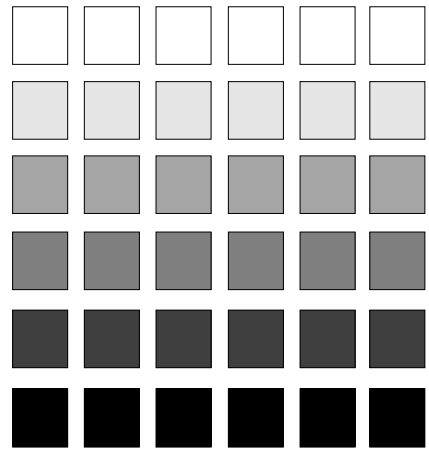


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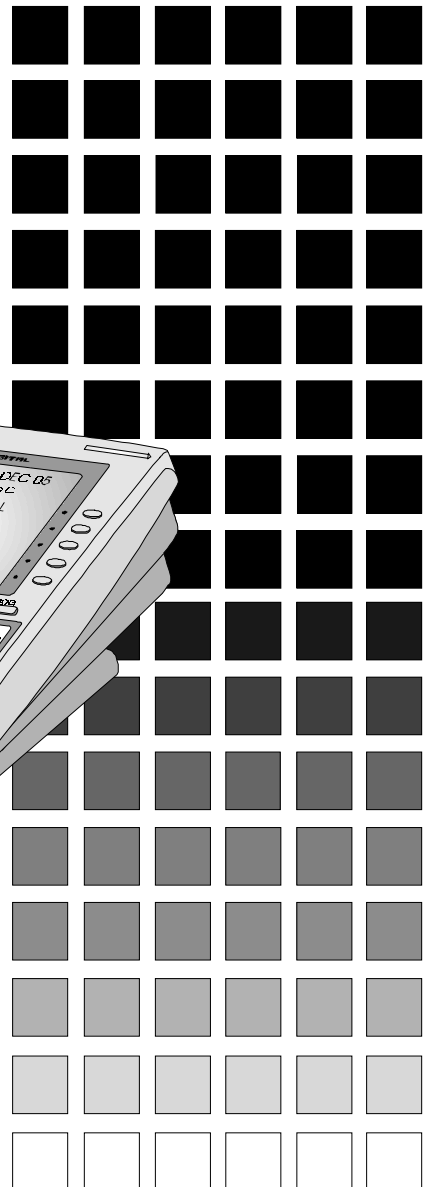
ICX

Integrated Communication eXchange

Technical Manual



Section 700 Feature Operation



Issued August 1998

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Contents

Chapter 1. About This Manual	11
Chapter 2. List of Features	13
Chapter 3. System Features	19
AEC Disconnect	22
Attendant Groups	22
Automatic Call Distributor	23
Automatic Route Selection	23
Automatic Exchange Line to Exchange Line Transfer	24
Background Music/MOH Separation	25
Battery Backup	25
Building Block Expansion Capability	25
Built-In Voice Mail	26
Call Progress Tones	27
Caller ID	27
Centrex/PBX Compatibility	28
Class of Service	28
Class of Service - Exchange Line/Tie	28
Class of Service - Ext/Ext Restriction	29
Class of Service - Extension Feature	29
Class of Service - Exchange Line to Exchange Line Restriction	31
CO (Exchange Line) Ringing Types	31
Direct Inward Dial Ringing	31
Direct In Line Ringing	32
Direct Inward System Access Ringing	32
Multiple Ringing	32
CO (Exchange Line) Interface	33
CO (Exchange Line) Interface - DDI (Not Available on UK Model)	33
CO (Exchange Line) Interface - ISDN BRI	33
CO (Exchange Line) Interface - ISDN-PRI	33
CO (Exchange Line) Interface - Loop Start	34
Computer Telephony Integration Capability	34
Data Security	34
Day/Night System Mode	35
Manual Day/Night Mode	36
Automatic Day/Night Mode	37
Digital Pad	37
Direct Inward System Access	38
Distinctive Ringing	39

Doorphone	39
Doorphone Sensor	40
Extension Interface	40
Digital Key Telephones	40
Analog Device Capability	41
DP/DTMF Single Line Telephones (SLTs)	41
ISDN/BRI S-Point Interface	41
ISDN/PRI S-Point Interface	41
Flexible Numbering Plan	42
Flexible Slot	42
Hunting Groups	43
Pilot Terminal Hunt Group	43
Pilot Distributed Hunt Group	43
Switch Back Hunt Group	44
Circular Hunt Group	44
Next Extension/Hunt Group	44
Internal Hold Tone	45
MCO Tenant Group	45
Memory Backup	46
Music-on-Hold	46
Name Assignments	46
Extension Name Assignments	47
Speed Dial Name Assignments	50
Network Facilities	52
Network Call Transfer	53
Network Extension Calling	53
Network Paging	53
Network Call Routing	53
Tandem Connection	53
Non-Blocking Architecture	53
Power Failure Transfer	54
Power On Maintenance	54
Programming Devices	54
Telephone Programming	55
PC-Based Customizing Tool	55
Ringling Modes	55
Day 1/ Day 2/Night Ringing	55
Day 1/ Day 2/Night Delayed Ringing	56
DDI (DID) Day/Night Ringing	56
DDI (DID) Day/Night Busy/Delayed Ringing	56
Busy Lamp Field Ringing	57
Busy Lamp Field Delayed Ringing	57
Slide Ringing	57
Alarm Ringing	58
SSD TRS (Call Barring) Override	58
Station Message Detail Recording (Call Logging)	58
Toll Restriction Service (Call Barring)	60
Trunk (Exchange Line) Access Groups	61

Virtual Port	61
Virtual Port used for Virtual Extension	62
Virtual Port used for Floating Hold	62
Voice Mail Integration (Third Party)	62
Answer Supervision for Voice Mail	62
Call Forward ID Code for Voice Mail	63
CLI/DDI Voice Mail ID Code	64
High Priority Message Waiting	64
Message Key ID Code	65
Voice Mail Transfer Key	65

Chapter 4. User Maintenance

Chapter 4. User Maintenance	69
Introduction	70
About User Programming	70
Set System Date/Time/Day	71
Set Personal Speed Dial Numbers	72
Set Personal Speed Dial Names	73
Set System Speed Dial Numbers	78
Set System Speed Dial Names	79
Set System Speed Dial Index	80
Set Extension Names	81
Set Verified Account Codes	83
Set Call-Forward ID Codes for Voice Mail	84
Set Message Key ID Code	85
Set Mode Schedule	87
Set Special Day Mode	89
Set Exception Day Mode	95
Set Day of Week Mode	97
Set Walking TRS (Call Barring) Codes	98
Set Call Forward Busy Destination Extension	99
Set Call Forward No Answer Destination Extension	100
Set Caller ID Logging Extensions	101

Chapter 5. Key Telephone Features

Chapter 5. Key Telephone Features	105
Key Telephone	108
Account Codes	108
Non-Verified Account Codes	109
Verified Account Codes	110
Attendant Group Calls	111
Auto Repeat Dial	111
Background Music	112
Busy Override	113
Callback Request	114
Call Forwarding	115

Call Forwarding-All Calls	115
Call Forwarding - Busy.	116
Call Forwarding - No Answer.	117
Call Forwarding-All Calls and Do-Not-Disturb	117
Call Hold	118
System Hold.	118
Floating Hold	119
Exclusive Hold	120
Broker's Hold	121
Call Park	121
Call Pickup	123
Extension Group Pickup	123
Extension Direct Pickup.	124
Trunk (Exchange Line) Group Pickup	125
Trunk (Exchange Line) Direct Pickup	125
Call Transfer	126
Supervised Transfer.	126
Unsupervised Transfer.	127
Camping a Call Onto a Busy Extension.	128
Caller ID Call Log	129
Call Log Operation on a Small Display Key Telephone	130
Call Log Operation on a Large Display Key Telephone.	131
Camp-on (Call Waiting)	133
Conference Calls	135
Three-Party Conferencing	135
Eight-Party Conferencing.	136
Display Information	137
Large Display Phone	137
Small Display Phone	138
Changing the Display Contrast	139
Do-Not-Disturb	139
DP to DTMF Signal Conversion	140
DSS/72 Console	141
EM/24 Console	141
Flash	142
Flexible Function Keys	142
Handsfree Answerback.	148
Handsfree Operation	149
Headset Operation.	149
Hot Dial Pad	150
Considerations.	150
Hot Line.	150
Intercom Calling.	151
Last Number Redial	152
Line Appearances	152
DSS/BLF Appearances	152
Direct In Line Appearances	154
Multi-Exchange Line (MCO) Appearances	154

Message Key	155
Message Waiting / Callback	156
Mute Function	158
Offhook Monitor	158
Offhook Signalling	159
Offhook Voice Announce	160
One-Touch Keys	162
Onhook Dialling	164
Paging	164
Meet-Me Answer	165
Reset Call	165
Ringing Line Preference	166
Speed Dialling	166
Personal Speed Dial	166
System Speed Dial	169
Speed Dial Linking	170
Speed Dial Name Assignments	172
Step Call (Reset Call)	176
Timed Reminder Call	177
Trunk (Exchange Line) Access	178
Exchange Line Key Access	178
Direct Exchange Line Access	178
MCO Line Preference	179
MCO Exchange Line Access	179
Trunk (Exchange Line) Queuing	180
Variable Mode	181
Voice Recognition	183
Volume Control	184
Walking TRS (Call Barring) Class of Service	184

Chapter 6. DSLT Features

Chapter 6. DSLT Features	187
Digital Single Line Telephone	189
Account Codes	189
Non-Verified Account Codes	190
Verified Account Codes	191
Attendant Group Calls	192
Auto Repeat Dial	192
Background Music	193
Busy Override	194
Callback Request	194
Call Forwarding	195
Call Forwarding-All Calls	195
Call Forwarding - Busy	196
Call Forwarding - No Answer	197
Call Forwarding and Do-Not-Disturb	198
Call Hold	199

System Hold	199
Floating Hold	200
Exclusive Hold	200
Broker's Hold	201
Call Park	201
Call Pickup	203
Extension Group Pickup	203
Extension Direct Pickup	204
Trunk (Exchange Line) Group Pickup	205
Trunk (Exchange Line) Direct Pickup	205
Call Transfer	206
Supervised Transfer	206
Unsupervised Transfer	206
Camping a Call Onto a Busy Extension	207
Camp-On (Call Waiting)	208
Conference Calls	209
Three-Party Conferencing	209
Eight-Party Conferencing	210
Do-Not-Disturb	211
DP to DTMF Signal Conversion	212
Flash	213
Hot Line	213
Intercom Calling	214
Last Number Redial	215
Message Waiting / Callback	215
Onhook Dialling	216
Offhook Signalling	217
Offhook Voice Announce	217
Paging	218
Meet-Me Answer	219
Reset Call	219
Speed Dialling	220
Personal Speed Dial	220
System Speed Dial	222
Speed Dial Linking	223
Timed Reminder Call	224
Trunk (Exchange Line) Access	225
Direct Trunk (Exchange Line) Access	225
MCO Trunk (Exchange Line) Access	226
Trunk (Exchange Line) Queuing	227
Walking TRS (Call Barring) Class of Service	228
<hr/>	
Chapter 7. SLT Features	229
Account Codes	231
Non-Verified Account Codes	231
Verified Account Codes	232

Attendant Group Calls	233
Busy Override	234
Callback Request	234
Call Forwarding	235
Call Forwarding-All Calls	235
Call Forwarding - Busy	236
Call Forwarding - No Answer	237
Call Forwarding and Do-Not-Disturb	238
Call Hold	239
System Hold	239
Floating Hold (Retrieve Only)	240
Exclusive Hold	240
Broker's Hold	241
Call Park	241
Call Pickup	243
Extension Group Pickup	243
Extension Direct Pickup	244
Trunk (Exchange Line) Group Pickup	244
Trunk (Exchange Line) Direct Pickup	245
Call Transfer	245
Supervised Transfer	246
Unsupervised Transfer	246
Camping a Call Onto a Busy Extension	247
Camp-On (Call Waiting)	248
Conference Calls	249
Three-Party Conferencing	249
Eight-Party Conferencing	250
Do-Not-Disturb (DND)	251
Flash Send	252
Hot Line	252
Intercom Calling	253
Last Number Redial	254
Offhook Signalling	254
Offhook Voice Announce	255
Message Waiting / Callback	255
Paging	256
Meet-Me Answer	257
Reset Call	257
Speed Dialling	258
Personal Speed Dial	258
System Speed Dial	259
Speed Dial Linking	260
Timed Reminder Call	261
Trunk (Exchange Line) Access	262
Direct Trunk (Exchange Line) Access	262
MCO Trunk (Exchange Line) Access	262
Trunk (Exchange Line) Queuing	263
Walking TRS (Call Barring) Class of Service	265

Chapter 8. ARS and TRS (Call Barring) Operation	267
Introduction	267
Detailed Description	268
TRS (Call Barring) Features	268
ARS/TRS (Call Barring) Features	269
TRS (Call Barring) Configuration and Operation	271
TRS Programming/Operation Overview	272
Example TRS Configuration	274
ARS Configuration and Operation	282
ARS/TRS (Call Barring) Programming/Operation Overview	282
Example ARS Configuration	285

Chapter 9.	301
---------------------------	------------

Chapter 1. About This Manual

If you are using this manual for a single System, make note of its software version in the following table. This information may be referenced by technicians or owners of the System.

Software version information for systems shipped with this document	
CPC Model:	Software Version:

Organization

This manual contains detailed descriptions of features. The feature descriptions are organized according to the following categories:

Feature Categories	Description
System Features	System Features are either available on a system-wide basis or aid in the overall administration of the System.
User Maintenance	User Maintenance Features are used by the end user to maintain the System. These items include setting time and date, Personal Speed Dial (PSD) numbers and names, System Speed Dial (SSD) numbers and names, extension names, Verified ID codes, Call Forward ID codes for Voice Mail, Message Key ID codes, Mode schedule, Special Day mode, Exception Day mode, and Day of Week mode.
Key Telephone Features	Key Telephone Features are available to System Key phones. System Key phones are proprietary digital sets that provide feature access through a combination of feature keys and access codes.
Digital Single-Line Telephone (DSL) Features	DSL Features are available to Digital Single-Line Telephones. DSLTs provide digital audio quality and limited feature key access in a single-line set.
Single Line Telephone (SLT) Features	SLT Features are available on a standard analog push button telephone set. Since SLTs are not equipped with feature keys, most features are accessed by using the dialpad and/or the switchhook.

Purpose

The purpose of this manual is to provide an overview of feature operations and requirements. Where applicable, the following types of information are provided for each feature:

Types of information	Purpose
Description	Provides an overview of how the feature works and, in some cases, what it is typically used for
Operation	Includes step-by-step instructions on how to use the feature
Hardware Requirements	Lists any special hardware that is required to use the feature

Related Programming	Lists the programming subsystems associated with the feature
Considerations	Provides details on feature interactions and limitations

Abbreviation List

ACD	Automatic Call Distributor
ARS	Automatic Route Selection
BGM	Background Music
BLF	Busy Lamp Field
BRI	Basic Rate Interface
CFWD	Call Forward
COS	Class of Service
DDI	Direct Inward Dial
DIL	Direct In Line
DISA	Direct Inward System Access
DL	Direct Line
DND	Do-Not-Disturb
DP	Dial Pulse
DSL	Digital Single Line Telephone
DSS	Direct Station Selector
DSU	Digital Service Unit
DTMF	Dual Tone Multifrequency
FF	Flexible Function
MCO	Multiple CO (Pooled Trunk Access)
MOH	Music On Hold
PRI	Primary Rate Interface
PSD	Personal Speed Dial
SLT	Single Line Telephone
SSD	System Speed Dial
TRS	Toll Restriction Service (Call Barring)
LCR	Least Cost Routing

Chapter 2. List of Features

This chapter contains the following tables which list the features available with the System:

Table	Page
System Features	14
Maintenance Features	15
Extension Features	15

Table 1. System Features

Topic	Page
AEC Disconnect	22
Attendant Groups	22
Attendant Groups	22
Automatic Call Distributor	23
Automatic Route Selection	23
Automatic Exchange Line to Exchange Line Transfer	24
Background Music/MOH Separation	25
Battery Backup	25
Building Block Expansion Capability	25
Built-In Voice Mail	26
Call Progress Tones	27
Caller ID	27
Centrex/PBX Compatibility	28
Class of Service	28
CO (Exchange Line) Ringing Types	31
CO (Exchange Line) Interface	33
Computer Telephony Integration Capability	34
Data Security	34
Day/Night System Mode	35
Digital Pad	37
Direct Inward System Access	38
Distinctive Ringing	39
Doorphone	39
Extension Interface	40
Flexible Numbering Plan	42
Flexible Slot	42
Hunting Groups	43
Internal Hold Tone	45
MCO Tenant Group	45
Memory Backup	46
Music-on-Hold	46
Name Assignments	46
Network Facilities	52
Non-Blocking Architecture	53
Power Failure Transfer	54

Topic	Page
Power On Maintenance	54
Programming Devices	54
Ringling Modes	55
SSD TRS (Call Barring) Override	58
Station Message Detail Recording (Call Logging)	58
Ringling Modes	55
Trunk (Exchange Line) Access Groups	61
Virtual Port	61
Voice Mail Integration (Third Party)	62

Table 2. Maintenance Features

Topic	Page
Set System Date/Time/Day	71
Set Personal Speed Dial Numbers	72
Set Personal Speed Dial Names	73
Set System Speed Dial Numbers	78
Set System Speed Dial Names	79
Set Extension Names	81
Set Verified Account Codes	83
Set Call-Forward ID Codes for Voice Mail	84
Set Message Key ID Code	85
Set Mode Schedule	87
Set Special Day Mode	89
Set Exception Day Mode	95
Set Day of Week Mode	97
Set Walking TRS (Call Barring) Codes	98
Set Call Forward Busy Destination Extension	99
Set Call Forward No Answer Destination Extension	100
Set Caller ID Logging Extensions	101

Table 3. Extension Features

Topic	Page
Account Codes	108
Attendant Group Calls	111

Topic	Page
Auto Repeat Dial	111
Background Music	112
Busy Override	113
Callback Request	114
Call Forwarding	115
Call Hold	118
Call Hold	121
Call Pickup	123
Call Transfer	126
Caller ID Call Log	129
Camp-on (Call Waiting)	133
Conference Calls	135
Display Information	137
Do-Not-Disturb	139
DP to DTMF Signal Conversion	140
DSS/72 Console	141
EM/24 Console	141
Flash	142
Flexible Function Keys	142
Handsfree Answerback	148
Handsfree Operation	149
Headset Operation	149
Hot Dial Pad	150
Hot Line	150
Intercom Calling	151
Last Number Redial	152
Line Appearances	152
Message Key	155
Message Waiting / Callback	156
Mute Function	158
Offhook Monitor	158
Offhook Signalling	159
Offhook Voice Announce	160
One-Touch Keys	162
Onhook Dialling	164
Paging	164
Reset Call	165

Topic	Page
Ringling Line Preference	166
Speed Dialling	166
Timed Reminder Call	177
Trunk (Exchange Line) Access	178
Trunk (Exchange Line) Queuing	180
Variable Mode	181
Voice Recognition	183
Volume Control	184
Walking TRS (Call Barring) Class of Service	184

Chapter 3. System Features

System Features are either available on a system-wide basis or aid in the overall administration of the System.

This chapter contains detailed descriptions of the following System Features:

Topic	Page
AEC Disconnect	22
Attendant Groups	22
Automatic Call Distributor	23
Automatic Route Selection	23
Automatic Exchange Line to Exchange Line Transfer	24
Background Music/MOH Separation	25
Battery Backup	25
Building Block Expansion Capability	25
Built-In Voice Mail	26
Call Progress Tones	27
Caller ID	27
Centrex/PBX Compatibility	28
Class of Service	28
Class of Service - Exchange Line/Tie	28
Class of Service - Ext/Ext Restriction	29
Class of Service - Extension Feature	29
Class of Service - Exchange Line to Exchange Line Restriction	31
CO (Exchange Line) Ringing Types	31
Direct Inward Dial Ringing	31
Direct In Line Ringing	32
Direct Inward System Access Ringing	32
Multiple Ringing	32
CO (Exchange Line) Interface	33
CO (Exchange Line) Interface - DDI (Not Available on UK Model)	33
CO (Exchange Line) Interface - ISDN BRI	33
CO (Exchange Line) Interface - ISDN-PRI	33
CO (Exchange Line) Interface - Loop Start	34
Computer Telephony Integration Capability	34
Data Security	34

Topic	Page
Day/Night System Mode	35
Manual Day/Night Mode	36
Automatic Day/Night Mode	37
Digital Pad	37
Direct Inward System Access	38
Distinctive Ringing	39
Doorphone	39
Doorphone Sensor	40
Extension Interface	40
Digital Key Telephones	40
Analog Device Capability	41
DP/DTMF Single Line Telephones (SLTs)	41
ISDN/BRI S-Point Interface	41
ISDN/PRI S-Point Interface	41
Flexible Numbering Plan	42
Flexible Slot	42
Hunting Groups	43
Internal Hold Tone	45
MCO Tenant Group	45
Memory Backup	46
Music-on-Hold	46
Name Assignments	46
Extension Name Assignments	47
Speed Dial Name Assignments	50
Network Facilities	52
Network Call Transfer	53
Network Extension Calling	53
Network Paging	53
Network Call Routing	53
Tandem Connection	53
Non-Blocking Architecture	53
Power Failure Transfer	54
Power On Maintenance	54
Programming Devices	54
Telephone Programming	55
PC-Based Customizing Tool	55

Topic	Page
Ringling Modes	55
Day 1/ Day 2/Night Ringing	55
Day 1/ Day 2/Night Delayed Ringing	56
DDI (DID) Day/Night Ringing	56
DDI (DID) Day/Night Busy/Delayed Ringing	56
Busy Lamp Field Ringing	57
Busy Lamp Field Delayed Ringing	57
Slide Ringing	57
Alarm Ringing	58
SSD TRS (Call Barring) Override	58
Station Message Detail Recording (Call Logging)	58
Trunk (Exchange Line) Access Groups	61
SSD TRS (Call Barring) Override	58
Virtual Port	61
Virtual Port used for Floating Hold	62
Virtual Port used for Virtual Extension	62
Voice Mail Integration (Third Party)	62
Answer Supervision for Voice Mail	62
Call Forward ID Code for Voice Mail	63
CLI/DDI Voice Mail ID Code	64
High Priority Message Waiting	64
Message Key ID Code	65
Voice Mail Transfer Key	65

AEC Disconnect

Description

This feature allows the System to send a disconnect signal of 1 second to an analog device indicating that the calling party has hung up (terminated the call). This feature is useful with a Third-party Voice Mail or an Answering Machine. By default this feature is disabled.

Hardware Requirements

- AEC port

Considerations

- The 1 second time duration of the disconnect signal is fixed. (It cannot be changed.)

Attendant Groups

Description

An attendant phone is often used as a central answering point for other extensions. In addition, attendant phones frequently have special capabilities for monitoring and programming extensions.

You can reach the assigned attendant group by dialling the feature access code for Attendant Calls (usually 0). If an attendant phone is available but does not answer within a set time, the call will move to the next available attendant phone. If all members of the attendant group are busy for a specified time, the call can be forwarded to other extensions or another hunt group. The system allows up to 20 extensions to be included in an attendant group.

Hardware Requirements

- N/A

Considerations

- The System allows one attendant group for each system mode (Day 1, Day 2, and Night).
- An attendant group can contain both real extensions and virtual extensions. If virtual, several phones can be made to ring at the same time.
- Attendant groups can use only Pilot Terminal Hunt Group or Pilot Distributed Hunt Group. For more information, see “Hunting Groups” on page 43.
- The pilot number for an attendant group is flexible (i.e., any extension number can be designated as the pilot [not a real extension]).
- If a member of the attendant group has Do-Not-Disturb (DND) or Call Forwarding - All set, that phone is temporarily removed from the attendant group.
- If a member of the attendant group has Call Forwarding - Busy set and the extension is busy, the call goes to the next phone in the attendant group.
- If all members are busy for the duration of the busy queuing timer, the call can be forwarded to another hunt group or another extension.
- Attendant groups support the following call types:
 - CLI (Called Line Identification) / Direct Dial Inward (DDI)
 - Direct Inward System Access (DISA)
 - Extension calls

- Private network attendant calls
- Call reversion
- Call forwarded to Attendant Hunt Group

Automatic Call Distributor

Description

The System provides an optional Automatic Call Distributor (ACD) for efficient presentation, handling, and management of incoming calls to one or more groups of specialized users.

This optional Built-in ACD is contained on a single circuit card that is installed in the System. This “built-in” capability eliminates the need for custom wiring and other installation.

Each specialized user is known as an ACD agent. Each agent position is equipped with a large display telephone (VB-44225) that provides Liquid Crystal Display (LCD) messages to assist the agent in handling calls.

The Built-in ACD provides:

- Up to 2 agent groups
- Up to 32 agent IDs per group
- Up to 64 agent IDs per system
- Up to 32 agents
- 1 supervisor ID per group
- Up to 2 supervisor IDs per system
- Up to 4 voice ports per group
- Up to 4 voice ports per system
- 1 Music On Hold (MOH) source (Main System MOH source)
- 1 Management Information System (MIS) Monitor Port (RS-232C)
- 2-week memory for MIS reports
- Up to 6 recorded messages (max. 14 sec. per message)
- 1 fixed message up to 5 minutes

Hardware Requirements

- See Section 520 - *Built-In ACD Reference Manual*.

Considerations

- For more information, see Section 520 - *Built-In ACD Reference Manual*.

Automatic Route Selection

Description

When Automatic Route Selection (ARS) is enabled, the system follows a preselected route for calls. Usually the selected routing is the least cost route.

ARS works in conjunction with Toll Restriction Service (TRS (Call Barring)). Calls can be denied based on the programmed TRS level for the originating party. (For more information, see “Ringing Modes” on page 55.)

- Three levels of ARS checking are available based on the dialled number following the ARS access code:
 - **Direct Route Selection:** The simplest form of ARS routing that upon ARS entry (enter **9**) directly selects an Exchange Line group and any dialled number modification.
 - **Route List Selection:** A more complex routing that includes up to 5 alternative levels of route selection and includes TRS (Call Barring) level checking.
 - **Time List Selection:** The most complex routing that determines the appropriate route list based upon the day and time.
- Forced ARS is available on an Extension Class of Service (COS) basis.
- A special day list provides tailored ARS routing for up to 20 holidays, vacation days, etc.
- Automatic modification of dialled numbers is available. This includes deleting up to 24 prefix digits and adding up to a 10-digit prefix and a 10-digit suffix. The modification of dialled numbers can include pauses, Dual Tone Multifrequency (DTMF) conversion, itemized code (extension number) and an authorization code. (Itemized code and authorization are not used in some areas.)
- Up to 8 authorization codes are available.
- For more information on ARS/TRS (Call Barring), see Appendix A “ARS and TRS (Call Barring) Operation” on page 267.

Hardware Requirements

- N/A

Considerations

- N/A

Automatic Exchange Line to Exchange Line Transfer

Description

The System can be set to automatically transfer exchange line calls out to another exchange line without requiring the call to be answered internally. This transfer may be either exchange line based or extension based (i.e., call forward outside).

Hardware Requirements

- N/A

Considerations

- N/A

Background Music/MOH Separation

Description

Separate inputs are provided for Background Music and Music-on-Hold (MOH). This allows one music or sound source to be used for background music and another music or sound source to be used for music on hold.

A typical advantage of this is playing a pre-recorded promotional tape to held parties (since many may be customers) while providing a selected background music for use in the office.

Hardware Requirements

- Background music requires an SCC card (VB-44181). Both Background Music and Music on Hold (if using external MOH) require a sound source.

Considerations

- N/A

Battery Backup

Description

When backup batteries are installed, the System will continue to operate in the event of a power failure. If using Battery Backup, backup batteries must be installed in each CCU.

A fully loaded system will operate at least 30 minutes on backup batteries.

Hardware Requirements

- Back-up battery unit (VB-44025)

Considerations

- Any device connected to the System but that does not derive its power from the System must have a backup power source to operate. These devices include any System Message Detail Recording (Call Logging) printer (or recorder), fax machine, answering machine, modem, cordless telephone, etc.

Building Block Expansion Capability

Description

The System is designed to support easy expansion. Each CCU in the System supports 96 ports (12 flexible slots) as well as 2 option slots. Up to 6 CCUs may be installed in the System for a total of 576 ports.

Up to 2 expansion CCUs may be connected to a base CCU. When a fourth CCU is required, another base CCU is installed. Up to 2 expansion CCUs may be connected to the second base CCU.

This building block approach allows you to easily add equipment when needed without a major interruption in service or a major delay.

Hardware Requirements

- N/A

Considerations

- In addition to the additional CCUs and related CCU hardware/cabling required for expansion, when the System is expanded the CPC card and/or TSW cards may need to be upgraded as well. The CPC96 supports up to 96 ports. The CPC288 supports up to 288 ports and should be combined with time switch card TSW288. The CPC-576 supports up to 576 ports and should be combined with time switch card TSW576.

Built-In Voice Mail

Description

The System supports the Built-in Voice Mail. This unit assists in providing reliable, effective communications. This is a simple device that includes an automated attendant function and can be used to record conversations (where permitted).

The Built-in Voice Mail is easy to install. It is installed in a CCU card slot and no cabling is required.

Some of the major features include:

- Automated attendant
- Automatic recording for incoming and outgoing calls
- One-touch mail box transfer
- Mail box status display (Key LED on digital telephone)
- Mail box grouping
- 2-way recording
- Outside notification
- Date/time stamp
- Integrated Liquid Crystal Display (LCD) control (with large LCD telephone)
- Message light control
- Up to 254 mail boxes
- Up to 40 hours of message storage time
- Up to 16 voice ports

For more information, see the *System Built-In Voice Mail Reference Manual*.

Hardware Requirements

- N/A

Considerations

- N/A

Call Progress Tones

Description

The System supplies a full array of call progress tones. These tones provide audible indications of the status of calls and include dial tone, busy tone, ringback tone, error tone, confirmation tone, and splash tone. The complete specification for these tones may be found in *Section 300 - Installation*.

In addition to call progress tones, Direct Station Select (DSS) LEDs and the display provide additional indication of the status of calls.

Hardware Requirements

- N/A

Considerations

- N/A

Caller ID

Description

(Note: Analog Caller ID is not available in the UK model).

A properly equipped ICX supports Caller ID, a service offered by the network telephone service provider. The Exchange Line sends calling number information to the ICX after the first ring. Users who have display telephones can see Caller ID information as incoming calls ring at their extension and can have access to previous calls via the Caller ID Call Log feature. The Caller ID number is recorded in Call Logging.

Hardware Requirements

- Loop-start exchange line card (VB-44510)
- Caller ID circuit card (VB-44513)

Considerations

- ISDN (PRI - T Point) can get calling party information.
- Caller ID service must be ordered from the local telephone operating company or the interexchange carrier.
- Caller ID data is usually sent between the first and the second rings of the incoming exchange line call. The exchange line may be programmed to immediately ring at the station or wait until after the Caller ID digits are received before ringing at the station. If the exchange line is programmed to ring immediately, the Caller ID digits will not display until after they are received and processed.
- Caller ID numbers may be denied from being sent for some callers (private). Some long distance carriers may not provide Caller ID data (out of area).
- Caller ID only support the single format (number only). Multiple format (number and name) is not supported.

Centrex/PBX Compatibility

Description

Centrex/PBX Compatibility allows the System to be connected behind centrex or PBX lines.

The System supports up to 6 access codes for dialling centrex or a PBX. These access codes allow the System, System Message Detail Recording (Call Logging) output to exclude the number dialled to reach a centrex or PBX line.

When connected behind a PBX or Centrex, Toll Restriction Service (TRS (Call Barring)) can be used to restrict calls.

The System also supports transmission of a flash signal over the centrex or PBX link.

Hardware Requirements

- N/A

Considerations

- N/A

Class of Service

Description

A Class of Service (COS) allows or restricts access to a group of features or functions. For instance, an Extension COS may allow Call Forwarding features. In the System, both extensions and exchange lines use classes of service.

The System supports the following COSs for exchange lines and extensions:

- COS - Exchange Line/Tie
- COS - Ext/Ext Restriction
- COS - Extension Feature
- COS - Exchange Line to Exchange Line Restriction

Class of Service - Exchange Line/Tie

Tie/Exchange Line COS allows or restricts access to various features. Each exchange line is assigned to one of 16 exchange line classes of service (**00-15**).

The following table shows the features that can be enabled/disabled for each exchange line COS.

Table 4. Exchange Line COS

Number	Feature
1	Intercom Ringing Tone (Exchange Line or intercom ring tone)
2	Dial Tone to Tie Lines (Enable/Disable)
3	Forced Recover on Fast-Busy Tone (Send fast busy or disconnect line)
4	DDI Dialled Number Conversion Table (DDI/CLI Table A or B)

Number	Feature
5	Paging on DISA/Tie-Line Call (Allow/Restrict)
6	DISA ID Verification

Hardware Requirements

- N/A

Considerations

- N/A

Class of Service - Ext/Ext Restriction

Ext/Ext Restriction COS allows or restricts calls placed to other extensions based upon the Extension COS. Each Extension COS is programmed to either originate or not originate calls to another Extension COS.

Hardware Requirements

- N/A

Considerations

- N/A

Class of Service - Extension Feature

Extension COS allows or restricts access to certain extension features. (The extension features are described later in this manual.) Each extension is assigned to one of 16 classes of service (**00-15**).

The following table shows the features that can be enabled/disabled for each Extension COS.

Table 5. Extension COS

Class of Service Features	
Number	Feature
1	Intercom Call Type (Tone/Voice)
2	Onhook Transfer at Ringback (Allow/Restrict)
3	Onhook Transfer at Talk (Allow/Restrict)
4	On-Hook Transfer at Camp-On (Allow/Restrict)
5	Exclusive Hold for Non-Appearing Exchange Line (System/Exclusive)
6	Exclusive Hold on SLTs (System/Exclusive)
7	Brokers Hold on SLTs (3-Party Conference/Brokers)
8	Hookflash During Talk on SLTs (Allow/Restrict)
9	SSD Assignment (Allow/Restrict)
10	SSD Assignment to MCO Tenant Groups (Allow/Restrict)
11	SSD Dialling (Allow/Restrict)
12	Intercom Redialing (Allow/Restrict)
13	Direct Exchange Line Access (Allow/Restrict)
14	MCO Incoming Call Answer (Allow/Restrict)

Class of Service Features	
15	Paging (Allow/Restrict)
16	Auto Repeat Dial (Allow/Restrict)
17	DND Set/Clear (Allow/Restrict)
18	DND Set/Clear (Other) (Allow/Restrict)
19	Call Forward/All Calls (Allow/Restrict)
20	Call Forward/No Answer (Allow/Restrict)
21	Call Forward-Busy (Allow/Restrict)
22	Call Forward (Other) (Allow/Restrict)
23	User Maintenance Log-in (Allow/Restrict)
24	Priority Message Waiting Send (VM) (Allow/Restrict)
25	Message Waiting Send (Allow/Restrict)
26	System Mode Switch (Allow/Restrict)
27	Busy Override Send (Allow/Restrict)
28	Manual Camp-On Send (Allow/Restrict)
29	Manual Camp-On Receive (Allow/Restrict)
30	Callback Request Send (Allow/Restrict)
31	Callback Request Receive (Allow/Restrict)
32	Exchange Line Queuing (Allow/Restrict)
33	Manual DND Override Send (Allow/Restrict)
34	Forced DND Override (Allow/Restrict)
35	8-Party Conference (Allow/Restrict)
36	Voice Call Send (Allow/Restrict)
37	Voice Call Receive (Allow/Restrict)
38	Dial Tone Stop (Allow/Restrict)
39	Dial Tone Pre-Pause Check (Check/No check)
40	Long Talk Alarm for Outgoing Exchange Line Calls (Enable/Disable)
41	Recall Timer Apply (Recall to Extension/Recall to Attendant)
42	Forced ARS (Not Forced/Forced)
43	API Event Reporting (No/Yes)
44	Call Forward/Outside (Allow/Deny)
45	Onhook Exchange Line-to-Exchange Line Transfer (Allow/Deny)
46	Station Call Park Answer (Allow/Deny)
47	Station Call Park Transfer (Allow/Deny)
48	OHVA (Allow/Deny)
49	OHVA Answer (Allow/Deny)

Class of Service Features	
50	Call-Waiting Answer at HOLD
51	On-Hook Transfer with Floating Hold

Hardware Requirements

- N/A

Considerations

- N/A

Class of Service - Exchange Line to Exchange Line Restriction

Exchange Line to Exchange Line COS allows or restricts call transfers from one exchange line to another exchange line based on the originating and receiving exchange line COS.

Hardware Requirements

- N/A

Considerations

- N/A

CO (Exchange Line) Ringing Types

Description

Several types of Exchange Line ringing are available for the System including the following:

- Direct Inward Dialling (DDI) Ringing
- Direct In Line (DIL) Ringing
- Direct Inward System Access (DISA) Ringing
- Multiple Ringing

These ringing types may be used in any combination in the System.

Direct Inward Dial Ringing

DDI Ringing allows calls on a common Exchange Line to be directed to ring to a specific extension or group of extensions, etc. based upon the final digits dialled. These final digits are received from the DDI exchange line and compared to a DDI Table that determines where the calls should ring. Depending on the assignments in the DDI Table, names or exchange line numbers are displayed. (Names can be up to 10 digits long.)

DDI Ringing can be very useful by sending calls directly to a specific extension, hunt group, etc. based upon the number dialled. Since a relatively small number of exchange lines handle the DDI calls, this can be more cost efficient than DIL exchange lines or attendant group answering and transfer. (DDI may send a call to a group using the Virtual Extension feature.) DDI Busy/Delayed Ringing is also available with DDI Ringing. (See “DDI (DID) Day/Night Busy/Delayed Ringing” on page 56.)

For more information on DDI Exchange Line Exchange Line Interface, see “CO (Exchange Line) Interface - DDI (Not Available on UK Model)” on page 33.

Hardware Requirements

- N/A

Considerations

- Caller ID takes priority over the DDI name assignment.
- Only one of the two DDI tables may have name assignments.

Direct In Line Ringing

DIL Ringing allows calls on a specific Exchange Line to be directed to ring a specific extension, System Speed Dial (SSD) number (for redirecting calls out), and hunting group.

This can be very useful when a exchange line is dedicated to a specific person or purpose. However, this can be a more expensive use of the line since it has a more limited use.

Hardware Requirements

- N/A

Considerations

- N/A

Direct Inward System Access Ringing

DISA Ringing (which is related to the DISA feature) allows a Exchange Line specified as a DISA Exchange Line to ring and give off-site users dial-in access to the System. Once the DISA exchange line is accessed, the user receives dial tone and may dial an extension.

For more information on DISA, see “Direct Inward System Access” on page 38.

Hardware Requirements

- N/A

Considerations

- N/A

Multiple Ringing

Description

Multiple Ringing allows Exchange Line calls into the System to be directed to ring multiple extensions in the System. This can be very useful when anyone in a group may answer a call. This can also be very useful at night when only a selected number of people are available to handle calls.

Hardware Requirements

- N/A

Considerations

- N/A

CO (Exchange Line) Interface

Description

The System supports several types of Exchange Line Interfaces including the following:

- Direct Inward Dialling (DDI)
- Integrated Services Digital Network (ISDN) - Basic Rate Interface (BRI)
- ISDN - Primary Rate Interface (PRI)
- Loop Start

Each exchange line type supports various features such as Delayed Ringing, Night Ringing, etc.

CO (Exchange Line) Interface - DDI (Not Available on UK Model)

The DDI feature allows an extension to have a dedicated direct number. The dedicated number allows calls to be made directly to the extension, without the caller going through the attendant.

The DDI number may have from 1 to 4 digits (typically 4).

Each DDI Exchange Line Interface card (VB-44520) supports up to 8 DDI exchange lines.

Hardware Requirements

- The -48V power supply is required.

Considerations

- The DDI Exchange Line card supports 1 to 4-digit dial-pulse (10 pps) or Dual Tone Multifrequency (DTMF) signalling.
- DDI numbers must be between **0** and **9999**.

CO (Exchange Line) Interface - ISDN BRI

The System supports ISDN BRI with the VB-44530 ISDN BRI interface unit. The VB-44530 is a T-Point ISDN-BRI that supports 2 B (bearer) channels and 1 D (data) channel (2B + D; 144kbps or 192kbps). This unit connects to an ISDN Data Service Unit (DSU). Point-to-point and point-to-multi operations are selectable.

The ISDN-BRI supports enblock setting and enblock setting at the sub-address.

Hardware Requirements

- N/A

Considerations

- A DSU is required (not available from Panasonic). Normally the DSU is supplied by the telephone service provider.

CO (Exchange Line) Interface - ISDN-PRI

The System supports ISDN PRI with the VB-44540 ISDN PRI Interface unit. The VB-44540 is a T/S-Point ISDN Primary Rate Interface that supports 30B (for UK) or 23B (for HK) (bearer) channels and 1 D (data) channel (30B + D; 2M) (23B + D; 1.5M). This unit connects to an ISDN DSU.

Up to 3 units may be installed in a CCU if you use full channel (30B + D)/(23B + D). A maximum of 18 units may be utilised in a fully equipped system. When all 30 or 23 channels on a unit are utilised in one card, four or three slot positions are required.

Hardware Requirements

- N/A

Considerations

- N/A

CO (Exchange Line) Interface - Loop Start

The VB-44510 Loop Start interface unit supplies 8 loop start analog exchange lines circuits.

Hardware Requirements

- N/A

Considerations

- N/A

Computer Telephony Integration Capability**Description**

Computer Telephony Integration (CTI) provides communication and coordination of operation between computers and the telephone system. A System Telephony Application Programming Interface (TAPI) module is available to connect extensions to Microsoft windows-based applications.

The TAPI desktop module enables the capabilities of first party call control. With this module there is a physical connection between your telephone line and PC. Service Provider Interface (SPI) software must be installed on the PC to enable the capabilities of TAPI on the System for each specially enabled telephone. Typical desktop applications include Contact Managers, Personal Organizers, and Personal Answering Machines.

Hardware Requirements

- N/A

Considerations

- N/A

Data Security**Description**

If you are using a line for data (modem connections, etc.), Data Security makes it possible to prevent interruptions. Data Security can be implemented for either all phone use or outside line use.

Hardware Requirements

- N/A

Considerations

- N/A

Day/Night System Mode

Description

Day/Night System Mode enables you to switch the System between two Day modes and a Night mode. These modes determine incoming call handling, Toll Restriction Service (TRS) - Call Barring call handling, and attendant group support.

While in a Night mode (generally used at night or any time when your office is closed), incoming calls can ring at selected extensions (e.g., a night watchman's extension or an extension connected to an answering machine). Outbound calls can be restricted to certain phones. Calls can be directed to a night-time attendant group instead of the normal daytime attendant group.

The System provides one Night mode for night call handling. However, there are three night feature access codes (Night, Night 1, and Night 2). These three codes may be used to provide different two-way Voice Mail messages (i.e., Night may select one message, Night 1 may select a different message, and Night 2 may select a third message.)

Typically, the Day mode is used for normal call processing of outside calls, TRS (Call Barring) calls, and attendant calls. The second day mode (Day 2) may be used for alternative call handling such as during a lunch break, etc.

There are two ways to change day/night service modes:

- Manually
- Automatically

The following table lists the impact on TRS (Call Barring), Ringing, Attendant, and Built-in Voice Mail in the various system modes:

Table 6. System Mode Impact on TRS (Call Barring), Ringing, Attendant, and Built-in Voice Mail

SYSTEM MODE	TRS (Call Barring)	RING	ATTENDANT	BUILT-IN VOICE MAIL
Day 1	Day TRS Mode	Day 1 Ring Pattern	Day 1 Attend. Group	Day 1 Message
Day 2	Day TRS Mode (Same for Day 1 and Day 2)	Day 2 Ring Pattern	Day 2 Attend. Group Handling	Day 2 Message
Night	Night TRS Mode (Same for Night 1, and 2)	Night Ring Pattern (Same for Night 1, and 2)	Night Attend. Group (Same for Night 1, and 2)	Night Message
Night 1	Night TRS Mode (Same for Night 1, and 2)	Night Ring Pattern (Same for Night 1, and 2)	Night Attend. Group (Same for Night 1, and 2)	Night 1 Message
Night 2	Night TRS Mode (Same for Night 1, and 2)	Night Ring Pattern (Same for Night 1, and 2)	Night Attend. Group (Same for Night 1, and 2)	Night 2 Message

Manual Day/Night Mode

You can manually change the System mode to Day 1, Day 2, Night, Night 2, or Night 3 mode by either entering the correct dial code or by pressing the appropriately programmed FF key.

When using manual mode, the System may be configured to either use MCO tenant Day/Night modes or system-wide Day/Night mode.

Operation

To switch Day/Day 2/Night modes using Feature Access Codes:

Switch Mode	Procedure	Indication
Toggle Day and Night Modes	1. Press the ON/OFF key.	Intercom dial tone ON/OFF LED lights
	2. Enter 760 (UK/HK) or 760# .	
	3. Press the ON/OFF key	ON/OFF LED goes off If changing to Night mode, Red LED lights If changing to Day mode, Red LED goes off
Day 2 Mode	1. Press the ON/OFF key.	Intercom dial tone ON/OFF LED lights
	2. Enter 761 (UK/HK) or 761# for the Day 2 Feature code.	
	3. Press the ON/OFF key	ON/OFF LED goes off Red LED goes off
Night 1 Mode	1. Press the ON/OFF key.	Intercom dial tone ON/OFF LED lights
	2. Enter 762 (UK/HK) or 762# for the Night 1 Feature code.	
	3. Press the ON/OFF key	ON/OFF LED goes off Red Night LED goes off
Night 2 Mode	1. Press the ON/OFF key.	Intercom dial tone ON/OFF LED lights
	2. Enter 763 (UK/HK) or 763# for the Night 2 Feature code.	
	3. Press the ON/OFF key	ON/OFF LED goes off Red Night LED goes off

Hardware Requirements

- N/A

Considerations

- Day and Night modes can be assigned to FF keys on a phone. You can switch between Day 1, Day 2, Night, Night 1, and Night 2 modes simply by pressing the appropriate key. The FF key lights red when the System is in the assigned mode. Alternatively a Day/Night toggle mode key

can be assigned. Pressing the key toggles between modes. When in Day mode, the FF key LED is not lit. When in Night mode, the LED lights red.

Automatic Day/Night Mode

You can set the System to automatically enter a particular Day/Night mode determined by the time of day. Each day of the month can be assigned 1 of 3 automatic system mode patterns. Each of the patterns can be set to change modes up to 5 times per day.

Up to 20 special days can be programmed with up to 5 automatic mode changes for the day.

An Exception Day period is available for overriding the automatic mode for extended periods of time. For instance, if an office is shut down for the week of July Fourth, the System can be programmed to not operate in the automatic mode for those days. The System will stay in the same mode for the period. The mode may be manually changed at any time.

For instance, the System can be set to automatically enter Day 1 mode at 8:00 a.m. on weekdays and enter Night mode at 5:00 p.m. on weekdays. All incoming calls, TRS (Call Barring) and attendant group handling would change accordingly. On Saturday and Sunday, the System would stay in Night mode.

The Automatic Day/Night modes may be set in User Maintenance. See “Set Mode Schedule” on page 87, “Set Special Day Mode” on page 89, “Set Exception Day Mode” on page 95, and “Set Day of Week Mode” on page 97.

Hardware Requirements

- N/A

Considerations

- You can only set Automatic Day/Night modes on a system-wide basis. If tenant groups require separate Day/Night modes, you must set these modes manually.
- You can manually override Automatic Day/Night modes. (See “Manual Day/Night Mode” on page 36.)

Digital Pad

Description

Digital pad settings allow adjustment of call levels for different call types. There are 29 pad classes in the System. For pad class, a volume adjustment is assigned for a connection to any pad class assignment. The volume adjustment is between -30dB and +30 dB.

There are 8 extension pad classes and 16 exchange line pad classes. In addition, there are pad classes for conference calls, page port, MFR, RAI Modem, and Conference Call Unit. One pad class is currently not used.

For instance, a call from an extension assigned to extension pad class 1 to a exchange line assigned to exchange line pad class 3 would received the volume adjustment assigned to this connection combination.

Hardware Requirements

- N/A

Considerations

- N/A

Direct Inward System Access

(All Versions)

Description

Direct Inward System Access (DISA) gives off-site users dial-in access to the System. You access DISA from an outside location by entering a digit number assigned to a DISA exchange line.

For security reasons, sixteen incoming DISA ID codes/TRS (Call Barring) class can be assigned. If a code is assigned, it must be entered as soon as the DISA exchange line answers.

Operation

To make a DISA call to an extension:

Action	Result
1. From an outside location, enter the DISA exchange line number.	DISA dial tone
2. If an incoming DISA code is assigned enter the DISA code (up to 10 digits). Otherwise, proceed to step 3.	
3. Dial the extension number.	

To make a DISA call to an outside number:

Action	Result
1. From an outside location, enter the DISA exchange line number.	DISA dial tone
2. If an incoming DISA code is assigned enter the DISA code (up to 10 digits). Otherwise, proceed to step 3.	
3. Enter the exchange line group number (9 or 81-84)	
4. Dial the phone number.	

Hardware Requirements

- N/A

Considerations

- Busy override cannot be used for a DISA line.
- DISA can be used to access extensions as well as outside numbers.
- Paging cannot be accessed from a DISA line.

- While dialling an extension number, the * key may be entered to cancel dialling and return to dial tone. The # key may be entered to disconnect.

Distinctive Ringing

Description

Distinctive Ringing sets Exchange Line calls to ring with a distinctive ring based on the exchange line. This “ring” also identifies the call as an outside call instead of an inside call.

Hardware Requirements

- N/A

Considerations

- N/A

Doorphone

Description

The doorphone (also called door phone) allows visitors to announce their presence from the office door, etc. When the button on the doorphone is pressed, one or more phones ring in the System. When answered, a two way conversation is made between the doorphone and the answering phone.

The answering party can operate a connected door opener (if equipped).

Operation

To answer a doorphone:

Action	Result
1. Answer the doorphone. (Door box calls ring in on a dedicated FF key.)	Two way conversation possible
2. Enter 3 while connected to the doorphone extension.	Door unlocks

Hardware Requirements

- The doorphone requires a Doorphone Adaptor, Doorphone, and Door Opener. Door openers are not sold by Panasonic; however, they can be purchased from an electronics dealer.
- Up to 2 Doorphonees can be connected to a Doorphone Adaptor and utilize the same exchange line.
- The Door Opener can be set to open for 15 seconds, 30 seconds, or one minute.
- While the Door Opener is functioning, a call from another Doorphone on the same Doorphone adaptor cannot be answered.

Considerations

- The exchange line connected to the Doorphone Adaptor must be set to dial pulse (DP).

Doorphone Sensor

The sensor is a device that detects when a circuit is opened or closed. Sensors can be used to detect events such as the opening of windows or doors. When the sensor is tripped, a tone sounds at a designated extension. Sensors are not sold by Panasonic; however, they can be purchased separately from an electronics dealer.

Hardware Requirements

- The sensor is attached to the Doorphone Adaptor (VB-43701).
- Exchange Lines connected to the Doorphone Adaptor signal the designated extension when the sensor is tripped.

Considerations

- The exchange line connected to the sensor must be a dial-pulse (DP) exchange line.

Extension Interface

The System supports a full array of extension devices including the following:

- Panasonic's proprietary key telephones
- Standard analog devices
- Dial Pulse (DP) / Dual Tone Multifrequency (DTMF) Single Line Telephone (SLT)
- Integrated Services Digital Network (ISDN) - Basic Rate Interface (BRI) S-point devices
- ISDN-Primary Rate Interface (PRI) S-point devices

Digital Key Telephones

The System supports the complete line of Panasonic proprietary Digital Key Telephones. These models include:

	U.K.	Hong Kong
• 12 key-Standard	VB-D411UK	—————
• 12 key-Speakerphone	—————	VB-44221HK
• 12 key-Display Speakerphone	VB-D411DSUK	VB-44223HK
• 12 key-Large Display Speakerphone	VB-D411LDSUK	VB-44225HK
• 12 key-Soft key Display Speakerphone	VB-D411DSVUK	VB-44224HK
• 24 key-Display	VB-D611DUK	—————
• 24 key-Display Speakerphone	VB-D611DSUK	VB-44233HK
• EM24-24 key Expansion Module	VB-D331UK	VB-44310HK
• DSS-72 key DSS/BLF	VB-D631UK	VB-44320HK

UK : In addition to the above digital key telephone module, the System supports the complete of the DBS proprietary VB-3411/3611 series telephones and VB-3011 Digital SLT.

HK : The former DBS proprietary telephones are not available to connect to ICX systems without modification. Please consult to your dealer.

Hardware Requirements

- N/A

Considerations

- N/A

Analog Device Capability

The System supports analog telephone devices. These devices include fax machines, answering machines, cordless telephones, computer modems as well as standard rotary and push button telephones. This provides full flexibility in configuring the System.

Hardware Requirements

- Analog devices must be connected to an analog port.

Considerations

- N/A

DP/DTMF Single Line Telephones (SLTs)

The System supports both DP (rotary dial) and DTMF (push button) analog extension types.

Hardware Requirements

- N/A

Considerations

- The CPC card provides 4 DTMF receivers. Traffic levels may require that one or more MFR (DTMF) circuit cards be installed. Each MFR card provides 8 DTMF decoders.

ISDN/BRI S-Point Interface

The System supports ISDN-BRI terminal devices for connection as extensions. The BRI provides 2 B (bearer) plus 1 D (data) channel support (2B +D; 144kbps or 192 kbps).

Hardware Requirements

- N/A

Considerations

- N/A

ISDN/PRI S-Point Interface

UK/Malasia/Indonesia :The System supports Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI) terminal equipments with the ISDN/PRI S Point Interface (VB-44540UK). The primary rate interface provides 30B (bearer) plus one D (data) channel support (30B +D; 1984kbps).

Either 8 or 30 circuits may be enabled on the interface. Each enabled group of 8 circuits requires a slot position in the System. Fully used cards occupy four slot positions.

HK/Taiwan :The System supports ISDN-PRI terminal equipments with the ISDN/PRI S Point Interface (VB-44540). The PRI provides 23 B (bearer) plus 1 D (data) channel support (23B + D; 1544 kbps).

Either 8 or 24 circuits may be enabled on the interface. Each enabled group of 8 circuits requires a slot position in the System. Fully used cards occupy 3 slot positions.

Hardware Requirements

- N/A

Considerations

- N/A

Flexible Numbering Plan

Description

The System provides flexible numbering for feature access special numbers and extension numbers.

The dialling plan allows settings for digits dialled at dial tone, digits dialled at ringback tone, digits dialled at busy tone, two patterns of feature codes dialled at dial tone, two patterns of feature codes dialled at ringback tone, and two patterns of feature codes dialled at busy tone.

Feature access codes can be used when replacing another PBX system with a ICX system. Rather than learning the new access codes, the System feature access codes can be changed to match the old system. As a result, telephone users are less confused by the change and the requirement for retraining is reduced. Two sets of feature access codes are available (one of the two must be assigned to the terminal).

Hardware Requirements

- N/A

Considerations

- N/A

Flexible Slot

Description

Each CCU in the System contains 12 flexible (universal) slots. These slots can be used for exchange line cards, extension cards, or certain option cards.

Some circuit cards such as the Integrated Services Digital Network (ISDN) - Primary Rate Interface (PRI) card occupy more than one slot.

Hardware Requirements

- N/A

Considerations

- N/A

Hunting Groups

Description

Hunting allows calls to be automatically transferred among a preselected group of phones. If a phone is busy or there is no answer in a set amount of time, the call will hunt to the next phone in the hunt group.

A phone assigned to a hunt group is called a member. Up to 20 members can be assigned to a hunt group. Up to 12 hunt groups are available per CCU.

Several methods of station hunting are available. Some methods require use of a pilot number (a fictitious extension number) while others start by a direct call to a hunt group member.

The System supports the following hunting groups:

- Pilot Terminal Hunt Group
- Pilot Distributed Hunt Group
- Switch Back Hunt Group
- Circular Hunt Group
- Next Extension/Hunt Group

Pilot Terminal Hunt Group

Pilot Terminal Hunt Group directs calls to a pilot number. The System begins with the first member and hunts through the group for the first available member to receive the call. If no member is available (extension is busy or there is no answer for a specified amount of time), the call is queued for the first member to become available. You can also set the Queuing Timer to specify how long the System will search the initial hunt group before beginning to search the next hunt group or extension.

The main advantage of this type of hunting is that the same hunting order is taken for all calls. This is useful in presenting calls to selected members first.

Pilot Distributed Hunt Group

Pilot Distributed Hunt Group directs calls to a pilot number. The System reviews who received the last call and begins hunting with the next member. If the last member in the group is reached and no member is available, the hunt continues with the first member and proceeds forward. After a complete search and no available member is found (extension is busy or there is no answer for a specified amount of time), the call is queued for the first member to become available. You can also set the Queuing Timer and specify how long the System will search the initial hunt group before beginning to search the next hunt group or extension.

The main advantage of this type of hunting is that calls are evenly distributed throughout the group.

Switch Back Hunt Group

Switch Back Hunt Group initiates hunting in a specified group for calls made to a member extension in the group. If the called member of the hunt group is busy, the System begins hunting forward to the end of the group. If no member is available, the system hunts backward from the called member. If no member is available (extension is busy or there is no answer for a specified amount of time), the call is queued for the first member to become available. You can also set the Queuing Timer and specify how long the System will search the initial hunt group before beginning to search the next hunt group or extension.

The main advantage of this type of hunting is that calls can be directed to start with a selected portion of the hunting group based on the directed number. However, all members are eventually searched.

Circular Hunt Group

Circular Hunt Group initiates hunting in a specified group for calls made to a member extension in the group. If the called member of the hunt group is busy, the System begins hunting forward to the end of the group and then moves forward from the first member of the group. If no member is available (extension is busy or there is no answer for a specified amount of time), the call is queued for the first member to become available. You can also set the Queuing Timer and specify how long the System will search the initial hunt group before beginning to search the next hunt group or extension.

The main advantage of this type of hunting is that calls can be directed to start with a selected portion of the hunting group based on the directed number. However, all members are eventually searched.

Next Extension/Hunt Group

Next Extension/Hunt Group lets you specify which extension or hunt group to search after the Queuing Timer expires. This hunt group can be set as any type of hunt group, an attendant group, or an extension (including virtual extensions).

Hardware Requirements

- N/A

Considerations

- If a member of the hunt group has Do-Not-Disturb (DND) or Call Forwarding - All set, that phone is temporarily removed from the hunt group.
- If a member of the hunt group has Call Forwarding - Busy set and the extension is busy, the call goes to the next phone in the hunt group.
- If all members are busy for the duration of the busy queuing timer, the call can be forwarded to another hunt group or another extension.
- A hunt group can contain both real extensions and virtual extensions. If virtual, several phones can be made to ring at the same time.
- The pilot number for a hunt group is flexible (i.e., any extension number can be designated as the pilot [not a real extension]).
- Hunt groups support the following call types:
 - CLI (Called Line Identification) / Direct Dial Inward (DDI)
 - Direct Inward System Access (DISA)
 - Extension calls
 - Private network attendant calls
 - Call forward incoming
 - Call forwarded to Attendant Hunt Group

Internal Hold Tone

Description

If a Music-on-Hold (MOH) sound source is unavailable, a periodic hold tone generated internally in the System can be provided to a caller. For more information, see “Music-on-Hold” on page 46.

Hardware Requirements

- N/A

Considerations

- N/A

MCO Tenant Group

Description

When the System is configured for tenant operation, MCO Tenant Group determines which exchange line groups are used for incoming and outgoing calls.

Each MCO exchange line group is assigned to an MCO tenant group for incoming calls and for outgoing calls. By default, Exchange Line Group 1 is assigned to MCO Tenant Group 1, Exchange Line Group 2 is assigned to MCO Tenant Group 2, etc. for both incoming and outgoing calls.

For outgoing calls, each tenant group has 5 auto-exchange line selections available. By default the first auto-exchange line selection is seized by entering **9**, the second by entering **81**, etc.

The number of MCO tenant groups available depends on the number of ports in the system as follows:

- 96-port system:1 to 12 MCO tenant groups
- 192-port system: ...1 to 24 MCO tenant groups
- 288-port system: ...1 to 36 MCO tenant groups
- 384-port system: ...1 to 48 MCO tenant groups
- 480-port system: ...1 to 60 MCO tenant groups
- 576-port system: ...1 to 72 MCO tenant groups

Hardware Requirements

- N/A

Considerations

- When you first assign an exchange line to an Exchange Line Tenant Group from the initial setting of (0), the system automatically assigns the exchange lines as a member of the same number MCO Exchange Line Group (FF5-2 and FF5-3). For instance, if Exchange Line 10 is assigned as a member of Exchange Line Tenant Group 1, then Exchange Line 10 is automatically assigned as a member of MCO Outbound Exchange Line Group 1 and MCO Inbound Exchange Line Group 1. These assignments can be manually changed if desired.

Memory Backup

Description

Data stored in the CPC card can be copied to another CPC card in the OP2 card slot for the first CCU. This is particularly useful when performed after completion of initial system setup (as a recovery measure) or before major changes are made to system configuration. This backup CPC can then be used to immediately restore system operation.

This feature is a maintenance feature to be performed by the System certified dealer only.

Hardware Requirements

- A second CPC card that matches the type installed must be used to copy the memory.

Considerations

- N/A

Music-on-Hold

Description

The System can provide Music-on-Hold (MOH) to parties on hold (either Exchange Line, extension, or network party). The MOH feature can also be used to play announcements or advertisements if desired.

Hardware Requirements

- The music source must be purchased separately. It is not provided with the System.

Considerations

-



Important: A license may be required from the Society of Composers, Authors, and Publishers (ASCAP) or similar organizations to transmit radio or recorded music through the MOH feature. Panasonic, its distributors, and affiliates assume no liability should users of Panasonic equipment fail to obtain such a license.

Name Assignments

Description

Names may be assigned to the following:

- Extensions
- Exchange Lines
- DDIs
- Personal Speed Dials

- Systems Speed Dials

Exchange Line names and DDI names must be assigned in dealer programming mode. Extension names and Speed Dial names may be assigned from a display telephone.

This feature does not require the use of a DSS/72 console or entering the programming mode.

Extension Name Assignments

Extension names can be up to 10 characters in length. (Assignment of extension names must be allowed in the Extension COS.)

Operation

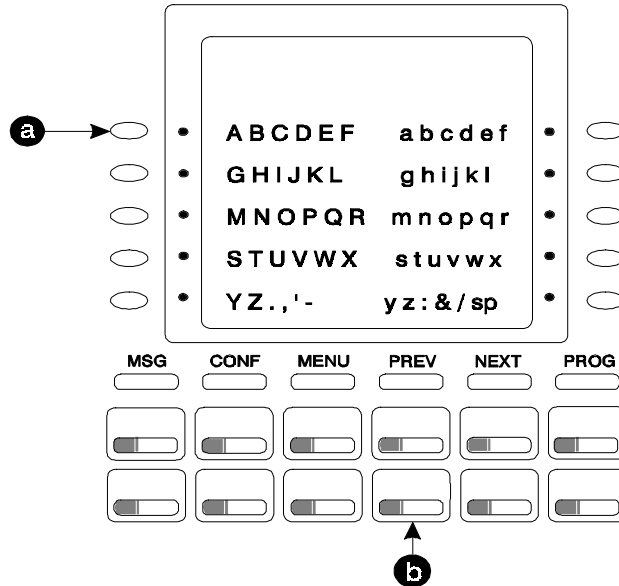
To set extension names using a large-display or small-display phone:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the PROG key.	
3. Press the * key.	
4. Enter 2 for the Extension Name Assignment mode.	EXT NO.=> EXT NAME displays
5. Enter the extension number.	
6. Press the HOLD key.	XXX A B C D E F XXX displays (where XXX = extension number)
7. Press the FL/R key to clear the existing data.	A B C D E F XXX displays (where XXX = extension number)
8. Enter the extension name: <ul style="list-style-type: none"> • If using a large-display phone, press the soft key next to the desired row of letters. (See Example 1 on page 48.) • If using a small-display phone press the appropriate one-touch key. (See Example 2 on page 49.) 	
9. Use the bottom row of FF keys to select a single letter. <ul style="list-style-type: none"> • See “Example 1. Large-display phone” on page 48. • See “Example 2. Small-display phone” on page 49. Notes: <ul style="list-style-type: none"> • Press the * key to erase a single entry. • Press the # key to enter a space. 	
10. Repeat steps 7-8 as many times as necessary to enter the desired extension name. Note: Press the FL/R key to clear the entire entry.	
11. Press the HOLD key when finished.	Next extension number displays
12. To enter another extension name, press the CONF key and repeat steps 5-11.	EXT NO.=> EXT NAME displays

Example 1. Large-display phone

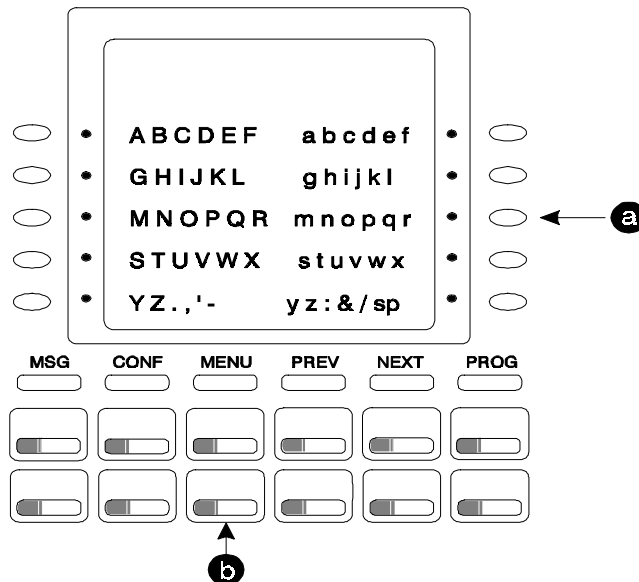
To enter **D**:

- a. Press the first soft key on the top left.
- b. Press the fourth FF key from the left on the bottom row.



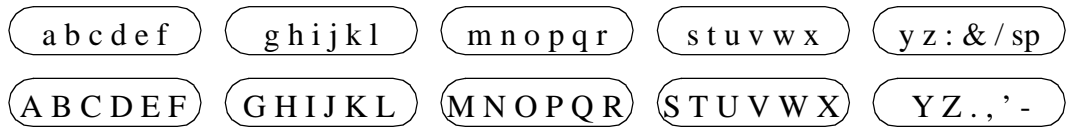
To enter **o**:

- a. Press the third soft key from the top right.
- b. Press the third FF key from the left on the bottom row.



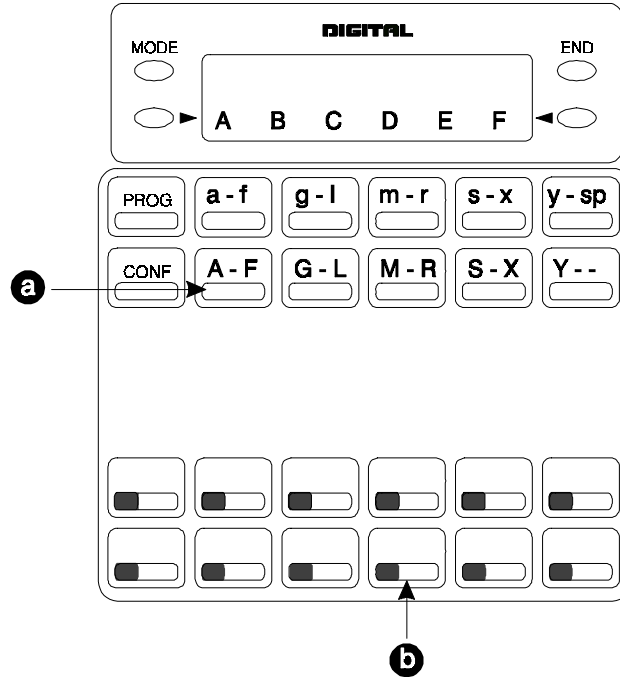
Example 2. Small-display phone

Refer to the following diagram to determine which one-touch key to press. (See step 7-8 above.)



To enter **D**:

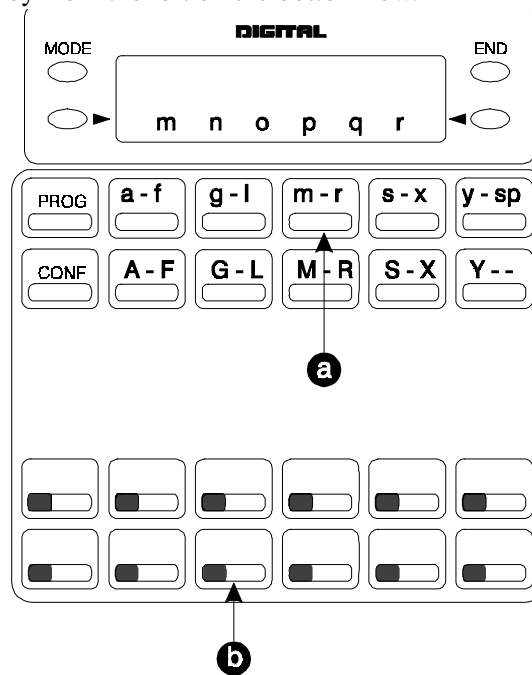
- a. Press the first one-touch key from the left on the bottom row.
- b. Press the fourth FF key from the left on the bottom row.



- To enter **o**:

- a. Press the third one-touch key from the left on the top row.

- b. Press the third FF key from the left on the bottom row.



Hardware Requirements

- N/A

Considerations

- Extension names can be up to 10 characters in length.
- The ability to make extension name assignments is allowed/restricted to anyone with a Class of Service (COS) that allows access to User Maintenance features. (See Chapter 4 "User Maintenance" of this document.)

Speed Dial Name Assignments

You can assign names to Personal Speed Dial (PSD) numbers from a display telephone without entering the programming mode. If allowed in the Extension COS, you can also assign names to System Speed Dial (SSD) numbers.

Operation

PSD Names:

To set PSD names using a large-display or small-display phone:

Action	Result
1. Lift the handset or press the ON/OFF key.	
2. Press the PROG key.	
3. Press the * key.	
4. Enter 0 for the PSD Name Assignment mode.	A B C D E F P80 displays (where P80 = PSD bin 80)

Action	Result
5. Press the up or down arrow key to display the desired PSD bin number.	A B C D E F PXX displays (where PXX = desired PSD bin number)
6. Enter the extension name: <ul style="list-style-type: none"> • If using a large-display phone, press the soft key next to the desired row of letters. (See Example 1 on page 48.) • If using a small-display phone press the appropriate one-touch key. (See Example 2 on page 49.) Note: Press the FL/R key to clear any existing data	
7. Use the bottom row of FF keys to select a single letter. <ul style="list-style-type: none"> • See “Example 1. Large-display phone” on page 48. • See “Example 2. Small-display phone” on page 49. Notes: <ul style="list-style-type: none"> • Press the * key to erase a single entry. • Press the # key to enter a space. 	
8. Repeat steps 6-7 as many times as necessary to enter the desired PSD name. Note: Press the FL/R key to clear the entire entry.	
9. Press the HOLD key when finished.	Next PSD bin number displays
10. To enter another speed dial name repeat steps 5-9.	

SSD Names:

To set SSD names using a large-display or small-display phone:

Action	Result
1. Lift the handset or press the ON/OFF key.	
2. Press the PROG key.	
3. Press the * key.	
4. Enter 1 for the SSD Name Assignment mode.	SSD NO.=> SSD NAME displays
5. Enter the speed dial bin number (00-79 or 000-799).	
6. Press the HOLD key.	-SSDXXX A B C D E F XXX displays (where XXX = specified SSD bin number)
7. Press the FL/R key to clear the current data.	A B C D E F XXX displays (where XXX = specified SSD bin number)

Action	Result
8. Enter the speed dial name: <ul style="list-style-type: none"> • If using a large-display phone, press the soft key next to the desired row of letters. (See Example 1 on page 48.) • If using a small-display phone press the appropriate one-touch key. (See Example 2 on page 49.) 	
9. Use the bottom row of FF keys to select a single letter. <ul style="list-style-type: none"> • See “Example 1. Large-display phone” on page 48. • See “Example 2. Small-display phone” on page 49. Notes: <ul style="list-style-type: none"> • Press the * key to erase a single entry. • Press the # key to enter a space. 	
10. Repeat steps 8-9 as many times as necessary to enter the desired SSD name. Note: Press the FL/R key to clear the entire entry.	
11. Press the HOLD key when finished.	Next SSD bin number displays
12. To enter another speed dial name, press the CONF key and repeat steps 5-11.	SSD NO.=> SSD NAME displays

Hardware Requirements

- N/A

Considerations

- PSD names can contain a maximum of 7 characters. SSD names can contain a maximum of 16 characters.
- The ability to make extension name assignments is allowed/restricted to anyone with a Class of Service (COS) that allows access to User Maintenance features. (See Chapter 4 “User Maintenance” of this document.)

Network Facilities

Description

The System supports networking facilities such as:

- Networking extension calling
- Network paging
- Network call transfer
- Tandem calling

For more information on System Networking, see the *System Networking Reference Manual*.

Network Call Transfer

Network Call Transfer allows a call at an extension to be transferred to another extension in the network.

Network Extension Calling

Network Extension Calling allows you to reach an extension on another PBX. Based on the number you dial, the System network routes the call automatically.

Network Paging

Network Paging allows users on one System to page on another System when the appropriate Class of Service (COS) allows.

Network Call Routing

Network Call Routing allows multiple systems that are interconnected in a network, to direct calls to a specific tie line based on the number dialed. The call does not leave the network.

Tandem Connection

Tandem Connection allows calls that are received over the network tie lines to be automatically routed on to another PBX or out to the public network.

Hardware Requirements

- T1 (USA), E&M (HK) or AC-15 (UK) Card

Considerations

- N/A

Non-Blocking Architecture

Description

The System is totally non-blocking. All extension and outside lines are available for use at the same time.

Hardware Requirements

- The CPC96 supports up to 96 ports. The CPC288 supports up to 288 ports and should be combined with time switch card TSW288. The CPC-576 supports up to 576 ports and should be combined with time switch card TSW576.

Considerations

- N/A

Power Failure Transfer

Description

Power Failure Transfer provides telephone service to a limited number of Single Line Telephones (SLTs) during a power failure. The SLTs are connected to the Exchange Line via a Power Failure Unit (PFU). In the event of a power failure, the power failure extensions have dial tone directly from the Exchange Line. (System features and restrictions do not apply.)

Hardware Requirements

- Power Failure Unit
- An SLT that will be connected to the PFU.

Considerations

- Up to four SLTs can be connected to one PFU.
- For added protection against power outages, backup batteries can be installed in the System. Backup batteries provide full telephone service and system features to all System extensions for a limited amount of time. With maximum traffic, the backup batteries last up to 30 minutes.

Power On Maintenance

Description

The System allows you to change most circuit cards, programming, and many other maintenance features while the System is powered on and operating. Very few operations require the System to be powered down or out of service. The System therefore continues to operate without interruption for most maintenance functions.

A limited number of items such as the replacement of some common control circuit cards requires the system to be powered down.

Hardware Requirements

- N/A

Considerations

- N/A

Programming Devices

Description

The dealer may program the System either by using:

- A digital key telephone equipped with display
- A PC-Based Customizing Tool

Telephone Programming

The System can be fully programmed from an extension telephone equipped with 12 FF keys and a display. While major system configuration changes may be more easily performed using a PC programmer, all programming is available via a telephone. This is especially useful for minor changes to the system configuration.

Hardware Requirements

- N/A

Considerations

- N/A

PC-Based Customizing Tool

The System can be completely configured using the PC-Based Customizing Tool. This may be done either by directly connecting to the System or by remote connection using a modem.

The System database can be uploaded and downloaded for easy storage and retrieval.

The PC-Based Customizing Tool connects to the System through the RS232C maintenance port.

Hardware Requirements

- N/A

Considerations

- N/A

Ringling Modes

Description

The System supports multiple types of Exchange Line ringing including the following:

- Day 1/Day 2/Night Ringing
- Day 1/Day 2/Night Delayed Ringing
- DDI Day/Night Ringing
- DDI Day/Night Busy/Delayed Ringing
- Busy Lamp Field Immediate Ringing
- Busy Lamp Field Delayed Ringing
- Slide Ringing
- Alarm Ringing

Day 1/ Day 2/Night Ringing

When the System is in Day 1 mode, calls can be directed to ring at one or more extensions or at a hunt group per the Day 1 ringing assignments.

When the System is in Day 2 mode, calls can be directed to ring at one or more extensions or at a hunt group per the Day 2 ringing assignments.

When the system is in Night mode, call can be directed to ring at one or more extensions or at a hunt group per the Night ringing assignments.

Inbound calls can be directed to desired normal daytime locations by setting the system into a Day mode. By having a second day mode (Day 2) alternative call handling is available during day operation. For instance, during lunch, calls can be directed to an alternative position.

Calls can be directed specific night locations when the system is set to Night mode.

For more information on Day Ringing, see “Day/Night System Mode” on page 35.

Hardware Requirements

- N/A

Considerations

- N/A

Day 1/ Day 2/Night Delayed Ringing

Delayed Ringing causes an incoming outside call that is unanswered at a primary extension within a certain period of time, to ring at a designated extension or extensions. Delayed ringing destinations can be set for Day1, Day 2 and Night modes. Exchange Line Delayed Ringing is also available for hunt group pilot numbers.

Hardware Requirements

- N/A

Considerations

- N/A

DDI (DID) Day/Night Ringing

(Note: Analog DID is not available in the UK model).

Incoming DDI calls can be set to ring at day destinations when the system is in day mode and ring at night destinations when the system is in night mode.

Hardware Requirements

- DDI (DID) Trunk Card

Considerations

- N/A

DDI (DID) Day/Night Busy/Delayed Ringing

DDI Day/Night Busy/Delayed Ringing causes an incoming DDI call to a busy primary extension to ring at a designated extension or extensions. DDI Busy/Delayed Ringing also causes an incoming DDI call that is unanswered at a primary extension within a certain period of time, to ring at a designated extension or extensions. Separate ring destinations are available for day and night modes.

DDI Busy/Delayed Ringing is also available for hunt group pilot numbers. However, when the Queuing Timer expires, the call leaves the hunt group and is forwarded to the DDI Busy/Delayed Ringing destination.

Hardware Requirements

- N/A

Considerations

- Call Forwarding takes priority over DDI Busy/Delayed Ringing
- If the call is part of a hunt group and the Queuing Timer expires, the call is forwarded to the DDI Busy/Delay Ringing destination. (See “DDI (DID) Day/Night Busy/Delayed Ringing” on page 56.)

Busy Lamp Field Ringing

Extensions that have Direct Station Select (DSS)/BLF FF keys assigned may be set to ring on those keys.

Hardware Requirements

- N/A

Considerations

- ISDN phones may not set BLF ringing.
- For more information on BLF ringing, see “Line Appearances” on page 152.

Busy Lamp Field Delayed Ringing

Extensions that have Direct Station Select (DSS)/BLF FF keys assigned may be set to delay ring on those keys.

Hardware Requirements

- N/A

Considerations

- ISDN phones may not set BLF ringing.
- For more information on BLF ringing, see “Line Appearances” on page 152.

Slide Ringing

Similar to Delayed Ringing, Slide Ringing allows an alternate position to answer calls. If a call is not answered within a slide ringing time period, the call can be set to ring at another phone with that exchange line key.

One possible use for Slide Ringing is in an office with a common secretary. A non-ringing FF key can be assigned for each exchange line used by the group. If a call is not answered within the slide ringing timer, the call will ring the common secretary.

Hardware Requirements

- N/A

Considerations

- N/A

Alarm Ringing

Alarm Ringing allows the incoming ringing tone to be changed if the call is not answered in a predetermined time. This can be very useful in alerting others to pick up unanswered calls.

Hardware Requirements

- N/A

Considerations

- If slide ringing is enabled, it will override alarm ringing.

SSD TRS (Call Barring) Override

Description

System Speed Dial (SSD) numbers may be used to outdial calls from extensions that otherwise have outgoing call restrictions (i.e., Toll Restriction Service [TRS]).

Hardware Requirements

- N/A

Considerations

- N/A

Station Message Detail Recording (Call Logging)

Description

Station Message Detail Recording (Call Logging) provides detailed call records of outgoing calls. Call Logging records can be output to a printer or an external call accounting system.

Various types of information are reported on the Call Logging record and each type of information occupies a set position in the Call Logging format (See Figure 1 on page 59.) One type of information is the “condition code” which occupies the first position in the output format. This code specifies what type of call was made or received (e.g., DISA Incoming call [S] or Outgoing Network call [W]). However, condition codes are prioritized, and the type of call determines what code is displayed.

The following tables shows the priority of condition codes for outgoing calls and incoming calls.

Table 7. Priority of outgoing call condition codes

Priority	Condition Code	Description
Highest	T or H	T = Outgoing Transfer Call H = Outgoing Hold Call
2nd	F	F = Call Forward Outside Call
3rd	W	W = Network Outgoing Call

Priority	Condition Code	Description
4th	L	L = LCR Outgoing Call
Lowest	O	O = Outgoing Call

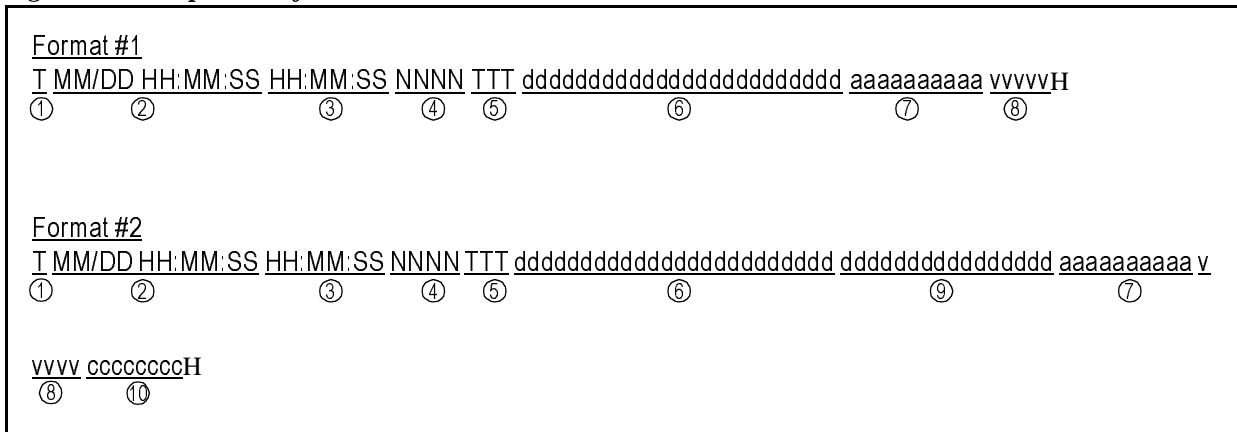
For example, an outgoing call is an ARS Outgoing call (**G**) but it is also a transferred call. The Call Logging data condition code will be **T** to indicate that the call was an Outgoing Transfer. (A transferred call's condition code takes precedence over the type of call - ARS Outgoing call [**G**].)

Table 8. Priority of incoming call condition codes

Priority	Condition Code	Description
Highest	h or t	h = Incoming Hold t = Incoming Transfer
2nd	D, N, or S	D = DDI Incoming Call N = Network Incoming Call S = DISA Incoming Call
Lowest	I	I = Incoming Call

For example, an incoming call is a DDI Incoming call (**D**), but it is also a transferred call. The Call Logging data condition code will be **t** to indicate that the call was an Incoming Transfer call. (A transferred call's condition code takes precedence over the type of call - DDI Incoming call [**D**].)

Figure 1. Output data format



- ① Condition Code: (**I**: Incoming call / **D**: DDI incoming call / **h**: Hold incoming call / **N**: Network incoming call / **S**:DISA incoming call / **t**: Transfer incoming call / **O**: Outgoing call [Non LCR] / **F**: Call forward outside call / **G**: ARS outgoing call / **H**: Hold outgoing call / **L**: LCR outgoing call / **s**: DISA outgoing call / **T**: Transfer outgoing call / **W**: Network outgoing call)
- ② Call start time (MM=01 to 12 / DD=01 to 31 / HH=00 to 23 / MM=00 to 59 / SS=00 to 59)
- ③ Call duration time (HH=00 to 23 / MM=00 to 59 / SS=00 to 59)
- ④ Exchange Line user No. (extension line No.: 0 to 9999 / Exchange Line No.: C1 to C576)

- ⑤ Exchange Line No. (Exchange Line No.: 1 to 576 / When Exchange Line is disconnected while the call is on hold: *1 to *576)
 - ⑥ Dialed No. (24 digits max. including **0-9**, *, # Cannot display Flash or Pause. If a number is hidden, * will appear instead of digits. * will stay with the call even if the call is transferred. For Format 2, an **I** Proceeds the digits if it is an incoming call.)
 - ⑦ Accounting code (10 digits max.)
 - ⑧ Verified Account code (Verified Account code table number V001 to V500)
 - ⑨ Caller data (Format #2 only)
 - ⑩ ISDN charge data (Format #2 only - originator number applies to ISDN only)
- H Carriage return line feed

Hardware Requirements

- A printer or external call accounting system is required to receive Call Logging data.

Considerations

- A call must be answered to generate Call Logging data (e.g., answered by Voicemail, call pickup, etc.)
- You can specify which type of Call Logging data format is sent (i.e., either Format 1 or 2).

Toll Restriction Service (Call Barring)

Description

Toll Restriction Service (TRS) - Call Barring allows access levels, including the prohibition of long distance calls or after-hours calls, to be assigned to specific extensions or Exchange Lines. This minimizes non-business related calls and reduces phone bills by only allowing long distance calls over designated lines.

TRS (Call Barring) can be used in conjunction with Automatic Route Selection (ARS).

- TRS classes are set on an extension and exchange line basis. Up to 50 TRS (Call Barring) classes can be assigned.
- Each TRS class is then assigned to a TRS level. This level is used as the basis for allowing or restricting calls.
- There are 10 TRS levels available: **0** denies all calls, **1-8** may be partially restrictive per assignments, and **9** allows all calls.
- TRS can restrict the number of digits dialled (1 to 20 digits limit or no limit).
- TRS can restrict the use of System Speed Dials (SSDs) for out dealing on a TRS class basis; either no system speed dials or limit the range of SSDs.
- TRS can restrict the use of the star (*) or pound (#) digits on a TRS class basis.

The following calling restrictions are also available:

- Forced ARS Restriction (The ARS feature controls outside calls.)

Hardware Requirements

- N/A

Considerations

- The dialling restrictions included in this feature help prevent unauthorized outgoing calls. It is possible; however, to program your System to allow SSD to override TRS.
- For more information on ARS/TRS (Call Barring), see “*ARS and TRS (Call Barring) Operation*” on page 267.

Trunk (Exchange Line) Access Groups

Description

Exchange Lines can be placed in exchange line groups. When a exchange line group is accessed, the System automatically selects an open exchange line from the group.

Operation

To access an exchange line group:

Action	Result
1. Enter the exchange line access code (default exchange line group access codes are 9 or 81-84).	
2. Dial the phone number.	

Hardware Requirements

- N/A

Considerations

- Exchange Lines can only appear in one exchange line group.
- If Automatic Call Routing is enabled, the MCO access code (**9** by default) automatically accesses the Automatic Route Selection (ARS) features.

Virtual Port

Description

Virtual ports are not physical ports in the System. They are phantom or simulated ports used in the System to support:

- Virtual extension ringing
- Virtual floating hold

Up to 96 virtual ports may be assigned per CCU.

Virtual Port used for Virtual Extension

You can assign an actual extension number to a virtual port. You can then assign the extension number as any actual extension (incoming call settings and types, Station Class of Service (COS), tenant group, pickup group, etc.). You can also assign the virtual port to an FF key on one or more telephones and set to ring. Any call directed to the virtual port extension number will ring the assigned telephone(s).

Virtual extensions provide a mechanism for ringing multiple phones simultaneously. For instance, a Direct Inward Dialling (DDI) entry can only be set to ring to one extension number. However, if the DDI is set to ring a virtual extension and the virtual extension is assigned to ring keys on multiple extensions, the DDI will ring the multiple extensions.

Hardware Requirements

- N/A

Considerations

- N/A

Virtual Port used for Floating Hold

You can assign a virtual port that is not assigned an extension number to be used for floating hold. The virtual port is assigned to an FF key. Calls can then be placed on hold on the virtual port FF key. Any extension that is assigned the same virtual port FF key can then pick up the held call.

This can be used like a system park feature.

Hardware Requirements

- N/A

Considerations

- N/A

Voice Mail Integration (Third Party)

Description

The System supports third party Voice Mail systems with features such as:

- Answer Supervision for Voice Mail
- Call Forward ID Code for Voice Mail
- CLI/DDI ID Code for Voice Mail
- High Priority Message Waiting
- Message Key ID Code

Answer Supervision for Voice Mail

Description

This feature allows the ICX to send an answer signal to third-party Voice Mail systems.

Without this feature a third-party Voice Mail cannot receive a signal indicating that a DBS ICX extension has answered. In other words, to determine that the extension has answered, the Voice Mail system would have to wait until the extension stops receiving ringback tone. As a result, waiting for the ringback to stop often delays connection times for calls from Voice Mail to extensions. By sending an answer signal, this feature provides quicker response time between the ICX and the Voice Mail system.

Hardware Requirements

- AEC Port

Considerations

- The digits used for the answer signal code are determined by the requirements of the Voice Mail system.
- The answer code may be up to 4 characters and consist of the characters 0 - 9, *, #, and pause.
- If the called extension does not answer and is forwarded to Voice Mail, the ICX sends a Call Forward ID code back to the Voice Mail system.
- During transmission of the answer signal code, other DTMF digits and functions from the ICX extension are ignored.
- The Voice Mail port must be assigned as a Voice Mail port connection.
- The DTMF pattern is set as pattern 2.

Call Forward ID Code for Voice Mail

Call Forward ID Code for Voice Mail allows you to call forward to a third-party Voice Mail system. The ID Code sends the digits that are required by the Voice Mail to identify the System extension.

Operation

To set a Call Forward ID Code for Voice Mail:

Action	Result
1. Go offhook or press ON/OFF key.	
2. Dial the Call Forward ID Code (default = 715 (UK/HK) or 715#).	Enter V.M. ID displays
3. Enter the ID code required by voice mail (see your voice mail manual). Usually this is the extension number.	
4. Press the HOLD key.	Stored V.M. ID displays
5. Go onhook or press ON/OFF key.	

To clear the ID Code:

Action	Result
1. Go offhook or press ON/OFF key.	
2. Dial the Call Forward ID Code (default = 715 (UK/HK) or 715#)	Enter V.M. ID displays
3. Press the HOLD key.	Cleared V.M. ID displays
4. Go onhook or press ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- N/A

CLI/DDI Voice Mail ID Code

CLI/DDI calls may be sent directly to voice mail through the used of the DDI Voice Mail ID Code. A prefix and suffix may be specified to be sent to the voice mail as well as a chosen number of DDI digits.

Either no digits (default), the last two digits of the DDI, the last three digits of the DDI or the entire DDI number may be sent.

The prefix may be up to eight digits including 0-9, *, # and pause (REDIAL).

The suffix may be up to eight digits including 0-9, *, # and pause (REDIAL).

Hardware Requirements

- N/A

Considerations

- Each pause is a fixed 1 second delay.
- If you do not assign a Voice Mail ID Code, the DDI digits will be sent to voice mail.
- Only one Voice Mail ID Code is available for the system.

High Priority Message Waiting

Message waiting displays and LEDs may be utilized by the Voice Mail system to indicate that a Voice Mail message has been left in your mail box. When you retrieve the message, the message waiting indications are cleared.

Hardware Requirements

- N/A

Considerations

- For more information on setting and retrieving message waiting, see the telephone operation sections that follow in this document.

Message Key ID Code

On a large-display phone you can use a Message key (labelled **MSG**) to either retrieve Voice Mail messages or respond to telephone messages. When responding to Voice Mail messages from a 3rd party Voice Mail system, the Message key needs to have an ID code set to identify the caller to the Voice Mail system. You can also use the Message key to program a Voice Mail password.

You must program the Message key using the User Maintenance feature “Set Message Key ID Code” on page 85.

Operation

To retrieve a message at Voice Mail:

Action	Result
1. Press the MSG key.	Voice mail instructions
2. Follow the Voice Mail instructions for retrieving messages.	
3. When finished retrieving messages, replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- N/A

Voice Mail Transfer Key

Description

The Voice Mail Transfer (VM/TRF) key allows you to transfer calls to voice mailboxes without waiting for voice mail to answer. You can assign a Voice Mail Transfer key from a phone or through system programming.

Two Voice Mail Transfer keys are available. VM Transfer Key 1 will transfer to a voice mail extension number. Voice Mail Transfer Key 2 will transfer to the voice mail pilot number.

Operation

To assign a Voice Mail Transfer key from a phone:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the PROG key.	
3. Press the FF key to be assigned as the Voice Mail Transfer key.	

Action	Result
4. Press REDIAL and 74nnnn (VM Transfer Key 1) where nnnn is the voice mail extension number or Press REDIAL and 75nnnn (VM Transfer Key 2) where nnnn is the voice mail extension number	
8. Press the HOLD key.	
9. Replace the handset or press the ON/OFF key.	

To use a Voice Mail Transfer key:

Action	Result
1. Lift the handset or press the ON/OFF key to answer the incoming call.	Connected to caller
2. Press the VM/TRF (1 or 2) key .	System places caller on hold
3. Press the DSS/BLF key, dial an extension number or select the extension from the extension directory on the large display telephone.	
4. Replace the handset or press the RELEASE, ON/OFF, or PROG key.	

Once a call is sent to the voice mail, after the voice mail answers, the system sends the VM Transfer ID 1 or 2 + the extension number (BLF/DSS, Directory or dialled number).

Hardware RequirementsN/A

- N/A

Considerations

- The VM/TRF key can be assigned to any key phone, DSS/72 or EM/24. The VM/TRF key cannot be assigned to a one-touch key.
- The VM/TRF key can be used to transfer intercom as well as Exchange Line calls to a voice mailbox.
- The Voice Mail Transfer ID codes are assigned in the Maintenance Programming section. Up to ten digits can be stored.
- The system responds to key operations during the transfer in the following ways:
 - Pressing the FL/R key cancels the VM/TRF and returns intercom dial tone to the user. When the VM/TRF is cancelled, the incoming call is still connected but is on hold.
 - If a valid key (Exchange Line key or second DSS key, for example) is pressed, the VM/TRF is cancelled and the operation invoked by the key is performed.
 - If an invalid key (**REDIAL**, for example) is pressed, the VM/TRF is cancelled, and the user receives busy tone.
 - Once VM/TRF is pressed, the user can dial up to 10 digits before completing the transfer.
- If a user begins to perform the voice mail transfer and the extension cannot hold a call (one call is already on non-appearance hold, for example), the system will keep the call in the talk state and will not allow the voice mail transfer to be initiated.

- If the VM/TRF key stores a number other than a voice mail extension number, the system does not send DSS/BLF information or the extension number that is dialed after pressing VM/TRF.

Chapter 4. User Maintenance

This chapter contains detailed descriptions of the following System maintenance topics and features:

Topic	Page
Introduction	70
About User Programming	70
Set System Date/Time/Day	71
Set Personal Speed Dial Numbers	72
Set Personal Speed Dial Names	73
Set System Speed Dial Numbers	78
Set System Speed Dial Names	79
Set System Speed Dial Index	80
Set Extension Names	81
Set Verified Account Codes	83
Set Call-Forward ID Codes for Voice Mail	84
Set Message Key ID Code	85
Set Mode Schedule	87
Set Special Day Mode	89
Set Exception Day Mode	95
Set Day of Week Mode	97
Set Walking TRS (Call Barring) Codes	98
Set Call Forward Busy Destination Extension	99
Set Call Forward No Answer Destination Extension	100
Set Caller ID Logging Extensions	101

Introduction

User Maintenance provides several items that can be adjusted by the end user of the telephone system. The telephone system dealer is not required to make these changes. These items include settings for:

- Date and Time - including date, time, and day of week
- Personal Speed Dial (PSD) Assignment - including PSD number and name
- System Speed Dial (SSD) Assignment - including SSD number and name
- Extension name
- Verified Account code
- Call Forward ID code
- Message Key ID code
- Walking TRS (Call Barring) Code
- TRF of CFID
- CID Logging Ext
- System mode. You can set the System to handle incoming calls, outbound call routing, and built-in voice mail call messages differently depending upon whether the system is in Day mode, Day 2 mode, or Night mode. With User Maintenance, you can program the System for mode schedule, mode schedule for special day, mode schedule for exception days, and day of the month patterns.

About User Programming

User Maintenance requires a Digital Display Key Telephone assigned to a Class of Service (COS) that allows User Maintenance.

The procedures in the following sections describe the basic steps used for modifying parameters. However, there are many alternative ways to view and modify the parameters using special keys and procedures. Some of the more advanced keys include:

REDIAL	(At menu level) clears an entry (At data entry) retrieves the last entry setting
FL/R	(At menu level) ignored (At data entry) clears setting
ON/OFF	Begins programming log-in or exits programming
HOLD	(At menu level) moves toward data entry level within the same address (At data entry) saves the displayed setting and moves to the next setting
PROG	Moves to the main menu
CONF	Moves to the first data setting
MEMORY	Backs out of the address menu levels
MENU	Ignored
PREV	(At menu level) moves to the previous screen (At data entry) ignored
NEXT	(At menu level) moves to the next screen (At data entry) ignored
VOLUME (▼)	Scrolls through the same address level (ascending)
VOLUME (▲)	Scrolls through the same address level (descending)
FF1	Date and Time
FF2	Personal Speed Dial (PSD) Assignment menu
FF3	System Speed Dial (SSD) Assignment menu
FF4	Extension Name menu
FF5	Verified ID Code menu
FF6	Call Forward ID Code menu
FF7	Message Key ID Code menu
LINE	System Mode menu

Note: Once in a data entry level, you must either enter an acceptable value or restore the previous value before proceeding. For instance, if you change an entry to an unacceptable value and then press **FF2** to move to the PSD Assignment menu, you will not be able to proceed. You must first enter an acceptable value.

Operation

To enter User Maintenance mode:

Action	Result
1. At a telephone with a COS that allows user login, press the ON/OFF key.	
2. Press the PROG key.	
3. Press the * key twice (* *).	
4. Press the CONF key.	81- User MAINT displays

Note: Your extension's Class of Service must be properly set to allow User Maintenance access. Also, only one user may enter User Maintenance or System Programming at a time.

Set System Date/Time/Day

Description

The System allows you to change the date, time, and day of week. When setting the time, you can specify 12 or 24 hour format.

Operation

To change the system date, time, and day of week:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See "To enter User Maintenance mode:" on page 71.)	81- User MAINT displays
2. At the 81 level, enter 000 .	
3. Press the HOLD key.	0 :YYMMDD Date displays
4. Enter the year (two characters), month (two characters), and day (two characters). Note: To clear an entry or existing data, press the FL/R key.	
5. Press the HOLD key.	1 :HHMM Time displays

Action	Result
6. Enter the hour (two characters) and minute (two characters). Note: To clear an entry or existing data, press the FL/R key.	
7. Press the HOLD key.	2 : Day of the Week displays
8. Enter the day of week where: 1 = Mon, 2 = Tues., 3 = Wed., 4 = Thurs., 5 = Fri., 6 = Sat., 0 = Sun. Note: To clear an entry or existing data, press the FL/R key.	
9. Press the HOLD key to store the entry.	
10. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set Personal Speed Dial Numbers

Description

For a description of Personal Speed Dial (PSD), see “Personal Speed Dial” on page 166 for a Digital Key Telephone, “Personal Speed Dial” on page 220 for a Digital Single Line Telephone (DSLTL), and “Personal Speed Dial” on page 258 for a Single Line Telephone (SLT).

Operation

To set PSD numbers:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 01 .	
3. Press the HOLD key.	8101- PSD Assignment displays

Action	Result
4. Press the HOLD key.	0 : PSD Number displays
5. Press the HOLD key.	EXT Number displays
6. Dial the extension number.	
7. Press the HOLD key.	Enter PSD # XXX displays (where XXX = dialled extension number)
8. Enter the PSD bin number (80-99).	
9. Press the HOLD key.	YYY ZZ displays (where XXX = extension number, YYY = assigned name, and ZZ = PSD bin number)
10. Enter the PSD digits to be dialled. Note: To clear an entry or existing data, press the FL/R key.	
11. Press the HOLD key to store the entry.	Next PSD bin number displays
12. To set additional PSD numbers, press the volume up and down key or press the HOLD key to move to the desired PSD bin number.	Desired PSD bin number displays
13. Repeat steps 10-12 until all PSD numbers are entered.	
14. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set Personal Speed Dial Names

Description

For a description of Personal Speed Dial (PSD), see “Personal Speed Dial” on page 166 for a Digital Key Telephone, “Personal Speed Dial” on page 220 for a Digital Single Line Telephone (DSLTL), and “Personal Speed Dial” on page 258 for a Single Line Telephone (SLT).

Operation

To set PSD names using either a large-display or small-display phone:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 01 .	
3. Press the HOLD key.	8101- PSD Assignment displays
4. Enter 1 .	
5. Press the HOLD key.	1 : PSD Name displays
6. Press the HOLD key.	EXT Number displays
7. Dial the extension number.	
8. Press the HOLD key.	Enter PSD # XXX displays (where XXX = dialled extension number)
9. Enter the PSD bin number (80-99).	
10. Press the HOLD key.	A B C D E F PXX displays (where PXX = PSD number)
11. Enter the PSD name: <ul style="list-style-type: none"> • If using a large-display phone, press the soft key next to the desired row of letters. (See Example 1 on page 75.) • If using a small-display phone press the appropriate one-touch key. (See Example 2 on page 76.) Note: Press the FL/R key to clear any existing data.	
12. Use the bottom row of FF keys to select a single letter. <ul style="list-style-type: none"> • See Example 1. Large-display phone on page 75. • See Example 2. Small-display phone on page 76. Notes: <ul style="list-style-type: none"> • Press the * key to erase a single entry. • Press the # key to enter a space. 	
13. Repeat steps 11-12 as many times as necessary to enter the desired speed dial name. Note: Press the FL/R key to clear the entire entry.	
14. Press the HOLD key to store the entry.	Next PSD bin number displays
15. To set additional PSD names, press the volume up and down key or press the HOLD key to move to the desired PSD.	Desired PSD bin number displays
16. Repeat steps 11-15 until all PSD names are entered.	

Action	Result
17. Press the MEMORY key to exit the PSD name entry mode.	Enter PSD # XXX displays (where XXX = extension number)
18. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

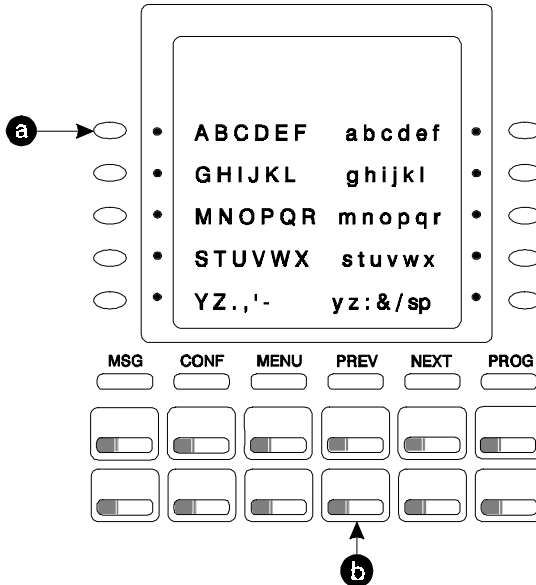
Considerations

- N/A

Example 1. Large-display phone

To enter **D**:

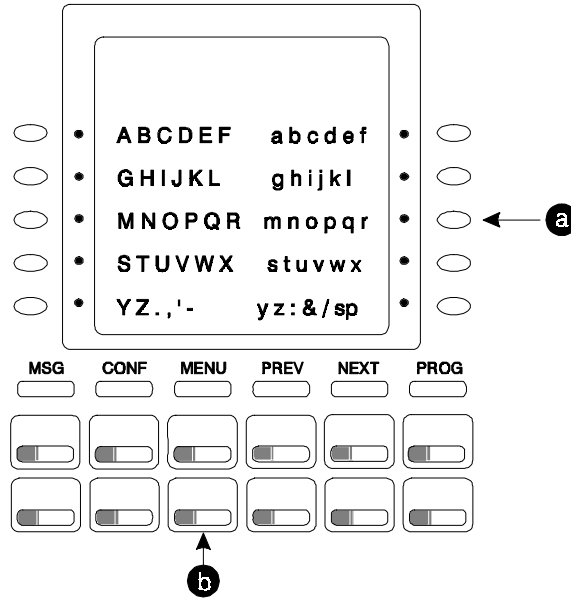
- Press the first soft key on the top left.
- Press the fourth FF key from the left on the bottom row.



To enter **o**:

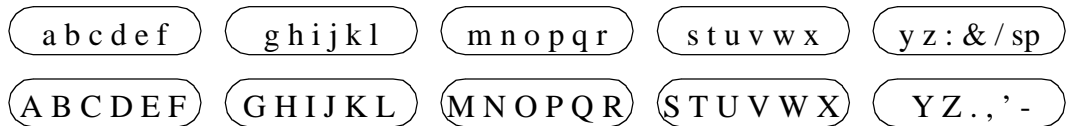
- Press the third soft key from the top right.

- b. Press the third FF key from the left on the bottom row.



Example 2. Small-display phone

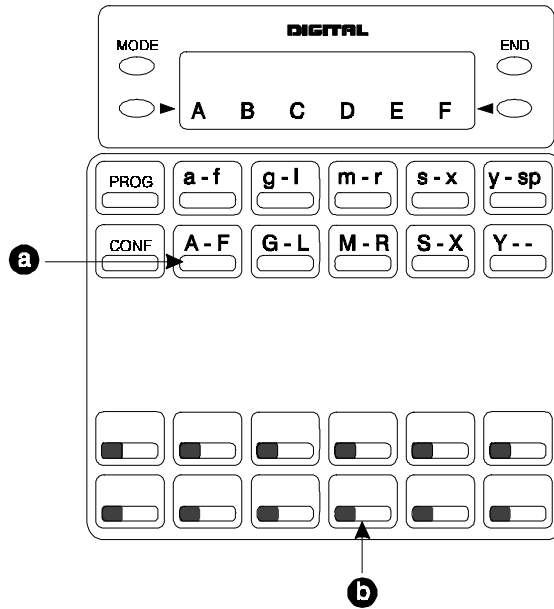
Refer to the following diagram to determine which one-touch key to press.



To enter **D**:

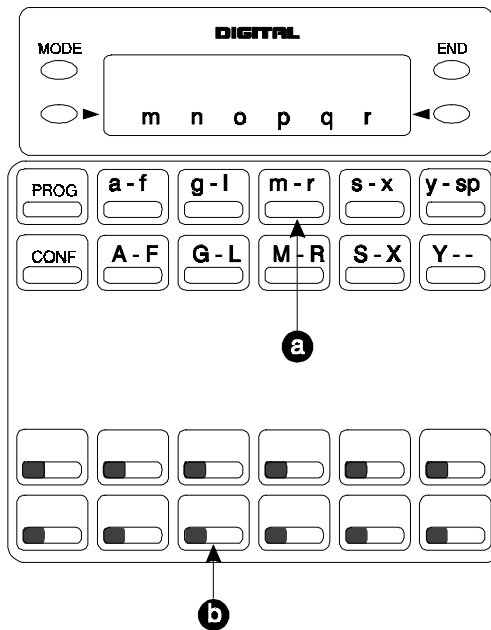
- a. Press the first one-touch key from the left on the bottom row.

- b. Press the fourth FF key from the left on the bottom row.



To enter o:

- a. Press the third one-touch key from the left on the top row.
- b. Press the third FF key from the left on the bottom row.



Set System Speed Dial Numbers

Description

For a description of System Speed Dial (SSD), see “System Speed Dial” on page 169 for a Digital Key Telephone, “System Speed Dial” on page 222 for a Digital Single Line Telephone (DSL), and “System Speed Dial” on page 259 for a Single Line Telephone (SLT).

Operation

To set SSD numbers:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 02 .	
3. Press the HOLD key.	8102- SSD Assignment displays
4. Press the HOLD key.	0 : SSD Number displays
5. Press the HOLD key.	Enter SSD # displays
6. Enter the SSD bin number (00-79 or 000-799).	
7. Press the HOLD key.	-SSDXXX XXX displays (where XXX = SSD bin number)
8. Enter the SSD digits to be dialled. Note: Press the FL/R key to clear an entry or any existing data.	
9. Press the HOLD key to store the entry.	Next SSD bin number displays
10. To set additional SSD numbers, press the volume up or down key or press the HOLD key to move to the desired SSD.	Desired SSD bin number displays
11. Repeat steps 8-10 until all SSDs are entered.	
12. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set System Speed Dial Names

Description

For a description of System Speed Dial (SSD), see “System Speed Dial” on page 169 for a Digital Key Telephone, “System Speed Dial” on page 222 for a Digital Single Line Telephone (DSL), and “System Speed Dial” on page 259 for a Single Line Telephone (SLT).

Operation

To set SSD names using either a large-display or small-display phone:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 02 .	
3. Press the HOLD key.	8102- SSD Assignment displays
4. Enter 1 .	
5. Press the HOLD key.	1 : SSD Name displays
6. Press the HOLD key.	Enter SSD # displays
7. Enter the SSD bin number (00-79 or 000-799).	
8. Press the HOLD key.	A B C D E F XXX displays (where XXX = SSD bin number)
9. Enter the SSD name: <ul style="list-style-type: none"> • If using a large-display phone, press the soft key next to the desired row of letters. (See Example 1 on page 75.) • If using a small-display phone press the appropriate one-touch key. (See Example 2 on page 76.) Note: Press the FL/R key to clear any existing data.	
10. Use the bottom row of FF keys to select a single letter. <ul style="list-style-type: none"> • See Example 1. Large-display phone on page 75. • See Example 2. Small-display phone on page 76. Notes: <ul style="list-style-type: none"> • Press the * key to erase a single entry. • Press the # key to enter a space. 	
11. Repeat steps 9-10 as many times as necessary to enter the desired SSD name. Note: Press the FL/R key to clear the entire entry.	
12. Press the HOLD key to store the entry.	Next SSD bin number displays
13. To set additional SSD names, press the volume up or down key or press the HOLD key to move to the desired SSD.	Desired SSD bin number displays

Action	Result
14. Repeat steps 9-13 until all SSD names are entered.	
15. Press the MEMORYMEMORY key to exit the entry mode.	Enter SSD # displays
16. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set System Speed Dial Index

Description

For a description of System Speed Dial (SSD), see “System Speed Dial” on page 169 for a Digital Key Telephone, “System Speed Dial” on page 222 for a Digital Single Line Telephone (DSL), and “System Speed Dial” on page 259 for a Single Line Telephone (SLT).

Operation

To set SSD index using either a large-display or small-display phone:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 02 .	
3. Press the HOLD key.	8102- SSD Assignment displays
4. Enter 2 .	
5. Press the HOLD key.	2 : SSD Index displays
6. Press the HOLD key.	Enter Index # displays
7. Enter the SSD Index number (1 - 2).	
8. Press the HOLD key.	A B C D E F XXX displays (where XXX = SSD bin number)

Action	Result
9. Enter the SSD Index name: <ul style="list-style-type: none"> • If using a large-display phone, press the soft key next to the desired row of letters. (See Example 1 on page 75.) • If using a small-display phone press the appropriate one-touch key. (See Example 2 on page 76.) Note: Press the FL/R key to clear any existing data.	
10. Use the bottom row of FF keys to select a single letter. <ul style="list-style-type: none"> • See Example 1. Large-display phone on page 75. • See Example 2. Small-display phone on page 76. Notes: <ul style="list-style-type: none"> • Press the * key to erase a single entry. • Press the # key to enter a space. 	
11. Repeat steps 9-10 as many times as necessary to enter the desired SSD name. Note: Press the FL/R key to clear the entire entry.	
12. Press the HOLD key to store the entry.	Next SSD index number displays
13. To set additional SSD index names, press the volume up or down key or press the HOLD key to move to the desired SSD.	Desired SSD index number displays
14. Repeat steps 9-13 until all SSD indexes are entered.	
15. Press the MEMORY key to exit the entry mode.	Enter SSD # displays
16. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set Extension Names

Description

You can assign names to each extension, even if the extension is not a display telephone. When the extension is called, the name appears on the display. For more information on the digital key telephone display, see “Display Information” on page 137.

Operation

To set extension names using either a large-display or small-display phone:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See "To enter User Maintenance mode:" on page 71.)	81- User MAINT displays
2. At the 81 level, enter 03 .	
3. Press the HOLD key.	8103- Extension Name displays
4. Press the HOLD key.	0 : EXT Number/Name displays
5. Press the HOLD key.	Enter EXT # displays
6. Dial the extension number.	
7. Press the HOLD key.	A B C D E F XXX displays (where XXX = extension number)
8. Enter the extension name: <ul style="list-style-type: none"> • If using a large-display phone, press the soft key next to the desired row of letters. (See Example 1 on page 75.) • If using a small-display phone press the appropriate one-touch key. (See Example 2 on page 76.) Note: Press the FL/R key to clear any existing data.	
9. Use the bottom row of FF keys to select a single letter. <ul style="list-style-type: none"> • See Example 1. Large-display phone on page 75. • See Example 2. Small-display phone on page 76. Notes: <ul style="list-style-type: none"> • Press the * key to erase a single entry. • Press the # key to enter a space. 	
10. Repeat steps 8-9 as many times as necessary to enter the desired speed dial name. Note: Press the FL/R key to clear the entire entry.	
11. Press the HOLD key to store the entry.	Next extension number displays
12. To set additional extension names, press the volume up and down key or press the HOLD key to move to the desired SSD.	
13. Repeat steps 8-12 until all extension names are entered.	
14. Press the MEMORY key to exit the entry mode.	Enter EXT # displays
15. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set Verified Account Codes

Description

(For a description of Verified Account Codes, see “Verified Account Codes” on page 110.)

You can enter up to 500 Verified Account codes. The System will store them in memory as valid codes. Once the codes are entered here, a Toll Restriction Service (TRS (Call Barring)) Class of Service (COS) can be used with each code. You can then enter your code on someone else’s phone to bypass the TRS (Call Barring) restrictions on that phone. (The TRS (Call Barring) assigned to the Verified Account code will override the phone’s TRS.)

Operation

To set the Verified Account code:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 04 .	
3. Press the HOLD key.	8104- Verified ACCD displays
4. Press the HOLD key.	Table Number displays
5. Enter the Verified Account table number (001-500).	
6. Press the HOLD key.	XXX- Verified ACCD displays (where XXX = account code table number)
7. Press the HOLD key.	0001 : AAAAAAAAAAAA XXX:Account Cod displays (where AAAAAAAAAAAA = current account code and XXX = account code table number)
8. Enter up to ten-digit Verified Account Code. (All Verified Account Codes must be unique. If there is a matching entry entered, the System will not accept the entry and will double beep.) Note: To clear an entry or existing data, press the FL/R key.	

Action	Result
9. Press the HOLD key.	0002 :X XXX:TRS Class displays (where X = TRS Class)
10. Enter the TRS (Call Barring) Class to be associated with the Verified Account Code entry.	
11. Press the HOLD key to store the entry.	0001 :YYY displays (where YYY = the next account code table number)
12. To add additional Verified Account numbers, press the volume up or down key or press the HOLD key to move to the desired Verified Account table number.	Desired Verified Account table number displays
13. Repeat steps 8-12 until all Verified Account numbers are entered.	
14. Press the MEMORY key to exit the entry mode	Table Number
15. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set Call-Forward ID Codes for Voice Mail

Description

(For a description of Call Forward ID codes for Voice Mail, see “Call Forward ID Code for Voice Mail” on page 63.)

Voice Mail Call-Forward ID codes are used by voice mail systems to identify the correct mail box for storing messages. The actual entry needed will vary by voice mail systems and configuration. Often the entry is the extension number.

Operation

To set the Call Forward ID code:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 05 .	
3. Press the HOLD key.	8105- C.FWD ID Code displays
4. Press the HOLD key.	CF ID-EXT Numbe displays
5. Dial the extension number.	
6. Press the HOLD key.	CF-ID EXT XXX displays (where XXX = extension number)
7. Enter the Call Forward ID code. Notes: The ID code may contain up to 16 digits and contain 0, 1-9, *, # , pause (REDIAL key). To clear an entry or any existing data, press the FL/R key.	
8. Press the HOLD key to store the entry.	Next extension number displays
9. To set additional Call Forward ID codes, press the volume up or down key or press the HOLD key to move to the desired extension.	Desired extension displays
10. Repeat steps 7-9 until all Call Forward ID codes are set.	
11. Press the MEMORY key to exit the entry mode.	CF ID-EXT Numbe displays
12. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set Message Key ID Code

Description

(For a description of the Message Key ID Code Feature, see “Message Key ID Code” on page 65.)

On a large display phone you can use a Message key to either retrieve voice mail messages or respond to telephone messages. To respond to voice mail messages from a 3rd party voice mail system, you need to set the Message Key ID code to identify the caller to the voice mail system. You can also use the Message key to program a voice mail password.

Operation

To set the Message Key ID code:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See "To enter User Maintenance mode:" on page 71.)	81- User MAINT displays
2. At the 81 level, enter 06 .	
3. Press the HOLD key.	8106- MSG Key ID Code displays
4. Press the HOLD key.	MSGID-EXT Numbe displays
5. Dial the extension number of the phone being programmed.	
6. Press the HOLD key.	MSG-ID EXT XXX displays (where XXX = extension number)
7. Enter the Message Key ID code. Notes: The ID code may contain up to 16 digits and contain 0, 1-9, *, #, pause (REDIAL key) . To clear an entry or existing data, press the FL/R key.	
8. Press the HOLD key to store the entry.	Next extension number displays
9. To set additional Message Key ID codes, press the volume up or down key or press the HOLD key to move to the desired extension.	Desired extension number displays
10. Repeat steps 7-9 until all Message Key ID codes are set.	
11. Press the MEMORY key to exit the entry mode.	MSGID - EXT Numbe displays
12. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set Mode Schedule

Description

(For a description of Automatic Day/Night System Mode, see “Automatic Day/Night Mode” on page 37.)

You can set the System to automatically enter None, Day 1, Day2, Night, Night (1), or Night (2) modes based upon mode patterns. You can define up to 3 patterns with up to 5 modes for each day. (This menu allows the setting of the patterns.)

Operation

To set the Mode Schedule:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 07 .	
3. Press the HOLD key.	8107- System Mode displays
4. Press the HOLD key.	0- Mode Schedule displays
5. Press the HOLD key.	000 :HHMM PTN 1-1 Start T displays
6. Enter the start time in hours (two characters) and minutes (two characters) for the Pattern 1 - first mode. Note: To clear an entry or existing data, press the FL/R key.	
7. Press the HOLD key.	001 : PTN 1-1 Mode displays
8. Enter the desired mode for Pattern 1 - first (0 - None, 1 - Day 1, 2 - Day 2, 3 - Night, 4 - Night (1), 5 - Night (2)). Note: To clear an entry or existing data, press the FL/R key.	
9. Press the HOLD key to store the entry.	Next pattern mode displays
10. To set additional mode schedules, press the volume up or down key or press the HOLD key to move to the desired mode.	Desired pattern mode displays
11. Repeat steps 6-10 until all patterns and modes are set. (There are 3 total patterns with 5 start time/modes each.) Note: Entry Positions are listed in Table 9 on page 88.	

Action	Result
12. Press the MEMORY key to exit the entry mode.	0- Mode Schedule displays
13. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Table 9. Mode Schedule Patterns - addresses & values

8107-0 (00-29) Hold (MMDD or HHMM or 0-5) Hold						
-- VALUES -- (MMDD, HHMM, or 0-5)		-- ADDRESS NOS. (00-29) --				
		MODES				
		1st MODE	2nd MODE	3rd MODE	4th MODE	5th MODE
Pattern 1	Start Time (HHMM)	00	02	04	06	08
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	01	03	05	07	09
Pattern 2	Start Time (HHMM)	10	12	14	16	18
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	11	13	15	17	19
Pattern 3	Start Time (HHMM)	20	22	24	26	28
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	21	23	25	27	29

Hardware Requirements

- N/A

Considerations

- N/A

Set Special Day Mode

Description

(For a description of Automatic Day/Night System Mode, see “Automatic Day/Night Mode” on page 37.)

You can specify up to 20 special days for the System. For each special day, you can specify up to 5 modes settings.

Operation

To set the Special Day Modes:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 07 .	
3. Press the HOLD key.	8107- System Mode displays
4. Enter 1 .	
5. Press the HOLD key.	1- Mode Special Day displays
6. Press the HOLD key.	1000 :MMDD Special Day 01 displays
7. Enter the date by month (two characters) and day (two characters) for the Special Day 1. Note: To clear an entry or existing data, press the FL/R key.	
8. Press the HOLD key.	1001 :HHMM S Day 01-1 Start displays
9. Enter the start time in hours (two characters) and minutes (two characters) for mode 1. Note: To clear an entry or existing data, press the FL/R key.	
10. Press the HOLD key.	1002 : S Day 01-1 Mode displays
11. Enter the desired mode for Special Day (0 - None, 1 - Day 1, 2 - Day 2, 3 - Night, 4 - Night(1), 5 - Night (2)). Note: To clear an entry or existing data, press the FL/R key.	
12. Press the HOLD key.	Next Special Day mode displays
13. To set additional Special Day modes, press the volume up or down key or press the HOLD key to move to the desired mode.	

Action	Result
14. Repeat steps 7-13 until all Special Day modes are set. (Up to 20 special days may be entered.) Note: The entry positions are listed in Table 10.	
15. Press the MEMORY key to exit the entry mode.	1- Mode Special Day displays
16. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Table 10. Special Day Start Time/Mode - addresses & values

8107-1 (1000-1219) Hold (MMDD or HHMM or 0-5) Hold						
-- VALUES -- (MMDD, HHMM, or 0-5)		-- ADDRESS NOs. (1000-1219) --				
		MODES				
		1st MODE	2nd MODE	3rd MODE	4th MODE	5th MODE
Special Day 1	Date (MMDD)	1000				
	Start Time (HHMM)	1001	1003	1005	1007	1009
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1002	1004	1006	1008	1010
Special Day 2	Date (MMDD)	1011				
	Start Time (HHMM)	1012	1014	1016	1018	1020
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1013	1015	1017	1019	1021
Special Day 3	Date (MMDD)	1022				
	Start Time (HHMM)	1023	1025	1027	1029	1031
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1024	1026	1028	1030	1032

8107-1 (1000-1219) Hold (MMDD or HHMM or 0-5) Hold						
-- VALUES -- (MMDD, HHMM, or 0-5)		-- ADDRESS NOs. (1000-1219) --				
		MODES				
		1st MODE	2nd MODE	3rd MODE	4th MODE	5th MODE
Special Day 4	Date (MMDD)	1033				
	Start Time (HHMM)	1034	1036	1038	1040	1042
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1035	1037	1039	1041	1043
Special Day 5	Date (MMDD)	1044				
	Start Time (HHMM)	1045	1047	1049	1051	1053
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1046	1048	1050	1052	1054
Special Day 6	Date (MMDD)	1055				
	Start Time (HHMM)	1056	1058	1060	1062	1064
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1057	1059	1061	1063	1065
Special Day 7	Date (MMDD)	1066				
	Start Time (HHMM)	1067	1069	1071	1073	1075
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1068	1070	1072	1074	1076

8107-1 (1000-1219) Hold (MMDD or HHMM or 0-5) Hold						
-- VALUES -- (MMDD, HHMM, or 0-5)		-- ADDRESS NOs. (1000-1219) -- MODES				
		1st MODE	2nd MODE	3rd MODE	4th MODE	5th MODE
Special Day 8	Date (MMDD)	1077				
	Start Time (HHMM)	1078	1080	1082	1084	1086
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1079	1081	1083	1085	1087
Special Day 9	Date (MMDD)	1088				
	Start Time (HHMM)	1089	1091	1093	1095	1097
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1090	1092	1094	1096	1098
Special Day 10	Date (MMDD)	1099				
	Start Time (HHMM)	1100	1102	1104	1106	1108
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1101	1103	1105	1107	1109
Special Day 11	Date (MMDD)	1110				
	Start Time (HHMM)	1111	1113	1115	1117	1119
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1112	1114	1116	1118	1120

8107-1 (1000-1219) Hold (MMDD or HHMM or 0-5) Hold						
-- VALUES -- (MMDD, HHMM, or 0-5)		-- ADDRESS NOs. (1000-1219) --				
		MODES				
		1st MODE	2nd MODE	3rd MODE	4th MODE	5th MODE
Special Day 12	Date (MMDD)	1121				
	Start Time (HHMM)	1122	1124	1126	1128	1130
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1123	1125	1127	1129	1131
Special Day 13	Date (MMDD)	1132				
	Start Time (HHMM)	1133	1135	1137	1139	1141
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1134	1136	1138	1140	1142
Special Day 14	Date (MMDD)	1143				
	Start Time (HHMM)	1144	1146	1148	1150	1152
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1145	1147	1149	1151	1153
Special Day 15	Date (MMDD)	1154				
	Start Time (HHMM)	1155	1157	1159	1161	1163
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1156	1158	1162	1162	1164

8107-1 (1000-1219) Hold (MMDD or HHMM or 0-5) Hold						
-- VALUES -- (MMDD, HHMM, or 0-5)		-- ADDRESS NOs. (1000-1219) -- MODES				
		1st MODE	2nd MODE	3rd MODE	4th MODE	5th MODE
Special Day 16	Date (MMDD)	1165				
	Start Time (HHMM)	1166	1168	1170	1172	1174
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1167	1169	1171	1173	1175
Special Day 17	Date (MMDD)	1176				
	Start Time (HHMM)	1177	1179	1181	1183	1185
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1178	1180	1182	1184	1186
Special Day 18	Date (MMDD)	1187				
	Start Time (HHMM)	1188	1190	1192	1194	1196
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1189	1191	1193	1195	1197
Special Day 19	Date (MMDD)	1198				
	Start Time (HHMM)	1199	1201	1203	1205	1207
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1200	1202	1204	1206	1208

8107-1 (1000-1219) Hold (MMDD or HHMM or 0-5) Hold						
-- VALUES -- (MMDD, HHMM, or 0-5)		-- ADDRESS NOs. (1000-1219) -- MODES				
		1st MODE	2nd MODE	3rd MODE	4th MODE	5th MODE
Special Day 20	Date (MMDD)	1209				
	Start Time (HHMM)	1210	1212	1214	1216	1218
	Mode (0-5): 0=None 1=Day 1 2=Day 2 3=Night 4=Night (1) 5=Night (2)	1211	1213	1215	1217	1219

Hardware Requirements

- N/A

Considerations

- N/A

Set Exception Day Mode

Description

(For a description of Automatic Day/Night System Mode, see “Automatic Day/Night Mode” on page 37.)

You can specify exception days which allow for a range of days for the System to operate in the Night mode. This is intended for extended holidays for business shut down periods that last for multiple days. You can specify up to 6 exception day periods.

Operation

To set the Exception Day Modes:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 07 .	
3. Press the HOLD key.	8107- System Mode displays
4. Enter 2 .	
5. Press the HOLD key.	2- Mode Except Day displays

Action	Result
6. Press the HOLD key.	200 :MMDD PTN 1 Start Day displays
7. Enter the start date by month (two characters) and day (two characters) for Exception Period 1. Note: To clear an entry or existing data, press the FL/R key.	
8. Press the HOLD key.	201 :MMDD PTN 1 Stop Day displays
9. Enter the stop date by month (two characters) and day (two characters) for Exception Period 1. Note: To clear an entry or existing data, press the FL/R key.	
10. Press the HOLD key.	Next Exception Day mode displays
11. To set additional Exception Day modes, press the volume up or down key or press the HOLD key to move to the desired mode.	Desired Exception Day mode displays
12. Repeat steps 7-11 until all Exception Day modes are set. (Up to 6 exception periods may be specified.) Note: The entry positions are listed in Table 11 on page 96.	
13. Press the MEMORY key to exit the entry mode.	2- Mode Except Day displays
14. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Table 11. Exception Days

<p>8107-2 (200-211) Hold (MMDD) Hold</p> <p>EXCEPTION DAYS:</p> <p>200=Start - Exception Day 1</p> <p>201=End - “ “</p> <p>202=Start - Exception Day 2</p> <p>203=End - “ “</p> <p>204=Start - Exception Day 3</p> <p>205=End - “ “</p> <p>206=Start - Exception Day 4</p> <p>207=End - “ “</p> <p>208=Start - Exception Day 5</p> <p>209=End - “ “</p> <p>210=Start - Exception Day 6</p> <p>211=End - “ “</p>	<p>Month/Day of Exception Days (Start or End)</p>
--	---

Hardware Requirements

- N/A

Considerations

- N/A

Set Day of Week Mode

Description

(For a description of Automatic Day/Night System Mode, see “Automatic Day/Night Mode” on page 37.)

The System allows you to specify up to 3 mode patterns. This menu item determines which pattern to follow for a given week day in the month (i.e., first Monday, second Monday, etc.).

Some business may have special operating hours based on the day of the month. For instance, a company may work half-days on the second Saturday of each month.

Operation

To set the Day of Week Modes:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 07 .	
3. Press the HOLD key.	8107- System Mode displays
4. Enter 3 .	
5. Press the HOLD key.	3- D of Week PTN displays
6. Press the HOLD key.	300 : 1st SUN Pattern displays
7. Enter pattern (0 - no pattern, 1 - pattern 1, 2 - pattern 2, 3 - pattern 3) for the first Sunday. Note: To clear an entry or existing data, press the FL/R key.	
8. Press the HOLD key to store the entry.	Next Day of Week mode displays
9. To set additional Day of Week modes, press the volume up or down key or press the HOLD key to move to the desired mode.	Desired Day of Week mode displays
10. Repeat steps 7-9 until the remaining days in the month are set. Note: The entry positions are listed in Table 12 on page 98.	

Action	Result
11. Press the MEMORY key to exit the entry mode.	3- D of Week PTN displays
12. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Table 12. Day of the Month - addresses

ADDRESSES FOR THESE DAYS OF THE WEEK:	-- DAY OCCURRENCE -- (e.g., 1st Sunday=address 300; 2nd Sunday=address 307)				
	1st	2nd	3rd	4th	5th
Sunday	300	307	314	321	328
Monday	301	308	315	322	329
Tuesday	302	309	316	323	330
Wednesday	303	310	317	324	331
Thursday	304	311	318	325	332
Friday	305	312	319	326	333
Saturday	306	313	320	327	334

Hardware Requirements

- N/A

Considerations

- N/A

Set Walking TRS (Call Barring) Codes

Description

You can assign Walking TRS (Call Barring) Codes for each extension.

Operation

To set Walking TRS (Call Barring) Codes using either a large-display or small-display phone:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See "To enter User Maintenance mode:" on page 71.)	81- User MAINT displays
2. At the 81 level, enter 08 .	
3. Press the HOLD key.	8108- Walking TRS Cod displays
4. Press the HOLD key.	Walking ID-Ext displays
5. Dial the extension number.	
6. Press the HOLD key.	Walking ID XXX displays
7. Enter the 4-digit Walking TRS Code.	
8. Press the HOLD key to store the entry.	Next extension number displays
9. To set additional extension WalkingTRs Codes, press the volume up and down key or press the HOLD key to move to the desired Extension.	
10. Repeat steps 8-10 until all extension are entered.	
11. Press the MEMORY key to exit the entry mode.	
12. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set Call Forward Busy Destination Extension

Description

You can assign a Call Forward Busy Destination Extension for each extension. This is typically used for forwarding calls to voice mail.

Operation

To set a Call Forward Busy Destination Extension using either a large-display or small-display phone:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See “To enter User Maintenance mode:” on page 71.)	81- User MAINT displays
2. At the 81 level, enter 09 .	
3. Press the HOLD key.	8109- TRF of CFWD displays
4. Enter 0 .	
5. Press the HOLD key.	CFWD-Busy EXT # displays
6. Dial the extension number.	
7. Press the HOLD key.	Enter CODE displays
8. Enter the destination extension.	
9. Press the HOLD key to store the entry.	Next extension number displays
10. To set Call Forward Busy destinations for additional extensions, press the volume up and down key or press the HOLD key to move to the desired Extension.	
11. Repeat steps 9-11 until all extension are entered.	
12. Press the MEMORY key to exit the entry mode.	
13. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set Call Forward No Answer Destination Extension

Description

You can assign a Call Forward No Answer Destination Extension for each extension. This is typically used for forwarding calls to voice mail.

Operation

To set a Call Forward Busy Destination Extension using either a large-display or small-display phone:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See "To enter User Maintenance mode:" on page 71.)	81- User MAINT displays
2. At the 81 level, enter 09 .	
3. Press the HOLD key.	8109- TRF of CFWD displays
4. Enter 1 .	
5. Press the HOLD key.	CFWD-NoANS Ext displays
6. Dial the extension number.	
7. Press the HOLD key.	Enter CODE displays
8. Enter the destination extension.	
9. Press the HOLD key to store the entry.	Next extension number displays
10. To set Call Forward No Answer destinations for additional extensions, press the volume up and down key or press the HOLD key to move to the desired Extension.	
11. Repeat steps 9-11 until all extension are entered.	
12. Press the MEMORY key to exit the entry mode.	
13. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Set Caller ID Logging Extensions

Description

You can assign Caller ID Call Logging to extensions. The system is limited to 20 call logging extensions per cabinet as follows:

Number of Cabinets	Total Number of Call Log Extensions
1	20
2	40
3	60
4	80
5	100
6	120

Operation

To set a Caller ID Logging Extensions using either a large-display or small-display phone:

Action	Result
1. If not already in User Maintenance mode, enter User Maintenance mode. (See "To enter User Maintenance mode:" on page 71.)	81- User MAINT displays
2. At the 81 level, enter 10 .	
3. Press the HOLD key.	8110- CID Logging EXT displays
4. Press the HOLD key.	CID Logging # displays
5. Enter log control number.	
6. Press the HOLD key.	
7. Dial the extension number.	
8. Press the HOLD key to store the entry.	Next log control # displays
9. To set CID Log for additional extensions, press the volume up and down key or press the HOLD key to move to the desired Extension.	
10. Repeat steps 6-8 until all extension are entered.	
11. Press the MEMORY key to exit the entry mode.	
12. To return to the top menu level (81), press the PROG key. OR... To exit the User Maintenance mode, press the ON/OFF key.	81- User MAINT displays OR... ON/OFF LED goes off

Hardware Requirements

- N/A

Considerations

- N/A

Chapter 5. Key Telephone Features

This chapter describes Key telephone features. Key telephones are proprietary digital phones that provide feature access through a combination of feature keys and access codes.

This chapter covers the following topics:

Topic	Page
Key Telephone	108
Account Codes	108
Non-Verified Account Codes	109
Verified Account Codes	110
Attendant Group Calls	111
Auto Repeat Dial	111
Background Music	112
Busy Override	113
Callback Request	114
Call Forwarding	115
Call Forwarding-All Calls	115
Call Forwarding - Busy	116
Call Forwarding - No Answer	117
Call Forwarding-All Calls and Do-Not-Disturb	117
Call Hold	118
System Hold	118
Floating Hold	119
Exclusive Hold	120
Broker's Hold	121
Call Park	121
Call Pickup	123
Extension Group Pickup	123
Extension Direct Pickup	124
Trunk (Exchange Line) Group Pickup	125
Trunk (Exchange Line) Direct Pickup	125
Call Transfer	126
Supervised Transfer	126
Unsupervised Transfer	127
Camping a Call Onto a Busy Extension	128
Caller ID Call Log	129
Camp-on (Call Waiting)	133
Conference Calls	135
Three-Party Conferencing	135
Eight-Party Conferencing	136

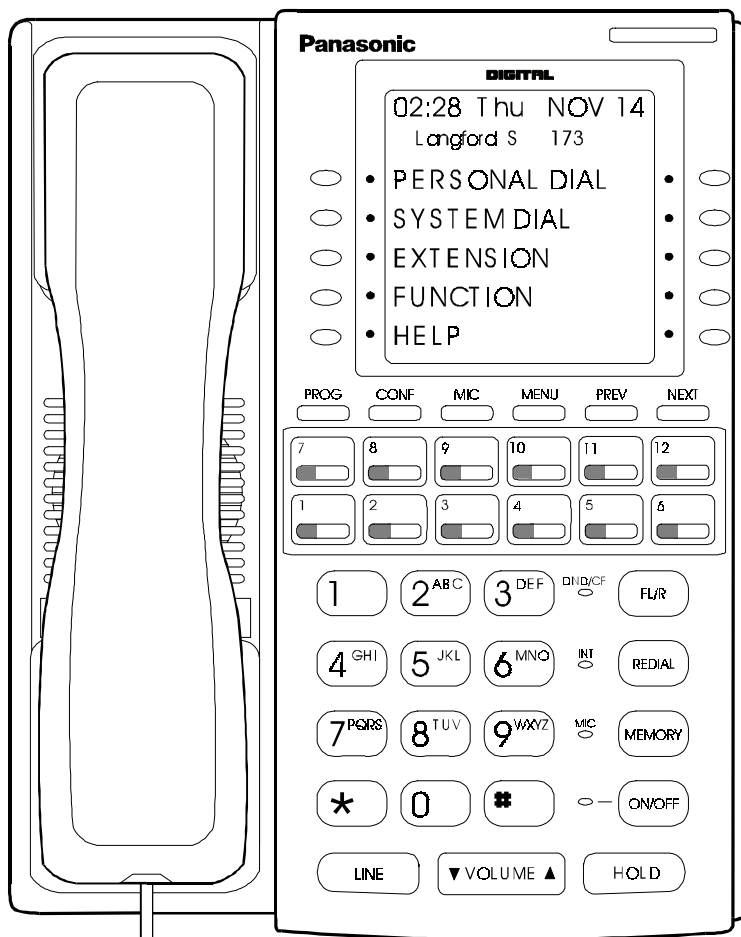
Topic	Page
Display Information	137
Large Display Phone	137
Small Display Phone	138
Changing the Display Contrast	139
Do-Not-Disturb	139
DP to DTMF Signal Conversion	140
DSS/72 Console	141
EM/24 Console	141
Flash	142
Flexible Function Keys	142
Handsfree Answerback	148
Handsfree Operation	149
Headset Operation	149
Hot Dial Pad	150
Hot Line	150
Intercom Calling	151
Last Number Redial	152
Line Appearances	152
DSS/BLF Appearances	152
Direct In Line Appearances	154
Multi-Exchange Line (MCO) Appearances	154
Message Key	155
Message Waiting / Callback	156
Mute Function	158
Offhook Monitor	158
Offhook Signalling	159
Offhook Voice Announce	160
One-Touch Keys	162
Onhook Dialling	164
Paging	164
Meet-Me Answer	165
Reset Call	165
Ringing Line Preference	166
Speed Dialling	166
Personal Speed Dial	166
System Speed Dial	169
Speed Dial Linking	170
Speed Dial Name Assignments	172
Timed Reminder Call	177

Topic	Page
Trunk (Exchange Line) Access	178
Exchange Line Key Access	178
Direct Exchange Line Access	179
MCO Line Preference	179
MCO Exchange Line Access	179
Trunk (Exchange Line) Queuing	180
Variable Mode	181
Voice Recognition	183
Volume Control	184
Walking TRS (Call Barring) Class of Service	184

Key Telephone

As an example of a key telephone, Figure 2 illustrates the Panasonic model VB-44225. This model provides a large display that includes one-touch access to speed dial numbers, telephone features, and Help screens.

Figure 2. Large display key telephone



Account Codes

Description

You can assign account codes to clients to facilitate billing and to track call dates and times, numbers called, and outside line numbers used. This information is printed for each account on the System Message Detail Recording (Call Logging) record.

In addition verified account codes may be used to change the TRS (Call Barring) level to allow calls to numbers otherwise restricted.

Account codes may be either forced or unforced (voluntary) and either verified or unverified.

This feature works with Station Message Detail Recording (Call Logging). During a phone call, a station user can silently enter an accounting or client billing code. The entered Code will display on the phone's LCD as it's dialed, so the user can tell it's being registered. Then later, the Call Logging reports will show the Code dialed for each call, and even sort the report by these Codes.

There are two different types of account codes you can use in the ICX:

Non-Verified Account Codes

Non-Verified Codes aren't checked by the system for validity; the user can enter anything from 1-10 digits long. Individual phones can be programmed to accept *forced* Account Codes (the user must enter a code for every call) or *voluntary* Account Codes (the user can enter a code, but doesn't have to, for each call).

Non-Verified Account Codes can be assigned to incoming and/or outgoing calls. For incoming calls, the user can enter the Code anytime during the call. For outgoing calls, the user either enters the Code before accessing an outside line (for *forced* Codes), or anytime during the call (for *voluntary* Codes).

Verified Account Codes

Verified Account Codes entered by phone users must match a code that has been preprogrammed into an Account Code Table. These codes can also be either *forced* or *voluntary*. You can program these codes with their own Toll Restriction Service (TRS (Call Barring)) Class assignment so that, when entered, they will override the extension's TRS Class. Thus, Verified Account Code users can "float" from phone to phone, placing calls that would normally be restricted on that phone.

Non-Verified Account Codes

Non-verified Account codes are voluntary codes. (i.e., You do not have to enter an account code before making a call.)

You can assign Non-verified Account codes to both incoming and outgoing calls. To assign an account code to an outgoing call, you enter the account code before making the call or during the call. To assign an account code to an incoming call, you enter the account code during the call.

Operation

To enter an account code before making a call:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Account Code feature code (default = 8#).	Enter Account # displays
3. Enter the Account Code (up to 10 digits).	Specified account code displays
4. Press the # key.	Entered Account # displays
5. Press a vacant Exchange Line key or enter an exchange line access code.	Exchange Line Key LED lights
6. Dial the phone number.	Dialled phone number displays

To enter an account code during an outside call:

Action	Result
1. During a call, press the MEMORY key.	
2. Press the # key.	Enter Account # displays
3. Enter the Account Code (up to 10 digits).	Specified account code displays
4. Press the # key.	Display returns to call state.

Verified Account Codes

Stations restricted from outside call origination by Toll Restriction Service (TRS) - Call Barring can be allowed to make outgoing calls by entering a Verified Account code that changes the TRS (Call Barring). After a call is made, the Call Logging record for the call will show the verified account code.

Operation**To make an outside call that requires an account code:**

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Verified Account ID code (default = 8#).	Enter Account# displays
3. Enter the Account Code (10 digits max.).	Account Code entry displays
4. Press the # key.	Entered Account# displays
5. Press a vacant Exchange Line key or enter an exchange line access code.	Exchange Line Key LED lights
6. Dial the phone number.	Dialled phone number displays

Hardware Requirements

- An Call Logging printer or external call accounting system is required to collect account code records.

Considerations

- Account codes are not available during conversation recording mode for the Built-In Voice Mail.
- Account codes will be cancelled after using Exchange Line queuing.
- Account Codes interact with TRS (Call Barring) as shown in the following table:

Forced or Not Forced	Verified or Non-Verified	TRS (Call Barring) Class	
		No Account Entry	Account Entry
Not Forced	Non-Verified	Extension Port Based TRS Class	Extension Port Based TRS Class
	Verified		Account Code Based TRS Class

Forced or Not Forced	Verified or Non-Verified	TRS (Call Barring) Class	
		No Account Entry	Account Entry
Forced	Non-Verified	TRS (Call Barring) Class for Forced Account Code (FF1 0 19 0001)	Extension Port Based TRS Class
	Verified		Account Code Based TRS Class

Attendant Group Calls

Description

You can call the attendant group from any extension by dialling the designated attendant number.

Operation

To call an attendant group:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the attendant pilot number (default = 0).	Call Attendant displays

Hardware Requirements

- N/A

Considerations

- Up to 20 extensions can be included in an attendant group.
- The attendant pilot number is flexible.
- If a member of an attendant group is for a virtual extension, multiple extensions in the attendant group can be made to ring at once when the virtual number is dialled.

Auto Repeat Dial

Description

If you press the FL/R key while receiving busy tone on an outside call, the System automatically redials the number. The System continues to redial the number at set intervals until the called number answers, the caller hangs up, or the maximum of 15 redial attempts is made.

Operation

To use Auto Repeat Dial:

Action	Result
1. Press the ON/OFF key.	Intercom dial tone
2. Press a vacant Exchange Line key or enter an exchange line access code	Exchange Line Key LED lights
3. Dial the phone number.	<ul style="list-style-type: none"> • Dialed phone number displays • Busy tone
4. Press the FL/R key.	System automatically redials number

Hardware Requirements

- N/A

Considerations

- N/A

Background Music

Description

If your System is set up to provide Background Music, music can be played from the speakers of idle telephones. If a call is made to an extension receiving Background Music, the music stops and the phone rings. Background Music is also interrupted when the phone goes offhook.

The System can also provide Music-on-Hold (MOH) using a separate music source. If MOH is provided, callers automatically hear music when they are placed on hold. (For more information on MOH, see page 46.)

Operation**To turn Background Music on:**

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Background Music code (default = *30).	BGM ON displays
3. Replace the handset or press the ON/OFF key.	

To turn Background Music off:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Background Music code (default = *30).	BGM OFF displays
3. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- The music source must be purchased separately. It is not provided with the System.



Important: A license may be required from the Society of Composers, Authors, and Publishers (ASCAP) or similar organizations to transmit radio or recorded music through the MOH and/or Background Music feature. Panasonic, its distributors, and affiliates assume no liability should users of Panasonic equipment fail to obtain such a license.

Considerations

- N/A

Busy Override

Description

Busy Override allows you to break into another user's outside or intercom calls to relay urgent information or to create three-party conference calls.

Operation

To break into a call with a line appearance on your phone (Exchange Line Key Busy Override):

Action	Result
1. Press the lit direct Exchange Line key.	<ul style="list-style-type: none"> Alert tone sounds to both phones (System programming required) Connected to both parties

To use Extension Busy Override:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	<ul style="list-style-type: none"> Dialled extension number displays Busy tone
3. Enter the Busy Override code (default = 9 (UK/HK) or 9#).	<ul style="list-style-type: none"> Alert tone sounds to both extensions (System programming required) Connection to both parties OVR1: (name of overriding extension) and OVR2: (extension name for current talk path) displays on both extensions

Hardware Requirements

- N/A

Considerations

- You cannot break in on three-party conference calls.
- The default for the Override Alert Tone is **off**. If the Override Alert Tone is enabled, the tone will be sent to both parties when a call is overridden.

Callback Request

Description

If you dial a busy extension, Callback Request enables the System to call you back when that extension becomes free. When you answer, the System automatically rings the called party again.

Operation

To set a Callback Request:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	<ul style="list-style-type: none"> • Dialed extension number displays • Busy tone
3. Enter the Callback Request code (default = 3 (UK/HK) or 3#).	Ringback tone
4. Replace the handset after you hear the ringback tone.	System calls back when called extension becomes free

To respond to a callback request:

Action	Result
1. Lift the handset.	System automatically redials extension

Hardware Requirements

- N/A

Considerations

- N/A

Call Forwarding

Description

Call Forwarding allows you to send your calls to another extension, to an outside line, or to Voice Mail. Call Forwarding can be set or cancelled under the following conditions from either your own extension or from an alternate extension:

- Call Forwarding - All Calls
- Call Forwarding - Busy
- Call Forwarding - No Answer

Call Forwarding-All Calls

When Call Forwarding - All Calls is set, all incoming calls to an extension are immediately forwarded.

Operation

To set Call Forwarding-All Calls:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Set Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 721 (UK/HK) or 721#. • For another extension, enter 741 (UK/HK) or 741#. 	
3. If setting Call Forwarding for another extension, dial the number of the extension whose calls you wish to forward.	
4. Enter the destination number: <ul style="list-style-type: none"> • If forwarding to another extension, dial the extension number. • If forwarding to an outside number, press the # key then enter the SSD bin number. <p>Note: Any outside number used for Call Forwarding must already be programmed into speed dialling. (For information, see “Speed Dialling” on page 166.)</p>	
5. Replace the handset or press the ON/OFF key.	

To cancel Call Forwarding-All Calls:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Cancel Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 731 (UK/HK) or 731#. • For another extension, enter 751 (UK/HK) or 751#. 	

Action	Result
3. If cancelling Call Forwarding for another extension, dial the extension number.	
4. Replace the handset or press the ON/OFF key.	

Call Forwarding - Busy

When Call Forwarding - Busy is set, all incoming calls to a busy extension are forwarded.

Operation

To set Call Forwarding - Busy:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Set Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 722 (UK/HK) or 722#. • For another extension, enter 742 (UK/HK) or 742#. 	
3. If setting Call Forwarding for another extension, dial the number of the extension whose calls you want to forward.	
4. Enter the destination number: <ul style="list-style-type: none"> • If forwarding to another extension, dial the extension number. • If forwarding to an outside number, press the # key then enter the SSD bin number. <p>Note: Any outside number used for Call Forwarding must already be programmed into speed dialling. (For information, see “Speed Dialling” on page 166.)</p>	
5. Replace the handset or press the ON/OFF key.	

To cancel Call Forwarding - Busy:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Cancel Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 732 (UK/HK) or 732#. • For another extension, enter 752 (UK/HK) or 752#. 	
3. If cancelling Call Forwarding for another extension, dial the extension number.	
4. Replace the handset or press the ON/OFF key.	

Call Forwarding - No Answer

When Call Forwarding - No Answer is set, a call will ring until the Call Forward - No Answer timer expires. When the timer expires, the unanswered call is forwarded.

Operation

To set Call Forwarding - No Answer:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Set Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 723 (UK/HK) or 723#. • For another extension, enter 743 (UK/HK) or 743#. 	
3. If setting Call Forwarding for another extension, dial the number of the extension whose calls you wish to forward.	
4. Dial the destination number: <ul style="list-style-type: none"> • If forwarding to another extension, dial the extension number. • If forwarding to an outside number, press the # key then enter the SSD bin number. <p>Note: Any outside number used for Call Forwarding must already be programmed into speed dialling. (For information, see “Speed Dialling” on page 166.)</p>	
5. Replace the handset or press the ON/OFF key.	

To cancel Call Forwarding - No Answer:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Cancel Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 733 (UK/HK) or 733#. • For another extension, enter 753 (UK/HK) or 753#. 	
3. If cancelling Call Forwarding for another extension, dial the extension number.	
4. Replace the handset or press the ON/OFF key.	

Call Forwarding-All Calls and Do-Not-Disturb

The System allows you to cancel both Call Forwarding-All Calls and Do-Not-Disturb (DND) for your own extension in one step.

Operation

To cancel Call Forwarding-All Calls and DND:.

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the CF-All/DND Clear code (default = 7**).	
3. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Calls cannot be forwarded to an extension that already has Call Forwarding or DND activated. (For example, extension 220 can only forward to extension 225 if 225 is not forwarded.)
- If forwarding to an outside number, the destination number must be pre-programmed into a System Speed Dial (SSD) code.
- Call Forwarding - Busy and Call Forwarding - No Answer can both be set at the same time.
- You can set Call Forwarding - All Calls while Call Forwarding - No Answer and/or Call Forwarding - Busy are set. Cancelling one mode only affects that mode; however, the other modes will remain set until cancelled individually.
- An auto camp-on to a busy extension will forward to the Call Forward No Answer destination. A manual camp-on to a busy extension will not forward.
- If Call Forwarding No Answer and DND are both set, calls immediately forward to the Call Forward No Answer destination.
- You can cancel both Call Forwarding-All Calls and DND by entering **7 * ***.

Call Hold**Description**

The System provides the following types of Call Hold or Call Park:

- System Hold
- Floating Hold
- Exclusive Hold
- Broker's Hold
- Station Call Park

System Hold

You can place either an outside or intercom call on System Hold. You can retrieve a call placed on System Hold from any extension that has a line appearance for the held call.

Operation

To place a call on System Hold:

Action	Result
1. While on a call, press the HOLD key.	<ul style="list-style-type: none"> • Intercom dial tone • Hold CO XXX displays (where XXX = outside line number)

To retrieve a call placed on System Hold from the extension that placed it there:

Action	Result
1. Press the line key that is flashing green or press the HOLD key if a non-appearing Exchange Line call.	CO XXX displays (where XXX = outside line number)

To retrieve a call placed on System Hold from an extension other than the one that put it there:

Action	Result
1. Press the line key that is flashing red.	CO XXX displays (where XXX = outside line number)

To retrieve a held call on a specific exchange line:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Specified Exchange Line Answer code (default = *0).	Enter TRK # displays
3. Enter the exchange line number.	

Hardware Requirements

- N/A

Considerations

- N/A

Floating Hold

Floating Hold is a type of System Hold that allows you to retrieve a held call from any extension that has an FF key assigned to the same Floating Hold orbit where the call is held. You can also retrieve a call by dialling the Floating Hold orbit number for the held call.

Floating Hold is useful when the intended recipient of a call must be located via a page. The call can be placed in a Floating Hold “orbit” and that orbit number announced during the page. The paged party can then pick up the call by dialling the orbit number or by pressing an FF key assigned to that orbit number.

Note: To place a call on Floating Hold, you should have at least one FF key assigned to a Floating Hold orbit number (**001-576**).

Operation

To place a call on Floating Hold:

Action	Result
1. While on a call, press the Floating FF key (system programming required) or press the HOLD key.	<ul style="list-style-type: none"> • Intercom dial tone • Hold CO XXX displays (where XXX = outside line number)

To retrieve a call from Floating Hold:

Action	Result
1. (A) Press the FF key assigned to the Floating Hold orbit number where the call is held. OR... (A) Enter the Floating Hold Answer feature access code (default = *9). (B) Enter the Floating Hold orbit number (001-576) for the held call.	CO XXX displays if line released (where XXX = outside line number)

Hardware Requirements

- N/A

Considerations

- N/A

Exclusive Hold

With Exclusive Hold, only the extension that held the call can retrieve it. Exclusive Hold can be used to hold Exchange Line calls and extension calls.

Operation

To place a call on Exclusive Hold:

Action	Result
1. While on a call, press the Exchange Line key used for the call or press the HOLD key.	<ul style="list-style-type: none"> • Intercom dial tone • Hold CO XXX displays (where XXX = outside line number)

To retrieve a call from Exclusive Hold:

Action	Result
1. Press the Exchange Line key on which the call is held.	<ul style="list-style-type: none"> • Exchange Line LED stops flashing, remains green • CO XXX displays if call released (where XXX = outside line number)

Hardware Requirements

- N/A

Considerations

- Intercom calls will be held as Exclusive when placed on hold by pressing the **HOLD** key.

Broker's Hold

Broker's Hold allows you to toggle between the current call and the last held call by pressing the **HOLD** key.

Operation**To place a call on Broker's Hold:**

Action	Result
1. Pick up the first call.	
2. Press the HOLD key.	First call on hold
3. Pick up the second call.	
4. Press the HOLD key.	Second call on hold, first call retrieved

Hardware Requirements

- N/A

Considerations

- In order to use Broker's Hold with Exchange Line calls, the first call must have a possible appearance and non-appearance, but in the case of appearance, the first call must be one of Exchange Line key.

Call Park

You can use the Call Park function to transfer a call, even if you cannot locate the intended recipient of the call.

Exchange Line, Extension, and Network calls may be parked.

There are two ways for an extension to park a call on the ICX. One way is to park the call at the receiving extension and to retrieve the parked call at another extension by dialling the park answer code plus the parking extension number. The other way is to park the call at another extension and dial the park transfer answer code at the other extension to retrieve the call.

Operation

To park a call on this extension:

Action	Result
1. While on a call, press the HOLD key.	<ul style="list-style-type: none"> • Current call on hold • CO HOLD #XX displays (where XX = exchange line number)
2. Enter the Call Park Hold access code (default 771 (UK/HK) or 771#) or press PARK HOLD key.	Park Hold displays
3. If necessary, page the party that needs to retrieve the call.	

To retrieve a call parked at the originating extension from another extension:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Call Park Answer/Other Ext. access code (default 773 (UK/HK) or 773#).	
3. Dial the number of the extension that parked the call.	<ul style="list-style-type: none"> • CO TALK TRK #XX displays (where XX = line number) • Connected to parked call

To park a call at another extension:

Action	Result
1. Press the HOLD key.	<ul style="list-style-type: none"> • Current call on hold • CO HOLD #XX displays (where XX = exchange line number)
2. Enter the Call Park Transfer access code (default 774 (UK/HK) or 774#)	
3. Dial the extension number to receive the parked call.	Park (ext#) displays on lower display
4. If necessary, page the party that needs to retrieve the call.	

To retrieve a transferred call park:

Action	Result
1. At the extension with the transferred park call, lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter Call Park Answer/Self access code (default 772 (UK/HK) or 772#).	<ul style="list-style-type: none"> • CO TALK TRK #XX displays (where XX = line number) • Connected to parked call

Hardware Requirements

- N/A

Considerations

- You cannot park more than one call at a time.
- Call Park functions can be assigned to FF keys (see “Flexible Function Keys” on page 142).
- No more than one Call Park Answer key may be assigned to a single telephone.
- A Call Park Answer key may not be assigned to the EM/24 or DSS/72 console.
- If a call is parked by Call Park key, the LED flashes.
- LCD softkeys are also available for Call Park.
- Once a call is parked, it cannot be accessed by the Exchange Line key or direct Exchange Line access (similar to exclusive hold).
- If two calls are on hold and the last call is parked, the other call is then considered the last held call. If a transfer is performed, the remaining held call would be the call transferred, not the parked call.

Call Pickup

Description

The System allows the following types of call pickup:

- Extension Group Pickup
- Extension Direct Pickup
- Exchange Line Group Pickup
- Exchange Line Direct Pickup

Extension Group Pickup

Extension Group Pickup allows you to pick up a direct ringing call (within your extension pickup group or in a different pickup group) without having to dial the number of the ringing extension.

Three types of Extension Group Pickup are available:

- **Call Pickup - All Calls:** You can pick up a call ringing anywhere within your own extension group.
- **Call Pickup - External Calls:** You can pick up only external calls ringing within your own extension group.
- **Specified Group Pickup:** You can pick up a call ringing to an extension in another extension group.

Operation

To use Extension Group Pickup - All Calls:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Extension Group Pickup - All Calls code (default = 701 (UK/HK) or 701#).	Extension number or outside phone number displays
3. Complete the call and replace the handset or press the ON/OFF key.	

To use Extension Group Pickup - External Calls:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Extension Group Pickup - External Calls code (default = 702 (UK/HK) or 702#).	Extension number or outside phone number displays
3. Complete the call and replace the handset or press the ON/OFF key.	

To use Specified Group Pickup:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Specified Group Pickup code (default = 703 (UK/HK) or 703#).	
3. Enter the number of the call pickup group (01-72) where the call is ringing.	Extension number or outside phone number displays
4. Complete the call and replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Extension Group Pickup - 12 / CCU - maximum 72 group / 6 CCU configuration
- The Call Pickup Group assignments determine the order calls are picked up (i.e. if two calls are ringing in the call pickup group, the call ringing the first member will be picked up first).

Extension Direct Pickup

Extension Direct Pickup allows you to answer a call to another extension by dialling the number of the ringing extension.

Operation

To use Extension Direct Pickup:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Extension Direct Call Pickup code (default = 704 (UK/HK) or 704#).	
3. Dial the number of the ringing extension.	Extension number or outside phone number displays
4. Complete the call and replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- N/A

Trunk (Exchange Line) Group Pickup

Trunk (Exchange Line) Group Pickup allows you to answer calls ringing to any extension within your own MCO incoming exchange line group.

Operation

To use Exchange Line Group Pickup:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Exchange Line Group Pickup code (default = 709 (UK/HK) or 709#).	Extension number or outside phone number displays
3. Complete the call and replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- N/A

Trunk (Exchange Line) Direct Pickup

Trunk (Exchange Line) Direct Pickup allows you to answer calls ringing on a specific exchange line number.

Operation

To use Exchange Line Direct Pickup:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Exchange Line Direct Pickup code (default = *0).	
3. Dial the number of the ringing or holding (system) exchange line.	Outside number displays
4. Complete the call and replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Calls in Exclusive Hold cannot be picked up.

Call Transfer

Description

The System allows you to transfer calls to either another extension or to an outside number. The transferred calls can be either supervised or unsupervised. (You can also use the Camp-on feature to transfer a call to a busy extension.)

Supervised Transfer

When completing a supervised transfer, the transferring party remains on the line until the third party answers, then he/she announces the call.

Operation

To supervise the transfer of a call to another extension:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone
2. Dial the extension number to which the call is to be transferred.	

Action	Result
3. When the call is answered, inform the third party of the transfer.	Talk-EXT Name or Number displays
4. Complete the transfer: <ul style="list-style-type: none"> • If On-Hook Transfer is enabled for your Extension COS, replace the handset or press the ON/OFF key. • If On-Hook Transfer is disabled, press the PROG key (or RELEASE key if using DSS/72). 	

To supervise the transfer of a call to an outside number:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone
2. Seize an exchange line line and dial the number to which the call is to be transferred.	
3. When the call is answered, inform the third party of the transfer.	Talk-EXT XXX displays (where XXX = extension)
4. Complete the transfer: <ul style="list-style-type: none"> • If On-Hook Transfer is enabled for your Extension COS, complete the transfer by replacing the handset or pressing the ON/OFF key. • If On-Hook Transfer is disabled, press the PROG key (or RELEASE key if using DSS/72). 	Original call LED light turns red

Unsupervised Transfer

When completing an unsupervised transfer, the transferring party hangs up before the third party answers.

Operation

To transfer a call to another extension without supervising the transfer:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone
2. Dial the extension number to which the call is to be transferred.	
3. Complete the transfer: <ul style="list-style-type: none"> • If On-Hook transfer is enabled for your Extension COS, replace the handset or press the ON/OFF key. • If On-Hook is disabled, press the PROG key (or RELEASE key if using DSS/72). 	

To transfer a call to an outside number without supervising the transfer:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone
2. Press a vacant Exchange Line key or enter an exchange line access code.	
3. Dial the number to which the call is to be transferred.	
4. Complete the transfer: <ul style="list-style-type: none"> • If On-Hook Transfer is enabled for your Extension COS, complete the transfer by replacing the handset or pressing the ON/OFF key. • If On-Hook Transfer is disabled, press the PROG key (or RELEASE key is using DSS/72). 	

Camping a Call Onto a Busy Extension**Operation****To camp a call onto a busy extension:**

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone
2. Dial the extension number to which the call is to be transferred.	
3. If your extension does not have Auto Camp-on activated, enter the Camp-on (Call Waiting) code (default = 2 (UK/HK) or 2#).	Camp-on tone heard at the called extension
4. Complete the transfer: <ul style="list-style-type: none"> • If On-Hook Transfer is enabled for your Extension COS, complete the transfer by replacing the handset or pressing the ON/OFF key • If On-Hook Transfer is disabled, press the PROG key (or RELEASE key is using DSS/72). 	

Hardware Requirements

- N/A
- On-hook Transfer Restriction)

Considerations

- If On-Hook Transfer is not enabled for the transferring party's Extension Class of Service (COS), he/she must press the **PROG** or **RELEASE** key before hanging up to complete the transfer.
- If the call is not answered by the third party before the Transfer Recall Timer expires, the call will recall to the transferring extension.

- If a Transfer Recall is not answered before the Recall Duration Timer expires, the call will revert to the Attendant group.
- If the called party does not exist, the call recalls to the transferring extension.
- You cannot transfer a call to an extension that has Do-Not-Disturb (DND) activated.
- You can transfer a call to an extension that has Call Forwarding activated. The transferred call will follow the call forwarding path of the extension it is transferred to. For example, if extension 221 is forwarded to extension 225, calls that are transferred to extension 221 will be forwarded to extension 225.
- Calls can be transferred from paging using supervised transfer.
- If a call is unsupervised transferred to a busy extension, the call will camp on to the busy extension.
- To transfer to a outside party, it is best to use supervised transfer. If the exchange line-to-exchange line on-hook transfer restriction is enabled, a blind transfer will result in the loss of the second call but the second call will be kept on hold. If not enabled and the second outside party is busy, the transferred party will receive busy.

Caller ID Call Log

Description

(Note: Analog Caller ID is not available in the UK model).

The Call Log keeps a record of Caller ID calls to individual phones. The Call Log allows you to view Caller ID calls that have been sent to your phone and, if desired, return a call.

The following table shows maximum number of extensions that may have call logs and the number of entries.

Table 12-1. Call log maximums

Call Log Maximums	Maximum
Maximum number of extensions with Call Log	20 per CCU
Number of log entries that can be stored for an extension. (After the call log fills with 10 entries, each additional entry overwrites the oldest log entry.)	10

The Call Log stores information for Caller ID calls that ring a phone. If the phone does not ring (for instance when Call Forward - All Calls is active), there is no entry in the Call Log for that call.

Each Call Log entry includes the following call information:

- Calling number
- Time and date
- Whether the call was answered
- How the call was routed.

The most recent entries are stored first in the Call Log.

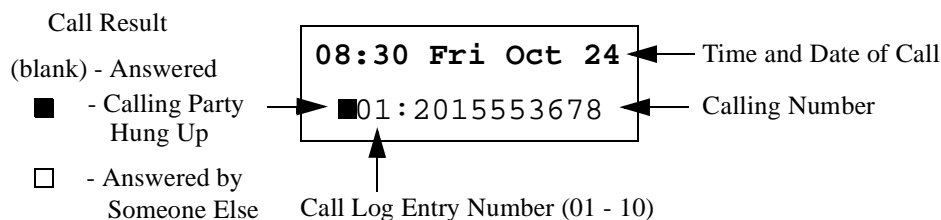
Call Log Operation on a Small Display Key Telephone

Operation

To view the Call Log:

Action	Result
1. Go off-hook or press On/Off.	Intercom dial tone
2. Dial the Call Log feature code (default = CONF 96).	Phone enters call log mode.
3. Press the following keys to view the call log: # - Move forward in call log * - Move back in call log	
4. Exit the Call Log by going on hook or by pressing On/Off.	

Example Caller ID Call Log (Small Display Telephone):



To outdial from the Call Log:

Action	Result
1. Go off-hook or press On/Off.	Intercom dial tone
2. Dial the Call Log feature code (default = CONF 96).	Phone enters call log mode.
3. Press the following keys to view the call log: # - Move forward in call log * - Move back in call log	
4. To return a call, (and exit the Call Log) Press the left EXEC key to access Access MCO 1 (dial "9"), dial add digits (usually "1"), and dial the displayed caller ID number or Press the right EXEC key to access Access MCO 1 (dial "9"), and dial the caller ID number	

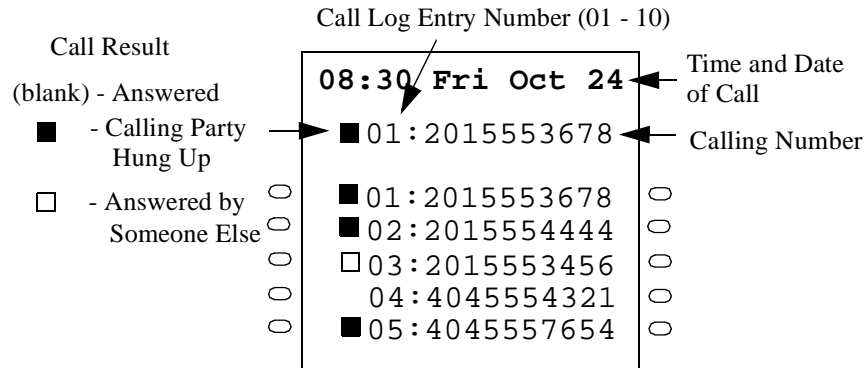
To store the Call Log number in a personal speed dial:

Action	Result
1. Go off-hook or press On/Off.	Intercom dial tone
2. Dial the Call Log feature code (default = CONF 96).	Phone enters call log mode.
3. Press the following keys to view the call log: # - Move forward in call log * - Move back in call log	
4. To store the call log number in a personal speed dial: Press PROG, the speed dial bin number (80 - 99) and press the left EXEC key (to dial the add digits, usually an area code) and press HOLD or Press PROG, the speed dial bin number (80 - 99) and press the right EXEC key and press HOLD	

Call Log Operation on a Large Display Key Telephone**Operation****To view the Call Log:**

Action	Result
1. Go off-hook or press On/Off.	Intercom dial tone
2. Dial the Call Log feature code (default = CONF 96).	Phone enters call log mode.
3. Press the following keys to view the call log: # - Move forward in call log * - Move back in call log NEXT - View the next 5 calls PREV - View the previous 5 calls	
4. Exit the Call Log by going on hook or by pressing On/Off.	

Example Caller ID Call Log (Large Display Telephone):



To outdial from the Call Log:

Action	Result
1. Go off-hook or press On/Off.	Intercom dial tone
2. Dial the Call Log feature code (default = CONF 96).	Phone enters call log mode.
3. Press the following keys to view the call log: # - Move forward in call log * - Move back in call log NEXT - View the next 5 calls PREV - View the previous 5 calls	
4. To return a call, (and exit the Call Log) Press the Soft key to the left of the desired number to access Access MCO 1 (dial "9"), dial add digits (usually "1"), and dial the displayed caller ID # or Press the Soft key to the right of the desired number to access MCO 1 (dial "9"), and dial the caller ID #	

To store the Call Log number in a personal speed dial:

Action	Result
1. Go off-hook or press On/Off.	Intercom dial tone
2. Dial the Call Log feature code (default = CONF 96).	Phone enters call log mode.

Action	Result
3. Press the following keys to view the call log: # - Move forward in call log * - Move back in call log NEXT - View the next 5 calls PREV - View the previous 5 calls	
4. To store the call log number in a personal speed dial: Press PROG, the speed dial bin number (80 - 99) and press the left Soft key (to dial the add digits, usually an area code) and HOLD or Press PROG, the speed dial bin number (80 - 99) and press the right Soft key and press HOLD	

Hardware Requirements

- Caller ID daughter circuit card on the Loop Start Exchange Line Card if a Loop Start Exchange Line receives the call.
- ISDN (PRI-T Point) if ISDN card receives the call.
- Large Display Telephone or 44-Series Small Display Telephone.

Considerations

- Caller ID is available ISDN PRI.
- Caller ID circuit card must be installed and enabled. (See “Caller ID” on page 27).
- Caller ID is typically 10 digits. If the local calling area requires 7-digit dialling, the call log outdialling will not operate properly.

Camp-on (Call Waiting)

Description

If you dial a busy extension, you can camp onto that extension and send a Call Waiting signal to the called party. The called party then needs only to replace the handset and pick it up again to be automatically connected to the new call. The called party can also press the **HOLD** key to place the first call on hold and then answer the waiting call.

The System provides two types of call waiting:

- **Automatic Call Waiting:** You do not need to enter a code to send the Call Waiting signal to the busy extension. You need only to remain on the line.
- **Manual Call Waiting:** You must enter a code to send a Call Waiting signal to the busy extension.

Operation

To use Automatic Camp-on:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	<ul style="list-style-type: none"> • Wait XXX displays (where XXX = extension number/name) • Called party hears alert tone from the speaker. • Calling party hears ringback tone
3. Remain on the line until the called party answers.	

To use Manual Camp-on:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	Busy tone
3. Enter the Camp-on (Call Waiting) code (default = 2 (UK/HK) or 2#).	<ul style="list-style-type: none"> • Wait XXX displays (where XXX = extension number/name) • Called party hears alert tone from the speaker • Calling party hears ringback tone
4. Remain on the line until the called party answers.	

To answer a Camp-on (Call Waiting) signal:

Action	Result
1. Replace the handset or press the ON/OFF key.	
2. Lift the handset or press the ON/OFF key again to be connected to the waiting call. OR.... Press the HOLD key.	<ul style="list-style-type: none"> • Current call placed on hold • Connected to waiting call

Hardware Requirements

- N/A

Considerations

- You can transfer an outside call to a busy extension using Camp-on. See “To camp a call onto a busy extension:” on page 128.

Conference Calls

Description

Conference Calls allow you to add another party to an existing conversation. With the standard system configuration, up to 3 parties can be included in a conference call at any one time. If the optional Conference Card is installed, up to 8 parties can participate in a conference call.

The System supports the following types of Conference Calls:

- Three-Party Conferencing
- Eight-Party Conferencing

Three-Party Conferencing

The System supports the following types of three-party conference calls:

- 3 extensions
- 2 extensions and 1 Exchange Line
- 1 extension and 2 Exchange Lines

Operation

To establish a 3-party conference call:

Action	Result
1. While on a call, press the HOLD key or the line key of your current call.	Extension number, outside line number, or name of held party displays
2. Press a vacant Exchange Line key, enter an exchange line access code, or dial the number of the extension you wish to add to the call.	<ul style="list-style-type: none"> • Outside dial tone (if exchange line access code entered) • CO #XXX displays (where XXX = line number)
3. If you pressed an unlit line key in step 2, dial the number of the party you wish to add to the call. Otherwise, proceed to step 4.	Dialled number displays
4. Press the CONF key when your call is answered.	CNF1:CO XXX or EXT XXX and CNF2:CO YYY or EXT YYY displays (where XXX = first party and YYY = second party)
5. To drop out of the conference call, hang up.	
6. To release a conference member, press PROG + 1 to release conference member 1 or press PROG + 2 to release conference member 2. Note: The conference member numbers are shown on the display.	

Hardware Requirements

- N/A

Considerations

- N/A

Eight-Party Conferencing

With the optional Conference Card installed, up to 8 parties can be included in a conference call. However, only one of the parties can be an Exchange Line (i.e., 8 extensions or 7 extensions and 1 Exchange Line).

Operation

To establish an eight-party conference call from the idle status:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Eight-Party Conference code (default = 788 (UK/HK) or 788#). Go to step 4.	
3. Press the HOLD key.	
4. Dial the number of the extension you wish to add to the call. Note: One outside party can be included.	
5. If you accessed an outside line in step 4, dial the number of the party you wish to add to the call. Otherwise, proceed to step 6.	Dialled number displays
6. Press the CONF key when your call is answered.	Connected to the called party.
7. To add additional parties to the call, repeat steps 3-6.	

To establish an eight-party conference call from your current call:

Action	Result
1. While on a call, press the HOLD key or the line key of your current call.	Extension number, outside line number, or name of held party displays
2. Enter the Eight-Party Conference code (default = 788 (UK/HK) or 788#).	
3. Press the HOLD key.	
4. Dial the number of the extension you wish to add to the call. Note: One outside party can be included.	
5. If you accessed an outside line in step 4, dial the number of the party you wish to add to the call. Otherwise, proceed to step 6.	Dialled number displays
6. Press the CONF key when your call is answered.	Connected to called party
7. To add additional parties to the call, repeat steps 3-6.	

Hardware Requirements

- Conference Card.

Considerations

- A Conference Card (VB-44120) must be installed in the System in order to use Eight-Party Conferencing.
- If the originating party hangs up, the conference call will be disconnected. If any other party hangs up, the conference call will remain in progress.

Display Information

Description

Key telephones with a Liquid Crystal Display (LCD) reflect the following information:

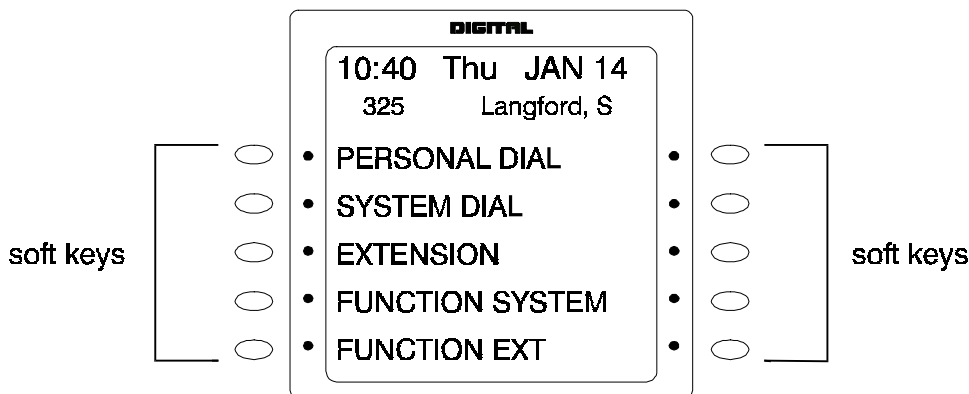
- Day and time (in 12 or 24 hour format)
- Callback requests from other extensions
- Extension number
- Extension calling party name
- Extension called party status
- Exchange Line call duration
- Exchange Line number
- Exchange Line name

Display telephones can also display Personal Speed Dial (PSD) Directories, System Speed Dial (SSD) Directories, and Extension Directories, along with various other information such as the Set/Cancel status of different features and callback messages from other extensions.

Examples of large and small-display phones are shown in the following illustrations.

Large Display Phone

Figure 3. Large Display Main Menu (shown in default idle condition)



You can easily access and use many telephone features by pressing the soft key next to the desired Main Menu item. These items include:

Personal Dial

Contains PSD numbers. To scroll through the PSD Directory, press the **NEXT** or **PREV** buttons located beneath the display.

- PSD speed dial numbers must be programmed before they will appear in the speed dial directory. For information on programming speed dial numbers, see “Speed Dialling” on page 166.

System Dial

Contains SSD numbers. To scroll through the SSD Directory, press the **NEXT** or **PREV** button located beneath the display.

- SSD numbers must be programmed before they will appear in the speed dial directory. For information on programming speed dial numbers, see “Speed Dialling” on page 166.

Extension

Contains the Extension Directory (grouped alphabetically). To scroll through the Extension Directory, press the **NEXT** or **PREV** button located beneath the display.

Function System

Provides easy access to most key telephone features, such as Call Forwarding, Do-Not-Disturb (DND), Microphone Mute, Background Music, Call Pickup, Account Codes, Message Waiting / Callback, Headset On/Off, Extension Port confirmation, etc.

To scroll through the list of items, press the **NEXT** or **PREV** button located beneath the display.

Function Ext

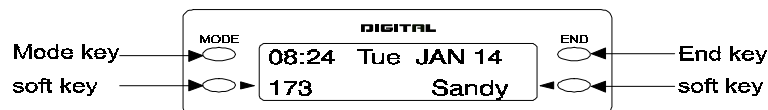
Allows you to assign frequently used telephone features for easy access. Most items found under Function System can be assigned to the Function Ext area, in any order you desire. (For additional information, see *Section 400 - Programming*.)

Large-LCD Display During Idle

The large display telephone may optionally be set to return to a selected idle screen after the user goes on-hook. If the Large-LCD Display During Idle setting (FF3 0 BSSC 04 11 HOLD) is set to 1 (allow), after moving to the desired menu is displayed, the user may enter **ON/OFF PROG ## ON/OFF** to select the menu as the idle menu.

Small Display Phone

Figure 4. Small Display Menu (shown in default idle condition)



The Mode key and End key on a small-display phone allow you to change the software mode of the display from Default (i.e., time and date) mode to Directory mode. While in Directory mode, you can view SSD and PSD Directories and Extension Directories. You can dial a speed dial number or extension by pressing the soft key next to the desired number. You can also use the soft keys to execute programmed system features while in the Variable mode.

Notes:

- The **MODE** key allows you to switch the display from Default to Directory mode. The **END** key allows you to return the display to Default mode.

- The soft keys allow you to view speed dial and extension directories and to dial a speed dial number or extension while in the Directory mode.
- Speed dial numbers must be programmed before they will appear in the speed dial directory. For information on programming speed dial numbers, see “Speed Dialling” on page 166.

Variable Mode

Variable Mode allows you to use the soft keys to access programmed features while your phone is in the following states:

- During an intercom call
- During Exchange Line dial tone
- During a exchange line call
- After dialling a busy extension

Note: Variable Mode features required system programming.

Changing the Display Contrast

You can adjust the display contrast by pressing the # + **VOLUME** (▲ or ▼) key while the phone is idle.

Do-Not-Disturb

Description

You can make an extension unavailable by activating the Do-Not-Disturb (DND) feature. When DND is activated, calls to that extension receive busy tone.

You can set or cancel DND from either your extension or from an alternate extension.

Operation

To set DND for your own extension:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the DND Set/Cancel code (default = 720 (UK/HK) or 720#).	
3. Replace the handset or press the ON/OFF key.	

To cancel DND for your own extension:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone

Action	Result
2. Enter the DND Set/Cancel code (default = 720 (UK/HK) or 720#).	<ul style="list-style-type: none"> • DND/CD LED light goes off • DND Cleared displays
3. Replace the handset or press the ON/OFF key.	

To set DND for another extension:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the DND Set by Other Phone code (default = 740 (UK/HK) or 740#).	Enter DND EXT # displays
3. Dial the extension number.	DND Set displays on affected extension
4. Replace the handset or press the ON/OFF key.	

To cancel DND for another extension:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the DND Cancel by Other Phone code (default = 750 (UK/HK) or 750#).	Enter DND EXT # displays
3. Dial the extension number.	DND Cleared displays
4. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Forced DND override is available.
- DND override function is available by Busy Override code.

DP to DTMF Signal Conversion

Description

Dial Pulse (DP) to Dual Tone Multifrequency (DTMF) Signal Conversion allows you to switch from DP to DTMF signalling when using a DP exchange line. For instance, if you dial into a Voice Mail system using a DP exchange line, you can switch to DTMF signalling to communicate with the Voice Mail system.

The System can automatically change DP to DTMF tones based on the incoming and outgoing timers.

Operation

To switch from DP to DTMF dialling:

Action	Result
1. Press the * key or the # key.	

Hardware Requirements

- N/A

Considerations

- N/A

DSS/72 Console

Description

The DSS/72 console is a 72-key console that can be attached to a key telephone. The 72 keys on the DSS/72 can be programmed as Direct Station Select (DSS) keys for internal lines.

In addition to providing direct station selection, the DSS keys also provide Busy Lamp Fields (BLFs) that allow you to monitor the status of other extensions. The LED lights red when the assigned extension is busy, and lights green when Call Forwarding or Do-Not-Disturb (DND) are activated.

For additional information, see “Flexible Function Keys” on page 142.

Hardware Requirements

- DSS/72 console

Considerations

- Pressing a DSS key while connected to an outside line places the line on hold.
- A maximum of 12 DSS/72 consoles can be connected to a 96-port system.

EM/24 Console

Description

The EM/24 is a 24-key console that can be attached to a key telephone. The 24 keys on the EM/24 can be programmed as Direct Station Select (DSS) keys for internal lines.

In addition to providing direct station selection, the DSS keys also provide Busy Lamp Fields (BLFs) that allow you to monitor the status of other extensions. The LED lights red when the assigned extension is busy and lights green when Call Forwarding or Do-Not-Disturb (DND) are activated.

For additional information, see “Flexible Function Keys” on page 142.

Hardware Requirements

- EM/24 console

Considerations

- N/A

Flash

Description

You can send a flash signal on your telephone to release an outside line and then either automatically re seize the same outside line or switch to extension dial tone status by pressing the FL/R or **PROG** key.

Exchange Line programming determines whether your phone reseizes the outside line or switches to extension dial tone status.

Hardware Requirements

- N/A

Considerations

- You can send a longer or shorter flash signal, depending on whether you use the FL/R or **PROG** key (flash tone lengths are set for the FL/R and **PROG** keys through system programming).

Flexible Function Keys

Description

You can assign frequently used functions to programmable keys on key phones, DSS/72 consoles, and EM/24 consoles. All keys not already assigned as line or speed dialling keys are available for programming.

You can store either Fixed Feature codes or Flexible Feature codes in an FF key. (The LED of the Flexible Function [FF] key will not light when digits are stored in the key.) Fixed Feature codes are hard-coded and cannot be changed. Most features; however, can also be assigned flexible codes according to the System Dial Plan. This allows the flexible codes to be changed in the dial plan without having to re-program extensions.

When a flexible code is programmed into an FF key or soft key, the System translates the flexible code into the fixed code. You can use either the Fixed Feature code or your System's Flexible Feature code when programming FF keys. Table 13 on page 145 reflects both Fixed Feature codes and the System defaults for Flexible Feature codes.

Operation

To assign Fixed Feature codes to an FF key:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the PROG key.	F displays
3. Press the FF key to be programmed.	Enter Function# displays
4. Press the FL/R key.	
5. Enter the code to be programmed. (See Table 13 on page 145.)	Programmed code displays
6. Press the HOLD key.	Programmed function name displays
7. Repeat steps 2-6 to program additional keys.	
8. Replace the handset or press the ON/OFF key.	

To assign Flexible Feature Codes to an FF key:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the PROG key.	F displays
3. Press the FF key to be programmed.	Enter Function# displays
4. Enter the code to be programmed. (See Table 13 on page 145.)	Programmed code displays
5. Press the HOLD key.	Programmed function name displays
6. Repeat steps 2-5 to program additional keys.	
7. Replace the handset or press the ON/OFF key.	

To erase a code stored on an FF key:

Note: You cannot use the following procedure to clear FF keys that have been assigned as Exchange Lines. Exchange Line keys can only be cleared through system programming.

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the PROG key.	
3. Press the FF key that was programmed.	Programmed code displays
4. Press the HOLD key.	Cleared Function displays

To check a programmed FF key (Display Phone Only):

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the CONF key.	C displays
3. Press the FF key to be checked.	Programmed data displays
4. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- If a new code is programmed into a key, the previously programmed code is erased.
- FF keys assigned as Exchange Lines must be cleared using system programming before new FF assignments can be made.
- The System can be programmed so that MCO 1 Exchange Line Access calls automatically use Automatic Route Selection (ARS).
- The **ANSWER** key functions as listed in the table below.

Status	Condition	Operation when ANSWER key is pressed
Idle	No incoming ring	Ignore.
	Incoming ring	Monitor ON (speaker) - Auto Answer for incoming ring.
Off-Hook	Off-hook signaling	Answer for off-hook signaling. Current conversation will be put on hold automatically.
	No off-hook signaling	Ignore.

NOTE: When the extension has 1 non-appearing Exchange Line on hold and 1 non-appearing Exchange Line at talk, **ANSWER** key operation is ignored and you can't put the 2nd non-appearing Exchange Line on hold.

- The **RELEASE** key functions as listed in the table below.

Status	Condition	Operation when RELEASE key is pressed
Idle	--	Ignore.
Monitor ON (speaker) or Headset Mode	Several held calls	Latest held call will be transferred; phone returns to idle status (Monitor OFF).
	No held calls	Current call (talk) will be released; phone returns to idle status (Monitor OFF).
Handset Off-Hook	Several held calls	Latest held call will be transferred; phone gets internal dial tone.
	No held calls	Current call (talk) will be released; phone gets internal dial tone.

Table 13. Feature access codes for FF key assignments

Feature Description	REDIAL + Fixed Feature Code + (additional digits to program into key)	Default Flexible Feature Code (if not listed, must use Fixed Feature Code)
Exchange Line Key	# + (Exchange Line 1-576)	
MCO Key	1 + (Auto-Select Pattern 1-5; MCO-Incoming Trk Grp 00-99)	
Virtual Port Key	*9 + (Virtual Port 001-576)	
BLF/DSS Outgoing	9 + (Extension 0-9999)	
BLF/DSS Immediate Ring	81 + (Extension 0-9999)	
BLF Delayed Ring	82 + (Extension 0-9999)	
BLF/DSS-No Ring	83+ (Extension 0-9999)	
2-Way Box for CCU 1	61 + (box no.)	
2-Way Box for CCU 2	62 + (box no.)	
2-Way Box for CCU 3	63 + (box no.)	
2-Way Box for CCU 4	64 + (box no.)	
2-Way Box for CCU 5	65 + (box no.)	
2-Way Box for CCU 6	66 + (box no.)	
2-Way Retrieve Messages	5 + (box no.)	
2-Way Access	*#50	
2-Way End	*#51	
2-Way Re-Record	*#52	
2-Way Pause	*#53	
2-Way Store	*#54	
2-Way Add	*#55	
2-Way Cancel	*#56	
2-Way Notify	*#57	
2-Way Copy	*#58	
2-Way MF Send	*#59	
ACD-1 Log-In/Out Button	*#80	
ACD-1 Work Unit	*#81 + (Work Unit 00-99)	
ACD-1 Unavailable Button	*#82	
ACD-2 Log-In/Out Button	*#85	
ACD-2 Work Unit	*#86 + (Work Unit 00-99)	
ACD-2 Unavailable Button	*#87	
Speed-Dial Send Button	*01 + (SSD or PSD)	80
Designated Exchange Line Access Button (for outgoing calls)	*02	88
Verified ID Code Send	*03	89
Floating Hold Answer	*04	*9
Priority Message-Waiting: Send	*05	*41
Priority Message-Waiting: Cancel	*06	*49

Feature Description	REDIAL + Fixed Feature Code + (additional digits to program into key)	Default Flexible Feature Code (if not listed, must use Fixed Feature Code)
Message-Waiting: Cancel	*07	*5
Message-Waiting: Callback	*08	*6
Call Forward (All): Set	70 + (Extension 0-9999)	721 (UK/HK) or 721# + (Extension 0-9999)
Call Forward (All): Clear	*09	731 (UK/HK) or 731# + (Extension 0-9999)
Call Forward (All): Set from another extension	*10	741 (UK/HK) or 741#
Call Forward (All): Clear from another extension	*11	751 (UK/HK) or 751#
Call Forward (No Answer): Set	71 + (Extension 0-9999)	723 (UK/HK) or 723# + (Extension 0-9999)
Call Forward (No Answer): Clear	*12	733 (UK/HK) or 733# + (Extension 0-9999)
Call Forward (No Answer): Set from another extension	*13	743 (UK/HK) or 743#
Call Forward (No Answer): Clear from another extension	*14	753 (UK/HK) or 753#
Call Forward (Busy): Set	72 + (Extension 0-9999)	722 (UK/HK) or 722# + (Extension 0-9999)
Call Forward (Busy): Clear	*15	732 (UK/HK) or 732# + (Extension 0-9999)
Call Forward (Busy): Set from another extension	*16	742 (UK/HK) or 742#
Call Forward (Busy): Clear from another extension	*17	752 (UK/HK) or 752#
DND Set/Clear	*18	720 (UK/HK) or 720#
DND Set from Attendant	*19	740 (UK/HK) or 740#
DND Clear from Attendant	*20	750 (UK/HK) or 750#
Call Forward (All/Busy/No-Answer/DND): Clear	*21	7**
Alarm Set	*22	*31
Alarm Clear	*23	*39
BGM On/Off	*24	*30
Day 1/Night Toggle	*25	760 (UK/HK) or 760#
Day 2	*26	761 (UK/HK) or 761#
Night 1	*27	762 (UK/HK) or 762#
Night 2 (for 2-Way VM)	*28	763 (UK/HK) or 763#
Paging	*29 + (Page Group No.)	# + (Zone No.)
Meet-Me Answer	*30	##
Call Pickup Group-All Calls	*31	701 (UK/HK) or 701#
Call Pickup Group-Exchange Line Calls Only	*32	702 (UK/HK) or 702#

Feature Description	REDIAL + Fixed Feature Code + (additional digits to program into key)	Default Flexible Feature Code (if not listed, must use Fixed Feature Code)
Call Pickup Group-designated (pick up a call in another Pickup Group)	*33 + (Call Pickup Grp 1-99)	703 (UK/HK) or 703#
Direct Call Pickup	73 + (Extension 0-9999)	704 (UK/HK) or 704#
Exchange Line Call Pickup	*34	*0
Headset Mode On/Off	*35	
Conference Key	*36	
Transfer Key	*37	
Program Key	*38	
Recall - Flash Key	*39	
PSD Name Assignment	*40	
Ext. Directory Name Assignment	*41	
Speed-Dial Directory Name Assignment	*42	
MCO-1 Access (initial setting: 9)	*43	9
MCO-2 Access (initial setting: 81)	*44	81
MCO-3 Access (initial setting: 82)	*45	82
MCO-4 Access (initial setting: 83)	*46	83
MCO-5 Access (initial setting: 84)	*47	84
Callback at Busy Tone	*49	
Camp-on at Busy Tone	*50	
Message-Waiting Set at Busy Tone	*51	
Message-Waiting Priority Set at Busy Tone	*52	
Busy Override Set	*53	
Voice Call/Tone Call Toggle	*54	
Message-Waiting Set at Ringback Tone	*55	
Message-Waiting Priority Set at Ringback Tone	*56	
Account Code Entry	*57	8#
8-Party Conference	*58	788 (UK/HK) or 788#
Extension Port Confirm	*59	
Exchange Line Port Confirm	*60	
VM Transfer Key 1	74 + (Ext.No. 0-9999)	
VM Transfer Key 2	75 + (Ext.No. 0-9999)	
Variable Mode	*61	
Call Logging Confirmation Mode Start	*62	
Station Call Park Hold/Answer	*63	
Station Call Park Hold	*64	771 (UK/HK) or 771#
Station Call Park Answer (Own Ext.)	*65	772 (UK/HK) or 772#

Feature Description	REDIAL + Fixed Feature Code + (additional digits to program into key)	Default Flexible Feature Code (if not listed, must use Fixed Feature Code)
Station Call Park Answer (Other Ext.)	*66	773 (UK/HK) or 773#
Station Call Park Transfer	*67	774 (UK/HK) or 774#
Release Key	*68	
Answer Key	*69	
OHVA Key	*70	
Split Key	*71	
Walking TRS (Call Barring) Key	*72	
ANY Key	*8 + (Up to 4 digits 0 - 9, #, or *)	

Handsfree Answerback

Description

Handsfree Answerback allows you to answer an intercom call without lifting the handset.

The System must be programmed for Voice Calling for you to use this feature. You must press **1** during a call to switch from Tone Calling to Voice Calling.

Operation

To answer calls using Handsfree Answerback:

Action	Result
1. When the intercom call arrives, confirm that the MIC LED is off. (If it is lit, press the MIC key to turn it off.)	
2. Speak into the microphone to answer.	

Hardware Requirements

- N/A

Considerations

- Handsfree Answerback can be used to respond to only voice calls from other extensions - not tone calls.
- Both the called and calling parties must belong to an Extension Class of Service (COS) that allows Voice Calling.

Handsfree Operation

Description

Handsfree Operation allows you to use all available System features without lifting the handset. Any speakerphone can be operated handsfree.

Operation

To initiate Handsfree Operation:

Action	Result
1. Press the ON/OFF key.	Phone is offhook with access to full range of calling features

Hardware Requirements

- N/A

Considerations

- N/A

Headset Operation

Description

Headset Operation allows you to handle calls with a headset instead of with the handset or speakerphone.

Operation

To answer calls using the Headset Operation:

Note: If Headset mode is already on, the following procedure turns it off. If Headset mode is off, this procedure turns it on.

Action	Result
1. Pick up the handset or press the ON/OFF key.	Intercom dial tone
2. Press the PROG key.	
3. Enter 90 for Headset mode.	
4. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- A headset must be installed.

Considerations

- Intercom Dial Tone is enabled/disabled regardless of Headset mode (per programming for the Extension Class of Service [COS])

Hot Dial Pad

Description

The dial pad on digital key phones can be designated as “hot” on an extension-by-extension basis.

The Hot Dial Pad allows the user to initiate a call without going offhook. Extensions with the Hot Dial Pad enabled can initiate calls by pressing any of the numeric keys (0-9). The “*” and “#” keys are not hot.

The Dial Pad can be hot under these conditions:

- When the extension is idle
- When the extension is holding a call
- When the extension is receiving a page.

The Dial Pad cannot be hot under these conditions:

- When a call is ringing at the extension (intercom or Exchange Line)
- When the extension is on a call.

Considerations

Paging: The Hot Dial Pad cannot be used to initiate a page.

Hot Line

Description

Hot Line enables you to immediately connect to another pre-assigned extension or speed dial number simply by lifting the handset. You do not have to dial any digits.

Operation

To immediately connect to a pre-assigned extension or speed dial number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Automatically connected to pre-assigned extension or speed dial number

Hardware Requirements

- N/A

Considerations

- N/A

Intercom Calling

Description

The System provides two methods of intercom calling:

- **Voice Calling:** Extension calls are connected immediately, without a ringing tone.
- **Tone Calling:** A ringing tone is sent to the called extension.

Extension Class of Service (COS) programming determines whether the default for the originating extension is voice or tone calling. Regardless of the default, you can toggle between voice or tone calling by entering the Tone-Voice Call feature code. For example, if the extension default is tone calling, you can make a voice call to another extension by entering the Tone-Voice Call feature access code.

Operation

To make a call using Intercom Calling:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	
3. If your extension is set for tone calling and you want to make a voice call, enter 1 . Or, if your extension is set for voice call and you want to make a tone call, enter 1 .	<ul style="list-style-type: none"> • Dalled number displays • EXT LED lights
4. Speak when your call is answered.	
5. Replace the handset or press the ON/OFF key.	EXT LED goes off

Hardware Requirements

- N/A

Considerations

- The Handsfree Answerback feature can be used to respond to only voice calls from other extensions - not tone calls.
- Both the called and calling parties must belong to an Extension COS that allows Voice Calling.

Last Number Redial

Description

Last Number Redial allows you to automatically redial the last number dialed by pressing the FL/R key.

Operation

To automatically redial the last number dialed:

Action	Result
1. Lift the handset or press the ON/OFF key. OR... Press a vacant Exchange Line key or enter a exchange line access code.	<ul style="list-style-type: none"> • Outside dial tone • CO XXX displays (where XXX = exchange line number)
2. Press the FL/R key.	Last number dialed displays
3. Complete the call and replace the handset or press the ON/OFF key.	Line key LED turns red, then goes off.

Hardware Requirements

- N/A

Considerations

- Extension Class of Service (COS) determines whether Last Number Redial can be used for both intercom and Exchange Line calls or Exchange Line calls only.

Line Appearances

Description

The System provides three types of line appearances

- Direct Station Select (DSS) / Busy Lamp Field (BLF) Appearances
- Direct Line (DL) Appearances
- MCO Line Appearance

DSS/BLF Appearances

When a DSS/BLF key is programmed, it automatically provides one-touch dialling and DSS and BLF for the assigned extension numbers. If desired, the DSS/BLF key can also provide ring or delayed ring monitor. For example, you can set extension A as a DSS/BLF ringing key on extension B. When extension A rings, the LED of the DSS/BLF key on extension B flashes and the phone rings.

Ringling or delayed ringling can be set on extensions which have a BLF key. The LED of the DSS/BLF key flashes green during ringling and the display shows the BLF extension number.

When extension A is in use, the LED of the DSS/BLF key on extension B lights red. If one extension has the Call Forwarding or Do-Not-Disturb (DND) feature activated, the DSS/BLF key lights green.

Four DSS/BLF modes are available as follows:

DSS/BLF Type	FF Key Entry	BLF LED Indication	Extension Call	Call Pickup	Ring (Immed.)	Ring (Delayed)	Voice Mail Transfer
DSS Only (No Pick Up/No Ring)	(9 + Ext #)	Yes	Yes	No	No	No	Yes
DSS/BLF Immediate Ring	(81 + Ext #)	Yes	Yes	Yes	Yes	No	Yes
DSS/BLF Delayed Ring	(82 + Ext #)	Yes	Yes	Yes	No	Yes	Yes
DSS/BLF No Ring	(83 + Ext #)	Yes	Yes	Yes	No	No	Yes

Operation

To assign a DSS/BLF key:

Action	Result
1. Press the PROG key.	
2. Press the FF key to be assigned the DSS/BLF appearance.	
3. Press the Redial key.	
4. Enter the code for the desired DSS/BLF mode as follows: 9+ Ext # ---- DSS Mode Only 81+ Ext # --- DSS/BLF Immediate Ring 82 + Ext # -- DSS/BLF Delayed Ring 83 + Ext # -- DSS/BLF No Ring	
5. Press the HOLD key.	

To make an intercom call using the DSS/BLF key:

Action	Result
1. Press the flashing DSS/BLF key.	

To pick up a call on a DSS/BLF key:

Action	Result
1. Go off-hook or press the flashing DSS/BLF key.	

Hardware Requirements

- N/A

Considerations

- If several calls arrive at a DSS/BLF key, the calls are queued and ring on a first-in, first-out basis.
- If a BLF key has a second call while busy and off-hook signalling is enabled, the BLF key starts blinking. The call can be answered by pressing the BLF key or going on hook and then off hook.

Direct In Line Appearances

Direct In Line (DIL) keys are used to originate and receive calls over specific exchange line numbers (DIL keys can be assigned to any exchange line number).

The LED for a DIL key will flash red on an incoming call even if the Exchange Line is set to ring. If another extension answers the call, the LED on the telephone will light solid red.

Operation

Operation	Action
To originate a exchange line call...	<ol style="list-style-type: none"> 1. Press an idle DIL key. 2. The key blinks green as the call is made.
To place a call on Exclusive Exchange Line Hold (page 133)...	<ol style="list-style-type: none"> 1. Press the DIL key.
To place a call on System Exchange Line Hold (page 133)...	<ol style="list-style-type: none"> 1. Press the HOLD key.
To transfer a call...	<ol style="list-style-type: none"> 1. Press the HOLD key. 2. Dial the destination extension. 3. Press the PROG key.

Hardware Requirements

- N/A

Considerations

- N/A

Multi-Exchange Line (MCO) Appearances

Description

You can make and receive Exchange Line calls using a Multi-Exchange Line (MCO) key. Each extension can have up to 5 MCO keys.

An MCO key can be assigned to any of the pooled exchange line groups. Pressing the MCO key is the same as dialing the MCO Access Code (usually 9, 81-84).

Operation

Operation	Action
To originate a exchange line call	<ol style="list-style-type: none"> Press an idle MCO key. The key blinks (green) as the call is made.

To receive a call on an MCO key.	If ringing line preference is enabled, go off-hook. If ringing line preference is not enabled, go off-hook and press the MCO key with the green flashing LED. The LED lights solid green.
To place a call on Exclusive exchange line Hold	Press the MCO key. The key flashes green while the call is held.
To place a call on System Exchange Line Hold	Press the HOLD key. The key flashes green while the call is held.
To transfer a call	Press HOLD , dial the destination extension, then press PROG (if on-hook transfer is off) or go on-hook.

Considerations

- Press the MCO key that flashes red to answer an outside call.
- If you are already on a call appearing on an MCO key and you press another MCO key, a line on the other MCO key is selected and the first call is dropped.
- If an Exchange Line key is assigned, the Exchange Line Key LED will light when that specific exchange line is used instead of the MCO key LED.
- There are five groups of outside lines: 9 and 81-84 (default).
- MCO keys cannot be assigned on the DSS/72 or the EM/24.
- An MCO key must be assigned in programming mode. The MCO key cannot be assigned by the end user with FF key assignments.

Message Key

Description

The System supports the **MSG FF** key on the VB-44225 large-display phone. This key provides the following functionality:

- **Message Wait Callback:** If a callback message has been left by another extension, you can press the **MSG FF** key to place an automatic callback to that extension. If more than one callback message has been received, pressing the **MSG FF** key performs auto-callback in the order received.
- **Priority Message Wait Callback (One-Touch Voice Mail Access):** You can press the **MSG FF** key to automatically access your voice mailbox. The phone will dial your voice mailbox and send access codes (if programmed) for retrieving new messages.

Operation

To automatically call back an extension that left a message or to access Voice Mail:

Action	Result
1. Press the MSG FF key.	Automatically call back to extension OR... Automatic access to Voice Mail

Hardware Requirements

- N/A

Considerations

- The **MSG FF** key must be assigned first (default -*08).
- The **Message** lamp lights when a message has been received.
- If more than one callback message has been received, pressing the **MSG FF** key performs auto-callback in the order received.
- The **MSG FF** key works only when the phone is idle or receiving internal dial tone.
- Auto-callback is always enabled for large display phones.
- Messages are accessed in a first-in, first-out order for Message Wait, except Priority Message Wait, which is typically sent by Voice Mail.

Message Waiting / Callback

Description

If you try to call an extension that is busy or does not answer, you can leave a message wait indication at that extension, requesting a return call.

Operation

To leave a message waiting indication:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	

Action	Result
3. While the phone is still ringing, or when you hear the busy tone, enter the Message Wait Set code (default = 4 (UK/HK) or 4#).	MSG Accepted displays
4. Replace the handset or press the ON/OFF key.	<ul style="list-style-type: none"> • Message lamp flashes at called extension • MSG EXT XXX displays (where XXX = calling extension number) or name of calling extension displays at called extension

To answer a message waiting indication (callback):

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Message Wait Callback code (default = *6) or press the MSG FF key if using a large-display phone.	<ul style="list-style-type: none"> • Telephone automatically dials extension that sent the message waiting indication • Message lamp goes off when your call is answered

To cancel a callback message:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Callback Request Cancel code (default = *5) or press the MSG FF key if using a large-display phone.	MSG Cleared displays
3. Replace the handset or press the ON/OFF key.	Message lamp goes off

Note: Message waiting/callback messages may also be cancelled by either the originator or the receiver by calling the other party.

Hardware Requirements

- N/A

Considerations

- The System has priority message waiting for 3rd-party Voice Mail. See “Voice Mail Integration (Third Party)” on page 62.

Mute Function

Description

Mute Function allows you to block outgoing audio to the other party while on a call.

With 44-Series phones, audio can be blocked through both the microphone and the handset. (For handset mute, an FF key must first be assigned as a MIC key.)

Operation

To block outgoing audio using the Handset Mute (VB-D4,VB-D6/VB-442XX-Series phones only):

Action	Result
1. During a handset call, press the MIC key.	MIC LED blinks. Outgoing audio is blocked through phone's handset
2. To turn Mute off, press the MIC key again.	

To block outgoing audio using the Microphone Mute:

Action	Result
1. During a handset call, press the MIC FF key	MIC LED off. Outgoing audio is blocked through phone's microphone
2. To turn Mute off, press the MIC FF key again.	MIC LED on.

Hardware Requirements

- N/A

Considerations

The fixed MIC key works both for handset mute and microphone mute. But only VB-D4,VB-D6/VB-442XX-Series phones have the fixed MIC key, so others must assign an FF key as a MIC key.

Offhook Monitor

Description

Offhook Monitor lets you put a call on speaker while the handset is offhook. You can still communicate with the other party via the handset, but you will also be able to hear the other party on the phone's speaker. The other party can only hear what is transmitted through your handset however, because audio is not transmitted through your microphone.

Operation

To put a call on speaker using the Offhook Monitor:

Action	Result
1. During a handset call, press the ON/OFF key.	<ul style="list-style-type: none"> • Other party is audible through speaker and handset • Phone's microphone is mute
2. To take a caller off speaker (disable Offhook Monitor) but continue the call via the handset, press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- **Offhook Monitor is available on 44-Series phones only.**
- Offhook Monitor can be disabled system-wide.

Offhook Signalling**Description**

Offhook Signalling sends a tone to a busy extension to indicate that another Exchange Line call has arrived or a call is camped-on.

Operation**After receiving an offhook signal during a call:**

Action	Result
1. Press the HOLD key.	First call on hold
2. Press the flashing FF key for the Exchange Line of the incoming call.	

Note: For details about handling multiple calls, see “Call Hold” on page 118.

Hardware Requirements

- N/A

Considerations

- The Exchange Line call type may be multiple ring, direct, BLF Ring, or camp-on.
- The System does not send the offhook signal under the following conditions:
 - During a conference call
 - During an OHVA or Busy override
 - Data Privacy is enabled

- the receiving telephone is a 3rd party voice mail.

Offhook Voice Announce

Phase 2.0

Description

You can interrupt a busy extension when making an Intercom Call, and then use the Off-Hook Voice Announce (OHVA) feature to make an announcement that only the called party can hear. You can also transfer a held call to a busy extension after making the announcement using this feature. The called party may optionally reply to (answer) an OHVA call.

Operation

To make an OHVA :

Action	Result
1. Lift the handset or press the ON/OFF key.	
2. Dial the extension number.	Busy signal
3. Enter the OHVA feature access code (default = 8).	<ul style="list-style-type: none"> • OHVA EXT XXX displays if busy extension called (where XXX = calling extension. • EXT LED flashes
4. Make your announcement	

To answer an OHVA:

Action	Result
1. Press the OHVA Split key. Note: You must program an FF key as a split key (default = *71) to use this feature.	Split key flashes red
2. To return to the previous call, press the Split key again.	The OHVA originating party receives Busy signal.

To transfer a call using OHVA:

Action	Result
1. Press the HOLD key to put the current call on hold.	Current call on hold
2. Dial the extension number to which the call is being transferred.	Busy signal

Action	Result
3. Enter OHVA feature access code (default = 8) and announce the call to be transferred.	
4. If transfer is: <ul style="list-style-type: none"> • Not accepted, retrieve the call by pressing the associated flashing MCO key (if an appearing call) or by pressing the HOLD key (if a non appearing call). • Accepted, and On-hook Transfer is enabled for your extension, replace the handset or press the ON/OFF key. <p>If On-hook Transfer is not enabled for your extension, press the PROG key (or RELEASE key if using DSS/72).</p>	

To answer a call after it has been announced using the OHVA:

Action	Result
1. Replace the handset.	Your extension rings
2. Lift the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- The held call is transferred as soon as the extension sending the OHVA hangs up.
- If the transferred call is not answered immediately, it will queue for a set time limit, then return to the extension sending the OHVA by transfer recall timer.
- You cannot receive a Call Waiting message during an OHVA.
- If a Split key is assigned to the extension that receives an OHVA call, when an OHVA is being received, the Split key blinks green. If the split key is pressed during an OHVA call to answer, the Split key lights red. If the split key is pressed again to terminate the OHVA conversation, the Split key extinguishes.
- If you make an OHVA to an SLT, the SLT user and **the other party** will hear the announcement.

One-Touch Keys

Description

You can use one-touch keys to store telephone numbers, speed dial numbers, or feature access codes.

To dial the stored number, you go offhook and press the desired key.

Operation

To program a one-touch key for outside telephone numbers:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the PROG key.	
3. Press the one-touch key to be programmed.	
4. Dial the phone number to be stored.	
5. Press the HOLD key.	
6. Replace the handset or press the ON/OFF key.	

To assign an System Speed Dial (SSD) numbers to a one-touch key:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the PROG key.	
3. Press the one-touch key to be programmed.	
4. Press the MEMORY key.	
5. Enter the SSD bin number to be programmed.	
6. Press the HOLD key.	
7. Replace the handset or press the ON/OFF key.	

To chain 2 to 6 SSD numbers to a single one-touch key:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the PROG key.	
3. Press the one-touch key to be programmed.	
4. Press the MEMORY key.	
5. Enter the SSD bin number that contains the first part of the number to be dialled.	

Action	Result
6. If a pause is required, press the FL/R key	<ul style="list-style-type: none"> • Pause occurs between access code and telephone number • R displays
7. Repeat steps 4-5 (up to 5 more times) for each additional speed dial number to be chained.	
8. Press the HOLD key.	
9. Replace the handset or press the ON/OFF key.	

To assign a feature code or extension number to a one-touch key:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the PROG key.	
3. Press the one-touch key to be programmed.	
4. If the System is set for MCO Code level, press the following keys MEMORY * # . Otherwise, proceed to step 5.	
5. Enter the desired feature code or extension number.	
6. Press the HOLD key.	
7. Replace the handset or press the ON/OFF key.	

To check a programmed one-touch key:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the CONF key.	C displays
3. Press the one-touch key to be checked.	Programmed data displays
4. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- One-touch keys **1-10** are the same as Personal Speed Dial (PSDs) numbers **80-89**.

Onhook Dialling

Description

Onhook Dialling is a standard feature for key telephones where you can dial onhook using the dialpad, one-touch keys, or FF keys.

Operation

To dial onhook:

Action	Result
1. Press the ON/OFF key.	Intercom dial tone
2. Dial the phone number.	

Hardware Requirements

- N/A

Considerations

- N/A

Paging

Description

The System allows you to make both internal and external pages and announcements. Internal pages are made via the System's key telephone speakers. External pages are made through the speakers of an external paging system connected to the System.

Paging calls can be answered from any extension using the Meet-Me Answer feature.

Operation

To make a page:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Group Paging code (default = #).	
3. Enter the number of the desired paging group (0-9).	
4. Make your announcement.	
5. Replace the handset or press the ON/OFF key.	

Meet-Me Answer

To answer a page using Meet-Me Answer:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Meet Me Answer code (default = ##).	Connected to specified party

Hardware Requirements

- External relays, amplifier, and speakers are required for external paging.

Considerations

- You can assign the paging access code to a one-touch or FF key.
- If an external paging system has been connected, pages can be made to paging groups **0-9** through the external speakers. Voice paging can also be heard over the extensions in groups **0-9**.
- An extension can belong to more than one paging group.
- Only one page may be performed at a time. If you attempt to make a page while another extension is paging, you will receive a busy signal unless your system allows Paging Override.

Reset Call

Description

If you dial a busy extension, the System allows you to quickly dial another extension by simply pressing the last digit of the new extension number.

Operation

To use Reset Call to dial another extension (after a busy extension):

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial an extension number.	Busy tone
3. Dial the last digit of the next extension number.	

Example: You dial extension 213, but it is busy. To dial extension 214, enter **4**.

Hardware Requirements

- N/A

Considerations

- The second extension called using the Reset Call feature must have the same number of digits as the first extension.

Ringing Line Preference

Description

Ringing Line Preference enables an extension to answer a ringing call by simply picking up the handset or pressing the **ON/OFF** key.

Operation

To answer a call using Ringing Line Preference:

Action	Result
1. Lift the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- If disabled in Extension Programming, you must press the line key or enter the feature code for incoming pick-up in order to answer a call.

Speed Dialling

Description

The System supports the following speed dial features:

- Personal Speed Dial (PSD)
- System Speed Dial (SSD)
- Speed Dial Linking
- Speed Dial Name Assignment

Personal Speed Dial

You can store frequently called numbers using the PSD feature. Up to 20 PSD numbers can be stored in PSD bins numbered **80-99**.

You can assign up to 10 PSD numbers to the one-touch keys on a non-display or small-display phone, and up to 20 PSD numbers to the soft keys on a large-display phone. Once the PSD numbers have been assigned, you dial them by pressing the appropriate key. (For additional information, see “One-Touch Keys” on page 162.)

You can also enter a name up to 7 characters for each of the PSD numbers. This allows PSD numbers to be confirmed by name rather than by number.

Operation

To assign PSD numbers:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. (A) Press the PROG key. (B) Press the MEMORY key. OR... (A) Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the PSD bin number (80-99).	Enter Spd Dial displays
4. Dial the phone number.	
5. Press the HOLD key.	Stored Spd Dial displays
6. Replace the handset or press the ON/OFF key.	

To dial a PSD number by entering the speed dial bin number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. If necessary, access an outside line.	Outside dial tone
3. Press the MEMORY key. OR... Enter the Speed Dial Originate code (default = 80).	
4. Enter the PSD bin number (80-99).	
5. Complete the call and replace the handset or press the ON/OFF key.	

To check a PSD number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the CONF key.	C displays
3. Press the MEMORY key.	
4. Enter the PSD bin number (80-99).	Programmed data displays
5. If you want to check the next PSD number, press the HOLD key.	
6. Replace the handset or press the ON/OFF key.	

To delete a PSD number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. (A) Press the PROG key. (B) Press the MEMORY key. OR... (A) Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the PSD bin number (80-99).	
4. Press the HOLD key.	Cleared Spd Dial displays
5. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- PSD number can be dialed from One-Touch keys. (For additional information, see “One-Touch Keys” on page 162.)
- Storing a new number erases any previously stored data.
- If the called party’s number and name are stored in the PSD code, that information appears on the display when you use the speed dial code.
- Speed dial numbers can contain up to 24 characters. The following table reflects which keys to use.

To indicate. . .	Enter/Press	Shown on Display?
Digit or character	0, 1 - 9, *, #	yes (unless preceded by MEMORY * 2 - see below)
Intercom Level *	MEMORY * #	no
MCO Code 9 **	MEMORY * 0	no
MCO Code 81 **	MEMORY * 71	no
MCO Code 82 **	MEMORY * 72	no
MCO Code 83 **	MEMORY * 73	no
MCO Code 84 **	MEMORY * 74	no
Pause	FL/R	no
DP - DTMF Code	MEMORY * *	no
SSD Code	MEMORY NN(N)	no
Hyphen (-)	PROG	-
Display Number (Start / Stop) ***	MEMORY * 2	

- * Indicates that the digits that follow are either a feature access code or an extension number. (Not needed if your System is set for Intercom Level.) See **Note** below.

- ** Indicates that the digits that follow are for an outside number and the System should seize the next available exchange line when dialling. (Not needed if your System is set for Exchange Line Level.) See **Note** below.
- *** Indicates that the enclosed digits should not be displayed during dialling. Must precede and follow the digits that you do not want displayed. **Example: MEMORY *2 555-4143 MEMORY *2.**

Note: The System has two levels - Exchange Line Level and Intercom Level. If set at Exchange Line Level (default), you must enter the code for Intercom Level when programming a feature access code or extension number for speed dialling. If the System is set at Intercom Level, you must enter the MCO Code when programming an outside number for speed dialling.

System Speed Dial

You can store frequently called numbers using the SSD feature. Either 80 or 800 SSD numbers can be programmed, depending on how the System is configured. In an 80 SSD-number system, the SSD numbers are stored in bins **00-79**. In 800 SSD-number systems, the SSD numbers are stored in bins **000-799**.

Operation

To assign SSD numbers:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. (A) Press the PROG key. (B) Press the MEMORY key. OR... (A) Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the SSD bin number (00-79 or 000-799).	Enter Spd Dial displays
4. Dial the phone number.	
5. Press the HOLD key.	Stored Spd Dial displays
6. Replace the handset or press the ON/OFF key.	

To dial an SSD number by entering the speed dial bin number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. If necessary, access an outside line.	Outside dial tone
3. Press the MEMORY key. OR... Enter the Speed Dial Originate code (default = 80).	A displays
4. Enter the SSD bin number (00-79 or 000-799).	
5. Complete the call and replace the handset or press the ON/OFF key.	

To check an SSD number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the CONF key.	C displays
3. Press the MEMORY key.	
4. Enter the SSD bin number (00-79 or 000-799).	Programmed data displays
5. If you want to check the next SSD number, press the HOLD key.	
6. Replace the handset or press the ON/OFF key.	

To delete an SSD number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. (A) Press the PROG key. (B) Press the MEMORY key. OR... (A) Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the SSD bin number (00-79 or 000-799).	
4. Press the HOLD key.	Cleared Spd Dial displays
5. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- If numbers do not appear on the display when you use SSD codes (**00-79** or **000-799**), your extension is not programmed to display that data.
- The System can be programmed to allow SSD numbers to override toll restrictions.

Speed Dial Linking

You can automatically link together up to 6 SSD numbers in 1 PSD bin to handle telephone numbers longer than 24 characters. You can then dial the entire number by pressing the programmed PSD key or by entering the speed dial bin number.

Alternatively, any combination of PSDs and SSDs can be manually linked together by pressing the keys in the desired sequence. This can be useful for prepending account codes or long distance carrier access codes, etc.

Note: Before linking multiple SSD numbers to a PSD bin, the SSD bins must already have been programmed with the appropriate speed dial information.

Operation

To link multiple SSD numbers to a PSD bin:

Action	Result
1. Determine the SSD bin numbers to be linked	
2. Lift the handset or press the ON/OFF key.	
3. (A) Press the PROG key. (B) Press the MEMORY key. OR... (A) Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
4. Enter the PSD bin number (80-90).	Enter Spd Dial displays
5. Press the MEMORY key.	
6. Enter the SSD bin number (00-79 or 000-799) that contains the first part of the number to be dialled.	
7. Repeat steps 5-6 up to 5 more times for all additional SSDs to be dialled.	
8. Press the HOLD key when finished.	Stored PSDXXX displays

To use a PSD Key that links multiple SSDs:

Action	Result
1. If necessary, select the exchange line group (9, 81-84). (Normally the exchange line is selected by the speed dial numbers.)	
2. Press the PSD key.	

To manually link speed dial keys together:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. If necessary, access an outside line.	
3. If you are using a PSD number, press the one-touch key for the first part of the number. If you are using an SSD number, press the MEMORY key, then enter the SSD bin number.	
4. Use the one-touch keys or press the MEMORY key and enter the SSD codes to dial the parts of the phone number until it is completed.	

Hardware Requirements

- N/A

Considerations

- N/A

Speed Dial Name Assignments

You can assign names to PSD numbers from a key telephone without entering the programming mode. If allowed in the Extension Class of Service (COS), you can also assign names to SSD numbers.

(PSD names can contain a maximum of 7 characters. SSD names can contain a maximum of 16 characters.)

Operation

PSD Names:

To set PSD names using a large-display or small-display phone:

Action	Result
1. Lift the handset or press the ON/OFF key.	
2. Press the PROG key.	
3. Press the * key.	
4. Enter 0 for the PSD Name Assignment mode.	A B C D E F P80 displays (where P80 = PSD bin 80)
5. Press the up or down arrow key to display the desired PSD bin number.	A B C D E F PXX displays (where PXX = desired PSD bin number)
6. Enter the extension name: <ul style="list-style-type: none"> • If using a large-display phone, press the soft key next to the desired row of letters. (See Example 1 on page 173.) • If using a small-display phone press the appropriate one-touch key. (See Example 2 on page 175.) Note: Press the FL/R key to clear any existing data	
7. Use the bottom row of FF keys to select a single letter. <ul style="list-style-type: none"> • See “Example 1. Large-display phone” on page 173. • See “Example 2. Small-display phone” on page 175. Notes: <ul style="list-style-type: none"> • Press the * key to erase a single entry. • Press the # key to enter a space. 	
8. Repeat steps 6-7 as many times as necessary to enter the desired PSD name. Note: Press the FL/R key to clear the entire entry.	
9. Press the HOLD key when finished.	Next PSD bin number displays
10. To enter another speed dial name repeat steps 5-9.	

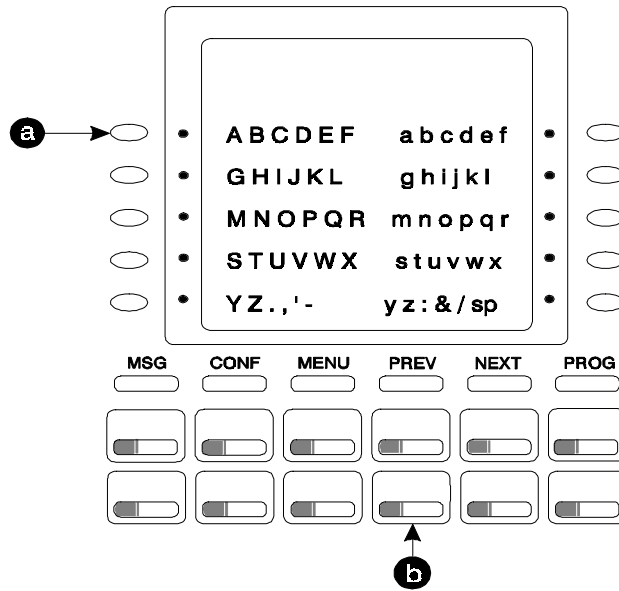
SSD Names:**To set SSD names using a large-display or small-display phone:**

Action	Result
1. Lift the handset or press the ON/OFF key.	
2. Press the PROG key.	
3. Press the * key.	
4. Enter 1 for the SSD Name Assignment mode.	SSD NO.=> SSD NAME displays
5. Enter the speed dial bin number (00-79 or 000-799).	
6. Press the HOLD key.	-SSDXXX A B C D E F XXX displays (where XXX = specified SSD bin number)
7. Press the FL/R key to clear the current data.	A B C D E F XXX displays (where XXX = specified SSD bin number)
8. Enter the speed dial name: <ul style="list-style-type: none"> • If using a large-display phone, press the soft key next to the desired row of letters. (See Example 1 on page 173.) • If using a small-display phone press the appropriate one-touch key. (See Example 2 on page 175.) 	
9. Use the bottom row of FF keys to select a single letter. <ul style="list-style-type: none"> • See “Example 1. Large-display phone” on page 173. • See “Example 2. Small-display phone” on page 175. Notes: <ul style="list-style-type: none"> • Press the * key to erase a single entry. • Press the # key to enter a space. 	
10. Repeat steps 8-9 as many times as necessary to enter the desired SSD name. Note: Press the FL/R key to clear the entire entry.	
11. Press the HOLD key when finished.	Next SSD bin number displays
12. To enter another speed dial name, press the CONF key and repeat steps 5-11.	SSD NO.=> SSD NAME displays

Example 1. Large-display phoneTo enter **D**:

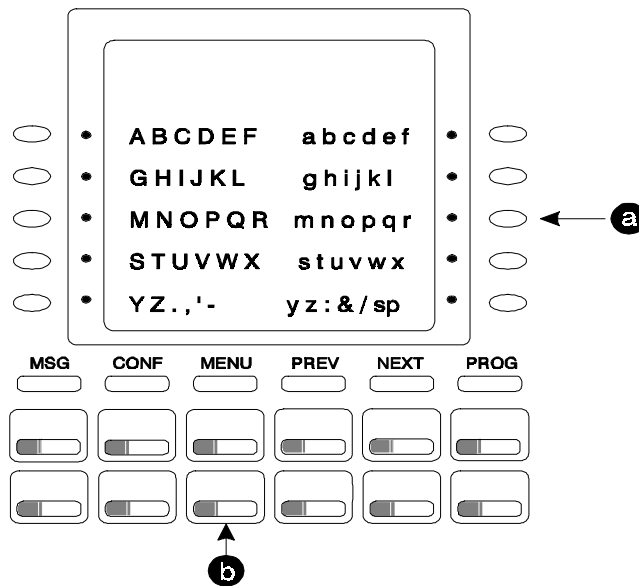
- a. Press the first soft key on the top left.

- b. Press the fourth FF key from the left on the bottom row.



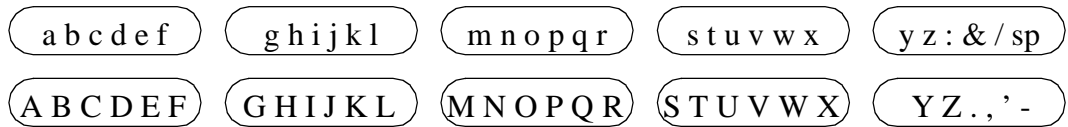
To enter **o**:

- Press the third soft key from the top right.
- Press the third FF key from the left on the bottom row.



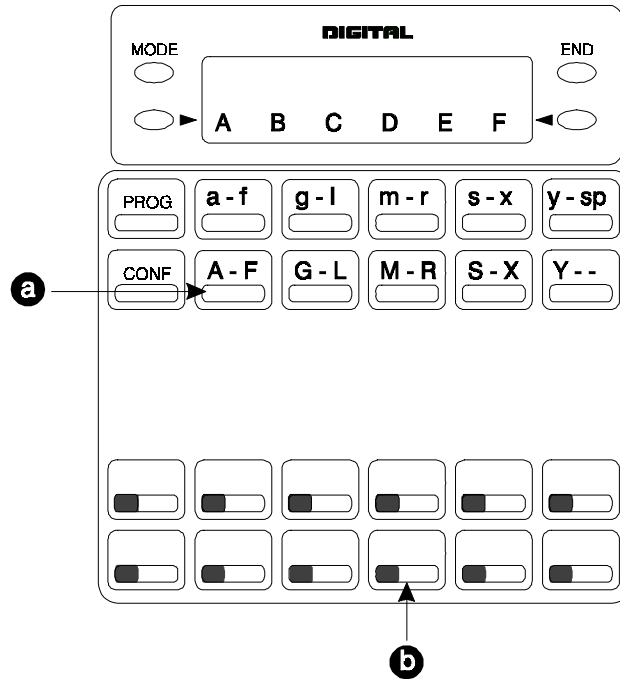
Example 2. Small-display phone

Refer to the following diagram to determine which one-touch key to press. (See step 7-8 above.)



To enter **D**:

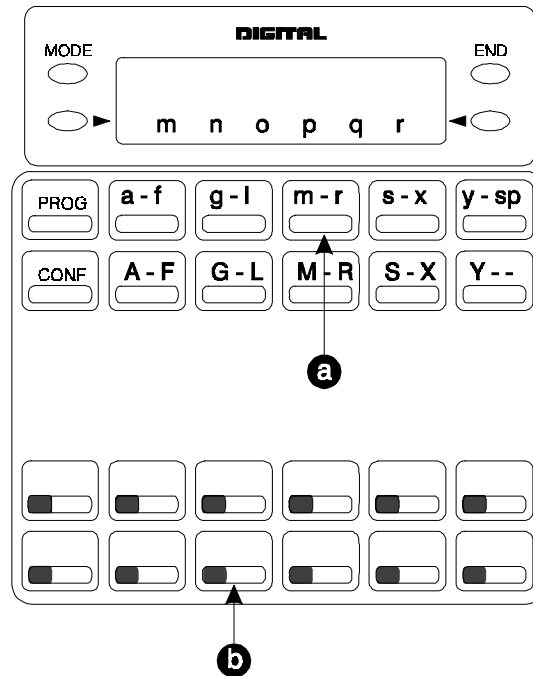
- a. Press the first one-touch key from the left on the bottom row.
- b. Press the fourth FF key from the left on the bottom row.



- To enter **o**:

- a. Press the third one-touch key from the left on the top row.

- b. Press the third FF key from the left on the bottom row.



Hardware Requirements

- N/A

Considerations

- The ability to assign SSD names is allowed/restricted to anyone with a COS that allows access to User Maintenance features. (See Chapter 4 “User Maintenance” of this document.)

Step Call (Reset Call)

Description

If you dial a busy extension, the system allows you to quickly dial another extension by simply pressing the last digit of the new extension number.

Operation

To use step call to dial another extension (after a busy extension):

1. Lift the handset or press the **ON/OFF** key.
2. Dial an extension.
3. When you hear busy tone, dial the last digit of another extension.

EXAMPLE: You dial Extension 213, but it is busy. To dial Extension 214, press “4”.

Considerations

- The second extension called using the Reset Call feature must have the same number of digits as the first extension.
- If you program to set step call, following feature are not available.
 - Camp-on (EXT. No +2 (UK/HK) or 2#)
 - Call Back Request (EXT. No +3 (UK/HK) or 3#)
 - Message Wait (EXT. No +4 (UK/HK) or 4#, EXT. No +5 (UK/HK) or 5#)
 - Intercom Busy Override (EXT. No +9 (UK/HK) or 9#)

Timed Reminder Call

Description

Your telephone can act as an alarm clock with the Timed Reminder Call feature.

Operation

To set the Timed Reminder Call feature:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Timed Reminder Set code (default = *31).	Enter Alarm hhmm displays
3. Enter the time you want the Timed Reminder Call to sound. (Enter the time in 24-hour format. For example, 0100 for 1 AM, 1300 for 1 PM).	
4. Replace the handset or press the ON/OFF key.	Alarm HH:MM displays (where HH = hour and MM = minutes)

To cancel the Timed Reminder Call feature:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Timed Reminder Cancel code (default = *39).	
3. Replace the handset or press the ON/OFF key.	Time display disappears

Hardware Requirements

- N/A

Considerations

- An alarm tone (default = 16 seconds) will be issued at the specified time.
- An extension can have only one Reminder Call set at a time.

- To change the Reminder Call, simply enter a new time.
- If the extension is in use when the reminder call is scheduled, the reminder call is issued 3 minutes later.

Trunk (Exchange Line) Access

Description

The System supports the following ways to seize an idle exchange line to make an outside code:

- Exchange Line Access
- Direct Exchange Line Access
- MCO Line Preference
- MCO Exchange Line Access

Exchange Line Key Access

You can access an outside line by pressing a Exchange Line key.

Operation

To access an outside line:

Action	Result
1. Press a vacant Exchange Line key.	<ul style="list-style-type: none"> • Outside dial tone • CO XXX displays (where XXX = line number)
2. Dial the phone number	Dialled phone number displays

Hardware Requirements

- N/A

Considerations

- N/A

Direct Exchange Line Access

Extensions can seize a specific exchange line for outgoing calls. Extensions can also use Direct Exchange Line Access to test exchange lines or to access data exchange lines.

Operation

To use Direct Exchange Line Access:

Action	Result
1. Lift the handset or press the ON/OFF key.	
2. Enter the Direct Exchange Line Access code (default = 88).	Dialled number displays
3. Enter the desired exchange line number.	<ul style="list-style-type: none"> • Outside dial tone • CO XXX displays (where XXX = line number)
4. Dial the phone number.	Dialled phone number displays

Hardware Requirements

- N/A

Considerations

- N/A

MCO Line Preference

MCO Line Preference allows you to place an outside call by simply picking up the handset. When you go offhook, the MCO 1 exchange line group is automatically accessed.

Operation**To place a call using MCO Line Preference:**

Action	Result
1. Lift the handset.	<ul style="list-style-type: none"> • Outside dial tone • CO XXX displays (where XXX = exchange line number)
2. Dial the phone number.	Dialled phone number displays

Hardware Requirements

- N/A

Considerations

- You can press the **ON/OFF** key to get intercom dial tone.

MCO Exchange Line Access

The System supports up to 5 MCO groups for each MCO tenant group. You can seize an idle exchange line from the MCO exchange line group by entering the MCO access code.

Operation

To seize an idle exchange line:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the exchange line access number (9 or 81-84). (See Table 14.)	<ul style="list-style-type: none"> • Outside dial tone • CO XXX displays (where XXX = exchange line number)
3. Dial the phone number.	Dialled phone number displays

Hardware Requirements

- N/A

Considerations

- The System supports up to 576 outside lines in a six-CCU configuration. These lines can be divided into 99 different exchange line groups.
- Each exchange line group can support up to 50 outside lines.
- Each MCO Tenant Group can have up to 5 MCO exchange line access codes. System defaults for MCO exchange line access codes are displayed in the following table.
- MCO1 can have up to 5 exchange line groups assigned by the Advanced Exchange Line Group feature.
- MCO1 access code is used for Automatic Route Selection (ARS) access code.

Table 14. MCO Exchange Line Access Codes

MCO Group	Exchange Line Access Code
MCO1	9
MCO2	81
MCO3	82
MCO4	83
MCO5	84

Trunk (Exchange Line) Queuing**Description**

When you try to originate a call by MCO (enter **9**) and all outside lines in a exchange line group are busy, the System can call you when a line becomes free. Simply pick up the handset and dial the telephone number when the Exchange Line Callback alert tone rings.

Operation

To set Exchange Line Queuing:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Press the Exchange Line key or enter a exchange line access code.	Busy tone
3. Enter the Callback Request code (default = 3 (UK/HK) or 3# .)	
4. Press the ON/OFF key.	Wait CBK-TRK displays
5. Wait for the Exchange Line Callback alert tone.	

To respond to the Exchange Line Callback alert tone:

Action	Result
1. Lift the handset or press the ON/OFF key.	<ul style="list-style-type: none"> • Outside dial tone • CO XXX displays (where XXX = line number)

Hardware Requirements

- N/A

Considerations

- Response to the Exchange Line Callback must be within 15 seconds or Exchange Line Queuing will be cancelled.
- The Exchange Line Queuing feature may also be used if you hear a busy tone when trying to make a call using the MCO Exchange Line Access feature.

Variable Mode**Description**

Variable Mode allows you to use the soft keys on a display phone to access selected features when your phone is in the following state:

- While receiving intercom Dial Tone or during dialling - up to 10 functions
- While receiving intercom ringback tone - up to 5 functions
- While receiving intercom busy tone - up to 10 functions
- While talking in intercom mode, during Exchange Line seizure, or during Exchange Line talk - up to 5 functions

Each extension may have customized soft key features available. The customization must be programmed by the dealer.

To access the feature beside the soft key, simply press the associated soft key.

Operation

To enable Variable Mode:

Action	Result
1. Press the ON/OFF key.	
2. Press the Variable Mode FF key	AUTO FNC Mode displays
3. Press the ON/OFF key.	Programmed features display

To Execute a Variable Mode Function:

Action	Result
1. Press the NEXT or PREV keys on the large display telephone or the up or down arrow keys on the small display telephones until the desired function appears	
2. Press the soft key next to the desired function	The variable mode function executes

To cancel Variable Mode:

Action	Result
1. Press the ON/OFF key.	
2. Press the Variable Mode FF key.	AUTO FNC Mode displays
3. Press the ON/OFF key again.	

To assign Variable Mode Functions to a Small Display Telephone

Action	Result
1. Press the ON/OFF key.	
2. Press PROG + 95 + (XX) + Fixed Feature Code (see Table 13 on page 145) or press PROG + 95 + (XX) + FL/R + Flexible Feature Code (see Table 13 on page 145) (where XX is the Flexible Screen position as listed below).	The variable mode function executes
3. Press the ON/OFF key	

To assign Variable Mode Functions to a Large Display Telephone

Action	Result
1. Press the ON/OFF key.	
2. Using the FUNCTION EXT menu, display the desired extension function location (see Flexible Screen Positions below)	
3. Press PROG + soft key + Fixed Feature Code (see Table 13 on page 145) or press PROG + 95 + (XX) + FL/R + Flexible Feature Code (see Table 13 on page 145)	
4. Press the ON/OFF key	

Flexible Screen Positions

Variable Mode Display Position	Displays at
Position 1 to 10	Intercom Dial Tone/Intercom Dial
Position 11 to 15	Intercom Ringback Tone
Position 16 to 25	Intercom Busy Tone
Position 26 to 30	Talk

Hardware Requirements

- A 44-Series Display Telephone or the VB-43225 Large Display Telephone

Considerations

- The small display telephone will exit variable mode after a variable mode function is executed.
- The large display telephone will stay in variable mode after a function is executed.

Voice Recognition

Description

Voice Recognition allows you to dial another extension or a speed dial number using verbal commands. You can also quickly access various telephone features by voice.

Hardware Requirements

- VB-D411DSVUK/VB-44244HK 12 Key Telephone required

Considerations

- You must pre-program the desired calling information into the telephone's Voice Recognition Unit in order for the System to recognize the verbal commands.

Volume Control

Description

The System allows you to set different receiving volumes for the handset, speaker, intercom ring tone, and incoming ring tone.

Operation

To adjust the volume while your phone is in use:

Action	Result
1. Press the VOLUME (▲ or ▼) key: <ul style="list-style-type: none"> • During ringing to adjust intercom or incoming ring tone • During a call to adjust handset or speaker volume 	Intercom dial tone

To adjust ringer volume while your phone is idle:

Action	Result
1. Press the ON/OFF key.	
2. Press the PROG key.	
3. Enter 9 , then 1 to adjust the incoming ring tone. OR... Enter 9 , then 2 to adjust the intercom ring tone.	Pseudo ring tone
4. Press the VOLUME (▲ or ▼) key to adjust the loudness of the tone.	
5. Press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Extension programming determines whether or not you can set separate volume levels for Exchange Line incoming ring tone and intercom ring tone.

Walking TRS (Call Barring) Class of Service

Phase 2.0

Walking TRS (Call Barring) Class of Service allows an extension user to “carry” his or her toll restrictions to another phone.

Before the Walking TRS (Call Barring) Class of Service feature can be used, a Walking Class of Service code must be entered at your extension before using dialling privileges at another extension.

Operation

To use a Walking Class of Service code:

Action	Result
1. Lift the handset or press the ON/OFF key of an extension other than your own.	Intercom dial tone
2. Enter 87 (UK/HK) or 87# .	
3. Dial your extension number.	
4. Enter your Walking Class of Service code (0001-9999)	
5. Enter a exchange line access code (9 or 81-84)	
6. Dial the phone number.	Walking Class of Service remains in effect until you replace the handset.
7. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- The same Walking Class of Service code can be used on more than one extension.
- Walking Class of Service mode is kept until the user goes on-hook.
- ARS and TRS (Call Barring) dialling privileges follow the Walking Class of Service.
- Before entering a new Walking COS code, you must first clear the existing code.
- When Walking COS is used, Wxxxx (where xxxx is the user's extension number) appears in Call Logging.

Chapter 6. DSLT Features

This chapter describes features that are available with the Digital Single Line Telephone (DSLST).

This chapter covers the following topics:

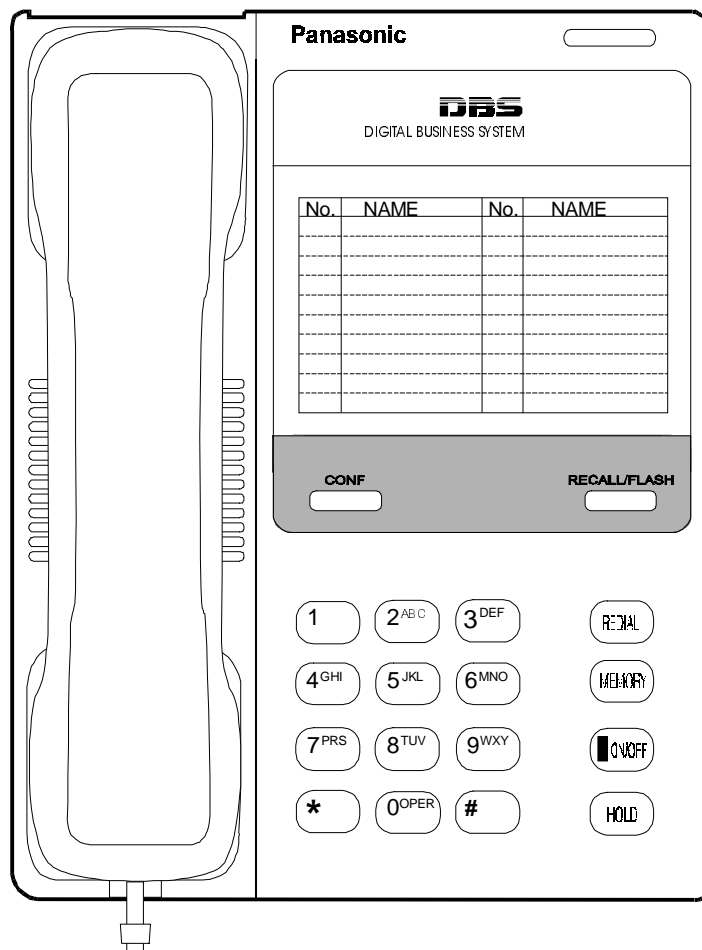
Topic	Page
Digital Single Line Telephone	189
Account Codes	189
Non-Verified Account Codes	190
Verified Account Codes	191
Attendant Group Calls	192
Auto Repeat Dial	192
Background Music	193
Busy Override	194
Callback Request	194
Call Forwarding	195
Call Forwarding-All Calls	195
Call Forwarding - Busy	196
Call Forwarding - No Answer	197
To cancel Call Forwarding and DND:	198
Call Hold	199
System Hold	199
Floating Hold	200
Exclusive Hold	200
Broker's Hold	201
Call Park	203
Call Pickup	203
Extension Group Pickup	203
Extension Direct Pickup	204
Trunk (Exchange Line) Group Pickup	205
Trunk (Exchange Line) Direct Pickup	205
Call Transfer	206
Supervised Transfer	206
Unsupervised Transfer	206
Camping a Call Onto a Busy Extension	207
Camp-On (Call Waiting)	208
Conference Calls	209
Three-Party Conferencing	209
Eight-Party Conferencing	210

Topic	Page
Do-Not-Disturb	211
DP to DTMF Signal Conversion	212
Flash	213
Hot Line	213
Intercom Calling	214
Last Number Redial	215
Message Waiting / Callback	215
Onhook Dialling	216
Offhook Signalling	217
Offhook Voice Announce	217
Paging	218
Meet-Me Answer	219
Reset Call	219
Speed Dialling	220
Personal Speed Dial	220
System Speed Dial	222
Speed Dial Linking	223
Timed Reminder Call	224
Trunk (Exchange Line) Access	225
Direct Trunk (Exchange Line) Access	225
MCO Trunk (Exchange Line) Access	226
Trunk (Exchange Line) Queuing	227
Walking TRS (Call Barring) Class of Service	228

Digital Single Line Telephone

Figure 5 illustrates the Digital Single Line Telephone (DSLST). For more information on DSLT operation, see the *ICX Key Telephone/DSLST User's Guide*.

Figure 5. DSLT



Account Codes

Description

You can assign account codes to clients to facilitate billing and to track call dates and times, numbers called, and outside line numbers used. This information is printed for each account on the System Message Detail Recording (Call Logging) record.

In addition verified account codes may be used to change the TRS (Call Barring) level to allow calls to numbers otherwise restricted.

Account codes may be either forced or unforced (voluntary) and either verified or unverified.

This feature works with Station Message Detail Recording (Call Logging). During a phone call, a station user can silently enter an accounting or client billing code. The entered Code will display on

the phone's LCD as it's dialed, so the user can tell it's being registered. Then later, the Call Logging reports will show the Code dialed for each call, and even sort the report by these Codes.

There are two different types of account codes you can use in the ICX:

Non-Verified Account Codes

Non-Verified Codes aren't checked by the system for validity; the user can enter anything from 1-10 digits long. Individual phones can be programmed to accept *forced* Account Codes (the user must enter a code for every call) or *voluntary* Account Codes (the user can enter a code, but doesn't have to, for each call).

Non-Verified Account Codes can be assigned to incoming and/or outgoing calls. For incoming calls, the user can enter the Code anytime during the call. For outgoing calls, the user either enters the Code before accessing an outside line (for *forced* Codes), or anytime during the call (for *voluntary* Codes).

Verified Account Codes

Verified Account Codes entered by phone users must match a 4-digit code that has been preprogrammed into an Account Code Table. (It is possible to enter up to 10 digits for a Verified Account Code; however, only the first 4 digits will be used to verify the code.) These codes can also be either *forced* or *voluntary*. You can program these codes with their own Toll Restriction Service (TRS) - Call Barring Class assignment so that, when entered, they will override the extension's TRS Class. Thus, Verified Account Code users can "float" from phone to phone, placing calls that would normally be restricted on that phone.

Non-Verified Account Codes

Non-Verified Account codes are voluntary codes. (i.e., You do not have to enter an account code before making a call.)

You can assign Non-Verified Account codes to both incoming and outgoing calls. To assign an account code to an outgoing call, you enter the account code before making the call or during the call. To assign an account code to an incoming call, you enter the account code during the call.

Operation

To enter an account code before making a call:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Account Code feature code (default = 8#).	
3. Enter the Account Code (up to 10 digits).	
4. Press the # key.	
5. Press a vacant Exchange Line key or enter an exchange line access code.	
6. Dial the phone number.	

To enter an account code during an outside call:

Action	Result
1. During a call, press the MEMORY key.	
2. Press the # key.	
3. Enter the Account Code (up to 10 digits).	
4. Press the # key.	

Verified Account Codes

Stations restricted from outside call origination by Toll Restriction Service (TRS) - Call Barring can be allowed to make outgoing calls by entering a Verified Account code that changes the TRS. After a call is made, the Call Logging record for the call will show the verified account code.

Operation**To make an outside call that requires an account code:**

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Verified Account ID code (default = 8#).	
3. Enter the Account Code (10 digits).	
4. Press a vacant Exchange Line key or enter an exchange line access code.	
5. Dial the phone number.	

Hardware Requirements

- An Call Logging printer or external call accounting system is required to collect account code records.

Considerations

- Account codes are not available during conversation recording mode for the Built-In Voice Mail.
- Even though up to 10 digits may be entered, the system verifies the ID based on the first 4 digits only.
- Account codes will be cancelled after using Exchange Line queuing.
- Account Codes interact with TRS (Call Barring) as shown in the following table:

Forced or Not Forced	Verified or Non-Verified	TRS (Call Barring) Class	
		No Account Entry	Account Entry
Not Forced	Non-Verified	Extension Port Based TRS Class	Extension Port Based TRS Class
	Verified		Account Code Based TRS Class

Forced or Not Forced	Verified or Non-Verified	TRS (Call Barring) Class	
		No Account Entry	Account Entry
Forced	Non-Verified	TRS Class for Forced Account Code (FF1 0 19 0001)	Extension Port Based TRS Class
	Verified		Account Code Based TRS Class

Attendant Group Calls

Description

You can call the attendant group from any extension by dialling the designated attendant number.

Operation

To call an attendant group:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the attendant pilot number (default = 0).	

Hardware Requirements

- N/A

Considerations

- Up to 20 extensions can be included in an attendant group.
- The attendant pilot number is flexible.
- If a member of an attendant group is for a virtual extension, multiple extensions in the attendant group can be made to ring at once when the virtual number is dialled.
- Attendant calls are always tone calls (i.e., not voice calls).

Auto Repeat Dial

Description

If you press the **REDIAL** key while receiving busy tone on an outside call, the System automatically redials the number. The System continues to redial the number at set intervals until the called number answers, the caller hangs up, or the maximum of 15 redial attempts is made.

Operation

To use Auto Repeat Dial:

Action	Result
1. Press the ON/OFF key.	Intercom dial tone
2. Enter an exchange line access code.	
3. Dial the phone number.	Busy tone
4. Press the REDIAL key.	System automatically redials number

Hardware Requirements

- N/A

Considerations

- N/A

Background Music**Description**

If your System is set up to provide Background Music, music can be played from the speakers of idle telephones. If a call is made to an extension receiving Background Music, the music stops and the phone rings. Background Music is also interrupted when the phone goes offhook.

The System can also provide Music-on-Hold (MOH) using a separate music source. If MOH is provided, callers automatically hear music when they are placed on hold. (For more information on “MOH”, see page 46.)

Operation**To turn Background Music on:**

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Background Music code (default = *30).	
3. Replace the handset or press the ON/OFF key.	

To turn Background Music off:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Background Music code (default = *30).	
3. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- The music source must be purchased separately. It is not provided with the System.



Important: A license may be required from the Society of Composers, Authors, and Publishers (ASCAP) or similar organizations to transmit radio or recorded music through the MOH and/or Background Music feature. Panasonic, its distributors, and affiliates assume no liability should users of Panasonic equipment fail to obtain such a license.

Considerations

- N/A

Busy Override

Description

Busy Override allows you to break into one another's outside or intercom calls to relay urgent information or to create three-party conference calls.

Operation

To use Extension Busy Override:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	Busy tone
3. Enter the Busy Override code (default = 9 (UK/HK) or 9#).	<ul style="list-style-type: none"> Alert tone sounds to both extensions (system programming required) Connected to both parties

Hardware Requirements

- N/A

Considerations

- You cannot break in on three-party conference calls.
- The default for the Override Alert Tone is **off**. If the Override Alert Tone is enabled, the tone will be sent to both parties when a call is overridden.

Callback Request

Description

If you dial a busy extension, Callback Request enables the System to call you back when that extension becomes free. When you answer, the System automatically rings the called party again.

Operation

To set a Callback Request:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	Busy tone
3. Enter the Callback Request code (default = 3 (UK/HK) or 3#).	Ringback tone
4. Replace the handset after you hear the ringback tone.	System calls back when called extension becomes free

To respond to the callback request:

Action	Result
1. Lift the handset.	System automatically redials extension

Hardware Requirements

- N/A

Considerations

- N/A

Call Forwarding

Description

Call Forwarding allows you to send your calls to another extension, to an outside line, or to Voice Mail. Call Forwarding can be set or cancelled under the following conditions from either your own extension or from an alternate extension:

- Call Forwarding - All Calls
- Call Forwarding - Busy
- Call Forwarding - No Answer

Call Forwarding-All Calls

When Call Forwarding - All Calls is set, all incoming calls to an extension are immediately forwarded.

Operation

To set Call Forwarding-All Calls:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Set Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 721 (UK/HK) or 721#. • For another extension, enter 741 (UK/HK) or 741#. 	
3. If setting Call Forwarding for another extension, dial the number of the extension whose calls you wish to forward.	
4. Enter the destination number: <ul style="list-style-type: none"> • If forwarding to another extension, dial the extension number. • If forwarding to an outside number, press the # key then enter the SSD bin number. <p>Note: Any outside number used for Call Forwarding must already be programmed into speed dialling. (For instructions, see “Speed Dialling” on page 220.)</p>	
5. Replace the handset or press the ON/OFF key.	

To cancel Call Forwarding-All Calls:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Cancel Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 731 (UK/HK) or 731#. • For another extension, enter 751 (UK/HK) or 751#. 	
3. If cancelling Call Forwarding for another extension, dial the extension number.	
4. Replace the handset or press the ON/OFF key.	

Call Forwarding - Busy

When Call Forwarding - Busy is set, all incoming calls to a busy extension are forwarded.

Operation

To set Call Forwarding - Busy:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Set Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 722 (UK/HK) or 722#. • For another extension, enter 742 (UK/HK) or 742#. 	
3. If setting Call Forwarding for another extension, dial the number of the extension whose calls you want to forward	
4. Enter the destination number: <ul style="list-style-type: none"> • If forwarding to another extension, dial the extension number. • If forwarding to an outside number, press the # key then enter the SSD bin number. <p>Note: Any outside number used for Call Forwarding must already be programmed into speed dialling. (For instructions, see “Speed Dialling” on page 220.)</p>	
5. Replace the handset or press the ON/OFF key.	

To cancel Call Forwarding - Busy:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Cancel Call Forwarding code:	
3. For your extension, enter 732 (UK/HK) or 732# .	
4. For another extension, enter 752 (UK/HK) or 752# .	
5. If cancelling Call Forwarding for another extension, dial the extension number.	
6. Replace the handset or press the ON/OFF key.	

Call Forwarding - No Answer

When Call Forwarding - No Answer is set, a call will ring until the Call Forward - No Answer timer expires. When the timer expires, the unanswered call is forwarded.

Operation

To set Call Forwarding - No Answer:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Set Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 723 (UK/HK) or 723#. • For another extension, enter 743 (UK/HK) or 743#. 	
3. If setting Call Forwarding for another extension, dial the number of the extension whose calls you wish to forward	
4. Dial the destination number: <ul style="list-style-type: none"> • If forwarding to another extension, dial the extension number. • If forwarding to an outside number, press the # key then enter the SSD bin number. <p>Note: Any outside number used for Call Forwarding must already be programmed into speed dialling. (For instructions, see "Speed Dialling" on page 220.)</p>	
5. Replace the handset or press the ON/OFF key.	

To cancel Call Forwarding - No Answer:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the appropriate Cancel Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 733 (UK/HK) or 733#. • For another extension, enter 753 (UK/HK) or 753#. 	
3. If cancelling Call Forwarding for another extension, dial the extension number.	
4. Replace the handset or press the ON/OFF key.	

Call Forwarding and Do-Not-Disturb

The System allows you to set or cancel both Call Forwarding and Do-Not-Disturb (DND) for your own extension in one step.

To cancel Call Forwarding and DND:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the CF/DND All Clear code (default = 7**).	
3. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Calls cannot be forwarded to an extension that already has Call Forwarding DND activated. For example, extension 220 can only forward to extension 225 if 225 is not forwarded.
- If forwarding to an outside number, the destination number must be pre-programmed into a System Speed Dial (SSD) code.
- Call Forwarding - Busy and Call Forwarding - No Answer can both be set at the same time.
- You can set Call Forwarding - All Calls while Call Forwarding - No Answer and/or Call Forwarding - Busy are set. Cancelling one mode only affects that mode; however, the other modes will remain set until cancelled individually.
- An auto camp-on to a busy extension will forward to the Call Forward No Answer destination. A manual camp-on to a busy extension will not forward.
- If Call Forwarding No Answer and DND are both set, calls immediately forward to the Call Forward No Answer destination.
- You can cancel both Call Forwarding and DND by entering **7 * ***.

Call Hold

Description

The system provides the following types of Call Hold:

- System Hold
- Floating Hold
- Exclusive Hold
- Broker's Hold
- Call Park (Station)

System Hold

You can place either an outside or intercom call on System Hold. You can retrieve a call placed on System Hold from any extension that has a line appearance for the held call.

Operation

To place a call on System Hold:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone

To retrieve a call placed on System Hold:

Action	Result
1. Press the HOLD key.	Intercom dial tone

To retrieve a held call on a specific exchange line:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Specified Exchange Line Answer code (default = *0).	
3. Enter the exchange line number.	

Hardware Requirements

- N/A

Considerations

- N/A

Floating Hold

Floating Hold is a type of System Hold that allows you to retrieve a held call from any extension by dialling the Floating Hold orbit number for the held call.

Floating Hold is useful when the intended recipient of a call must be located via a page. The call can be placed in a Floating Hold “orbit” and that orbit number announced during the page. The paged party can then pick up the call by dialling the orbit number.

Operation**To place a call on Floating Hold:**

Action	Result
1. Press the HOLD key.	Intercom dial tone

To retrieve a call from Floating Hold:

Action	Result
1. Enter the Floating Hold Answer feature access code (default = *9).	
2. Enter the Floating Hold orbit number (001-576) for the held call.	

Hardware Requirements

- N/A

Exclusive Hold

With Exclusive Hold, only the extension that held the call can retrieve it. Exclusive Hold can be used to hold Exchange Line calls and extension calls.

Operation

To place a call on Exclusive Hold:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone

To retrieve a call from Exclusive Hold:

Action	Result
1. While on a call, press the HOLD key.	

Hardware Requirements

- N/A

Considerations

- Intercom calls will be held as Exclusive when placed on hold by pressing the **HOLD** key.

Broker's Hold

Broker's Hold allows you to toggle between the current call and the last held call by pressing the **HOLD** key.

Operation

To place a call on Broker's Hold:

Action	Result
1. Pick up the first call.	
2. Press the HOLD key.	First call on hold
3. Pick up the second call.	
4. Press the HOLD key.	Second call on hold, first call retrieved

Hardware Requirements

- N/A

Considerations

- N/A

Call Park

You can use the Call Park function to transfer a call, even if you cannot locate the intended recipient of the call.

Exchange Line, Extension, and Network calls may be parked.

There are two ways for an extension to park a call on the ICX. One way is to park the call at the receiving extension and to retrieve the parked call at another extension by dialling the park answer code plus the parking extension number. The other way is to park the call at another extension and dial the park transfer answer code at the other extension to retrieve the call.

Operation

To park a call on this extension:

Action	Result
1. While on a call, press the HOLD key.	• Current call on hold
2. Enter the Call Park Hold access code (default 771 (UK/HK) or 771#).	
3. If necessary, page the party that needs to retrieve the call.	

To retrieve a call parked at the originating extension from another extension:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Call Park Answer/Other Ext. access code (default 773 (UK/HK) or 773#).	
3. Dial the number of the extension that parked the call.	• Connected to parked call

To park a call at another extension:

Action	Result
1. Press the HOLD key.	• Current call on hold •
2. Enter the Call Park Transfer access code (default 774 (UK/HK) or 774#).	
3. Dial the extension number to receive the parked call.	
4. If necessary, page the party that needs to retrieve the call.	

To retrieve a transferred call park:

Action	Result
1. At the extension with the transferred park call, lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter Call Park Answer/Self access code (default 772 (UK/HK) or 772#).	• Connected to parked call

Hardware Requirements

- N/A

Considerations

- You cannot park more than one call at a time.
- No more than one Call Park Answer key may be assigned to a single telephone.
- If two calls are on hold and the last call is parked, the other call is then considered the last held call. If a transfer is performed, the remaining held call would be the call transferred, not the parked call.

Call Pickup

Description

The System allows the following types of call pickup:

- Extension Group Pickup
- Extension Direct Pickup
- Exchange Line Group Pickup
- Exchange Line Direct Pickup

Extension Group Pickup

Extension Group Pickup allows you to pick up a direct ringing call (within your extension pickup group or in a different pickup group) without having to dial the number of the ringing extension.

Three types of Extension Group Pickup are available:

- **Call Pickup - All Calls:** You can pick up a call ringing anywhere within your own extension group.
- **Call Pickup - External Calls:** You can pick up only external calls ringing within your own extension group.
- **Specified Group Pickup:** You can pick up a call ringing to an extension in another extension group.

Operation

To use Extension Group Pickup - All Calls:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Extension Group Pickup - All Calls code (default = 701 (UK/HK) or 701#).	
3. Complete the call and replace the handset or press the ON/OFF key.	

To use Extension Group Pickup - External Calls:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Extension Group Pickup - External Calls code (default = 702 (UK/HK) or 702#).	
3. Complete the call and replace the handset or press the ON/OFF key.	

To use Specified Group Pickup:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Specified Group Pickup code (default = 703 (UK/HK) or 703#).	
3. Enter the number of the call pickup group (01-72) where the call is ringing.	
4. Complete the call and replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Extension Group Pickup - 12 / CCU - maximum 72 group / 6 CCU configuration

Extension Direct Pickup

Extension Direct Pickup allows you to answer a call to another extension by dialling the number of the ringing extension.

Operation**To use Extension Direct Pickup:**

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Extension Direct Call Pickup code (default = 704 (UK/HK) or 704#).	
3. Dial the number of the ringing extension.	
4. Complete the call and replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- N/A

Trunk (Exchange Line) Group Pickup

Exchange Line Group Pickup allows you to answer calls ringing to any extension within your own MCO incoming exchange line group.

Operation

To use Exchange Line Group Pickup:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Exchange Line Group Pickup code (default = 709 (UK/HK) or 709#).	
3. Complete the call and replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- N/A

Trunk (Exchange Line) Direct Pickup

Trunk (Exchange Line) Direct Pickup allows you to answer calls ringing on a specific exchange line number.

Operation

To use Exchange Line Direct Pickup:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Exchange Line Direct Pickup code (default = *0).	
3. Dial the number of the ringing or holding (system hold) exchange line.	
4. Complete the call and replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Call on exclusive hold cannot be picked up.

Call Transfer

Description

The System allows you to transfer calls to either another extension or to an outside number. The transferred calls can be either supervised or unsupervised. (You can also use the Camp-on feature to transfer a call to a busy extension.)

Supervised Transfer

When completing a supervised transfer, the transferring party remains on the line until the third party answers, then he/she announces the call.

Operation

To supervise the transfer of a call to another extension:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone
2. Dial the extension number to which the call is to be transferred.	
3. When the call is answered, inform the third party of the transfer.	
4. Complete the transfer by replacing the handset or pressing the ON/OFF key.	

To supervise the transfer of a call to an outside number:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone
2. Seize a exchange line and dial the number to which the call is to be transferred.	
3. When the call is answered, inform the third party of the transfer.	
4. Complete the transfer by replacing the handset or pressing the ON/OFF key.	

Unsupervised Transfer

When completing an unsupervised transfer the transferring party hangs up before the third party answers.

Operation

To transfer a call to another extension without supervising the transfer:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone
2. Dial the extension number to which the call is to be transferred.	
3. Complete the transfer by replacing the handset or pressing the ON/OFF key.	

To transfer a call to an outside number without supervising the transfer:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone
2. Enter a exchange line access code.	
3. Dial the number to which the call is to be transferred.	
4. Complete the transfer by replacing the handset or pressing the ON/OFF key.	

Camping a Call Onto a Busy Extension

Operation

To camp a call onto a busy extension:

Action	Result
1. While on a call, press the HOLD key.	Intercom dial tone
2. Dial the extension number to which the call is to be transferred.	
3. If your extension does not have Auto Camp-On activated, enter the Camp-On (Call Waiting) code (default = 2 (UK/HK) or 2#).	Camp-on tone heard at called extension
4. Complete the transfer by replacing the handset or pressing the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- On-Hook Transfer is not enabled for the transferring party's Extension Class of Service (COS), he/she cannot complete the transfer.

- If the call is not answered by the third party before the Transfer Recall Timer expires, the call will recall to the transferring extension.
- If a Transfer Recall is not answered before the Recall Duration Timer expires, the call will revert to the Attendant group.
- If the called party does not exist, the call recalls to the transferring extension.
- You cannot transfer a call to an extension that has Do-Not-Disturb (DND) activated.
- You can transfer a call to an extension that has Call Forwarding activated. The transferred call will follow the call forwarding path of the extension it is transferred to. For example, if extension 221 is forwarded to extension 225, calls that are transferred to extension 221 will be forwarded to extension 225.
- Calls can be transferred from paging using supervised transfer.
- If a call is unsupervised transferred to a busy extension, the call will camp on to the busy extension.
- To transfer to a outside party, it is best to use supervised transfer. If the exchange line-to-exchange line on-hook transfer restriction is enabled, a blind transfer will result in the loss of the second call but the second call will be kept on hold. If not enabled and the second outside party is busy, the transferred party will receive busy.

Camp-On (Call Waiting)

Description

If you dial a busy extension, you can camp onto that extension and send a Call Waiting signal to the called party. The called party then needs only to replace the handset and pick it up again to be automatically connected to the new call. The called party can also press the **HOLD** key to place the first call on hold and then answer the waiting call.

The System provides two types of call waiting:

- **Automatic Call Waiting:** You do not need to enter a code to send the Call Waiting signal to the busy extension. You need only to remain on the line.
- **Manual Call Waiting:** You must enter a code to send a Call Waiting signal to the busy extension.

Operation

To set Automatic Camp-on:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	<ul style="list-style-type: none"> • Called party hears alert tone • Calling party hears ringback tone
3. Remain on the line until the called party answers.	

To set Manual Camp-on:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	Busy tone
3. Enter the Camp-on (Call Waiting) code (default = 2 (UK/HK) or 2#).	<ul style="list-style-type: none"> • Called party hears alert tone • Calling party hears ringback tone
4. Remain on the line until the called party answers.	

To answer a Camp-on (Call Waiting) signal:

Action	Result
1. Replace the handset or press the ON/OFF key.	
2. Lift the handset or press the ON/OFF key again to be connected to the waiting call. OR.... Press the HOLD key.	<ul style="list-style-type: none"> • Current call placed on hold • Connected to waiting call

Hardware Requirements

- N/A

Considerations

- You can transfer an outside call to a busy extension using Camp-on. See “Camping a Call Onto a Busy Extension” on page 207.

Conference Calls**Description**

Conference Calls allow you to add another party to an existing conversation. With the standard system configuration, up to 3 parties can be included in a conference call at any one time. If the optional Conference Card is installed, up to 8 parties can participate in a conference call.

The System supports the following types of Conference Calls:

- Three-Party Conferencing
- Eight-Party Conferencing

Three-Party Conferencing

The System supports the following types of three-party conference calls:

- 3 extensions
- 2 extensions and 1 Exchange Line
- 1 extension and 2 Exchange Lines

Operation

To establish a three-party conference call:

Action	Result
1. While on a call, press the HOLD key.	Current call on hold
2. Enter an exchange line access code, or dial the number of the extension you wish to add to the call.	Outside dial tone (if exchange line access code entered)
3. If you entered an exchange line access code in step 2, dial the number of the party you wish to add to the call. Otherwise, proceed to step 4.	
4. Press the CONF key when your call is answered.	Connected to party
5. To add another party, repeat steps 1-4.	

Hardware Requirements

- N/A

Considerations

- N/A

Eight-Party Conferencing

With the optional Conference Card installed, up to 8 parties can be included in a conference call. However, only one of the parties can be an Exchange Line (i.e., 8 extensions or 7 extensions and 1 Exchange Line).

Operation

To establish an eight-party conference call from the idle status:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Eight-Party Conference code (default = 788 (UK/HK) or 788#).	
3. Press the HOLD key.	
4. Enter an exchange line access code, or dial the number of the extension you wish to add to the call.	
5. If you entered an exchange line access code in step 4, dial the number of the party you wish to add to the call. Otherwise, proceed to step 6.	
6. Press the CONF key when your call is answered.	Connected to called party
7. To add additional parties to the call, repeat steps 3-6.	

To establish an eight-party conference call from your current call:

Action	Result
1. While on a call, press the HOLD key.	Current call on hold
2. Enter the Eight-Party Conference code (default = 788 (UK/HK) or 788#).	
3. Enter an exchange line access code, or dial the number of the extension you wish to add to the call.	
4. If you entered an exchange line access code in step 3, dial the number of the party you wish to add to the call.	
5. Press the CONF key when your call is answered.	
6. To add additional parties to the call, press the HOLD key and repeat steps 3-5.	

Hardware Requirements

- N/A

Considerations

- A Conference Card (VB-44120) must be installed in the System in order to use Eight-party Conferencing.
- If the originating party hangs up, the conference call will be disconnected. If any other party hangs up, the conference call will remain in progress.

Do-Not-Disturb**Description**

You can make an extension unavailable by activating the Do-Not-Disturb (DND) feature. When DND is activated, calls to that extension receive busy tone.

You can set or cancel DND from either your extension or from an alternate extension.

Operation**To set DND for your own extension:**

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the DND Set/Cancel code (default = 720 (UK/HK) or 720#).	
3. Replace the handset or press the ON/OFF key.	

To cancel DND for your own extension:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the DND Set/Cancel code (default = 720).	
3. Replace the handset or press the ON/OFF key.	

To set DND for another extension:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the DND Set by Other Phone code (default = 740 (UK/HK) or 740#).	
3. Dial the extension number.	
4. Replace the handset or press the ON/OFF key.	

To cancel DND for another extension:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the DND Cancel by Other Phone code (default = 750 (UK/HK) or 750#).	
3. Dial the extension number.	
4. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Forced DND override is available.
- DND override function is available by Busy Override code.

DP to DTMF Signal Conversion**Description**

Dial Pulse (DP) to Dual Tone Multifrequency (DTMF) Signal Conversion allows you to switch from DP to DTMF signalling when using a DP exchange line. For instance, if you dial into a Voice Mail system using a DP exchange line, you can switch to DTMF signalling to communicate with the Voice Mail system. (The System can automatically change DP to DTMF tones based on the incoming and outgoing timers).

Operation

To switch from DP to DTMF dialling:

Action	Result
1. Press the * key or the # key.	

Hardware Requirements

- N/A

Considerations

- N/A

Flash

Description

You can send a flash signal on your telephone to release an outside line and then either automatically reseize the same outside line or switch to extension dial tone status by pressing the **FLASH** key.

Exchange Line programming determines whether your phone reseizes the outside line or switches to extension dial tone status.

Hardware Requirements

- N/A

Considerations

- N/A

Hot Line

Description

Hot Line enables you to immediately connect to another pre-assigned extension or speed dial number simply by lifting the handset. You do not have to dial any digits.

Operation

To immediately connect to a pre-assigned extension or speed dial number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Automatically connected to pre-assigned extension or speed dial number

Hardware Requirements

- N/A

Considerations

- N/A

Intercom Calling

Description

The System provides two methods of intercom calling:

- **Voice Calling:** Extension calls are connected immediately, without a ringing tone.
- **Tone Calling:** A ringing tone is sent to the called extension.

Extension Class of Service (COS) programming determines whether the default for the originating extension is voice or tone calling. Regardless of the default, you can toggle between voice or tone calling by entering the Tone-Voice Call feature code. For example, if the extension default is tone calling, you can make a voice call to another extension by entering the Tone-Voice Call feature access code.

Operation

To make a call using Intercom Calling:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	
3. If your extension is set for tone calling and you want to make a voice call, enter 1 . Or, if your extension is set for voice call and you want to make a tone call, enter 1 .	
4. Speak when your call is answered	
5. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Both the called and calling parties must belong to an Extension COS that allows Voice Calling.
- You cannot change from voice call to tone call.

Last Number Redial

Description

Last Number Redial allows you to automatically redial the last number dialled by pressing the **REDIAL** key.

Operation

To automatically redial the last number dialled:

Action	Result
1. Lift the handset or press the ON/OFF key. OR... Enter an exchange line access code.	Outside dial tone (if exchange line access code entered)
2. Press the REDIAL key.	
3. Complete the call and replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Extension Class of Service (COS) determines whether Last Number Redial can be used for both intercom and Exchange Line calls, or Exchange Line calls only.

Message Waiting / Callback

Description

If you try to call an extension that is busy or does not answer, you can leave a message wait indication at that extension, requesting a return call.

Operation

To leave a message waiting indication:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial the extension number.	Ring or busy tone
3. While the telephone is still ringing, or when you hear the busy tone, enter the Message Wait Set code (default = 4 (UK/HK) or 4#).	
4. Replace the handset or press the ON/OFF key.	Message lamp flashes at called extension

To answer a message waiting indication (callback):

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Message Wait Callback code (default = *6).	<ul style="list-style-type: none"> • Telephone automatically dials extension that sent message waiting indication • Message lamp goes off when your call is answered

To cancel a Callback Message:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Callback Request Cancel code (default = *5).	
3. Replace the handset or press the ON/OFF key.	Message lamp goes off

Hardware Requirements

- N/A

Considerations

- The System has priority message waiting for 3rd-party Voice Mail. See “Voice Mail Integration (Third Party)” on page 62.

Onhook Dialling

Description

Onhook Dialling allows users to dial without lifting the handset. However, the Digital Single Line Telephone (DSLTL) does not have a microphone so you must lift the handset to talk.

Operation**To use onhook dialling:**

Action	Result
1. Press the ON/OFF key.	Intercom dial tone
2. Enter an exchange line access code, or dial an extension number.	
3. If you entered an exchange line access code in step 2, dial the phone number. Otherwise, proceed to step 4.	
4. When the call is answered, lift the handset to talk.	

Hardware Requirements

- N/A

Considerations

- N/A

Offhook Signalling

Description

Offhook Signalling sends a tone to a busy extension to indicate that another Exchange Line call has arrived or a call is camped on.

Operation

After receiving an offhook signal during a call:

Action	Result
1. Press the HOLD key.	
2. Hang up and then go off-hook to answer call.	

Note: For details about handling multiple calls, see “Call Hold” on page 199.

Hardware Requirements

- N/A

Considerations

- The Exchange Line call type may be either multiple ring, direct, or camp-on.
- The system does not send the offhook signal under the following conditions:
 - During a conference call
 - During an OHVA or Busy override
 - Data Privacy is enabled
 - the receiving telephone is a 3rd party voice mail.

Offhook Voice Announce

Phase 2.0

Description

You can interrupt a busy extension when making an Intercom Call, and then use the Off-Hook Voice Announce (OHVA) feature to make an announcement that only the called party can hear. You can also transfer a held call to a busy extension after making the announcement using this feature.

Operation

To make an OHVA :

Action	Result
1. Lift the handset or press the ON/OFF key.	
2. Dial the extension number.	Busy signal
3. Enter the OHVA feature access code (default = 8).	
4. Make your announcement	

To transfer a call using OHVA:

Action	Result
1. While on a call, press the HOLD key.	Current call on hold
2. Dial the extension number to which the call is being transferred.	Busy signal
3. Enter OHVA feature access code (default = 8) and announce the call to be transferred.	
4. If transfer is: not accepted, press the FLASH key.	Transfer cancelled
5. Replace the handset.	

Hardware Requirements

- N/A

Considerations

- If Onhook Transfer is enabled, the held call is transferred as soon as the extension sending the OHVA hangs up.
- If the transferred call is not answered immediately, it will queue for a set time limit, then return to the extension sending the OHVA by Transfer Recall Timer.
- You cannot receive a Call Waiting message during an OHVA.
- If you make an OHVA to an SLT, the SLT user and the other party will hear the announcement.

Paging

Description

The System allows you to make both internal and external pages and announcements. Internal pages are made via the System's key telephone speakers. External pages are made through the speakers of an external paging system connected to the System.

Paging calls can be answered from any extension using the Meet-Me Answer feature.

Operation

To make a page:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Group Paging code (default = #).	
3. Enter the number of the desired paging group (0-9).	
4. Make your announcement.	
5. Replace the handset or press the ON/OFF key.	

Meet-Me Answer**To answer a page using Meet-Me Answer:**

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Meet Me Answer code (default = ##).	Connected to specified party

Hardware Requirements

- External relays, amplifier, and speakers are required for external paging.

Considerations

- If an external paging system has been connected, pages can be made to paging groups **0-9** through the external speakers. Voice paging can also be heard over the extensions in groups **0-9**.
- An extension can belong to more than one paging group.
- Only one page may be performed at a time. If you attempt to make a page while another extension is paging, you will receive a busy signal.

Reset Call**Description**

If you dial a busy extension, the System allows you to quickly dial another extension by simply pressing the last digit of the new extension number.

Operation**To use Reset Call to dial another extension (after a busy extension):**

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Dial an extension number.	Busy tone
3. Dial the last digit of the next extension number.	

Example: You dial extension 213, but it is busy. To dial extension 214, enter **4**.

Hardware Requirements

- N/A

Considerations

- The second extension called using the Reset Call feature must have the same number of digits as the first extension.
- If you program the System for Reset Call, the following features are not available: Camp-on (Ext. no. + **2** (UK/HK) or **2#**), Callback Request (Ext. no. + **3** (UK/HK) or **3#**), Message Waiting (Ext. no. + **4** (UK/HK) or **4#**, Ext. no. + **5** (UK/HK) or **5#**), Intercom Busy Override (Ext. no. + **9** (UK/HK) or **9#**).

Speed Dialling

Description

The System supports the following speed dial features:

- Personal Speed Dial (PSD)
- System Speed Dial (SSD)
- Speed Dial Linking
- Speed Dial Name Assignment

Personal Speed Dial

You can store frequently called numbers using the PSD feature. Up to 20 PSD numbers can be stored in PSD bins numbered **80-99**.

Operation

To assign PSD numbers:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the PSD bin number (80-99).	
4. Dial the phone number.	
5. Press the HOLD key.	
6. Replace the handset or press the ON/OFF key.	

To dial a PSD number by entering the speed dial bin number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. If necessary, access an outside line.	Outside dial tone
3. Press the MEMORY key. OR... Enter the Speed Dial Originate code (default = 80).	
4. Enter the PSD bin number (80-99).	
5. Complete the call and replace the handset or press the ON/OFF key.	

To delete a PSD number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the PSD bin number (80-99).	
4. Press the HOLD key.	
5. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- Storing a new number erases any previously stored data.
- Speed Dial numbers can contain up to 24 characters. The following table reflects which keys to use.

To indicate . . .	Enter/Press
Digit or character	0, 1 - 9, *, #
Intercom Level *	MEMORY * #
MCO Code 9**	MEMORY * 0
MCO Code 81**	MEMORY * 71
MCO Code 82**	MEMORY * 72
MCO Code 83**	MEMORY * 73
MCO Code 84**	MEMORY * 74
Pause	REDIAL
DP - DTMF Code	MEMORY * *

To indicate . . .	Enter/Press
SSD Code	MEMORY NN(N)
Hyphen (-)	PROG

* Indicates that the digits that follow are either a feature access code or an extension number. (Not needed if your System is set for Intercom Level.) See **Note** below.

** Indicates that the digits that follow are for an outside number and the System should seize the next available exchange line when dialling. (Not needed if your System is set for Exchange Line Level.) See **Note** below.

Note: The System has two levels - Exchange Line Level and Intercom Level. If set at Exchange Line Level (default), you must enter the code for Intercom Level when programming a feature access code or extension number for speed dialling. If the System is set at Intercom Level, you must enter the MCO Code when programming an outside number for speed dialling.

System Speed Dial

You can store frequently called numbers using the SSD feature. Either 80 or 800 SSD numbers can be programmed, depending on how the System is configured. In an 80 SSD-number system, the SSD numbers are stored in bins **00-79**. In 800 SSD-number systems, the SSD numbers are stored in bins **000-799**.

Operation

To assign SSD numbers:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the SSD bin number (00-79 or 000-799).	
4. Dial the phone number.	
5. Press the HOLD key.	
6. Replace the handset or press the ON/OFF key.	

To dial an SSD number by entering the speed dial bin number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. If necessary, access an outside line.	Outside dial tone
3. Press the MEMORY key. OR... Enter the Speed Dial Originate code (default = 80).	

Action	Result
4. Enter the SSD bin number (00-79 or 000-799).	
5. Complete call and replace the handset or press the ON/OFF key.	

To delete an SSD number:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the SSD bin number (00-79 or -799).	
4. Press the HOLD key.	
5. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- The system can be programmed to allow SSD Numbers to override toll restrictions.

Speed Dial Linking

You can automatically link together up to 5 SSD numbers in 1 PSD bin to handle telephone numbers longer than 24 characters. You can then dial the entire number by pressing the programmed PSD key or by entering the speed dial bin number.

Alternatively, any combination of PSDs and SSDs can be manually linked together by pressing the keys in the desired sequence. This can be useful for prepending account codes or long distance carrier access codes, etc.

Note: Before linking multiple SSD numbers to a PSD bin, the SSD bins must already have been programmed with the appropriate speed dial information.

Operation

To link multiple SSD numbers to a PSD bin:

Action	Result
1. Determine the SSD bin numbers to be linked	
2. Lift the handset or press the ON/OFF key.	
3. Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
4. Enter the PSD bin number (80-99).	
5. Press the MEMORY key.	

Action	Result
6. Enter the SSD bin number (00-79 or 000-799) that contains the first part of the number to be called.	
7. Repeat steps 5-6 up to 5 more times for all additional SSDs to be dialled.	
8. Press the HOLD key when finished.	

To use a PSD that links multiple SSDs:

Action	Result
1. If necessary, select the exchange line group (9, 81-8). (Normally the exchange line is selected by the speed dial numbers.)	
2. Press the MEMORY key.	
3. Enter the PSD bin number (80-99).	

To manually link speed dials together:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. If necessary, access an outside line.	Outside dial tone
3. Press the MEMORY key, then enter the PSD or SSD bin number.	
4. Press the MEMORY key and enter the PSD or SSD codes to dial the parts of the phone number until it is completed.	

Hardware Requirements

- N/A

Considerations

- N/A

Timed Reminder Call

Description

Your telephone can act as an alarm clock with the Timed Reminder Call feature.

Operation

To set the Timed Reminder Call feature:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Timed Reminder Set code (default = *31).	
3. Enter the time you want the Timed Reminder Call to sound. (Enter the time in 24-hour format. For example, 0100 for 1 AM, 1300 for 1 PM.)	
4. Replace the handset or press the ON/OFF key.	

To cancel the Timed Reminder Call feature:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the Timed Reminder Cancel code (default = *39).	
3. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- An alarm tone (default = 60 seconds) will be issued at the specified time.
- An extension can have only one Reminder Call set at a time.
- To change the Reminder Call, simply enter a new time.
- If the extension is in use when the reminder call is scheduled, the reminder call is issued 3 minutes later.

Trunk (Exchange Line) Access**Description**

The System supports the following ways to seize an idle exchange line to make an outside call:

- Direct Exchange Line Access
- MCO Exchange Line Access

Direct Trunk (Exchange Line) Access

Extensions can seize a specific exchange line for outgoing calls. Extensions can also use Direct Exchange Line Access to test exchange lines or to access data exchange lines.

Operation

To use Direct Exchange Line Access:

Action	Result
1. Lift the handset or press the ON/OFF key.	
2. Enter the Direct Exchange Line Access code (default = 88).	
3. Enter the desired exchange line number.	Outside dial tone
4. Dial the phone number.	

Hardware Requirements

- N/A

Considerations

- N/A

MCO Trunk (Exchange Line) Access

The System supports up to 5 MCO groups for each MCO tenant group. You can seize an idle exchange line from the MCO exchange line group by entering the MCO access code.

Operation

To seize an idle exchange line:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter the desired exchange line access number (9 or 81-84). (See Table 15.)	Outside dial tone
3. Dial the phone number.	

Hardware Requirements

- N/A

Considerations

- The System supports up to 576 outside lines in a six-CCU configuration. These lines can be divided into 99 different exchange line groups.
- Each exchange line group can support up to 50 outside lines.
- Each MCO Tenant Group can have up to 5 MCO exchange line access codes. System defaults for MCO exchange line access codes are displayed in the following table.
- MCO1 can have up to 5 exchange line groups assigned by the Advanced Exchange Line Group feature.
- MCO1 access code is used for Automatic Route Selection (ARS) access code.

Table 15. MCO Exchange Line Access Codes

MCO Group	Exchange Line Access Code
MCO1	9
MCO2	81
MCO3	82
MCO4	83
MCO5	84

Trunk (Exchange Line) Queuing

Description

When you try to originate a call by MCO (enter **9**) and all outside lines in a exchange line group are busy, the System can call you when a line becomes free. Simply pick up the handset and dial the telephone number when the Exchange Line Callback alert tone rings.

Operation

To set Exchange Line Queuing:

Action	Result
1. Lift the handset or press the ON/OFF key.	Intercom dial tone
2. Enter a exchange line access code (9 or 81-84).	Busy tone
3. Enter the Callback Request code (default = 3 (UK/HK) or 3# .)	
4. Press the ON/OFF key.	
5. Wait for the Exchange Line Callback alert tone.	

To respond to the Exchange Line Callback alert tone:

Action	Result
1. Lift the handset or press the ON/OFF key.	Outside dial tone

Hardware Requirements

- N/A

Considerations

- Response to the Exchange Line Callback must be within 15 seconds or Exchange Line Queuing will be cancelled.

- The Exchange Line Queuing feature may also be used if you hear a busy tone when trying to make a call using the MCO Exchange Line Access feature.

Walking TRS (Call Barring) Class of Service

Phase 2.0

Walking TRS (Call Barring) Class of Service allows an extension user to “carry” his or her toll restrictions to another phone.

Before the Walking TRS Class of Service feature can be used, a Walking Class of Service code must be entered at your extension before using dialling privileges at another extension.

Operation

To use a Walking Class of Service code:

Action	Result
1. Lift the handset or press the ON/OFF key of an extension other than your own.	Intercom dial tone
2. Enter 87 .	
3. Dial your extension number.	
4. Enter your Walking Class of Service code (0001-9999)	
5. Enter an exchange line access code (9 or 81-84)	
6. Dial the phone number.	Walking Class of Service remains in effect until you replace the handset.
7. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- The same Walking Class of Service code can be used on more than one extension.
- Walking Class of Service mode is kept until the user goes on-hook.
- ARS and TRS (Call Barring) dialling privileges follow the Walking Class of Service.
- Before entering a new Walking COS code, you must first clear the existing code.
- When Walking COS is used, Wxxxx (where xxxx is the user’s extension number) appears in Call Logging.

Chapter 7. SLT Features

SLTs are industry-standard 2500 sets. SLTs are not equipped with feature keys or line keys, so basic telephone operations are performed by pressing dialpad keys and/or using the switchhook.

This chapter describes the following features that are available with Single Line Telephones (SLTs).

Topic	Page
Account Codes	231
Non-Verified Account Codes	231
Verified Account Codes	232
Attendant Group Calls	233
Busy Override	234
Callback Request	234
Call Forwarding	235
Call Forwarding-All Calls	235
Call Forwarding - Busy	236
Call Forwarding - No Answer	237
Call Forwarding and Do-Not-Disturb	238
Call Hold	239
System Hold	239
Floating Hold (Retrieve Only)	240
Exclusive Hold	240
Broker's Hold	241
Call Park	241
Call Pickup	243
Extension Group Pickup	243
Extension Direct Pickup	244
Trunk (Exchange Line) Group Pickup	244
Trunk (Exchange Line) Direct Pickup	245
Call Transfer	245
Supervised Transfer	246
Unsupervised Transfer	246
Camp-On (Call Waiting)	248
Conference Calls	249
Three-Party Conferencing	249
Eight-Party Conferencing	250
Do-Not-Disturb (DND)	251
Flash Send	252
Flash Send	252
Intercom Calling	253
Last Number Redial	254

Topic	Page
Message Waiting / Callback	255
Offhook Signalling	254
Offhook Voice Announce	255
Paging	256
Meet-Me Answer	257
Reset Call	257
Speed Dialling	258
Personal Speed Dial	258
System Speed Dial	259
Speed Dial Linking	260
Timed Reminder Call	261
Trunk (Exchange Line) Access	262
Direct Trunk (Exchange Line) Access	262
MCO Trunk (Exchange Line) Access	262
Trunk (Exchange Line) Queuing	263
Walking TRS (Call Barring) Class of Service	265

Account Codes

Description

You can assign account codes to clients to facilitate billing and to track call dates and times, numbers called, and outside line numbers used. This information is printed for each account on the Call Logging record.

In addition verified account codes may be used to change the TRS (Call Barring) level to allow calls to numbers otherwise restricted.

Account codes may be either forced or unforced (voluntary) and either verified or unverified.

This feature works with Call Logging. Before making an outgoing call, a station user can silently enter an accounting or client billing code. Then later, the Call Logging reports will show the Code dialled for each call, and even sort the report by these Codes.

There are two different types of account codes you can use in the ICX:

Non-Verified Account Codes

Non-Verified Codes aren't checked by the system for validity; the user can enter anything from 1-10 digits long. Individual phones can be programmed to accept *forced* Account Codes (the user must enter a code for every call) or *voluntary* Account Codes (the user can enter a code, but doesn't have to, for each call).

Non-Verified Account Codes can be assigned to outgoing calls. The user either enters the Code before accessing an outside line (for *forced* or voluntary Codes).

Verified Account Codes

Verified Account Codes entered by phone users must match a 4-digit code that has been preprogrammed into an Account Code Table. (It is possible to enter up to 10 digits for a Verified Account Code; however, only the first 4 digits will be used to verify the code.) These codes can also be either *forced* or *voluntary*. You can program these codes with their own Toll Restriction Service (TRS) - Call Barring Class assignment so that, when entered, they will override the extension's TRS Class. Thus, Verified Account Code users can "float" from phone to phone, placing calls that would normally be restricted on that phone.

Non-Verified Account Codes

Non-Verified Account codes are voluntary codes. (i.e., You do not have to enter an account code before making a call.)

You can assign Non-Verified Account codes to outgoing calls only. To assign an account code to an outgoing call, you enter the account code before making the call.

Operation

To enter an account code before making a call:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Account Code feature code (default = 8#).	
3. Enter the Account Code (up to 10 digits).	

Action	Result
4. Press the # key.	
5. Enter an exchange line access code.	
6. Dial the phone number.	

Verified Account Codes

Stations restricted from outside call origination by Toll Restriction Service (TRS) - Call Barring can be allowed to make outgoing calls by entering a Verified Account code that changes the TRS. After a call is made, the Call Logging record for the call will show the verified account code.

Operation

To make an outside call that requires an account code:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Verified Account ID code (default = 8#).	
3. Enter the Account Code (max. 10 digits).	
4. Press the # key.	
5. Enter an exchange line access code.	
6. Dial the phone number.	

Hardware Requirements

- An Call Logging printer or external call accounting system is required to collect account code records.

Considerations

- Account codes are not available during conversation recording mode for the Built-In Voice Mail.
- Even though up to 10 digits may be entered, the system verifies the ID based on the first 4 digits only.
- Account codes will be cancelled after using Exchange Line queuing.-
- Account codes are not available for a Dial Pulse SLT.
- SLT telephones can only use account codes with outgoing calls only.
- Account Codes interact with TRS (Call Barring) as shown in the following table:

Forced or Not Forced	Verified or Non-Verified	TRS (Call Barring) Class	
		No Account Entry	Account Entry
Not Forced	Non-Verified	Extension Port Based TRS Class	Extension Port Based TRS Class
	Verified		Account Code Based TRS Class

Forced or Not Forced	Verified or Non-Verified	TRS (Call Barring) Class	
		No Account Entry	Account Entry
Forced	Non-Verified	TRS Class for Forced Account Code (FF1 0 19 0001)	Extension Port Based TRS Class
	Verified		Account Code Based TRS Class

- FF1-0-19: TRS Class for Verified Account Code
- FF1-2: Dial Plan
- FF8-1-04: Verified Account Codes

Considerations

- N/A

Attendant Group Calls

Description

You can call the attendant group from any extension by dialling the designated attendant number.

Operation

To call an attendant group:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the attendant pilot number (default = 0).	

Hardware Requirements

- N/A

Considerations

- Up to 20 extensions can be included in an attendant group.
- The attendant pilot number is flexible.
- If a member of an attendant group is for a virtual extension, multiple extensions in the attendant group can be made to ring at once when the virtual number is dialled.
- Attendant calls are always tone calls (i.e., not voice calls).

Busy Override

Description

Busy Override allows you to break into another user's outside or intercom calls to relay urgent information or to create three-party conference calls.

Operation

To set Extension Busy Override:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Dial the extension number.	Busy tone
3. Enter the Busy Override code (default = 9 (UK/HK) or 9#).	<ul style="list-style-type: none"> • Alert tone sounds to both extensions (System programming required) • Connection to both parties

Hardware Requirements

- N/A

Considerations

- You cannot break in on three-party conference calls.
- The default for the override alert tone is **off**. If the override alert tone is enabled, the tone will be sent to both parties when a call is overridden.

Callback Request

Description

If you dial a busy extension, you can have the System call you back when that extension becomes free. When you answer, the System automatically rings the called party again.

Operation

To set a Callback Request:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Dial the extension number.	Busy tone
3. Enter the Callback Request code (default = 3 (UK/HK) or 3#).	Ringback tone
4. Replace the handset after you hear the ringback tone.	System calls back when called extension becomes free

To respond to the callback request:

Action	Result
1. Lift the handset.	System automatically redials extension

Hardware Requirements

- N/A

Considerations

- N/A

Call Forwarding**Description**

Call Forwarding allows you to send your calls to another extension, to an outside line, or to voice mail. Call Forwarding can be set or cancelled under the following conditions from either your own extension or from an alternate extension:

- Call Forwarding - All Calls
- Call Forwarding - Busy
- Call Forwarding - No Answer

Call Forwarding-All Calls

When Call Forwarding - All Calls is set, all incoming calls to an extension are immediately forwarded.

Operation**To set Call Forwarding-All Calls:**

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the appropriate Set Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 721 (UK/HK) or 721#. • For another extension, enter 731 (UK/HK) or 731#. 	
3. If setting Call Forwarding for another extension, dial the number of the extension whose calls you wish to forward.	

Action	Result
4. Enter the destination number: <ul style="list-style-type: none"> • If forwarding to another extension, dial the extension number. • If forwarding to an outside number, press the # key then enter the SSD bin number. <p>Note: Any outside number used for Call Forwarding must already be programmed into speed dialling. (For instructions, see “Speed Dialling” on page 276.)</p>	
5. Replace the handset.	

To cancel Call Forwarding-All Calls:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the appropriate Cancel Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 731 (UK/HK) or 731#. • For another extension, enter 751 (UK/HK) or 751#. 	
3. If cancelling Call Forwarding for another extension, enter the extension number.	
4. Replace the handset.	

Call Forwarding - Busy

When Call Forwarding - Busy is set, all incoming calls to a busy extension are forwarded.

To set Call Forwarding - Busy:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the appropriate Set Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 722 (UK/HK) or 722#. • For another extension, enter 742 (UK/HK) or 742#. 	
3. If setting Call Forwarding for another extension, dial the number of the extension whose calls you want to forward.	

Action	Result
4. Enter the destination number: <ul style="list-style-type: none"> • If forwarding to another extension, dial the extension number. • If forwarding to an outside number, press the # key then enter the SSD bin number. <p>Note: Any outside number used for Call Forwarding must already be programmed into speed dialling. (For instructions, see “Speed Dialling” on page 276.)</p>	
5. Replace the handset.	

To cancel Call Forwarding - Busy:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the appropriate Cancel Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 732 (UK/HK) or 732#. • For another extension, enter 752 (UK/HK) or 752#. 	
3. If cancelling Call Forwarding for another extension, dial the extension number.	
4. Replace the handset.	

Call Forwarding - No Answer

When Call Forwarding - No Answer is set, a call will ring until the Call forward No Answer timer expires. When the timer expires, the unanswered call is forwarded.

To set Call Forwarding - No Answer:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the appropriate Set Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 723 (UK/HK) or 723#. • For another extension, enter 743 (UK/HK) or 743#. 	
3. If setting Call Forwarding for another extension, dial the number of the extension whose calls you wish to forward.	

Action	Result
4. Dial the destination number: <ul style="list-style-type: none"> • If forwarding to another extension, dial the extension number. • If forwarding to an outside number, press the # key then enter the SSD bin number. <p>Note: Any outside number used for Call Forwarding must already be programmed into speed dialling. (For instructions, see “Speed Dialling” on page 276.)</p>	
5. Replace the handset.	

To cancel Call Forwarding - No Answer:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the appropriate Cancel Call Forwarding code: <ul style="list-style-type: none"> • For your extension, enter 733 (UK/HK) or 733#. • For another extension, enter 753 (UK/HK) or 753#. 	
3. If cancelling Call Forwarding for another extension, dial the extension number.	
4. Replace the handset.	

Call Forwarding and Do-Not-Disturb

The System allows you to cancel both Call Forwarding and Do-Not-Disturb (DND) for your own extension in one step.

To cancel Call Forwarding and DND:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the CF/DND All Clear code (default = 7**).	
3. Replace the handset.	

Hardware Requirements

- N/A

Considerations

- Calls cannot be forwarded to an extension that already has Call Forwarding or DND activated. For example, extension 220 can only forward to extension 225 if 225 is not forwarded.
- Call Forwarding - Busy and Call Forwarding - No Answer can both be set at the same time.
- You can cancel both Call Forwarding and DND by entering **7 * ***.

- An auto camp-on to a busy extension will forward to the Call Forward No Answer destination. A manual camp-on to a busy extension will not forward.
- If Call Forwarding No Answer and DND are both set, calls immediately forward to the Call Forward No Answer destination.

Call Hold

Description

The system provides the following types of Call Hold:

- System Hold
- Floating Hold (Retrieve Only)
- Exclusive Hold
- Broker's Hold
- Call Park (Station)

System Hold

You can place either an outside or intercom call on System Hold. You can retrieve a call placed on System Hold from any extension that has a line appearance for the held call.

Operation

To place a call on System Hold:

Action	Result
1. While on a call, hookflash.	Intercom dial tone

To retrieve a call placed on System Hold:

Action	Result
1. If onhook, go offhook.	Intercom dial tone
2. Hookflash.	Retrieve call

To retrieve a held call on a specific exchange line:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Specified Exchange Line Answer code (default = *0).	
3. Enter the exchange line number.	

Hardware Requirements

- N/A

Considerations

- N/A

Floating Hold (Retrieve Only)

Floating Hold allows calls to be placed in a hold orbit (position) for retrieval elsewhere in the system. Floating Hold is most commonly used by the attendant group when they are unable to locate the desired party. If the desired party does not answer his/her phone, the attendant places the caller on Floating Hold and asks over the paging system that the desired party dial ***9XXX** to retrieve the held call.

Note: Single Line Telephone (SLT) positions are not able to place a call on Floating Hold. However, an SLT can retrieve a call on floating.

Operation

To retrieve a call from Floating Hold:

Action	Result
1. Lift the handset.	
2. Enter *9 followed by the Floating Hold Orbit number.	

Hardware Requirements

- N/A

Considerations

- N/A

Exclusive Hold

With Exclusive Hold, only the extension that held the call can retrieve it. Exclusive Hold can be used to hold Exchange Line calls and extension calls.

Operation

To place a call on Exclusive Hold:

Action	Result
1. While on a call, hookflash.	Intercom dial tone

To retrieve a call from Exclusive Hold:

Action	Result
1. If onhook, lift the handset.	
2. Hookflash.	

Hardware Requirements

- N/A

Considerations

- Intercom calls will be held as Exclusive.

Broker's Hold

Broker's Hold allows you to toggle between the current call and the last held call by hookflash.

Operation**To place a call on Broker's Hold:**

Action	Result
1. Pick up the first call.	
2. Hookflash.	First call on hold
3. Pick up the second call.	
4. Hookflash.	Second call on hold, first call retrieved

Hardware Requirements

- N/A

Considerations

- If Broker's Hold is enabled, it is not possible to establish a conference call from an SLT position.

Call Park

You can use the Call Park function to transfer a call, even if you cannot locate the intended recipient of the call.

Exchange Line, Extension, and Network calls may be parked.

There are two ways for an extension to park a call on the ICX. One way is to park the call at the receiving extension and to retrieve the parked call at another extension by dialling the park answer code plus the parking extension number. The other way is to park the call at another extension and dial the park transfer answer code at the other extension to retrieve the call.

Operation

To park a call on this extension:

Action	Result
1. While on a call, press the hookswitch.	• Intercom dial tone
2. Enter the Call Park Hold access code (default 771 (UK/HK) or 771#)	
3. If necessary, page the party that needs to retrieve the call.	

To retrieve a call parked at the originating extension from another extension:

Action	Result
1. Lift the handset	Intercom dial tone
2. Enter the Call Park Answer/Other Ext. access code (default 773 (UK/HK) or 773#).	
3. Dial the number of the extension that parked the call.	• Connected to parked call

To park a call at another extension:

Action	Result
1. While on a call, press the hookswitch.	• Intercom dial tone
2. Enter the Call Park Transfer access code (default 774 (UK/HK) or 774#)	
3. Dial the extension number to receive the parked call.	
4. If necessary, page the party that needs to retrieve the call.	

To retrieve a transferred call park:

Action	Result
1. At the extension with the transferred park call, lift the handset.	Intercom dial tone
2. Enter Call Park Answer/Self access code (default 772 (UK/HK) or 772#).	• Connected to parked call

Hardware Requirements

- N/A

Considerations

- You cannot park more than one call at a time.
- If two calls are on hold and the last call is parked, the other call is then considered the last held call. If a transfer is performed, the remaining held call would be the call transferred, not the parked call.

Call Pickup

Description

The System allows the following types of call pickup:

- Extension Group Pickup
- Extension Direct Pickup
- Exchange Line Group Pickup
- Exchange Line Direct Pickup

Extension Group Pickup

Extension Group Pickup allows you to pick up a direct ringing call (within your extension pickup group or in a different pickup group) without having to dial the number of the ringing extension.

Three types of Extension Group Pickup are available:

- **Call Pickup - All Calls:** You can pick up a call ringing anywhere within your own extension group.
- **Call Pickup - External Calls:** You can pick up only external calls ringing within your own extension group.
- **Specified Group Pickup:** You can pick up a call ringing to an extension in another extension group.

Operation

To use Extension Group Pickup - All Calls:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Extension Group Pickup - All Calls code (default = 701 (UK/HK) or 701#).	
3. Complete the call and replace the handset.	

To use Extension Group Pickup - External Calls:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Extension Group Pickup - External Calls code (default = 702 (UK/HK) or 702#).	
3. Complete the call and replace the handset.	

To use Specified Group Pickup:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Specified Group Pickup code (default = 703 (UK/HK) or 703#).	
3. Enter the number of the call pickup group (01-72) where the call is ringing.	
4. Complete the call and replace the handset.	

Hardware Requirements

- N/A

Considerations

- Extension Group Pickup - 12 / CCU - maximum 72 group / 6 CCU configuration

Extension Direct Pickup

Extension Direct Pickup allows you to answer a call to another extension by dialling the number of the ringing extension.

Operation**To use Extension Direct Pickup:**

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Extension Direct Call Pickup code (default = 704 (UK/HK) or 704#).	
3. Dial the number of the ringing extension.	
4. Complete the call and replace the handset.	

Hardware Requirements

- N/A

Considerations

- N/A

Trunk (Exchange Line) Group Pickup

Trunk (Exchange Line) Group Pickup allows you to answer calls ringing to any extension within your own MCO incoming exchange line group.

Operation

To use Exchange Line Group Pickup:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Exchange Line Group Pickup code (default = 709 (UK/HK) or 709#).	
3. Complete the call and replace the handset.	

Hardware Requirements

- N/A

Considerations

- N/A

Trunk (Exchange Line) Direct Pickup

Trunk (Exchange Line) Direct Pickup allows you to answer calls ringing on a specific exchange line number.

Operation**To use Exchange Line Direct Pickup:**

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Exchange Line Direct Pickup code (default = *0).	
3. Dial the number of the ringing or holding (system) exchange line.	
4. Complete the call and replace the handset.	

Hardware Requirements

- N/A

Considerations

- Calls on exclusive hold cannot be picked up.

Call Transfer**Description**

The System allows you to transfer calls to either another extension or to an outside number. The transferred calls can be either supervised or unsupervised. (You can also use the Camp-on feature to transfer a call to a busy extension.)

Supervised Transfer

When completing a supervised transfer, the transferring party remains on the line until the third party answers, then he/she announces the call.

Operation

To supervise the transfer of a call to another extension:

Action	Result
1. While on a call, hookflash to place the call on hold.	Intercom dial tone
2. Dial the extension number to which the call is to be transferred.	
3. When the call is answered, inform the third party of the transfer.	
4. Complete the transfer by replacing the handset.	

To supervise the transfer of a call to an outside number:

Action	Result
1. While on a call, hookflash to place the call on hold.	Intercom dial tone
2. Enter an exchange line access code.	
3. Dial the number to which the call is to be transferred.	
4. When the call is answered, inform the third party of the transfer.	
5. Complete the transfer by replacing the handset.	

Unsupervised Transfer

When completing an unsupervised transfer the transferring party hangs up before the third party answers.

Operation

To transfer a call to another extension without supervising the transfer:

Action	Result
1. While on a call, hookflash to place the call on hold.	Intercom dial tone
2. Dial the extension number to which the call is to be transferred.	
3. Complete the transfer by replacing the handset.	

To transfer a call to an outside number without supervising the transfer:

Action	Result
1. While on a call, hookflash to place the call on hold.	Intercom dial tone
2. Enter an exchange line access code.	
3. Dial the number to which the call is to be transferred.	
4. Complete the transfer by replacing the handset.	

Camping a Call Onto a Busy Extension**Operation****To camp a call onto a busy extension:**

Action	Result
1. While on a call, hookflash to place the call on hold.	Intercom dial tone
2. Dial the extension number to which the call is to be transferred.	
3. If your extension does not have Auto Camp-On activated, enter the Camp-On (Call Waiting) code (default = 2 (UK/HK) or 2#).	Camp-on tone heard at called extension
4. Complete the transfer by replacing the handset.	

Hardware Requirements

- N/A

Considerations

- On-Hook Transfer must be enabled for the transferring party's Extension Class of Service (COS).
- If the call is not answered by the third party before the Transfer Recall Timer expires, the call will recall to the transferring extension.
- If a Transfer Recall is not answered before the Recall Duration Timer expires, the call will revert to the Attendant group.
- If the called party does not exist, the call recalls to the transferring extension.
- You cannot transfer a call to an extension that has Do-Not-Disturb (DND) activated.
- You can transfer a call to an extension that has Call Forwarding activated. The transferred call will follow the call forwarding path of the extension it is transferred to. For example, if extension 221 is forwarded to extension 225, calls that are transferred to extension 221 will be forwarded to extension 225.
- Calls can be transferred from paging using supervised transfer.

Camp-On (Call Waiting)

Description

If you dial a busy extension, you can camp onto that extension and send a Call Waiting signal to the called party. The called party then needs only to replace the handset and pick it up again to be automatically connected to the new call. The called party can also place the first call on hold by Hookflashing and then answering the waiting call.

The System provides two types of call waiting:

- **Automatic Call Waiting:** You do not need to enter a code to send the Call Waiting signal. You need only to remain on the line.
- **Manual Call Waiting:** You must enter a code to send a Call Waiting signal to the busy extension.

Operation

To use Automatic Camp-on:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Dial the extension number.	<ul style="list-style-type: none"> • Called party hears alert tone • Calling party hears ringback tone
3. Remain on the line until the called party answers.	

To use Manual Camp-on:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Dial the extension number.	Busy tone
3. Enter the Camp-On (Call Waiting) code (default = 2 (UK/HK) or 2#).	<ul style="list-style-type: none"> • Called party hears alert tone • Calling party hears ringback tone
4. Remain on the line until the called party answers.	

To answer a Camp-on (Call Waiting) signal:

Action	Result
1. Replace the handset.	
2. Lift the handset again to be connected to the waiting call. OR... Hookflash.	<ul style="list-style-type: none"> • Current call placed on hold • Connected to waiting call

Hardware Requirements

- N/A

Considerations

- You can transfer an outside call to a busy extension using Camp-on. See “To camp a call onto a busy extension:” on page 266.

Conference Calls

Description

Conference Calls allow you to add another party to an existing conversation. With the standard system configuration, up to 3 parties can be included in a conference call at any one time. If the optional Conference Card is installed, up to 8 parties can participate in a conference call.

The System supports the following types of Conference Calls:

- Three-Party Conferencing
- Eight-Party Conferencing

Three-Party Conferencing

The System supports the following types of three-party conference calls:

- 3 extensions
- 2 extensions and 1 Exchange Line
- 1 extension and 2 Exchange Line

Operation

To establish a Three-party Conference Call:

Action	Result
1. While on a call, hookflash to place the current call on hold.	Current call on hold
2. Enter an exchange line access code, or dial the number of the extension you wish to add to the call.	
3. If you entered an exchange line access code, dial the number of the party you wish to add to the call. Otherwise, proceed to step 4.	
4. Hookflash.	Connected to party
5. To add another party to the call, repeat steps 1-4.	

Hardware Requirements

- N/A

Considerations

- Broker's Hold must be disabled to establish a conference call.

Eight-Party Conferencing

With the optional Conference Card installed, up to 8 parties can be included in a conference call. One of the parties can be a Exchange Line (i.e., 8 extensions or 7 extensions and 1 Exchange Line).

Operation

To establish an Eight-party Conference Call from the idle status:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Eight-Party Conference code (default = 788 (UK/HK) or 788#).	
3. Hookflash.	
4. Enter an exchange line access code, or dial the number of the extension you wish to add to the call.	
5. If you entered an exchange line access code, dial the number of the party you wish to add to the call. Otherwise, proceed to step 6.	
6. Hookflash when your call is answered.	Connected to called party
7. To add additional parties to the call, hookflash and repeat steps 3-6.	

To establish an Eight-party Conference Call from your current call:

Action	Result
1. While on a call, hookflash to place the current call on hold.	Current call on hold
2. Enter the Eight-Party Conference code (default = 788 (UK/HK) or 788#).	
3. Hookflash.	
4. Enter an exchange line access code, or dial the number of the extension you wish to add to the call.	
5. If you entered an Exchange Line access code, dial the number of the party you wish to add to the call. Otherwise, proceed to step 6.	
6. Hookflash when your call is answered.	Connected to called party
7. To add additional parties to the call, hookflash and repeat steps 3-6.	

Hardware Requirements

- N/A

Considerations

- A Conference Card (VB-44120) must be installed in the System in order to use Eight-party Conferencing.
- Broker's Hold must be disabled to establish a conference call.
- If the originating party hangs up, the conference call will be disconnected. If any other party hangs up, the conference call will remain in progress.

Do-Not-Disturb (DND)

Description

You can make an extension unavailable by activating the Do-Not-Disturb (DND) feature. When DND is activated, calls to that extension receive busy tone.

You can set or cancel DND from either your extension or from an alternate extension.

Operation

To set DND for your own extension:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the DND Set code (default = 720 (UK/HK) or 720#).	
3. Replace the handset.	

To cancel DND for your own extension:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the DND Cancel code (default = 720 (UK/HK) or 720#).	DND/CD LED light goes off
3. Replace the handset.	

To set DND for another extension:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the DND Set by Other Phone code (default = 740 (UK/HK) or 740#).	
3. Dial the extension number.	
4. Replace the handset.	

To cancel DND for another extension:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the DND Cancel by Other Phone code (default = 750 (UK/HK) or 750#).	
3. Dial the extension number.	
4. Replace the handset.	

Hardware Requirements

- N/A

Considerations

- Forced DND override is available.
- DND override function is available by Busy Override code.

Flash Send

Description

Flash send allows you to send a flash to a Exchange Line.

Operation**To send a flash on an Exchange Line:**

Action	Result
1. Hookflash to place the current Exchange Line call on hold.	Dial tone is returned
2. Press the SLT Flash Send access code (default - 765).	A flash is sent on the Exchange Line. The Exchange Line will respond according.

Considerations

- N/A

Hot Line

Description

Hot Line enables you to immediately connect to another pre-assigned extension or speed dial number simply by lifting the handset. You do not have to dial any digits.

Operation

To immediately connect to a pre-assigned extension or speed dial number:

Action	Result
1. Lift the handset.	Automatically connected to pre-assigned extension or speed dial number

Considerations

- N/A

Intercom Calling

Description

The System provides two methods of intercom calling:

- **Voice Calling:** Extension calls are connected immediately, without a ringing tone.
- **Tone Calling:** A ringing tone is sent to the called extension.

Extension Class of Service (COS) programming determines whether the default for the originating extension is voice or tone calling. Regardless of the default, you can toggle between voice or tone calling by entering the Tone-Voice Call feature code. For example, if the extension default is tone calling, you can make a voice call to another extension by entering the Tone-Voice Call feature access code.

Operation

To make a call using Intercom Calling:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Dial the extension number.	
3. If your extension is set for tone calling and you want to make a voice call, enter 1 . Or, if your extension is set for voice call and you want to make a tone call, enter 1 .	
4. Speak when your call is answered	
5. Replace the handset.	

Hardware Requirements

- N/A

Considerations

- Both the called and calling parties must belong to an Extension COS that allows Voice Calling.
- You cannot change from voice calling to tone calling.

Last Number Redial

Description

Last Number Redial allows you to automatically redial the last number dialled.

Operation

To automatically redial the last number dialled:

Action	Result
1. Lift the handset.	
2. Enter 712 (UK/HK) or 712# .	
3. Complete the call and replace the handset.	

Hardware Requirements

- N/A

Considerations

- Extension Class of Service (COS) determines whether Last Number Redial can be used for both intercom and Exchange Line calls or Exchange Line calls only.

Offhook Signalling

Description

Offhook Signalling sends a tone over the handset to a busy extension to indicate that a Exchange Line call has arrived or a call is camped-on.

Operation

After receiving an offhook signal during a call:

Action	Result
1. Complete the first call and place the handset on hook.	
2. After the telephone rings, go off hook.	

Hardware Requirements

- N/A

Considerations

- The Exchange Line call type may be either multiple ring, direct, or camp-on.
- Offhook signalling is not supported for an ISDN terminal.
- The System does not send the offhook signal under the following conditions:
 - During a conference call
 - During an OHVA or Busy override
 - Data Privacy is enabled
 - Receiving telephone is a 3rd party voice mail.

Offhook Voice Announce

Phase 2.0

Description

You can interrupt a busy extension when making an Intercom Call, and then use the Off-Hook Voice Announce (OHVA) feature to make an announcement.

Operation

To make an OHVA :

Action	Result
1. Lift the handset.	
2. Dial the extension number.	Busy signal
3. Enter the OHVA feature access code (default = 8).	
4. Make your announcement	

Hardware Requirements

- N/A

Considerations

- If On hook Transfer is enabled, the held call is transferred as soon as the extension sending the OHVA hangs up.
- You cannot receive a Call Waiting message during an OHVA.
- If you make an OHVA to an SLT, the SLT user and **the other party** will hear the announcement.

Message Waiting / Callback

Description

If you try to call an extension that is busy or does not answer, you can leave a message wait indication at that extension, requesting a return call.

Operation

To leave a message waiting indication:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Dial the extension number.	Ring or busy tone
3. While the telephone is still ringing, or when you hear the busy tone, enter the Message Wait Set code (default = 4 (UK/HK) or 4#).	
4. Replace the handset.	

To answer a message waiting indication (Callback):

Action	Result
1. Lift the handset.	Stutter dial tone
2. Enter the Message Wait Callback code (default = *6).	Telephone automatically dials extension that set Message Waiting Indication

To cancel a Callback Message:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Callback Request Cancel code (default = *5).	
3. Replace the handset.	

Hardware Requirements

- N/A

Considerations

- The System has priority message waiting for 3rd-party voice mail. See “Voice Mail Integration (Third Party)” on page 69.

Paging

Description

The System allows you to make both internal and external pages and announcements. Internal pages are made via the System’s key telephone speakers. External pages are made through the speakers of an external paging system connected to the System.

Paging calls can be answered from any extension using the Meet-Me Answer feature.

Operation

To make a page:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Group Paging code (default = #).	
3. Enter the number of the desired Paging group (0-9).	
4. Make your announcement.	
5. Replace the handset.	

Meet-Me Answer

To answer a page using Meet-Me Answer:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Meet Me Answer code (default = ##).	Connected to specified party

Hardware Requirements

- External relays, amplifier, and speakers are required for external paging.

Considerations

- If an external paging system has been connected, pages can be made to Paging groups **0-9** through the external speakers. Voice paging can also be heard over the extensions in groups **0-9**.
- An extension can belong to more than one paging group.
- Only one page may be performed at a time. If you attempt to make a page while another extension is paging, you will receive a busy signal unless your system allows Paging Override.

Reset Call

Description

If you dial a busy extension, the System allows you to quickly dial another extension by simply pressing the last digit of the new extension number.

Operation

To use Reset Call to dial another extension (after a busy extension):

Action	Result
1. Lift the handset.	Intercom dial tone
2. Dial an extension.	Busy tone
3. Enter the last digit of the next extension.	

Example: You dial extension 213, but it is busy. To dial extension 214, enter **4**.

Hardware Requirements

- N/A

Considerations

- The second extension called using the Reset Call feature must have the same number of digits as the first extension.

Speed Dialling

Description

The System supports the following speed dial features:

- Personal Speed Dial (PSD)
- System Speed Dial (SSD)
- Speed Dial Linking
- Speed Dial Name Assignment

Personal Speed Dial

You can store frequently called numbers using the PSD feature. Up to 20 PSD numbers can be stored in PSD bins numbered **80-99**.

Operation**To assign PSD numbers:**

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the PSD bin number (80-99).	
4. Dial the number.	
5. Press the * key.	
6. Replace the handset.	

To dial a PSD number by entering the speed dial bin number:

Action	Result
1. Lift the handset.	Intercom dial tone
2. If necessary, access an outside line.	Outside dial tone
3. Enter the Speed Dial Originate code (default = 80).	
4. Enter the PSD bin number (80-99).	
5. Complete the call and replace the handset.	

To delete a PSD number:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the PSD bin number (80-99).	
4. Press the * key.	
5. Complete the call and replace the handset.	

Hardware Requirements

- N/A

Considerations

- Storing a new number erases any previously stored data.
- Speed Dial numbers can contain up to 24 characters.
- Single Line Telephone SLT can only enter **0**, **1-9**, *****, and **#**. If a pause, MCO code, intercom level, Dial Pulse (DP) - Dual Tone Multifrequency (DTMF) code, or SSD code needs to be programmed, use *User Maintenance* to program the speed dial.

System Speed Dial

You can store frequently called numbers using the SSD feature. Either 80 or 800 SSD numbers can be programmed, depending on how the System is configured. In an 80 SSD-number system, the SSD numbers are stored in bins **00-79**. In 800 SSD-number systems, the SSD numbers are stored in bins **000-799**.

Operation**To assign SSD numbers:**

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	

Action	Result
3. Enter the SSD bin number (00-79 or 000-799).	
4. Dial the phone number.	
5. Press the * key.	
6. Replace the handset.	

To dial an SSD number by entering the speed dial bin number:

Action	Result
1. Lift the handset.	Intercom dial tone
2. If necessary, access an outside line.	Outside dial tone
3. Enter the Speed Dial Originate code (default = 80).	
4. Enter the SSD bin number (00-79 or 000-799).	
5. Complete the call and replace the handset.	

To delete an SSD number:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Speed Dial Set/Clear code (default = 710 (UK/HK) or 710#).	
3. Enter the SSD bin number (00-79 or 000-799).	
4. Press the * key.	
5. Replace the handset.	

Hardware Requirements

- N/A

Considerations

- The system can be programmed to allow SSD Numbers to override toll restrictions.

Speed Dial Linking

You can automatically link together up to 6 SSD numbers in 1 PSD bin to handle telephone numbers longer than 24 characters.

Alternatively, any combination of PSDs and SSDs can be manually linked together by pressing the keys in the desired sequence. This can be useful for prepending account codes or long distance carrier access codes, etc.

Operation

To use a PSD that links multiple SSDs:

Action	Result
1. Lift the handset.	
1. If necessary, access an outside line.	Outside dial tone
2. Enter the Speed Dial Originate code (default = 80).	
3. Enter the desired PSD bin number (80-99).	
4. Complete the call and replace the handset.	

Hardware Requirements

- N/A

Considerations

- N/A

Timed Reminder Call

Description

Your telephone can act as an alarm clock with the Timed Reminder Call feature.

Operation**To set the Timed Reminder Call feature:**

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Timed Reminder Set code (default = *31).	
3. Enter the time you want the Timed Reminder Call to sound. (Enter the time in 24-hour format. For example, 0100 for 1 AM, 1300 for 1 PM).	
4. Replace the handset.	

To cancel the Timed Reminder Call feature:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the Timed Reminder Cancel code (default = *39).	
3. Replace the handset.	

Hardware Requirements

- N/A

Considerations

- An alarm tone (default = 60 seconds) will be issued at the specified time.
- An extension can have only one Reminder Call set at a time.
- To change the Reminder Call, simply enter a new time.
- If the extension is in use when the reminder call is scheduled, the reminder call is issued 3 minutes later.

Trunk (Exchange Line) Access

Description

The System supports the following ways to seize an idle exchange line to make an outside call:

- Direct Exchange Line Access
- MCO Exchange Line Access

Direct Trunk (Exchange Line) Access

Extensions can seize a specific exchange line for outgoing calls. Extensions can also use Direct Exchange Line Access to test exchange lines or to access data exchange lines.

Operation

To use Direct Exchange Line Access:

Action	Result
1. Lift the handset.	
2. Enter the Direct Exchange Line Access code (default = 88).	
3. Enter the desired exchange line number.	Outside dial tone
4. Dial the phone number.	

Hardware Requirements

- N/A

Considerations

- N/A

MCO Trunk (Exchange Line) Access

The System supports up to 5 MCO groups for each MCO tenant group. You can seize an idle exchange line from the MCO exchange line group by entering the MCO access code.

Operation

To seize an idle exchange line:

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter the desired exchange line access number (9 or 81-84). (See Table 16 on page 263.)	Outside dial tone
3. Dial the phone number.	

Hardware Requirements

- N/A

Considerations

- The System supports up to 576 outside lines in a six-CCU configuration. These lines can be divided into 99 different exchange line groups.
- Each exchange line group can support up to 50 outside lines.
- Each MCO Tenant Group can have up to 5 MCO exchange line access codes. System defaults for MCO exchange line access codes are displayed in the following table.
- MCO1 can have up to 5 exchange line groups assigned by the Advanced Exchange Line Group feature.
- MCO1 access code is used for Automatic Route Selection (ARS) access code.

Table 16. MCO Exchange Line Access Codes

MCO Group	Exchange Line Access Code
MCO1	9
MCO2	81
MCO3	82
MCO4	83
MCO5	84

Trunk (Exchange Line) Queuing

Description

When you try to originate a call by MCO (enter **9**) and all outside lines in a exchange line group are busy, the System can call you when a line becomes free. Simply pick up the handset and dial the telephone number when the Exchange Line Callback alert tone rings.

Operation**To set Exchange Line Queuing:**

Action	Result
1. Lift the handset.	Intercom dial tone
2. Enter an exchange line access code.	Busy tone
3. Enter the Callback Request code (default = 3 (UK/HK) or 3#).	
4. Replace the handset.	
5. Wait for the Exchange Line Callback alert tone.	

To respond to the Exchange Line Callback alert tone:

Action	Result
1. Lift the handset.	Outside dial tone

Hardware Requirements

- N/A

Considerations

- Response to the Exchange Line Callback must be within 15 seconds or Exchange Line Queuing will be cancelled.
- The Exchange Line Queuing feature may also be used if you hear a busy tone when trying to make a call using the MCO Exchange Line Access feature.

Walking TRS (Call Barring) Class of Service

Phase 2.0

Walking TRS (Call Barring) Class of Service allows an extension user to “carry” his or her toll restrictions to another phone.

Before the Walking TRS Class of Service feature can be used, a Walking Class of Service code must be entered at your extension before using dialling privileges at another extension.

Operation

To use a Walking Class of Service code:

Action	Result
1. Lift the handset or press the ON/OFF key of an extension other than your own.	Intercom dial tone
2. Enter 87 .	
3. Dial your extension number.	
4. Enter your Walking Class of Service code (0001-9999)	
5. Enter an exchange line access code (9 or 81-84)	
6. Dial the phone number.	Walking Class of Service remains in effect until you replace the handset.
7. Replace the handset or press the ON/OFF key.	

Hardware Requirements

- N/A

Considerations

- The same Walking Class of Service code can be used on more than one extension.
- Walking Class of Service mode is kept until the user goes on-hook.
- ARS and TRS (Call Barring) dialling privileges follow the Walking Class of Service.
- Before entering a new Walking COS code, you must first clear the existing code.
- When Walking COS is used, Wxxxx (where xxxx is the user’s extension number) appears in Call Logging.

Chapter 8. ARS and TRS (Call Barring) Operation

Introduction

This appendix provides an overview of the Toll Restriction Service (TRS (Call Barring)) and Automatic Route Selection (ARS) features that are available with the ICX PBX.

- TRS (Call Barring) provides the ability to block selected outgoing calls while allowing others.
- ARS automatically finds the lowest cost way to send out a call. This feature is sometimes called Least Cost Routing (LCR).

With the ICX system, it is possible to utilize TRS without ARS (called TRS) or to utilize both TRS and ARS together (called ARS/TRS or simply ARS).

Once TRS is set up, it is automatic. Whenever a call is originated, the TRS tables are checked to see if the call is restricted or not. This restriction is based on the originator and the number dialled. Separate TRS classes are assigned for Day mode and Night mode.

ARS operates when ARS is enabled and the caller dials the first MCO Access Number (usually **9**). Direct exchange line access and the second to fifth MCO Access numbers (usually **81** to **84**) do not utilize ARS.

ARS use may be required based on the extension originating the call. This is enabled by the Forced ARS extension setting.

The ARS feature is exceptionally flexible, depending on the implementation plan. Call routing can consider the day of the year, day of the week, time of day, the originating extension or exchange line and the number dialled. If the preferred route is busy, up to 4 additional routes can be considered. When all exchange lines in a call route are busy, the call can optionally be queued to continue trying all exchange lines while moving to the additional routes.

Once the exchange line group is selected, prefix digits can be deleted and digits added. In addition, digits can be added as a suffix.

A high cost toll call warning can also be issued before connecting to a high cost exchange line, giving the caller an opportunity to terminate the call attempt before a higher cost connection is established.

Both TRS and ARS/TRS utilize various tables that are linked together. These tables together determine the TRS and ARS/TRS operation. Data must be collected determining the customer's needs, requirements and facilities. Then the data must be analysed to organize a TRS or ARS plan. This plan must then be implemented using the appropriate TRS or ARS/TRS tables.

Detailed Description

This section provides a description of the TRS (Call Barring) and ARS options on the ICX PBX.

TRS (Call Barring) Features

TRS Class Features

Each exchange line and extension in the ICX PBX is assigned to one of 50 TRS classes. Each TRS class is assigned a Day TRS level and a Night TRS level for each Exchange Line group. This assigned origination party TRS level is compared to the restriction TRS Level determined by the dialled number. If the Origination Party TRS level is not higher than the restriction party TRS level, the call is denied.

In addition, each TRS class is assigned settings such as Outgoing Dial Digit Restriction, Incoming Dialling Restriction, Outgoing SSD Dialling Restriction, and * and # Dialling Restriction.

Outgoing Dialed Digit Maximum

This TRS Class-based parameter sets the maximum number of digits that can be dialled for outgoing calls in a TRS Class. The maximum number of digits can be set from **0-20**. When set to 0 (default), there is no restriction.

Dialling Restriction During Inbound Calls

Determines whether dialling during an incoming call is restricted on exchange lines in a TRS Class.

TRS Override on SSD Dialling

Determines whether SSD dialling will override TRS on extensions for a TRS Class.

Star (*) and Pound (#) Dialling Restriction

Determines if the * or # key can be used in dialling for a TRS Class.

TRS Level for Non-ARS Routing

For each of the 50 TRS classes, an originator's TRS level of **0-9** may be assigned for each possible exchange line group. When a call is originated on a particular exchange line group, this value is used to determine the originator's TRS level. From the dialled digits, a restriction TRS level (**0-8**) is determined. If the originator's TRS level does not exceed the restriction TRS level, the call is restricted. The higher the originator's TRS level, the less the restriction. If the originator's TRS level is **0**, no outside calls are allowed. If the originator's TRS level is **9**, all outside calls are allowed since this always exceeds the restriction TRS value which has a maximum value of **8**.

Dialling Analysis

When a exchange line is accessed, the dialled digits can be analysed to determine if the call will be toll restricted.

Leading Digits Table

The leading digits table considers the initial dialled digits in determining the restriction TRS level.

Up to 10 digits can be considered. The digits may be any number **0, 1-9**. In addition a wild card (*) may be used to occupy any digit position. For instance ***11** would consider the numbers **011, 111, 211, 311, 411, 511, 611, 711, 811, 911**.

When considering the prefix string, the system will always consider the longest exact match first. For instance, the prefix string **404** match would be followed before **40**.

A wild card is always considered last. For instance if **911** were dialed and both **911** and ***11** were prefix strings, the **911** would be followed.

If additional digits need to be considered, a prefix ID can be used to cross-reference the Analyse Digits Table.

Once the system determines an exact match, the system will determine from this table the number of digits that are to be dialed and the restriction TRS level. (There are two other entries in the Leading Digits Table - Route Type and Route Number. These are not used for TRS-only operation.)

Note that TRS operation is a match then restrict feature. If there is no match, there is no restriction. Make certain that there is a match. As a catch all, use the * wild card.

Note: With TRS is used in a system behind another PBX, the PBX access code does not have to be processed by TRS

Analyse Digits Table

If the Leading Digits Table contains a Prefix ID, the system will consider all appearances of this Prefix ID to look for an exact match. Up to 8 digits are considered (in addition to the prefix dial digits).

Once the system determines an exact match, the system determines from this table the number of digits that can be expected to be dialed and the restriction TRS level. (There are two other entries in the Analyse Digits Table - Route Type and Route Number. There are not used for TRS-only operation.)

ARS/TRS (Call Barring) Features

When ARS is used in the ICX system, TRS (Call Barring) also operates.

TRS Class Features

These are the same features as for TRS (see above).

TRS Class - ARS Routing

TRS Level

For each of the 50 TRS classes, a TRS Level of **0-9** may be assigned. (This is not done on a Exchange Line group basis since the ARS system determines the exchange line group used.)

When a call is originated, this TRS value is used to determine the originator's TRS level. From the dialed digits, a restriction TRS level (**0-8**) is determined. If the originator's TRS level does not exceed the restriction TRS level, the call is restricted. The higher the originator's TRS level, the less the restriction. If the originator's TRS level is **0**, no outside calls are allowed. If the originator's TRS level is **9**, all outside calls are allowed since this will always exceed the restriction TRS value (maximum of **8**).

ARS Level

An ARS level is also assigned to each of the 50 TRS classes. This originator's ARS value is used to determine if the caller can proceed to use a particular priority route based on the associated ARS requirement in the Route List (described later). The originator's ARS value may be **0-9** where the higher number allows more calling access.

Queuing Point

The Route List provides up to 5 route possibilities for handling a call. Each route is considered in a sequential order. When the Queuing Point is set to operate, the system will search all previously considered routes and then the current route for an available exchange line for the Queuing time period.

Dialling Analysis

When ARS is active, the dialled digits can be analysed to determine if the call is toll restricted and what type of routing the call will follow.

Leading Digits Table

The leading digits table considers the initial dialled digits in determining the restriction TRS level and ARS routing.

Up to 10 digits can be considered. The digits may be any number **0, 1-9**. In addition a wild card (*) may be used to occupy any digit position. For instance ***11** would consider the numbers **011, 111, 211, 311, 411, 511, 611, 711, 811, 911**.

When considering the prefix string, the system considers the longest exact match first. For instance, the prefix string **404** match would be followed before **40**.

A wild card is always considered last. For instance if **911** were dialled and both **911** and ***11** were prefix strings, the **911** would be followed.

If additional digits need to be considered, a prefix ID can be used to cross-reference the Analyse Digits Table.

Once the system determines an exact match, the system will determine from this table the number of digits that are expected to be dialled and the restriction TRS level.

If the TRS level allows the call to proceed, then the route type and its associated pattern number (entry index number) are followed. There are three possible route types; the Route Table, the Route List Table and the Time List Table.

Analyse Digits Table

If the Leading Digits Table contains a Prefix ID, the system considers all appearances of this Prefix ID to look for an exact match. Up to 8 digits are considered (in addition to the prefix dial digits).

Once the system determines an exact match, the system determines from this table the number of digits expected to be dialled and the restriction TRS level.

If the TRS level allows the call to proceed, then the route type and its associated pattern number (entry index number) are followed. There are three possible route types; the Route Table, the Route List Table and the Time List Table.

Time List Table

Time List Table is used when the time of day, the day of week or the date affects the desired route. The Time List Table allows up to 50 patterns to be entered. Each pattern may specify up to five Route List patterns to be used based on the current time of day.

Up to four Time List tables may be used. The referenced time list table is determined by the Special Day Table or the Day of Week Table. This is useful when rates change for certain days (such as weekend rates versus weekday rates).

Route List Table

The Route List Table is used when there are multiple route possibilities. Up to 5 possible route table patterns may be considered in sequential priority when attempting to find an available exchange line. Before a route is tried, the system compares the route ARS to the originator's ARS level. If the route ARS exceeds the originator's ARS, the call processing will stop and the caller will receive busy tone.

When the call is first presented, the first priority route is tried. If there is no available exchange line in the first route and queuing point is not enabled the system continues to the next priority route, compares the ARS levels and if acceptable checks for an available exchange line. If no exchange line is available, it will continue to the next priority exchange line, and so forth until all routes have been attempted.

If an available exchange line is found and warning tone is enable, the system will first issue a warning tone to the caller to allow the caller the opportunity to hang up before using a more expensive exchange line.

If the queuing point is enabled, the system will wait for an available exchange line (beginning with the first priority exchange line) until the queuing point timer expires before moving to the next possible route.

Route Table

The Route Table provides a simple exchange line group selection and selects any digit dialling modification needed. This table is directly referenced when there is only one route to use. It is also indirectly reference from the Route List Table.

Digit Modify Table

Once a route is selected, the actual dialled digits can be changed based on the Digit Modify Table. Digits can be deleted from the beginning of the number (such as removing an unneeded area code), digits can be added to the beginning of the number (such as adding an area code or equal access number) and digits can be added to the end of a number.

TRS (Call Barring) Configuration and Operation

This section provides the following:

- An overview of the TRS (Call Barring) operation.
- An example TRS configuration - This is a simple example intended to introduce TRS planning and implementation. Example worksheets are included.
- Worksheets for planning and implementing a TRS plan.

TRS Programming/Operation Overview

The purpose of TRS is to restrict outside call origination based on the number dialed and the originator.

As shown in Figure A-4 TRS Operation (Non-ARS) at the end of this appendix, up to 50 TRS Classes settings are assigned. When a call is originated, several general settings for the originator are always considered:

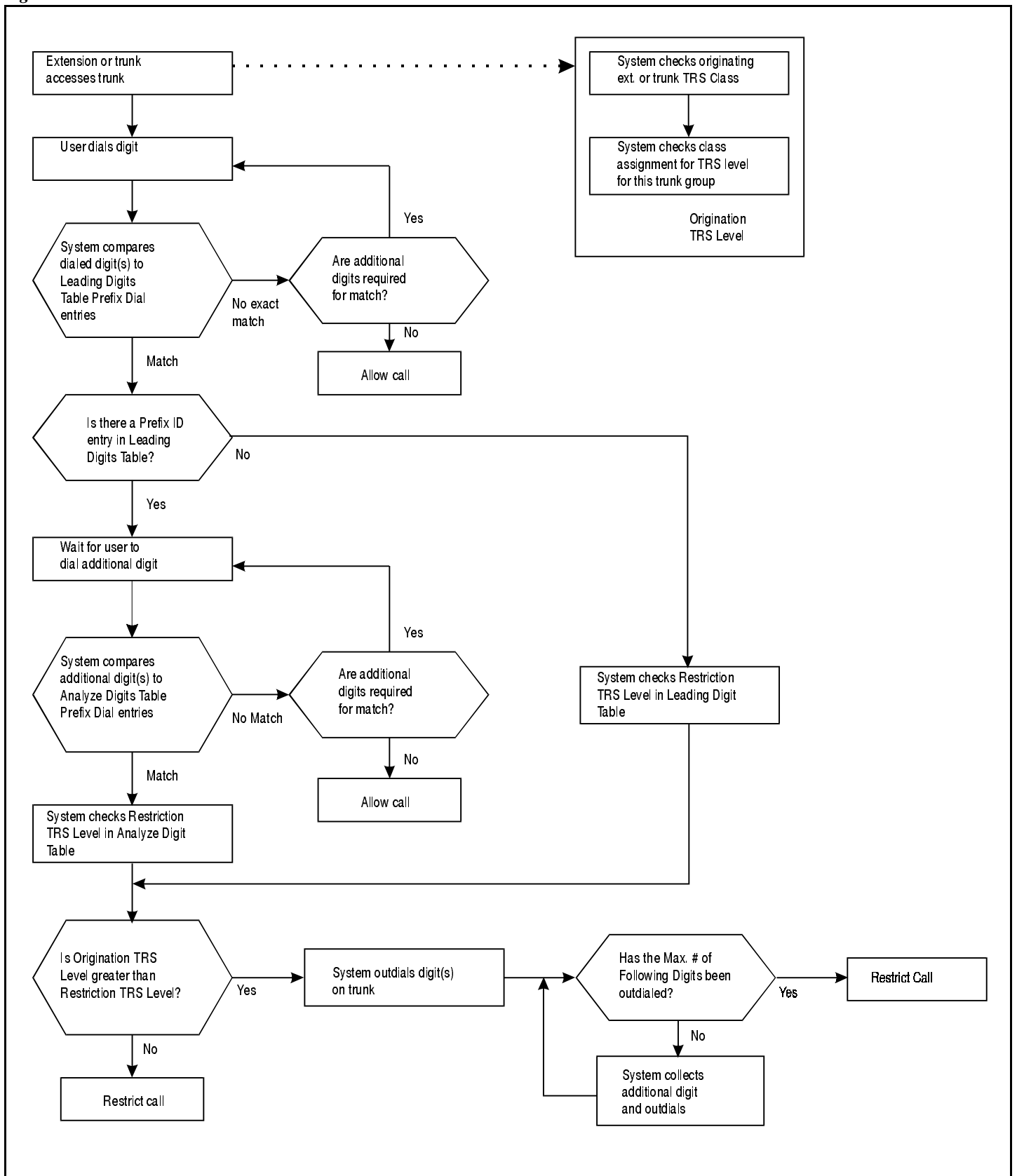
- **Digit Restriction** - This is the maximum number of digits that can be dialed.
- **Incoming Dialling Restriction** - If this is enabled, an outside call cannot be originated during an incoming call.
- **Outgoing SSD Dialling Restriction** - This determines if SSD dialling is allowed or not.
- **Star (*) and Pound (#) Dialling Restriction** - This determines if the * and # digits can be outdialed.

When a call is originated, the system determines the TRS class for the originator from either the Exchange Line Class Assignments or the Extension Class Assignments. It then determines the originator TRS level for the exchange line group selected.

When the call is dialed, the system collects the digits and compares the leading digits to the leading digits table entry. The system will look for the longest available exact match. A * may be entered as a wild card for any digit position.

If an exact match is found, the system will look to see if there is a Prefix ID. If so, it will jump to the analyse digits table. If not, the system will compare the entered TRS Restriction value to the call originator's assigned TRS level. If the originator's TRS level is not greater than the Restriction TRS level, the call is denied. Otherwise, the call is allowed to proceed.

Figure A-6. TRS Flowchart



If the analyse digits table is referenced by a Prefix ID, the system will consider all entries with the Prefix ID and analyse any additional digits dialled. The system will look for the longest exact match. If there is an exact match, the system compares the entered TRS Restriction value to the call originator's assigned TRS level. If the Restriction value is equal to or greater than the originator's TRS level, the call is denied. Otherwise, the call is allowed to proceed.

Example TRS Configuration

As an example of setting up TRS, assume that XYZ Department Store is using the ICX PBX.

Situation

This example installation has the following considerations:

- Only one tenant (one MCO tenant group operation)
- 75 retail floor store phones
 - restricted to local telephone use only except for 1800, 1888 and calls to Birmingham, Alabama where a sister store and many suppliers are located
 - restrict special calling numbers (976, 1900, outside operator, etc.)
 - 911 always allowed
- 40 general office phones
 - long distance allowed during day mode
 - restrict special calling numbers (976, 1900, outside operator, etc.)
 - 911 always allowed
- 10 purchaser/buyer telephones
 - no time restriction
 - restrict special calling numbers (976, 1900, outside operator, etc.)
 - 911 always allowed
- 25 executive office telephones
 - no time restriction
 - no calling restrictions
- 2 attendant group phones
 - no restrictions during the day
 - local calls only at night to prevent abuse
- 7 warehouse phones
 - extension and 911 emergency calling only
- Exchange Lines 1-24 are in Exchange Line Group 1 and are to the local Exchange Line for local calls. In addition, long distance carriers are accessed using these exchange lines.

Implementation

The configuration of this system is described in the following steps:

1. The system needs are listed in Table 1, "Example - User Needs Worksheet," on page 276.

Most of the information is straight forward. The Day TRS and Night TRS classes are determined by assigning consecutive Class numbers to each unique calling need. When a duplicate need is encountered, the same class number is assigned.

The system exchange line equipment is listed in Table 2, "Example - MCO Tenant/Exchange Line Groups Worksheet," on page 277.

Table A-1. Example - User Needs Worksheet

Tenant Name <u>XYZ Department Stores</u> Tenant # <u>1</u> (1-72)					
User Type (office, executive, lobby)	User Extension (or exchange line) Ports (BSSC) and Numbers	Day Calling Needs (Long Distance, 411, specific number, etc.)	Night Calling Needs (Long Distance, 411, specific number, etc.)	Day TRS Class ^a (1-50)	Night TRS Class ^a (1-50)
Executive	1101-1125	No Restrictions	No Restrictions	1	1
Buyers	1166 - 1175	No Restrictions except special numbers (976, 1900, 411, operator access, collect calls, etc.)	No Restrictions except special numbers (976, 1900, 411, operator access, collect calls, etc.)	2	2
General Office	1126-1165	Long Distance Allowed No special numbers (976, 1900, 411, operator access, collect calls, etc.)	Local calls only No special numbers (976, 1900, 411, operator access, collect calls, etc.) Allowed to call Birmingham	3	4
Attendant Group	1176-1177	No Restriction	Local calls only No special numbers (976, 1900, 411, operator access, collect calls, etc.) Allowed to call Birmingham	1	4
Retail floor	1178-1253	Local calls only No special numbers (976, 1900, 411, operator access, collect calls, etc.) Allowed to call Birmingham	Local calls only No special numbers (976, 1900, 411, operator access, collect calls, etc.) Allowed to call Birmingham	4	4
Warehouse	1254-1260	Extension calling and emergency calling only	Extension calling and emergency calling only	5	5

a. After all user data has been entered, then assign class numbers.

Table A-2. Example - MCO Tenant/Exchange Line Groups Worksheet

Tenant Name <u>XYZ Department Stores</u> Tenant Number <u>1</u>			
Exchange Line Group Number (0-99)	Description (Two-Way Exchange Line LS, Tie Line, FX, etc.)	Exchange Lines in Exchange Line Group (Number/BSSC)	Usage (MCO1 - Dial "9", MCO2 - dial "81", Direct Access Only, etc.)
1	Two-Way Exchange Line Loop Start	1-24	MCO 1 - Dial "9"

2. From the User Needs and Tenant Exchange Line Groups Worksheets, TRS levels are determined. This list is created by reviewing the different calling needs and assigning the most restrictions to the lowest TRS level and working up to the least restriction level.

Table A-3. Example - Origination TRS Level Plan

Originator TRS Level	TRS Level Properties
9	No Restriction
8	
7	
6	
5	
4	All long distance calls allowed except special numbers (976, 1900, 411, operator access, collect calls, etc.) Allow 911
3	North America long distance calls allowed except special numbers (976, 1900, 411, operator access, collect calls, etc.) Allow 911
2	Local Calls Allowed No long distance or special numbers (976, 1900, 411, operator access, collect calls, etc.) Allow calls to (205) 555-XXXX, (205) 556-XXXX, and (205) 557-XXXX Allow 911.
1	911 Only
0	No Outside Calling/PBX Centrex & Extension only

3. Next the Origination TRS Level is determined for each Exchange Line group per class.

Using Table 1, "Example - User Needs Worksheet," on page 276, each unique origination class is determined. Then using Table 3, "Example - Origination TRS Level Plan," on page 278 the TRS level is determined for each class. (If there were multiple exchange line groups available, a TRS level would be assigned for each exchange line group for each class.)

Table A-4. Example - Origination TRS Class/Level Worksheet

Origination TRS Class		Origination TRS Level (0-9)				
Number	User Type(s) (Executive, Office, loading dock)	Exchange Line Group 1 Description: Used for all outside calls.	Exchange Line Group — Description:	Exchange Line Group — Description:	Exchange Line Group — Description:	Exchange Line Group — Description:
1	Executive (Day/Night) Attendant (Day)	9				
2	Buyer (Day/Night)	4				
3	General Office (Day)	3				
4	General Office (Night) Attendant Group (Night) Retail Floor (Day/Night)	2				
5	Warehouse (Day/Night)	1				

4. Calls are screened by first considering the initial digits dialled. In this case, the first Prefix Dialled entry is a **1**. This will look at any number that starts with 1. A * is available as a wild card. This represents any single digit **1-9**.

When prefix dial is being considered by the system, the system looks for the longest exact match first. The system will consider a wildcard last. For instance, **911** is considered before ***11** or even *****. Notice also in this example there are multiple entries that begin with 9.

If the leading digits are not enough to determine the handling of the call, then additional digits can be considered by entering a Prefix ID that references entries in the Analyse Digits Table. Otherwise, the Prefix ID is left blank and the additional items are considered.

In this example, we cross reference Prefix ID 1 in the Analyse Digits Table for any dialled number that begins with 1. The remaining digits are analysed in the Analyse Digits Table.

From Table 1, "Example - User Needs Worksheet," on page 276 and Table 3, "Example - Origination TRS Level Plan," on page 278, the restriction levels are determined for each type of dialled call.

Route Type and Route Pattern Number are not used with TRS-only operation.

Table A-5. Example - Leading Digits Worksheet

Pattern Number (1-100)	Prefix Dial (up to 10 digits)	Prefix ID (Go to this Prefix ID in Analyse Digits Tables)	Number of Following Digits	Restriction TRS Level (Any Origination TRS at this level or below will be restricted)	Route Type Route Table (0) Route List (1) Time List (2)	Route Pattern Number Route Table (1-200) Route List (1-100) or Time List (1-50)
1	1	1	N/A	N/A	N/A	N/A
2	101****	1	N/A	N/A	N/A	N/A
3	10***	1	N/A	N/A	N/A	N/A
4	101	1	N/A	N/A	N/A	N/A
5	10	1	N/A	N/A	N/A	N/A
6	0		N/A	8	N/A	N/A
7	01	2	N/A	8	N/A	N/A
7	911	0	N/A	0	N/A	N/A
8	*11	0	N/A	4	N/A	N/A
95	976	0	N/A	4	N/A	N/A
10	*	0	N/A	1	N/A	N/A

5. In this case, Prefix ID 1 links calls that have a dialled prefix of 1. Several entries are made to determine the restriction TRS level and the Route Type. The call originator must have a Origination TRS Level exceeding 1 for the call to be allowed. If any other analyse digits are dialled this would be covered by the three * wildcards (***) . In this case; the call originator must have a TRS level exceeding 2 for the call to be allowed.

Table A-6. Example - Analyse Digits Worksheet

Pattern Number (1-500)	Prefix ID	Digits to Analyse (in addition to the leading digits)	Number of Following Digits	Restriction TRS Level (Any Origination TRS at this level or below will be restricted)	Route Type Route Table (0) Route List (1) Time List (2)	Route Pattern Number Route Table (1-200) Route List (1-100) or Time List (1-50)
1	1	20555* (120555XXXXX)	N/A	1	N/A	N/A
2	1	***976 (1NXX976XXXX)	N/A	8	N/A	N/A
3	1	***5551212 (1NXX5551212)	N/A	2	N/A	N/A
4	1	800 (1800XXXXXXXX)	N/A	1	N/A	N/A
5	1	888 (1888XXXXXXXX)	N/A	1	N/A	N/A
6	1	900 (1900XXXXXXXX)	N/A	8	N/A	N/A
7	1	*** (1NXXXXXX)	N/A	2	N/A	N/A
8	2	*** (0XXXX... - Collect Call)	N/A	8	N/A	N/A

ARS Configuration and Operation

This section provides the following:

- An overview of ARS.
- An example ARS configuration.
- Worksheets for planning and implementing an ARS plan.

ARS/TRS (Call Barring) Programming/Operation Overview

The purpose of TRS (Call Barring) is to restrict outside call origination based on the dialled number and the originator. The purpose of ARS is to automatically select the lowest cost route available for a call based on the dialled number. The system allows separate TRS operation or TRS operation concurrent with ARS operation.

TRS-only operation is described in the previous section of this appendix. The TRS portion of ARS/TRS works in the same manner.

As shown in Figure A-5 “ARS/TRS Operation” found at the end of this appendix, up to 50 TRS/ARS Class Settings are assigned. When a call is originated, several general settings for the originator are always considered:

- **Digit Restriction** - This is the maximum number of digits that can be dialled.
- **Incoming Dialling Restriction** - If this is enable, an outside call cannot be originated during an incoming call.
- **Outgoing SSD Dialling Restriction** - This determines if SSD dialling is allowed or not.
- **Star (*) and Pound (#) Dialling Restriction.** - This determines if the * and # digits can be outdialed.

When a call is originated, the system determines the TRS/ARS Class for the originator from either the Extension Class Assignments or the Exchange Line Class Assignments. It then determines the originator TRS level and originator TRS level from the TRS/ARS Class Assignments. In addition, the Queuing Point continue parameter setting is considered.

When the call is dialled, the system collects the digits and compares the leading digits to the leading digits table entry. The system looks for the longest available exact match. A * may be entered as a wild card for any digit position.

If an exact match is found, the system looks to see if there is a prefix ID. If so, it will jump to the analyse digits table. If not, the system will compare the entered TRS Restriction value to the call originator’s assigned TRS level. If the Restriction value is equal to or greater than the originator’s TRS level, the call is denied. Otherwise, the Route Type and associated Pattern # are determined and the system jumps there.

Figure A-7. ARS/TRS Flowchart Page 1 of 2

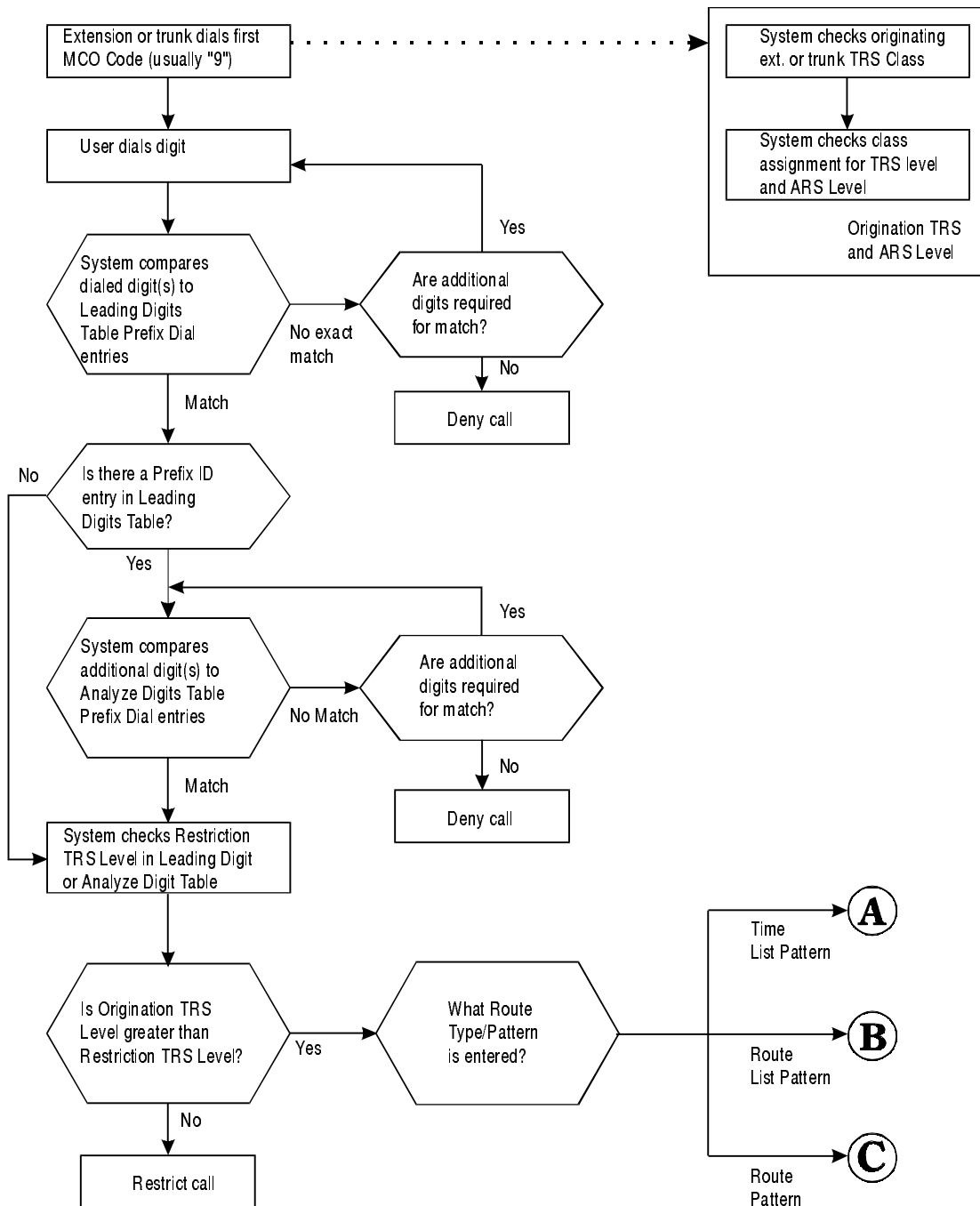
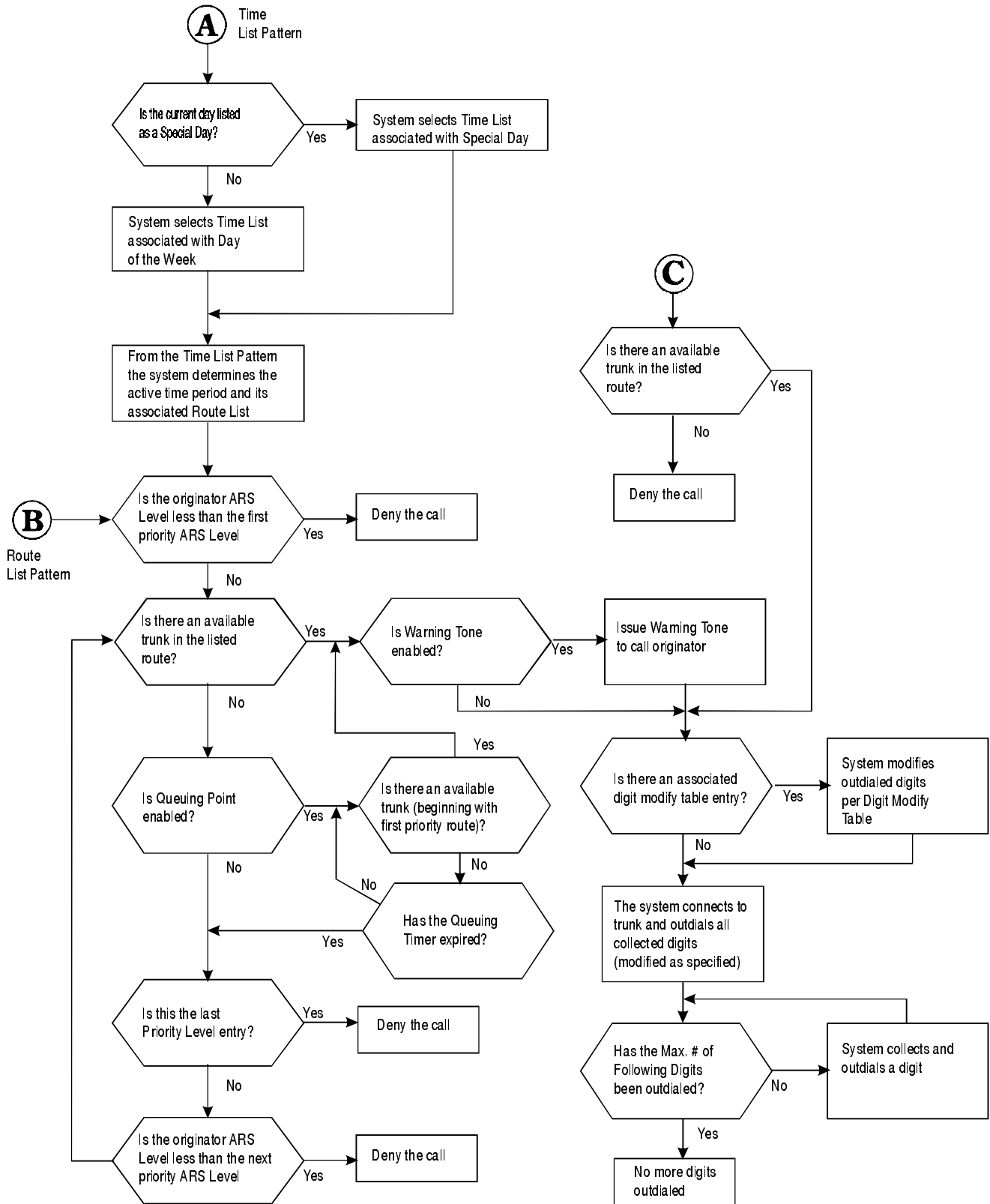


Figure A-8. ARS/TRS Flowchart Page 2 of 2



If the analyse digits table is referenced by a prefix ID, the system will consider at all entries with the prefix ID and analyse any additional digits dialled. The system looks for the longest exact match. If there is an exact match, the system compares the entered TRS Restriction value to the call originator's assigned TRS level. If the

Restriction value is equal to or greater than the originator's TRS level, the call is denied. Otherwise, the route type and associated pattern # are determined and the system jumps there.

Three route types are available. These include the Routing Table (a direct exchange line group selection), the Route List Table (a route priority consideration), and the Time List Table (selects a route list based on date, day of the week, and time of day).

The simplest call routing method is the Route Table. This determines a exchange line group to use and, if programmed, a digits modification pattern to use. Up to 24 prefix digits may be deleted, up to 10 prefix digits can be added and up to 10 suffix digits may be added.

If multiple exchange line groups are to be considered for the call, the Route List Table is used. This table consists of up to 5 possible routes and an associated ARS level required. If the ARS level for the first priority route is equal to or less than the ARS level associated with the call originator, then the listed route will be tried. If the first listed Route Table exchange line group has no available exchange line, then the next priority route is considered. If Queuing Point is set to continue, then the first priority exchange lines are retried first before trying to a next priority route. If the Warning Tone is enabled, then before a call is connected to a found exchange line, a warning tone is sounded to allow the caller to hang up before the more expensive exchange lines are used.

If time of day, day of week and day of the year need be considered in routing the call, then the Time List Table should be referenced first. The Time List Table allows up to 50 patterns to be entered. Each pattern can specify up to 5 route list patterns to used based on the current time of day.

Up to four time list tables may be used. The referenced time list table is determined by the Special Day Table or the Day of Week Table. This is useful when rates change for certain days (such as weekend rates versus weekday rates).

Example ARS Configuration

As an example of setting up ARS, assume that Atlanta based XYZ Department Store is using the ICX PBX.

Situation

This example installation has the following considerations:

- 75 retail floor store phones
 - restricted to local telephone use only except for 1800, 1888 and calls to Birmingham, Alabama where a sister store and many suppliers are located
 - restrict special calling numbers (976, 1900, outside operator, etc.)
 - 911 always allowed
- 40 general office phones
 - long distance allowed during day mode
 - restrict special calling numbers (976, 1900, outside operator, etc.)
 - 911 always allowed
- 10 purchaser/buyer telephones
 - no time restriction
 - restrict special calling numbers (976, 1900, outside operator, etc.)

- 911 always allowed
- 25 executive office telephones
 - no time restriction
 - no calling restrictions
- 2 attendant group phones
 - no restrictions during the day
 - local calls only at night to prevent abuse
- 7 warehouse phones
 - extension and 911 emergency calling only
- Exchange Lines 1-24 are in exchange line group 1 and are to the local Exchange Line for local calls. In addition, long distance carriers are accessed using these exchange lines by dialling the equal access codes. Long distance carrier A (equal access code 101XXXX) is the least expensive carrier during the weekday times of 8 to 6. Long distance carrier B is the least expensive long distance carrier during nights, weekends, and holidays.
- Exchange Lines 25 and 26 are in exchange line group 2 and are Out-WATS exchange lines from Long Distance Carrier C. These exchange lines are less expensive than either long distance carrier lines regardless of the WATS band.
- Exchange Lines 27 and 28 are Foreign Exchange lines to a central office exchange in Birmingham where a sister store and several suppliers are located. These exchange lines are always preferred for any call to the Birmingham area code of 205 with exchanges 555, 556, and 557.

Figure A-9. Example System Configuration

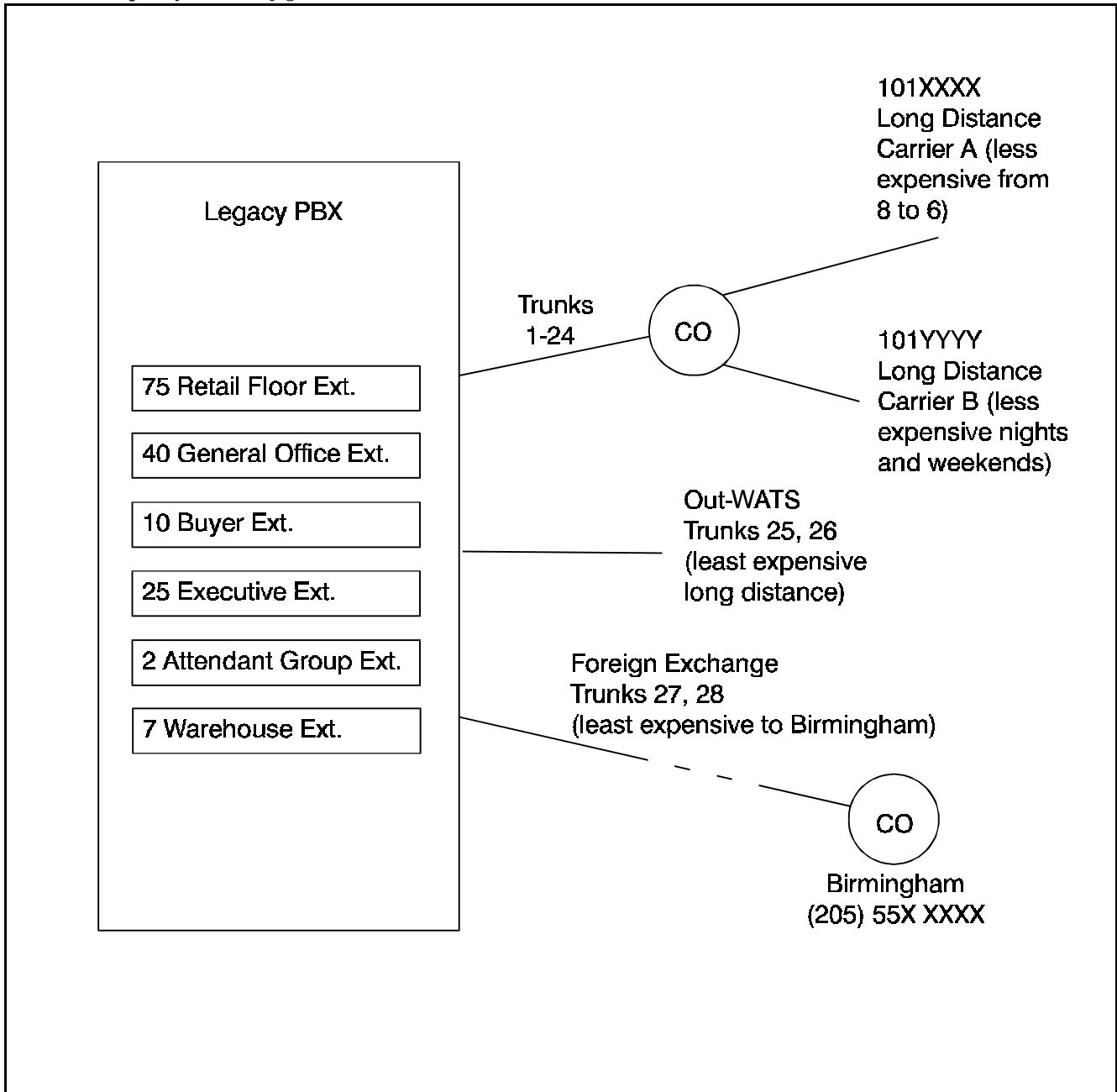
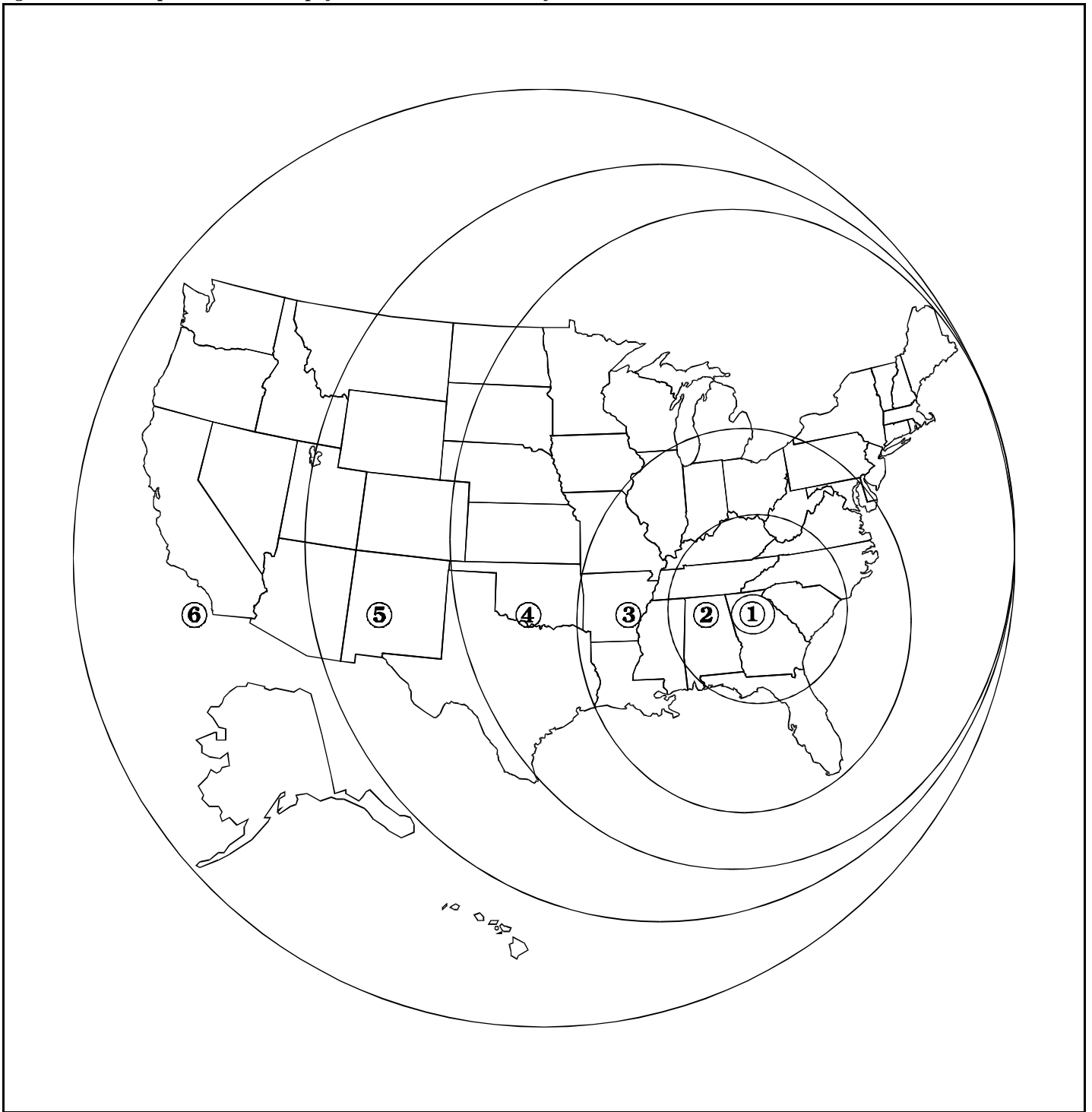


Figure A-10. Example Carrier C Simplified WATS Service Bands for Atlanta



In this very simplified WATS example, the higher the Out-WATS band, the longer distance the call and therefore the higher cost the call. However, calls using Out-WATS are always less expensive than other long distance choices (except for the FX line calls to Birmingham) Note that if alternative carriers were less expensive for some areas than the Out-WATS service, then the area codes would have to be considered in choosing the route.

Figure A-11. Example Foreign Exchange Lines From Atlanta to Birmingham

In this case we have two Foreign Exchange (FX) lines to a Birmingham Central Office Exchange. Using these lines are like dialling directly from the Birmingham exchange. We pay a flat fee for the FX line. There is no additional charge for calls to Birmingham.

For this example, there are three office exchange numbers in Birmingham, 555, 556, and 557 that we want to be able to call that are local calls. There are no other exchanges that begin with 55X.

Implementation

The configuration of this system is described in the following steps:

1. The system needs are listed in Table 7, "Example - User Needs Worksheet," on page 290.

Most of the information is straight forward. The Day TRS and Night TRS Classes are determined by assigning consecutive Class numbers to each unique calling need. When a duplicate need is encountered, the same class number is assigned.

The system exchange line equipment is listed in Table 8, "Example - MCO Tenant/Exchange Line Groups Worksheet," on page 291.

Table A-7. Example - User Needs Worksheet

Tenant Name <u>XYZ Department Stores</u> Tenant # <u>1</u> (1-72)					
User Type (office, executive, lobby)	User Extension (or Exchange Line) Ports (BSSC) and Numbers	Day Calling Needs (Long Distance, 411, specific number, etc.)	Night Calling Needs (Long Distance, 411, specific number, etc.)	Day TRS Class ^a (1-50)	Night TRS Class ^a (1-50)
Executive	1101-1125	No Restrictions	No Restrictions	1	1
Buyers	1166 - 1175	No Restrictions except special numbers (976, 1900, 411, operator access, collect calls, etc.)	No Restrictions except special numbers (976, 1900, 411, operator access, collect calls, etc.)	2	2
General Office	1126-1165	Long Distance Allowed No special numbers (976, 1900, 411, operator access, collect calls, etc.)	Local calls only No special numbers (976, 1900, 411, operator access, collect calls, etc.) Allowed to call Birmingham	3	4
Attendant Group	1176-1177	No Restriction	Local calls only No special numbers (976, 1900, 411, operator access, collect calls, etc.) Allowed to call Birmingham	1	4
Retail floor	1178-1253	Local calls only No special numbers (976, 1900, 411, operator access, collect calls, etc.) Allowed to call Birmingham	Local calls only No special numbers (976, 1900, 411, operator access, collect calls, etc.) Allowed to call Birmingham	4	4
Warehouse	1254-1260	Extension calling and emergency calling only	Extension calling and emergency calling only	5	5

a. After all user data has been entered, then assign class numbers.

Table A-8. Example - MCO Tenant/Exchange Line Groups Worksheet

Tenant Name <u>XYZ Department Stores</u> Tenant Number <u>1</u>			
Exchange Line Group Number (0-99)	Description (Two-Way Exchange Line GS, Tie Line, FX, etc.)	Exchange Lines in Exchange Line Group (Number/BSSC)	Usage Notes
1	Local Exchange Line Access	1-24	Local, access to long distance carriers A (least cost Day carrier) and B (least cost night and weekend carrier) via equal access numbers
2	Foreign Exchange lines to Birmingham	25, 26	Foreign Exchange lines for calls to Birmingham area code 205 and exchanges 555, 556, and 557.
3	Out-WATS	27, 28	Out-WATS service to the complete US. Less expensive than carriers A and B

2. From the User Needs and Tenant Exchange LineExchange Line Groups Worksheets, TRS levels are determined. This list is created by reviewing the different calling needs and assigning the most restrictions to the lowest TRS level and working up to the least restriction level.

Table A-9. Example - Origination TRS Level Plan

Originator TRS Level	TRS Level Properties
9	No Restriction
8	
7	
6	
5	
4	All long distance calls allowed except special numbers (976, 1900, 411, operator access, collect calls, etc.) Allow 911
3	North America long distance calls allowed except special numbers (976, 1900, 411, operator access, collect calls, etc.) Allow 911
2	Local Calls Allowed No long distance or special numbers (976, 1900, 411, operator access, collect calls, etc.) Allow calls to (205) 555-XXXX, (205) 556-XXXX, and (205) 557-XXXX Allow 911.
1	911 Only
0	No Outside Calling

3. From the User Needs and Tenant Exchange Line Groups Worksheets, ARS levels are determined. This list is created by reviewing the different calling needs and assigning the least cost access levels to the lowest ARS level and working up to the highest cost ARS level.

Table A-10. Example - Origination ARS Level Plan

Originator ARS Level	ARS Level Properties
9	Full ARS Access
8	
7	
6	
5	
4	
3	In addition to ARS levels 0-2 access, allows high cost long distance exchange line access.
2	In addition to ARS levels 0 and 1 access, allows medium cost long distance exchange line access
1	In addition to ARS levels 0 access, allows local call access
0	Allows Birmingham (sister store) FX ARS access only

4. Next the Origination TRS and ARS level and queuing point enable/disable operation is determined for each class.

Using Table 7, "Example - User Needs Worksheet," on page 290, each unique origination class is listed. Using Table 9, "Example - Origination TRS Level Plan," on page 292 the TRS Level is determined for each class. Using Table 8, "Example - MCO Tenant/Exchange Line Groups Worksheet," on page 291 and Table 10, "Example - Origination ARS Level Plan," on page 293, the ARS level is determined for each class.

In this example, we enable Queuing Point so that the system will continuously check for the availability of a lower cost exchange line before selecting a higher cost exchange line.

Table A-11. Example - Origination TRS/ARS Class to Level Worksheet

Origination TRS Class		Origination TRS/ARS Level (0-9)		
Class Number	User Type(s) (Executive, Office, loading dock)	TRS Level	ARS Level	Queuing Point Continue?
1	Executive (Day/Night) Attendant (Day)	9	3	Y
2	Buyers (Day/Night)	4	3	Y
3	General Office (Day)	3	2	Y
4	General Office (Night) Attendant Group (Night) Retail Floor (Day/Night)	2	1	Y
5	Warehouse (Day/Night)	1	0	Y

Calls are screened by examining the initial digits dialled. A * is available as a wild card. This represents any single digit 1 to 9.

When prefix dial is being considered by the system, the system looks for the longest exact match first. The system considers a wildcard last.

5. Calls are screened by first considering the initial digits dialled. In this case, the first Prefix Dialled entry is a **1**. This will look at any number that starts with 1. A * is available as a wild card. This represents any single digit **1-9**.

When prefix dial is being considered by the system, the system looks for the longest exact match first. The system considers a wildcard last. For instance, **911** is considered before ***11** or even *****. Notice also in this example there are multiple entries that begin with **9**.

If the leading digits needed are to determine the handling of the call, then additional digits can be considered by entering a Prefix ID that references entries in the Analyse Digits Table. Otherwise, the Prefix ID is left blank and the additional items are considered.

In this example, we cross reference Prefix ID 1 in the Analyse Digits table for any dialled number that begins with 1 and Prefix ID 2 for any dialled number that begins with 0. The remaining digits are analysed in the Analyse Digits Table.

From Table 7, "Example - User Needs Worksheet," on page 290 and Table 9, "Example - Origination TRS Level Plan," on page 292, the restriction levels are determined for each type of dialled call.

We determine the Route Type depending on the type of call. If the time and or day impacts the cost, then the time list is used. If the time is not a factor, but multiple exchange line groups could be used, then the Route List is used. If a specific exchange line should be used, then we directly reference the Route Table.

Table A-12. Example - Leading Digits Worksheet

Pattern Number (1-100)	Prefix Dial (up to 10 digits)	Prefix ID (Go to this Prefix ID in Analyse Digits Tables)	Number of Following Digits	Restriction TRS Level (Any Origination TRS at this level or below will be restricted)	Route Type Route Table (0) Route List (1) Time List (2)	Route Pattern Number Route Table (1-200) Route List (1-100) or Time List (1-50)
1	1	1	N/A	N/A	N/A	N/A
2	101****	1	N/A	N/A	N/A	N/A
3	10***	1	N/A	N/A	N/A	N/A
4	01	2	N/A	N/A	N/A	N/A
5	0*	2	N/A	N/A	N/A	N/A
6	0	NA	N/A	8	N/A	N/A
7	911	N/A	N/A	0	Route Table (0)	1
8	*11	N/A	N/A	4	Route Table (0)	1
9	976	N/A	N/A	4	Route Table (0)	1
10	*	N/A	N/A	1	Route Table (0)	1

6. In this case, Prefix ID 1 links calls that have a dialled prefix of 1. Several entries are made to determine the restriction TRS level and the Route Type. The call originator must have a Origination TRS Level exceeding 1 for the call to be allowed. If any other analyse digits are dialled this would be covered by the three * wildcards (***) . In this case; the call originator must have a TRS level exceeding 2 for the call to be allowed.

Table A-13. Example - Analyse Digits Worksheet

Pattern Number (1-500)	Prefix ID	Digits to Analyse (in addition to the leading digits)	Number of Following Digits	Restriction TRS Level (Any Origination TRS at this level or below will be restricted)	Route Type Route Table (0) Route List (1) Time List (2)	Route Pattern Number Route Table (1-200) Route List (1-100) or Time List (1-50)
1	1	20555* (120555XXXXX)		1	Time List (2)	1
2	1	***976 (1NXX976XXXX)		8	Time List (2)	2
3	1	***5551212 (1NXX5551212)		2	Route Table (0)	1
4	1	800 (1800XXXXXXX)		1	Route Table (0)	1
5	1	888 (1888XXXXXXX)		1	Route Table (0)	1
6	1	900 (1900XXXXXXX)		8	Route Table (0)	1
7	1	*** (1NXXXXXX)		2	Time List (2)	2
8	2	*** (0XXXX... - Collect Call)		8	Time List (2)	3

- If call routing varies by day of week or special day, then separate time lists must be prepared. In this example, weekday call routing varies from weekends and holidays. Therefore two time list tables are completed. When a call is made, the system will check to see if this is a special day listed in a Time List Table. If so, it will use that table. If not, then it will check the day of week and use the associated table.

On weekdays, we know that Carrier B is less expensive from midnight (0000) to 7:59am and from 6pm (1800) to midnight). Carrier A is less expensive from 8am (0800) to 1759).

We then reference a route list pattern for each call entry.

Table A-14. Example -Time List Table 1

Time List Table 1										
Day Of Week: Sun <u> </u> Mon <u> X </u> Tue <u> X </u> Wed <u> X </u> Thu <u> X </u> Fri <u> X </u> Sat <u> </u>										
Special Days _____										
Time List Pattern Number (1-500)	Time Period 1		Time Period 2		Time Period 3		Time Period 4		Time Period 5	
	Start Time	Route List #	Start Time	Route List #	Start Time	Route List #	Start Time	Route List #	Start Time	Route List #
1	0000	1	0800	2	1800	1				
2	0000	3	0800	4	1800	3				
3	0000	5	0800	6	1800	5				
4										
5										
6										
7										
8										
9										
10										

On weekends, the time of day is not a cost factor. Therefore there is only one time period used.

Table A-15. Example -Time List Table 2

Time List Table 2										
Day Of Week: Sun <u>X</u> Mon ___ Tue ___ Wed ___ Thu ___ Fri ___ Sat <u>X</u>										
Special Days: <u>0101, 0704, 1127, 1225</u>										
Time List Pattern Number (1-500)	Time Period 1		Time Period 2		Time Period 3		Time Period 4		Time Period 5	
	Start Time	Route List #	Start Time	Route List #	Start Time	Route List #	Start Time	Route List #	Start Time	Route List #
1	0000	1								
2	0000	3								
3	0000	5								
4										
5										
6										
7										
8										
9										
10										

- 8. Each Route List Pattern consists of a one or more exchange line groups in sequence to check for an available exchange line.

Before a route is considered, the required ARS level is compared to the originator's ARS level. If the originator's ARS level is greater than or equal to the required ARS level, the exchange line group listed for the route will be searched for an available exchange line. If no exchange line is found, the system will attempt to use the next priority route.

In this example for Pattern 1, the system will first compare the Priority 1 ARS level for the call. If it is determined that the ARS level is acceptable, the system looks at the route # 4 (FX exchange line group). If there is an available exchange line, the system completes the call. If no FX exchange line is available during the queuing time, the system checks the ARS level for Priority 2. If acceptable, since Queuing Point is enabled the system will first attempt to find an available Priority 1 exchange line, and then attempt to find a Priority 2 WATS exchange line. If a Priority 2 exchange line is found, the system will first check to see if Warning Tone is set to Yes. In this example, there is no warning tone. If Yes, the system would issue a warning tone to the user before connecting the exchange line to allow the caller to hang up before using the higher cost exchange line. This process is repeated if necessary for the Priority 3 - Long Distance Carrier B and then Priority 4 - Long Distance Carrier A.

Table A-16. Example - Route List Table

Route List Table														
Route List Pattern Number (1-500)	Priority 1		Priority 2			Priority 3			Priority 4			Priority 5		
	Route #	ARS Level	Route #	ARS Level	Warning Tone	Route Table	ARS Level	Warning Tone	Route #	ARS Level	Warning Tone	Route #	ARS Level	Warning Tone
1	4 FX	1	5 WATS	2	NO	3 Night	3	NO	2 Day	3	No			
2	4 FX	1	5 WATS	2	NO	2 Day	3	NO	3 Night					
3	5 WATS	2	3 Night	3	NO	2 Day	3	NO						
4	5 WATS	2	2 Day	3	NO	3 Night	3	NO						
5	3 Night	2	2 Day	3	NO									
5	2 Day	2	3 Night	3	NO									

9. In this example, there are only 5 route patterns needed. The first three use the same exchange lines to the local Exchange Line. The first pattern does not modify the dialled digits. The second pattern uses the Digit Modify Pattern to add the Equal Access Code prefix for Long Distance Carrier A (preferred in the day time). The third pattern uses the Digit Modify Pattern to add the Equal Access Code prefix for Long Distance Carrier B (preferred at night and on week ends).

The fourth pattern selects the FX lines to Birmingham and selects a digit modify pattern that removes the first 4 digits dialled (1205) so that the call originates at the Exchange Line as a local call.

The fifth pattern selects the Out-WATS exchange lines. No digit modification is required for these exchange lines.

Table A-17. Example - Route Table

Route Pattern #	Exchange Line Group	Digit Modify Pattern # 0 (not modified), 1-50
1	1 - Local Exchange Line	0
2	1 - Local Exchange Line to Carrier "A" (Day preferred) (101XXXX)	1
3	1 - Local Exchange Line to Carrier "B" (Night/Weekend preferred (101YYYY)	2
4	2 - FX to Birmingham	3
5	3 - Out-WATS	0

Table A-18. Example - Digit Modify Table Route Table

Digit Modify Pattern #	Delete Digits (Prefix, up to 24 digits)	Add Digits (Prefix, up to 10)	Add Digits (Suffix, up to 10)
1	0	101XXXX	-
2	0	101YYYY	-
3	4	-	-

Index

About User Programming 70
 Access Codes
 MCO Trunk
 DSLTL 227
 Key Telephone 180
 SLT 263
 Account Codes
 DSLTL 189
 Key Telephone 108
 Non-verified
 Key Telephone 109
 SLT 231
 Non-Verified ID
 DSLTL 190
 SLT 231
 Verified ID
 DSLTL 191
 Key Telephone 110
 SLT 232
 Alarm Ringing 58
 Analog Device Capability
 Extension Interface 41
 Analyze Digits Table 269, 270
 ANSWER key 144
 ARS and TRS Operation 267
 ARS Configuration and Operation 282
 ARS Level 270
 ARS/TRS Features 269
 ARS/TRS Programming/Operation Overview 282
 Attendant Group Calls
 DSLTL 192
 Key Telephone 111
 SLT 233
 Attendant Groups
 System 22
 Auto Repeat Dial
 DSLTL 192
 Key Telephone 111
 Automatic Call Distributor (ACD) 23
 Automatic Call Waiting
 Camp-on
 DSLTL 208
 Key Telephone 133
 SLT 248
 Automatic Day/Night Mode 37
 Automatic Route Selection 267
 Automatic Route Selection (ARS) 23
 Automatic Trunk to Trunk Transfer 24

B

Background Music
 DSLTL 193
 Key Telephone 112
 System 25
 Background Music/MOH Separation 25
 Backup
 Battery 25
 Memory 46
 Battery Backup 25
 BGM/MOH Separation 25
 Blocking Outgoing Audio
 Mute Function 158
 Box
 Door 39
 Broker's Hold
 DSLTL 201
 Key Telephone 121
 SLT 241
 Building Block Expansion Capability 25
 Built-In Voice Processing Unit 26
 Busy Lamp Field (BLF) Ringing 57
 Busy Override
 DSLTL 194
 Key Telephone 113
 SLT 234

C

Call Barring 60
 Call Forward Busy Destination Extension
 Setting 99
 Call Forward ID Code
 Voice Mail (Third Party) 62
 Call Forward No Answer Destination Extension
 Setting 100
 Call Forwarding
 All Calls
 DSLTL 195
 Key Telephone 115
 SLT 235
 Busy
 DSLTL 196
 Key Telephone 116
 SLT 238
 Do-Not-Disturb
 DSLTL 198
 Key Telephone 117
 SLT 238
 DSLTL 195
 Key Telephone 115

- No Answer
 - DSLTL 196
 - Key Telephone 117
 - SLT 237
 - SLT 235
- Call Hold
 - Broker's Hold
 - DSLTL 201
 - Key Telephone 121
 - SLT 241
 - DSLTL 199
 - Exclusive Hold
 - DSLTL 200
 - Key Telephone 120
 - SLT 240
 - Floating Hold
 - Key Telephone 119
 - SLT 240
 - Floating HoldDSLTL 200
 - Key Telephone 118
 - SLT 239
 - System Hold
 - DSLTL 199
 - Key Telephone 118
 - SLT 239
- Call Logging
 - Output Format 59
- Call Park
 - DSLTL 203
 - Key Telephone 121, 201
 - SLT 243
- Call Pickup
 - DSLTL 203
 - Extension Direct Pickup
 - DSLTL 204
 - Key Telephone 124
 - SLT 244
 - Extension Group Pickup
 - DSLTL 203
 - Key Telephone 123
 - SLT 243
 - Key Telephone 123
 - SLT 243
- Call Progress Tones 27
- Call Routing
 - Network 53
- Call Transfer
 - DSLTL 206
 - Key Telephone 126
 - Network 53
 - SLT 245
 - Supervised
 - DSLTL 206
 - Key Telephone 126
 - SLT 246
 - Unsupervised
 - DSLTL 206
 - Key Telephone 127
 - SLT 246
- Call Waiting
 - (Automatic) Camp-on
 - DSLTL 208
 - Key Telephone 133
 - SLT 248
 - (Manual) Camp-on
 - DSLTL 208
 - Key Telephone 133
 - SLT 248
 - Camp-on
 - DSLTL 208
 - Key Telephone 133
 - SLT 248
- Callback
 - Message Key 155
 - Message Waiting
 - DSLTL 215
 - Key Telephone 156
 - SLT 255
- Callback Request
 - DSLTL 194
 - Key Telephone 114
 - SLT 234
- Caller ID Call Log
 - Key Telephone 129
- Caller ID Logging Extensions 101
 - Setting 101
- Calling
 - Network Extension 53
- Camping on Busy Extension
 - Call Transfer
 - DSLTL 207
 - Key Telephone 128
 - SLT 247
- Camp-on (Call Waiting)
 - Automatic
 - DSLTL 208
 - Key Telephone 133
 - SLT 248
 - DSLTL 208
 - Key Telephone 133
 - SLT 248
 - Manual
 - DSLTL 208
 - Key Telephone 133
 - SLT 248
 - SLT 248
- Centrex/PBX Compatibility 28
- Changing Display Contrast
 - Display Information 139

- Circular Hunt Group 44
 - CIT Capability 34
 - Class of Service
 - Walking TRS 184
 - Class of Service - Ext/Ext Restriction 29
 - Class of Service - Extension Feature 29
 - Class of Service - Trunk to Trunk Restriction 31
 - Class of Service - Trunk/Tie 28
 - Class of Service (COS) 28
 - CO Ringing Mode
 - Alarm Ringing 58
 - BLF Ringing 57
 - Day Ringing 55
 - Delayed Ringing 56
 - Slide Ringing 57
 - CO Ringing Types 31
 - DID Ringing 31
 - DIL 32
 - DISA 32
 - Multiple Ringing 32
 - CO Trunk Interface 33
 - CO Trunk Interface - DID 33
 - CO Trunk Interface - ISDN PRI 33
 - CO Trunk Interface - Loop Start 34
 - Compatibility
 - Centrex/PBX 28
 - Computer Telephony Integration (CTI) Capability 34
 - Conference Calls
 - Busy Override
 - DSL T 194
 - Key Telephone 113
 - SLT 234
 - DSL T 209
 - Eight-Party
 - DSL T 210
 - Key Telephone 136
 - SLT 250
 - Key Telephone 135
 - SLT 249
 - Three-Party
 - DSL T 209
 - Key Telephone 135
 - SLT 249
 - Connection
 - Tandem 53
 - Console
 - DSS/72 141
 - EM/24 141
 - Customizing Tool 55
- D**
-
- Data Security 34
 - Date
 - Setting 71
 - Day
 - Setting 71
 - Day Mode
 - Automatic 37
 - Day, Day 2 35
 - Manual 36
 - Day of Week Mode
 - Setting 97
 - Day Ringing 55
 - Day/Night Mode
 - Automatic 37
 - Manual 36
 - Day/Night System Mode 35
 - Delayed Ringing 56
 - Devices
 - Programming 54
 - Dialing
 - Onhook
 - DSL T 216
 - Key Telephone 164
 - Dialing Analysis 268, 270
 - Dialing Restriction During Inbound Calls 268
 - DID Trunk Interface 33
 - Digit Modify Table 271
 - Digital Pad 37
 - Digital Pad Class 37
 - Direct In Line Ringing
 - CO Ringing Types 32
 - Direct Inward Dial Ringing
 - CO Ringing Types 31
 - Direct Inward System Access (DISA) 38
 - Direct Inward System Access (DISA) Ringing
 - CO Ringing Types 32
 - Direct Line Appearances 154
 - Direct Trunk Access
 - DSL T 225
 - Key Telephone 178
 - SLT 262
 - DISA 38
 - Display Information 137
 - Changing Display Contrast 139
 - Large Display Phone 137
 - Small Display Phone 138
 - Distinctive Ringing 39
 - Distributed Hunt Group 43
 - Do-Not-Distrub (DND)
 - DSL T 211
 - Key Telephone 139
 - Do-Not-Disturb
 - Call Forwarding
 - DSL T 198
 - Key Telephone 117

- SLT 238
- Do-Not-Disturb (DND)
 - SLT 251
- Door Box 39
- Door Box Sensor 40
- Door Phone 39
- DP
 - Signal Conversion
 - DSLTL 212
 - Key Telephone 140
- DP to DTMF Signal Conversion
 - DSLTL 212
 - Key Telephone 140
- DP/DTMF Single Line Telephones (SLTs)
 - Extension Interface 41
- DSLTL Features 187
- DSS/72 Console 141
- DSS/BLF Appearances 152
- DTMF
 - Signal Conversion
 - DSLTL 212
 - Key Telephone 140

E

- Eight-Party Conference Calls
 - DSLTL 210
 - Key Telephone 136
 - SLT 250
- EM/24 Console 141
- Example ARS Configuration 285
- Example TRS Configuration 274
- Exception Day Mode
 - Setting 95
- Exclusive Hold
 - DSLTL 200
 - Key Telephone 120
 - SLT 240
- Expansion Capability 25
- Extension
 - Set Call Forward Busy Destination 99
 - Set Call Forward No Answer Destination 100
- Extension Calling 53
- Extension Direct Pickup
 - DSLTL 204
 - Key Telephone 124
 - SLT 244
- Extension Feature COS 29
- Extension Group Pickup
 - All Calls
 - DSLTL 203
 - Key Telephone 123
 - SLT 243

- DSLTL 203
 - External Calls
 - DSLTL 203
 - Key Telephone 123
 - SLT 243
 - Key Telephone 123
 - SLT 243
 - Specified Group Pickup
 - DSLTL 203
 - Key Telephone 123
 - SLT 243
- Extension Interface
 - Analog Device Capability 41
 - DP/DTMF Single Line Telephones (SLTs) 41
- Extension Interface 40
 - ISDN/BRI S-Point Interface 41
 - ISDN/PRI S-Point Interface 41
- Extension Name Assignments 47
- Extension Names
 - Setting 81
- Extension Restriction COS 29

F

- Facilities
 - Network 52
- Feature Access Codes
 - FF Key Assignment 145
- FF Key Assignment
 - Feature Access Codes 145
- FF Key Extender
 - DSS/72 141
 - EM/24 141
- FF Keys 142
- Flash Send
 - SLT 252
- Flash Signal
 - DSLTL 213
 - Key Telephone 142
- Flexible Function Keys 142
- Flexible Numbering Plan 42
- Floating Hold
 - DSLTL 200
 - Key Telephone 119
 - SLT 240
 - Virtual 62
- Forwarding
 - All Calls
 - DSLTL 195
 - Key Telephone 115
 - SLT 235
 - Busy
 - DSLTL 196

- Key Telephone 116
- SLT 238
- Do-Not-Disturb
 - DSLTL 198
 - Key Telephone 117
 - SLT 238
- DSLTL 195
- Key Telephone 115
- No Answer
 - DSLTL 196
 - Key Telephone 117
 - SLT 237
- SLT 235
- Free Slot 42

H

- Handset
 - Mute Function 158
- Handsfree
 - Answerback
 - Key Telephone 148
 - Operation
 - Key Telephone 149
- Handsfree Answerback
 - Key Telephone 148
- Handsfree Operation
 - Key Telephone 149
- Headset Operation 149
- Hold
 - Broker's Hold
 - DSLTL 201
 - Key Telephone 121
 - SLT 241
 - Exclusive Hold
 - DSLTL 200
 - Key Telephone 120
 - SLT 240
 - Floating Hold
 - DSLTL 200
 - Key Telephone 119
 - SLT 240
 - Music 46
 - System Hold
 - DSLTL 199
 - Key Telephone 118
 - SLT 239
- Hot Dial Pad 150
- Hot Line
 - DSLTL 213
 - Key Telephone 150
- Hunt Group
 - Circular 44

- Next Extension 44
- Pilot Distributed 43
- Pilot Terminal 43
- Switch Back 44
- Hunting Groups 43

I

- ID Codes
 - Setting 84
- Intercom Calling
 - DSLTL 214
 - Key Telephone 151
 - SLT 253
 - Tone Calling
 - DSLTL 214
 - Key Telephone 151
 - SLT 253
 - Voice Calling
 - DSLTL 214
 - Key Telephone 151
 - SLT 253
- Interface
 - Extension 40
 - ISDN/BRI 41
 - ISDN/PRI 41
 - Trunk 33
- Internal Hold Tone 45
- ISDN PRI Trunk Interface 33
- ISDN/BRI S-Point Interface
 - Extension Interface 41
- ISDN/PRI S-Point Interface
 - Extension Interface 41

K

- key
 - ANSWER 144
- Key Telephone
 - Illustration 108
 - Multi-CO (MCO) appearances 154
 - Key Telephone Features 105

L

- Large Display Phone
 - Display Information 137
- Last Number Redial
 - DSLTL 215
 - Key Telephone 152
 - SLT 254
- Leading Digits Table 268, 270

Least Cost Routing 267
 Line Appearances 152
 Direct Line Appearances 154
 DSS/BLF Appearances 152
 Line appearances
 Multi-CO (MCO) 154
 List of features 13
 Loop Start Trunk Interface 34

M

Maintenance
 Power On 54
 User 69
 Manual Call Waiting
 Camp-on
 DSLTL 208
 Key Telephone 133
 SLT 248
 Manual Day/Night Mode 36
 MCO Line Preference 179
 MCO Tenant Group 45
 MCO Trunk Access
 DSLTL 226
 Key Telephone 179
 SLT 262
 MCO Trunk Access Codes
 DSLTL 227
 Key Telephone 180
 SLT 263
 Meet-Me Answer
 Paging
 DSLTL 218
 Key Telephone 164
 SLT 256
 Memory Backup 46
 Message Key
 Message Wait Callback 155
 Priority Message Wait Callback 155
 Message Key ID Code
 Setting 85
 Voice Mail (Third Party) 65
 Message Keys 155
 Message Wait Callback
 Message Key 155
 Message Waiting (High Priority)
 Voice Mail 64
 Message Waiting/Callback
 DSLTL 215
 Key Telephone 156
 SLT 255
 Mode
 Day of Week Mode 97

 Exception Day 95
 Special Day 89
 Mode Schedule
 Setting 87
 MOH 25
 Multi-CO (MCO) appearances 154
 Multiple Ringing
 CO Ringing Types 32
 Music
 Background
 DSLTL 193
 Key Telephone 112
 Music-on-Hold (Background)
 DSLTL 193
 Key Telephone 112
 Music-on-Hold (MOH) 46
 Mute Function 158

N

Name Assignments 46
 Extension 47
 Speed Dial 50, 172
 Names
 Extension 81
 Network 53
 Network Call Routing 53
 Network Call Transfer 53
 Network Extension Calling 53
 Network Facilities 52
 Network Call Routing 53
 Network Call Transfer 53
 Network Extension Calling 53
 Network Paging 53
 Tandem Connection 53
 Network Paging 53
 Next Extension/Hunt Group 44
 Night Mode
 Automatic 37
 Manual 36
 Night, Night 2, Night 3 35
 Non-Blocking Architecture 53
 Non-verified Account Codes
 Key Telephone 109
 SLT 231
 Non-Verified ID Account Codes
 DSLTL 190
 Numbering Plan
 Flexible 42

O

Offhook

Monitor

Key Telephone 158

Signaling

DSL 217

Key Telephone 159, 254

Voice Announce

DSL 217

Key Telephone 160

SLT 255

Offhook Monitor

Key Telephone 158

Offhook Signaling

DSL 217

Key Telephone 159, 254

Offhook Voice Announce

DSL 217

Key Telephone 160

SLT 255

One-Touch Keys 162

Onhook Dialing

DSL 216

Key Telephone 164

Outgoing Dialed Digit Maximum 268

P

Pad

Digital 37

Pad Class 37

Paging

DSL 218

Key Telephone 164

Meet-Me Answer

DSL 218

Key Telephone 164

SLT 256

Network 53

SLT 256

PBX Compatibility 28

PC-Based Customizing Tool 55

Personal Speed Dialing (PSD)

DSL 220

Key Telephone 166

SLT 258

Pickup

DSL 203

Extension Direct Pickup

DSL 204

Key Telephone 124

SLT 244

Extension Group Pickup

All Calls

DSL 203

Key Telephone 123

SLT 243

DSL 203

External Calls

DSL 203

Key Telephone 123

SLT 243

Key Telephone 123

SLT 243

Specific Group

DSL 203

Key Telephone 123

SLT 243

Key Telephone 123

SLT 243

Pilot Distributed Hunt Group 43

Pilot Terminal Hunt Group 43

Port

Virtual 61

Power Failure Transfer 54

Power On Maintenance 54

Priority Message Wait Callback

Message Key 155

Programming Devices

Telephone 55

Programming Devices 54

PC-Based Customizing Tool 55

Programming Telephone 55

Progress Tones 27

PSD Names

Setting 73

PSD Numbers

Setting 72

Q

Queuing Point 270

R

Redial

Last Number

DSL 215

Key Telephone 152

SLT 254

Redial Key

Busy Tone

- DSLTL 192
 - Key Telephone 111
- Last Number
 - DSLTL 215
 - Key Telephone 152
- RELEASE key 144
- Reset Call
 - DSLTL 219
 - Key Telephone 165
 - SLT 257
- Restriction
 - Ext to Ext COS 29
- Ringing
 - Alarm 58
 - BLF 57
 - Day 55
 - Delayed 56
 - DID 31
 - DIL 32
 - DISA 32
 - Distinctive 39
 - Slide 57
- Ringing Line Preference 166
- Route List Table 271
- Route Table 271
- RS Level for Non-ARS Routing 268

S

- Schedule
 - Setting 87
- Security
 - Data 34
- Sensor
 - Door Box 40
- Separation
 - BGM/MOH 25
- Set Call Forward Busy Destination Extension 99
- Set Call Forward ID Code for Voice Mail 84
- Set Call Forward No Answer Destination Extension 100
- Set Caller ID Logging Extensions 101
- Set Day of Week Mode 97
- Set Exception Day Mode 95
- Set Extension Names 81
- Set Message Key ID Code 85
- Set Mode Schedule 87
- Set PSD Names 73
- Set PSD Numbers 72
- Set Special Day Mode 89
- Set SSD Index 80
- Set SSD Names 79
- Set SSD Numbers 78
- Set System Date/Time/Day 71

- Set Verified ID Codes 83
- Set Walking TRS Codes 98
- Signal Conversion
 - DP to DTMF
 - DSLTL 212
 - Key Telephone 140
- Single Line Telephone (SLT) Features 229
- Slide Ringing 57
- SLT Flash Send 252
- Small Display Phone
 - Display Information 138
- SMDR 58
- SMDR (Call Logging)
 - Output data format 59
- Software Version 11
- Special Day Mode
 - Setting 89
- Speed Dial Linking
 - DSLTL 223
 - Key Telephone 170
 - SLT 260
- Speed Dial Name Assignments 50, 172
- Speed Dialing
 - DSLTL 220
 - Key Telephone 166
 - Personal
 - DSLTL 220
 - Key Telephone 166
 - SLT 258
 - SLT 258
 - System
 - DSLTL 222
 - Key Telephone 169
 - SLT 259
- S-Point Interface
 - ISDN/BRI 41
 - ISDN/PRI 41
- SSD Index
 - Setting 80
- SSD Names
 - Setting 79
- SSD Numbers
 - Setting 78
- Star (*) and Pound (#) Dialing Restriction 268
- Station Message Detail Recording (SMDR) 58
- Supervised Call Transfer
 - DSLTL 206
 - Key Telephone 126
 - SLT 246
- Switch Back Hunt Group 44
- System
 - Background Music 25
- System Features 19
- System Hold

- DSLT 199
- Key Telephone 118
- SLT 239
- System Mode
 - Day 35
 - Day/Night 35
 - Night 35
- System Speed Dialing (SSD)
 - DSLT 222
 - Key Telephone 169
 - SLT 259

T

- Tandem Connection 53
- Telephone Programming 55
- Tenant Operation
 - MCO 45
- Third Party Voice Mail 62
- Three-Party Conference Calls
 - DSLT 209
 - Key Telephone 135
 - SLT 249
- Time
 - Setting 71
- Time List Table 271
- Timed Reminder Call
 - DSLT 224
 - Key Telephone 177
 - SLT 261
- Toll 60
- Toll Restriction Service 60, 267
- Toll Restriction Service (Call Barring) 60
- Toll Restriction Service (TRS) 55
- Tone
 - Internal Hold 45
- Tone Calling
 - Intercom Calling
 - DSLT 214
 - Key Telephone 151
 - SLT 253
- Tones
 - Call Progress 27
- Transfer
 - Automatic Trunk To Trunk 24
 - Camping on Busy Extension
 - DSLT 207
 - Key Telephone 128
 - SLT 247
 - DSLT 206
 - Key Telephone 126
 - Network Call 53
 - Power Failure 54

- SLT 245
- Supervised
 - DSLT 206
 - Key Telephone 126
 - SLT 246
- Unsupervised
 - DSLT 206
 - Key Telephone 127
 - SLT 246
- TRS 55
- TRS Class - ARS Routing 269
- TRS Class Features 268, 269
- TRS Codes
 - Walking 98
- TRS Configuration and Operation 271
- TRS Features 268
- TRS Level 269
- TRS Operation 267
- TRS Override on SSD Dialing 268
- TRS Programming/Operation Overview 272
- Trunk Access
 - Direct Trunk Access
 - DSLT 225
 - Key Telephone 178
 - SLT 262
 - MCO
 - DSLT 226
 - Key Telephone 179
 - SLT 262
 - MCO Line Preference 179
- Trunk Interface 33
 - DID 33
 - Loop Start 34
- Trunk Interface - ISDN PRI 33
- Trunk to Trunk Restriction COS 31
- Trunk To Trunk Transfer
 - Automatic 24
- Trunk/Tie COS 28

U

- Unsupervised Call Transfer
 - DSLT 206
 - Key Telephone 127
 - SLT 246
- User Maintenance 69
- User Programming 70

V

- Variable Mode 181
- Verified ID Account Codes

- DSLIT 191
- Key Telephone 110
- SLT 232
- Verified ID Codes
 - Setting 83
- Virtual Extension 62
- Virtual Port 61
 - Floating Hold 62
 - Virtual Extension 62
- Voice Calling
 - Intercom Calling
 - DSLIT 214
 - Key Telephone 151
 - SLT 253
- Voice Mail
 - Call Forward ID Code (Third Party) 62
 - High Priority Message Waiting 64
 - Message Key ID Code (Third Party) 65
- Voice Mail ID Codes
 - Setting 84
- Voice Mail Integration
 - Third Party 62
- Voice Mail Transfer Key 65
- Voice Processing Unit 26
- Voice Recognition 183
- Volume Control 184

W

- Walking TRS Class of Service 184
- Walking TRS Codes
 - Setting 98