

# **DX-1S Digital PABX Operation Manual**

**Version 6 - Draft 01**

Revised

on

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**CONNECTION ELECTRONICS LTD.**

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## TABLE OF CONTENTS

<b>1. INTRODUCTION.....</b>	<b>1-1</b>
<b>2. TONE PLAN.....</b>	<b>2-1</b>
2.1 DIAL TONE.....	2-1
2.2 FEATURE ACTIVATION DIAL TONE.....	2-1
2.3 BUSY TONE.....	2-1
2.4 RINGING TONE.....	2-1
2.5 CONFIRMATION TONE.....	2-1
2.6 OVERRIDE TONE.....	2-1
2.7 CALL WAITING TONE.....	2-1
2.8 BEEP TONE.....	2-1
2.9 MULTI-PARTY CONFERENCE TONE.....	2-2
2.10 SHUTTER DIAL TONE.....	2-2
2.11 TOLERANCES.....	2-2
<b>3. RINGING PLAN.....</b>	<b>3-1</b>
3.1 INCOMING TRUNK CALL RINGING.....	3-1
3.2 EXTENSION CALL RINGING.....	3-1
3.3 CALL BACK RINGING.....	3-1
3.4 DOOR PHONE RINGING.....	3-1
3.5 MESSAGE WAITING RINGING.....	3-1
3.6 TOLERANCES.....	3-1
<b>4. FEATURES INCLUDED IN THIS VERSION.....</b>	<b>4-1</b>
4.1 TYPE OF FEATURE.....	4-1
4.2 SYSTEM FEATURE LIST.....	4-1
4.3 MFC-1S CONSOLE FEATURE LIST.....	4-3
4.4 TOLL RESTRICTION FEATURE LIST.....	4-3
4.5 HOTEL/MOTEL FEATURE LIST.....	4-4
4.6 MAINTENANCE FEATURE LIST.....	4-4
<b>5. FEATURE ACCESS CODES.....</b>	<b>5-1</b>
5.1 FEATURE ACCESS CODES FOR DTMF TELEPHONE (DISABLE FLEXIBLE NUMBERING PLAN).....	5-1
5.2 FEATURE ACCESS CODES FOR DTMF TELEPHONE (ENABLE FLEXIBLE NUMBERING PLAN).....	5-3
5.3 FEATURE ACCESS CODES FOR PULSE TELEPHONE (DISABLE NUMBERING PLAN).....	5-5
5.4 FEATURE ACCESS CODES FOR PULSE TELEPHONE (ENABLE FLEXIBLE NUMBERING PLAN).....	5-7
<b>6. FEATURE DESCRIPTION.....</b>	<b>6-1</b>
6.1 ACCESS ATTENDANT CONSOLE.....	6-1
6.2 ACCESS DEFAULT TRUNK GROUP.....	6-1
6.3 ACCESS SPECIFIED TRUNK.....	6-1
6.4 ACCESS SPECIFIED TRUNK GROUP.....	6-2
6.5 ACCESS VM-1S (VOICE MAIL) PERSONAL MAIN MENU.....	6-2
6.6 ACCOUNT NUMBER DIALING CLASS.....	6-3
6.7 ACCOUNT NUMBER PASSWORD CONTROL.....	6-3
6.8 APPLY CALL RESTRICTION TO SPEED DIALING.....	6-4
6.9 ATTENDANT CALL SELECTION.....	6-4
6.10 ATTENDANT CONSOLE.....	6-5
6.11 AUTOMATIC ATTENDANT.....	6-5
6.12 AUTOMATIC CALL DISTRIBUTION (ACD).....	6-5
6.13 AUTOMATIC CALLBACK - BUSY EXTENSION.....	6-9
6.14 AUTOMATIC CALLBACK - BUSY TRUNK.....	6-9
6.15 AUTOMATIC PHONE/FAX DETECTION.....	6-10
6.16 AUTOMATIC SOFT-RESET.....	6-10
6.17 AUTOMATIC TONE/PULSE DETECTION.....	6-10
6.18 BATTERY BACKUP POWER SUPPLY.....	6-10
6.19 BUSY AND NO ANSWER TRANSFER.....	6-11
6.20 BUSY LAMP FIELD.....	6-11
6.21 BUSY TRANSFER - SEPARATE.....	6-11
6.22 CALIBRATED FLASH (<200MS FLASH).....	6-12
6.23 CALL BACK - BUSY OR NO ANSWER.....	6-12
6.24 CALL BACK - PARKED CALL.....	6-12
6.25 CALL DISCONNECT.....	6-12
6.26 CALL DISCONNECT - SPECIFIED TRUNK.....	6-13
6.27 CALL FORWARDING TO TRUNK.....	6-13
6.28 CALL HOLD.....	6-13

## DX-1S Digital PABX - Operation Manual

---

6.29	CALL MONITOR - EXTENSION .....	6-14
6.30	CALL MONITOR - SPECIFIED TRUNK .....	6-14
6.31	CALL OVERRIDE .....	6-14
6.32	CALL OVERRIDE - SPECIFIED TRUNK.....	6-15
6.33	CALL PARK - PERSONAL .....	6-15
6.34	CALL PARK TO EXTENSION.....	6-16
6.35	CALL PICKUP - ANY CALL.....	6-17
6.36	CALL PICKUP - EXTENSION PARKED CALL .....	6-17
6.37	CALL PICKUP - HUNTING GROUP.....	6-18
6.38	CALL PICKUP - MEET ME PAGING CALL .....	6-18
6.39	CALL PICKUP - PERSONAL.....	6-18
6.40	CALL PICKUP - PROGRAMMED EXTENSION.....	6-18
6.41	CALL PICKUP - RINGING EXTENSION .....	6-19
6.42	CALL SPLITTING.....	6-19
6.43	CALL STATUS DISPLAY .....	6-20
6.44	CALL TIME LIMITATION.....	6-20
6.45	CALL TRANSFER - CAMP ON.....	6-20
6.46	CALL TRANSFER - SCREENED.....	6-21
6.47	CALL TRANSFER - UNSCREENED.....	6-21
6.48	CALL TRANSFER THROUGH NETWORK - SCREENED .....	6-21
6.49	CALL TRANSFER THROUGH NETWORK - UNSCREENED .....	6-22
6.50	CALL WAITING.....	6-22
6.51	CALLER ID DISPLAY.....	6-22
6.52	CENTREX COMPATIBILITY (TRUNK FLASH).....	6-23
6.53	CHECK-IN / CHECK-OUT .....	6-23
6.54	CLASS OF SERVICE - EXTENSION DIALING CLASS.....	6-24
6.55	CLASS OF SERVICE - EXTENSION FEATURE CLASS .....	6-24
6.56	CLASS OF SERVICE - SYSTEM.....	6-24
6.57	CODES TABLES.....	6-24
6.58	COMMON CALL PARK.....	6-24
6.59	CONFERENCE.....	6-25
6.60	CONSOLE FEATURES.....	6-25
6.61	CONSOLE-LESS OPERATION .....	6-26
6.62	DAY/NIGHT SERVICE .....	6-26
6.63	DEFAULT TRUNK GROUP ACCESS .....	6-26
6.64	DIAGNOSTIC RESULT PRINTOUT.....	6-26
6.65	DID TRUNK SUPPORT.....	6-26
6.66	DIRECT LINE.....	6-26
6.67	DIRECTORY NUMBER.....	6-27
6.68	DISA INTERCOM PASSWORD CONTROL .....	6-27
6.69	DISA WITH VOICE MESSAGE.....	6-27
6.70	DISTINCTIVE DIAL TONE.....	6-31
6.71	DISTINCTIVE RINGING .....	6-31
6.72	DO NOT DISTURB.....	6-32
6.73	DOOR PHONE & DOOR LOCK OPERATION.....	6-32
6.74	DTMF TO PULSE CONVERSION.....	6-33
6.75	E&M TRUNK SUPPORT .....	6-33
6.76	EXTENSION DIALING CLASS .....	6-33
6.77	EXTENSION DIGIT DELETION.....	6-33
6.78	EXTENSION FEATURE CLASS .....	6-34
6.79	EXTENSION HUNTING GROUP .....	6-34
6.80	EXTENSION HUNTING GROUP - CIRCULAR HUNTING .....	6-34
6.81	EXTENSION HUNTING GROUP - TERMINAL HUNTING .....	6-34
6.82	EXTENSION STATUS DISPLAY .....	6-35
6.83	EXTENSION TOLL LOCKING .....	6-35
6.84	EXTENSION TRANSFER SECURITY.....	6-35
6.85	EXTERNAL MUSIC INPUT.....	6-35
6.86	FLASH DISABLE .....	6-36
6.87	FLASH PROM FOR AGENT'S DEFAULT DATA .....	6-36
6.88	FLASH TO RETAIN TRANSFERRED CALL.....	6-36
6.89	FLEXIBLE NUMBERING PLAN .....	6-36
6.90	FOLLOW ME .....	6-39
6.91	HARDWARE PROGRAMMING MODE PASSWORD SETTING.....	6-39
6.92	HARDWARE SYSTEM INITIALIZATION.....	6-39
6.93	HOT LINE TO EXTENSION.....	6-39
6.94	HOT LINE TO OUTSIDE PARTY.....	6-40
6.95	HOTEL NUMBERING PLAN.....	6-40
6.96	HOTEL/MOTEL FEATURES.....	6-40
6.97	HUNTING GROUP ALL RINGING .....	6-41
6.98	IDD AND LDD CODES TABLES.....	6-41

## DX-1S Digital PABX - Operation Manual

---

6.99	IDLE LINE PREFERENCE .....	6-41
6.100	IMMEDIATE CONNECT .....	6-41
6.101	INTERCOM CALL .....	6-42
6.102	INTERCOM CALL THROUGH NETWORK .....	6-42
6.103	INTERCOM CALL WAITING .....	6-42
6.104	LAST NUMBER REDIAL .....	6-43
6.105	LINE REVERSAL DETECTION .....	6-43
6.106	LOOP START NETWORK INSTALLATION .....	6-43
6.107	LOOP START NETWORKING .....	6-46
6.108	MAINTENANCE FEATURES .....	6-46
6.109	MANUAL SOFT-RESET .....	6-47
6.110	MEET ME PAGING .....	6-47
6.111	MEET ME PAGING TO TRANSFER CALL .....	6-47
6.112	MESSAGE WAITING .....	6-48
6.113	MESSAGE WAITING LAMP .....	6-48
6.114	MFC-1S DIGIT TO DTMF CONVERSION .....	6-49
6.115	MULTIPLE CONSOLES .....	6-49
6.116	MULTIPLE FUNCTION CONSOLE .....	6-49
6.117	MULTIPLE TRUNK GROUPS .....	6-49
6.118	MULTI-PARTY CONFERENCE .....	6-50
6.119	MUSIC ON HOLD .....	6-50
6.120	NO DIAL TONE .....	6-50
6.121	NO MEMORY BACKUP BATTERY REPLACEMENT .....	6-50
6.122	NON-VOLATILE PROGRAMMING DATA BACKUP .....	6-51
6.123	ON LINE DIAGNOSTIC .....	6-51
6.124	OUTWARD DIALING .....	6-51
6.125	NO ANSWER TRANSFER - SEPARATE .....	6-51
6.126	PAGING .....	6-52
6.127	PCM TRUNK SUPPORT .....	6-52
6.128	POWER FAILURE TRANSFER .....	6-52
6.129	PROGRAMMABLE EXTENSION NUMBERING PLAN .....	6-53
6.130	PROGRAMMABLE FEATURE ACCESS CODE .....	6-53
6.131	PROGRAMMABLE FLASH TIME .....	6-53
6.132	PROGRAMMABLE INCOMING CALL ASSIGNMENT .....	6-54
6.133	PROGRAMMABLE PHONE DIGIT PRINTOUT ON SMDR .....	6-54
6.134	PROGRAMMABLE TIMEOUT .....	6-54
6.135	PROGRAMMABLE TONE PLAN .....	6-55
6.136	PROGRAMMABLE TONE SIGNAL LEVEL .....	6-55
6.137	PROGRAMMABLE TRANSMISSION GAIN .....	6-55
6.138	PROGRAMMING DATA PRINTOUT .....	6-55
6.139	PULSE TO DTMF CONVERSION .....	6-55
6.140	RANGE PROGRAMMING .....	6-56
6.141	REMOTE IDD (REMOTE TRUNK ACCESS) .....	6-56
6.142	REMOTE MAINTENANCE .....	6-57
6.143	ROOM NUMBER CORRELATION .....	6-57
6.144	SELECTIVE SMDR DATA PRINTOUT .....	6-57
6.145	SET ACCOUNT PASSWORD .....	6-57
6.146	SET BUSY AND NO ANSWER TRANSFER FOR EXTENSION .....	6-58
6.147	SET DO NOT DISTURB FOR EXTENSION .....	6-58
6.148	SET FOLLOW ME FOR EXTENSION .....	6-59
6.149	SET PORT TO SLEEP MODE .....	6-59
6.150	SET WAKE UP SERVICE FOR EXTENSION .....	6-60
6.151	SETUP MFC-1S CONSOLE .....	6-60
6.152	SMDR BUFFER .....	6-61
6.153	SOFTWARE SYSTEM INITIALIZATION .....	6-61
6.154	SPEED DIALING .....	6-61
6.155	STATION MESSAGE DETAILED RECORDING (SMDR) .....	6-61
6.156	SYSTEM DIAGNOSTIC .....	6-64
6.157	SYSTEM INFORMATION DISPLAY .....	6-64
6.158	SYSTEM PASSWORD CONTROL .....	6-64
6.159	SYSTEM PROGRAMMING .....	6-64
6.160	TOLL RESTRICTION .....	6-64
6.161	TOLL RESTRICTION SCHEME .....	6-65
6.162	TRUNK ACCESS CODE INSERTION .....	6-65
6.163	TRUNK CALL DISCONNECT .....	6-66
6.164	TRUNK DIGIT INSERTION .....	6-66
6.165	TRUNK GROUP RESTRICTION .....	6-66
6.166	TRUNK NO ANSWER VOICE ANNOUNCEMENT .....	6-66
6.167	TRUNK REMOTE DISCONNECT .....	6-68
6.168	TRUNK STATUS DISPLAY .....	6-68

6.169 TRUNK TO TRUNK TRANSFER .....	6-68
6.170 TWO DIGITS DIALING FOR SERVICES.....	6-69
6.171 VOICE MESSAGE RECORDING.....	6-70
6.172 VOICE MAIL SYSTEM .....	6-71
6.173 WAKE UP SERVICE .....	6-72

**LIST OF FIGURES**

FIGURE 6-1 AUTOMATIC CALL DISTRIBUTION OPERATION FLOW CHART .....	6-7
FIGURE 6-2 DISA WITH VOICE MESSAGE FLOW CHART.....	6-29
FIGURE 6-3 LOOP START NETWORKING CONNECTION.....	6-45
FIGURE 6-4 DX-1S POWER FAILURE TRANSFER MODULE CIRCUIT DIAGRAM.....	6-52

**LIST OF TABLES**

TABLE 4-1 SYSTEM FEATURE LIST .....	4-2
TABLE 4-2 MFC-1S CONSOLE FEATURE LIST .....	4-3
TABLE 4-3 TOLL RESTRICTION FEATURE LIST.....	4-3
TABLE 4-4 HOTEL/MOTEL FEATURE LIST .....	4-4
TABLE 4-5 MAINTENANCE FEATURE LIST .....	4-4
TABLE 5-1 FEATURE ACCESS CODES FOR DTMF TELEPHONE (DISABLE FLEXIBLE NUMBERING PLAN) .....	5-2
TABLE 5-2 FEATURE ACCESS CODES FOR DTMF TELEPHONE (ENABLE FLEXIBLE NUMBERING PLAN) .....	5-4
TABLE 5-3 FEATURE ACCESS CODES FOR PULSE TELEPHONE (DISABLE FLEXIBLE NUMBERING PLAN).....	5-6
TABLE 5-4 FEATURE ACCESS CODES FOR PULSE TELEPHONE (ENABLE FLEXIBLE NUMBERING PLAN).....	5-8
TABLE 6-1 EXTENSION NUMBER DISPLAY FORMAT IN MFC-1S CONSOLE .....	6-35
TABLE 6-2 SMDR DISPLAY FORMAT .....	6-63
TABLE 6-3 TRUNK NUMBER DISPLAY FORMAT IN MFC-1S CONSOLE .....	6-68
TABLE 6-4 INBOUND SIGNALING FOR VOICE MAIL SYSTEM .....	6-72

## **1. INTRODUCTION**

This manual describes the features provided by **DX-1S Digital PABX System with V6.19 System Software** and **MFC-1S Console with V4.72 Software** installed. Since the features and operation will be various in different version software, the information in this manual may not be match if the system is installed with other version system software.

After system installation and programming, the system will provide a lot of features to the extension users. In order to operate and implement all the features, please go through this Operation Manual. It is very important to provide the customer training to the extension users on the basic operation of transferring, parking and picking up a call, making outgoing call and setting call forwarding, etc..

The Operation Manual is divided into the following sections:

- Introduction
- Tone Plan
- Ringing Plan
- Features Included In This Version
- Feature Access Code
- Feature Description

### **2. TONE PLAN**

The system generates different tone to indicate the current state to the extension user. For example, the dial tone and feature activation dial tone indicate the system is ready to receive the tone/pulse dialing, the busy tone indicates the called extensions or trunks are in busy or not available condition, the ringing tone indicates the called extension is ringing and waiting for answer, etc..

#### **2.1 DIAL TONE**

Frequency : 400Hz +/- 5%  
Level : -10dBm +/- 3dBm  
Periodicity : Continuous

#### **2.2 FEATURE ACTIVATION DIAL TONE**

Frequency : 400Hz +/- 5%  
Level : -10dBm +/- 3dBm  
Periodicity : 400ms on, 50ms off, period is 450ms

#### **2.3 BUSY TONE**

Frequency : 400Hz +/- 5%  
Level : -10dBm +/- 3dBm  
Periodicity : 350ms on, 350ms off, period is 700ms

#### **2.4 RINGING TONE**

Frequency : 400Hz +/- 5%  
Level : -10dBm +/- 3dBm  
Periodicity : 1s on, 4s off, period is 5s  
Remark: With 0.4s immediate ringing tone

#### **2.5 CONFIRMATION TONE**

Frequency : 400Hz +/- 5%  
Level : -10dBm +/- 3dBm  
Periodicity : Two bursts of (0.2s on, 0.2s off)

#### **2.6 OVERRIDE TONE**

Frequency : 400Hz +/- 5%  
Level : -20dBm +/- 3dBm  
Periodicity : Three bursts of (0.2s on, 0.8s off)

#### **2.7 CALL WAITING TONE**

Frequency : 400Hz +/- 5%  
Level : -20dBm +/- 3dBm  
Periodicity : Two bursts of (0.2s on, 0.2off)

#### **2.8 BEEP TONE**

Frequency : 400Hz +/- 5%  
Level : -10dBm +/- 3dBm  
Periodicity : One burst of (0.2s on)



## **2.9 MULTI-PARTY CONFERENCE TONE**

Frequency : 400Hz +/- 5%  
Level : -10dBm +/- 3dBm  
Periodicity : 4 bursts of 100ms on, 100ms off

## **2.10 SHUTTER DIAL TONE**

Frequency : 400Hz +/- 5%  
Level : -10dBm +/- 3dBm  
Periodicity : 4 bursts of 100ms on, 100ms off, then continuous (dial tone).

## **2.11 TOLERANCES**

- a) Cadence : The time tolerance for tone period is +/- 10% of normal value.
- b) Harmonic Distortion : The Total Harmonic Distortion of each tone do not exceed 5%.
- c) Waveform : The waveform of the tone is sinusoidal.

### **3. RINGING PLAN**

The system rings the extension in different patterns to indicate different states to the extension user. For example, the incoming trunk call ringing indicates there is a trunk call waiting to answer, the extension call ringing indicates an internal call is waiting to answer, the call back tone tells the extension user that a held call or transferred call is calling back to the extension, etc..

#### **3.1 INCOMING TRUNK CALL RINGING**

Frequency : 25Hz +/- 3Hz  
Level : AC 75Vrms +/- 15V  
Periodicity : 0.4s on, 0.2s off, 0.4s on, 4s off, period is 5s  
Remark: With 0.4s immediate ringing

#### **3.2 EXTENSION CALL RINGING**

Frequency : 25Hz +/- 3Hz  
Level : AC 75Vrms +/- 15V  
Periodicity : 1s on, 4s off, period is 5s  
Remark: With 0.4s immediate ringing

#### **3.3 CALL BACK RINGING**

Frequency : 25Hz +/- 3Hz  
Level : AC 75Vrms +/- 15V  
Periodicity : 0.5s on, 0.5s off, period is 1s

#### **3.4 DOOR PHONE RINGING**

Frequency : 25Hz +/- 3Hz  
Level : AC 75Vrms +/- 15V  
Periodicity : 0.2s on, 0.2s off, 0.2s on, 0.2s off, 0.2s on, 2s off, period is 3s

#### **3.5 MESSAGE WAITING RINGING**

Frequency : 25Hz +/- 3Hz  
Level : AC 75Vrms +/- 15V  
Periodicity : Three bursts of (0.2s on, 0.2s off)

#### **3.6 TOLERANCES**

- a) Cadence - The time tolerance for ringing period will be +/- 10% of normal value.
- b) Harmonic Distortion - The Total Harmonic Distortion of each tone would not exceed 10%.
- c) Waveform - The waveform of the tone is sinusoidal.

## **4. FEATURES INCLUDED IN THIS VERSION**

### **4.1 TYPE OF FEATURE**

The features in DX-1S Digital PABX are divided into several groups :

- System Features
- MFC-1S Console Features
- Toll Restriction Features
- Hotel/Motel Features
- Maintenance Features

### **4.2 SYSTEM FEATURE LIST**

The System Features are the features which applied over the system and not restricted to use in extensions or consoles :

<b>FEATURES</b>	
Access Attendant Console	Extension Digit Deletion
Access Default Trunk Group	Extension Feature Class
Access Specified Trunk	Extension Hunting Group
Access Specified Trunk Group	Extension Hunting Group - Circular Hunting
Attendant Console	Extension Hunting Group - Terminal Hunting
Automatic Attendant	Extension Toll Locking
Automatic Callback - Busy Extension	Extension Transfer Security
Automatic Callback - Busy Trunk	External Music Input
Automatic Phone/Fax Detection	Flash Disable
Automatic Tone/Pulse Detection	Flash to Retain Transferred Call
Battery Backup Power Supply	Flexible Numbering Plan
Busy and No Answer Transfer	Follow Me
Busy Transfer – Separate	Hot Line to Extension
Calibrated Flash (<200ms Flash)	Hot Line To Outside Party
Call Back - Busy and No Answer	Hunting Group All Ringing
Call Back - Park Call	Idle Line Preference
Call Disconnect	Immediate Connect
Call Disconnect – Specified Trunk	Intercom Call
Call Forwarding To Trunk	Intercom Call Through Network
Call Hold	Intercom Call Waiting
Call Monitor – Extension	Last Number Redial
Call Monitor – Specified Trunk	Line Reversal Detection
Call Override	Loop Start Network Installation
Call Override – Specified Trunk	Loop Start Networking
Call Park - Personal	Meet Me Paging
Call Park To Extension	Meet Me Paging To Transfer Call
Call Pickup - Any Call	Message Waiting
Call Pickup - Extension Parked Call	Message Waiting Lamp
Call Pickup - Hunting Group	Multiple Consoles
Call Pickup - Meet Me Paging Call	Multiple Trunk Groups
Call Pickup - Personal	Multi-Party Conference
Call Pickup - Programmed Extension	Music on Hold
Call Pickup - Ringing Extension	No Answer Transfer - Separate
Call Splitting	No Dial Tone
Call Time Limitation	Outward Dialing

Call Transfer	Paging
Call Transfer - Camp On	PCM Trunk Support
Call Transfer - Screened	Power Failure Transfer
Call Transfer - Unscreened	Programmable Extension Numbering Plan
Call Transfer Through Network - Screened	Programmable Feature Access Code
Call Transfer Through Network - Unscreened	Programmable Flash Time
Call Waiting	Programmable Incoming Call Assignment
Caller ID Display	Programmable Phone Digit Printout on SMDR
Centrex Compatibility (Trunk Flash)	Programmable Timeout
Class of Service - Extension Dialing Class	Programmable Tone Plan
Class of Service - Extension Feature Class	Programmable Tone Signal Level
Class of Service - System	Programmable Transmission Gain
Common Call Park	Pulse To DTMF Dialing
Conference	Remote IDD
Console-less Operation	Selective SMDR Data Printout
Day/Night Service	SMDR Buffer
Default Trunk Group Access	Speed Dialing
DID Trunk Support	Station Message Detailed Recording (SMDR)
Direct Line	Trunk Access Code Insertion
Directory Number	Trunk Call Disconnect
DISA Intercom Password Control	Trunk Digit Insertion
DISA With Voice Message	Trunk Group Restriction
Distinctive Dial Tone	Trunk No Answer Announcement
Distinctive Ringing	Trunk Remote Disconnect
Do Not Disturb	Trunk Status Display
Door Lock Operation	Trunk To Trunk Transfer
Door Phone	Voice Mail System
DTMF To Pulse Conversion	Voice Message Recording
E&M Trunk Support	

**Table 4-1 SYSTEM FEATURE LIST**

### **4.3 MFC-1S CONSOLE FEATURE LIST**

The MFC-1S Console can operate all the System Features and the Console Features. The console features can only be operated in console station :

<b>FEATURES</b>
Attendant Call Selection
Attendant Console
Busy Lamp Field (BLF)
Call Status Display
Caller ID Display
Console Features
Extension Status Display
MFC-1S Digit To DTMF Conversion
Multiple Consoles
Multiple Function Console
Programming Data Printout
Set Busy And No Answer Transfer For Extension
Set Do Not Disturb For Extension
Set Follow Me For Extension
Set Port To Sleep Mode
Set Wake Up Service For Extension
Setup MFC-1S Console
System Information Display
System Programming

**Table 4-2 MFC-1S CONSOLE FEATURE LIST**

### **4.4 TOLL RESTRICTION FEATURE LIST**

The Toll Restriction Features are the features which control the extension from make outgoing calls and generate records for call accounting purpose:

<b>FEATURES</b>
Account Number Dialing Class
Account Number Password Control
Apply Call Restriction To Speed Dialing
Codes Tables
Extension Dialing Class Control
IDD & LDD Codes Tables
Set Account Password
Toll Restriction
Toll Restriction Scheme

**Table 4-3 TOLL RESTRICTION FEATURE LIST**

#### **4.5 HOTEL/MOTEL FEATURE LIST**

The Hotel/Motel Features are the features may use in a hotel/motel for room services and billing of calls :

<b>FEATURES</b>
Check-in / Check-out
Do Not Disturb
Hotel / Motel Features
Hotel Numbering Plan
Room Number Correlation
Two Digits Dialing For Services
Wake Up Service

**Table 4-4 HOTEL/MOTEL FEATURE LIST**

#### **4.6 MAINTENANCE FEATURE LIST**

The Maintenance Features are the features to assist maintenance persons to maintain the system :

<b>FEATURES</b>
Automatic Soft-Reset
Diagnostic Result Printout
Flash PROM for Agent's Default Data
Hardware Programming Mode Password Setting
Hardware System Initialization
Maintenance Features
Manual Soft-Reset
No Memory Backup Battery Replacement
Non-Volatile Programming Data Backup
On-line Diagnostic
Programming Data Printout
Range Programming
Remote Maintenance
Software System Initialization
System Diagnostic
System Password Control

**Table 4-5 MAINTENANCE FEATURE LIST**

## 5. FEATURE ACCESS CODES

### 5.1 FEATURE ACCESS CODES FOR DTMF TELEPHONE (DISABLE FLEXIBLE NUMBERING PLAN)

Feature Access Code	Feature
0 or 9	Access Operator or Default Trunk Group
10 ~ 59 or 100 ~ 599 or 1000 ~ 5999	Directory Number
2 (when busy tone is heard)	Call Monitor
3 (when busy tone is heard)	Automatic Call Back
4 (when busy tone is heard)	Call Override
5 (when busy tone is heard)	Call Disconnect
6 (when busy tone is heard)	Immediate Connect
7 (when busy tone is heard)	Set extension to Sleep Mode
8 (when busy tone is heard)	Change extension into Broadcast Conference (listen only)
9 (when busy tone is heard)	Change extension into Multi-party Conference (both-way)
6 AAAA BBBB	Access Account Code Password Control
70 or 700	Last Number Redial
71 ~ 79 or 701 ~ 716	Access Trunk Group
80 ~ 89	Access Hotel Services (For Hotel Telephone Only)
80 ~ 89 or 800 ~ 899 or 8000 ~ 8299	Access Speed Dialing
9 or 0	Access Default Trunk Group or Operator
* 0 or 640	Call Park – Personal
* 6 N or 646 N	Set / Retrieve Common Call Park
* 7 or 67	Trunk Flash
* 8 or 68	Paging & Meet Me Paging
* 9 or 69	Turn On Door Lock
* EEEE or 64 EEEE	Call Park to Extension
# 0 or 630	Call Pickup – Personal
# 6 N or 636 N	Retrieve Common Call Park
# 7 TT or 637 TT	Access Specified Trunk
# 8 or 638	Call Pickup – Meet Me Paging Call
# 9 or 639	Call Pickup – Any Call
# EEEE or 63 EEEE	Call Pickup – Ringing Extension & Extension Parked Call
** 00 AAAA BBBB QQQQ KKKK	Set Account Code Password
** 01 or 6601	Set Do Not Disturb
** 02 EEEE or 6602 EEEE	Set Follow Me
** 02 SSSS or 6602 SSSS	
** 03 EEEE or 6603 EEEE	Set Busy and No Answer Transfer
** 03 SSSS or 6603 SSSS	
** 04 HH NN or 6604 HH NN	Set Wake Up Service
** 05 MMMM or 6605 MMMM	Access VM-1S (Voice Mail) Personal Main Menu
** 06 EEEE or 6606 EEEE	Set Message Waiting
** 07 BBBB C or 6607 BBBB C	Set User Defined Dialing Class
** 08 EEEE or 6608 EEEE	Set Busy Transfer
** 08 SSSS or 6608 SSSS	
** 09 EEEE or 6609 EEEE	Set No Answer Transfer
** 09 SSSS or 6609 SSSS	
** 11 or 6611	Set Day Mode
** 13 PPPP or 6613 PPPP	Enter Voice Message Recording Mode
** 14 M or 6614 M	Trunk No Answer Voice Announcement Selection
** 15 TT or 6615 TT	Trunk Call Disconnect

** 8 or 668	Set Multi-party Conference
** 9 or 669	Set Broadcast Conference
620	Call Pick Up – Personal
626 N	Retrieve Common Call Park
628	Call Pickup - Meet Me Paging Call
629	Call Pickup - Any Call
# * 0	Answer Extension Queue
# * 7 TT	Answer Specified Trunk
# * 9	Answer PCM Queue / Trunk Queue / Extension Queue
# * EEEE	Answer Specified Extension
## 00 or 6500	Cancel Follow Me and Do Not Disturb
## 01 or 6501	Cancel Do Not Disturb
## 02 or 6502	Cancel Follow Me
## 03 or 6503	Cancel Busy and No Answer Transfer
## 04 or 6504	Cancel Wake Up Service
## 06 EEEE or 6506 EEEE	Cancel Message Waiting
## 08	Cancel Busy Transfer
## 09	Cancel No Answer Transfer
## 11 or 6511	Set Night Mode
## 13 Z or 6513 Z	Set ACD Queue size
## 15 EEEE 2	Monitor extension
## 15 EEEE 3	Automatic Call back extension
## 15 EEEE 4	Override extension
## 15 EEEE 5	Disconnect talking extension
## 15 EEEE 6	Immediate Connect extension
## 15 EEEE 7	Set extension to Sleep Mode
## 15 EEEE 8	Change extension into Broadcast Conference (listen only)
## 15 EEEE 9	Change extension into Multi-party Conference (both-way)
## 9 or 659	Clear Multi-party Conference
TT – Trunk Number (01 ~ 60) EEEE – Directory Number of Extension (10 ~ 59 or 100 ~ 599 or 1000 ~ 5999) SSSS – Speed Dialing Memory (80 ~ 89 or 800 ~ 899 or 8000 ~ 8299) M – Trunk No Answer Mode Message Number (0 ~ 3) PPPP – Programming Password (0000 ~ 9999) AAAA – Account Code for Account Code Password Control (0000 ~ 1999) BBBB – Account Password (0000 ~ 9999) QQQQ – New Account Password (0000 ~ 9999) KKKK – New Account Password for verification(0000 ~ 9999) MMMM – Voice Mail Directory Number N – Common Call Park Location (1 ~ 8) HH – Hour (00 ~ 23), NN - Minute (00 ~ 59) C – Dialing Class (0 ~ 7) Z – ACD Queue size (0 ~ 6)	

**Table 5-1 FEATURE ACCESS CODES FOR DTMF TELEPHONE (DISABLE FLEXIBLE NUMBERING PLAN)**



## 5.2 FEATURE ACCESS CODES FOR DTMF TELEPHONE (ENABLE FLEXIBLE NUMBERING PLAN)

Feature Access Code (Default Value)	Feature
<b>0</b> or <b>9</b>	Access Operator or Default Trunk Group
<b>10 ~ 59</b> or <b>100 ~ 599</b> or <b>1000 ~ 5999</b>	Directory Number
<b>2</b> (when busy tone is heard)	Call Monitor
<b>3</b> (when busy tone is heard)	Automatic Call Back
<b>4</b> (when busy tone is heard)	Call Override
<b>5</b> (when busy tone is heard)	Call Disconnect
<b>6</b> (when busy tone is heard)	Immediate Connect
<b>7</b> (when busy tone is heard)	Set extension to Sleep Mode
<b>8</b> (when busy tone is heard)	Change extension into Broadcast Conference (listen only)
<b>9</b> (when busy tone is heard)	Change extension into Multi-party Conference (both-way)
<b>6</b> AAAA BBBB	Access Account Code Password Control
<b>70</b> or <b>700</b>	Last Number Redial
<b>71 ~ 79</b> or <b>701 ~ 716</b>	Access Trunk Group
<b>80 ~ 89</b>	Access Hotel Services (For Hotel Telephone Only)
<b>80 ~ 89</b> or <b>800 ~ 899</b> or <b>8000 ~ 8299</b>	Access Speed Dialing
<b>9</b> or <b>0</b>	Access Default Trunk Group or Operator
* <b>0</b> or <b>640</b>	Call Park – Personal
* <b>6 N</b> or <b>646 N</b>	Set / Retrieve Common Call Park
* <b>7</b> or <b>67</b>	Trunk Flash
* <b>8</b> or <b>68</b>	Paging & Meet Me Paging
* <b>9</b> or <b>69</b>	Turn On Door Lock
# <b>0</b> or <b>630</b>	Call Pickup – Personal
# <b>6 N</b> or <b>636 N</b>	Retrieve Common Call Park
# <b>7 TT</b> or <b>637 TT</b>	Access Specified Trunk
# <b>8</b> or <b>638</b>	Call Pickup - Meet Me Paging Call
# <b>9</b> or <b>639</b>	Call Pickup - Any Call
# <b>EEEE</b> or <b>63 EEEE</b>	Call Park To Extension / Call Pickup – Ringing Extension / Extension Parked Call
** <b>00 AAAA BBBB QQQQ KKKK</b>	Set Account Code Password
** <b>01</b> or <b>6601</b>	Set Do Not Disturb
** <b>02 EEEE</b> or <b>6602 EEEE</b> ** <b>02 SSSS</b> or <b>6602 SSSS</b>	Set Follow Me
** <b>03 EEEE</b> or <b>6603 EEEE</b> ** <b>03 SSSS</b> or <b>6603 SSSS</b>	Set Busy and No Answer Transfer
** <b>04 HH NN</b> or <b>6604 HH NN</b>	Set Wake Up Service
** <b>05 MMMM</b> or <b>6605 MMMM</b>	Access VM-1S (Voice Mail) Personal Main Menu
** <b>06 EEEE</b> or <b>6606 EEEE</b>	Set Message Waiting
** <b>07 BBBB C</b> or <b>6607 BBBB C</b>	Set User Defined Dialing Class
** <b>08 EEEE</b> or <b>6608 EEEE</b> ** <b>08 SSSS</b> or <b>6608 SSSS</b>	Set Busy Transfer
** <b>09 EEEE</b> or <b>6609 EEEE</b> ** <b>09 SSSS</b> or <b>6609 SSSS</b>	Set No Answer Transfer
** <b>11</b> or <b>6611</b>	Set Day Mode
** <b>13 PPPP</b> or <b>6613 PPPP</b>	Enter Voice Message Recording Mode
** <b>14 M</b> or <b>6614 M</b>	Trunk No Answer Voice Announcement Selection
** <b>15 TT</b> or <b>6615 TT</b>	Trunk Call Disconnect
** <b>8</b> or <b>668</b>	Set Multi-party Conference

** 9 or 669	Set Broadcast Conference
*# 0 or 620	Call Pick Up - Personal
*# 6 N or 626 N	Retrieve Common Call Park
*# 7 TT or 627 TT	Access Specified Trunk
*# 8 or 628	Call Pickup - Meet Me Paging Call
*# 9 or 629	Call Pickup - Any Call
<b># * 0</b>	Answer Extension Queue
<b># * 7 TT</b>	Answer Specified Trunk
<b># * 9</b>	Answer PCM Queue / Trunk Queue / Extension Queue
<b># * EEEE</b>	Answer Specified Extension
## 00 or 6500	Cancel Follow Me and Do Not Disturb
## 01 or 6501	Cancel Do Not Disturb
## 02 or 6502	Cancel Follow Me
## 03 or 6503	Cancel Busy and No Answer Transfer
## 04 or 6504	Cancel Wake Up Service
## 06 EEEE or 6506 EEEE	Cancel Message Waiting
## 08 or 6508	Cancel Busy Transfer
## 09 or 6509	Cancel No Answer Transfer
## 11 or 6511	Set Night Mode
## 13 Z or 6513 Z	Set ACD Queue size
## 15 EEEE 2	Monitor extension
## 15 EEEE 3	Automatic Call back extension
## 15 EEEE 4	Override extension
## 15 EEEE 5	Disconnect talking extension
## 15 EEEE 6	Immediate Connect extension
## 15 EEEE 7	Set extension to Sleep Mode
## 15 EEEE 8	Change extension into Broadcast Conference (listen only)
## 15 EEEE 9	Change extension into Multi-party Conference (both-way)
## 9 or 659	Clear Multi-party Conference
<p><b>Remark: The <i>access code</i> in bold, italic and larger font indicates it will change according to Flexible Numbering plan setting.</b></p> <p>TT – Trunk Number (01 ~ 60)</p> <p>EEEE – Directory Number of Extension (<b>10</b> ~ <b>59</b> or <b>100</b> ~ <b>599</b> or <b>1000</b> ~ <b>5999</b>)</p> <p>SSSS – Speed Dialing Memory (<b>80</b> ~ <b>89</b> or <b>800</b> ~ <b>899</b> or <b>8000</b> ~ <b>8299</b>)</p> <p>M – Trunk No Answer Mode Message Number (0 ~ 3)</p> <p>PPPP – Programming Password (0000 ~ 9999)</p> <p>AAAA – Account Code for Account Code Password Control (0000 ~ 1999)</p> <p>BBBB – Account Password (0000 ~ 9999)</p> <p>QQQQ – New Account Password (0000 ~ 9999)</p> <p>KKKK – New Account Password for verification(0000 ~ 9999)</p> <p>MMMM – Voice Mail Directory Number</p> <p>N – Common Call Park Location (1 ~ 8)</p> <p>HH – Hour (00 ~ 23), NN - Minute (00 ~ 59)</p> <p>C – Dialing Class (0 ~ 7)</p> <p>Z – ACD Queue size (0 ~ 6)</p>	

**Table 5-2 FEATURE ACCESS CODES FOR DTMF TELEPHONE (ENABLE FLEXIBLE NUMBERING PLAN)**

### 5.3 FEATURE ACCESS CODES FOR PULSE TELEPHONE (DISABLE NUMBERING PLAN)

Feature Access Code	Feature
0 or 9	Access Operator or Default Trunk Group
10 ~ 59 or 100 ~ 599 or 1000 ~ 5999	Directory Number
2 (when busy tone is heard)	Call Monitor
3 (when busy tone is heard)	Automatic Call Back
4 (when busy tone is heard)	Call Override
5 (when busy tone is heard)	Call Disconnect
6 (when busy tone is heard)	Immediate Connect
7 (when busy tone is heard)	Set extension to Sleep Mode
8 (when busy tone is heard)	Change extension into Broadcast Conference (listen only)
9 (when busy tone is heard)	Change extension into Multi-party Conference (both-way)
6 AAAA BBBB	Access Account Code Password Control
70 or 700	Last Number Redial
71 ~ 79 or 701 ~ 716	Access Trunk Group
80 ~ 89	Access Hotel Services (For Hotel Telephone Only)
80 ~ 89 or 800 ~ 899 or 8000 ~ 8299	Access Speed Dialing
9 or 0	Access Default Trunk Group or Operator
640	Call Park – Personal
646 N	Set / Retrieve Common Call Park
67	Trunk Flash
68	Paging & Meet Me Paging
69	Turn On Door Lock
64 EEEE	Call Park to Extension
630	Call Pickup – Personal
636 N	Retrieve Common Call Park
637 TT	Access Specified Trunk
638	Call Pickup – Meet Me Paging Call
639	Call Pickup – Any Call
63 EEEE	Call Pickup – Ringing Extension & Extension Parked Call
6601	Set Do Not Disturb
6602 EEEE or 6602 SSSS	Set Follow Me
6603 EEEE or 6603 SSSS	Set Busy and No Answer Transfer
6604 HH NN	Set Wake Up Service
6605 MMMM	Access VM-1S (Voice Mail) Personal Main Menu
6606 EEEE	Set Message Waiting
6607 BBBB C	Set User Defined Dialing Class
6608 EEEE or 6608 SSSS	Set Busy Transfer
6609 EEEE or 6609 SSSS	Set No Answer Transfer
6611	Set Day Mode
6613 PPPP	Enter Voice Message Recording Mode
6614 M	Trunk No Answer Voice Announcement Selection
6615 TT	Trunk Call Disconnect
668	Set Multi-party Conference
669	Set Broadcast Conference
620	Call Pick Up – Personal
626 N	Retrieve Common Call Park
628	Call Pickup - Meet Me Paging Call
629	Call Pickup - Any Call
6500	Cancel Follow Me and Do Not Disturb

6501	Cancel Do Not Disturb
6502	Cancel Follow Me
6503	Cancel Busy and No Answer Transfer
6504	Cancel Wake Up Service
6506 EEEE	Cancel Message Waiting
6511	Set Night Mode
6513 Z	Set ACD Queue size
659	Clear Multi-party Conference
TT – Trunk Number (01 ~ 60) EEEE – Directory Number of Extension (10 ~ 59 or 100 ~ 599 or 1000 ~ 5999) SSSS – Speed Dialing Memory (80 ~ 89 or 800 ~ 899 or 8000 ~ 8299) M – Trunk No Answer Mode Message Number (0 ~ 3) PPPP – Programming Password (0000 ~ 9999) MMMM – Voice Mail Directory Number N – Common Call Park Location (1 ~ 8) HH – Hour (00 ~ 23), NN - Minute (00 ~ 59) C – Dialing Class (0 ~ 7) Z – ACD Queue size (0 ~ 6)	

**Table 5-3 FEATURE ACCESS CODES FOR PULSE TELEPHONE (DISABLE FLEXIBLE NUMBERING PLAN)**

#### 5.4 FEATURE ACCESS CODES FOR PULSE TELEPHONE (ENABLE FLEXIBLE NUMBERING PLAN)

Feature Access Code (Default Value)	Feature
<b>0</b> or <b>9</b>	Access Operator or Default Trunk Group
<b>10 ~ 59</b> or <b>100 ~ 599</b> or <b>1000 ~ 5999</b>	Directory Number
2 (when busy tone is heard)	Call Monitor
3 (when busy tone is heard)	Automatic Call Back
4 (when busy tone is heard)	Call Override
5 (when busy tone is heard)	Call Disconnect
6 (when busy tone is heard)	Immediate Connect
7 (when busy tone is heard)	Set extension to Sleep Mode
8 (when busy tone is heard)	Change extension into Broadcast Conference (listen only)
9 (when busy tone is heard)	Change extension into Multi-party Conference (both-way)
<b>6</b> AAAA BBBB	Access Account Code Password Control
<b>70</b> or <b>700</b>	Last Number Redial
<b>71 ~ 79</b> or <b>701 ~ 716</b>	Access Trunk Group
<b>80 ~ 89</b>	Access Hotel Services (For Hotel Telephone Only)
<b>80 ~ 89</b> or <b>800 ~ 899</b> or <b>8000 ~ 8299</b>	Access Speed Dialing
<b>9</b> or <b>0</b>	Access Default Trunk Group or Operator
640	Call Park – Personal
646 N	Set / Retrieve Common Call Park
67	Trunk Flash
68	Paging & Meet Me Paging
69	Turn On Door Lock
<b>630</b>	Call Pickup – Personal
<b>636</b> N	Retrieve Common Call Park
<b>637</b> TT	Access Specified Trunk
<b>638</b>	Call Pickup - Meet Me Paging Call
<b>639</b>	Call Pickup - Any Call
63 EEEE	Call Park To Extension / Call Pickup – Ringing Extension / Extension Parked Call
6601	Set Do Not Disturb
6602 EEEE or 6602 SSSS	Set Follow Me
6603 EEEE or 6603 SSSS	Set Busy and No Answer Transfer
6604 HH NN	Set Wake Up Service
6605 MMMM	Access VM-1S (Voice Mail) Personal Main Menu
6606 EEEE	Set Message Waiting
6607 BBBB C	Set User Defined Dialing Class
6608 EEEE or 6608 SSSS	Set Busy Transfer
6609 EEEE or 6609 SSSS	Set No Answer Transfer
6611	Set Day Mode
6613 PPPP	Enter Voice Message Recording Mode
6614 M	Trunk No Answer Voice Announcement Selection
6615 TT	Trunk Call Disconnect
668	Set Multi-party Conference
669	Set Broadcast Conference
620	Call Pick Up - Personal
626 N	Retrieve Common Call Park
627 TT	Access Specified Trunk
628	Call Pickup - Meet Me Paging Call

629	Call Pickup - Any Call
6500	Cancel Follow Me and Do Not Disturb
6501	Cancel Do Not Disturb
6502	Cancel Follow Me
6503	Cancel Busy and No Answer Transfer
6504	Cancel Wake Up Service
6506 EEEE	Cancel Message Waiting
6508	Cancel Busy Transfer
6509	Cancel No Answer Transfer
6511	Set Night Mode
6513 Z	Set ACD Queue size
659	Clear Multi-party Conference
<p><b>Remark: The <i>access code</i> in bold, italic and larger font indicates it will change according to Flexible Numbering plan setting.</b></p> <p>TT – Trunk Number (01 ~ 60)</p> <p>EEEE – Directory Number of Extension (<b>10</b> ~ <b>59</b> or <b>100</b> ~ <b>599</b> or <b>1000</b> ~ <b>5999</b>)</p> <p>SSSS – Speed Dialing Memory (<b>80</b> ~ <b>89</b> or <b>800</b> ~ <b>899</b> or <b>8000</b> ~ <b>8299</b>)</p> <p>M – Trunk No Answer Mode Message Number (0 ~ 3)</p> <p>PPPP – Programming Password (0000 ~ 9999)</p> <p>MMMM – Voice Mail Directory Number</p> <p>N – Common Call Park Location (1 ~ 8)</p> <p>HH – Hour (00 ~ 23), NN - Minute (00 ~ 59)</p> <p>C – Dialing Class (0 ~ 7)</p> <p>Z – ACD Queue size (0 ~ 6)</p>	

**Table 5-4 FEATURE ACCESS CODES FOR PULSE TELEPHONE (ENABLE FLEXIBLE NUMBERING PLAN)**

## **6. FEATURE DESCRIPTION**

### **6.1 ACCESS ATTENDANT CONSOLE**

There is one extension or hunting group programmed to be the Attendant Console of the system. Dial the Operator Access Code in any extension can access Attendant Console for service without knowing the directory number of the console station.

#### **Operation**

1. Lift handset - dialing tone is heard.
2. Dial Operator Access Code.

#### **Programming**

1. Operator Access code is programmed in Programming Item 40 - Operator/Trunk Access Code.
2. Assign an extension directory no. or hunting group directory no. to be the Attendant Console in Programming Item 41 - Operator Answering.
3. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### **6.2 ACCESS DEFAULT TRUNK GROUP**

This feature is to access a trunk line in Default Trunk Group in an extension.

A Trunk Group includes one to several trunk lines and is represented by a Trunk Group Number. The system can have up to 16 trunk groups and each group includes different trunk lines which may be overlapped to other trunk group. The extensions can access the trunk lines in Default Trunk Group by dialing the Default Trunk Group Access Code. The system can restrict the extensions to access specified trunk lines in Extension Feature Class.

#### **Operation**

1. Lift handset - dialing tone is heard.
2. Dial the Default Trunk Group Access Code to get a trunk line in Default Trunk Group.
3. Dial the outgoing call telephone number when public exchange dialing tone is heard.

#### **Condition**

1. If all trunk lines in Default Trunk Group is in use, busy tone will be heard after dialing the Default Trunk Group Access Code, Automatic Call Back may be used in this case.
2. Each extension can have different trunk group to be the Default Trunk Group of the extension.

#### **Programming**

1. Set Default Trunk Group Access Code in Programming Item 40 - Operator/Trunk Access Code.
2. Assign the extension to the dialing class which allow to use make outgoing call in Programming Item 83 and 84 - Extension Dialing Class In Day/Check-in Mode And Night/Check-out Mode.
3. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
4. Assign the Default Trunk Group for each extension in Programming Item 88 - Extension Default Trunk Group.
5. Define the trunk groups in Programming Item 113 & 114 - Trunk Group Start And Trunk Group Stop.

### **6.3 ACCESS SPECIFIED TRUNK**

This feature allows each extension access the trunk lines individually instead of accessing the trunk group in previous version.

Trunk lines are defined from 01 – 60 as in the console display.

#### **Operation**

1. Lift handset - dialing tone is heard.
2. Dial “#7” or “637” and then the Specified Trunk Line number to select the specified trunk.
3. Dial the outgoing call telephone number when public exchange dialing tone is heard.

**When Flexible Numbering Plan is enabled, the access code will change to “\*#7” or “637”:**

#### **Condition**

1. If busy tone is heard after accessing a trunk, Automatic Callback cannot be used.
2. Redial is valid for specified trunk.
3. In SMDR, access code will be printed as 701 - 760.

### Programming

1. Assign the extension to the dialing class which allow to make outgoing call in Programming Item 83 and 84 - Extension Dialing Class In Day/Check-in Mode And Extension Dialing Class In Night/Check-out Mode.
2. Assign the extension to the feature class which allow specified trunk access in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.4 ACCESS SPECIFIED TRUNK GROUP

Each extension can access the trunk lines in Specified Trunk Groups.

A Trunk Group includes one to several trunk lines and is represented by a Trunk Group Number. The system can have up to 16 trunk groups and each group includes different trunk lines which may be overlapped to other trunk group. The extensions can access different trunk lines by dialing the Trunk Group Access Code. The system can restrict the extensions to access specified trunk lines in Extension Feature Class.

If there are less than ten trunk groups in a system, the Specified Trunk Group Access Code may be programmed to two digits.

If there are more than ten trunk groups in a system, the Specified Trunk Group Access Code must be programmed to three digits.

### Operation

1. Lift handset - dialing tone is heard.
2. Dial Specified Trunk Group Access Code to select the specified trunk.
3. Dial the outgoing call telephone number when public exchange dialing tone is heard.

### Condition

1. If busy tone is heard after accessing a trunk, Automatic Call Back may be used.
2. For two digits Trunk Group Access Code, the codes are 71 ~ 79.
3. For three digits Trunk Group Access Code, the codes are 701 ~ 716.

### Programming

1. Define the format of Specified Trunk Group Access Code in Programming Item 39 - Trunk Group Access Code.
2. Assign the extension to the dialing class which allow to use make outgoing call in Programming Item 83 and 84 - Extension Dialing Class In Day/Check-in Mode And Extension Dialing Class In Night/Check-out Mode.
3. Assign the extension to the feature class which allow to access the trunk groups in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
4. Define the trunk groups in Programming Item 113 & 114 - Trunk Group Start and Trunk Group Stop.

## 6.5 ACCESS VM-1S (VOICE MAIL) PERSONAL MAIN MENU

This feature allows extension access the VM-1S (Voice Mail) personal main menu. VM-1S is a solid state voice mail system that can work with DX-1S.

This operation send the inbound signal "4\*EEEE" to the Voice Mail system. (Where EEEE is the directory number of calling extension.) For detailed information about Voice Mail System and Inbound signaling with DX-1S, please refer to section 6.172 VOICE MAIL SYSTEM.

### Operation

1. Lift handset - dialing tone is heard.
2. Dial "\*\*\*05MMMM". (Where MMMM is directory number of voice mail.)
3. Voice mail system voice instruction will be heard.
4. Follow the voice instruction for desired operation.

### Condition

1. Voice mail system (VM-1S) must be installed properly with DX-1S.



### 6.6 ACCOUNT NUMBER DIALING CLASS

The Account Number Dialing Class is to control the extensions to make outgoing calls using account number. The extension can only make a outgoing call using the account number which is allowed in the account number dialing class.

#### Condition

1. The extension will be allowed to use Speed Dialing to make outgoing calls even if the number in Speed Dialing is not allowed in his/her Account Number Dialing Class if Programming Item 34 - Apply Call Restriction To Speed Dialing is disabled (set to 0).
2. When Programming Item 34 - Apply Call Restriction To Speed Dialing is enabled, the extension will not be able to use Speed Dialing to make outgoing calls if the number in Speed Dialing is not allowed in his/her Account Number Dialing Class.

#### Programming

1. Assign the dialing class to each account in Programming Item 107 - Account Number Dialing Class.
2. The call restriction to Speed Dialing is enabled in Programming Item 34 - Apply Call Restriction To Speed Dialing.
3. Select Toll Restriction Scheme in Programming Item 58 - Toll Restriction Scheme.

### 6.7 ACCOUNT NUMBER PASSWORD CONTROL

The system controls the extensions to make outgoing call by Extension Dialing Class and Account Number Password Control. Instead of controlling extension dialing class of the extension station, the Account Number Password control the person to make local, LDD and IDD outgoing calls. The person who is assigned an account number with password can make outgoing calls in any extension telephone by dialing Account Access Code, the Account Number and Password, then he/she can make the outgoing call according to the dialing class of the account number.

When a user using the account code and password to override his / her dialing class to make an outgoing call, the override feature can maintain a period of time after the first on-hook. The period of time is the Account Code Timeout in minutes – Programming Item 148. Within the timeout period, user can dial “##00” to terminate the timeout period immediately.

The Account Number Password Control is also for calculating the cost of calls either to internal departmental cost centers or to project accounts for billing to specified projects.

SMDR report will show the extension being used and account number.

#### Operation

1. Lift handset - dialing tone is heard.
2. Dial Account Access Code “6” and then four digits of account code.
3. Dial the four digits password.
4. The originating extension will hear confirmation tone and then the feature activation dial tone.
5. Dial the Default Trunk Access Code or Specified Trunk Group Access Code to access a trunk line and then the outside party telephone number.
6. When the call is finished, replace handset to terminated the call.

#### Condition

1. The call which is established through Account Number Password Control can be transferred to other extension or to be a party of conference call.
2. The dialing class of the account is controlled by Programming Item 107 - Account Number Dialing Class.
3. SMDR report will show the extension being used and account number.

#### Programming

1. Assign the dialing class to each account in Programming Item 107 - Account Number Dialing Class.
2. Program the password for the account in Programming Item 108 - Account Password Assignment.
3. Set Account Code Timeout in Programming Item 148 - Account Code Timeout.

### 6.8 APPLY CALL RESTRICTION TO SPEED DIALING

This feature can restrict the extension user to make IDD or LDD calls with Speed Dialing if this extension is not allowed to make the LDD and IDD call in his/her Extension Dialing Class.

#### Condition

1. When this feature is enabled, the extension will not be able to use Speed Dialing to make outgoing calls if the number in Speed Dialing is not allowed in his/her Extension Dialing Class.
2. If this feature is disabled, the extension can make the outgoing call with Speed Dialing although the calls are not allowed in his/her Extension Dialing Class.

#### Programming

1. Program to enable this feature in Programming Item 34 - Apply Call Restriction To Speed Dialing.

### 6.9 ATTENDANT CALL SELECTION

The Attendant Console could have up to three call selection positions; they are PCM incoming calls, trunk calls and extension calls.

This feature allows the Attendant Console to answer calls either in the order in which they arrive at the console, or by selecting a specific call type. As calls arrive at the console, they are queued and the MFC-1S Console will generate three beeps to indicate that there are calls waiting in the console queue. The Attendant may answer the first call in the console queue or may select a call of a specific type.

Reference to MFC-1S Manual for operation details.

#### Operation

To answer the first call in the PCM queue/Trunk queue/Extension queue :

1. Press <Enter> key in MFC-1S Console or dial “# \* 9” in DTMF telephone.
2. The attendant is connected to the calling party.

To answer the call from specified trunk :

1. Dial “# \*7” in MFC-1S Console or DTMF telephone.
2. Dial the trunk number (01-60) of the calling trunk.
3. The attendant is connected to the calling party.

To answer the first call in the extension queue :

1. Press < + > key in MFC-1S Console or dial “# \* 0” in DTMF telephone.
2. The attendant is connected to the calling party.

To answer the call from specified extension :

1. Dial “# \*” in MFC-1S Console or in DTMF telephone.
2. Dial the directory number of the calling extension.
3. The attendant is connected to the calling party.

#### When Flexible Numbering Plan is enabled, the operation is as following :

The general access code is #\*D, #\*DTT or #\*DEEE

The access code D depends on programming item 134, First Digit Type.

If the Digit Type of D = 0, this access code is for Extension Queue Answering (#\*D).

If the Digit Type of D = 1 or 2, this access code is for Specified Extension Answering (#\*DEEE).

If the Digit Type of D = 7, this access code is for Specified Trunk Answering (#\*DTT).

If the Digit Type of D = 9, this access code is for Trunk Queue Answering (#\*D).

#### Condition

1. The extension, which will use Attendant Call Selection, must be programmed to be Console Extension and the feature class of this extension is allowed to use this feature.
2. Any call go to the Console Extension will be queued and waiting for Attendant Console to answer.
3. Trunk Queue Answering (#\*9) will answer the calls in the following order: PCM queue, Trunk queue and the Extension queue.
4. When Flexible Numbering Plan is enabled, the feature access code will be changed.
5. Reference to MFC-1S Manual for operation details.

### Programming

1. Assign the extension to the feature class which allow to operate this feature in Program Item 85 & 86 - Extension Feature Class in Day / Check in Mode and Extension Feature Class in Night / Check Out Mode.
2. Enable Attendant Console Call Waiting Beep in Programming Item 57 - Console Call Waiting Beep Status.
3. Assign extension number in Programming Item 111 - Console Extension Assignment

### 6.10 ATTENDANT CONSOLE

When MFC-1S operate in Attendant Console Mode, it provides the following functions :

Display Functions :

- Call Park Status
- Busy Lamp Field
- Clock Display
- Call Information Display
- Incoming Call Identification

Attendant Operator Call Processing : Call Transfer, Call Hold and Call Answering etc.

When MFC-1S operate in Management Mode, the operator can set the features for any extension, e.g. Wake Up Service, Message Waiting and Call Forwarding etc..

#### Condition

1. MFC-1S is an Attendant Console of DX-1S system when operate in Attendant Console Mode and Management Mode.
2. Reference to Set Features for Extension sections for details.
3. Reference to MFC-1S Manual for details.

### 6.11 AUTOMATIC ATTENDANT

The system can act as an attendant operator to answer the incoming calls when the trunk line is set to DISA Trunk or DISA Trunk with Fax Detection. The system can answer the incoming trunk call with DISA messages, receive the directory number from the caller and transfer the call to the extension who the caller want to access. If the called extension is in busy condition or cannot answer the call, the system will answer the call with recorded message to advise such condition.

#### Condition

1. Reference to DISA With Voice Message section for details.

### 6.12 AUTOMATIC CALL DISTRIBUTION (ACD)

This feature allows incoming trunk calls distribute to programmed extension(s) in a first come first serve basis. When all operators are busy, an incoming trunk call will be put into a waiting queue. In waiting queue, caller will hear waiting message (recorded in DVC) and music. When an operator is available, the first member in the waiting queue will call to the available operator automatically.

If the waiting queue had full (queue size can be set from 0 to 6), new caller will hear disconnect message and music and then the call will be disconnected.

The maximum waiting time for an incoming trunk call is 1 hour. If a calling party had put in waiting queue over 1 hour, he / she will hear disconnect message and music and then the call will be disconnected by system.

In night mode operation, ACD will not has the queuing function. Calling party will hear night mode greeting message and music and then the call will be disconnected by system.

When calling party is hearing message or music, he / she can press '7', '8' or '9' to transfer to a pre-programmed extension.

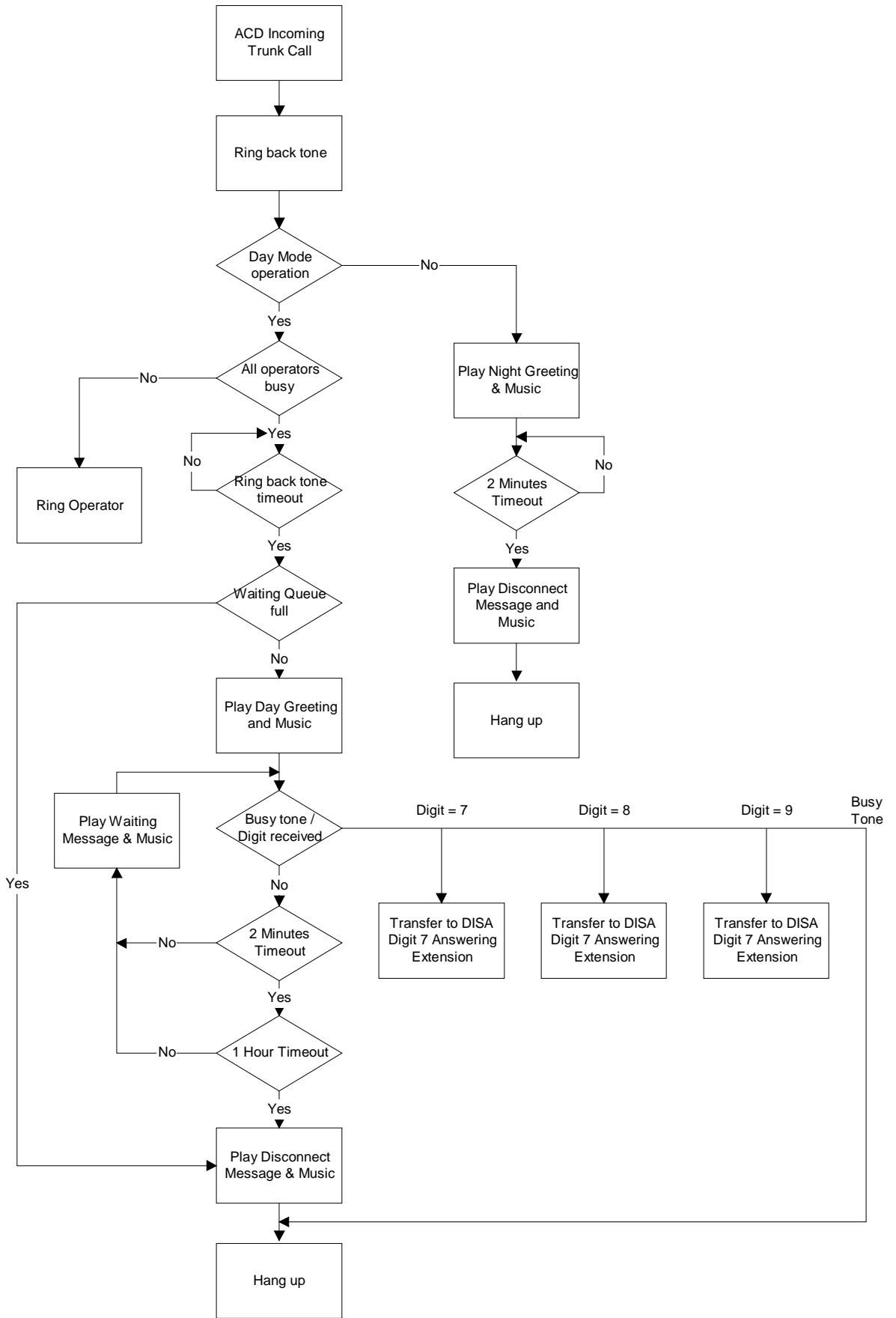
#### Operation

1. Adjust queue size by an extension with Call Monitor feature enabled. Lift up handset. When hearing dial tone, key in the code "## 13 S". (S = Queue size, 0 ~ 6).

#### Condition

1. This feature requires DISA Voice Card.
2. The system will answer the incoming calls for the trunks, which are programmed as ACD with Voice Message Trunk.

3. The system will answer the incoming call with Day Mode Greeting Message when the system is set to Day Mode and all operators are busy. The system will answer the incoming call with Night Mode Greeting Message when the system is set to Night Mode.
4. If the system receives the number which is digit "7", the call will be transferred to programmed DISA Digit 7 answering extension directory no (Programming Item 70).
5. If the system receive the number which is digit "8", the call will be transferred to programmed DISA Digit 8 answering extension directory no (Programming Item 71).
6. If the system receive the number which is digit "9", the call will be transferred to programmed DISA Digit 9 answering extension directory no (Programming Item 72).
7. If the caller input an invalid digit, the system will ignore it.
8. If the caller hang up, system will detect any busy tone to disconnect trunk port. Busy tone detection should be enabled in Programming item 69, Remote Disconnect = 2.
9. The ACD Message definition are:
  - 0 = Day Mode Greeting Message
  - 1 = Waiting Message
  - 2 = Night Mode Greeting Message
  - 3 = Disconnect Message
10. Each message content should not be over 20 seconds.
11. Reference to Voice Message Recording section for recording the voice messages.
12. When an operator finished a call (hang up), the telephone will not ring within 20 seconds (work time) regardless of any waiting party.
13. Waiting queue size can be changed by an extension with Call Monitor feature enabled. The change queue size function code is "## 13 S". (S = Queue size, 0 ~ 6).



**Figure 6-1 AUTOMATIC CALL DISTRIBUTION OPERATION FLOW CHART**

**Programming**

**System Programming**

1. Define delay time to enter ACD operation. Programming Item 47 - Trunk No Answer Announcement Timeout.

2. Define ACD with Voice Message trunk type. Programming Item 63, 64 – Trunk Type – Day, Night.
3. Define operators group extension number for answering call. Programming Item 65, 66 – Trunk Call Answering - Day / Night.
4. Define single digit call (digit '7', '8' and '9') if needed. Programming Item 70 ~ 72 – DISA Digit Answering.
5. Display queue status in MFC-1S Console. Programming Item 159 – System Option (bit 3 = 1).

### Operator Programming

1. Assign console number to each operator. Programming Item 110, 111 – Console Service Status, Console Extension Assignment.
2. Assign all operators as a circular hunting group. Programming Item 115, 116 – Extension Hunting Group Directory Number, Extension Hunting Group Type.
3. Enable Operator's Feature Class, Feature no. 24 – Attendant Call Selection.

### Example

A system using ACD feature for 4 trunk lines.

Operator answering extension hunting group directory number is EXT 2100.

Operator answering extension numbers are EXT 2004 ~ 2007.

Voice Recording (Digit 9) answering extension is 2400.

1. The system has 2 DISA Voice Cards installed.
2. The four trunk lines are programmed to be Trunk Type 5 (ACD with Voice Message) in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode.
3. Programming the answering extension hunting group directory no. as 2100 in Programming Item 65 & 66 - Trunk Call Answering in Day Mode and Trunk Call Answering in Night Mode.
4. Setup 2100 as circular Extension Hunting Group in Programming Item 115, 116 – Extension Hunting Group Directory Number and Extension Hunting Group Type.
5. Programming the operator extensions 2004 ~ 2007 into the extension hunting group 2100 in Programming Item 117 – Extension Hunting Group Assignment
6. Programming the Voice recording extension directory no. as 2400 in Programming Item 72 - DISA Digit 9 Answering.
7. Connect a telephone answering machine or voice mail system at extension 2400 for voice recording.
8. Program the voice channel 0 ~ 3 for two DISA Voice Cards to be DISA Voice Channel Group in Programming Item 48 - DISA Voice Channel Start and Programming Item 49 - DISA Voice Channel Stop. DISA Voice Channel Start is programmed to be 0 and DISA Voice Channel Stop is programmed to be 3.
9. The operator prepares to record several messages for ACD purpose.
10. The extension which is used to record voice messages should be allowed to use Voice Message Recording feature.
11. The extension which is used to record voice messages should be DTMF telephone.
12. Pick up the handset of the extension for message recording and dial “\*\*13” and then Programming Password.
13. Feature activation tone is heard.
14. Select Segment 0 in Voice Channel 0 to use for recording by dialing “00\*#” and record the Day Mode Greeting Message as following: “Thanks for calling Connection Electronics Ltd.. Now all lines are busy. Please hold on for our operator or dial 9 to record your message.”
15. Select Segment 1 in Voice Channel 0 to use for recording by dialing “01\*#” and record Waiting Message as following : “Sorry, now all lines are busy. Please hold on for our operator or dial 9 to record your message.”
16. Select Segment 2 in Voice Channel 0 to use for recording by dialing “02\*#” and record the Night Mode Greeting Message: “This is Connection Electronics Ltd.. We are off now. Our business hour is from nine o'clock in the morning to five o'clock in the evening from Monday to Friday. Please call us in business hour later? Thank you.”
17. Select Segment 3 in Voice Channel 0 to use for recording by dialing “03\*#” and record the Disconnect Message as following: “Sorry. No operator is available. Please try again later.”
18. The length of each message should not be over 20 seconds. If the message is over 20 seconds, it will overwrite and distort the following message.
19. Change the recording Voice Channel to 1 in step 14 ~ 17 to record the same messages to Voice Channel 1.
20. Change the recording Voice Channel to 2 in step 14 ~ 17 to record the same messages to Voice Channel 2.

21. Change the recording Voice Channel to 3 in step 14 ~ 17 to record the same messages to Voice Channel 3.
22. Playback all the messages to verify if they are OK.
23. Replace handset to complete the message recording process.
24. Display queue status in MFC-1S Console by Programming Item 159 – System Option (bit 3 = 1).
25. Assign console number to each operator (2004 ~ 2007). Programming Item 110, 111 – Console Service Status, Console Extension Assignment.
26. Enable Operator's Feature Class, Feature no. 24 – Attendant Call Selection.
27. Adjust queue size by an extension with Call Monitor feature enabled. Lift up handset. When hearing dial tone, key in the code “## 13 S”. (S = Queue size, 0 ~ 6).
28. The ACD function can work now.

### 6.13 AUTOMATIC CALLBACK - BUSY EXTENSION

If the extension dial to an busy extension, the caller may use the Automatic Callback to call the busy extension when he/she is free.

#### Operation

1. Dial the directory number of the extension.
2. If the called extension is engaged in a call, busy tone is heard.
3. Dial “3”.
4. The caller will hear confirmation tone.
5. The caller can pick down the handset and wait for call back.
6. The originating extension will ring with callback ringing when the called extension is free.
7. The originating extension pick up handset and hear ringback tone.
8. The called extension is ringing.
9. If the called extension user pick up the handset, the call is connected.

#### Condition

1. An extension can set more than one Automatic Callback setting.
2. If the called extension is not free within 15 minutes, the system will cancel the Automatic Callback setting.

#### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.14 AUTOMATIC CALLBACK - BUSY TRUNK

If the extension access a trunk line but it is busy, the caller may use the Automatic Callback to get the trunk line when it is free.

#### Operation

1. Dial the Default Trunk Group Access Code or Specified Trunk Access Code to get a trunk.
2. If all the trunks in the trunk group are busy, busy tone is heard.
3. Dial “3”.
4. The caller will hear confirmation tone.
5. The caller can pick down the handset and wait for call back.
6. The originating extension will ring as callback ringing when the trunk is free.
7. The originating extension pick up handset and the trunk is connected.
8. The dialing tone of public exchange is heard.
9. If the extension user can dial the outside party telephone number to make an outgoing call.

#### Condition

1. An extension can set more than one Automatic Callback setting.
2. If the trunk is not free within 15 minutes, the system will cancel the Automatic Callback setting.

#### Programming

1. Assign the extension to the dialing class which allow to use make outgoing call in Programming Item 83 and 84 - Extension Dialing Class In Day/Check-in Mode And Extension Dialing Class In Night/Check-out Mode.

2. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.15 AUTOMATIC PHONE/FAX DETECTION

When the trunk is programmed to be DISA with Fax Detection, the system can identify phone or fax call from incoming call. If it is a fax call, the system will transfer the call to the extension which is connect with the fax machine according to the Fax Answering Programming. If it is a normal call, the system will answer the call with DISA messages.

#### Condition

1. This feature requires DISA Voice Card and DISA Voice Card must be installed when this feature is used.

#### Programming

1. Assign an extension directory no. which is connected the fax machine to be the fax answering extension directory in Programming Item 42 - Fax Answering.
2. Enable the voice channel group for this feature in Programming Item 48 - DISA Voice Channel Start and Programming Item 49 - DISA Voice Channel Stop.
3. Define the trunk line which may receive the fax call to be Type 2 (DISA & Fax Detection Trunk) in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode.

### 6.16 AUTOMATIC SOFT-RESET

With this feature enable, the system will perform an automatic reset at the specified time every day. The following data will not be affected during soft-reset:

- Do Not Disturb
- Call Forwarding : Follow Me
- Busy and No Answer Transfer
- Wake Up Service
- Check In/Out Status
- Message Waiting
- User Defined Dialing Class
- Day / Night Mode Setting
- System Counters

#### Programming

1. Assign the system soft-reset time in Programming Item 124 - System Soft-Reset Time.

### 6.17 AUTOMATIC TONE/PULSE DETECTION

The extension can accept DTMF or pulse telephone when the dialing method of the extension is programmed to be DTMF dialing.

#### Condition

1. When the extension is programmed to be DTMF dialing and Calibrated Flash is disabled, the extension will detect the Tone/Pulse automatically.
2. If Calibrated Flash is enabled, Automatic Tone/Pulse Detection will be disabled.

#### Programming

1. Assign the dialing method of the extension to be DTMF Dialing in Programming Item 81 - Extension Dialing Method.
2. Disable the Calibrated Flash in Programming Item 44 - Calibrated Flash Status.

### 6.18 BATTERY BACKUP POWER SUPPLY

SPS-4820 Battery Backup Power Supply generates the DC power for the system. The Power Supply inputs 220 AC power and generates DC -48V for the system and charge up the backup batteries. Once the AC power is failed, the Power Supply will switch to backup batteries automatically and draw the current to supply the system without interruption until the AC power is recovered.

#### Condition

1. Reference to DX-1S Installation Manual for details of SPS-4820 Battery Backup Power Supply.



### 6.19 BUSY AND NO ANSWER TRANSFER

If the extension is set with Busy And No Answer Transfer feature, at its busy or ring no answer situation, the call for the extension will be transferred to the assigned extension.

#### Operation

Set the feature :

1. Lift handset - dialing tone is heard.
2. Dial “\*\*03” or “6603” in DTMF telephone or dial “6603” in pulse telephone.
3. Dial the directory number of the assigned extension who will answer the call.
4. Wait for confirmation tone.
5. Hang up.

Cancel the feature :

1. Lift handset - dialing tone is heard.
2. Dial “##03” or “6503” in DTMF telephone or dial “6503” in pulse telephone.
3. Wait for confirmation tone and the Busy And No Answer Transfer is canceled.

#### Condition

1. An extension cannot accommodate more than one forwarded extension. Each time of a newly setting, the old entry will be canceled.
2. Attendant Console can set or cancel this feature for the extension. Reference to Set Busy And No Answer Transfer For Extension section for details.

#### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.20 BUSY LAMP FIELD

The screen of Attendant Console Mode in MFC-1S Console have Busy Lamp Field displays for the attendant operator to monitor the trunks and extensions status.

#### Condition

1. Reference to MFC-1S Manual for details.

### 6.21 BUSY TRANSFER - SEPARATE

This feature allows an extension to set Busy Transfer separately. In previous version, Busy Transfer must set with no answer transfer together (Busy and No Answer Transfer).

If the extension is set with Busy Transfer feature, at its busy condition, the call for the extension will be transferred to the assigned extension.

#### Operation

Set the feature :

1. Lift handset and dialing tone is heard.
2. Dial “\*\*08” in DTMF telephone.
3. Dial the directory number of the extension who will be Busy Transfer to.
4. Wait for confirmation tone.
5. Hang up.

Cancel the feature :

1. Lift handset and feature activation dial tone is heard.
2. Dial “##08” in DTMF telephone.
3. Wait for confirmation tone.
4. The Busy Transfer feature is canceled.

#### Condition

1. An extension cannot accommodate more than one forwarded extension. Each time of a newly setting, the old entry will be canceled.
2. Attendant Console can set or cancel this feature for the extension. Reference to Set Busy And No Answer Transfer For Extension section for details.

### Programming

1. Assign the extension to the feature class which allow Busy And No Answer Transfer feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.22 CALIBRATED FLASH (<200MS FLASH)

This feature allows the system to detect the flash of DTMF telephone which is shorter than 0.2 seconds.

#### Condition

1. If Calibrated Flash is enabled, the Automatic Tone/Pulse Detection will be disabled and the extension which is programmed to be DTMF dialing will not able to receive pulse digits and cannot connect to a pulse telephone.

#### Programming

1. Program to enable this feature in Programming Item 44 - Calibrated Flash Status.

### 6.23 CALL BACK - BUSY OR NO ANSWER

If a call is transferred to a busy or no answer extension, the call will call back the originating extension.

#### Condition

1. The unattended call will call back the originating extension after Call Hold Timeout.
2. If the extension do not answer the call back call before Call Back Timeout, the call will be terminated.

#### Programming

1. The value of Call Back Timeout is programmed in Programming Item 18 - Call Back Timeout.
2. The value of Call Hold Timeout is programmed in Programming Item 19 - Call Hold Timeout.

### 6.24 CALL BACK - PARKED CALL

If the extension has parked a call over some time, the call will call back the originating extension.

#### Condition

1. The parked call will call back the originating extension after Call Hold Timeout.
2. If the extension do not answer the call back call before Call Back Timeout, the call will be terminated.

#### Programming

1. The value of Call Back Timeout is programmed in Programming Item 18 - Call Back Timeout.
2. The value of Call Park Timeout is programmed in Programming Item 19 - Call Park Timeout.

### 6.25 CALL DISCONNECT

When the extension dial to other extension which is engaged in a call, the caller may use this feature to disconnect or terminate the call of the called extension.

#### Operation

1. Lift handset - dialing tone is heard.
2. Dial the directory number of the extension.
3. If the called extension is engaged in a call, busy tone will heard.
4. Dial "5".
5. The caller will hear override tone and then confirmation tone.
6. The called extension will hear the override tone and follow with system warning tone to indicate that the call has been terminated by other extension.

#### Condition

1. This feature can disconnect the intercom call or trunk call.
2. This feature can only operate to the called extension which is engaged in a call. If the called extension is in "Do Not Disturb" condition, this feature will not operate.

#### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.26 CALL DISCONNECT - SPECIFIED TRUNK

When an extension accesses a specified trunk and the trunk is busy, the user may disconnect the trunk to get the trunk line.

#### Operation

1. Access a specified trunk by #7TT or 637TT, where TT is the trunk number (01 ~ 60).
2. If the trunk is engaged, busy tone is heard.
3. Dial “5” for disconnect the trunk.

#### Condition

1. This feature will only work when the called trunk is talking.
2. The calling extension should have Specified Trunk Access feature enable.
3. The calling extension should have the feature Call Disconnect enabled.

#### Programming

1. Assign the extension to the dialing class which allow to use make outgoing call in Programming Item 83 and 84 - Extension Dialing Class In Day/Check-in Mode And Extension Dialing Class In Night/Check-out Mode.
2. Assign the feature class to have Specified Trunk Access feature enable in Programming Item 118 – Feature Class Assignment.
3. Assign the same feature class in point 2 to have Call Disconnect or Trunk Disconnect features enable in Programming Item 118 – Feature Class Assignment
4. Assign the extension to the feature class which allow to use these features in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.27 CALL FORWARDING TO TRUNK

This feature allows an extension user to setup Call Forwarding to a number external to the PABX system, by storing the external number as a Speed Dialing entry, and using the entry as the number to which the caller is forwarded.

#### Operation

Set the feature :

1. Lift handset and dialing tone is heard.
2. Dial the desired Call Forward Access Code (“\*\*02” for Follow Me, “\*\*03” for Busy and No Answer Transfer).
3. Dial the Speed Dialing Access Code (“80~89” for two digits Speed Dialing, “800~899” for three digits Speed Dialing, “8000~8299” for four digits Speed Dialing).
4. Wait for confirmation tone.
5. Hang up.

Cancel the feature :

1. Lift handset and feature activation dial tone is heard.
2. Dial “##02” to cancel Follow Me or “##03” to cancel Busy and No Answer Transfer.
3. Wait for confirmation tone.
4. Hang up.

#### Condition

1. The extension must have at least one of the Call Forward options (Follow Me or Busy and No Answer Transfer) enabled, and also have access to the Speed Dialing Memory in its Feature Class.
2. Toll Control applies to the forwarding party’s extension when digits are being sent.
3. A loop start CO trunk will not be forwarded under any circumstance.
4. An extension can be forwarded to an external call.
5. DID trunks can be forwarded to an external call.

### 6.28 CALL HOLD

The extension user can place a call on hold and then transfer the call or park the call in this stage.

#### Operation

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. If press FLASH key again, the call will be retrieved from hold.

### Condition

1. The caller who is put on hold will hear music.
2. Feature activation dial tone will be heard to remind the user that a call has been held.
3. If the extension user replace the handset after the call is on hold, the system will terminate the held call.
4. The extension cannot use Call Pickup feature to pick up another call when the extension has a call on hold until the held call is terminated, transferred or parked.

### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.29 CALL MONITOR - EXTENSION

The user may use this feature to monitor a call of other extension and listen to the conversation. Both parties of the call will not notice that they are being monitored.

### Operation

1. Dial the directory number of the extension.
2. If the called extension is engaged in a call, busy tone is heard.
3. Dial "2".
4. The caller is now connected to called extension (no tone will be heard).
5. If the caller replace the handset after monitor, the original call will recover to normal condition.

### Condition

1. This feature can monitor the intercom call or trunk call.
2. This feature can only monitor the called extension which is engaged in a call. If the called extension is in "Do Not Disturb" condition, this feature will not operate.

### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.30 CALL MONITOR - SPECIFIED TRUNK

The extension may monitor a specified trunk with this feature.

### Operation

1. Access a specified trunk by #7TT or 637TT, where TT is the trunk number (01 ~ 60).
2. If the trunk is engaged, busy tone is heard.
3. Dial "2" for monitor.

### Condition

1. This feature will only work when the called trunk is talking.
2. The calling extension should have Specified Trunk Access feature enabled.
3. The calling extension should have the feature Call Monitor enabled.

### Programming

1. Assign the extension to the dialing class which allow to use make outgoing call in Programming Item 83 and 84 - Extension Dialing Class In Day/Check-in Mode And Extension Dialing Class In Night/Check-out Mode.
2. Assign the feature class to have Specified Trunk Access feature enable in Programming Item 118 – Feature Class Assignment.
3. Assign the same feature class in point 2 to have Call Monitor and / or Call Override and / or Call Disconnect or Trunk Disconnect features enable in Programming Item 118 – Feature Class Assignment
4. Assign the extension to the feature class which allow to use these features in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.31 CALL OVERRIDE

When the extension dial to other extension which is engaged in a call, the caller may use this feature to override the called extension.

### Operation

1. Dial the directory number of the extension.
2. If the called extension is engaged in a call, busy tone is heard.
3. Dial "4".
4. The caller and called extension will hear override tone.
5. The caller is now connected to called extension.
6. If the caller replace the handset after override, the original call will recover to normal condition.

### Condition

1. This feature can override the intercom call or trunk call.
2. This feature can only override the called extension which is engaged in a call. If the called extension is in "Do Not Disturb" condition, this feature will not operate.
3. If the caller transfer a call to the called extension and busy tone is heard, he/she may use call override feature to inform the called extension that a call has transferred to him/her. Then the caller can replace the handset to transfer the call or flash to return to the held call.

### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.32 CALL OVERRIDE - SPECIFIED TRUNK

When an extension accesses a specified trunk and the trunk is busy, the user may override the trunk.

### Operation

1. Access a specified trunk by #7TT or 637TT, where TT is the trunk number (01 ~ 60).
2. If the trunk is engaged, busy tone is heard.
3. Dial "4" for override the trunk.
  1. The calling parties will hear override tone.
  2. If the caller replace the handset after override, the original call will recover to normal condition.

### Condition

1. This feature will only work when the called trunk is talking.
2. The calling extension should have Specified Trunk Access feature enable.
3. The calling extension should have the feature Call Monitor and / or Call Override and / or Call Disconnect enabled.

### Programming

1. Assign the extension to the dialing class which allow to use make outgoing call in Programming Item 83 and 84 - Extension Dialing Class In Day/Check-in Mode And Extension Dialing Class In Night/Check-out Mode.
2. Assign the feature class to have Specified Trunk Access feature enable in Programming Item 118 – Feature Class Assignment.
3. Assign the same feature class in point 2 to have Call Monitor and / or Call Override and / or Call Disconnect or Trunk Disconnect features enable in Programming Item 118 – Feature Class Assignment
4. Assign the extension to the feature class which allow to use these features in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.33 CALL PARK - PERSONAL

The extension user can park a call which is in conversation and replace the handset. The parked call will call back the originating extension if the call is not retrieved after a certain period.

### Operation

Park a call :

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone will be heard.
3. Dial "\*0" or "640" in DTMF telephone or dial "640" in pulse telephone.
4. Confirmation tone is heard.
5. Replace the handset and the call is now parked in the call park queue.

Answer the call from call park queue (Call Pickup - Personal) :

1. Lift handset - dialing tone is heard.

2. Dial “\*0” or “#0” or “630” or “640” in DTMF telephone or dial “630” or “640” in pulse telephone.
3. Beep tone is heard and the parked call is connected.

### Condition

1. The caller who is put on hold will hear music.
2. If the party who was parked hangs up, the call is terminated.
3. The parked call will call back the originating extension if the call is not retrieved before Call Hold Timeout.
4. If the originating extension do not answer the call back call before Call Back Timeout, the call will be terminated.
5. An extension can park a call in an extension and answer the call in other extension by Call Pickup - Ringing Extension & Extension Parked Call feature. Reference to Call Pickup - Ringing Extension & Extension Parked Call section for details.
6. The operator with MFC-1S can park a trunk call with this feature and other extension can answer the call by Call Pickup - Trunk Parked Call feature. Reference to Call Pickup - Trunk Parked Call section for details.

### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.34 CALL PARK TO EXTENSION

The extension user can park a call to other extension’s personal call park.

The extension who has a call parked by others can answer the call with Call Pickup - Personal feature. If the parked call is not retrieved after a certain period, it will call back this extension.

### Operation

**When Flexible Numbering Plan is disabled, the operation is as following :**

Park a call to extension :

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. Dial “\*” or “64” in DTMF telephone or dial “64” in pulse telephone.
4. Dial the directory number of the extension which the call should be parked for him/her.
5. Confirmation tone is heard.
6. Replace the handset and the call is now parked in the call park queue of the called extension.

Answer the call from call park queue by called extension (Call Pickup - Personal):

1. Lift handset - dialing tone is heard.
2. Dial “#0” or “630” in DTMF telephone or dial “630” in pulse telephone.
3. Beep tone is heard and the first parked call in call park queue is connected.

**When Flexible Numbering Plan is enabled, the operation is as following :**

Park a call to extension :

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. Dial “#” or “63” in DTMF telephone or dial “63” in pulse telephone.
4. Dial the directory number of the extension which the call should be parked for him/her.
5. Confirmation tone is heard.
6. Replace the handset and the call is now parked in the call park queue of the called extension.

Answer the call from call park queue by called extension (Call Pickup - Personal):

1. Lift handset - dialing tone is heard.
2. Dial “#0” or “630” in DTMF telephone or dial “630” in pulse telephone.
3. Beep tone is heard and the first parked call in call park queue is connected.

### Condition

1. Callers who are put on hold will hear music.
2. If the party who was parked hangs up, the call is terminated.
3. The extension who has a call parked for him by others can answer the call with Call Pickup - Personal feature.
4. The parked call will call back the extension if the call is not retrieved before Call Hold Timeout.

5. If the ringing extension during call back condition do not answer the call before Call Back Timeout, the call will be terminated.
6. The parked call can be retrieved in other extension by Call Pickup - Ringing Extension & Extension Parked Call feature. Reference to Call Pickup - Ringing Extension & Extension Parked Call section for details.
7. When Flexible Numbering Plan is enabled, the feature access code will be changed.

### Programming

Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.35 CALL PICKUP - ANY CALL

The extension user can pick up a call which is ringing in any extension.

### Operation

1. When an extension is ringing, lift handset - dialing tone is heard.
2. Dial “#9” or “639” in DTMF telephone or dial “639” in pulse telephone.
3. Beep tone is heard and the ringing call is connected.

### Condition

1. The call can be a trunk call, intercom call and Door Phone Call.
2. If Call Pickup - Any Call for the extension is enabled in Programming Item 90, Call Pickup - Hunting Group and Call Pickup - Programmed Extension will be disabled.
3. The extension cannot use Call Pickup feature to pick up another call when the extension has a call on hold until the held call is terminated, transferred or parked.

### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
2. Enable this feature for the extension in Programming Item 90 - Call Pickup Type.

## 6.36 CALL PICKUP - EXTENSION PARKED CALL

The extension can also pick up the call which is parked by other extension.

### Operation

**When Flexible Numbering Plan is disabled, the operation is as following :**

Pick up a call which is parked by other extension:

1. Lift handset - dialing tone is heard.
2. Dial “#” or “63” in DTMF telephone or dial “63” in pulse telephone.
3. Dial the directory number of the extension which has parked a call.
4. Beep tone is heard and the parked call is connected.

**When Flexible Numbering Plan is enabled, the operation is as following :**

Pick up a call which is parked by other extension:

1. Lift handset - dialing tone is heard.
2. Dial “#” or “63” in DTMF telephone or dial “63” in pulse telephone.
3. Dial the directory number of the extension which has parked a call.
4. Beep tone is heard and the parked call is connected.

### Condition

1. If the ringing extension has parked a call before, the pick up extension will answer the call which is ringing the extension, but not the parked call.
2. If the extension has parked several calls, the pick up extension will answer the call which is first parked into the call park queue.
3. The extension cannot use Call Pickup feature to pick up another call when the extension has a call on hold until the held call is terminated, transferred or parked.
4. When Flexible Numbering Plan is enabled, the feature access code will be changed.

### Programming

Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.37 CALL PICKUP - HUNTING GROUP

The extension user can pick up a call which is ringing in an extension hunting group.

#### Operation

1. When an extension of a hunting group is ringing, lift handset - dialing tone is heard.
2. Dial “#9” or “639” in DTMF telephone or dial “639” in pulse telephone.
3. Beep tone is heard and the ringing call is connected.

#### Condition

1. The call can be a trunk call, intercom call or Door Phone Call.
2. If Call Pickup - Hunting Group for the extension is enabled in Programming Item 90, Call Pickup - Any Call and Call Pickup - Programmed Extension will be disabled.
3. The extension cannot use Call Pickup feature to pick up another call when the extension has a call on hold until the held call is terminated, transferred or parked.

#### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
2. Enable this feature for the extension in Programming Item 90 - Call Pickup Type.

### 6.38 CALL PICKUP - MEET ME PAGING CALL

When an extension is paged to answer a call, he/she can use Call Pickup - Meet Me Paging Call feature to connect to the paging extension.

#### Operation

1. When user wants to answer the paging call, pick up handset of an extension and dial tone is heard.
2. Dial “#8” or “638” in DTMF telephone or dial “638” in pulse telephone.
3. The call is now connected with the paging extension.

#### Programming

1. Assign the paged extension to the class which allow to use Call Pickup - Meet Me Paging Call feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.39 CALL PICKUP - PERSONAL

The extension can answer the parked call.

#### Operation

1. Lift handset and feature activation dial tone is heard.
2. Dial “#0” or “630” in DTMF telephone or dial “630” in pulse telephone.
3. Beep tone is heard and the ringing call is connected.

#### Condition

1. If the extension has parked several calls, the first parked call in call park queue will be re-connected firstly (first in first out).
2. The extension cannot use Call Pickup feature to pick up another call when the extension has a call on hold until the held call is terminated, transferred or parked.

#### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.40 CALL PICKUP - PROGRAMMED EXTENSION

The extension user can pick up a call which is ringing in the programmed extension.

#### Operation

1. When the programmed extension is ringing, lift handset - dialing tone is heard.
2. Dial “#9” or “639” in DTMF telephone or dial “639” in pulse telephone.
3. Beep tone is heard and the ringing call is connected.

#### Condition

1. The call can be a trunk call, intercom call or Door Phone Call.



2. If Call Pickup - Hunting Group for the extension is enabled in Programming Item 90, Call Pickup - Any Call and Call Pickup - Hunting Group will be disabled.
3. The extension cannot use Call Pickup feature to pick up another call when the extension has a call on hold until the held call is terminated, transferred or parked.

### **Programming**

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
2. Enable this feature for the extension in Programming Item 90 - Call Pickup Type.

## **6.41 CALL PICKUP - RINGING EXTENSION**

The extension user can pick up a call which is ringing an extension. The extension can also pick up the call which is parked by other extension.

### **Operation**

**When Flexible Numbering Plan is disabled, the operation is as following :**

Pick up a call which is parked by other extension:

1. Lift handset - dialing tone is heard.
2. Dial “#” or “63” in DTMF telephone or dial “63” in pulse telephone.
3. Dial the directory number of the extension which has parked a call.
4. Beep tone is heard and the parked call is connected.

Pick up a call from ringing extension :

1. Lift handset - dialing tone is heard.
2. Dial “#” or “63” in DTMF telephone or dial “63” in pulse telephone.
3. Dial the directory number of the extension which is ringing.
4. Beep tone is heard and the ringing call is connected.

**When Flexible Numbering Plan is enabled, the operation is as following :**

Pick up a call which is parked by other extension:

1. Lift handset - dialing tone is heard.
2. Dial “#” or “63” in DTMF telephone or dial “63” in pulse telephone.
3. Dial the directory number of the extension which has parked a call.
4. Beep tone is heard and the parked call is connected.

Pick up a call from ringing extension :

1. Lift handset - dialing tone is heard.
2. Dial “#” or “63” in DTMF telephone or dial “63” in pulse telephone.
3. Dial the directory number of the extension which is ringing.
4. Beep tone is heard and the ringing call is connected.

### **Condition**

1. The pick up call can be a trunk call, intercom call or Door Phone Call.
2. The extension cannot use Call Pickup feature to pick up another call when the extension has a call on hold until the held call is terminated, transferred or parked.
3. When Flexible Numbering Plan is enabled, the feature access code will be changed.

### **Programming**

Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## **6.42 CALL SPLITTING**

This feature allows an extension user to switch between two parked calls to perform private conversation with either party. The parked call will call back the originating extension if the call is not retrieved after a certain period.

### **Operation**

1. When the extension parked a call with Call Park – Personal by pressing FLASH and then “\*0”.
2. Confirmation tone is heard and the call is parked.
3. The extension must replace handset.
4. If there has a waiting call for the extension, it will ring the extension or the extension can make a new call as normal.

5. When the waiting call or new call is connected, the extension may pressed FLASH and “\*0” to park the exist call and connected to the parked call.
6. Repeat Step 4 to switch between two parked calls to perform private conversation with either party.
7. The extension replaces handset will terminate the call in conversation. The extension may press FLASH and then “\*0” to retrieve the parked call.

### Condition

1. The caller who is put on hold will hear music.
2. If the party who was parked hangs up, the call is terminated.
3. The parked call will call back the originating extension if the call is not retrieved before Call Hold Timeout.
4. If the originating extension do not answer the call back call before Call Back Timeout, the call will be terminated.

### Programming

1. Assign the extension to the feature class which allow to use Call Park – Personal feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.43 CALL STATUS DISPLAY

The call status of the call will display in the MFC-1S Console screen to indicate the status of the call.

### Condition

1. Reference to MFC-1S Manual for details.

## 6.44 CALL TIME LIMITATION

This feature restricts the maximum duration of a trunk call no matters it is incoming or outgoing call. When a trunk call's connection time exceed the limit, the system will disconnect the call automatically.

### Condition

1. Call time limitation applies only to local loop start outgoing trunk call only. That is IDD and LDD call will not be affected. This feature will also not affect the call through PCM trunk.
2. Call time limitation will only apply to the extensions belongs to the Feature Class which Feature Number 23 is set to 0.

### Programming

1. Assign the maximum Call Time in Programming Item 149 – Call Time.
2. Assign the extension to the feature class which having call time limitation in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.45 CALL TRANSFER - CAMP ON

When the extension transfer a call to an extension or hunting group, if the called extension is in busy condition, the originating party can replace the handset and the call will camp on the called extension. The called extension will hear the call waiting tone to indicate a call is waiting for him/her to answer.

### Operation

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. Dial the directory number of the called extension or hunting group and busy tone is heard.
4. If the originating extension can press FLASH to return to the held call.
5. If the originating extension replace the handset and the call will camp on the called extension.
6. The called extension will hear call waiting tone.
7. When the called extension replace the handset, the call will ring the extension.
8. The called extension pick up the handset and the held call is connected.

### Condition

1. Dial directory number to transfer a call before Dialing Tone Timeout after flash.
2. The Call Transfer - Camp On cannot apply to an extension which is set Do Not Disturb feature.
3. If transferred call is not answered, it will cease to ring at transferred extension and will call back to originating extension.
4. If the originating extension do not answer the call before Call Back Timeout, the call will be terminated.

### Programming

1. Assign the extension to the class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
2. Enable Camp-on Transfer of called extension in Programming Item 94 - Camp-on Transfer Status.

### 6.46 CALL TRANSFER - SCREENED

When the extension transfer a call to an extension or hunting group, the originating extension can consult the called extension if he/she is willing to receive the call before the call is transferred.

#### Operation

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. Dial the directory number of the called extension or hunting group and ringing tone is heard.
4. When the called extension pick up the handset, consult the user if he/she is willing to receive the call.
5. If the called extension agree to receive the call, the originating extension can replace the handset and the call is transferred.
6. If the call extension do not want to receive the call, the originating extension can press FLASH key to switch back to the held call.

#### Condition

1. Dial directory number to transfer a call before Dialing Tone Timeout after flash.

#### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.47 CALL TRANSFER - UNSCREENED

When the extension transfer a call to an extension or hunting group, the originating extension can replace the handset to transfer the call when the called extension is ringing.

#### Operation

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. The party on hold will hear music.
4. Dial the directory number of the called extension or hunting group and ringing tone is heard.
5. Replace the handset and the call is transferred.
6. The party on hold will hear ringing back tone in this condition.
7. When the ringing extension pick up the handset, the call is connected.

#### Condition

1. Dial directory number to transfer a call before Dialing Tone Timeout after flash.
2. If transferred call is not answered, it will cease to ring at transferred extension and will call back to transferring extension.
3. If the originating extension do not answer the call before Call Back Timeout, the call will be terminated.

#### Programming

1. Assign the extension to the class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.48 CALL TRANSFER THROUGH NETWORK - SCREENED

The extension transfer a call to an extension or hunting group in other system within a network.

#### Operation

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. Dial the directory number of the called extension or hunting group of other system in the network and ringing tone is heard.
4. When the called extension pick up the handset, consult the user if he/she is willing to answer the call.
5. If the called extension agree to answer the call, the originating extension can replace the handset and the call is transferred.

6. If the call extension do not want to answer the call, the originating extension can press FLASH key to switch back to the held call.

### Condition

1. Dial directory number to transfer a call before Dialing Tone Timeout after flash.
2. The systems should be connected and programmed for networking feature.

### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.49 CALL TRANSFER THROUGH NETWORK - UNSCREENED

When the extension transfer a call to an extension or hunting group in other system within a network, the originating extension can replace the handset to transfer the call when the called extension is ringing.

### Operation

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. Dial the directory number of the called extension or hunting group of other system in the network and ringing tone is heard.
4. Replace the handset and the call is transferred.
5. When the ringing extension pick up the handset, the call is connected.

### Condition

1. Dial directory number to transfer a call before Dialing Tone Timeout after flash.
2. There is no Call Back features if the called extension do not answer the call.
3. If the called extension do not answer the call before Call Back Timeout, the call will be terminated.
4. The systems should be connected and programmed for networking feature.

### Programming

1. Assign the extension to the class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.50 CALL WAITING

When an extension is in a conversation, the system will send call waiting tone to the extension to indicate that there is a call is waiting to answer.

### Operation

1. When the extension is in a conversation and call waiting tone is heard, it indicates a call is waiting to answer.
2. The extension can park or terminate the call which is talking.
3. When the called extension replace the handset, the call will ring the extension.
4. The called extension pick up the handset and the waiting call is connected.

### Condition

1. The call waiting tone will also be heard in the extension which is a trunk answering extension and there is an incoming trunk call waiting to answer.
2. The extension will hear the call waiting tone if a call has been transferred to him/her with Call Transfer - Camp On.

### Programming

1. Enable Call Waiting Tone in Programming Item 3 - Indication of Call Waiting Status.

## 6.51 CALLER ID DISPLAY

This feature allows calling party's number to be displayed in an extension Caller ID telephone. For an intercom call, the directory number of calling extension will be displayed in the ringing extension. For an incoming trunk call, the telephone number of calling party will be displayed.

### Condition

1. Caller ID display requires DX-1S CIC card and Caller ID phone connected at extension.
2. Incoming trunk Caller ID display requires trunk (C.O.) line have Caller ID feature.

### Programming

1. When using Caller ID display for incoming trunk call, the Caller ID Channel for (Caller ID) trunk must be specified in Programming Item 76 – Caller ID Channel.

### 6.52 CENTREX COMPATIBILITY (TRUNK FLASH)

The system will generate a FLASH in the trunk line to operate the Centrex features which is provided by public exchange.

#### Operation

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. Dial “\*7” or “67” in DTMF telephone or dial “67” in pulse telephone.
4. A FLASH is sent in the trunk line.

#### Programming

1. The Trunk Flash timing is programmed in Programming Item 25 - Trunk Flash Time
2. Assign the extension to the class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.53 CHECK-IN / CHECK-OUT

The operator with MFC-1S Console can change the dialing class and feature class of the extensions which are defined as Hotel Telephone by setting the hotel telephone to be Check-in mode or Check-out mode.

When the guess has checked in the hotel room,. the operator can set the hotel telephone of the room to Check-in mode, the feature class and dialing class will change and allow the guess to making outgoing call and access hotel service. If the guess has checked out, the operator may set the hotel telephone to Check-out mode and restrict the telephone from making outgoing calls and access hotel service.

#### Operation

Set the hotel telephone to Check-in mode :

1. The attendant operation enter Management Mode in MFC-1S Console.
2. Enter “5\*”.
3. Enter the directory number of the extension which the operator want to set the feature for him/her.
4. Enter “\*1”.
5. Press “Enter”.
6. The screen will display “EXT XXXX : ROOM STATUS = CHECK IN”.

Set the hotel telephone to Check-out mode :

1. The attendant operation enter Management Mode in MFC-1S Console.
2. Enter “5\*”.
3. Enter the directory number of the extension which the operator want to set the feature for him/her.
4. Enter “\*0”.
5. Press “Enter”.
6. The screen will display “EXT XXXX : ROOM STATUS = CHECK OUT”.

#### Condition

1. The extension must be programmed to be hotel telephone in Programming Item 82
2. The dialing class of Check-in mode is defined in Programming Item 83.
3. The dialing class of Check-out mode is defined in Programming Item 84.
4. The feature class of Check-in mode is defined in Programming Item 85.
5. The feature class of Check-out mode is defined in Programming Item 86.

#### Programming

1. Program the extension to be Hotel Telephone in Programming Item 82 - Extension Type
2. Determine the dialing class in Check-in and Check-out mode in Programming Item 83 & 84 - Extension Dialing Class in Day/Check-in Mode and Extension Dialing Class in Night/Check-out Mode.
3. Determine the feature class in Check-in and Check-out mode in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.54 CLASS OF SERVICE - EXTENSION DIALING CLASS

The system provides Extension Dialing Class to control which type of outgoing call the extension can make.

#### Condition

3. Reference to Extension Dialing Class sections for details.

### 6.55 CLASS OF SERVICE - EXTENSION FEATURE CLASS

The system provides Extension Feature Class to control which features are allowed to use.

#### Condition

1. Reference to Extension Feature Class sections for details.

### 6.56 CLASS OF SERVICE - SYSTEM

The System Class of Service program the features, facilities, timeout value in system level which will affect all the extensions.

#### Condition

1. Reference to DX-1S Programming Manual for details.

### 6.57 CODES TABLES

The system allow or restrict the extension to make the outgoing calls which the first few digits of the outgoing call number match the codes in the Codes Tables and the tables are allowed or restricted according to the extension dialing class.

The beginning digits are matched to the codes in Codes Table. The Codes Table is included in the dialing class of the extension.

#### Condition

1. Reference to Extension Dialing Class and Account Number Dialing Class sections for details of outgoing call dialing class control.

#### Programming

1. The codes for Codes Table 1 are input in Programming Item 102 - Codes Table 1.
2. The codes for Codes Table 3 are input in Programming Item 103 - Codes Table 3.
3. The codes for Codes Table 4 are input in Programming Item 104 - Codes Table 4.
4. The codes for Codes Table 5 are input in Programming Item 105 - Codes Table 5.
5. The codes for Codes Table 7 are input in Programming Item 106 - Codes Table 7.

### 6.58 COMMON CALL PARK

The extension can park a call which is in conversation and replace handset. There are eight Common Call Park location for the whole system. The parked call will call back the originating extension if the call is not retrieved after a certain period.

#### Operation

Park a call :

1. When the extension is in a conversation, press FLASH key.
2. The call in on hold and feature activation dial tone is heard.
3. Dial “\*6” or “646” in DTMF telephone or dial “646” in pulse telephone.
4. Dial Common Call Park location number (“1” ~ “8”).
5. Confirmation tone is heard.
6. Replace handset and the call is now parked in the Common Call Park location.

Retrieve the call from Common Call Park location :

1. Lift handset and hearing dialing tone.
2. Dial “\*6” or “646” in DTMF telephone or dial “646” in pulse telephone.
3. Dial Common Call Park location number (“1” ~ “8”).
4. Beep tone is heard and the parked call is connected.

#### Condition

1. Callers who are put on hold will hear music.
2. If the party who was parked hangs up, the call is terminated.
3. The parked call will call back the extension if the call is not retrieved before Call Hold Timeout.

4. If the ringing extension during call back condition do not answer the call before Call Back Timeout, the call will be terminated.
5. The parked call can be retrieved in any other extension.

### Programming

1. Assign the extension to the feature class which allow to set or cancel this feature in Program Item 85 & 86 - Extension Feature Class in Day / Check in Mode and Night / Check Out Mode.

## 6.59 CONFERENCE

The system provides three parties call conference feature.

### Operation

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. Dial the number of the third party which can be an extension or a trunk call.
4. When the third party pick up the handset, press FLASH key.
5. A conference call is established.

### Condition

1. The call conference call allows three parties conference over the phone.
2. When the extension replace the handset during the conference, he/she may leave the conference without disconnecting the call. The remain two parties can continue the conversation and the call conference feature is canceled automatically.
3. If the conference works over two trunks and one extension, when the extension replace the handset to leave the conference, all three parties will disconnected.
4. If the originating extension press FLASH key during conference, the conference call will be canceled and the third party is disconnected, the originating extension will connect to the second party.
5. There is no function for the second and third parties to press FLASH during conference.

### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.60 CONSOLE FEATURES

The following features can only operate in MFC-1S Console :

- Access Maintenance Mode
- Access System Diagnostic
- Access System Programming
- Alarm Status Display
- Busy Lamp Field
- Call Park - Trunk Call
- Call Status Display
- Caller ID Display
- Console ID Display
- Console Software Version Number Display
- Extension Feature Setting
- Extension Status Display
- Incoming Call Identification
- SMDR Data Printout Control
- Call Park Status Display
- System Clock Display
- Trunk Status Display

### Condition

1. Reference MFC-1S Manual for details.

### 6.61 CONSOLE-LESS OPERATION

Any extension telephone can be assigned to be the console extension to manage the incoming calls and provide services to the extensions.

#### Condition

1. When the extension is programmed to be console without MFC-1S Console. Although the extension can operate most of the features, some features which need MFC-1S Console will not be able to be operated, such as display Caller ID, park a trunk call, System Programming or Maintenance etc..

#### Programming

1. The extension is assigned to be the console feature class in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.62 DAY/NIGHT SERVICE

The system can switch between day and night mode to assign different dialing class and feature class to the extension. The incoming call answering arrangement can also be changed to adapt different condition in Day or Night Mode.

#### Operation

1. Lift handset - dialing tone is heard.
2. Dial “##11” or “6511” in DTMF telephone or dial “6511” in pulse telephone to switch the system to Night Mode.
3. Dial “\*\*11” or “6611” in DTMF telephone or dial “6611” in pulse telephone to switch the system to Day Mode.
4. Wait for the confirmation tone and the Day/Night Mode Service is set.

#### Programming

1. Set trunk lines to different type in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode.
2. Set incoming call answering in Programming Item 65 & 66 - Trunk Call Answering in Day Mode and Trunk Call Answering in Night Mode.
3. Assign Extension Dialing Class to extensions in Programming Item 83 & 84 - Extension Dialing Class in Day/Check-in Mode and Extension Dialing Class in Night/Check-out Mode.
4. Assign Extension Feature Class to extensions in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.63 DEFAULT TRUNK GROUP ACCESS

The trunk lines can be divided into 16 trunk groups for resource management. Each extension is assigned with a trunk group as the default trunk groups. The extension accesses the trunk lines in the default trunk group by dialing the Default Trunk Group Access Code.

#### Condition

1. Reference to Access Default Trunk Group section for details.

### 6.64 DIAGNOSTIC RESULT PRINTOUT

When the system displays the diagnostic result on the console screen which may need to print out as records for future reference, the console can output the messages to Printer to print out as hard copy.

#### Condition

1. Reference to DX-1S Maintenance Manual for details.

### 6.65 DID TRUNK SUPPORT

This feature allows DID Trunks to be used in the DX-1S Digital PABX. DID trunks allow incoming trunk calls (DID) to reach extensions directly, without Operator intervention or assistance.

### 6.66 DIRECT LINE

The trunk line can be assigned as direct line of an extension or hunting group. All incoming calls from assigned trunk line will ring specified extension directly.

#### Programming

1. Assign the extension directory no. or hunting group directory no. to be trunk answering extension in Programming Item 65 & 66 - Trunk Call Answering in Day Mode and Trunk Call Answering in Night Mode.



### 6.67 DIRECTORY NUMBER

The directory number is the telephone number of an extension or hunting group while the extension number is the physical port number of the extension interface. The extension user can access another extension by dialing his/her directory number. Each extension is assigned with a directory number which can be programmed to be two digits, three digits and four digits numbers. The directory number can be arranged to relate to extension location (block, floor and room number) or company management structure (department, job position).

#### Condition

1. Reference to Programmable Extension Numbering Plan for details.

### 6.68 DISA INTERCOM PASSWORD CONTROL

There may need to control the caller of an incoming trunk call to access the extension in DISA mode for management purpose. This feature require the caller of incoming trunk call to input the directory number of the extension and follow with password in order to access the extension user.

#### Operation

1. The caller makes an incoming trunk call to the system.
2. The system receives the call in DISA mode and broadcasts the Greeting Message to the caller.
3. The caller dial the directory number of the extension and follow with Intercom Password.
4. If the password is correct, the called extension will ringing.
5. When the called extension pick up the handset and the call is connected.

#### Condition

1. The DISA Voice Card is required.
2. The trunk must be set to be DISA trunk.
3. The Password of Account Number 0 is used as the DISA Intercom Password.

#### Programming

1. Enable the DISA Intercom Password if the password word is required for accessing extension through DISA in Programming Item 52 - DISA Intercom Password.
2. Program the DISA Intercom Password in Programming Item 52 - DISA Intercom Password.
3. Program the password for the account in Programming Item 108 - Account Password Assignment.

### 6.69 DISA WITH VOICE MESSAGE

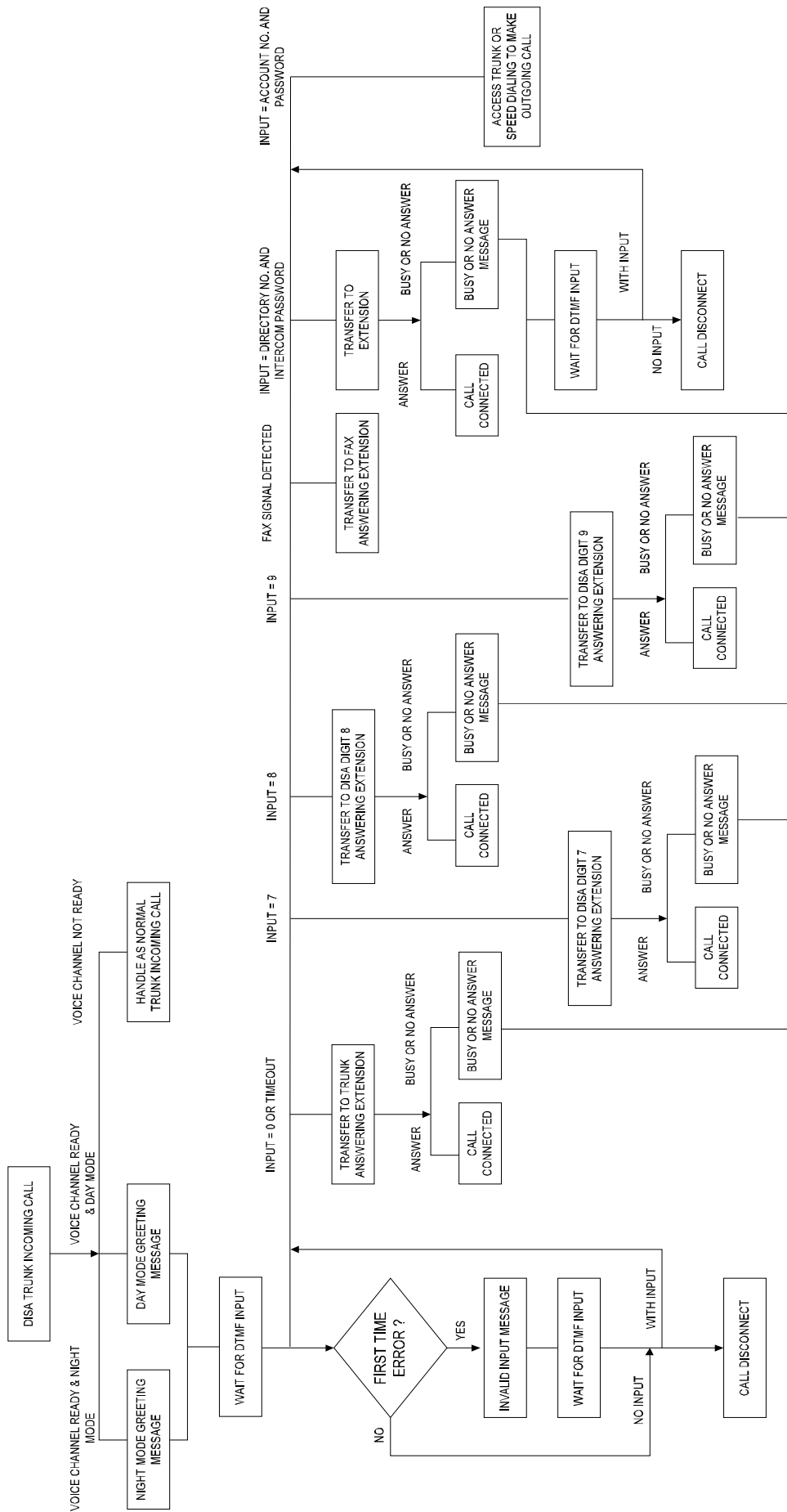
The caller can directly access the extension user by making an incoming trunk call to the system and dialing the directory number of the extension after the system answer the call. This feature requires DISA Voice Card. If the caller has not dialed any digits, the call will be transferred to the programmed Trunk Answering Extension.

If the flexible numbering scheme is enabled, the DISA numbering plan will changed according to the Programming Item 135 : DISA Digit Type.

#### Condition

1. This feature requires DISA Voice Card.
2. The system will answer the incoming calls for the trunks which are programmed as DISA Trunk or DISA Trunk with Fax Detection (Programming Item 63 & 64).
3. The system will answer the incoming call with Day Mode Greeting Message when the system is set to Day Mode. Similarly, the system will answer the incoming call with Night Mode Greeting Message when the system is set to Night Mode.
4. If the voice channel is not ready or busy, the system will transfer the call to programmed trunk answering extension directory no (Programming Item 65 & 66).
5. If the valid directory number is received, the system will transfer to the extension.
6. If the system receives the number which is digit "0", the call will be transferred to programmed trunk answering extension directory no (Programming Item 65 & 66).
7. If the system receives the number which is digit "7", the call will be transferred to programmed DISA Digit 7 answering extension directory no (Programming Item 70).
8. If the system receive the number which is digit "8", the call will be transferred to programmed DISA Digit 8 answering extension directory no (Programming Item 71).
9. If the system receive the number which is digit "9", the call will be transferred to programmed DISA Digit 9 answering extension directory no (Programming Item 72).
10. If the trunk has programmed to be DISA Trunk with Fax Detection (Programming Item 63 & 64), the system will transfer the call to fax answering extension if it is a fax call.

11. If the caller input an invalid number, the system will answer with Invalid Input Message and the caller can retry again. If the caller input the wrong number again, the system will transfer the call to programmed trunk answering extension directory no (Programming Item 65 & 66).
12. If the DISA Intercom Password (Programming Item 52) is enabled, the caller need to input the directory number and Intercom Password to access an extension.
13. If the DISA Intercom Password (Programming Item 52) is disabled, the caller input the directory number only to access an extension.
14. If the Allow DISA Trunk Access (Programming Item 53) is enabled, the caller input the account number and password. If the account number and password is correct, the caller can dial the Default Trunk Group Access Code or Specified Trunk Group Access Code to access the trunks of the system to make another outgoing calls. Reference to Remote Trunk Access section for details.
15. If the Allow DISA Speed Dialing Access (Programming Item 54) is enabled, the caller input the account number and password, if the account number and password is correct, the caller can dial the Speed Dialing Access Code to access the Speed Dialing of the system to make another outgoing calls. Reference to Remote Trunk Access section for details.
16. If the called extension is in busy condition or not answer the call within No Answer Timeout, the system will answer the call with Busy or wait for the caller to input another directory number.
17. The Day Mode Greeting Message, Night Mode Greeting Message, Busy or No Answer Message and Invalid Input Message must be recorded to each Voice Channels before using in DISA Mode.
18. Each message content should not be over 20 seconds.
19. Reference to Voice Message Recording section for recording the voice messages.



**Figure 6-2 DISA WITH VOICE MESSAGE FLOW CHART**

**Programming**

1. Select the voice channel group for this feature in Programming Item 48 - DISA Voice Channel Start and Programming Item 49 - DISA Voice Channel Stop.
2. Enable the DISA Intercom Password if the password word is required for accessing extension through DISA in Programming Item 52 - DISA Intercom Password. Reference to DISA Intercom Password Control section for details.
3. Determine if the caller of an incoming trunk call is allowed to make another outgoing call by accessing the trunk of the system in DISA mode in Programming Item 53 - Allow DISA Trunk Access.
4. Determine if the caller of an incoming trunk call is allowed to make another outgoing call by accessing the trunk of the system in DISA mode in Programming Item 54 - Allow DISA Speed Dialing Access.
5. Program the trunk line to be Type 1 or 2 (DISA or DISA with Fax Detection) in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode.
6. Program the trunk call answering extension directory no. for Day and Night Mode when the system receives digit "0" in DISA mode in Programming Item 65 & 66 - Trunk Call Answering in Day Mode and Trunk Call Answering in Night Mode.
7. Program the answering extension directory no. when the system receives digit "7" in DISA mode in Programming Item 70 - DISA Digit 7 Answering.
8. Program the answering extension directory no. when the system receives digit "8" in DISA mode in Programming Item 71 - DISA Digit 8 Answering.
9. Program the answering extension directory no. when the system receives digit "9" in DISA mode in Programming Item 72 - DISA Digit 9 Answering.
10. If the flexible numbering scheme is enabled, the DISA numbering plan will be changed according to Programming Item 135 - DISA Digit Type.

### Example

A system is determined to use DISA with Fax Detection feature and not allow to access trunk and speed dialing to make outgoing call in DISA mode. The answering extension directory numbers are :

Operator answering extension is EXT 2100.

Sales department answering extension is Hunting Group 2400.

Customer service answering extension is Hunting Group 2420.

Maintenance department answering extension is EXT 2200.

There is no need to input password for accessing extension.

1. The system has one DISA Voice Card installed.
2. All trunk lines are programmed to be Trunk Type 2 (DISA with Fax Detection) in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode.
3. Disable trunk access in DISA mode in Programming Item 53 - Allow DISA Trunk Access.
4. Disable Speed Dialing access in DISA mode in Programming Item 54 - Allow DISA Speed Dialing Access.
5. Disable DISA Password input requirement for extension access in DISA mode in Programming Item 52 - DISA Intercom Password.
6. Program the operator answering extension directory no. is 2100 in Programming Item 65 & 66 - Trunk Call Answering in Day Mode and Trunk Call Answering in Night Mode.
7. Program the sales department answering hunting group directory no. 2400 in Programming Item 70 - DISA Digit 7 Answering.
8. Program the customer service department answering hunting group directory no. 2420 in Programming Item 71 - DISA Digit 8 Answering.
9. Program the maintenance department answering extension directory no. is 2200 in Programming Item 72 - DISA Digit 9 Answering.
10. Program the voice channel 0 & 1 in 1st DISA Voice Card to be DISA Voice Channel Group in Programming Item 48 - DISA Voice Channel Start and Programming Item 49 - DISA Voice Channel Stop. DISA Voice Channel Start is programmed to be 0 and DISA Voice Channel Stop is programmed to be 1.
11. The operator prepares to record several messages for DISA purpose.
12. The extension which is used to record voice messages should be allowed to use Voice Message Recording feature.
13. The extension which is used to record voice messages should be DTMF telephone.
14. Pick up the handset of the extension for message recording and dial "\*\*\*13" and then Programming Password.
15. Feature activation tone is heard.
16. Select Segment 0 in Voice Channel 0 to use for recording by dialing "00\*#" and record the Day Mode Greeting Message as following : "This is Connection Electronics Ltd.. Please dial '0' to access our

operator. Dial 7 for sales inquiry. Dial 8 for customer service. Dial 9 for system maintenance. Dial the extension number of the person you want to access.”

17. Select Segment 1 in Voice Channel 0 to use for recording by dialing “01\*#” and record the Busy or No Answer Message as following : “Sorry, the person you called cannot receive the call in this moment, if you want to call other extension, please dial the extension number or dial ‘0’ to access our operator for help.”
18. Select Segment 2 in Voice Channel 0 to use for recording by dialing “02\*#” and record the Night Mode Greeting Message : “This is Connection Electronics Ltd.. We are off now. Our business hour is from nine o’clock in the morning to five o’clock in the evening from Monday to Friday. Please call us in business hour later? Thank you.”
19. Select Segment 3 in Voice Channel 0 to use for recording by dialing “03\*#” and record the Invalid Input Message as following : “Sorry. The number you dialed is not a valid extension number. Please retry or dial ‘0’ to access our operator for help.”
20. Select Segment 0 in Voice Channel 1 to use for recording by dialing “10\*#” and record the Day Mode Greeting Message as following : “This is Connection Electronics Ltd.. Please dial the extension number of the people you want to access or dial ‘0’ to access our operator for help.”
21. Select Segment 1 in Voice Channel 1 to use for recording by dialing “11\*#” and record the Extension Busy or No Answer Message as following : “Sorry, the people you called cannot receive the call in this moment, if you want to call other extension, please dial the extension number or dial ‘0’ to access our operator for help.”
22. Select Segment 2 in Voice Channel 1 to use for recording by dialing “12\*#” and record the Night Mode Greeting Message : “This is Connection Electronics Ltd.. We are off now. Our business hour is from nine o’clock in the morning to five o’clock in the evening from Monday to Friday. Please call us in business hour later? Thank you.”
23. Select Segment 3 in Voice Channel 1 to use for recording by dialing “13\*#” and record the Invalid Input Message as following : “Sorry. The number you dialed is not a valid extension number. Please retry or dial ‘0’ to access our operator for help.”
24. The length of each message should be over 20 seconds. If the message is over 20 seconds, it will overwrite and distort the following message.
25. Playback all the messages to verify if they are OK.
26. Replace handset to complete the message recording process.
27. The DISA function can work now.

### **6.70 DISTINCTIVE DIAL TONE**

The feature activation dial tone will be heard if the extension user has previously activated any of the following features :

- Call Forwarding - Follow Me
- Do Not Disturb
- Call Hold

#### **Programming**

1. The feature activation dial tone cadence can be selected in Programming Item 6 - Feature Activation Dial Tone Type.

### **6.71 DISTINCTIVE RINGING**

A different ringing pattern is used to distinguish between the following calls :

- Incoming trunk call
- Intercom call
- Door phone
- Call back
- Message waiting

#### **Programming**

1. The incoming call ringing cadence can be selected in Programming Item 9 -Incoming Trunk Call Ringing.

### 6.72 DO NOT DISTURB

Each extension can be individually set to stop receiving any calls.

#### Operation

Set the feature :

1. Lift handset and dialing tone is heard.
2. Dial “\*\*01” or “6601” in DTMF telephone or dial “6601” in pulse telephone.
3. Wait for confirmation tone.
4. Hang up.

Cancel the feature :

1. Lift handset and feature activation dial tone is heard.
2. Dial “##00” or “6500” in DTMF telephone or dial “6500” in Pulse telephone.
3. Wait for Confirmation Tone.
4. Do Not Disturb feature is canceled.

#### Condition

1. Busy And No Answer Transfer set before is still effective and will transfer the call to answering extension.
2. Follow Me will be canceled when Do Not Disturb is established.
3. When lift up handset, feature activation tone will be heard to remind you that Do no Disturb or Follow Me is activated.
4. Automatic Callback cannot be initiated when called extension in Do Not Disturb mode.
5. MFC-1S Console can set or cancel this feature for the extension.

#### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.73 DOOR PHONE & DOOR LOCK OPERATION

This feature allows operator talk to visitor and open the electric door lock (if any).

#### Operation

1. Visitor press door phone button once - ringing tone returned.
2. Door Phone answering extension will ring.
3. Lift handset and talk to the visitor.
4. If the operator does not want to open the door lock, hang up to terminate the call.
5. If the operator wants to open the door lock, press FLASH key.
6. Dial “\*9” or “69” in DTMF telephone or dial “69” in pulse telephone to open the door lock.
7. Confirmation tone returned and door lock is opened.
8. Hang up to terminate the call.

#### Condition

1. The extension can also dial to the Door Phone directly, by dial the Door Phone directory number like an intercom call.
2. Door lock can be opened without calling by door phone (dial “\*9” or “69” after lift handset).
3. The extension can use the Call Pickup feature to pick up the Door Phone call.
4. The Door Phone call cannot be transferred or held.

#### Programming

1. Set door lock on time in Programming Item 23 - Door Lock Relay On Time.
2. Set the extension to be the Door Phone station in Programming Item 82 - Extension Type.
3. Assign the extension to the feature class which allow to turn on door lock in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
4. Assign directory number to the door phone extension in Programming Item 87 - Directory Number Assignment.
5. Set Door Phone answering extension directory no in Programming Item 89 - Door Phone and Hot Line Answering.

### 6.74 DTMF TO PULSE CONVERSION

The system will perform DTMF to pulse conversion for extension to the outgoing calls when the extension is DTMF dialing and trunk is pulse dialing.

#### Condition

1. The system will perform DTMF to pulse conversion when the extension is connected with a DTMF telephone and the dialing method is programmed to be DTMF and the trunk line is programmed to be pulse dialing.

#### Programming

1. The dialing method of trunk is programmed in Programming Item 61 - Trunk Dialing Method.
2. The dialing method of extension is programmed in Programming Item 81 - Extension Dialing Method.

### 6.75 E&M TRUNK SUPPORT

E&M trunks are supported with the E&M Trunk card in the DX-1S Digital PABX.

### 6.76 EXTENSION DIALING CLASS

The Extension Dialing Class is to control the extensions to make outgoing calls. The extension can only make the outgoing call which is allowed in his/her dialing class. The dialing class in Day Mode of an extension can be different to that in Night Mode. If the extension is programmed to be hotel telephone, the dialing class for the extension is defined as Check-in and Check-out Mode.

The limitation of Extension Dialing Class is that this algorithm cannot prevent unauthorized user to make outgoing calls in a high dialing class extension.

#### Condition

1. The extension will be allowed to use Speed Dialing to make outgoing calls even if the number in Speed Dialing is not allowed in his/her Extension Dialing Class if Programming Item 34 - Apply Call Restriction To Speed Dialing is disabled (set to 0).
2. When Programming Item 34 - Apply Call Restriction To Speed Dialing is enabled, the extension will not be able to use Speed Dialing to make outgoing calls if the number in Speed Dialing is not allowed in his/her Extension Dialing Class.

#### Programming

1. The Dialing Class is assigned to extensions in Programming Item 83 & 84 - Extension Dialing Class in Day/Check-in and Extension Dialing Class in Night/Check-out Mode.
2. The call restriction to Speed Dialing is enabled in Programming Item 34 - Apply Call Restriction To Speed Dialing.
3. Select Toll Restriction Scheme in Programming Item 58 - Toll Restriction Scheme.

### 6.77 EXTENSION DIGIT DELETION

This item is to set the system to ignore the first (several) digits dialed by an extension. This feature may be used in a networking system using loop start networking (trunk – extension connection).

For example, DX-1S is networking with another PABX using loop start networking. The other PABX extension can call DX-1S extension by access a networked trunk and then dial DX-1S's destination directory number. In DX-1S, the networked extension will receive the number from the other PABX and the Digit Deletion feature is able to discard any unwanted or unrelated digits and find out the called extension.

#### Programming

Enable this feature for the extension in Programming Item 95: Digit Deletion Status.

Assign the digits to be deleted by Programming Item 139: Digit Deletion Format.

#### Example

In a loop start networking system, networked extensions have the Digit deletion feature enable and the number of digit deletion set to 3.

An incoming call from the networked extensions may contain seven digits including called destination information. The first three digits represent the module number, while the last four digits represent the destination directory number.

The system will ignore (delete) the first three digits and interpret the destination directory number by the last four digits.

### 6.78 EXTENSION FEATURE CLASS

The Extension Feature Class is to control which features the extensions can use. The extension can only use the features which his/her extension feature class is allowed to use. There are 16 Extension Feature Classes in the system. All the extensions must be assigned with a feature class. Each feature class define which features can be used in this class. There are 50 features programmed to enable or disable in every class. The extension can have different class in Day/Night Mode or Check-in/Check-out Mode.

#### Condition

1. Reference to DX-1S Programming Manual for details.

#### Programming

1. The extension is assigned with different class in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
2. Program which features can be used in each class in Programming Item 118 - Feature Class Assignment.

### 6.79 EXTENSION HUNTING GROUP

The hunting group is formed by a group of extensions and is assigned with a directory number. The extension can access the hunting group members by dialing the directory number of the group. The call will be hunted among the hunting group members when are idle.

The system can have up to 15 hunting groups defined.

#### Condition

1. The hunting sequence will follow the member sequence in the hunting group programming.
2. The system can have 15 hunting groups defined
3. Each hunting group includes maximum 15 extensions.

#### Programming

1. The hunting group directory number is assigned in Programming Item 115 - Extension Hunting Group Directory Number.
2. The hunting method is set in Programming Item 116 - Extension Hunting Group Type.
3. The hunting group member is assigned in Programming Item 117 - Extension Hunting Group Assignment.

### 6.80 EXTENSION HUNTING GROUP - CIRCULAR HUNTING

When the hunting group is set to be Circular Hunting, the call will ring the extensions of the hunting group one by one until the call is answered. The next call will start to ring the member next to prior member who has just answered the former call and then hunt to following members.

#### Condition

1. The busy extension will be skipped to ring in hunting.

#### Programming

1. The hunting method is set in Programming Item 116 - Extension Hunting Group Type.

### 6.81 EXTENSION HUNTING GROUP - TERMINAL HUNTING

When the hunting group is set to be Terminal Hunting, the call will always start ring the first member of the hunting group member list and then hunt to the members according to the member list.

#### Condition

1. The busy extension will be skipped to ring in hunting.

#### Programming

1. The hunting method is set in Programming Item 116 - Extension Hunting Group Type.



## **6.82 EXTENSION STATUS DISPLAY**

The MFC-1S Console screen can display the extension status in Attendant Console Mode. The extension number display format in the Extension Status Display Field will indicate the extension status.

<b>Directory Number Display</b>	<b>Status</b>
In normal	Extension is idle.
Inversely	Extension is occupied.
Blinking (0.5s ON, 0.5s OFF)	Called Extension is ringing or Calling Extension is waiting for attendance console to answer.
Winking (2.5s ON, 0.5s OFF)	Extension is parked or on hold.

**Table 6-1 EXTENSION NUMBER DISPLAY FORMAT IN MFC-1S CONSOLE**

### **Condition**

1. Reference to MFC-1S Manual for details.

## **6.83 EXTENSION TOLL LOCKING**

An extension user can temporary lock their telephone from making long distance call by changing their dialing class.

### **Operation**

1. Lift handset and hearing dialing tone.
2. Dial “\*\*07” or “6607” in DTMF telephone or dial “6607” in pulse telephone.
3. Dial the four digits password (1000 ~ 9999).
4. Dial the desired dialing class (0 ~ 7).
5. Wait for confirmation tone.
6. Hang up.

### **Condition**

1. The four digits password is the Account Number Password where account number equal to the extension number. i.e. The password for extension 0 is the password for Account Number 0000. The password for extension 239 is the password for Account Number 0239.
2. The changed Dialing Class is only effective when it has lower right than the programmed Dialing Class. i.e. The value of the changed Dialing Class should be greater than the programmed Dialing Class.
3. Attendant Console can set or cancel this feature for the extension.

### **Programming**

1. Assign the extension to the feature class which allow to set or cancel this feature in Program Item 85 & 86 - Extension Feature Class in Day / Check in Mode and Night / Check Out Mode.
2. Assign the programmed Dialing Class in Programming Item 83 & 84 - Extension Dialing Class in Day / Check in Mode and Extension Dialing Class in Night / Check Out Mode.

## **6.84 EXTENSION TRANSFER SECURITY**

The system is designed to avoid missing the call when transfer in wrong operation.

### **Condition**

1. When the extension has held a call, if the operation of transferring the call is wrong, such as transferred to an invalid directory number or dial the wrong code, the extension can press FLASH key to answer the call.

## **6.85 EXTERNAL MUSIC INPUT**

The user may use the desire music for Music On Hold and Wake Up Service Message by connecting the music source to the PABX's External Music Port.

### **Programming**

1. Select the external music for call hold music in Programming Item 10 - Call Hold Music Type.
2. Select the external music for Wake Up Service Message in Programming Item 11 - Wake Up Service Message Type.

### **6.86 FLASH DISABLE**

There are some extensions which will not need to transfer or hold a call, or the extension is for outside people to use. Disable the flash among these extensions will avoid wrong operation and cause problem.

#### **Condition**

1. The extensions for outside people to use or hotel telephone are advised to disable flash.
2. The extension which the flash is disable will not able to hold, park or transfer a call.

#### **Programming**

1. Assign the extension to the class which the flash is disable in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### **6.87 FLASH PROM FOR AGENT'S DEFAULT DATA**

The default value of Programming Data can be changed for the agents by manufacturer to meet different practice in different countries. Contact the manufacturer to arrange the custom made version of default value if necessary.

### **6.88 FLASH TO RETAIN TRANSFERRED CALL**

When the extension user is transferring a call to another extension, the originating extension can flash the line to retain the call.

#### **Operation**

1. When the extension is transferring a call to other extension, after dialing the directory number and hearing ringing tone, the originating extension can press FLASH key to terminate the call transfer and retain the call on hold.
2. When the extension is transferring a call to an extension, and the called extension has picked up handset to answer the call, the originating extension can press FLASH key to terminate the call transfer and retain the call on hold. The called extension will hear busy tone.
3. When the extension is transferring a call to a busy extension or an extension who has set Do Not Disturb feature, after dialing the directory number and hearing busy tone, the originating extension can press FLASH key to retain the call.

### **6.89 FLEXIBLE NUMBERING PLAN**

Flexible Numbering Plan allows the system to use another numbering plan beside the system default numbering plan.

The main purpose to use Flexible Numbering Plan is to connect several PABX or telephone systems to form a networking system.

#### **Operation**

1. The whole numbering plan can be divided into several portion :
  - Operation Access Code
  - Default Trunk Group Access Code
  - Speed Dialing Access Code
  - Last Number Redial / Trunk Group Access Code
  - Features Access Code
  - Single Digit Trunk Group Access Code
  - Directory Number Access Code
  - Two to Four Digit Prefix for Directory Number
  - Two to Four Digit Prefix for Trunk Group Access Code
2. Plan for a new numbering scheme, which meet the requirement.
3. Program the system according to the new numbering scheme.
4. Test each access code to verify the new number scheme is in effective and match to the plan.

#### **Programming**

1. Set Programming Item 133: Numbering Scheme to enable.
2. Define the desired numbering plan by assigning Programming Item 134: First Digit Type. The meaning or action of each first dialed digit should defined here.
3. Assign Programming Item 135: DISA Digit Type for required numbering plan if you wish to use in DISA incoming call.
4. Assign the number of digits of flexible number by Programming Item 136: Flexible Format.

5. Define the flexible range by Programming Item 137: Flexible Range Start and Programming Item 138: Flexible Range Stop. Range 0 is for intercom and range 1 to 16 are for trunk group access

**Example**

A new numbering plan is required as following :

Feature Access Code	Feature
0	No Function
100	Last Number Redial
101 ~ 116	Access Specified Trunk
2 AAAA BBBB	Access Account Code Password Control
3	Access Trunk Group 3
4	Access Trunk Group 4
5	Access Trunk Group 5
6000 ~ 6999	Extension Directory Number EEEE
710 ~ 736	Access Trunk Group 1
737 EEEE ~ 739 EEEE	Access Extension with Directory Number EEEE
8	No Function
9	Access Operator
* 0 or 240	Call Park – Personal
* EEEE or 24 EEEE	Call Park To Extension
* 6 N or 236 N	Set / Retrieve Common Call Park
* 7 or 27	Trunk Flash
* 8 or 28	Paging & Meet Me Paging
* 9 or 29	Turn On Door Lock
# 0 or 230	Call Pickup – Personal
# EEEE or 23 EEEE	Call Pickup – Ringing Extension & Extension Parked Call
# 6 N or 236 N	Retrieve Common Call Park
# 7 TT or 237 TT	Access Specified Trunk
# 8 or 238	Call Pickup - Meet Me Paging Call
# 9 or 239	Call Pickup - Any Call
**00 AAAA BBBB QQQQ KKKK	Set Account Code Password
** 01 or 2601	Set Do Not Disturb
** 02 EEEE or 2602 EEEE	Set Follow Me
** 02 SSSS or 2602 SSSS	
** 03 EEEE or 2603 EEEE	Set Busy and No Answer Transfer
** 03 SSSS or 2603 SSSS	
** 04 HH NN or 2604 HH NN	Set Wake Up Service
** 06 EEEE or 2606 EEEE	Set Message Waiting
** 07 BBBB C or 2607 BBBB C	Set User Defined Dialing Class
** 08	Set Busy Transfer
** 09	Set No Answer Transfer
** 11 or 2611	Set Day Mode
** 13 PPPP or 2613 PPPP	Enter Voice Message Recording Mode
** 14 M or 2614 M	Trunk No Answer Voice Announcement Selection
** 15 TT or 2615 TT	Trunk Call Disconnect
*# 0	Call Pick Up Personal
*# 6N	Set / Retrieve Common Call Park
*# 8	Call Pickup - Meet Me Paging Call
*# 9	Call Pickup - Any Call
## 11 or 2511	Set Night Mode
# * 0	Answer Extension Queue
# * EEEE	Answer Extension
# * 9	Answer PCM Queue / Trunk Queue / Extension Queue
## 00 or 2500	Cancel Follow Me and Do Not Disturb

## 01 or 2501	Cancel Do Not Disturb
## 02 or 2502	Cancel Follow Me
## 03 or 2503	Cancel Busy and No Answer Transfer
## 04 or 2504	Cancel Wake Up Service
## 06 EEEE or 2506 EEEE	Cancel Message Waiting
## 08	Cancel Busy Transfer
## 09	Cancel No Answer Transfer
##15 EEEE 2	Monitor extension
##15 EEEE 3	Automatic Call back extension
##15 EEEE 4	Override extension
##15 EEEE 5	Disconnect talking extension
##15 EEEE 6	Immediate Connect extension
##15 EEEE 7	Set extension to Sleep Mode
##15 EEEE 8	Put extension into Broadcast Conference (listen only)
##15 EEEE 9	Put extension into Multi-party Conference (both-way)
TT – Trunk Number (01 ~ 60) EEEE – Directory Number of Extension (10 ~ 59 or 100 ~ 599 or 1000 ~ 5999) SSSS – Speed Dialing Memory (80 ~ 89 or 800 ~ 899 or 8000 ~ 8299) M – Trunk No Answer Mode Message Number (0 ~ 3) PPPP – Programming Password (0000 ~ 9999) AAAA – Account Code for Account Code Password Control (0000 ~ 1999) BBBB – Account Password (0000 ~ 9999) QQQQ – New Account Password (0000 ~ 9999) KKKK – New Account Password for verification(0000 ~ 9999) N – Common Call Park Location (1 ~ 8) HH – Hour (00 ~ 23), NN – Minute (00 ~ 59) C – Dialing Class (0 ~ 7)	

Required programming :

Programming	Function
3*133*1	Enable Flexible Numbering Scheme
3*134*0*4	Set digit 0 : no function
3*134*1*7	Set digit 1 : last number redial / access trunk group
3*134*2*6	Set digit 2 : access features
3*134*3*3	Set digit 3 : access Trunk Group 3
3*134*4*3	Set digit 4 : access Trunk Group 4
3*134*5*3	Set digit 5 : access Trunk Group 5
3*134*6*2	Set digit 6 : intercom, 6XXX to access extension
3*134*7*1	Set digit 7 : flexible number
3*134*8*4	Set digit 8 : no function
3*134*9*0	Set digit 9 : access operator
3*136*3	Set flexible number to be 3 digits
3*137*0*737	Set flexible number range for intercom start at 737
3*138*0*739	Set flexible number range for intercom stop at 739
3*137*1*710	Set flexible number range for trunk group 1 start at 710
3*138*1*736	Set flexible number range for trunk group 1 stop at 736
3*150*3	Set flexible intercom prefix for intercom to be 3 digits

Operation:

Dialing 0 or 8 will get busy tone, since these two digits had defined as no function.

Dialing 100 will redial the last out dial number

Dialing 102 will access Trunk Group 02.

Dialing 2wxyz will access features. See above Feature Access Code table for details.

Dialing 3, 4 and 5 will access trunk group 3, 4 and 5 correspondingly.

Dialing 6wxyz will access extension 6wxyz (Directory Number Format = 4).

Dialing 725wxyz will access Trunk Group 1 and dial wxyz to the trunk.

Dialing 738wxyz will call to extension with directory number wxyz (Directory Number Format = 4).

Dialing 750wxyz will hear busy tone, since 750 do not belong to any valid flexible range.

Dialing 9 will access operator.

### 6.90 FOLLOW ME

This feature allows the extension to forward all the calls to the assigned extension or extension hunting group.

#### Operation

Set the feature :

1. Lift handset and dialing tone is heard.
2. Dial “\*\*02” or “6602” in DTMF telephone or dial “6602” in pulse telephone.
3. Dial the directory number of the extension or extension hunting group who will answer the call.
4. Wait for confirmation tone.
5. Hang up.

Cancel the feature :

1. Lift handset and feature activation dial tone is heard.
2. Dial “##00” or “6500” in DTMF telephone or dial “6500” in pulse telephone.
3. Wait for confirmation tone.
4. The Follow Me feature is canceled.

#### Condition

1. MFC-1S Console can set or cancel this feature for the extension.
2. Do Not Disturb is canceled when Follow Me is established.
3. When lift up handset, feature activation tone will be heard to remind the user that Call Forwarding is activated.
4. An extension cannot accommodate more than one forwarded extension. At each time of newly setting, the old entry will be canceled.

#### Programming

Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.91 HARDWARE PROGRAMMING MODE PASSWORD SETTING

If the user had changed the Programming Mode Password but lost the password later. The maintenance people can inform the system to neglect the user define password by setting the DIP SWITCH in Module Mother Board Position 1 to ON. The system will use the default value as Programming Mode Password instead of user define password in this condition. The maintenance people can now set the Programming Mode Password to default value or user define value in system programming.

#### Condition

1. Reference to DX-1S Programming Manual for details.

### 6.92 HARDWARE SYSTEM INITIALIZATION

In some case, the system do not accept any Programming Mode Password even the password is corrected. This case may happen if the sequence of programming data is wrong because the system software has just upgraded to a new version or the programming data has collapsed. In order to solve this problem, the Hardware System Initialization should be used.

Hardware System Initialization will reset all Programming Mode Password to default value.

#### Condition

1. Reference to DX-1S Maintenance Manual for details.

### 6.93 HOT LINE TO EXTENSION

A Hot Line can be established to call the hot line answering extension every time the user lift up the handset of the hot line extension without dialing. This feature will disable the capability of the hot line extension to make outgoing calls and intercom calls except Hot Line.

### **Operation**

1. Lift up the handset and ringing tone returned.
2. Wait for the extension answer.

### **Condition**

1. If the hot line answering extension has set Busy and No Answer Transfer feature, the call may be transferred to other extension when it is busy or no answer. Otherwise, busy tone will be heard.

### **Programming**

1. The hot line is set in Programming Item 82 - Extension Type.
2. The hot line answering extension directory no is set in Programming Item 89 - Door Phone And Hot Line Answering.

## **6.94 HOT LINE TO OUTSIDE PARTY**

A hot line can be established to call the outside parties every time the user lift up the handset of the hot line extension without dialing. The telephone number of outside party is stored in the Speed Dialing Memories. This feature will disable the capability of the hot line extension to make outgoing calls and intercom calls except Hot Line.

### **Operation**

1. Lift up the handset and ringing tone returned.
2. Wait for the extension answer.

### **Programming**

1. Program the extension to be Type 4 (Hot Line to Trunk) in Programming Item 82 - Extension Type.
2. The speed dialing memories used for hot line to outside parties is set in Programming Item 89 - Door Phone And Hot Line Answering.
3. Store numbers to Speeding Dialing Memories in Programming Mode Store Speeding Dialing Memories.

## **6.95 HOTEL NUMBERING PLAN**

When the extension is set to be hotel telephone, the feature access codes of the extension is different from normal extension.

### **Condition**

1. "80 ~ 89" is the hotel service access codes when the extension is programmed to be Hotel Telephone.
2. The directory number can be programmed to relate to room number.

### **Programming**

1. The extension is assigned to be hotel telephone in Programming Item 82 - Extension Type
2. The directory number of extension is programmed in Programming Item 87 - Directory Number Assignment.
3. The hotel service answering extension directory no is programmed in Programming Item 112 - Hotel Service Answering.

## **6.96 HOTEL/MOTEL FEATURES**

The Hotel/Motel Features are used in a hotel environment and help to provide hotel service and hotel management to the customers. The following features are Hotel/Motel Features :

- Call Accounting System
- Check-in/Check-out
- Hotel Numbering Plan
- Message Waiting
- Room Number Correlation
- Set Busy And No Answer For Extension
- Set Do Not Disturb For Extension
- Set Follow Me For Extension
- Two Digits Dialing For Service
- Wake Up Service

### 6.97 HUNTING GROUP ALL RINGING

This feature allows several extension members of a hunting group ring together when calls arrive. Anyone of the ringing extension picks up the handset will answer the call.

This feature is applicable for incoming trunk calls, intercom call and also door phone call which is made to the hunting group directory number.

#### Condition

1. If all extensions of the hunting group are busy, night answering will be used.

#### Programming

1. Assign the hunting group to type 2 in Programming Item 116 – Extension Hunting Group Type.

### 6.98 IDD AND LDD CODES TABLES

There are 10 Access Codes can be set in the IDD and LDD tables. Each code can store up to 6 digits. The first few digits of the outgoing calls which match the codes in this table is assumed as an IDD call and is restricted according to the extension dialing class.

#### Condition

1. Reference to Extension Dialing Class and Account Number Dialing Class sections for details of outgoing call dialing class control.

#### Programming

1. The IDD code is input in Programming Item 100 - IDD Codes Table.
2. The LDD code is input in Programming Item 101 - LDD Codes Table.

### 6.99 IDLE LINE PREFERENCE

This feature allows user to answer idle trunk line without dialing Default Trunk Group Access Code or Specified Trunk Group Access Code when he/she lift up the handset. If the user wants to make intercom call, he/she should depress FLASH key after lifted up the handset and dial the directory number.

#### Operation

1. Lift up the handset.
2. Wait for the dialing tone of public exchange.
3. Dial the outside party telephone number.

#### Condition

1. The trunk line for Idle Line Preference is answered from the Default Trunk Group of the extension.
2. If all trunk lines are occupied, busy tone will be heard. Then hang up the handset and retry again.
3. This feature is advised to use in the extension which is for outside people to dial outgoing calls only.

#### Programming

1. The extension with Idle Line Preference is set in Programming Item 82 - Extension Type.
2. Assign the extension to the dialing class which allow to make outgoing call in Programming Item 83 & 84 - Extension Dialing Class in Day/Check-in Mode and Extension Dialing Class in Night/Check-out Mode.
3. To program the default trunk group for extension with Idle Line Preference in Programming Item 88 - Extension Default Trunk Group.

### 6.100 IMMEDIATE CONNECT

This feature allow immediate connect to an extension or trunk, even the party is engaged.

#### Operation

1. Dial the directory number of the extension or dial “#7TT” for a specified trunk.
2. If the called extension or trunk is engaged in a call, busy tone is heard.
3. Dial “6” will immediate connect the called extension or trunk. (no tone will be heard).

#### Condition

1. The Feature no. 42 (Call Disconnect & Trunk Disconnect) in the Feature Class of the extension must be set to 1 in order to use this feature.
2. If the called port (extension or trunk) is in sleep mode, this feature will immediately connect the called port.
3. If the called extension or trunk is in talking stage, this feature will terminate the call and connect to the called party.

4. If the called party is engaged in three party conference, this function will connect the called extension or trunk and the other parties in the conference will still in talking stage.
5. If the called extension or trunk is in other state, this function will fail and the calling extension will continue hear busy tone.
6. This feature will not work on PCM called port.

### **Programming**

1. Assign the extension to the feature class which has feature no. 42 = 1 in Program Item 85 & 86 - Extension Feature Class in Day / Check in Mode and Night / Check Out Mode.

## **6.101 INTERCOM CALL**

This feature allows internal communication between extensions.

### **Operation**

1. Lift handset and dialing tone is heard.
2. Dial the directory number of the extension or hunting group.

### **Condition**

1. The extension must start dialing before Dialing Tone Timeout otherwise the extension will be released automatically.
2. If called extension is busy, hang up and try again or initiate Automatic Call Back.
3. If called extension is in Do Not Disturb mode, Automatic Call Back cannot be initiated.

### **Programming**

1. The directory number format is set in Programming Item 38 - Directory Number Format.
2. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
3. The directory number is assigned to extensions in Programming Item 87 - Directory Number Assignment.

## **6.102 INTERCOM CALL THROUGH NETWORK**

This feature allow internal communication between extensions of different system within a network.

### **Operation**

1. Lift handset and dialing tone is heard.
2. Dial the directory number of the extension or hunting group in other systems.

### **Condition**

1. The extension must start dialing before Dialing Tone Timeout otherwise the extension will be released automatically.
2. The systems should be connected and programmed for networking feature.
3. Reference to Loop Start Network Installation Section for network installation.

### **Programming**

1. The directory number format is set in Programming Item 38 - Directory Number Format.
2. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
3. The directory number is assigned to extensions in Programming Item 87 - Directory Number Assignment.

## **6.103 INTERCOM CALL WAITING**

When dial to a busy extension with Intercom Call Waiting enabled, the calling party will hear ringing tone instead of hearing busy tone. System will send call waiting tone to the called extension to indicate that a call is waiting to answer.

### **Operation**

1. Someone make an intercom call to a busy extension.
2. If the called extension is already in a conversation and call waiting tone is heard, it indicate a call is waiting to answer.
3. The called extension can park or terminate the current call.
4. When the called extension replace the handset, the call will ring the called extension.
5. The called extension pick up the handset and the waiting call is connected.



### Condition

1. If the called party cannot complete the current call within the Intercom Call Waiting Timeout, the calling party will hear busy tone and the call waiting process terminate.

### Programming

1. Enable this feature for the called extension in Programming Item 92 - Intercom Call Waiting Status.
2. Assign timeout value in Programming Item 56 - Intercom Call Waiting Timeout.

## 6.104 LAST NUMBER REDIAL

The telephone number dialed in the last trunk call can be redialed.

### Operation

1. Lift handset and dialing tone is heard.
2. Dial Last Number Redial Access Code and wait the call connected.

### Condition

1. Up to 24 digits can be stored and redialed.
2. Last number radial will not work on intercom calls.
3. For two digits trunk group format, the Last Number Redial Access Code is "70".
4. For three digits trunk group format, the Last Number Redial Access Code is "700".

### Programming

1. The Trunk Group Access Code format access is set in Programming Item 39 - Trunk Group Access Format.

## 6.105 LINE REVERSAL DETECTION

If the public exchange will send the line reversal signal to PABX to indicate the call answering status, this feature should be enabled. The trunk interface will detect line reversal signal and SMDR will start and stop call timing reference to the line reversal signal.

### Condition

1. The Line Reversal Detection should NOT be enabled unless the public exchange gives line reversal signal. Otherwise, calls will not be timed and SMDR will have wrong call duration figure.

### Programming

1. The Line Reversal Detection is enabled in Programming Item 62 - Line Reversal Detection.

## 6.106 LOOP START NETWORK INSTALLATION

Several DX-1S Systems can be tied up through Loop Start Trunks and Extensions. The number of trunks and extensions should be used in a networking depend on the traffic between the systems. If the traffic between the systems is very high, it requires more trunks and extensions to be the network paths. Otherwise the user may always face the busy condition and cannot access the extensions in other systems through the network because of not enough network paths. The trunks and extensions using to tie up the systems are called network trunks and network extensions.

The network extensions will transfer the calls to other systems. The network trunk will receive the calls originating from other systems and handle the outgoing trunk calls which are originated by the extensions in other systems.

The trunk and extension should be programmed to be the network trunks & extensions and connect with the network trunks and extensions in other systems.

### Operation

1. Determine the number of trunks and extensions to be network trunks and extensions in the systems of the network.
2. Connect the network trunks in one system to the network extensions in other systems.
3. Connect the network extensions in one system to the network trunks in other systems.

### Condition

1. The number of network trunks and extensions will restrict the number of calls handling by the network simultaneously.

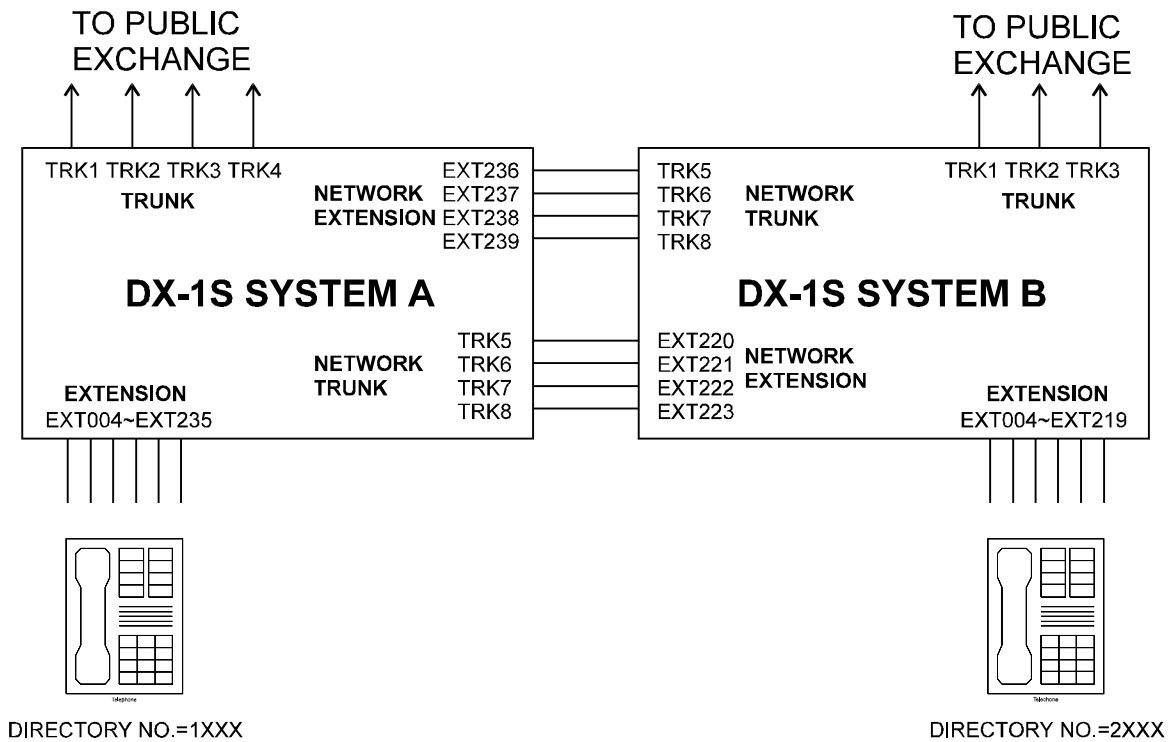
### Programming

1. Enable the trunks which will be used as network trunks in Programming Item 60 - Trunk Service Status for each system of the network.
2. Assign the network trunks to be DTMF dialing in Programming Item 61 - Trunk Dialing Method for each system.

3. Disable line reversal detection in network trunks in Programming Item 62 - Line Reversal Detection for each system.
4. Program the network trunks to be Type 4 (Network Trunk) in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode for each system.
5. Program the network trunks to insert the Default Trunk Access Code or Specified Trunk Access Code for each system in Programming Item 67 - Trunk Digit Insertion when the network allow the extensions to make outgoing calls through the trunks in other systems.
6. Assign the network trunks to be a Trunk Group in Programming Item 113 & 114 - Trunk Group Start & Trunk Group Stop for each system.
7. Enable the extensions which will be used as network extensions in Programming Item 80 - Extension Service Status for each system.
8. Assign the network extensions to be DTMF dialing in Programming Item 81 - Extension Dialing Method for each system.
9. Program the network extensions to be Type 6 (Network Extension) in Programming Item 82 - Extension Type for each system.
10. Program the network extensions dialing class for toll restriction (IDD & LDD Control) in Programming Item 83 & 84 - Extension Dialing Class in Day/Check-in Mode and Extension Dialing Class in Night/Check-out Mode when the network allows the extensions to make outgoing calls through the trunks in other systems.
11. Program the network extensions to the feature class which is allowed to make outgoing calls in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode when the network allows the extensions to make outgoing calls through the trunks in other systems.
12. Assign the first digit of directory number of each system to be different number in Programming Item 87 - Directory Number Assignment. For example, the directory number of the first system in the network is "1XXX", the directory number of the second system in the network is "2XXX".
13. Assign the default trunk group to the network extensions in Programming Item 88 - Extension Default Trunk Group when the network allows the extensions to make outgoing calls through the trunks in other system.
14. Program the network extension hunting group to be Type 0 (circular hunting) in Programming Item 116 - Extension Hunting Group Type.
15. Assign the network extensions to be the members of a extension hunting group in Programming Item 117 - Extension Hunting Group Assignment
16. Assign the directory access code to the network extensions hunting group which is the first digit of the directory number of the system the network extensions connected in Programming Item 119 - Network Hunting Group. For example, assign the directory access code of the extension hunting group to be "2" if the network extensions are tied up with another system which the directory number is "2XXX".

### Example

1. Two systems are connected with Loop Start Networking to form a network.
2. There are four trunks and four extensions in each system assigned to be network trunks and extensions.
3. The extensions in one system are allowed to get the trunks in other system to make an outgoing call, but the call cannot be IDD or LDD call.
4. The systems are connected as below diagram :



**Figure 6-3 LOOP START NETWORKING CONNECTION**

5. Program the Trunk Group Access Format to be 2 digits in Programming Item 39 - Trunk Group Access Format.
6. Enable Trk 5, Trk 6, Trk 7, Trk 8 in System A and System B in Programming Item 60 - Trunk Service Status.
7. Assign Trk 5, Trk 6, Trk 7, Trk 8 in System A and System B to be DTMF dialing in Programming Item 61 - Trunk Dialing Method.
8. Disable line reversal detection for Trk 5, Trk 6, Trk 7, Trk 8 in System A and System B in Programming Item 62 - Line Reversal Detection for each system.
9. Program Trk 5, Trk 6, Trk 7, Trk 8 in System A and System B to be Type 4 (Network Trunk) in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode.
10. Program Trk 5, Trk 6, Trk 7, Trk 8 in System A and System B to insert the Default Trunk Access Code "9" in Programming Item 67 - Trunk Digit Insertion.
11. Assign Trk 1, Trk 2, Trk 3, Trk 4 in System A to be Trunk Group 1 in Programming Item 113 & 114 - Trunk Group Start & Trunk Group Stop.
12. Assign Trk 1, Trk 2, Trk 3 in System B to be Trunk Group 1 in Programming Item 113 & 114 - Trunk Group Start & Trunk Group Stop.
13. Assign Trk 5, Trk 6, Trk 7, Trk 8 in System A and System B to be Trunk Group 2 in Programming Item 113 & 114 - Trunk Group Start & Trunk Group Stop.
14. Enable Ext 236, Ext 237, Ext 238 and Ext 239 in System A in Programming Item 80 - Extension Service Status.
15. Enable Ext 220, Ext 221, Ext 222 and Ext 223 in System B in Programming Item 80 - Extension Service Status.
16. Assign Ext 236, Ext 237, Ext 238 and Ext 239 in System A to be DTMF dialing in Programming Item 81 - Extension Dialing Method.
17. Assign Ext 220, Ext 221, Ext 222 and Ext 223 in System B to be DTMF dialing in Programming Item 81 - Extension Dialing Method.
18. Program Ext 236, Ext 237, Ext 238 and Ext 239 in System A to be Type 6 (Network Extension) in Programming Item 82 - Extension Type.
19. Program Ext 220, Ext 221, Ext 222 and Ext 223 in System B to be Type 6 (Network Extension) in Programming Item 82 - Extension Type.
20. Program Ext 236, Ext 237, Ext 238 and Ext 239 in System A to Dialing Class 3 for IDD & LDD restriction in Programming Item 83 & 84 - Extension Dialing Class in Day/Check-in Mode and Night/Check-out Mode.

21. Program Ext 220, Ext 221, Ext 222 and Ext 223 in System B to Dialing Class 3 for IDD & LDD restriction in Programming Item 83 & 84 - Extension Dialing Class in Day/Check-in Mode and Extension Dialing Class in Night/Check-out Mode.
22. Program Ext 236, Ext 237, Ext 238 and Ext 239 in System A to Feature Class 2 which is allowed to make outgoing call in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
23. Program Ext 220, Ext 221, Ext 222 and Ext 223 in System B to Feature Class 2 which is allowed to make outgoing call in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
24. Assign the directory number of the extensions in System A to be "1XXX" in Programming Item 87 - Directory Number Assignment.
25. Assign the directory number of the extensions in System B to be "2XXX" in Programming Item 87 - Directory Number Assignment.
26. Assign the default trunk group of Ext 236, Ext 237, Ext 238 and Ext 239 in System A to be 1 in Programming Item 88 - Extension Default Trunk Group.
27. Assign the default trunk group of Ext 220, Ext 221, Ext 222 and Ext 223 in System B to be 1 in Programming Item 88 - Extension Default Trunk Group.
28. Assign Ext 236, Ext 237, Ext 238 and Ext 239 in System A to be the members of Extension Hunting Group 254 in Programming Item 117 - Extension Hunting Group Assignment
29. Assign Ext 220, Ext 221, Ext 222 and Ext 223 in System B to be the members of Extension Hunting Group 254 in Programming Item 117 - Extension Hunting Group Assignment
30. Program Hunting Group 254 in System A & B to be Type 0 (circular hunting) in Programming Item 116 - Extension Hunting Group Type.
31. Assign the directory access code of Hunting Group 254 in System A to be "2" in Programming Item 119 - Network Hunting Group.
32. Assign the directory access code of Hunting Group 254 in System B to be "1" in Programming Item 119 - Network Hunting Group.
33. The System A & B are now set up to form a network. The extensions in one system can make or transfer a call to the extensions in other system. The extensions can also get the trunk line from other system to make outgoing calls by dialing "72" and then telephone number.

### 6.107 LOOP START NETWORKING

Two or more DX-1S Systems can be tied up with Loop Start Networking feature to form a larger capacity system. The Loop Start Networking feature do not require additional hardware and only common loop start trunks and extensions are used. The intercom calls and trunk calls of each system can transfer to other systems in the network. All the directory numbers of the extensions within the network can be the same number of digits.

#### Condition

1. The trunk calls and intercom calls can transfer to other system through the network.
2. The extension in one system can use the trunk in other systems to make an outgoing call through the network.
3. The Call Forwarding features cannot use between the systems in a network.
4. All systems in a network need to program individually.
5. Reference to Loop Start Network Installation Section for network installation.

#### Programming

1. Reference to Loop Start Network Installation section for details.

### 6.108 MAINTENANCE FEATURES

The following features are for system maintenance purpose :

- No Memory Backup Battery Replacement
- Non-Volatile Programming Data Backup
- On-line Diagnostic
- Password Control for System Diagnostic
- Password Control for System Programming
- System Diagnostic
- Trouble Shooting

#### Condition

1. Reference to DX-1S Maintenance Manual for details.

### 6.109 MANUAL SOFT-RESET

The maintenance personnel can manually initiate a System Soft-Reset without power down the system. The following data will not be affected during soft-reset:

- Do Not Disturb
- Call Forwarding : Follow Me
- Busy and No Answer Transfer
- Wake Up Service
- Check In/Out Status
- Message Waiting
- User Defined Dialing Class
- Day / Night Mode Setting
- System Counters

#### Condition

1. Reference to Maintenance Manual for details.

### 6.110 MEET ME PAGING

When the extension want to make a call to an extension user but do not know where the user is, he/she may use Meet Me Paging feature to page the user to answer the call.

#### Operation

Meet Me Paging :

1. Pick up the handset and dial tone is heard.
2. Dial “\*8” or “68” in DTMF telephone or dial “68” in pulse telephone.
3. Wait for beep tone.
4. Start paging the user to pick up the call.
5. Wait for the paged user to answer the call.

Call Pickup - Meet Me Paging Call :

1. When the paged user want to pick up the call, pick up the handset of an extension and dial tone is heard.
2. Dial “#8” or “638” in DTMF telephone or dial “638” in pulse telephone.
3. The call is now connected with the paging extension.

#### Programming

1. Assign the paging extension to the class which allow to use Paging feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
2. The feature class of the extension which the pager user pick up the call should allow to use Call Pickup - Meet Me Paging Call feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.111 MEET ME PAGING TO TRANSFER CALL

When the extension want to transfer a call to an extension user but do not know where the user is, he/she may use Meet Me Paging feature to page the user to pick up the call.

#### Operation

Use Meet Me Paging to transfer a call :

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. Dial “\*8” or “68” in DTMF telephone or dial “68” in pulse telephone.
4. Wait for beep tone.
5. Start paging the user to pick up the call.
6. Wait for the paged user to answer the call.

Pick up the call by Call Pickup - Meet Me Paging Call :

1. When the paged user want to pick up the call, left the handset of an extension and dial tone is heard.
2. Dial “#8” or “638” in DTMF telephone or dial “638” in pulse telephone.
3. The call is now connected with the paging extension.
4. If the paging extension replace the handset, the held call is transferred to the paged extension.

### Programming

1. Assign the paging extension to the class which allow to use Paging feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
2. The feature class of the extension which the pager user pick up the call should allow to use Call Pickup - Meet Me Paging Call feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.112 MESSAGE WAITING

This feature allows the Operator to inform an extension user that there is a message waiting. The Message Waiting indication is that the extension may be rung every 20 minutes with a distinctive ringing pattern (three bursts of 0.2s on & 0.2s off ringing). If the extension is busy when Message Waiting is activated, the Message Waiting indication is initiated as soon as the extension becomes idle. The extension will ring every 20 minutes or until the Message Waiting is canceled.

#### Operation

Set the feature :

1. Lift handset and dialing tone is heard.
2. Dial “\*\*06” or “6602” in DTMF telephone or dial “6602” in pulse telephone.
3. Dial the directory number of the extension whose Message Waiting will be enabled.
4. Wait for confirmation tone.
5. Hang up.

Cancel the feature :

1. Lift handset and dialing tone is heard.
2. Dial “##06” or “6502” in DTMF telephone or dial “6502” in pulse telephone.
3. Dial the directory number of the extension whose Message Waiting will be cancelled.
4. Wait for confirmation tone.
5. Message Waiting is canceled.

#### Condition

1. The operator with MFC-1S Console can also set or cancel this feature.
2. Attendant Console can set or cancel this feature for the extension.

#### Programming

1. Assign the extension to the feature class which allow to set or cancel this feature in Program Item 85 & 86 - Extension Feature Class in Day / Check in Mode and Night / Check Out Mode.

### 6.113 MESSAGE WAITING LAMP

This feature allows the operator to inform an extension user that there is a message waiting. The Message Waiting Lamp on the telephone will light up until operator resets the message waiting indication.

The Voce Mail System will also set up this feature to an extension automatically when there is a message leave for him/her. Voice Mail System will reset the feature if the extension dial to the Voice Mail System and retrieve the message.

#### Operation

Set the feature (turn on Message Waiting Lamp) :

1. Lift handset and dialing tone is heard.
2. Dial “\*\*06” or “6602” in DTMF telephone or dial “6602” in pulse telephone.
3. Dial the directory number of the extension whose Message Waiting Lamp will be enabled.
4. Wait for confirmation tone.
5. Hang up.

Cancel the feature (turn off Message Waiting Lamp) :

1. Lift handset and dialing tone is heard.
2. Dial “##06” or “6502” in DTMF telephone or dial “6502” in pulse telephone.
3. Dial the directory number of the extension to cancel this feature.
4. Wait for confirmation tone.
5. Message Waiting is canceled.

#### Condition

1. The operator with MFC-1S Console can also set or cancel this feature.
2. Attendant Console can set or cancel this feature for the extension.

3. Message Waiting Lamp function requires Version 2 TRK/EXT Card and EXT Card and specific telephone with Message Waiting Lamp.
4. When the extension has message waiting, shutter dial tone will be heard instead of normal dial tone. (shutter dial tone: 4 bursts of 0.1s on, 0.1s off, then continue).

### Programming

1. Assign the extension to the feature class which allow to set or cancel this feature in Program Item 85 & 86 - Extension Feature Class in Day / Check in Mode and Night / Check Out Mode.
2. Assign the extensions require Message Waiting Lamp feature to type 9 ~ 11 in Program Item 82 – Extension Type.

### 6.114 MFC-1S DIGIT TO DTMF CONVERSION

This feature will regenerate MFC-1S digit (from keyboard) to DTMF digit to a trunk for phone banking, paging or other features which require sending DTMF digits to trunk.

#### Operation

Enable Digit Conversion (change to DTMF mode):

1. While Console port connect to trunk, press “Insert” in MFC-1S keyboard.
2. The following digits (0 ~ 9, \*, #) pressed in MFC-1s keyboard will send to trunk as DTMF.

Disable Digit Conversion (change to Normal mode):

1. While in DTMF mode, press “Home” in MFC-1S keyboard.

### 6.115 MULTIPLE CONSOLES

DX-1S System can support up to 16 MFC-1S Consoles and all consoles can operate concurrently. Any one of MFC-1S Consoles can be shut down for maintenance purpose or save energy in non-busy hours, the other consoles will not be affected.

#### Condition

1. Each MFC-1S Console must have different Console ID.
2. Reference to MFC-1S Manual for details.

#### Programming

1. Enable specified console for the system in Programming Item 110 - Console Service Status.

### 6.116 MULTIPLE FUNCTION CONSOLE

MFC-1S is a multiple function console for DX-1S System. MFC-1S Console can be the attendant console, programming console or maintenance console for DX-1S System. The operator can change the console function by switching the console to different operation mode. No additional wiring or programming is required. It provide the flexibility and cut down system cost while console can be multiple purpose.

#### Condition

1. Reference MFC-1S Manual for details.

### 6.117 MULTIPLE TRUNK GROUPS

DX-1S System can divide the trunk lines into different trunk groups for resource management. The trunk lines can be divided reference to dialing purpose (trunk lines for IDD or local calls), reserve for different departments or restrict the extensions to access different trunk groups etc..

#### Programming

1. The extension class which allow the extension to access different trunk groups is assigned in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
2. The default trunk group is assigned to extension in Programming Item 88 - Extension Default Trunk Group.
3. The trunk lines are assigned to different trunk groups in Programming Item 113 & 114 - Trunk Group Start and Trunk Group Stop.
4. The trunk groups access restriction is programmed in Programming Item 118 - Feature Class Assignment.

### 6.118 MULTI-PARTY CONFERENCE

The system provides multi-party conference (MPC) feature, which allow up to 17 parties conference. In MPC, the members can set to listen-only or both-way for better control in the conference.

#### Operation

1. An extension, conference operator, dials to an extension or outside party with trunk. While the called extension or outside party is ringing or talking with operator, operator dials either “flash \*\*9” to place the party into MPC room as both-way member or dial “flash \*\*8” to place the party into MPC room as listen-only member.
2. MPC tone is heard and the operator can talk with the party in MPC room.
3. To place put in other port, the operator dial “flash” to exit MPC room.
4. MPC tone is heard followed by normal dial tone.
5. The operator repeat Step 1 ~3 to place other extension or outside party into MPC room.
6. To change a MPC member from both-way to listen-only, operator exits MPC room and dial to the MPC member. While busy tone is heard, dial “8”. If the operation succeed, operator will return to MPC automatically. If the operation fail, busy tone will be heard and operator need to dial “flash \*\*9” to return to MPC.
7. To change a MPC member from listen-only to both-way, operator exits MPC room and dial to the MPC member. While busy tone is heard, dial “9”. If the operation succeed, operator will return to MPC automatically. If the operation fail, busy tone will be heard and operator need to dial “flash \*\*9” to return to MPC.
8. While in MPC, a member flash hook will cause Busy Lamp Field (BLF) of the member changes from ON to BLINK (0.5s on, 0.5s off). The message “FLASH FROM EXT XXXX” will be displayed on the MPC operator screen.  
BLF of the MPC member will be changed back to ON when the member’s both-way or listen-only status had changed.
9. To terminate the conference, operator dial “##9” during normal dial tone is heard.
10. MPC member can exit MPC by replacing their handsets.

#### Condition

1. MPC tone is four bursts of 0.1s on and 0.1s off with dial tone frequency.
2. There are a total of 5 MPC room and 17 MPC seats.
3. The 17 MPC seats are dynamically allocated to the 5 MPC rooms.
4. Each MPC occupies one MPC room and each party in MPC occupies one MPC seat.

#### Programming

1. Assign the operator extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.119 MUSIC ON HOLD

Music from an internal or external source is provided for all calls on hold or parked.

#### Programming

1. The music source is selected in Programming Item 10 - Call Hold Music Type.

### 6.120 NO DIAL TONE

Assignment of this feature to an extension, the extension will not receive dial tone upon going off-hook.

#### Programming

1. Disable dial tone status in Programming Item 93 - Dial Tone Status.

### 6.121 NO MEMORY BACKUP BATTERY REPLACEMENT

The programming data is saved in FLASH PROM. The chip is the most advance semiconductor technology and do not require external backup battery to back up the data. It is very safe and convenient and do not require backup battery replacement..



### 6.122 NON-VOLATILE PROGRAMMING DATA BACKUP

The system will save the programming data to FLASH PROM every time the maintenance people finish programming and leave the Programming Mode in MFC-1S Console. Since the FLASH PROM is the most advance semiconductor technology and do not require external backup battery to back up the data. It is very safe and convenient and no battery replacement or data loss will happen even the power supply is interrupted suddenly. This technology increase the reliability of the system.

### 6.123 ON LINE DIAGNOSTIC

The system is built-in diagnostic program for troubleshooting. If the system is found to have some abnormal condition and may consider as some hardware have failed, the diagnostic program will help to determine the hardware problem. The diagnostic program can run simultaneously while the system is in use and will not interrupt the operating users.

#### Condition

1. Reference to DX-1S Maintenance Manual for details.

### 6.124 OUTWARD DIALING

Each extension can make outgoing call through the trunk lines.

#### Operation

1. Lift handset and dialing tone is heard.
2. Dial Default Trunk Group Access Code or Specified Trunk Group Access Code to get a trunk line.
3. Wait for dialing tone from the central office.
4. Dial the outside party number with maximum 24 digits.

#### Condition

1. If busy tone is heard after accessing a trunk, automatic callback may be used.

#### Programming

1. The outgoing trunk call is restricted to the dialing class of the extension in Programming Item 83 & 84 - Extension Dialing Class in Day/Check-in Mode and Extension Dialing Class in Night/Check-out Mode.
2. Assign the extension to the class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.125 NO ANSWER TRANSFER - SEPARATE

This feature allows an extension to set No Answer Transfer separately. In previous version, No Answer Transfer must set with busy transfer together (Busy and No Answer Transfer).

If the extension is set with No Answer Transfer feature, at its ring no answer condition, the call for the extension will be transferred to the assigned extension.

#### Operation

Set the feature :

1. Lift handset and dialing tone is heard.
2. Dial “\*\*09” in DTMF telephone.
3. Dial the directory number of the extension who will be No Answer Transfer to.
4. Wait for confirmation tone.
5. Hang up.

Cancel the feature :

1. Lift handset and feature activation dial tone is heard.
2. Dial “##09” in DTMF telephone.
3. Wait for confirmation tone.
4. The No Answer Transfer feature is canceled.

#### Condition

1. An extension cannot accommodate more than one forwarded extension. Each time of a newly setting, the old entry will be canceled.
2. Attendant Console can set or cancel this feature for the extension. Reference to Set Busy And No Answer Transfer For Extension section for details.

#### Programming

1. Assign the extension to the feature class which allow Busy And No Answer Transfer feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

**6.126 PAGING**

If a Paging System is connected, user can make announcement through the telephone handset.

**Operation**

1. Lift handset and dialing tone is heard.
2. Dial “\*8” or “68” in DTMF telephone or dial “68” in pulse telephone.
3. Wait for beep tone.,
4. Start paging.
5. Put down the handset to end paging.

**Condition**

1. Paging can be accessed even with a call on hold.

**Programming**

1. Enable page port in Programming Item 0 - Page Port Service Status.
2. Assign the extension to the class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

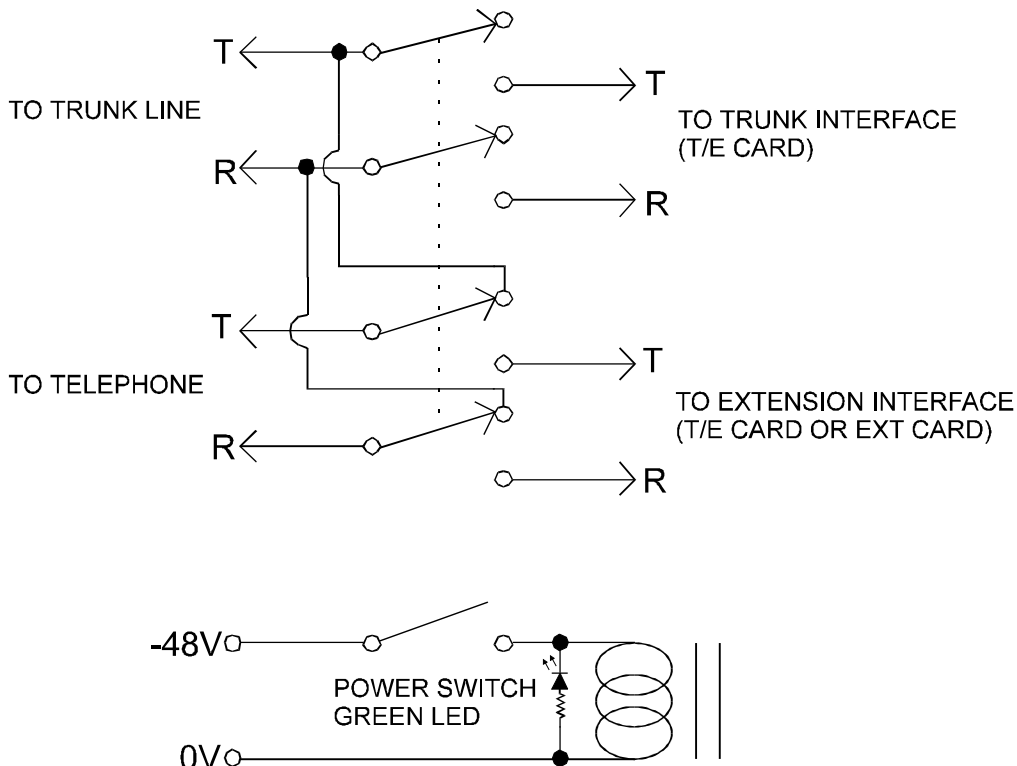
**6.127 PCM TRUNK SUPPORT**

PCM trunks are supported with the PCM Trunk card in the DX-1S Digital PABX.

**6.128 POWER FAILURE TRANSFER**

This feature allow the telephones directly connect to the trunk lines during the system is temporary down for maintenance purpose or in power failure condition, so that some telephones will be able to make outgoing calls or receive incoming calls.

This features required Power Failure Transfer Module installed of Module System Cabinet. The module include 12 sets of switch and connect 12 sets of extension telephones to the extension ports in normal condition to perform extension function. If the power failure condition happen or the module is switched manually to OFF condition, the module will disconnect the circuit between the telephones & extension ports and connect the telephones directly to the trunk lines.



**Figure 6-4 DX-1S POWER FAILURE TRANSFER MODULE CIRCUIT DIAGRAM**

**Condition**

1. This feature requires DX-1S Power Failure Transfer Module installed.
2. Reference to DX-1S Installation Manual for details.

### 6.129 PROGRAMMABLE EXTENSION NUMBERING PLAN

The directory number is the telephone number of an extension or hunting group. The other extension user can access the extension by dialing the directory number. The extension number is the physical port number of the extension interface while the directory number can be programmed to be two digits, three digits and four digits numbers. The directory number can be arranged to relate to extension location (block, floor and room number) or company management structure (department, job position).

#### Condition

1. The range of two digits directory number can be used is 10 ~ 59.
2. The range of three digits directory number can be used is 100 ~ 599.
3. The range of four digits directory number can be used is 1000 ~ 5999.
4. There should not have two extensions with the same directory number. If this is happened, the extension with smaller extension number will have higher priority to receive the call dial to the directory number.

#### Programming

1. The directory number format is programmed in Programming Item 38 - Directory Number Format.
2. The directory number is assigned to extension in Programming Item 87 - Directory Number Assignment.
3. The directory number is assigned to hunting group in Programming Item 115 - Extension Hunting Group Directory Number.

### 6.130 PROGRAMMABLE FEATURE ACCESS CODE

Some of the feature access codes can be changed to different digits for different condition, such as directory number and trunk group number.

Some of the feature access codes can be changed to different number, such as Operator Access Code, Default Trunk Group Access Code.

#### Condition

1. The directory number can be two digits, three digits and four digits.
2. The Trunk Group Access Code can be two digits and three digits.
3. Operator Access Code can be 0 or 9.
4. Default Trunk Group Access Code can be 9 or 0.

#### Programming

1. The number of digits of directory number is programmed in Programming Item 38 - Directory Number Format.
2. The number of digits of Trunk Group Access Code is programmed in Programming Item 39 - Trunk Group Access Format.
3. The Operator/Trunk Access Code is programmed in Programming Item 40 - Operator/Trunk Access Code.

### 6.131 PROGRAMMABLE FLASH TIME

The flash time can be programmed to match the flash timing generated by the telephone. The system can also be set to receive the flash less than 100ms.

#### Condition

1. The flash signal will be regarded as hang up if it is over the maximum time.
2. Reference to Calibrated Flash section if flash is less than 200ms.
3. If Calibrated Flash is enabled, the Automatic Tone/Pulse Detection will be disabled and the extension which is programmed to be Tone Dialing will not able to receive pulse digits and cannot connect to a pulse telephone.

#### Programming

1. Program the minimum flash time in Programming Item 21 - Minimum Flash Time.
2. Program the maximum flash time in Programming Item 22 - Maximum Flash Time.
3. Program to enable this feature in Programming Item 44 - Calibrated Flash Status.

### **6.132 PROGRAMMABLE INCOMING CALL ASSIGNMENT**

The incoming calls from each trunk can be programmed to be answered by an extension, hunting group or DISA.

#### **Programming**

1. The trunk can be programmed to answer by DISA in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode.
2. The answering extension or hunting group for incoming call is assigned in Programming Item 65 & 66 - Trunk Call Answering in Day Mode and Trunk Call Answering in Night Mode.

### **6.133 PROGRAMMABLE PHONE DIGIT PRINTOUT ON SMDR**

The feature allow the user to program the system to output only the first few digits of the telephone number of outgoing calls in the SMDR printout. This will help to protect the privacy.

#### **Programming**

1. The number of digits output for SMDR printout is determined in Programming Item 37 - SMDR Digits Selection.

### **6.134 PROGRAMMABLE TIMEOUT**

There are many timer in the system to control the call processing. These values of the following timeout can be programming to meet customer requirement :

Dialing Tone Timeout

Busy Tone Timeout

Interdigit Timeout

No Answer Timeout

Ringing Timeout

DISA Dialing Timeout

Call Back Timeout

Call Hold Timeout

Automatic Call Back Ringing Timeout

Trunk Dialing Timeout A

Trunk Dialing Timeout B

Incoming Trunk Call Ringing Timeout

Trunk No Answer Timeout

Trunk To Trunk Call Timeout

#### **Condition**

1. Reference to DX-1S Programming Manual for details.

#### **Programming**

1. Program Dialing Tone Timeout in Programming Item 12 - Dialing Tone Timeout.
2. Program Busy Tone Timeout in Programming Item 13 - Busy Tone Timeout.
3. Program Interdigit Timeout in Programming Item 14 - Interdigit Timeout.
4. Program No Answer Timeout in Programming Item 15 - No Answer Timeout.
5. Program Ringing Timeout in Programming Item 16 - Ringing Timeout.
6. Program DISA Dialing Timeout in Programming Item 17 - DISA Dialing Timeout.
7. Program Call Back Timeout in Programming Item 18 - Call Back Timeout.
8. Program Call Park Timeout in Programming Item 19 - Call Park Timeout.
9. Program Automatic Call Back Ringing Timeout in Programming Item 20 - Automatic Call Back Ringing Timeout.
10. Program Trunk Dialing Timeout A in Programming Item 28 - Trunk Dialing Timeout A.
11. Program Trunk Dialing Timeout B in Programming Item 29 - Trunk Dialing Timeout B.
12. Program Incoming Trunk Call Ringing Timeout in Programming Item 32 - Incoming Trunk Call Ringing Timeout.
13. Program Trunk No Answer Timeout in Programming Item 47 - Trunk No Answer Announcement Timeout.
14. Program Trunk To Trunk Call Timeout in Programming Item 51 - Trunk To Trunk Call Timeout.

### 6.135 PROGRAMMABLE TONE PLAN

The cadence of the following tones can be selected to meet different requirement :

- Busy Tone
- Ringing Tone
- Feature Activation Dial Tone Type
- Confirmation Tone Type
- Call Waiting Tone Type

#### Programming

1. The busy tone cadence can be selected in Programming Item 4 - Busy Tone Type.
2. The ringing tone cadence can be selected in Programming Item 5 - Ringing Tone Type.
3. The feature activation dial tone cadence can be selected in Programming Item 6 - Feature Activation Dial Tone Type.
4. The confirmation tone cadence can be selected in Programming Item 7 - Confirmation Tone Type.
5. The call waiting ringing tone cadence can be selected in Programming Item 8 - Call Waiting Tone Type.

### 6.136 PROGRAMMABLE TONE SIGNAL LEVEL

The tone signal level (such as DTMF tones and call progress tones) can be programmed to meet customer requirement.

#### Condition

1. Reference to Programming Manual for details.

#### Programming

1. Program Tone Signal Level in Programming Item 120 - Tone Signal Gain.

### 6.137 PROGRAMMABLE TRANSMISSION GAIN

The transmission gain in different situation can be programmed to meet customer requirement:

Extension to Extension Gain

Trunk to Extension Gain

Trunk to Trunk Gain

E&M Gain

PCM Gain

#### Programming

1. Program Extension to Extension Gain in Programming Item 121 - Extension to Extension Gain.
2. Program Trunk to Extension Gain in Programming Item 122 - Trunk to Extension Gain.
3. Program Trunk to Trunk Gain in Programming Item 123 - Trunk to Trunk Gain.
4. Program E&M Gain in Programming Item 126 - E&M Gain.
5. Program PCM Gain in Programming Item 130 - PCM Gain.

### 6.138 PROGRAMMING DATA PRINTOUT

When the system display some messages or information on the console screen which may need to print out as records for future reference, such as the programming data, the console can output the messages to Printer to print out as hard copy.

#### Condition

1. Reference to DX-1S Programming Manual for details.

### 6.139 PULSE TO DTMF CONVERSION

The system will perform pulse to DTMF conversion for extension in outgoing calls when the extension is pulse dialing and trunk is DTMF dialing.

#### Condition

1. The extension is connected with a pulse telephone
2. The extension is programmed to be pulse dialing or the extension is programmed to be DTMF dialing and Calibrated Flash is disabled.
3. The trunk line is programmed to be DTMF dialing.

### Programming

1. The Calibrated Flash is programmed in Programming Item 44 - Calibrated Flash Status.
2. The dialing method of trunk is programmed in Programming Item 61 - Trunk Dialing Method.
3. The dialing method of extension is programmed in Programming Item 81 - Extension Dialing Method.

### 6.140 RANGE PROGRAMMING

This feature allows range programming for blocks of extensions or trunks. For example, by entering a range of extension numbers, one may assign extension directory numbers, Extension Dialing Class, etc to a selected block of extension numbers. The starting extension directory number or Extension Dialing Class is entered by the programmer. The Extension Directory Number are assigned sequentially starting at the entered value, and the Extension Dialing Class are assigned to the entire group.

#### Operation

1. Reference to Programming Manual for details.

#### Condition

1. Extension numbers or trunk numbers in each range must be in numeric ascending sequence.

### 6.141 REMOTE IDD (REMOTE TRUNK ACCESS)

The caller of an incoming trunk call can make an outgoing call by accessing the trunk of the system or using Speed Dialing in DISA mode. The outgoing call can be a local call, LDD or IDD call which is restricted by the dialing class of the account number.

#### Operation

1. The caller make an incoming trunk call to the system.
2. The system receive the call in DISA mode and broadcast the Greeting Message to the caller.
3. Dial "6".
4. Dial the Account Number and Password "AAAAPPPP".
5. If the password is correct, confirmation tone will be heard.
6. The caller can dial the Default Trunk Group Access Code or Specified Trunk Group Access Code to get a trunk and dial the outside party telephone number to make an outgoing call. The caller can also dial the Speed Number to make an outgoing call by using Speed Dialing Memories.
7. If the caller hear the beep tone in the outgoing call, it indicate the call reach the Trunk To Trunk Timeout and will terminate after 30 seconds. The caller can press DTMF digit "1" to reset the timeout counter and extent the call for another timeout period.
8. The caller can terminate the outgoing call, release the outgoing trunk and make another outgoing call by press DTMF digit "\*" (follow on call).
9. The caller can terminate the call and release the trunks by press DTMF digit "#".

#### Condition

1. The DISA Voice Card is required.
2. The trunk must be set to be DISA trunk.
3. The dialing class (toll restriction) of the caller is according to the dialing class of the account number.
4. The default trunk group of Remote IDD call is Trunk Group 16.
5. The outgoing call will be terminated under the following condition :
  - If the call duration reach Trunk To Trunk Call Timeout (Programming Item 55), the call will be terminated. The longest call duration allowed is 2550 seconds (42.5 minutes).
  - The DTMF digit "#" is received from the caller.
  - The line reversal signal is detected in outgoing trunk.

#### Programming

1. Determine if the caller of an incoming trunk call is allowed to make another outgoing call by accessing the trunk of the system in DISA mode in Programming Item 53 - Allow DISA Trunk Access.
2. Determine if the caller of an incoming trunk call is allowed to make another outgoing call by accessing the trunk of the system in DISA mode in Programming Item 54 - Allow DISA Speed Dialing Access.
3. Assign the dialing class to each account in Programming Item 107 - Account Number Dialing Class.
4. Program the password for the account in Programming Item 108 - Account Password Assignment.
5. Program the maximum trunk to trunk call duration in Programming Item 51 - Trunk To Trunk Call Timeout.
6. Define the Trunk Group 16 in Programming Item 113 & 114 - Trunk Group Start and Trunk Group Stop.

7. Define line reversal detection in Programming Item 62 - Line Reversal Detection.
8. Define remote disconnect in Programming Item 69 - Remote Disconnect.

### Example

If the manager wants to make a call for business purpose at home, he/she may use the trunk at home to make this call. The manager may need to apply a trunk line which can make LDD and IDD calls. The manager may also need to claim the expense from the company since the call is for business purpose. If the system is enable with Remote IDD feature, the manager can dial to the company and get another trunk line of the company to making the LDD or IDD calls. This will save the manager from applying the IDD trunk line and claiming IDD call charge from the company.

## 6.142 REMOTE MAINTENANCE

The RIM-1S (Remote Interface Module) allows personnel at maintenance center (off-user premises) to access the DX-1S Digital PABX to obtain maintenance data or to make programming changes. It provides a means to identify alarm condition and to perform Programming Data Entry, without visiting the user's premises.

### Condition

1. Reference to RIM-1S Manual for information on setting up a remote operation.

## 6.143 ROOM NUMBER CORRELATION

When the extension is used as a hotel telephone, the directory number for the extension can be programming related to the room number. For example, the first digit of the directory can be the block number, the second digit can be the floor number and third and fourth digits can be the room number in the floor.

### Programming

1. The directory number of extension can be programmed in Programming Item 87 - Directory Number Assignment.

## 6.144 SELECTIVE SMDR DATA PRINTOUT

The user can programmed the system to output a specified type of calls information in the SMDR printout.

The type of calls can be selected for SMDR printout :

- IDD calls
- IDD & LDD calls
- All outgoing calls
- All outgoing calls & incoming calls
- No SMDR output

### Programming

1. The type of calls for SMDR printout is determined in Programming Item 35 - SMDR Calls Selection.

## 6.145 SET ACCOUNT PASSWORD

This feature allow user change his / her own account code password from an extension. In previous version, account code password must changed in programming mode, this feature allow user to control his / her password from a telephone.

### Operation

1. Lift handset - dialing tone is heard.
2. Dial “\*\*00” and then four digits of account code.
3. Dial the four digits of old password.
4. Dial the four digits new password two times.

(The whole dialing sequence is “\*\*00 AAAA PPPP QQQQ KKKK”.

Where AAAA is the account number, PPPP is the old password, QQQQ is the new password and KKKK is also the new password for verification.).

5. Confirmation tone is heard.
6. Replace the handset and the password had changed.

### Condition

Warm boot will not affect the changed password but power off the system will lost the unsaved password.

To save the password to flash memory, it is required to enter and then exit programming mode and save the programming data in Console extension.

The Account Password can also be set in Programming Item 108 – Account Password Assignment.

The latest change of the password will be effective either the change is input in extension or in programming mode.

### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## 6.146 SET BUSY AND NO ANSWER TRANSFER FOR EXTENSION

The Attendant Console can set or cancel Busy And No Answer Transfer for other extensions. If the extension is set with Busy And No Answer Transfer feature, the call will be transferred to the assigned extension when the extension is busy or has not answered the call.

### Operation

Set the feature :

1. The attendant operator enters Management Mode in MFC-1S Console.
2. Press “3\*”.
3. Press the directory number of the extension which the operator want to set the feature for him/her.
4. Press “\*”.
5. Press the directory number of the extension which the call should forward to.
6. Press “Enter”.
7. The screen will display “EXT XXXX : BUSY AND NO ANSWER TRANSFER = YYYY”.

Cancel the feature :

1. The attendant operation enters Management Mode in MFC-1S Console.
2. Press “3\*”.
3. Press the directory number of the extension which the operator want to set the feature for him/her.
4. Press “Enter”.
5. The screen will display “EXT XXXX : BUSY AND NO ANSWER TRANSFER = OFF”.

### Condition

1. An extension cannot accommodate more than one forwarded extension. At each time of newly setting, the old entry will be canceled.
2. Attendant Console can set or cancel this feature for the extension.
3. If the extension has set the Busy And No Answer Transfer, the operator can cancel this feature for the extension.
4. If the operator has set the Busy And No Answer Transfer for the extension, the extension can cancel this feature by himself/herself.

## 6.147 SET DO NOT DISTURB FOR EXTENSION

The Attendant Console can set or cancel Do Not Disturb feature for other extensions. If the extension is set Do Not Disturb feature to stop receiving any calls.

### Operation

Set the feature :

1. The attendant operator enters Management Mode in MFC-1S Console.
2. Press “1\*”.
3. Press the directory number of the extension which the operator want to set the feature for him/her.
4. Press “\*1”.
5. Press “Enter”.
6. The screen will display “EXT XXXX : DO NOT DISTURB = ON”.

Cancel the feature :

1. The attendant operation enters Management Mode in MFC-1S Console.
2. Press “1\*”.
3. Press the directory number of the extension which the operator want to set the feature for him/her.
4. Press “\*1”.
5. Press “Enter”.
6. The screen will display “EXT XXXX : DO NOT DISTURB = OFF”.

### Condition



1. Busy And No Answer Transfer set before is still effective and will transfer the call to answering extension.
2. Follow Me will be canceled when Do Not Disturb is established.
3. When lift up handset, feature activation tone will be heard to remind you that Do no Disturb or Follow Me is activated.
4. Automatic Callback cannot be initiated when called extension in Do Not Disturb mode.
5. Attendant Console can set or cancel this feature for the extension.
6. If the extension has set the Busy And No Answer Transfer, the operator can cancel this feature for the extension.
7. If the operator has set the Busy And No Answer Transfer for the extension, the extension can cancel this feature by himself/herself.

### 6.148 SET FOLLOW ME FOR EXTENSION

The Attendant Console can set or cancel Follow Me feature for other extensions. The extension is set Follow Me feature to forward all the calls to programmed extension.

#### Operation

Set the feature :

1. The attendant operators enter Management Mode in MFC-1S Console.
2. Press “2\*”.
3. Press the directory number of the extension which the operator want to set the feature for him/her.
4. Press “\*”.
5. Press the directory number of the extension which the call will be forwarded to.
6. Press “Enter”.
7. The screen will display “EXT XXXX : CALL FORWARDING - FOLLOW ME = YYYY”.

Cancel the feature :

1. The attendant operation enters Management Mode in MFC-1S Console.
2. Press “2\*”.
3. Press the directory number of the extension which the operator want to set the feature for him/her.
4. Press “Enter”.
5. The screen will display “EXT XXXX : CALL FORWARDING - FOLLOW ME = OFF”.

#### Condition

1. Do Not Disturb is canceled when Follow Me is established.
2. Attendant Console can set or cancel this feature for the extension.
3. When lift up handset, feature activation tone will be heard to remind you that Do no Disturb or Follow Me is activated.
4. An extension cannot accommodate more than one forwarded extension. At each time of newly setting, the old entry will be canceled.
5. If the extension has set the Follow Me, the operator can cancel this feature for the extension.
6. If the operator has set the Follow Me for the extension, the extension can cancel this feature by himself/herself.

### 6.149 SET PORT TO SLEEP MODE

This feature will put a port (extension or trunk) to sleep mode (unattended). A port in sleep mode will not hear music and also cannot hang up, it can only wait for others to process it (connect or disconnect).

#### Operation

1. Dial the directory number of the extension or dial “#7TT” for a specified trunk.
2. If the called port is engaged in a call, busy tone is heard.
3. Dial “7” will put the called port to sleep mode.
4. The caller will hear dial tone when the operation succeeded.

#### Condition

1. The Feature no. 42 (Call Disconnect & Trunk Disconnect) in the Feature Class of the extension must be set to 1 in order to use this feature.
2. If the called port is in talking stage, this function will terminate the call and set called port to sleep mode.
3. If the called party is in three party conference, this function will set called port to sleep mode and the other parties in the conference will still in talking stage.

4. If the called port is in other state, this function will fail and the calling extension will continue hear busy tone.
5. This feature will not work on PCM called port.

### Programming

1. Assign the extension to the feature class which has feature 42 = 1 in Program Item 85 & 86 - Extension Feature Class in Day / Check in Mode and Night / Check Out Mode.

## 6.150 SET WAKE UP SERVICE FOR EXTENSION

The Attendant Console can set or cancel Wake Up Service feature for other extensions. The extension is set with Wake Up Service will ring at the set time as morning call or reminding alarm for appointment.

### Operation

Set the feature :

1. The attendant operator enters Management Mode in MFC-1S Console.
2. Press "4\*".
3. Press the directory number of the extension which the operator want to set the feature for him/her.
4. Press "\*".
5. Press the two digits wake up hour "HH" (24 hour format).
6. Press "\*".
7. Press the two digits wake up minute "MM".
8. Press "Enter".
9. The screen will display "EXT XXXX : WAKE UP SERVICE = 7:30".

Cancel the feature :

1. The attendant operation enters Management Mode in MFC-1S Console.
2. Press "4\*".
3. Press the directory number of the extension which the operator want to set the feature for him/her.
4. Press "Enter".
5. The screen will display "EXT XXXX : WAKE UP SERVICE = OFF".

### Condition

1. The Wake Up Service will override Do Not Disturb feature and the extension which is set with Wake Up Service and Do Not Disturb will ring on the programmed time.
2. Attendant Console can set or cancel this feature for the extension.
3. An extension cannot accommodate more than one Wake Up Service. At each time of newly setting, the old entry will be canceled.
4. If the extension has set the Wake Up Service, the operator can cancel this feature for the extension.
5. If the operator has set the Wake Up Service for the extension, the extension can cancel this feature by himself/herself.

### Example

1. The operator is set the Wake Up Service at 6:00 for extension 2044 by keying in 4\*2044\*06\*00 and then return in Management Mode in MFC-1S Console, the extension 2044 will ring on 6:00.
2. Determine music source for Wake Up Service in Programming Item 11 - Wake Up Service Message Type.

## 6.151 SETUP MFC-1S CONSOLE

When the MFC-1S Console is installed, it need to be setup and enable in DX-1S system before normal operation.

### Condition

1. Setup the console program parameter and assign Console ID to the console (reference to MFC-1S Manual for details).
2. Program the system to enable the console in System Programming.
3. Install an extension beside the console and connect with a DTMF telephone.
4. Program this extension to be the console telephone in System Programming.

### Programming

1. Assign the console extension to be the console class in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
2. Enable the console in Programming Item 110 - Console Extension Status.
3. Assign the extension to be use by console in Programming Item 111 - Console Extension Assignment.

### 6.152 SMDR BUFFER

The system can buffer store up to about 10,000 records of SMDR data in the system memory if the MFC-1S Console, printer or Call Accounting System is not ready.

### 6.153 SOFTWARE SYSTEM INITIALIZATION

When the Software System Initialization is activated, all programming data will be reset to default value. If the programming data has collapsed or the system is first installed, this feature will help to reset the whole system to a known and stable status.

#### Condition

1. Reference to DX-1S Maintenance Manual for details.

### 6.154 SPEED DIALING

The extension can access the Speed Dialing Memories by dialing the Speeding Dialing Access Code. There are maximum 300 Speed Dialing memories. Each memory can store up to 24 digits number.

#### Operation

1. Pick up the handset and dial tone is heard.
2. Dial "8" and
3. Dial service number "0~9" for two digits Speeding Dialing.
4. Dial service number "00~99" for three digits Speeding Dialing.
5. Dial service number "000~299" for four digits Speeding Dialing.
6. The system will dial the numbers store in Speed Dialing Memory for the extension.

#### Condition

1. The extension which is programmed to be Hotel Telephone Extension cannot use this feature.
2. The Speeding Dialing Memories can store the telephone numbers of outside parties or the directory number of extension.
3. Each Speeding Dialing Memories can store up to 24 digits numbers.
4. The numbers are programmed to store in Speeding Dialing Memories in Programming Mode. Reference to DX-1S Programming Manual for details.

#### Programming

1. Program the number of digits of Speeding Dialing Access Code in Programming Item 50 - Speed Dialing Access Format.
2. Store numbers to Speeding Dialing Memories in Programming Mode Store Speeding Dialing Memories.

### 6.155 STATION MESSAGE DETAILED RECORDING (SMDR)

The system can time the outgoing call and incoming call duration and output these calls information for printing, management or cost accounting purpose.

The SMDR data will sort and display on screen in certain format.

#### Display

- The SMDR data will display as following format :

```
-08/13 11:40 00:07:30 288 9 24121386 T003
06/15 10:35 00:03:15 215 73 0085224121386 T005 0018
03/12 15:40 00:00:55 T001 000 238
03/12 15:40 00:03:55 T001 000 238 T 215
03/10 07:38 00:04:30 203 9 24121386 T002T 269
04/05 10:39 00:10:44 T001 000 T001C T001
04/05 10:40 00:01:29 T001 000 T001
04/05 10:42 00:04:37 T001 000 2004
```

- Example 1 - Outgoing Call  
On 13th August at 11: 40 AM, extension 288 dial 9 to obtain trunk 003 and dialed "24121386". The conversation lasted 7 minutes, 30 seconds.
- Example 2 - Outgoing Call with Account Number  
On 15th June at 10: 35 AM, after entered the account number 0018, extension 215 dial 73 to obtain trunk 005 and dialed "0085224121386". The conversation lasted 3 minutes, 15 seconds.
- Example 3 - Incoming Call

On 12th March at 03:40 PM, trunk 001 rang in. Extension 238 answered. The trunk party spoke to extension 238 for 55 seconds, then hung up.

- Example 4 - Incoming Transfer Call

On 12th March at 03:40 PM, trunk 001 rang in. Extension 238 answered. After speaking to extension 238, the extension then transferred the call to extension 215. The total conversation lasted 3 minutes, 55 seconds.

- Example 5 - Outgoing Transfer Call

On 10th March at 07: 30 AM, extension 203 dial 9 to obtain trunk 002 and dialed "24121386". The called party answered, and after conversing the caller transferred the called party to extension 269. After further conversation extension 269 hung up. The total period for both conversations was 4 minutes, 30 seconds. Trunk 002 was used for the call.

- Example 6 - Incoming Unanswered Call

On 4th May at 10:39 AM, trunk 1 rang in. The calling party had entered (ACD) queue, and waited for 10 minutes and 44 seconds. The calling party hang up without answer.

- Example 7 - Incoming Call (Waiting Time Before Answer)

On 4th May at 10:40 AM, trunk 1 rang in. The calling party had entered (ACD) queue, and waited for 1 minutes and 29 seconds before answered.

- Example 8 - Incoming Call (Talking Time)

On 4th May at 10:42 AM, trunk 1 had answered by extension 2004. Trunk 1 talk with extension 2004 for 4 minutes 37 seconds then hung up.

(Actually this is the same call as in example 7. The record in example 7 specify the waiting time in (ACD) queue and example 8 specify the talking time.)

The meaning of each field is defined as following :

Name	Column	Format	Definition	Notes
Long call	1	z	space = less than 5 min - = 5-9 min % = 10-29 min + = 30 or more min	
Date	2 ~ 6	mm/dd	mm = month dd = day	mm = 01 ~ 12 dd = 01 ~ 31 (with leading zeroes)
Start time	8 ~ 12	hh:mm	hh = hours mm = minutes	hh = 00 ~ 23 mm = 00 ~ 59 (with leading zeroes)
Duration of call	15 ~ 22	hh:mm:ss	hh : mm : ss = duration in hours : minutes : seconds	hh = 00 ~ 18 mm = 00 ~ 59 ss = 00 ~ 59 (with leading zeroes)
Calling party	24 ~ 27	cccc	cccc = directory no.	cccc = 10 ~ 5999 (left-justified)
		Tnnn	Tnnn = trunk no.	nnn = 001 ~ 060 (with leading zeroes)
Trunk access code	30 ~ 33	gggg	gggg = trunk access code (outgoing calls only)	gggg = 0, 9, 70 ~ 79 or 700 ~ 716 (left-justified)
Time to answer	30 ~ 32	ttt	feature not available	000 display in this field
Digits dialed on trunk	34 ~ 57	xx.....x	up to 24 (20 if metering) digits dialed on the trunk	x = 0 ~ 9, * or #
Metering	55 ~ 59	mmmmm	mmmmm = no. of meter pulses (optional)	mmmmm = 00000 ~ 64000 (with leading zeroes)

Name	Column	Format	Definition	Notes
Called party	62 ~ 65	cccc	cccc = directory no.	cccc = 10 ~ 5999 (left-justified)
		Tnnn	Tnnn = trunk no.	nnn = 001 ~ 060 (with leading zeroes)
Transfer	66	space	space = no third party	
		T	T = transfer call	
		C	C = conference call C= unanswered call if Calling = Called = trunk no.	
Third party	68 ~ 71	cccc	cccc = directory no.	cccc = 10 ~ 5999 (left-justified)
		Tnnn	Tnnn = trunk no.	nnn = 001 ~ 060 (with leading zeroes)
Account number	73 ~ 76	Aaaa	aaaa = account number (optional)	aaaa = 0000 ~ 1999 (with leading zeroes)
Long call	1	z	space = less than 5 min - = 5-9 min % = 10-29 min + = 30 or more min	
Date	2 ~ 6	mm/dd	mm = month dd = day	mm = 01 ~ 12 dd = 01 ~ 31 (with leading zeroes)
Start time	8 ~ 12	hh:mm	hh = hours mm = minutes	hh = 00 ~ 23 mm = 00 ~ 59 (with leading zeroes)
Duration of call	15 ~ 22	hh:mm:ss	hh : mm : ss = duration in hours : minutes : seconds	hh = 00 ~ 18 mm = 00 ~ 59 ss = 00 ~ 59 (with leading zeroes)
Calling party	24 ~ 27	cccc	cccc = directory no.	cccc = 10 ~ 5999 (left-justified)
		Tnnn	Tnnn = trunk no.	nnn = 001 ~ 060 (with leading zeroes)
Trunk access code	30 ~ 33	gggg	gggg = trunk access code (outgoing calls only)	gggg = 0, 9, 71 ~ 79 or 701 ~ 716 (left-justified)
Time to answer	30 ~ 32	ttt	feature not available	display 000 in this field
Digits dialed on trunk	34 ~ 57	xx.....x	up to 24 (20 if metering) digits dialed on the trunk	x = 0 ~ 9, * or #
Metering	55 ~ 59	mmmmm	mmmmm = no. of meter pulses (optional)	mmmmm = 00000 ~ 64000 (with leading zeroes)
Called party	62 ~ 65	cccc	cccc = directory no.	cccc = 10 ~ 5999 (left-justified)
		Tnnn	Tnnn = trunk no.	nnn = 001 ~ 060 (with leading zeroes)
Transfer	66	space	space = no third party	
		T	T = transfer call	
		C	C = conference call	
Third party	68 ~ 71	cccc	cccc = directory no.	cccc = 10 ~ 5999 (left-justified)
Account number	73 ~ 76	aaaa	aaaa = account number (optional)	aaaa = 0000 ~ 1999 (with leading zeroes)

**Table 6-2 SMDR DISPLAY FORMAT**

**Condition**

1. All SMDR data will output from the system to MFC-1S Console. If a printer is connected to the console, the SMDR will print out.

2. If there is no Line Reversal Signal sending from public exchange, the system will use time delay method to calculate the call duration.
3. The system can be programmed to output the data of a certain type of calls, such as IDD calls, LDD call, local calls or incoming trunk call.
4. The system can be programmed to output the first few digits of the telephone number dialed for SMDR in order to protect privacy.
5. The MFC-1S output the SMDR data to printer or Call Accounting System in a certain format. Reference to MFC-1S Manual for details.
6. SMDR for incoming call answered only by voice message will have called port = Incoming Trunk no. (TXXX) and Transfer = 'C'. Duration of call indicates the waiting time.
7. Incoming call answered by voice message and then by an extension will have two SMDR. The first SMDR will be called port = Incoming Trunk no. (TXXX). Duration of call indicates the waiting time. The second SMDR will has called port = answering extension no. and duration of call indicates the talking time.

### Programming

1. To program which type of calls to output for SMDR in Programming Item 35 - SMDR Calls Selection.
2. To program the delay time for call duration calculation in Programming Item 36 - SMDR Start Time.
3. To program how many digits of the dialed telephone number output for SMDR in Programming Item 37 - SMDR Digits Selection.
4. To enable the Line Reversal Detection in Programming Item 62 - Line Reversal Detection.
5. To enable SMDR on specified trunk lines in Programming Item 74 - SMDR Status.

## 6.156 SYSTEM DIAGNOSTIC

MFC-1S can act as the Maintenance Console to perform system diagnosis when it operate in Diagnostic Mode.

### Condition

1. Reference to DX-1S Maintenance Manual for details.

## 6.157 SYSTEM INFORMATION DISPLAY

The following system information can display on the screen in the console :

- Console ID
- Day/Night Status
- System Clock
- Call Park Status

### Condition

1. Reference to MFC-1S Manual for details.

## 6.158 SYSTEM PASSWORD CONTROL

The system programming, system diagnostic and extension feature setting features are very important features and will affect the whole system and extension operation. The access of these features is controlled to access by password. The password control will prevent unauthorized user to access these feature.

### Condition

1. Reference to DX-1S Programming Manual for password setting.

## 6.159 SYSTEM PROGRAMMING

The system is programmed in MFC-1S Console when it operate in Programming Mode.

### Condition

1. Reference to DX-1S Programming Manual for details.

## 6.160 TOLL RESTRICTION

The system control the extension to make outgoing calls by Extension Dialing Class. The extension user can only make outgoing calls which is allowed in Extension Dialing Class.

### Condition

1. Reference to Extension Dialing Class section and Toll Restriction Scheme section for details.

## 6.161 TOLL RESTRICTION SCHEME

There are two sets of Dialing Class definition to suit different requirement.

### Dialing Class For Scheme 0:

Dialing Class	Definition
Class 0	No restriction
Class 1	Restrict IDD & allow calls in Codes Table 1
Class 2	Restrict IDD
Class 3	Restrict IDD, LDD & allow calls in Codes Table 3
Class 4	Restrict IDD, LDD & allow calls in Codes Table 4
Class 5	Restrict IDD, LDD & allow calls in Codes Table 5
Class 6	Restrict IDD, LDD
Class 7	Restrict outgoing call and allow calls in Codes Table 7

### Dialing Class For Scheme 1:

Dialing Class	Definition
Class 0	No restriction
Class 1	Restrict calls in Codes Table 1, 3
Class 2	Restrict IDD & restrict calls in Code Table 1, 3
Class 3	Restrict IDD, LDD & restrict calls in Codes Table 1, 3, 4, 5
Class 4	Same as Class 3
Class 5	Same as Class 3
Class 6	Same as Class 3
Class 7	Restrict outgoing call & allow calls in Codes Table 7

#### Condition

1. If restriction of information calls and local charge calls are required, select Toll Restriction Scheme 1.
2. Store Information Call Access Codes in Codes Table 1 and Codes Table 3.
3. Store local charge calls in Codes Table 4 and Codes Table 5.

#### Programming

1. Select Toll Restriction Scheme in Programming Item 58 - Toll Restriction Scheme.

## 6.162 TRUNK ACCESS CODE INSERTION

When Trunk Access Code Insertion is enabled, the system will automatically insert the Trunk Access Code in the beginning of the user dialed number in outgoing call. For example, when the extension user dial "9" to access the trunk and dial "24121386", the system will dial the digits "924121386" to the trunk if the feature is enabled.

This feature may be used when the system is connected to other system to form a network.

#### Condition

1. If Programming Item 67 & 68 - Trunk Digit Insertion and Trunk Access Code Insertion are enabled, the system will insert the digits programmed in Trunk Digit Insertion at first.
2. When Trunk Access Code Insertion and Digit Insertion are enabled, the system will automatically insert the programmed number in the beginning of the user dialed number in outgoing call.

#### Programming

1. Enable this feature for each trunk in Programming Item 68 - Trunk Access Code Insertion.

### 6.163 TRUNK CALL DISCONNECT

The extension can disconnect the trunk call of other extension with this feature.

#### Operation

1. Lift handset - dialing tone is heard.
2. Dial “\*\*15” or “6664” in DTMF telephone or dial “6615” in pulse telephone.
3. Dial the trunk number (01~60) which is in use.
4. The originating extension will hear override tone and then confirmation tone.
5. The extension which is engaged in a call through the disconnecting trunk will heard the override tone and follow with system warning tone to indicate that the call has terminated by other extension.

#### Condition

1. This feature can only operate to the trunk which is engaged in a call.

#### Programming

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.164 TRUNK DIGIT INSERTION

When Trunk Digit Insertion is enabled, the system will automatically insert the programmed number in the beginning of the user dialed number in outgoing call.

If the system is installed with other system to form a network, or install behind another PABX system, or connected to Centrex Trunk Line, the user may need to dial two times of Trunk Access Code to make an outgoing call. This feature will help to avoid this condition because Trunk Digit Insertion will dial the additional Trunk Access Code for the user.

#### Operation

1. The user dial the Default Trunk Access Code or Specified Trunk Group Access Code to access a trunk line
2. The user dial an outgoing call number.
3. The system will insert the programmed number in front of the outgoing call number.

#### Condition

1. The insertion number can be 1 ~ 6 digit number.

#### Programming

1. Programming the insertion number for each trunk in Programming Item 67 - Trunk Digit Insertion.

### 6.165 TRUNK GROUP RESTRICTION

The extension is restricted to access different trunk group according to the feature class of the extension.

#### Programming

1. The feature class of the extension is programmed in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### 6.166 TRUNK NO ANSWER VOICE ANNOUNCEMENT

When this feature is enabled, if there is an incoming trunk call which has not answered by any extension within Trunk No Answer Timeout, the system will answer the call with Trunk No Answer Message and then terminate the call. There are up to 4 messages to answer the incoming call in different condition, such as Day Mode, Night Mode and Lunch Hour, etc..

#### Operation

Switch Trunk No Answer Message manually :

1. Pick up the handset and dial tone is heard.
2. Dial “\*\*14” or 6614” in DTMF telephone or pulse telephone.
3. Dial the message number 0~3.
4. the selected message will be heard in the extension in order to verify if it is correct message.
5. Replace handset and the selected Trunk No Answer Message is in used.

#### Condition

1. This feature require DISA Voice Card.



2. The feature is enabled when the trunk is programmed as Normal with No Answer Voice Announcement in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode.
3. If the incoming trunk call has not been answered within Trunk No Answer Timeout, the system will answer the call with Trunk No Answer Message and then terminate the call.
4. If the Trunk Answering Extension is a hunting group, the system will answer the incoming trunk call with Trunk No Answer Message after the call hunting all the extensions in the hunting group.
5. The system will switch to different Trunk No Answer Messages according to Day/Night Mode. When the system is switched from Day Mode to Night Mode, the Night Mode Trunk No Answer Message will be used. When the system is switched from Night Mode to Day Mode, the Day Mode Trunk No Answer Message will be used.
6. The user can also select different Trunk No Answer Messages manually.
7. The system will use the Trunk No Answer Voice Message which the operator has switched recently until the next manual switching or the change in Day/Night Mode.
8. The system will use the message recorded in Segment 0 of selected voice channels to be the Day Mode Trunk No Answer Voice Message. The voice message recorded in Segment 3 of selected voice channels to be the Night Mode Trunk No Answer Voice Message.
9. Reference to Voice Message Recording Section for recording Trunk No Answer Voice Messages.

### **Programming**

1. Program the trunk line to be Type 3 (Normal with No Answer Voice Announcement) in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode.
2. Select the voice channel group for this feature in Programming Item 45 - Trunk No Answer Announcement Voice Channel Start and Programming Item 46 - Trunk No Answer Announcement Voice Channel Stop.
3. Determine the Trunk No Answer Timeout in Programming Item 47 - Trunk No Answer Announcement Timeout.

### **Example**

A system is determined to use Trunk No Answer Voice Announcement feature to answer the trunk incoming call which has not been answered by the Trunk Answering Extension within 30 seconds.

1. The system has one DISA Voice Card installed.
2. All trunk lines except the trunk line for fax are programmed to be Type 3 (Normal with No Answer Voice Announcement) in Programming Item 63 & 64 - Trunk Type in Day Mode and Trunk Type in Night Mode.
3. Program the voice channel 0 & 1 in 1st DISA Voice Card to be Trunk No Answer Announcement Voice Channel Group in Programming Item 45 - Trunk No Answer Announcement Voice Channel Start and Programming Item 46 - Trunk No Answer Announcement Voice Channel Stop. Trunk No Answer Announcement Voice Channel Start is programmed to be 0 and Trunk No Answer Announcement Voice Channel Start is programmed to be 1.
4. Program the Trunk No Answer Announcement Timeout in Programming Item 47 - Trunk No Answer Announcement Timeout to be 30 seconds.
5. Program the operator extension to the feature class which can switch Day/Night Mode and Trunk No Answer Message manually.
6. Record the following message to the segment 0 in Voice Channel 0 & 1 as the Day Mode Trunk No Answer Message : "This is Connection Electronics Ltd.. We are sorry that our operators are too busy to answer your call in this moment. Would you please call us later? Thank you."
7. Record the following message to the segment 2 in Voice Channel 0 & 1 as the Night Mode Trunk No Answer Message : "This is Connection Electronics Ltd.. We are off now. Our business hour is from nine o'clock in the morning to five o'clock in the evening from Monday to Friday. Would you please call us in business hour later? Thank you."
8. Record the following message to the segment 1 in Channel 0 & 1 as the Lunch Hour Trunk No Answer Message : "This is Connection Electronics Ltd.. We are in lunch hour. Would you please call us after two o'clock in the afternoon? Thank you."
9. The operator should switch the system to Day Mode by dialing "\*\*\*11" in the DTMF telephone in the beginning of business hour. The system will answer the no answer trunk call with Day Mode Trunk No Answer Message.
10. The operator should switch the system to Night Mode by dialing "##11" in the DTMF telephone in the end of business hour. The system will answer the no answer trunk call with Night Mode Trunk No Answer Message.
11. When it is the lunch hour, the operator should switch the Trunk No Answer Message to Lunch Hour Message (segment 1) by dialing "\*\*\*141" in the DTMF telephone. The system will answer no answer trunk call with Lunch Hour Trunk No Answer Message.

## 6.167 TRUNK REMOTE DISCONNECT

This feature is to determine which method is used to terminate the extension outgoing trunk call, trunk to trunk transfer call (a trunk call transfer to outside party or making outgoing call through DISA) or Remote IDD Call.

The system will terminate the extension outgoing trunk call in following condition :

- the originating extension replace the handset.
- the line reversal signal in outgoing trunk is detected (Programming Item 62 = 1 & Programming Item 69 = 1 or 2)

The system will terminate the Trunk To Trunk Transfer call in following condition :

- the call duration reach Trunk to Trunk Call Timeout value (Programming Item 51).
- the line reversal signal in outgoing trunk is detected (Programming Item 62 = 1 & Programming Item 69 = 1 or 2).
- the system receive the DTMF digit “#” from outgoing trunk (Programming Item 69 = 2).

The system will terminate the Remote IDD call in following condition :

- the call duration reach Trunk to Trunk Call Timeout value (Programming Item 51).
- the line reversal signal is detected in incoming trunk (Programming Item 62 = 1 & Programming Item 69 = 1 or 2).
- the system receive the DTMF digit “\*” or “#” in the originating trunk line (no relation with Programming Item 69).

### Condition

1. Reference to DX-1S Programming Manual for details.

### Programming

1. Program the maximum Trunk To Trunk Call duration in Programming Item 51 - Trunk To Trunk Call Timeout.
2. If the trunks can send Line Reversal Signal, enable the line reversal detection feature in Programming Item 62 - Line Reversal Detection.
3. Determine the trunk call disconnect condition in Programming Item 69 - Remote Disconnect.

## 6.168 TRUNK STATUS DISPLAY

The trunk number display format in Trunk Status Display Field in MFC-1S Console can indicate different trunk status.

Trunk Number Display	Status
In normal	Trunk line is idle.
Inversely	Trunk line is occupied.
Blinking (0.5s ON, 0.5s OFF)	An incoming trunk line waiting for extension to answer.
Winking (2.5s ON, 0.5 s OFF)	Trunk line is parked or on hold.

Table 6-3 TRUNK NUMBER DISPLAY FORMAT IN MFC-1S CONSOLE

### Condition

1. Reference to MFC-1S Manual for details.

## 6.169 TRUNK TO TRUNK TRANSFER

The extension can transfer a trunk call to an outside party through another trunk line of the system.

### Operation

1. When the extension is in a conversation, press FLASH key.
2. The call is on hold and the feature activation dial tone is heard.
3. Dial the Default Trunk Group Access Code or Specified Trunk Group Access Code to get a trunk line.
4. Dial the outside party number which the dial tone of public exchange is heard.
5. When the outside party answer the call, the caller can inform and consult if he/she is willing to receive the call.
6. If the outside party agree to receive the call, the originating extension can replace the handset and the call is transferred.

7. If the originating extension want to establish a conference call, he/she can press FLASH and the conference call is established.
8. If the outside party do not want to receive the call, the originating extension can press two times of FLASH to switch back to the held call.

### **Condition**

1. The system must be programmed as following to allow to use this feature :
  - Programming Item 55 - Trunk To Trunk Transfer Status = 1 and
  - Programming Item 62 - Line Reversal Detection = 1 and
  - Programming Item 69 - Remote Disconnect = 1
2. If Line Reversal Detection is disabled, this feature is not allowed to use.
3. If there is not line reversal signal in the trunk line, this feature is not allowed to use.
4. If the Programming Item 69 – Remote Disconnect is not set to 1, this feature is not allowed to use.
5. The transferred call will be terminated under the following condition :
  - If the call duration reach Trunk To Trunk Call Timeout (Programming Item 51), the call will be terminated. The longest call duration allowed is 2550 seconds (42.5 minutes).
  - the line reversal signal is detected.
6. Reference to Remote Disconnect section for the call termination condition.

### **Programming**

1. Program to allow using the Trunk To Trunk Transfer feature in Programming Item 55 - Trunk To Trunk Transfer Status.
2. Program the maximum Trunk To Trunk Call duration in Programming Item 51 - Trunk To Trunk Call Timeout.
3. If the trunks can send Line Reversal Signal, enable the line reversal detection feature in Programming Item 62 - Line Reversal Detection.
4. Set Programming Item 69 - Remote Disconnect to 1 to enable polarity restore to idle.
5. Assign the extension to the dialing class which allow to make outgoing call in Programming Item 83 and 84 - Extension Dialing Class in Day/Check-in Mode and Extension Dialing Class in Night/Check-out Mode.
6. Assign the extension to the feature class which allow to use call transfer feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

## **6.170 TWO DIGITS DIALING FOR SERVICES**

When the extension is programmed to be Hotel Telephone, the guest can access different departments for service by dialing two digit Hotel Services Access Codes instead of dialing the directory number of the service extension. For example : the guest can dial :

- 80 - Reception
- 81 - Room Services
- 82 - Restaurant
- 83 - Bar
- 84 - Laundry
- 85 - Cashier
- 86 - Night Club
- 87 - Ticket Booking
- 88 - Shopping Center
- 89 - Hotel Manager

### **Operation**

1. Pick up the handset and dial tone is heard.
2. Dial “8” and then service number “0~9” for different services in DTMF telephone or pulse telephone.
3. Ringback tone is heard and wait for the answer from the service extension.

### **Condition**

1. The extension which is not programmed as Hotel Telephone Extension cannot use this feature.
2. An extension directory no should be assigned to answer each Hotel Service Code in Programming Item 112.

### Programming

1. Program the answering extension directory no or hunting group directory no for different service codes in Programming Item 112 - Hotel Service Answering.
2. Program the extension which will use this feature to be Type 5 (Hotel Telephone) in Programming Item 82 - Extension Type.

### 6.171 VOICE MESSAGE RECORDING

If the DISA Voice Card has been installed, the system will be able to record the voice messages for the use in DISA With Voice Message Mode or Trunk No Answering Voice Announcement Mode.

Each system can install up to three DISA Voice Cards. Each DISA Voice Card has two channels. Each channel include a fax signal detector, a voice chip for voice messages storage, DTMF detector and tone detector. There are 6 voice channels if three DISA Voice Card have been installed. The Voice Channel number is assigned as following :

The first channel in 1st DISA Voice Card is assigned to be Voice Channel 0.

The second channel in 1st DISA Voice Card is assigned to be Voice Channel 1.

The first channel in 2nd DISA Voice Card is assigned to be Voice Channel 2.

The second channel in 2nd DISA Voice Card is assigned to be Voice Channel 3.

The first channel in 3rd DISA Voice Card is assigned to be Voice Channel 4.

The second channel in 3rd DISA Voice Card is assigned to be Voice Channel 5.

Each voice channel can record and playback a total duration of 80 seconds voice messages. The voice channel is divided into four segments (Segment 0, Segment 1, Segment 2 and Segment 3) and each segment can store up to 20 seconds of message. If the length of the message is over 20 seconds, the system will dynamic allocate the following segment to store this message.

One voice channel can handle one call in one time. If the three DISA Voice Cards installed and all six voice channels are enabled, the system can answer six calls in the same time.

### Operation

Record a message :

1. Pick up the handset of an extension of a DTMF telephone which is allowed to enter Voice Recording Mode. Pulse telephone cannot use to record voice message.
2. Dial “\*\*13”.
3. Dial the Programming Password.
4. Feature Activation Tone is heard.
5. Select which channel and segment will use by dialing “CS\*#”  
where C = Voice Channel 0 ~ 5  
S = Voice Segment 0 ~ 3
6. Speak the message through the handset of the telephone
7. Dial “#” to stop recording when the message complete.
8. Repeat steps 5 to 7 to record all the messages.
9. When all messages have recorded, replace handset to terminate this process.

Playback the message :

1. Pick up the handset of an extension of a tone telephone which is allowed to enter Voice Recording Mode. Pulse telephone cannot use to playback voice message.
2. Dial “\*\*13”.
3. Dial the Programming Password.
4. Feature Activation Tone is heard.
5. Select which message should playback by dialing “CS#”  
C = Voice Channel 0 ~ 5  
S = Voice Segment 0 ~ 3
6. The selected message should be heard.
7. Repeat steps 5 to 6 to hear all the message.
8. Replace handset to terminate this process.

### Condition

1. This feature requires DISA Voice Card.
2. Only DTMF telephone can use to record the message.
3. The length of each message should not be over 20 seconds.

4. Reference to DX-1S Installation Manual for DISA Voice Card Installation.

### Programming

1. Assign the extension to the class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.

### Example

1. The operator is to prepare to record several messages for DISA Messages.
2. The system has one DISA Voice Card installed.
3. The extension with DTMF telephone which is used to record voice messages should be allow to use Voice Message Recording feature.
4. Dial “\*\*13” and then Programming Password to enter Voice Message Recording Mode and feature activation tone is heard.
5. Select Segment 0 in Voice Channel 0 to record the Day Mode Greeting Message as following : “This is Connection Electronics Ltd.. Please dial the extension number of the person you want to access or dial “0” to access our operator for help.”
6. Select Segment 1 in Voice Channel 0 to use for recording by dialing “01\*#” and record the Busy or No Answer Message as following : “Sorry, the person you called cannot receive the call in this moment, if you want to call other extension, please dial the extension number or dial ‘0’ to access our operator for help.”
7. Select Segment 2 in Voice Channel 0 to record the Night Mode Greeting Message : “This is Connection Electronics Ltd.. We are off now. Our business hour is from nine o’clock in the morning to five o’clock in the evening from Monday to Friday. Please call us in business hour later? Thank you.”
8. Select Segment 3 in Voice Channel 0 to record the Invalid Input Message as following : “Sorry. The number you dialed is not a valid extension number. Please retry or dial ‘0’ to access our operator for help.”
9. Select Segment 0 in Voice Channel 1 to record the Day Mode Greeting Message as following : “This is Connection Electronics Ltd.. Please dial the extension number of the person you want to access or dial ‘0’ to access our operator for help.”
10. Select Segment 1 in Voice Channel 1 to record the Busy or No Answer Message as following : “Sorry, the person you called cannot receive the call in this moment, if you want to call other extension, please dial the extension number or dial ‘0’ to access our operator for help.”
11. Select Segment 2 in Voice Channel 1 to record the Night Mode Greeting Message : “This is Connection Electronics Ltd.. We are off now. Our business hour is from nine o’clock in the morning to five o’clock in the evening from Monday to Friday. Please call us in business hour later? Thank you.”
12. Select Segment 3 in Voice Channel 1 to record the Invalid Input Message as following : “Sorry. The number you dialed is not a valid extension number. Please retry or dial ‘0’ to access our operator for help.”
13. When all messages have recorded, playback all the messages to verify if they are OK.
14. Replace handset to complete this process.

## 6.172 VOICE MAIL SYSTEM

This feature allows DX1S system to interface a Voice Mail System (VMS). This Voice Mail System is optional in the telephone system. If the voice mail system is connected and enabled, the extension type of interface ports must be programmed as voice mail extension.

For that extension type, voice mail extension, PABX will have inbound signaling send with a call. The inbound signaling is in DTMF format and dedicated for interfacing.

The calls forwarded to the voice mail extension could be no answer, busy or a direct call. Furthermore, the call could be from an incoming trunk call or an intercom call.

For no answer forward call, the called extension is unattended to answer such that PABX forward a call to voice mail extension.

For busy call, the called extension is being occupied and unavailable to answer such that PABX forward a call to voice mail extension.

For direct call, the calling extension could dial the voice mail extension and check any message left in the voice mail system.

Type	Inbound Signal (in DTMF)	Direction	Description
Unanswered Call Forward	1 * EEEE	VMS ← PABX	PBX notify VMS to answer an unattended forward call. EEEE is called extension directory number.
Busy Forward	2 * EEEE	VMS ← PABX	PBX notify VMS to answer a busy forward call. EEEE is called extension directory number
Direct Call	3 * EEEE	VMS ← PABX	PBX notify VMS to answer a direct call for message left checking. EEEE is calling extension directory number.
Call Disconnect	***	VMS ← PABX	PBX notify VMS to terminate the call and release the voice port.
Message Waiting ON	**06 EEEE	VMS → PABX	VMS notify PBX there is a message left in the VMS for a extension directory user. EEEE is called extension directory number.
Message Waiting OFF	##06 EEEE	VMS → PABX	VMS notify PBX no more message left in the VMS for a extension directory user. EEEE is called extension directory number.

Table 6-4 INBOUND SIGNALING FOR VOICE MAIL SYSTEM

**Condition**

1. The extension type of the ports used to interface the voice mail system must be programmed as voice mail extension.
2. Voice Mail System must support the defined inbound signaling.

**Programming**

1. Assign a extension type the extension in Programming Item 82 - Extension Type.

**6.173 WAKE UP SERVICE**

The extension can set Wake Up Service to remind him/her as morning call or clock alarm for appointment at the programmed time.

**Operation**

Each extension can be individually set to stop receiving any calls.

**Operation**

Set the feature :

1. Lift handset and dialing tone is heard.
2. Dial “\*\*04” or “6604” in DTMF telephone or dial “6604” in pulse telephone.
3. Dial the two digits hour number.
4. Dial the two digits minute number.
5. Wait for confirmation tone.
6. Hang up.

Cancel the feature :

1. Lift handset and feature activation dial tone is heard.
2. Dial “##04” or “6504” in DTMF telephone or dial “6504” in Pulse telephone.
3. Wait for Confirmation Tone.
4. Do Not Disturb feature is canceled.

### **Condition**

1. If the Wake Up Service is set, the extension will ring at the programmed time, pick up the handset will hear the music for 15 seconds.
2. If the extension do not answer the Wake Up Service within ringing timeout or the extension is busy in the programmed time, the system will retry two more times at 5 minute intervals.
3. The Wake Up Service will override Do Not Disturb feature and the extension which is set with Wake Up Service and Do Not Disturb will ring on the programmed time.
4. Attendant Console can set or cancel this feature for the extension.
5. An extension cannot accommodate more than one Wake Up Service. At each time of newly setting, the old entry will be canceled.

### **Programming**

1. Assign the extension to the feature class which allow to use this feature in Programming Item 85 & 86 - Extension Feature Class in Day/Check-in Mode and Extension Feature Class in Night/Check-out Mode.
2. Determine music source for Wake Up Service in Programming Item 11 - Wake Up Service Message Type.