digit paging code, or press programmed button.
- b. Speak in normal tone of voice to deliver message
 - *1 Internal Zone 1
 - *2 Internal Zone 2
 - *3 Internal Zone 3
 - *4 Internal Zone 4
 - *5 Internal All Call
 - *6 External Zone
 - *0 All Call

SERVICE CONDITIONS

- a. This feature requires the installation of an APB card.
- b. Valcom Equipment is recommended for two way and multi-zone paging.
- c. One page can be activated at a time.
- d. Page Warning Tone Determines whether a page warning tone is sounded over the Key Telephone speakers or external paging speakers.

Default is yes.

e. Page Timeout Timer - Determines the maximum length of a page. The system will automatically disconnect the page at the end of this time unless the person making the page has already hung up.

Default is 15 seconds and is variable from 01 to 60 seconds. A 00 entry disables the timer and pages will not be limited in length.

PAGE ACCESS - TWO-WAY

SIEMENS KEY SYSTEMS SECTION: 40/80 (CONTINUED)

- f. Page Access Stations can individually be allowed or denied the ability to make pages. Allowed by default.
- g. When using external equipment to activate multi-zone and/or talkback paging through the APB card, you may not use "ALL CALL PAGING."

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

ALL CALL PAGE 12/06/88 10:48 am PAGE FROM STA 105 12/06/88 10:48 am

PAUSE TIMER

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

When dialing a speed number, a timed pause between digit sending can be placed in the number. The length of this pause can be programmed in the system database.

OPERATING PROCEDURE

No special operating procedure is required for this Standard System Feature.

SERVICE CONDITIONS

The system default value is two seconds, and is variable from one to nine seconds. The timer can be deactivated by the installer.

DISPLAY INDICATION

PBX FEATURE ACTIVATION BUTTONS

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Using either station or system speed call, PBX feature codes can be programmed as buttons for easier use.

OPERATING PROCEDURE

- a. Press SPEED CALL once, then press the desired outside line key; or select an outside line automatically by pressing the SPEED CALL button a second time.
- b. Dial the speed bin location (00 to 19 for Station Speed numbers; 20 to 99 for System Speed numbers).
- c. Dial telephone number.
- d. Press SPEED CALL.
- e. Hang up.

Pressing the TRANS button during number entry initiates a Pulse-To-Tone switchover. Pressing the HOLD button during number entry inserts a Pause. Pressing the FLASH key inserts a Flash into the speed number. Pressing the TRANS button as the first entry in the speed bin inserts a no-display character causing the numbers stored in the bin not to appear on the Key Telephone's display when the bin is accessed.

Station Speed numbers can be entered by keyset users. System Speed numbers must be entered by the first programmed attendant. If no attendant is specified, enter at Station 100.

If no outside line was specified in programming, one is chosen automatically, or you can choose one now.

- a. Press SPEED CALL button and dial bin location, or press programmed speed bin button. Station Speed numbers are 00 to 19. System Speed numbers are 20 to 99.
- b. When called party answers, pick up handset or use speakerphone.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

9947974 SPEED 10 09:45 am

* *		
	1 (2) 1 2 2 3	
	19 19 20	

PBX LINE ACCESS

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each telephone can be programmed to be allowed or denied an appearance to individual PBX lines or a pool of PBX lines. Telephones denied this appearance can have that line transferred to them by another station and the call will appear on the loop button.

Telephones can be programmed to answer calls on a particular line, but not make calls on that line. Any station may be programmed to ring for any combination of lines during the day and different stations can be programmed to ring on those lines at night.

OPERATING PROCEDURE

To answer a PBX call:

- a. Lift handset.
- b. Press slow flashing outside line button. (If your telephone is programmed with Preferred Line Answer, you may answer an outside line by lifting the handset.)

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

When manually dialing outgoing calls:

18005551212 LINE 16 00:00:05

			4. 3. 3.

PBX LINE GROUPING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

PBX lines can be in one of up to seven groups to separate line types. Stations are then individually assigned access to these lines via pooled group key.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

Lines must be preprogrammed into Line groups.

DISPLAY INDICATION

115 LINE 16 09:45 am

PBX HUNT LINE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Using the preset Call Forward Feature, PBX lines programmed to ring on a given telephone can be transferred to another telephone after a period of time. Up to eight transfers are possible.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

- a. The system must be programmed to assign forward location(s).
- b. The system default value is 10 seconds, and is variable from 00 to 99 seconds.

DISPLAY INDICATION

FORWARD RING
LINE 16 09:45 am

		,

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

When all PBX lines in a group are busy, stations can be placed in a queue waiting for a line to become available. Users are signaled when a line becomes available. If the waiting station is busy when the queued PBX line becomes available, the calling station is placed at the bottom of the queue. Three attempts are made to reach a busy station before that station is dropped from the queue. If a station does not answer the queue signal within 15 seconds, that station is dropped from the queue.

OPERATING PROCEDURE

A station can queue only one line at a time. If you dial a busy outside line and wish to be placed in a queue waiting for that line to become available:

- a. Lift handset.
- b. Press LINE QUE button.
- c. Press desired busy PBX line button.
- d. Hang up.

To cancel a queue:

- a. Lift handset or press ON/OFF button.
- b. Press LINE QUE button.

If you are in a queue and a line becomes available, your telephone rings and a PBX line of the line group you queued flashes slowly. To answer a queue:

- a. Lift handset.
- b. Press flashing outside line button to answer. (If your station is programmed for Preferred Line Answer, you will have the line automatically upon lifting the handset.)

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

CALLING STATION'S DISPLAY

CALLED STATION'S DISPLAY

PLACED IN QUEUE FOR GROUP 3 09:45 am

QUEUE CALLBACK
LINE 16 09:54 am

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The system allows five one- or two-digit access codes to be entered into memory. When one of these codes is dialed, this signals the KSU that toll restriction is to be applied at the next dialed digits after the code. If one of these codes is not dialed, toll restriction does not apply. This allows the dialing of PBX extensions 100, 110, 111, etc. This feature functions on lines marked as PBX type lines in programming.

OPERATING PROCEDURE

No special operation procedure is required with this standard system feature.

SERVICE CONDITIONS

Up to five two-digit PBX codes must be programmed.

DISPLAY INDICATION

PBX LINE-TO-LINE CONFERENCE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The conference initiator can exit a conference with two outside parties and leave them in an unsupervised conference. The initiator can re-enter the conference at any time.

A programmable conference timer disconnects the unsupervised conference if the initiator does not reenter.

OPERATING PROCEDURE

- a. Lift handset.
- b. Dial desired party.
- c. Press CONF button.
- d. Add next conference party by selecting another line.
- e. When party answers, press CONF button. All parties are connected.

SERVICE CONDITIONS

- a. This feature requires the installation of an APB card.
- b. The system default value is 10 minutes, and is variable from 00 to 99 minutes. The timer can be deactivated by the installer.
- c. Single Line Telephones or OPXs cannot establish a PBX Line to Line Conference.

DISPLAY INDICATION

CONFERENCE 08/08/88 09:45 am

PBX RING DETECT

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The duration of the ringing signal from the PBX is matched with ringing detection circuitry in the KSU. The ring detect can range from 200 to 900 milliseconds, programmed in 100 millisecond increments. This timer helps prevent false ringing.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The system default value is 300 milliseconds, and is variable from 200 to 900 milliseconds. The timer can be deactivated by the installer.

DISPLAY INDICATION

PERSONALIZED MESSAGES

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each Key Telephone can select a preassigned message to be displayed on the LCD screen of a Key Telephone calling that station. There are ten possible messages which can be displayed:

VACATION
RETURN MORNING
RETURN AFTERNOON
RETURN TOMORROW
RETURN NEXT WEEK
BUSINESS TRIP
MEETING
HOME
ON BREAK
LUNCH

When a call is made from a single line or non-display telephone, a Do Not Disturb (DND) Tone is heard.

OPERATING PROCEDURE

- a. Dial [7] [8] on the dial pad.
- b. Dial the two-digit code for the message that will appear:
 - 00 clears messages
 - 01 VACATION
 - 02 RETURN MORNING
 - 03 RETURN AFTERNOON
 - 04 RETURN TOMORROW
 - 05 RETURN NEXT WEEK
 - 06 BUSINESS TRIP
 - 07 MEETING
 - 08 HOME
 - 09 ON BREAK
 - 10 LUNCH

SERVICE CONDITIONS

The calling party must have a display telephone set.

DISPLAY INDICATION

The calling party will see one of the above ten messages programmed by the station user.

SIEMENS KEY SYSTEMS

SECTION: 40/80

FEATURE DESCRIPTION

A phone box may be substituted for a telephone on a one-for-one basis. The phone box can be used to receive intercom announcements and to provide handsfree response. There is also a CALL button that can signal all stations programmed to receive alarm ringing. One of these stations can respond to the signal by pressing the DSS/BLF button or by dialing the intercom number of the phone box station. Two-way conversation is then possible. Phone boxes can be used for Background music and internal page.

OPERATING PROCEDURE

No special operating procedure is required for this feature.

SERVICE CONDITIONS

One KSB port is required for each phone box.

DISPLAY INDICATION

- New C	
£ .	

PREFERRED LINE ANSWER

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A station with preferred line answer can answer any assigned ringing outside line, outside line transfers, line queues, and transfer recalls by lifting the handset or pressing the ON/OFF button. The CO line button does not have to be pressed for automatic line answer.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The system default value entry is disabled for all stations. It can be activated on a per-station basis by the installer.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the ldle mode, the following display is shown.

Station 100 12/10/88 09:45 am

•		
		\$

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURES DESCRIPTION

Privacy is automatically provided on all calls. If one station is conversing, another station cannot intrude on that line. The Automatic Privacy feature can be disabled, allowing another station to join in on existing CO/PBX/CENTREX line conversations.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The system must be programmed for privacy preference. The default programming includes privacy as a standard feature.

DISPLAY INDICATION

in the second

PRIVACY PREFERENCE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Privacy is automatically provided on all calls. If one station is conversing, another station cannot intrude on that line. The Automatic Privacy feature can be disabled, allowing another station to join in on existing CO/PBX/CENTREX line conversations.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The system must be programmed for privacy preference. The default programming includes privacy as a standard feature.

DISPLAY INDICATION

PRIVATE LINE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

A station can be programmed to have a private line. A line designated as a private line can transfer calls to other stations and can be forwarded to another station and, when placed in night service, the UNA code will not pick up this ringing CO/PBX/ CENTREX line. A private line cannot have a preset forward station.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The line must be programmed as a private line.

DISPLAY INDICATION

CALL FROM STA 100 08/08/88 09:45 am



ROTARY SERVICE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each CO/CENTREX/PBX interface circuit for lines can be individually programmed to sent DTMR (Tone) or dial pulse.

OPERATING PROCEDURE

No special operating procedure is required for this standard system feature.

SERVICE CONDITIONS

The 40/80 system must be programmed for either DTMF or dial pulse.

DISPLAY INDICATION

SAVE NUMBER REDIAL

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Any number dialed on an outside line can be saved permanently to be used at any time.

OPERATING PROCEDURE

To save the last number dialed:

- a. Keep handset off-hook.
- b. Press SPEED button twice.

To dial a saved number:

- a. Press SPEED button.
- b. Dial asterisk (*) key.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

9947974	
LINE 16	09:45 am

SINGLE LINE TELEPHONE ACCESS

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The 40/80 system can have up to 72 single line telephones with message waiting on an 8-to-8 swapout of key sets.

OPERATING PROCEDURE

No special operating procedure is required for this system feature.

SERVICE CONDITIONS

- a. Single line telephones can be replaced for key telephones on an 8-for-8 basis. The following items are required for a system equipped with SLTs:
 - One SLT board (installed in KSU)
 - o One RG (installed into EPS)
 - o One APB (installed in Basic KSU)
- b. If more than 24 single line ports are installed, an SLU must be added.

DISPLAY INDICATION

·		

SPEAKERPHONE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each Key Telephone is equipped with a speakerphone. The speakerphone can be programmed to operate in one of three ways:

- a. Normal speakerphone operation.
- b. Disabled for outgoing calls and incoming CO calls, but handsfree talkback on intercom allowed.
- c. Disabled to allow headset operation.

OPERATING PROCEDURE

a. Press station key of desired party;

or

Press available outside line button and dial number. Speakerphone is activated.

b. Press ON/OFF button to end call.

SERVICE CONDITIONS

The system default value entry is enabled for all stations. It can be deactivated on a per-station basis by the installer.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

Station 100 12/10/88 09:45 am

STATION MESSAGE DETAIL RECORDING

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION:

The Siemens 40/80 Key Telephone System provides one industry-standard RS-232C port, and a second port is optional for simultaneous use. Each port allows connection to an external printer or call accounting device. The system provides details on both incoming and outgoing calls. This feature is programmable to allow recording of all calls or only outgoing long distance calls. The system tracks calls by outside line, number dialed, time of day, date, station that placed the call, and duration of call. Account codes may also be entered and recorded.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

The system default value entry is disabled for all stations. It can be activated on a per-station basis by the installer.

DISPLAY INDICATION

No. 44		
		$(a,b) \in \mathbb{R}^{n}$
	•	

STATION SPEED DIAL

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each station user can program up to 20 frequently dialed numbers of up to 24 digits in length. Pauses, flash commands, pulse-to-tone switchover, and no-display characters take up digit spaces. There are a total of 640 speed locations to be divided among all telephones on a first-come, first-served basis. Numbers are dialed by pressing the SPEED CALL button and a two-digit code. This feature can additionally be assigned to any of the 20 buttons in the flexible button field on each keyset for one-button activation.

OPERATING PROCEDURE

- a. Press SPEED CALL once, then press the desired outside line key; or select an outside line automatically by pressing the SPEED CALL button a second time.
- b. Dial the speed bin location (00 to 19 for Station Speed numbers; 20 to 99 for System Speed numbers).
- c. Dial telephone number.
- d. Press SPEED CALL.
- e. Hang up.

Pressing the TRANS button during number entry initiates a Pulse-To-Tone switchover. Pressing the HOLD button during number entry inserts a Pause. Pressing the FLASH key inserts a Flash into the speed number. Pressing the TRANS button as the first entry in the speed bin inserts a no-display character causing the numbers stored in the bin not to appear on the Key Telephone's display when the bin is accessed.

Station Speed numbers can be entered by keyset users. System Speed numbers must be entered by the first programmed attendant. If no attendant is specified, enter at Station 100.

If no outside line was specified in programming, one is chosen automatically, or you can choose one now.

- a. Press SPEED CALL button and dial bin location, or press programmed speed bin button. Station Speed numbers are 00 to 19. System Speed numbers are 20 to 99.
- b. When called party answers, pick up handset or use speakerphone.

STATION SPEED DIAL

SIEMENS KEY SYSTEMS SECTION: 40/80 (CONTINUED)

SERVICE CONDITIONS

There are no special service conditions required for this standard feature.

DISPLAY INDICATION

9947974	
SPEED 10	09:45 am

		N

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Up to 80 commonly dialed numbers can be programmed into System Speed Dial for use by stations allowed this feature. These numbers can be up to 24 digits, including pauses, flash commands, pulse-to-tone switchover, and no-display characters. The last 40 numbers are not monitored by toll restriction.

OPERATING PROCEDURE

- a. Press SPEED CALL once, then press the desired outside line key; or select an outside line automatically by pressing the SPEED CALL button a second time.
- b. Dial the speed bin location (00 to 19 for Station Speed numbers; 20 to 99 for System Speed numbers).
- c. Dial telephone number.
- d. Press SPEED CALL.
- e. Hang up.

Pressing the TRANS button during number entry initiates a Pulse-To-Tone switchover. Pressing the HOLD button during number entry inserts a Pause. Pressing the FLASH key inserts a Flash into the speed number. Pressing the TRANS button as the first entry in the speed bin inserts a no-display character, causing the numbers stored in the bin not to appear on the Key Telephone's display when the bin is accessed.

Station Speed numbers can be entered by keyset users. System Speed numbers must be entered by the first programmed attendant. If no attendant is specified, enter at Station 100.

If no outside line was specified in programming, one is chosen automatically, or you can choose one now.

- a. Press SPEED CALL button and dial bin location, or press programmed speed bin button. Station Speed numbers are 00 to 19. System Speed numbers are 20 to 99.
- b. When called party answers, pick up handset or use speakerphone.

SERVICE CONDITIONS

There are no special service conditions required for this standard feature:

DISPLAY INDICATION

994797	7 4		
SPEED	10	09:45	am

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

The system provides a flexible means of providing toll restriction to individual stations. By assigning a Class of Service to each station, long distance calls can be limited at certain stations. Long distance calls can also be limited by entries in the Allow/Deny tables.

OPERATING PROCEDURE

No special operating procedures are required for this standard feature.

SERVICE CONDITIONS

Allow/Deny tables and Class of Services must be programmed.

DISPLAY INDICATION

TOLL RESTRICTION OVERRIDE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

An outside line can be programmed so that toll restricted stations are allowed to dial on that line.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

Toll override must be programmed in the system database.

DISPLAY INDICATION

TOUCH-TONE SERVICE

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each CO/CENTREX/PBX interface circuit for lines can be individually programmed to send DTMF (Tone) or dial pulse.

OPERATING PROCEDURE

No special operating procedure is required for this standard system feature.

SERVICE CONDITIONS

The 40/80 system must be programmed for either DTMF or dial pulse.

DISPLAY INDICATION

		: : 47

UNIVERSAL CALL DISTRIBUTION

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Eight Uniform Call Distribution (UCD) groups can be programmed, each containing up to eight three-digit station numbers. Each group is assigned a pilot number. When this number is dialed, the first available station in that group is called. An alternative UCD group may be specified during programming, allowing overflow call distribution to the alternate group.

The Recorded Announcement (RAN) feature is used with the UCD feature to provide a Recorded Announcement to unanswered incoming CO calls or calls in queue waiting for an available UCD station. The system can be programmed to connect the waiting caller to a different RAN port for the second and subsequent RAN messages.

OPERATING PROCEDURE

No special operating procedure is required for this standard feature.

SERVICE CONDITIONS

UCD tables must be programmed in the system database.

DISPLAY INDICATION

CALL TO STA 110
VIA UCD 09:45 am

·		

UNIVERSAL NIGHT ANSWER (UNA)

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Incoming CO lines can be programmed for Universal Night Answer (UNA). Stations that do not have access to a line during the day can answer that line while the System is in the Night Mode by dialing a UNA code.

OPERATING PROCEDURE

To answer an outside line ringing at another station, dial [7] [5] on the dial pad. The connected outside line can be transferred or disconnected. Each telephone using Universal Night Answer must have a loop button appearance if it has no appearance for the ringing outside line.

SERVICE CONDITIONS

There is no special service condition required for this standard system feature.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

Station 100 12/10/88 09:45 am

		\$
		3

VOLUME CONTROLS

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Each key telephone user can adjust both speaker and ring volume independently by using the two volume controls located on the right side of the keyset.

OPERATING PROCEDURE

There are two volume control slide switches on the right side of the key telephone.

Rotating the volume control wheel toward you decreases the volume. The front switch controls voice, background music, and speakerphone volume; the back switch controls tone ringing volume.

SERVICE CONDITIONS

There are no special service conditions required for this standard system feature.

DISPLAY INDICATION

The display indication reflects the current mode or status of the station. For example, if the station is in the Idle mode, the following display is shown.

Station 100 12/10/88 09:45 am

WALL MOUNT KIT

SIEMENS KEY SYSTEMS SECTION: 40/80

FEATURE DESCRIPTION

Any key telephone can be adapted for wall mounting. The wall mount kit must be provided for wall mounting. Since the microphone directly faces the floor, the quality of the speakerphone might be limited.

OPERATING PROCEDURE

No special operating procedure is required for this feature.

SERVICE CONDITIONS

There are no special service conditions are required for this standard feature.

DISPLAY INDICATION

			•
			W.

FIELD MODIFICATION INSTRUCTIONS

PRODUCT: SIEN	MENS 40/80 ASSEMBLY: EXPANSION KSU TEC #: 20SMN004
CURRENT ISSUE #: (before modification	New Issue #: 1, Rev A (Series 1) (after modification)
MODIFICATION DESC	CRIPTION: This modification increases the maximum number of station ports supported by the Siemens 40/80 Key Telephone System, from 80 to 96. The modification enables the two optional slots, via a jumper wire connected on the Motherboard (MBII), of the Expansion KSU (E KSU) to be used for additional station boards (KSI, KSI-OHV, SLT, OPX).
MATERIALS NEEDED	 Solder Iron Solder 30 AWG insulated - jumper wire (minimum 6") # 2 Phillips screwdriver Wire Cutter Small Long Nose Pliers
	- 1 Revision label i.e. Rev A - 2 Series labels (adhesive) or S1 stamp. i.e. S1
Instructions:	NOTE: All work to be done in an ESD safe area with a wrist strap connected to the work station ground!
1.	Place the KSU with the front cover on the ESD safe work surface.
2.	Remove the six (6) screws that secure the back plate (cover) to the KSU.
3.	The Motherboard of the Expansion KSU (MBII) should now be exposed. Locate the silkscreen that identifies the edge connector(s) as: KSI 10, APL, APL (two APL connectors) The jumpers will be connected between these locations (see figure 1).

INSTRUCTIONS (CONT):

- 4. a) Connect from A22 (IDT T) of edge-connector KSI 10 to A22 of card edge-connector APL (Option 1) and APL (Option 2) with jumper wire.
 - b) Connect from B22 (IDT R) of edge-connector KSI 10 to B22 of card edge-connector APL (Option 1) and APL (Option 2) with jumper wire.

Note: This modification "bridges" the "A22" and "B22" solder traces to the two Option (APL) slots to allow KSI, KSI-OHV, SLT, and OPX pcb's to function.

- 5. Replace the back plate (cover) and install the screws. Tighten the screws, do not over-tighten.
- 6. Place the E-KSU upright and remove the front cover. Adhere the Revision "A" sticker near the top right portion of the mother board II.
- 7. Mark the unit serial number label located inside the KSU (on the lower card edge rail) with the "S1" label. Also mark the unit box label with "S1" if applicable. The "S1" mark may be applied using a label, or a permanent marker may be used.

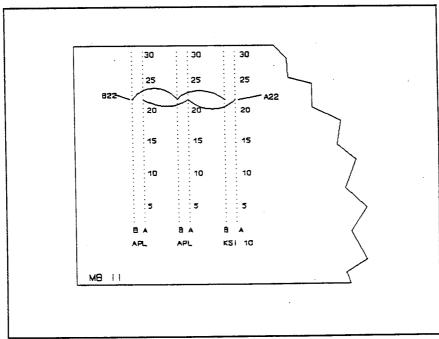


Figure 1 - Mother Board II (viewed with the back cover removed)

FIELD MODIFICATION INSTRUCTIONS

PRODUC	т: <u>SIE</u>	EMENS 40/80 ASSEMBLY: <u>APB</u> TEC #: <u>23SMN012</u>	<u>-</u>
	T ISSUE # modificati		_
MODIFIC	ATION DE	SCRIPTION: This modification increases the DTMF signal level on the intercom path to enhance the "In-Band" signaling for connection to voice mail devices.	
MATERIA	ALS NEEDI	- Solder Iron - Lead Cutter - Desolder Tool - Small Long Nose Pliers - 6 - 3.3K ohm 10% 1/4 watt Resistors	
		- Revision Label (adhesive) i.e. Rev A	
INSTRUC	CTIONS:	NOTE: All work to be done in an ESD safe area with a wrist strap connected to the work station ground!	
	1.	Place the APB board on the ESD safe work station.	
	2.	Locate Resistors R40 - R45 (47K ohms).	
		NOTE: R40, R41, R43, R44 are located by the 8 pin IC labelled G32 on the PCB. R42 and R45 are located by the 14 pin IC labelled G13 on the PCB (see attached figure 1).	
	3.	Carefully desolder and remove the resistors (R40 - R45) from the PCB.	
	4.	Insert the 3.3K ohm resistors in R40-R45 and solder. Trim the excess leads.	
	5.	Adhere the revision label (or mark with a permanent marker) on the PCB near the white silkscreened PCB identifier (see figure 1) "Rev A". Note, also mark the label of the unit box if applicable.	
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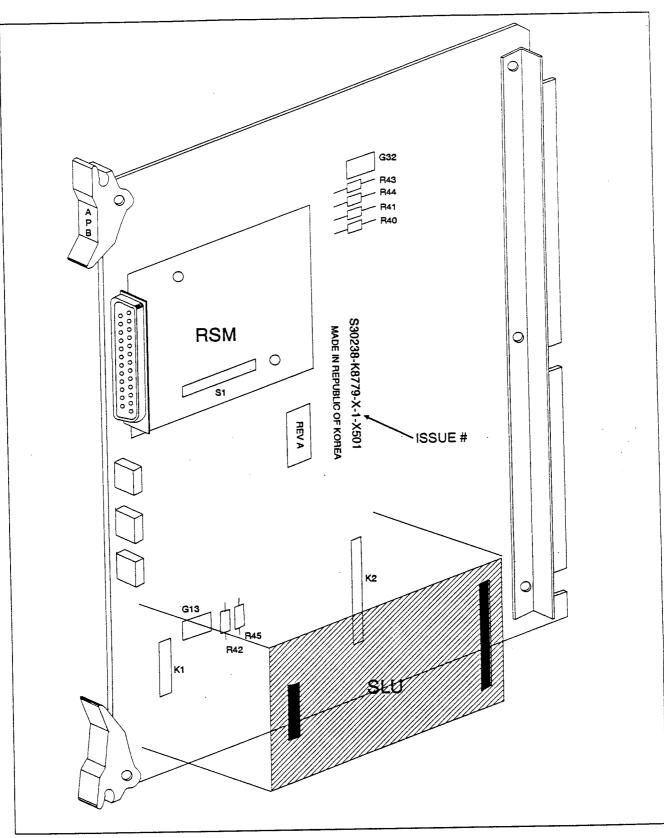


Figure 1 Application Board (APB)

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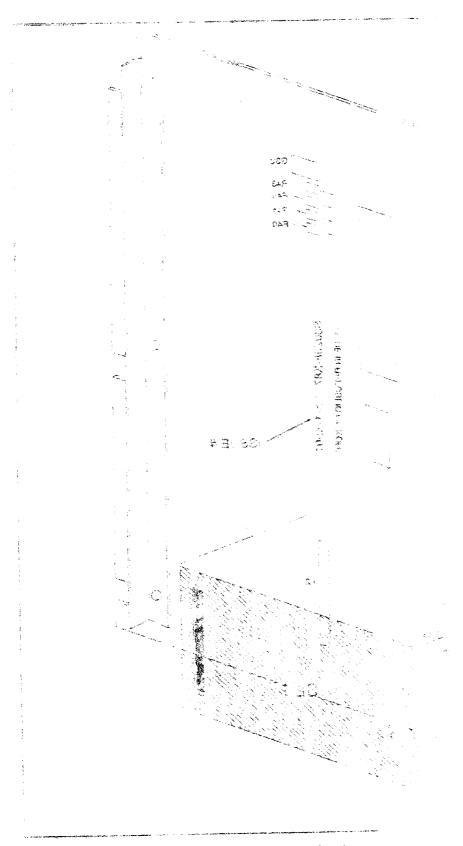
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FIELD MODIFICATION INSTRUCTIONS

PRODUCT: S	IEMENS 40/80 ASSEMBLY: APB TEC #: 23SMN0	<u>)12</u>		
CURRENT ISSUE (before modifica		New Issue #: 1, Rev A (after modification)		
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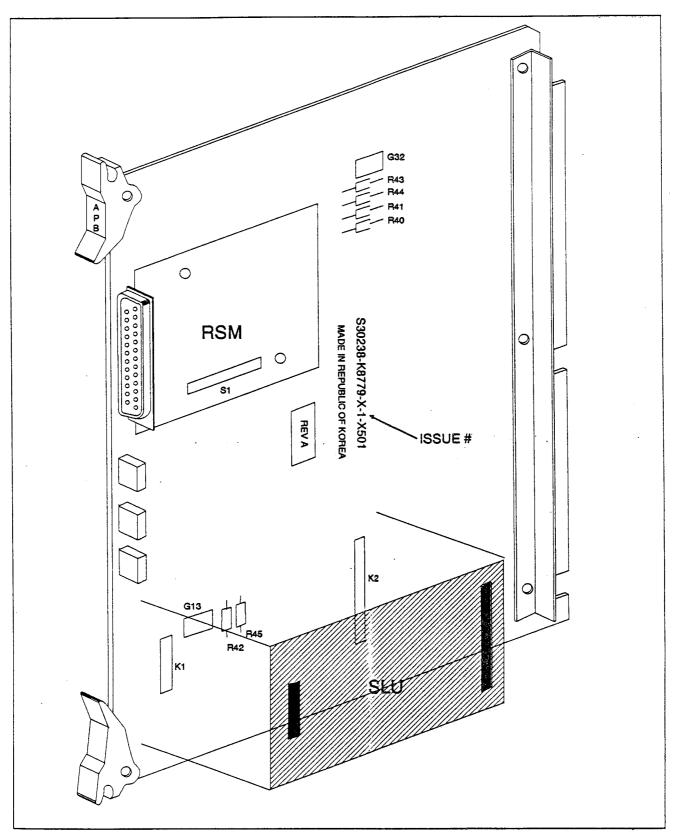


Figure 1 Application Board (APB)