

NDA-24301 ISSUE 1 STOCK # 200816

**NEAX®2400 IPX** 

# **Wireless System Manual**

**OCTOBER**, 2000

NEC America, Inc.

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PAGE No.	No	ISSUE No.							PAGE No.	No	ISSUE No.								
		1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8
i		1								29		1							
ii		1								30		1							
iii		1								31		1							
iv		1								32		1							
v		1								33		1							
vi		1								34		1							
vii		1								35		1							
viii		1								36		1							
ix		1								37		1							
х		1								38		1							
1		1								39		1							
2		1								40		1							
3		1								41		1							
4		1								42		1							
5		1								43		1							
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8		1								46		1							
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24		1								62		1							
25		1								63		1							
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27		1								65		1						<u> </u>	
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PAGE No.		ISSUE No.							PAGE No.	0.	ISSUE No.							
	1	2	3	4	5	6	7	8		J.	1	2	3	4	5	6	7	8
67	1								105		1							
68	1								106		1				1			
69	1								107		1							
70	1								108		1							
71	1								109		1							
72	1								110		1							
73	1								111		1							
74	1								112		1							
75	1								113		1							
76	1								114		1							
77	1								115		1							
78	1								116		1							
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80	1								118		1							
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82	1								120		1							
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84	1								122		1							
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86	1								124		1							
87	1								125		1							
88	1								126		1							
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103	1								141		1						<u> </u>	
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PAGE No.		ISSUE No.							PAGE No.	o. L	ISSUE No.							
	1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8
143	1								181		1							
144	1								182		1							
145	1								183		1							
146	1								184		1							
147	1								185		1							
148	1								186		1							
149	1								187		1							
150	1								188		1							
151	1								189		1							
152	1								190		1							
153	1								191		1							
154	1								192		1							
155	1								193		1							
156	1								194		1							
157	1								195		1							
158	1								196		1							
159	1								197		1							
160	1								198		1							
161	1								199		1							
162	1								200		1							
163	1								201		1							
164	1								202		1							
165	1								203		1							
166	1								204		1							
167	1								205	_	1							
168	1								206		1							
169	1								207		1							
170	1								208		1							
171	1								209	_	1							
172	1								210		1							
173	1								211		1							
174	1								212		1							
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177	1								215		1							
178	1								216		1							
179	1								217		1							<b> </b>
180	1								218		1							
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																ND	A-24	301

1     2     3       219     1     1       220     1     1       221     1     1       222     1     1       223     1     1       224     1     1       225     1     1       226     1     1       227     1     1       228     1     1	4 5	6 7 	8	257 258 259 260 261	1 1 1 1	2	3	4	5	6	7	8
219     1       220     1       221     1       222     1       223     1       224     1       225     1       226     1       227     1       228     1				257 258 259 260 261	1 1 1							
220     1        221     1        222     1        223     1        224     1        225     1        226     1        227     1        228     1				258 259 260 261	1							İ
221     1        222     1        223     1        224     1        225     1        226     1        227     1        228     1				259 260 261	1							1
222     1        223     1        224     1        225     1        226     1        227     1        228     1				260 261	1							
223     1				261								
224     1        225     1        226     1        227     1        228     1					1							
225     1        226     1        227     1        228     1				262	1							
226     1       227     1       228     1				263	1							
227         1           228         1				264	1							
228 1				265	1							
				266	1							
229 1				267	1							
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231 1				269	1							
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233 1				271	1							
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NEAX2400 IPX Wireless System Manual Revision Sheet 4/5 NDA-24301												

	ISSUE No.							PAGE No.		ISSUE No.								
FAGE NU.	1	2	3	4	5	6	7	8		10.	1	2	3	4	5	6	7	8
295	1																	
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## NEAX2400 IPX Wireless System Manual

## TABLE OF CONTENTS

	Page
LIST OF FIGURES	<b>v</b> .
LIST OF TABLES	vii
CHAPTER 1 GENERAL DESCRIPTION	1
1. GENERAL DESCRIPTION OF SYSTEM.	1
2. CONNECTION BETWEEN CSINT AND ZT	3
3. MOVEMENT OF PS IN NEAX2400 IPX	4
4. SYSTEM CAPACITY	6
5. MOUNTING LOCATION OF CSINT CIRCUIT CARD	6
6. FUNCTIONS/MOUNTING CONDITIONS OF CIRCUIT CARDS	7
7. SERVICE CONDITIONS	10
8. LIST OF SERVICE FEATURES	11
CHAPTER 2 INSTALLATION DESIGN	25
1. INSTALLATION	25
1.1 ZT (ZONE TRANSCEIVER) AND ITS CONNECTION WITH S INTERFACE	25
1.2 ZT (ZONE TRANSCEIVER) AND ITS CONNECTION WITH U INTERFACE	30
1.3 BASIC KNOWLEDGE ON ZT INSTALLATION	32
2. INSTALLATION PROCEDURE OF ZONE TRANSCEIVER (ZT)	37
3. SYSTEM START-UP	44
CHAPTER 3 CIRCUIT CARDS	45
PA-4CSIC (CSINT): ZT (ZONE TRANSCEIVER) INTERFACE	46
PA-4CSID (CSINT): ZT (ZONE TRANSCEIVER) INTERFACE	57
PA-4CSIE (CSINT): ZT (ZONE TRANSCEIVER) INTERFACE	67
PA-4CSIF (CSINT): ZT (ZONE TRANSCEIVER) INTERFACE	76
PA-CK16 [SYNCJSYNCHRONOUS SIGNAL TRANSMISSION CIRCUIT FOR CS/21	86
CHAPTER 4 OFFICE DATA ASSIGNMENT	. 95
1. BASIC OFFICE DATA ASSIGNMENT (STANDALONE)	. 95
1.1 SYSTEM DATA	. 95
1.2 ZT OFFICE DATA ASSIGNMENT	96
	. 100
2. BASIC OFFICE DATA ASSIGNMENT (FUSION)	. 102
2.1 STSTEW DATA	102
2.2 PS OFFICE DATA ASSIGNMENT	103

## TABLE OF CONTENTS (CONTINUED)

			Page
3.	ASSIGNME	NT OF SERVICE FEATURE DATA	110
	AUTOMATI	C ANNOUNCEMENT-PS OUT OF ZONE/C.FPS INCOMING INCOMPLETE	111
	AUTOMATI	C ANNOUNCEMENT-DISCONNECTED PS OUT OF ZONE	116
	NAME DISP	PLAY	119
	NAME DISF	PLAY - CCIS	122
	NUMBER S	HARING	125
	PCS ROAM	ING	128
	TTC Q.931/	A PROTOCOL TIE LINE WITH PCS ROAMING	135
	TWO-LINE	OPERATION	159
	VOICE MAI	LINDICATION (VMI)	161
	ZT PROGR		162
	CALL FORV	VARDING - DROPPED CALLS	164
	AUTHORIZ	ATION CODE	168
	CALL PARK	(	172
	GROUP CA	LI - ALITOMATIC CONFERENCE (20-PARTY)	175
	SHORT TEX	XT MESSAGE SERVICE	185
			188
			100
	SFLLD CAL		190
СНАРТ			103
			195
1.			195
	ACSDL		190
	ACSDN	ASSIGNMENT OF CS/ZT DATA FOR NETWORK DATA MEMORY	198
	AUSEL	ASSIGNMENT OF EXPANSION CS/21 SYSTEM DATA FOR LOCAL DATA	004
			201
	ACSEN	ASSIGNMENT OF EXPANSION CS/21 SYSTEM DATA FOR NETWORK DATA	
			203
	ACSPL	: ASSIGNMENT OF CS/ZT PEG COUNT DATA FOR LOCAL DATA MEMORY	205
	AHRIL	: ASSIGNMENT OF HOME PBX ROUTING NUMBER DATA FOR LOCAL DATA	
		MEMORY	206
	ALVPL	: ASSIGNMENT OF LVP CODE FOR LOCAL DATA MEMORY	208
	ALVPN	: ASSIGNMENT OF LVP CODE FOR NETWORK DATA MEMORY	212
	APCNL	: ASSIGNMENT OF PHS COMMUNITY NUMBER DATA FOR LOCAL DATA MEMORY	214
	APCNN	: ASSIGNMENT OF PHS COMMUNITY NUMBER DATA FOR NETWORK DATA	
		MEMORY	217
	APDLL	: DOWNLOAD OF PS OPERATION DATA FOR LOCAL DATA MEMORY	222
	APDLN	: DOWNLOAD OF PS OPERATION DATA FOR NETWORK DATA MEMORY	227
	APSD	: ASSIGNMENT OF PS OPERATION DATA FOR DM	231
	ARODL	: ASSIGNMENT OF ROAMING SELF PBX NUMBER FOR LOCAL DATA MEMORY	239
	AVPD	: ASSIGNMENT OF VISITOR PS DATA	241
	AVPDL	: ASSIGNMENT OF TELEPHONE NUMBER FOR VISITOR PS FOR LOCAL DATA	
		MEMORY	243
	AVPDN	: ASSIGNMENT OF TELEPHONE NUMBER FOR VISITOR PS FOR NETWORK DATA	۱
		MEMORY	245
	ASFC	: ASSIGNMENT OF SERVICE FEATURE RESTRICTION CLASS	247
	ASPA	: ASSIGNMENT OF SPECIAL ACCESS CODE	. 250
	ASYD	: ASSIGNMENT OF SYSTEM DATA	254
	AAED	: ASSIGNMENT OF ANNOUNCEMENT EQUIPMENT DATA	259

## TABLE OF CONTENTS (CONTINUED)

			Page
	ALGSL	: ASSIGNMENT OF TELEPHONE NUMBER DATA FOR LDM	262
	ALGSN	: ASSIGNMENT OF TELEPHONE NUMBER DATA FOR NDM	266
	ALRTN	: ASSIGNMENT OF LOGICAL ROUTE FOR NETWORK DATA MEMORY	270
	ANSDL	: ASSIGNMENT OF NUMBER SHARING DATA FOR LOCAL DATA MEMORY	272
	ANSDN	: ASSIGNMENT OF NUMBER SHARING DATA FOR NETWORK DATA MEMORY	275
	APMD	: ASSIGNMENT OF TRUNK LINE APPEARANCE MAXIMUM NECESSARY DIGIT	
		FOR DM	278
	APMLL	: ASSIGNMENT OF PS MULTILINE DATA FOR LOCAL DATA MEMORY	280
	APMLN	: ASSIGNMENT OF PS MULTILINE DATA FOR NETWORK DATA MEMORY	282
	APSP	: ASSIGNMENT OF TRUNK LINE APPEARANCE FOR DM	284
	AZDL	: ZT PROGRAM DOWNLOAD.	286
	AHLG	: ASSIGNMENT OF CFT HOT LINE GROUP	288
	AHLGL	: ASSIGNMENT OF CFT HOT LINE GROUP FOR LDM	290
	AHLGN	: ASSIGNMENT OF CFT HOT LINE GROUP FOR NDM	292
2.	COMMAND	S FOR OPERATION AND MAINTENANCE	294
	ATRF	: ASSIGNMENT OF TRAFFIC MEASUREMENT ORDER	295
	AZARL	: ASSIGNMENT OF ZT AREA INFORMATION FOR LOCAL DATA MEMORY	296
	AZARN	: ASSIGNMENT OF ZT AREA INFORMATION FOR NETWORK DATA MEMORY	297
	COCS1L	: CONTROL OF CS/ZT STATUS READ FOR LOCAL DATA MEMORY	298
	COCS1N	: CONTROL OF CS/ZT STATUS READ FOR NETWORK DATA MEMORY	299
	COCS2L	: CHANGE OF CS/ZT OPERATION PARAMETER FOR LOCAL DATA MEMORY	300
	COCS2N	: CHANGE OF CS/ZT OPERATION PARAMETER FOR NETWORK DATA MEMORY	301
	COCS3L	: CHANGE OF CS/ZT RESET FOR LOCAL DATA MEMORY	302
	COCS3N	: CONTROL OF CS/ZT RESET FOR NETWORK DATA MEMORY	303
	DLIN	: DISPLAY OF A LIST OF ROAMING PS	304
	DPSN	: DISPLAY OF PS STATION DATA.	305
	DRPS	: DISPLAY FOR REVERSE DEVELOP PS DATA	307
	DTFP	: DISPLAY OF CS/ZT PEG COUNT DATA	308
	DPSN	: DISPLAY OF PS STATION DATA.	309
	DTFP	: DISPLAY OF CS/ZT PEG COUNT DATA	311
	MBCSL	: MAKE BUSY OF CS/ZT FOR LOCAL DATA MEMORY	312
	MBCSN	: MAKE BUSY OF CS/Z1 FOR NETWORK DATA MEMORY	313
СНАРТ	TER 6 SYS	TEM OPERATION AND MAINTENANCE	315
1	CSINT CIR	CUIT CARD MAKE-BUSY SET/CANCEL	315
2			317
<u>ک</u>			220
э.			320
			320
1			224
4.	REFLACEN		JZ1
5.	SISIENIN		323

This page is for your notes.

TABLE OF CONTENTS Page iv Revision 1.0

## LIST OF FIGURES

Figure	Title	ge
Figure 1-1	Route Connecting Diagram : Built-in PCS System	.1
Figure 1-2	Comparison : Standalone Type and Fusion Type	. 2
Figure 1-3	Power Supply from the Built-in PCS System	3
Figure 1-4	Local Power Supply	3
Figure 1-5	Route Connection Diagram : U Interface (When NT1 is used)	. 3
Figure 2-1	Related Equipment for Built-in Wireless System (When using PA-4CSIC)	26
Figure 2-2	Related Equipment for Built-in Wireless System (When using PA-4CSIE)	28
Figure 2-3	Standard Installation Image	32
Figure 2-4	High Traffic Installation Image	32
Figure 2-5	Image of ZT Installation	33
Figure 2-6	Examples of Inappropriate Mounting	37
Figure 2-7	Dimension Drawing for ZT Installation (1/2)	38
Figure 2-8	Dimension Drawing for ZT Installation (2/2)	39
Figure 2-9	Mounting of the ZT	40
Figure 2-10	Local Power Feeding	40
Figure 2-11	LEDs on the Zone Transceiver	42
Figure 2-12	Adjustment of Antenna	43
Figure 3-1	Location of Card in System	46
Figure 3-2	Lamp, Key and Connectors : PA-4CSIC	47
Figure 3-3	LT Connector Leads Accommodation of PIM : PA-4CSIC	55
Figure 3-4	Connecting Route Diagram	56
Figure 3-5	Location of Card in System	57
Figure 3-6	Lamp, Key and Connectors : PA-4CSID	58
Figure 3-7	LT Connector Leads Accommodation of PIM : PA-4CSID	65
Figure 3-8	Connecting Route Diagram	66
Figure 3-9	Location of Card in System	67
Figure 3-10	Lamp, Key and Connectors : PA-4CSIE	<mark>68</mark>
Figure 3-11	LT Connector Leads Accommodation of PIM : PA-4CSIE	74
Figure 3-12	Connecting Route Diagram	75
Figure 3-13	Location of Card in System	76
Figure 3-14	Lamp, Key and Connectors : PA-4CSIF	77
Figure 3-15	LT Connector Leads Accommodation of PIM : PA-4CSIF	84
Figure 3-16	Connecting Route Diagram	85
Figure 3-17	Location of Card in the System	86
Figure 3-18	Lamp, Key and Connectors: PA-CK16	87
Figure 3-19	LT Connector Lead Accommodation of PIM: PA-CK16 (1/2)	90
Figure 3-19	LT Connector Lead Accommodation of PIM: PA-CK16 (2/2)	91
Figure 3-20	Connecting Route Diagram	92
Figure 3-21	Example of Clock Network Using PA-CK16 [SYNC]	93
Figure 4-1	PS Roaming in Release 8 Enhancement1	29
Figure 4-2	ATRK for 24PRT 1	53
Figure 4-3	ATRK for 24DTI + 2DCH	54
Figure 4-4	ATRK for 30PRT	55

## LIST OF FIGURES

Figure	Title	Page
Figure 4-5	ATRK for 30DTI + 2DCH	. 156
Figure 4-6	Group Call-Automatic Conference using Station Hunting-Circular	. 177
Figure 4-7	Outline of Short Text Message (STM) Service	. 185
Figure 5-1	Command Descriptions	. 195
Figure 6-1	Make-Busy Set of CSINT Circuit Card	. 315
Figure 6-2	Make-Busy Cancel of CSINT Circuit Card	. 315
Figure 6-3	Make-Busy Set of ZT and Each B Channel	. 316
Figure 6-4	Make-Busy Cancel of ZT and Each B Channel	. 316

## LIST OF TABLES

Table	Title	Page
Table 1-1	System Capacity.	6
Table 1-2	List of Wireless Features	. 11
Table 1-3	List of OG Call Features	. 14
Table 1-4	List of IC Call Features	. 14
Table 1-5	List of Station Service Features	. 16
Table 1-6	List of Other Service Features	. 18
Table 1-7	List of Attendant Console Service Features	. 19
Table 1-8	List of Network Service Features	. 21
Table 1-9	List of Operation/Maintenance Service Features	. 21
Table 1-10	List of ISDN Service Features	. 22
Table 1-11	List of CCIS Features	. 23
Table 2-1	Meaning of LED Indications	. 41
Table 3-1	Switch Setting Table	. 54
Table 3-2	PA-CK16 Lamp Indications Reference	. 88
Table 3-3	Standard Switch Settings	. 89
Table 4-1	Roaming Class Data List	133
Table 4-2	List of OG Call Features for Q.931a.	137
Table 4-3	List of IC Call Features for Q.931a.	137
Table 4-4	List of Station Service Features for Q.931a	139
Table 4-5	List of Other Service Features for Q.931a	143
Table 4-6	List of Attendant Console Service Features for Q.931a	144
Table 4-7	List of Network Service Features for Q.931a	146
Table 4-8	List of Operation/Maintenance Service Features for Q.931a	146
Table 4-9	List of ISDN Service Features for Q.931a	147
Table 4-10	List of CCIS Service Features for Q.931a	148
Table 4-11	Route Class Data Assignment Table for Q.931a	152
Table 5-1	List of Commands.	193
Table 5-2	SFI	248

This page is for your notes.

LIST OF TABLES Page viii Revision 1.0

#### PREFACE

This manual explains the necessary hardware (such as circuit cards, terminal), the data programming, service features, etc. for the Built-in PCS (Personal Communication System) System. Since this manual describes the only specific information for the Built-in PCS System, see the existing manuals for the installation, functions, service features and the system operation/maintenance job of the PBX itself.

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PREFACE Page x Revision 1.0

## CHAPTER 1 GENERAL DESCRIPTION

## 1. GENERAL DESCRIPTION OF SYSTEM

The Built-in PCS System has its CSINT, which interfaces the ZT with the system, mounted in the Port Interface Module (PIM). The Control Processor Rack (CPR) exclusively designed for the PCS is necessary in the PBX. Figure 1-1 shows the entire route connecting diagram of this system.

Module structures of the Built-in PCS System are identical to that of the PBX. For more details, see the "Installation Design Manual".



Figure 1-1 Route Connecting Diagram : Built-in PCS System

**Note 1:** A maximum of four (4) ZTs can be connected to one CSINT circuit card.

**Note 2:** If the receive tone level of the PS is low, please select -5 dB (GAIN) in the PAD data of the COT Route by the command ARTD.



Figure 1-2 Comparison : Standalone Type and Fusion Type

## 2. CONNECTION BETWEEN CSINT AND ZT

Figures 1-3 through 1-5 illustrate connection methods between the CSINT and the ZT. The CSINT and the ZTs can be connected with two pairs of twisted cable using the following two connection methods - one, line voltage from the Built-in PCS System and the other, the local power supply.

1. PBX line power from Built-in PCS System.

Line Power from the PCS System is power to the ZT supplied from the PBX.



Figure 1-3 Power Supply from the Built-in PCS System

2. Local Power Supply

Local power for the ZT is supplied via AC-DC adapter from the AC.



Figure 1-4 Local Power Supply

3. U Interface (NT1 is used)



Figure 1-5 Route Connection Diagram : U Interface (When NT1 is used)

## 3. MOVEMENT OF PS IN NEAX2400 IPX

### PCS COMMUNITY

The SYS-ID is a unique ID which was given to manage the PCS system. The area where the SYS-ID is effective is called PCS Community. Every PCS Community in a Fusion network is given a unique PHS Community Number (PCN). Each PCN has its own SYS-ID. The PCN is used in stead of the SYS-ID for MAT command, and this can reduce the effect upon changing the SYS-ID to some measure. The habitual operation of the SYS-ID, which reaches to nine digits for the management purpose, is not needed; therefore easy maintenance can be provided. A single PCS Community can be assigned in multiple nodes, and a single node can belong to multiple PCS Communities by using the Tenant service.

PS movement in the system is classified into three kinds as described below:

1. Stand-by condition movement

Movement of an idle PS within the home PCN area in the home Fusion network (in the Fusion network accommodating the home node). The event of PS Location Registration occurs only when the PS moves over the Calling area. Even if a PS is in Roaming status, movement of the PS within the current visitor node is also stand-by condition movement. In the system, the home PCN can be assigned over the node, however the Calling Area cannot. Because of this, the event of PS Location Registration occurs whenever an idle PS moves over the node.

2. Hand-Over

Movement of a PS engaged in communication within the home PCN area in the home Fusion network. The event of Hand-Over occurs regardless of the Calling Area.

Even if a PS is in the Roaming status, movement of the PS engaged in communication within the current visitor node is also Hand-Over. In the system, the call engaged in communication is supported even in the case of Hand-Over over the node.

3. Roaming

PS Location Registration to the ZT in another PCN than the home PCN is called Roaming. The call engaged in communication is not supported.



#### **GENERAL DESCRIPTION**

## 4. SYSTEM CAPACITY

The following explains the capacity of the System.

	ITEMS	1-IMG System	1-IMG System 4-IMG System IPX-U S					
Max. 1	number of PSs/Node	1500 terminals terminals <b>Note 1</b>	4000 terminals <b>Note 1</b>	16000 terminals <b>Note 1</b>				
Max. 1	number of ZTs	192	768	3072				
Max. 1	number of CSINTs	48 Note 2	192 Note 2	768 Note 2				
Max. 1 (PCN)	number of PHS Community Number /system		1024					
Speech	h CH/ZT		3 ch/ZT					
Max. 1	number of ZTs/CSINT	4						
	Max. number of calling areas/PCN		32 areas					
Area	Max. number of ZTs/calling area	192 ZTs/area	256 Z	Γs/area				
	Max. number of groups/calling area	8	3 groups/area (Not used	.)				

#### Table 1-1 System Capacity

**Note 1:** Depending on capacity of NDM/LDM. When upgrading from ICS and re-using Data Memory, Maximum 2000 terminals/Node.

#### **Note 2:** A maximum of 12 circuit cards can be mounted in a PIM.

<IPX-UMG system (in conjunction with Series 7400 Release 9 software)> A maximum of 9,000 PS terminals can be accommodated in a system.

## 5. MOUNTING LOCATION OF CSINT CIRCUIT CARD

CSINT circuit card can be mounted in any universal slot in the PIM.

## 6. FUNCTIONS/MOUNTING CONDITIONS OF CIRCUIT CARDS

The following circuit cards are necessary when using the system.

1. Universal LC/TRK circuit cards

ABBREVIATION	CIRCUIT CARD NAME	FUNCTIONS AND MOUNTING CONDITIONS					
RST	PA-8RSTJ/ PA-8RSTM	Register-Sender As is the case with the RST functions in the normal stations, the RST is used virtually, and estimating how many lines are needed is as important as considering the number of terminals. Refer to the "Circuit Card Manual" for SW setting.					
DAT	PA-4DATA/ PA-4DATB	Announcement Trunk Used for ANNOUNCEMENT-PS OUT OF ZONE. Refer to the "Circuit Card Manual" for SW setting.					
TSW	PH-SW10 (1-IMG System)	<ul> <li>Synchronized with the digital circuit cards such as PRT/DTI in a variety of combinations. (Standard precision clock oscillator) This card is synchronized with clocks generated from the PRT/DTI, thus supplying the necessary clock signal to the system.</li> <li>Number of clock input route: DTI: 4, DCS: 2</li> <li>Functions: Burst Cyclic Generator of 5ms which supplies clock signaling to ZT.</li> <li>Refer to the "Circuit Card Manual" for SW setting and wiring.</li> </ul>					
OSC	PA-CK14 (1-IMG System)	<ul> <li>Synchronized with the digital circuit cards such as PRT/DTI in a variety of combinations. (High precision clock oscillator) This is synchronized with clocks generated from the PRT/DTI, thus supplying the necessary clock signal to the system.</li> <li>Number of clock input route: DTI: 4, DCS: 2</li> <li>Functions: Burst Cyclic Generator of 5ms which supplies clock signaling to ZT.</li> <li>Refer to the "Circuit Card Manual" for SW setting.</li> </ul>					
PLO	PH-CK16/ PH-CK16-A (Other than 1-IMG System) PH-CK17/ PH-CK16-A (Other than 1-IMG System)	<ul> <li>Synchronized with the digital circuit cards such as PRT/DTI in a variety of combinations. (Standard precision clock oscillator) This card is synchronized with clocks generated from the PRT/DTI, thus supplying the necessary clock signal to the system.</li> <li>Number of clock input route: DTI: 4, DCS: 2</li> <li>Functions: Burst Cyclic Generator of 5ms which supplies clock signaling to ZT.</li> <li>Refer to the "Circuit Card Manual" for SW setting and wiring.</li> <li>Synchronized with the digital circuit cards such as PRT/DTI in a variety of combinations. (High precision clock oscillator) This is synchronized with clocks generated from the PRT/DTI, thus supplying the necessary clock signal to the system.</li> <li>Number of clock input route: DTI: 4, DCS: 2</li> <li>Functions: Burst Cyclic Generator of 5ms which supplies clock signaling to ZT.</li> </ul>					
		Refer to the "Circuit Card Manual" for SW setting.					

ABBREVIATION	CIRCUIT CARD NAME	FUNCTIONS AND MOUNTING CONDITIONS					
CLK	PH-CK18 (IPX-U System)	<ul> <li>This card is used for the Local Node of the IPX-U system. This card receives clock signals from the Phase Lock Oscillator (PLO) accommodated in TSWM0 of IMG1, distributing the following signals to Time Division Switch (TSW) accommodated in TSWM1 of IMG2.</li> <li>32.768 MHz CLK</li> <li>8 KHz FH</li> <li>5 msec × "n" FH</li> </ul>					
SYNC	PA-CK16	This circuit card is used for 5 ms synchronization between CSINTs (Clock Source Office and Subordinate Office) in conjunction with the PLO card.					
CSINT	PA-4CSIC	<ul> <li>This is LC circuit card provides interface with the Zone Transceiver (ZT). A maximum of four ZTs can be connected to one circuit card. Interface of the ZT corresponds to ISDN standards, but multi-point connection with the ZTs is not available.</li> <li>I.430, Q. 921 interface</li> <li>B channel is used for two channels of 32 kbps each with a total speed of 64 kbps in the 2B+D.</li> </ul>					
	PA-4CSID	<ul> <li>This is LC circuit card provides interface with the Zone Transceiver (ZT). A maximum of four ZTs can be accommodated to one circuit card. NT1 is used in connecting the ZTs. Interface with NT1 corresponds to U Reference point of ISDN standards of the Echo canceller method.</li> <li>ANSI T1.601 interface is used</li> <li>B channel is used for two channels, each with a transmission speed of 32 kbps, with a total of 64 kbps. (2B+D)</li> <li>Functions as a Sealing Currency supplier to the NT1 (Maximum 15 mA to protect cables from rusting)</li> </ul>					
	PA-4CSIE	<ul> <li>This is LC circuit card provides interface with the Zone Transceiver (ZT). A maximum of four ZTs can be connected to one circuit card. Interface of the ZT corresponds to ISDN standards, but multi-point connection with the ZTs is not available.</li> <li>I.430, Q. 921 interface</li> <li>B channel is used for two channels of 32 kbps each with a total speed of 64 kbps in the 2B+D.</li> </ul>					
	PA-4CSIF	<ul> <li>This is LC circuit card provides interface with the Zone Transceiver (ZT). A maximum of four ZTs can be connected to one circuit card. Interface with NT1 corresponds to U Reference point of ISDN standards of the Echo canceller method.</li> <li>ANSI T1.601 interface is used</li> <li>B channel is used for two channels of 32 kbps each with a total of 64 kbps in the 2B+D.</li> <li>Functions as a Sealing Currency supplier to the NT1 (Maximum 15 mA to protect cables from rusting)</li> </ul>					

ABBREVIATION	CIRCUIT CARD NAME	FUNCTIONS AND MOUNTING CONDITIONS
CFT	PA-CFTB	8-Party Conference Trunk Used SP388 (firmware) for GROUP CALL-AUTOMATIC CONFERENCE Used SP1141 (firmware) for GROUP CALL-AUTOMATIC CONFERENCE (20-party). Refer to the "Circuit Card Manual" for SW setting.

#### **GENERAL DESCRIPTION**

#### 7. SERVICE CONDITIONS

Below are some of the conditions for using the System.

- 1. The system is available in the Business/Hotel System.
- 2. ACD/OAI services are incompatible with the system.
- 3. The following software is necessary for system operation.

Basic software: Series 7300 or later Optional software: Service (Application) software including PCS service. **Note** 

- **Note:** When using PCS in Fusion Network, this software must be installed in all nodes. Even if no PSs are accommodated in a node, this software must be installed in the node.
- 4. SMDR equipment can be used for billing.
- 5. The following billing services are available in the system.

FEATURE NAME	REMARKS
SMDR for outgoing C.O. line	
SMDR for incoming C.O. line	
SMDR for outgoing Tie line	
SMDR for incoming Tie line	
SMDR for incoming DID	
SMDR for DIT	
SMDR for IC via ATT-CON	

- 6. PS is not connected to the data terminal equipment.
- 7. PS station number cannot be programmed on the feature key of D<sup>term</sup> (as a Multi-Line).
- 8. SID TO TERMINATING USER-DISPLAY/ANALOG CALLER ID service features are not available for PS.
- 9. Service conditions for CCIS features are as follows:
  - (a) When a call is originated from or terminated to a PS via CCIS, the calling number sent to the called station varies depending on the numbering plan as shown below.
     Closed numbering network: Station number (PS number)
     Open numbering network: Office code + Station number (PS number)
  - b. When a PS user has a call placed on hold, link re-connection is not performed.
- 10. (When calling to the PS terminal, the system sends no tone to the caller while the system is searching PS location or while T303 Layer 3 Timer is activated before the Series 7400 Release 9 software.) Since Series 7400 Release 9 software enhancement, the tone designated by the system data [ASYD, SYS1, INDEX427, bit4-7. See system data for Basic Office Data Assignment (Standalone) or for Basic Office Data Assignment (Fusion) in Chapter 4] can be sent to a call originator until the called PS is founded to start ringing or until the T303 Timer is timeout.
  - System follows the data in the originating node.
  - Tone is not sent for Ring Down calls destined for PS terminal.

CHAPTER 1 Page 10 Revision 1.0

## 8. LIST OF SERVICE FEATURES

### 1. PCS Feature

SERVICE FUNCTIONS	REMARKS
UNUSED NUMBER	
PS LOCATION REGISTRATION	
OG CALL TO OUTSIDE	Least Cost Routing (LCR) is the only dialing method valid in OG call to outside.
	<b>Note 1:</b> For Fusion Network, this feature is available for Series 7300 Release 3 or later software.
INDIVIDUAL PS CALLING	Incoming calls can be terminated to a PS only in the area where the corresponding PS is registered.
CALL WAITING	
CALL HOLD	
CALL TRANSFER	
CALLING ZT ZONE REGISTRATION	A maximum of 32 areas can be assigned in each PCN.
	<b>Note 2:</b> One Fusion Link Network can have PCN 1 ~ 1024.
DISTINCTIVE RINGING	
PB (DTMF) SIGNAL SENDER	
PS-TO-STATION CALL	
PS AUTHENTICATION	
HANDOVER	Note 3
PRESET DIALING	A maximum of 24 digits can be used when dialing. The buttons that can be used are: 0-9, # and *.
OVERLAP DIALING	A maximum of 24 digits can be used when dialing. The buttons that can be used are: 0-9, # and *.
PS SERVICE CLASS	RSC and SFC for a PS is the same as those for a single-line telephone and $D^{term}$ .
AUTOMATIC ANNOUNCEMENT- DISCONNECTED PS OUT OF ZONE	
C.FPS INCOMING	It must be re-assigned when upgrading from ICS to IPX. (Backed up ICS
INCOMPLETE	data cannot be re-used.) CF destination station must have a telephone number.
AUTOMATIC	
ANNOUNCEMENT- PS OUT OF ZONE	

#### Table 1-2 List of Wireless Features

#### **GENERAL DESCRIPTION**

#### **Note 3:** *Handover*

- 1) If a PS user moves to another zone that has all speech channels busy, the PS remains connected to the original ZT.
- 2) Speech is temporarily interrupted during handover.
- 3) PS is unable to hand over in the following cases:
  - When digits are being sent (BT is heard.)
  - When a PS user attempts to hand over while connected to an operator (Attendant Console). BT is heard.
  - When user C sets Call Waiting to Terminal A while users A and B are talking status of each terminal varies depending on which terminal attempts handover. For details, see the following table.

STATUS	PS TERMINAL A	PS TERMINAL B	PS TERMINAL C
PS terminal A	Call Waiting Tone (CWT)	Released (BT)	Ring Back Tone (RBT)
PS terminal B	Talking with PS C	Released (BT)	Talking with PS A
PS terminal C	Talking with PS B	Talking with PS A	Released (BT)

- When a PS is ringing.
- 4) When using Fusion Link Network, PS can hand-over to another node as long as the destination node uses the same PCN.

2. PBX functions are available in the Built-in PCS System.

Tables 1-3 through 1-11 show functions available in the Built-in PCS System. Some of the functions not available in this system are:

- D<sup>term</sup> function
- OAI-ACD functions
- Data functions

	Standalone		Fusion		DEMADKS
NAME OF SERVICE FEATORES	From PS	To PS	From PS	To PS	
ALTERNATE ROUTING/ROUTE ADVANCE	×	_	_	_	
SPEED CALLING-STATION/ GROUP	-	_	_	_	To be substituted for the memory dial of PS
SPEED CALLING-SYSTEM	×	×	×	×	Note 1
SPEED CALLING OVERRIDE- SYSTEM	×	×	×	×	Note 1
TOLL CALL RESTRICTION	×	_	_	_	
PUSH-BUTTON TO ROTARY CONVERSION	-	_	_	_	
PRIMARY CODE RESTRICTION	×	_	_	_	
OG TRUNK QUEUING	_	_	_	_	
OFF HOOK QUEUING	_	_	_	-	
MISCELLANEOUS TRUNK RESTRICTION/ RESTRICTION FROM OG CALL	×	_	_	_	

## Table 1-3 List of OG Call Features

## $\times$ : Available $\triangle$ : Conditionally available -: Not available/Not used

#### Table 1-4 List of IC Call Features

×: Available	$\triangle$ : Conditionally available	-: Not available/Not used
	2	

NAME OF SERVICE FEATURES	Standalone		Fusion		DEMADKS
	From PS	To PS	From PS	To PS	
EXTERNAL MUSIC-ON-HOLD	—	_	_	_	
ATTENDANT CONSOLE	×	×	×	×	
DIT	—	×	_	×	Note 2
SLUMBER TIME - DO NOT DISTURB	_	_	_	_	
POWER FAILURE TRANSFER	_	—	-	_	PS cannot be used for the Night station
DISTINCTIVE RINGING	_	×	-	×	Available in the D <sup>term</sup> PS or D <sup>term</sup> PSII <b>Note 3</b>
REMOTE ACCESS TO SYSTEM/ AUTOMATED ATTENDANT	—	×	-	×	Note 4
TENANT SERVICE	×	×	_	_	
MUSIC-ON-HOLD	×	×	×	×	

- **Note 1:** OG call using [S-3] SPEED CALLING-SYSTEM/[S-61] SPEED CALLING OVERRIDE-SYSTEM can be placed from PS terminal since Series 7400 Release 9 software.
  - For more details, see SPEED CALLING-SYSTEM [S-135] in Chapter 4.
- **Note 2:** When a PS is assigned as the target station of DIRECT IN TERMINATION (DIT).
  - 1) When the PS is Out of Zone (Out of Zone or in a state of POWER OFF), RBT is heard by the calling party.

If AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE is assigned by the PS, the calling party does not hear the Out of Zone Announcement, and instead hears RBT.

- 2) If a PS user moves Out of Zone while connected to an outside party, AUTOMATIC ANNOUNCEMENT-DISCONNECTED PS OUT OF ZONE cannot be heard by the outside party, but instead BT is heard.
- 3) When a PS is engaged and an outside call attempts CALL WAITING, the caller will hear RBT.
- 4) When a DIT call is transferred to a PS or a station that has set C.F.-PS INCOMING INCOMPLETE, the calling party hears RBT if the target PS or station is Out of Zone or in the state of lock-out.
- 5) PS is unable to hand over when it is ringing. When the PS hands over, the called PS stops ringing, and the calling party hears RBT.
- 6) In Fusion Network, PS must be called with Physical Station Number.
- **Note 3:** A call from an incoming Tie Line gives the same ringing as a station call.
- **Note 4:** Remote Access to System/Automated Attendant: Terminating side is PS.
  - 1) When the PS is Out of Zone (Out of Area or in a state of POWER OFF), the calling party will hear BT.

If the AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE is set by the PS, the calling party does not hear Out of Zone Announcement. The calling party hears BT.

- 2) If a PS user moves Out of Zone while connected to an outside line, AUTOMATIC ANNOUNCEMENT-DISCONNECTED PS OUT OF ZONE cannot be heard by the subscriber outside. BT is heard.
- 3) When a REMOTE ACCESS TO SYSTEM/AUTOMATED ATTENDANT call is transferred to a PS or a station with C.F.-INCOMING INCOMPLETE set and when the transferred party is Out of Zone or in the state of lock-out, the calling party hears RBT.
- 4) PS is not allowed to hand over while ringing. When the called PS is ringing from the REMOTE ACCESS TO SYSTEM/AUTOMATED ATTENDANT and the PS hands over, the PS stops ringing and the calling party hears RBT.

#### Table 1-5 List of Station Service Features

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

	Standalone		Fusion		DEMARKO
NAME OF SERVICE FEATURES	From PS	To PS	From PS	To PS	REMARKS
OFF HOOK ALARM	_	_	_	_	
8-PARTY CONFERENCE	_	-	_	_	
C.FA-OUTSIDE	×	×	×	×	Note 1
C.FD-OUTSIDE	×	×	×	×	
C.FB-OUTSIDE	×	×	×	×	
C.FA	×	×	×	×	Note 6
C.FA CANCEL BY A ROUTINE DIAGNOSIS	-	_	_	_	
C.FI'M HERE	×	×	×	×	Note 7
CALL TRANSFER - ALL CALLS	×	×	×	×	Note 2
EMERGENCY CALL	_	-	-	-	
DAY/NIGHT CLASS OF SERVICE	_	-	-	-	
CALL WAITING	×	×	×	×	Note 3
CALL PICK UP - GROUP	×	×	_	-	Not available to do "Pick Up" from another node
CALL HOLD	-	-	-	-	
THREE-WAY CALLING	×	×	×	×	
TIMED REMINDER	_	_	_	_	
CALL PICK UP - DIRECT	×	_	_	_	Not available to do "Pick Up" from another node
STEP CALL	×	×	×	×	Note 4
SPLIT C.F.	_	_	_	_	
HOT LINE	×	×	_	_	
PERIODICAL INDICATION TONE	×	-	-	_	
AUTOMATIC CALL BACK CANCEL	-	_	-	—	
CLASS OF SERVICE - INDIVIDUAL	×	×	×	×	
STATION-TO-STATION CALLING	×	×	×	×	
STATION-TO-STATION CALL RESTRICTION	×	×	×	×	
EXECUTIVE RIGHT OF WAY	-	-	-	-	
STATION HUNTING	-	-	-	-	
CALL BACK	_	_	_	_	

#### **GENERAL DESCRIPTION**

	×: Availab	le $\triangle$ :	Conditional	ly availab	le -: Not available/Not used
NAME OF SERVICE FEATURES	Standalone		Fusion		DEMADKS
	From PS	To PS	From PS	To PS	<b>NEMANNO</b>
FLEXIBLE NUMBERING OF STATION	×	×	×	×	
AUTOMATIC HOWLER TONE SENDING	-	_	-	_	
STATION 5 DB PAD	×	×	×	×	
BOSS/SECRETARY	—	_	_	_	
C.FD	×	×	×	×	Note 6
PUSH-BUTTON CALLING	—	_	_	—	
PRIORITY CALL	×	—	×	_	Note 5
LINE LOCK-OUT	—	_	_	—	
RECALL	×	_	×	_	
C.FB	×	×	×	×	Note 6
PRIVACY	—	_	-	—	
ONE DIGIT HOOKING	—	_	-	_	

#### Table 1-5 List of Station Service Features (Continued)

Note 1: C.F.-D-Outside is not applicable by way of CALL TRANSFER-ALL CALLS.

- **Note 2:** Recall service can be activated to the transferred station when the PS, with C.F.-PS INCOMING CALL INCOMPLETE in service, moves Out of Zone, after placing a call on hold.
- Note 3: Call Waiting
  - 1) This service is valid in the two party call when a call is terminated from station-to-station, to PS, to Central Office line, or to Tie line call but invalid when other services using switch hook flash are executed to the PS or when the PS is connected to the Attendant Console.
  - 2) To set CALL WAITING, it is necessary that the Service Restriction Class data (ASFC) be assigned in the office data assignment. Call Waiting service is provided according to each service feature restriction class.
  - 3) There is no limitation of the number of CALL WAITING services such as the number of simultaneous settings/the number of occurrence of answers.
  - 4) This service cannot be used if the Central Office line (DIRECT IN TERMINATION) or a call via the Attendant Console.
- Note 4: Tie line STEP CALL is not available from PS.
- **Note 5:** *PS can activate this feature only for Attendant Console.*
- **Note 6:** *In the Fusion network, the destination of call forwarding from PS must have a Telephone Number.*
- **Note 7:** *This feature is available for Series 7400 Release 8 or later software.*

	Standalone		Fusion		
NAME OF SERVICE FEATURES	From PS	To PS	From PS	To PS	REMARKS
AUTHORIZATION CODE	_	_	_	_	
ACCOUNT CODE	_	_	_	_	
C.FINTERCEPT/ ANNOUNCEMENT	×	_	_	_	
CALL PARK	$\triangle$	$\bigtriangleup$	_	_	Note 1
DISTRIBUTION ACCESS UNIT (DAU)	×	×	_	_	Note 2
DSS CONSOLE	_	-	_	-	
ANNOUNCEMENT SERVICE	×	_	-	_	
OG CALL RESTRICTION ANNOUNCEMENT	×	_	_	_	
PAGING	-	_	_	_	
PAGING TRANSFER	-	_	_	_	
RADIO PAGING	-	_	-	_	
UNIFORM CALL DISTRIBUTION (UCD)	_	_	-	_	
UCD-DELAY ANNOUNCEMENT	-	_	-	_	
LAST NUMBER CALL	_	_	-	_	Substituted for the LAST NUMBER CALL function of PS

### Table 1-6 List of Other Service Features

 $\triangle$ : Conditionally available

-: Not available/Not used

×: Available

**Note 1:** *1) Call Park is available when:* 

- operating party is the PS in Home PBX
- *held party is the PS in Home PBX*
- 2) Call Park is not available when:
  - When Visitor PS originates a call to a station/PS in Visitor PBX(two-party connection), the call cannot be parked from the called party.
  - the operating party is PS in Visitor PBX.

Note 2: Available since Series 7300 Release 5 software.

#### **GENERAL DESCRIPTION**

	1		1		1
NAME OF SERVICE FEATURES	Standalone		Fusion		REMARKS
	From PS	To PS	From PS	To PS	
AUTOMATIC RECALL	_	×	_	Х	
ATTENDANT LOOP RELEASE	_	_	_	_	
CALL TRANSFER-ATTENDANT	_	×	_	Х	Note 1
SUPERVISORY CALL	_	×	_	×	
DIGITAL DISPLAY-TRUNK	_	_	_	_	
CALL PROCESSING INDICATION	×	×	×	×	
SERIAL CALL	_	_	_	_	
CALL WAITING LAMP DISPLAY	×	_	×	_	
ATTENDANT CAMP-ON	_	-	_	-	
NON-DELAY OPERATION	×	-	×	-	Note 3
INTER-POSITION TRANSFER	_	-	_	-	
DELAY OPERATION	×	-	×	-	Note 3
DIAL MONITOR	_	Х	_	×	
SPLIT CALL FORWARDING	_	-	_	-	
TRUNK GROUP BUSY LAMP	_	_	_	_	
SPEED CALLING-STATION/ GROUP	_	_	_	_	
SPEED CALLING-SYSTEM	_	_	_	_	
INDIVIDUAL ATTENDANT ACCESS	×	_	×	_	
ATTENDANT OVERRIDE	_	_	_	-	
STEP CALL	_	×	_	×	
ATTENDANT MONITOR SERVICE	_	_	_	_	
ATTENDANT NIGHT TRANSFER	×	_	_	_	
BUSY VERIFICATION	_	_	_	-	
INDIVIDUAL TRUNK ACCESS	_	_	_	_	
DIAL ACCESS TO ATTENDANT	×	×	×	×	Note 2, Note 3
DIGITAL DISPLAY-STATION	×	Х	×	Х	Note 3
BUSY LAMP FIELD-FLEXIBLE	×	×	_	_	
RECALL	×	_	×	_	

#### Table 1-7 List of Attendant Console Service Features

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used
- **Note 1:** Upon receiving an incoming call, the Attendant Console transfers the call to a PS, then it ends up with the PS connected to the outside. If, in this situation, the PS user moves to a place Out of Zone, the caller from the outside line will hear BT.
- **Note 2:** While the Attendant Console is calling a PS, the services associated with Out of Zone such as C.F.-PS INCOMING INCOMPLETE, AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE and AUTOMATIC ANNOUNCEMENT-DISCONNECTED PS OUT OF ZONE are not available. When an Attendant calls a PS, the individual attendant number can be displayed on the LCD of the PS. However "OPR" cannot be displayed on the LCD of the PS.
- **Note 3:** This service Feature has the limitation of Fusion Link Network. Refer to the Fusion Network System Manual/Feature Programming Manual.

#### **GENERAL DESCRIPTION**

### Table 1-8 List of Network Service Features

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

	Standa	alone	Fusion		
NAME OF SERVICE FEATURES	From PS	To PS	From PS	To PS	REMARKS
AUTOMATIC CIRCUIT ASSURANCE	×	_	×	_	
CENTREX COMPATIBILITY	_	×	-	×	
DELUXE TRAVEL CLASS MARK	_	-	-	_	
LCR - AUTOMATIC OVERFLOW	×	-	×	-	
LCR-3/6-DIGIT	×	-	×	_	Note 1
TANDEM CONNECTION	_	-	_	_	
TANDEM TRUNK QUEUING	_	_	_	_	
TANDEM PAD CONTROL	_	_	_	_	
TIE LINE ACCESS	×	×	×	×	
OUTGOING TRUNK BUSY - ANNOUNCEMENT	×	_	_	_	
HOT LINE - OUTSIDE	×	-	_	-	
DIGITAL TRUNK INTERFACE	×	×	×	×	
LCR - SPECIAL LINE WARNING	×	-	_	-	
UNIFORM NUMBERING PLAN	×	×	×	×	
LCR - TIME OF DAY ROUTING	_	_	_	_	
LCR - CLOCKED MANUAL OVERRIDE	_	-	_	_	
ATTENDANT MANUAL OVERRIDE	_	-	-	_	

### Table 1-9 List of Operation/Maintenance Service Features

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

NAME OF SERVICE FEATURES	Standalone		Fusion		REMARKS	
	From PS	To PS	From PS	To PS	<b>NEMANNO</b>	
SERVICE PEG COUNT	×	-	_	_		
TRAFFIC MEASUREMENT	×	×	_	_		
INDIVIDUAL TRUNK ACCESS	_	_	-	_		
LINE LOAD CONTROL	-	_	-	—		

**Note 1:** *This service feature has the limitation for the Fusion Link Network. Refer to the Fusion Network System Manual.* 

	×: Availa	able $\triangle$	: Conditio	onally ava	ilable –: Not available/Not used	
	Standalone		Fusion			
NAME OF SERVICE FEATURES	From PS	To PS	From PS	To PS	REMARKS	
DIRECT INWARD DIALING	-	×	-	×	Note 1	
SUB ADDRESS - PRESENT	×	—	_	_		
SUB ADDRESS - ADDRESSING	-	×	_	×	Note 1	
CALLING PARTY NUMBER - PRESENT	×	_	_	_		
CALLING PARTY NUMBER - DISPLAY	_	×	_	×		

# Table 1-10 List of ISDN Service Features

- **Note 1:** Automatic Announcement PS Out of Zone/C.F. PS Incoming Incomplete may not be available. It depends on Public ISDN Network.
- **Note 2:** *The ISDN terminal cannot transfer the call to a PS or provide the 3-party conference feature including a PS.*
- **Note 3:** A PS can transfer the call to ISDN terminal and provide the 3-party conference feature including the ISDN terminal.

#### Table 1-11 List of CCIS Features

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

NAME OF SERVICE FEATURES	ORIGINATED FROM PS	TERMINATED TO PS	REMARKS
Attendant Controlled Conference - CCIS	_	×	
Automatic Recall - CCIS	×	-	
Brokerage Hotline - CCIS	_	×	
Call Forwarding - All Calls - CCIS	×	×	
Call Forwarding - Busy Line - CCIS	×	×	
Call Forwarding - Don't Answer - CCIS	×	×	
Call Transfer - All Calls - CCIS	×	×	
Calling/Called Number Display - CCIS	×	×	
Consultation Hold - All Calls - CCIS	×	×	
Deluxe Traveling Class Mark - CCIS	×	×	
Dial Access to Attendant - CCIS	×	_	
Digital Display - Station - CCIS	×	_	
Direct In Termination - CCIS	_	×	
Distinctive Ringing - CCIS	_	×	
Do not Disturb - CCIS	_	×	
Dial Number Display - Recall - CCIS	×	×	
Flexible Numbering of Station - CCIS	×	-	
House Phone - CCIS		×	
Hot Line - CCIS	×	×	
Incoming Call Identification - CCIS	×	-	
Individual Attendant Access - CCIS	×		
LDN Night Connection - CCIS	_	×	
Miscellaneous Trunk Access - CCIS	×	-	
Miscellaneous Trunk Restriction - CCIS	×	_	
Multiple Call Forwarding - All Calls - CCIS	×	×	
Multiple Call Forwarding - Busy Line - CCIS	×	×	

	×: Available	∆: Conditionally a	vailable —: Not available/Not used
NAME OF SERVICE FEATURES	ORIGINATED FROM PS	TERMINATED TO PS	REMARKS
Multiple Call Forwarding - Don't Answer - CCIS	×	×	
Night Connection - Fixed - CCIS	-	×	
Night Connection - Flexible - CCIS	-	×	
Off-Hook Queuing - CCIS	×	-	
Single Digit Station Calling - CCIS	×	-	
Station Controlled Conference - CCIS	-	×	
Step Call - CCIS	-	×	
Supervisory Call - CCIS	_	×	

# Table 1-11 List of CCIS Features (Continued)

# CHAPTER 2 INSTALLATION DESIGN

This chapter describes the installation for the Built-in PCS system.

# 1. INSTALLATION

This section explains how to connect the Built-in PCS system and its related equipment. Refer to the "Installation Manual" to learn the installation method of the PBX and its related equipment that is included here.

- ZT (Zone Transceiver) : Connection with S interface
- ZT (Zone Transceiver) : Connection with U interface

# 1.1 ZT (ZONE TRANSCEIVER) AND ITS CONNECTION WITH S INTERFACE

1. General

This part explains how to connect the Zone Transceiver (ZT).

2. Circuit Card

NAME OF CIRCUIT CARD	2W/4W	REMARKS
PA-4CSIC	4W	
PA-4CSIE	4W	

3. Cable Connection



a. When using PA-4CSIC



Figure 2-1 Related Equipment for Built-in Wireless System (When usingPA-4CSIC)

**Note 1:** Maximum length of the cable to each ZT depends on the kind of cable (diameter) and on the power supply (Power supply from Built-in Wireless system/Local power supply).

Diameter	26 AWG	24 AWG	22 AWG	19 AWG
Distance	762 m	1219 m	1676 m	2438 m
(No arrestor)	2500 ft	4000 ft	5500 ft	8000 ft

Power supply from Built-in Wireless system (Without arrestor, when feed output is 48V)

Local power supply

Diameter	26 AWG	24 AWG	22 AWG	19 AWG
Distance	1189 m	1341 m	1676 m	2438 m
(No arrestor)	3900 ft	4400 ft	5500 ft	8000 ft

**Note 2:** Connection of the connector lead depends on the mounting location of CSINT circuit card. For more detail, refer to Chapter 3, "Circuit Cards".

**Note 3:** Below is the specification of modular plug that is used for the connection to ZT.

• RJ-45 modular plug



TEDMINAL		FUNC	TION	POLA	RITY	CSINT
NUMBER	NUMBER	TERMINAL EQUIPMENT	NT CSINT		FEED	TERMINAL
1	a	Not used	Not used			
2	b	Not used	Not used			
3	с	Transmission	Reception	+	-	RA
4	d	Reception	Transmission	+	+	TA
5	e	Reception	Transmission	-	+	ТВ
6	f	Transmission	Reception	-	-	RB
7	g	Not used	Not used			
8	h	Not used	Not used			





a. When using PA-4CSIE

Figure 2-2 Related Equipment for Built-in Wireless System (When usingPA-4CSIE)

**Note 1:** Maximum length of the cable to each ZT depends on the kind of cable (diameter) and the way of power supply (Power supply from Built-in PCS system/Local power supply).

Diameter	26 AWG (0.4Φ)	24 AWG (0.5Φ)	22 AWG (0.65Φ)	19 AWG (0.9Φ)
Distance	762 m	1219 m	1676 m	2438 m
	2500 ft	4000 ft	5500 ft	8000 ft

Power supply from Built-In PCS system (Without arrestor)

Local power supply (Without arrestor)

Diameter	26 AWG (0.4 <b>Φ</b> )	24 AWG (0.5Φ)	22 AWG (0.65Φ)	19 AWG (0.9Φ)
Distance	1189 m	1341 m	1676 m	2438 m
	3900 ft	4400 ft	5500 ft	8000 ft

*Power supply (With arrestor)* 

Diameter	26 AWG (0.4Φ)	24 AWG (0.5Φ)	22 AWG (0.65Φ)	19 AWG (0.9Φ)
Distance	300 m	500 m	800 m	1300 m
	984 ft	1640 ft	2624 ft	4265 ft

*Local power supply (With arrestor)* 

Diameter	26 AWG (0.4Φ)	24 AWG (0.5Φ)	22 AWG (0.65Φ)	19 AWG (0.9Φ)
Distance	350 m	600 m	800 m	1300 m
	1148 ft	1968 ft	2624 ft	4265 ft

**Note 2:** Connection of the connector lead depends on the mounting location of CSINT circuit card. For more detail, refer to Chapter 3, "Circuit Cards".

# 1.2 ZT (ZONE TRANSCEIVER) AND ITS CONNECTION WITH U INTERFACE

1. General

This part explains how to connect the Zone Transceiver (ZT) when using the NT1.

2. Circuit Card

NAME OF CIRCUIT CARD	2W/4W	REMARKS
PA-4CSID	2W	
PA-4CSIF	2W	

# 3. Cable Connection



# 1.3 BASIC KNOWLEDGE ON ZT INSTALLATION

1. Hypothetical Range of Radio Zone

When designing the image of a radio zone provided by a ZT, the radio zone can be drawn by using a specific prefixed distance characteristics value. Provided that a ZT is installed on a wall, the hypothetical distance characteristics range of the radio zone are as follows:

Indoor (General) :Radius of 49 ft (15 m) approximatelyIndoor (floor and corridor with unobstructed view): Radius of 65 ft (20 m) approximatelyOutdoor:Radius of 164 to 196 ft (50 to 60 m) approximately

The range shown represent model values. Adjustment of the radio zone should be needed to design the final drawings as the radio wave fluctuates unpredictably. It is fundamental that each radio zone be assigned to ensure sufficient overlap as shown below.



Figure 2-3 Standard Installation Image



Figure 2-4 High Traffic Installation Image

2. Image of ZT installation

Assuming a ZT is installed in a general office environment, one ZT can rarely cover the entire service area. So, a general service area is composed of multiple ZTs. The diagrams below show the image of ZT installation.

a. Single Floor Installation

ZTs are ideally installed at right angles or zigzag like spots on a dice.



# b. Vertical Successive Floor Installation

It would be ideal to install ZTs at zigzag position alternately by even-number and odd-number floors so that transparent radio waves penetrating floors or ceilings are sufficient enough to receive electric field to be a radio zone and transparent radio wave between floors is sensed.



Figure 2-5 Image of ZT Installation

3. Radio Wave Propagation

Although radio waves used by the Built-in PCS System employ a digital signal of service frequency of approximately 1.9 GHz band, types of radio waves and types of propagation involved with basic radio wave propagation are considered to be the same as other analog radio waves.

- Types of radio waves
  - a. Direct waves: Radio waves that are propagated directly and linearly. FLOOR b. Reflected waves/ Radio waves that are propagated CEILING by being reflected or diffracted diffracted waves (indirect waves): from an obstacle, such as a wall and ceiling. c. Transmitted waves: Radio waves that travel through a CEILING wall, floor, partition, etc. Radio waves that travel along a d. Propagating corridor WALL waves: corridor. (One type of reflected waves.) CORRIDOR M = MV WALL Radio waves that go out of a e. Re-entering building ANOTHER BUILDING building through a window, etc. waves: and enter the building again. WINDOW, ETC.

### • Types of propagation

There are two major types of radio wave propagation: the line-of-sight propagation and the propagation beyond the horizon. As opposed to a cellular phone, consideration must be given to the line-of-sight propagation characteristics, where a ZT can be seen directly; as well as the propagation beyond the horizon, where radio waves travel through walls, ceilings, partition on the same floor, or another floor for a wireless system used on private premises with a very small service area.

### Line-of-sight propagation

a. Free space propagation:	<ul> <li>When a distance doubles, propagation loss increases by 6 dB.</li> <li>When a wavelength is halved,</li> </ul>	
	propagation loss increases by 6 dB.	
Plane earth propagation:	When a distance doubles, propagation loss increases by 12 dB. (It is wavelength-independent.)	

#### b. Propagation beyond the horizon

Multiple wave propagation: Propagation where numerous reflected and diffracted waves are received. (The original mobile communications use this type of propagation.)



4. Installation of the ZT (Zone Transceiver)

Explained below is how to install the ZT and precautions to be made when mounting it.

a. The ZT is a communication device that sends a weak signal as radio waves, it should not be installed near and around equipment or an environment listed below to ensure the speech quality and various kinds of control operations – care must be taken.

[Indoor Installation]

Do not install around equipment capable of emitting noise (high frequency electric waves) such as wireless apparatus, television set, radio set, fluorescent lightening, and microwave oven.

- [Outdoor Installation]
  - Avoid places easily affected by radio disturbances from cars, etc. (e.g., near a principal road).

When installing by the sea, protect the ZT from salt using the outdoor mounting box and other protection if necessary.

Avoid places where there is a possibility to cause malfunction by radio waves.

When installing by the sea, protect the ZT from salt using the outdoor mounting box and other protection if necessary.

Besides, abnormal places with a fear of an explosion, subjected to malfunction by radio waves or to a strong electromagnetic field.

- b. Avoid installing on a clay wall or plasterboard.
- c. Ensure the wall or pillar to be used is strong enough to support the weight of the ZT, so that it does not shake, and has very little vibration.
- d. If a possible installation wall contains reinforcing steel, etc., keep the antenna away from the wall by slightly tilting it.
- e. When raising the antenna of the ZT, make sure that it does not touch the wall, etc.

# 2. INSTALLATION PROCEDURE OF ZONE TRANSCEIVER (ZT)

- STEP 1: When mounting a ZT on a wall/ceiling, observe the following instructions.
  - i Do not mount a ZT on a wall/ceiling which cannot sustain the weight of ZT (e.g. a plaster wall, plywood wall).
  - ii Make a sufficient space so that the antenna can be placed at any angle.
  - iii When mounting a ZT on a wall which contains a reinforcing bar near the mounting location, place the antenna at an angle with the wall so as to make a space between the antenna and the reinforcing bar.



Figure 2-6 Examples of Inappropriate Mounting

STEP 2: Post the attached dimension drawing on the mounting location so as to mark the locations of screw holes. As shown Figure 2-7, two screw holes are provided as the lower mounting position. Depending on the mounting location, select either of the two mounting position.



Figure 2-7 Dimension Drawing for ZT Installation (1/2)



STEP 3: Secure the furnished screws to the marked locations. In this instance, for the lower mounting screw hole select either of mounting options depending on the mounting location.

Figure 2-8 Dimension Drawing for ZT Installation (2/2)

STEP 4: Mount the ZT on the wall and slide it so that the heads of screws may fix the ZT tightly.



Figure 2-9 Mounting of the ZT

STEP 5: If power feeding from the PCS is impossible, use the "AC adapter" for local power feeding. The "AC adapter" is connected to the ZT as shown below.



Figure 2-10 Local Power Feeding

CHAPTER 2 Page 40 Revision 1.0

STEP 6: Turn ON the power to the ZT to confirm the lamp indications are normal. Refer to Table 2-1 and Figure 2-11.

LAMP	LIGHT	STAGE	MEANING					
POWER	LIT		Light when the power is supplied					
STATUS	OFF		Line is not open					
	LIT	The flicker cycle	ZT does not stand by					
		is 0.1 seconds.	Image: Constraint of the second sec					
	LIT	The light cycle is	All ZT lines are busy.					
		1.8 seconds.	Lamp           Time (0.2s)					
	LIT	The flicker cycle is 0.2 seconds standard.	The number of ZT line used. (The number of flicker indicates the number of ZT line used.)  1 line used. Lamp Time (0.2s)					
			2 lines used. 2 lines used. (All ZT lines are busy.) 4 lines used. (All ZT lines are busy.) 5 lines used. (All ZT lines are busy.) 6 lines used. (All ZT lines are busy.) 7 line (0.2s) 7 line (0.2s)					

Table 2-1 Meaning of LED Indications

\* One cycle is 2 seconds



Figure 2-11 LEDs on the Zone Transceiver

STEP 7: The angle of the antenna is variable between 0° and 180° as shown below. In a wall-mount installation, normally the antenna is set at an angle of 0° so that the antenna may be vertical with the radio zone.

Note: Since the antenna is easily broken, handle it with care.



Figure 2-12 Adjustment of Antenna

# 3. SYSTEM START-UP

After finishing the installation of the PBX (installation of the PBX, confirmation of the switch-setting of every circuit card and cable connection), start up the system. This diagram outlines the procedure to start up the system. For more details, refer to the "Installation Manual."



# CHAPTER 3 CIRCUIT CARDS

This chapter describes the circuit cards related to the Built-in PCS system. Refer to the "Circuit Card Manual" to check other circuit cards that are introduced here.

•	PA-4CSIC	(CSINT)	: ZT (Zone Transceiver) Interface	Note 1
•	PA-4CSID	(CSINT)	: ZT (Zone Transceiver) Interface	Note 2
•	PA-4CSIE	(CSINT)	: ZT (Zone Transceiver) Interface	Note 1
•	PA-4CSIF	(CSINT)	: ZT (Zone Transceiver) Interface	Note 2
•	PA-CK16	(WCS)	: Synchronous Signal Transmission Circ	cuit for CS/ZT

**Note 1:** For provision of ISDN S interface to ZT.

**Note 2:** For provision of ISDN U interface to ZT.

# **CIRCUIT CARDS**

# PA-4CSIC (CSINT) : ZT (Zone Transceiver) Interface

1. General Functions

This circuit card is designed to provide the ISDN S interface to the Zone Transceiver (ZT).

Specifications and functions of this circuit card are shown below.

- A maximum of four ZTs can be accommodated in one 4CSIC circuit card.
- Interface with ZTs is based on the ISDN standard interface, though the multi-point connection of the ZTs is not available.
- I.430, Q.921 Interface
   [Each B Channel of 32 kbps in the 2B+D (B=64 kbps) can be used as two channels.]
- Feed functions to ZT: 48 Vtyp, maximum of 250 mA, feed polarity: reverse
- Equipped with 32k ADPCM (TSW: 64 kbps, ZT: 32 kbps)
- Burst synchronization function of 5 ms (multi-frame) to ZT
- Provided with 16 channels of PB (DTMF) sender



Figure 3-1 Location of Card in System

- 2. Mounting Location of Circuit Card and Its Conditions
  - Mounting location of circuit card: Universal slot of the PIM Conditions: 12 CSINT circuit cards can be mounted in one PIM.

3. Lamp, Key, Connector and Their Location

The following diagram shows the location of Lamp, Key and Connectors.



Figure 3-2 Lamp, Key and Connectors: PA-4CSIC

# **CIRCUIT CARDS**

4. Lamp Indication

Shown below are the contents of lamp indication on this circuit card.

LAMP NAME	COLOR	MEANING
OPE	Green	Remains lit when this card is operating normally.
NOPE	Red	Remains lit when this card is in make-busy state.
BLn4	Green	Remains lit when B4 channel of the line #n is communicating Note 1
	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).
	OFF	Remains off when the corresponding circuit is idle.
BLn3	Green	Remains lit when B3 channel of the line #n is communicating Note 1
	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).
	OFF	Remains off when the corresponding circuit is idle.
BLn2	Green	Remains lit when B2 channel of line #n is communicating Note 1
	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).
	OFF	Remains off when the corresponding circuit is idle.
BLn1	Green	Remains lit when B1 channel of the line #n is communicating Note 1
	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).
	OFF	Remains off when the corresponding circuit is idle.
LYRn	Green	Remains lit when the layer 2 link of line #n is established
	Flashing	Flashes when layer 1 of the line #n is synchronized (120 IPM).
	OFF	Layer 1 and Layer 2 have not been established.
PWRn	Red	Lights when the power supply of the line #n fails.
SYNC	Red	Flashes when the synchronous timing of 5 ms is disconnected.

n=0~3

Note 1: B1 through B4 channels represent channel names of 32k ADPCM.

# 5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
MB		Up		Circuit card make-busy set
ON (MB) OFF		Down		Circuit card make-busy cancel
(Toggle Switch)				
MBR	0	ON		Line 0 make-busy request
OFF ←	0	OFF	×	Line 0 make-busy request cancel
No. 3	1	ON		Line 1 make-busy request
No. 1 No. 0	1	OFF	Х	Line 1 make-busy request cancel
→ ON	2	ON		Line 2 make-busy request
(Piano-Key Switch)		OFF	×	Line 2 make-busy request cancel
	3	ON		Line 3 make-busy request
		OFF	×	Line 3 make-busy request cancel
MODE		0		Echo Canceller is not effective
		1		Not used
		2		Echo Canceller is effective
(Rotary Switch)		3~F		Not used
SW10	1	OFF	×	Fixed
ON 1234	2	ON	×	Fixed
	3	ON	×	Fixed
(DIP Switch)	4	ON	×	Fixed

### **CIRCUIT CARDS**

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	SWITCH STANDARD SETTING SETTING		MEANING		
SW11		PAD on TS	W side		•		
ON 12345678	1	SW	ITCH 1	SWI	TCH 2	PAD	
		(	DFF	0	FF	Not used	
			DFF	0	DN	A Law	
(DIP Switch)			ON	C	DN	μ-Law (Standard Setting)	
	2					·	
	3	ON	×	(	Fixed		
	4	ON	ON × F				
		PB Sender Mode (Law/Level) Selection					
		SW	ITCH 5	SWI	TCH 6	LAW/LEVEL	
	5	(	OFF	0	FF	Not used	
			ON	0	FF		
		(	OFF	C	DN		
		-	ON	C	DN	μ-law Standard A-law Standard <b>Note</b>	
	6	Note: μ/A-law can be selected on the TSW sidePAD. μ-law Standard =High: -7.0 dBm Low: -9.0 dBm A-law Standard =High: -8.0 dBm Low: -10.0 dBm					
	7	ON	×	< compared with the second sec	Fixed		
	8	ON	×	(	Fixed		

[Firmware: SW-329]

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING		MEANING			
SW12		PAD control	(PAD value o	of the TSW s	the TSW side) Note 1			
ON 12345678		SWITCH 1	SWITCH 2	SWITCH 3	PAD VALUE OF THE TSW SIDE			
		OFF	OFF	OFF	Not used			
		ON	OFF	OFF	PAD 2=0 dB,PAD 1=-5 dB			
(DIP Switch)		OFF	ON	OFF	PAD 2=0 dB,PAD 1=-3 dB			
(= •	1~3	ON	ON	OFF	PAD 2=0 dB,PAD 1=0 dB			
	1-5	OFF	OFF	ON	Not used			
		ON	OFF	ON	PAD 2=0 dB,PAD 1=5 dB			
		011	011	ON	(Standard setting)			
		OFF	ON	ON	PAD 2=0 dB,PAD 1=3 dB			
		ON	ON	ON	PAD 2=0 dB,PAD 1=0 dB			
		SWITCH 4	SWITCH 5	SWITCH 6	PAD VALUE OF THE LINE SIDE			
		OFF	OFF	OFF	Not used			
		ON	OFF	OFF	PAD 4=0 dB,PAD 3=-5 dB			
		OFF	ON	OFF	PAD 4=0 dB,PAD 3=-3 dB			
	4~6	ON	ON	OFF	PAD 4=0 dB,PAD 3=0 dB			
		OFF	OFF	ON	Not used			
		ON	OFF	ON	PAD 4=0 dB,PAD 3=5 dB			
		OFF	ON	ON	PAD 4=0 dB,PAD 3=3 dB			
		ON	ON	ON	PAD 4=0 dB,PAD 3=0 dB (Standard setting)			
	7	OFF	×	Fixed				
	8	OFF	×	Fixed				

Note 1: The following diagram shows the PAD control method.



#### [Firmware: SW-359]

SWITCH NAME	SWITCH NUMBER	SWITCH STANDARD SETTING SETTING				MEANI	NG		
SW12	1~8	Connection wi	th C.O. if Echo	Canceller is n	ot effective. Note 1	Connection w	ith C.O. if Echo	o Canceller is e	ffective. Note 2
		SWITCH 1	SWITCH 2	SWITCH 3	PAD VALUE	SWITCH 1	SWITCH 2	SWITCH 3	PAD VALUE
		OFF	OFF	OFF	Not used	OFF	OFF	OFF	Not used
ON 12345678		ON	OFF	OFF	Not used	ON	OFF	OFF	Not used
		OFF	ON	OFF	PAD 1=3 dB	OFF	ON	OFF	PAD 3=3 dB
		ON	ON	OFF	PAD 1=0 dB	ON	ON	OFF	PAD 3=0 dB
		OFF	OFF	ON	PAD 1=-3 dB	OFF	OFF	ON	PAD 3=-3 dB
(DIP Switch)		ON	OFF	ON	PAD 1=-5 dB (Standard setting)	ON	OFF	ON	PAD 3=–5 dB (Standard setting)
		OFF	ON	ON	PAD 1=-7 dB	OFF	ON	ON	PAD 3=-7 dB
		ON	ON	ON	PAD 1=-10 dB	ON	ON	ON	PAD 3=-10 dB
		SWITCH 4		PAD VAL	UE	SWITCH 4	PAD VALUE		
		ON	Standard settin	g)	ON	PAD 4=3 dB (Standard setting)			
		OFF			OFF	PAD 4=0 dB			
		Connection wi	th a station if I	Echo Canceller	s not effective. Note 1	Connection with a station if Echo Canceller is effective. Note 2			
		SWITCH 5	SWITCH 6	SWITCH 7	PAD VALUE	SWITCH 5	SWITCH 6	SWITCH 7	PAD VALUE
		OFF	OFF	OFF	Not used	OFF	OFF	OFF	Not used
		ON	OFF	OFF	PAD 1=5 dB	ON	OFF	OFF	PAD 3=5 dB
		OFF	ON	OFF	PAD 1=3 dB	OFF	ON	OFF	PAD 3=3 dB
		ON	ON	OFF	PAD 1=0 dB (Standard setting)	ON	ON	OFF	PAD 3=0 dB (Standard setting)
		OFF	OFF	ON	PAD 1=-3 dB	OFF	OFF	ON	PAD 3=-3 dB
		ON	OFF	ON	PAD 1=-5 dB	ON	OFF	ON	PAD 3=-5 dB
		OFF	ON	ON	PAD 1=-7 dB	OFF	ON	ON	PAD 3=-7 dB
		ON	ON	ON	PAD 1=-10 dB	ON	ON	ON	PAD 3=-10 dB
		SWITCH 8 PAD VALUE				SWITCH 8		PAD VAL	UE
		ON	PAD 2=3 dB			ON	PAD 4=3 dB		
		OFF	PAD 2=0 dB (	Standard settin	g)	OFF	PAD 4=0 dB	(Standard settin	g)

**Note 1:** *The following diagram shows the PAD control method.* 



Note 2: Pad value of both PAD 1 and PAD 2 is 0 dB.

CHAPTER 3 Page 52 Revision 1.0

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
SWL0				Setting of the cable length to the
SWL1				corresponding ZT Note 1
SWL2				SWL0: Channel 0
SWL3				SWL1: Channel 1
				SWL2: Channel 2
				SWL3: Channel 3
		0		0 ~ 262 ft (0~80 m)
(Rotary Switch)		1		262 ~ 524 ft (80 ~ 160 m)
		2		524 ~ 787 ft (160 ~ 240 m)
		3		787 ~ 1049 ft (240 ~ 320 m)
		4		1049 ~ 1312 ft (320 ~ 400 m)
		5		1312 ~ 1574 ft (400 ~ 480 m)
		6		1574 ~ 1837 ft (480 ~ 560 m)
		7		1837 ~ 2099 ft (560 ~ 640 m)
		8		2099 ~ 2362 ft (640 ~ 720 m)
		9		2362 ~ 2624 ft (720 ~ 800 m)
		А		2624 ~ 2887 ft (800 ~ 880 m)
		В		2887 ~ 3149 ft (880 ~ 960 m)
		С		3149 ~ 3412 ft (960 ~ 1040 m)
		D		3412 ~ 3674 ft (1040 ~ 1120 m)
		E		3674 ~ 3937 ft (1120 ~ 1200 m)
		F		3937 ft (1200 m) or more

**Note 1:** *SWL0~SWL3* determines the cable length from CSINT to ZT, however the maximum length of each cable varies according to the diameter of the cable.

Power supply from Built-in PCS system (Without arrestor, when feed output is 48V)

Diameter	26 AWG (0.4 φ)	24 AWG (0.5 φ)	22 AWG (0.65 φ)	19 AWG (0.9 φ)
Distance	762 m	1219 m	1676 m	2438 m
(No arrestor)	2500 ft	4000 ft	5500 ft	8000 ft

Local power supply (With arrestor)

Diameter	26 AWG (0.4 ¢)	24 AWG (0.5 φ)	22 AWG (0.65 φ)	19 AWG (0.9 ¢)
Distance (No arrestor)	1189 m	1341 m	1676 m	2438 m
	3900 ft	4400 ft	5500 ft	8000 ft

# **CIRCUIT CARDS**

PA-4CSIC (CSINT) : ZT (Zone Transceiver) Interface

MODULE NAME	SLOT	SWITCH NAME	SWITCH SHAPE	REMARKS
PIM		MB	ON (MB) OFF	ON : Make-busy set of circuit card OFF : Make-busy cancel of circuit card
		MBR	OFF • • • • • • • • • • • • • • • • • •	
		MODE		
		SW10		
		SW11	ON 1 2 3 4 5 6 7 8	
		SW12	ON 1 2 3 4 5 6 7 8	
		SWL0		
		SWL1		
		SWL2		
		SWL3		

Table 3-1	Switch	<b>Setting Table</b>	è
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#### 6. External interface

Below are accommodation of the LT connector leads of this circuit card and connecting route diagram. a. LT Connector Lead Accommodation when this circuit card is mounted in PIM.



Figure 3-3 LT Connector Leads Accommodation of PIM : PA-4CSIC


Figure 3-4 Connecting Route Diagram

# PA-4CSID (CSINT) : ZT (Zone Transceiver) Interface

1. General Functions

This card is a line circuit card which accommodates Zone Transceivers (ZTs) via the ISDN U interface. ZTs are to be connected using NT1.

The main specifications and functions of this circuit card are shown below.

- A maximum number of four ZTs can be accommodated in one circuit card.
- Interface with the NT1 is based on the standard ISDN interface. (U reference-point Echo Canceller method.

ANSI TI.601, Q.921 interface)

- Two B channels of each 32 kbps can be used in 2B+D with the total speed of 64 kbps.
- Sealing current (Maximum 15mA) can be supplied to protect cables from rusting.
- Equipped with ADPCM which enables the B-channel bit rate to change. (TSW-side: 64 kbps, ZT side: 32 kbps)



Figure 3-5 Location of Card in System

- 2. Mounting Location of Circuit Card and Its Conditions
  - Mounting location of circuit card: Universal slot of the PIM Conditions: 12 CSINT circuit cards can be mounted in one PIM

## 3. Lamps, Switches, Connectors and Their Location

The following diagram shows the location of Lamp, Key and Connectors.



Figure 3-6 Lamp, Key and Connectors: PA-4CSID

## 4. Lamp Indication

Shown below are the contents of lamp indication on this circuit card.

LAMP NAME	COLOR	MEANING				
OPE	Green	Remains lit when the card is operating normally.				
NOPE	Red	Remains lit when the card is in make-busy state.				
	Green	Remains lit when B4 channel of the line #n is communicating (Note).				
BLn4	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).				
	Off	Remains off while the corresponding circuit is idle.				
	Green	Remains lit when B3 channel of the line #n is communicating (Note).				
BLn3	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).				
	Off	Remains off while the corresponding circuit is idle.				
	Green	Remains lit when B2 channel of line #n is communicating (Note).				
BLn2	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).				
	Off	Remains off while the corresponding circuit is idle.				
	Green	Remains lit when B1 channel of the line #n is communicating (Note).				
BLn1	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).				
	Off	Remains off while the corresponding circuit is idle.				
	Green	Remains lit when the layer 2 link of line #n is established.				
I VD n	Flashing	Flashes when synchronization is established on Layer 1 of S Reference Point (60 IPM).				
	Plasning	Flashes when synchronization is established on Layer 1 of U Reference Point (120 IPM).				
	Off	Synchronization is not established on both Layer 1 and Layer 2.				
BERn	Red	Two or more CRC errors occur per second and the condition lasts for 10 seconds.				
	Off	One or no CRC error occurs per second.				

n=0~3

**Note 1:** *B1 through B4 channels represent channel names of 32K ADPCM.* 

Note 2: Establishment of synchronization on U Reference Point may take 30 seconds or more.

## 5. Switch Settings

Switches on this card have the following meanings.

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
MB ON (MB)		UP		Circuit card make-busy
(Toggle Switch)		DOWN	×	Circuit card make-busy cancel
MBR	0	ON		Line 0 make-busy request
	0	OFF	×	Line 0 make-busy request cancel
No. 3	1	ON		Line 1 make-busy request
No. 2	1	OFF	×	Line 1 make-busy request cancel
	2	ON		Line 2 make-busy request
(Piano Switch)	2	OFF	×	Line 2 make-busy request cancel
	3	ON		Line 3 make-busy request
	3	OFF	×	Line 3 make-busy request cancel
LPB	0	ON		Loop back is set on NT1 for line 0.
		OFF	×	Loop back is canceled on NT1 for line 0.
No. 3	1 2 3	ON		Loop back is set on NT1 for line 1.
No. 2		OFF	×	Loop back is canceled on NT1 for line 1.
		ON		Loop back is set on NT1 for line 2.
		OFF	×	Loop back is canceled on NT1 for line 2.
(Fland Switch)		ON		Loop back is set on NT1 for line 3.
		OFF	×	Loop back is canceled on NT1 for line 3.
MODE		0		Echo Canceller is not effective
		1		Not used
		2		Echo Canceller is effective
(Rotary Switch)		3~F		Not used
SW10	1	ON		Mounted in WCS
ON <u>1234</u>	1	OFF	×	Mounted in PCS
	2	ON	×	Fixed
(DIP Switch)	3	ON		μ-law
	5	OFF		A-law
	4	ON	×	Fixed

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	I STANDARD G SETTING		MEANING		
SW11		PAD on TS	W side				
ON 12345678	1	SW1	SW2		PAD		
		OFF	OFF	Not used	1		
		ON	OFF	Not used	1		
(DIP Switch)		OFF	ON	A-law			
	2	ON	ON	µ-law			
	3	ON	>	×	Fixed		
	4	ON	>	×	Fixed		
					PB Sender Mode (Law/Level)		
		ON	>	<	SW5 SW6 LAW/LEVEL		
					OFF OFF Not used		
	5				ON OFF		
					OFF ON		
		OFF			ON ON H-law standard		
					A-law standard Note		
	6	ON	;	<	Note: μ/A-law can be selected on the TSW side PAD. μ-law standard = High: -7.0 dBm Low: -9.0 dBm		
	6 OFF	OFF			A-law standard = High: -8.0 dBm Low: -10.0 dBm		
	7	ON	>	×	Not used		
	8	ON			Sealing Current is not supplied.		
	0	OFF	>	×	Sealing Current is supplied.		

#### [Firmware: SW-330]

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING		MEANING
SW12		PAD control	(TSW Side PA	D Value)	Note 1
		SW1	SW2	SW3	TSW Side PAD Value
		OFF	OFF	OFF	Not used
		ON	OFF	OFF	PAD 2=0 dB,PAD 1=-5 dB
(DIP Switch)		OFF	ON	OFF	PAD 2=0 dB,PAD 1=-3 dB
	1~3	ON	ON	OFF	PAD 2=0 dB,PAD 1=0 dB
		OFF	OFF	ON	Not used
		ON	OFF	ON	PAD 2=0 dB,PAD 1=5 dB (Standard setting)
		OFF	ON	ON	PAD 2=0 dB,PAD 1=3 dB
		ON	ON	ON	PAD 2=0 dB,PAD 1=0 dB
		PAD control	(Line Side PA	D Value)	Note 1
		SW4	SW5	SW6	Line Side PAD Value
		OFF	OFF	OFF	Not used
	4~6	ON	OFF	OFF	PAD 4=0 dB,PAD 3=-5 dB
		OFF	ON	OFF	PAD 4=0 dB,PAD 3=-3 dB
		ON	ON	OFF	PAD 4=0 dB,PAD 3=0 dB
		OFF	OFF	ON	Not used
		ON	OFF	ON	PAD 4=0 dB,PAD 3=5 dB (Standard Setting)
		OFF	ON	ON	PAD 4=0 dB,PAD 3=3 dB
		ON	ON	ON	PAD 4=0 dB,PAD 3=0 dB
	7	OFF	×		Fixed
	8	OFF	×		Fixed

**Note 1:** *PAD control is shown below. Note that Echo Canceller, PAD 3 and PAD 4 are bypassed when the MODE switch is set to "0".* 



**Note 2:** Regarding speech communication, PAD values set on SW12-1 through SW12-6 are applied. In the other cases (ex. data communication), PAD values are set according to the order of CPU.

CHAPTER 3 Page 62 Revision 1.0

[Firmware: SW-360]			_							
SWITCH NAME	SWITCH NUMBER	SWITC SETTIN	SWITCH STANDARD SETTING SETTING				MEANII	NG		
SW12		Connection w	ith C.O. if Ech	o Canceller is	not effective. Note 1	Connection w	ith C.O. if Ec	ho Canceller is	effective. Note 2	
		SWITCH 1	SWITCH 2	SWITCH 3	PAD VALUE	SWITCH 1	SWITCH 2	SWITCH 3	PAD VALUE	
ON 12245678		OFF	OFF	OFF	Not used	OFF	OFF	OFF	Not used	
▲   ⊣ਜ਼ਜ਼ਜ਼ਜ਼ਜ਼ਜ਼ਜ਼		ON	OFF	OFF	Not used	ON	OFF	OFF	Not used	
		OFF	ON	OFF	PAD 1=3 dB	OFF	ON	OFF	PAD 3=3 dB	
		ON	ON	OFF	PAD 1=0 dB	ON	ON	OFF	PAD 3=0 dB	
(DIP Switch)		OFF	OFF	ON	PAD 1=-3 dB	OFF	OFF	ON	PAD 3=-3 dB	
		ON	OFF	ON	PAD 1=-5 dB (Standard setting)	ON	OFF	ON	PAD 3=-5 dB (Standard setting)	
		OFF	ON	ON	PAD 1=-7 dB	OFF	ON	ON	PAD 3=-7 dB	
		ON	ON	ON	PAD 1=-10 dB	ON	ON	ON	PAD 3=-10 dB	
		SWITCH 4	SWITCH 4 PAD VALUE SWITCH 4					PAD VALUE		
		ON	PAD 2=3 dB	(Standard set	ting)	ON PAD 4=3 dB (Standard setting)			tting)	
		OFF	OFF PAD 2=0 dB OFF PAD 4=0 dB							
	1~8	Connection wit	h station if Ecl	ho Canceller is	not effective. Note 1	Connection	with station if	Echo Cancelle	er is effective. Note 2	
		SWITCH 5	SWITCH 6	SWITCH 7	PAD VALUE	SWITCH 5	SWITCH 6	SWITCH 7	PAD VALUE	
		OFF	OFF	OFF	Not used	OFF	OFF	OFF	Not used	
		ON	OFF	OFF	PAD 1=5 dB	ON	OFF	OFF	PAD 3=5 dB	
		OFF	ON	OFF	PAD 1=3 dB	OFF	ON	OFF	PAD 3=3 dB	
		ON	ON	OFF	PAD 1=0 dB (Standard setting)	ON	ON	OFF	PAD 3=0 dB (Standard setting)	
		OFF	OFF	ON	PAD 1=-3 dB	OFF	OFF	ON	PAD 3=-3 dB	
		ON	OFF	ON	PAD 1=-5 dB	ON	OFF	ON	PAD 3=–5 dB	
		OFF	ON	ON	PAD 1= $-7 \text{ dB}$	OFF	ON	ON	PAD $3=-7 \text{ dB}$	
		ON	ON	ON	PAD 1=-10 dB	ON	ON	ON	PAD 3=-10 dB	
		SWITCH 8		PAD VAL	.UE	SWITCH 8		PAD VAL	UE	
		ON	PAD 2=3 dB			ON	PAD 4=3 dE			
		OFF	PAD 2=0 dB	(Standard set	ting)	OFF	PAD 4=0 dB	(Standard set	tting)	
		1								

**Note 1:** *PAD control is shown below. Note that Echo Canceller, PAD 3 and PAD 4 are bypassed when the MODE switch is set to "0".* 



Note 2: Pad value of both PAD 1 and PAD 2 is 0 dB.

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
SW20	1	OFF	×	Fixed
ON 1234	2	OFF	×	Fixed
	3	OFF	×	Fixed
(DIP Switch)	4	OFF	×	Fixed
SW21	1	ON	×	Not used
ON 4 2 2 4 5 0 7 8	2	ON	×	Not used
	3	ON	×	Not used
(DIP Switch)	4	ON	×	Not used
	5	ON	×	Not used
	6	ON	×	Not used
	7	ON	×	Not used
	8	ON	×	Fixed

#### 6. External interface

Shown below are accommodation of the LT connector leads of this circuit card and connecting route diagram.

a. When this circuit card is mounted in PIM.



Figure 3-7 LT Connector Leads Accommodation of PIM : PA-4CSID



Figure 3-8 Connecting Route Diagram

# PA-4CSIE (CSINT) : ZT (Zone Transceiver) Interface

1. General Functions

This circuit card is designed to provide the ISDN S interface to the Zone Transceiver (ZT).

Specifications and functions of this circuit card are shown below.

- A maximum of four ZTs can be accommodated in one 4CSIE circuit card.
- Interface with ZTs is based on the ISDN standard interface, though the multi-point connection of the ZTs is not available.
- I.430, Q.921 Interface
- (Each B Channel of 32 kbps in the 2B+D (B=64 kbps) can be used as two channels.)
- Feed functions to ZT: 48 Vtyp, maximum of 250 mA, feed polarity: reverse
- Equipped with 32k ADPCM (TSW: 64 kbps, ZT: 32 kbps)
- Burst synchronization function of 5 ms (multi-frame) to ZT
- Provided with 16 channels of PB (DTMF) sender



Figure 3-9 Location of Card in System

- 2. Mounting Location of Circuit Card and Its Conditions
  - Mounting location of circuit card: Universal slot of the PIM Conditions: 12 CSINT circuit cards can be mounted in one PIM.

## 3. Lamp, Key, Connector and Their Location

The following diagram shows the location of Lamp, Key and Connectors.



Figure 3-10 Lamp, Key and Connectors : PA-4CSIE

## 4. Lamp Indication

Shown below are the contents of lamp indication on this circuit card.

LAMP NAME	COLOR	MEANING
OPE	Green	Remains lit when this card is operating normally.
NOPE	Red	Remains lit when this card is in make-busy state.
BLn4	Green	Remains lit when B4 channel of the line #n is communicating <b>Note</b>
	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).
	OFF	Remains off when the corresponding circuit is idle.
BLn3	Green	Remains lit when B3 channel of the line #n is communicating <b>Note</b>
	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).
	OFF	Remains off when the corresponding circuit is idle.
BLn2	Green	Remains lit when B2 channel of line #n is communicating Note
	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).
	OFF	Remains off when the corresponding circuit is idle.
LYRn	Green	Remains lit when the layer 2 link of line #n is established
	Flashing	Flashes when layer 1 of the line #n is synchronized (120 IPM).
	OFF	Layer 1 and Layer 2 have not been established.
PWRn	Red	Lights when the power supply of the line #n fails.
SYNC	Red	Flashes when the synchronous timing of 5 ms is disconnected.

n=0~3

Note 1: B2 through B4 channels represent channel names of 32k ADPCM.

## 5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
MB		Up		Circuit card make-busy set
ON (MB) OFF (Toggle Switch)		Down		Circuit card make-busy cancel
MBR		ON		Line 0 make-busy request
OFF ←	0	OFF	×	Line 0 make-busy request cancel
No. 3	1	ON		Line 1 make-busy request
No. 1 No. 0	1	OFF	×	Line 1 make-busy request cancel
→ ON	2	ON		Line 2 make-busy request
(Piano-Key Switch)	2	OFF	×	Line 2 make-busy request cancel
	3	ON		Line 3 make-busy request
		OFF	×	Line 3 make-busy request cancel
MODE		0	×	Fixed
(Rotary Switch)		1~F		Not used
SW10	1	ON		Mounted in WCS
	1	OFF	×	Mounted in PCS
	2	ON	×	Fixed
(DIP Switch)	3	ON	×	Fixed
	4	ON	×	Fixed

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING		MEANING	
SW11		PAD on TS	W side			
ON 12345678	1	sw	ITCH 1	SWI	TCH 2	PAD
		(	OFF	0	FF	Not used
		-	ON	0	FF	Not used
(DIP Switch)		(	DFF	C	DN	A-Law
	2		ON	C	DN	μ-Law (Standard Setting)
					Γ	
	3	ON	>	<	Not us	ed
	4	ON	>	<	Not us	ed
		PB Sender	Mode (L	aw/Leve	el) Selec	ction
		SW	ITCH 5	SWI	TCH 6	LAW/LEVEL
	5	(	OFF		FF	Not used
			ON	OFF		
		(	OFF	C	DN	
			ON	C	DN	μ-law Standard A-law Standard <mark>Note</mark>
	6	Note: μ/Α· μ-la Α-la	the TSW sidePAD. .0 dBm .0 dBm .0 dBm 0.0 dBm			
	7	ON	>	<	Fixed	
	8	ON	>	<	Fixed	

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STA SE	NDARD		Μ	EANING
SW12	1~8	Connection v	with C.	.O. Note			
ON 12345678		SWITCH	1	SWITCH	2	SWITCH 3	PAD VALUE
		OFF		OFF		OFF	Not used
		ON		OFF		OFF	Not used
(DIP Switch)		OFF		ON		OFF	PAD 1=3 dB
		ON		ON		OFF	PAD 1=0 dB
		OFF		OFF		ON	PAD 1=-3 dB
		ON		OFF		ON	PAD 1=-5 dB
							(Standard setting)
		OFF		ON		ON	PAD 1=-7 dB
		ON		ON		ON	PAD 1=-10 dB
		SWITCH	4			PAD VAL	UE
		ON		PAD $2=3 \text{ dB}$	(Stand	ard setting)	
		OFF	]	PAD 2=0 dB	(	6,	
		Connection v	with a s	station. No SWITCH	te 6	SWITCH 7	PAD VALUE
		OFF		OFF		OFF	Not used
		ON		OFF		OFF	PAD 1=5 dB
		OFF		ON		OFF	PAD 1=3 dB
		ON		ON		OFF	PAD 1=0 dB (Standard setting)
		OFF		OFF		ON	PAD 1=-3 dB
		ON		OFF		ON	PAD 1=-5 dB
		OFF		ON		ON	PAD 1=-7 dB
		ON		ON		ON	PAD 1=-10 dB
		SWITCH	8				UE
		ON	]	PAD 2=3 dB			
		OFF	]	PAD 2=0 dB	(Stand	ard setting)	

**Note:** *The following diagram shows the PAD control method.* 



MODULE NAME	SLOT	SWITCH NAME	SWITCH SHAPE	REMARKS
PIM		MB	ON (MB) OFF	ON : Make-busy set of circuit card OFF : Make-busy cancel of circuit card
		MBR	OFF  No. 3 No. 2 No. 1 No. 0 No. 0 No. 0	
		MODE		
		SW10		
		SW11	ON 12345678	
		SW12	ON 1 2 3 4 5 6 7 8	

#### 6. External interface

Below are accommodation of the LT connector leads of this circuit card and connecting route diagram. a. LT Connector Lead Accommodation when this circuit card is mounted in PIM.



Figure 3-11 LT Connector Leads Accommodation of PIM: PA-4CSIE



Figure 3-12 Connecting Route Diagram

# PA-4CSIF (CSINT) : ZT (Zone Transceiver) Interface

1. General Functions

This card is a line circuit card which accommodates Zone Transceivers (ZTs) via the ISDN U interface. ZTs are to be connected using NT1.

The main specifications and functions of this circuit card are shown below.

- A maximum of four ZTs can be accommodated in one circuit card.
- Interface with the NT1 is based on the standard ISDN interface. (U reference-point Echo Canceller method. ANSI TI.601, Q.921 interface)
- Two B channels of each 32 kbps can be used in 2B+D with the total speed of 64 kbps.
- Sealing current (Maximum 15 mA) can be supplied to protect cables from rusting.
- Equipped with ADPCM which enables the B-channel bit rate to change. (TSW-side: 64 kbps, ZT side: 32 kbps)



Figure 3-13 Location of Card in System

- 2. Mounting Location of Circuit Card and Its Conditions
  - Mounting location of circuit card: Universal slot of the PIM Conditions: 12 CSINT circuit cards can be mounted in one PIM

## 3. Lamps, Switches, Connectors and Their Location

The following diagram shows the location of Lamp, Key and Connectors.



Figure 3-14 Lamp, Key and Connectors: PA-4CSIF

## 4. Lamp Indication

Shown below are the contents of lamp indication on this circuit card.

LAMP NAME	COLOR	MEANING				
OPE	Green	Remains lit when the card is operating normally.				
NOPE	Red	Remains lit when the card is in make-busy state.				
	Green	Remains lit when B4 channel of the line #n is communicating (Note).				
BLn4	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).				
	Off	Remains off while the corresponding circuit is idle.				
	Green	Remains lit when B3 channel of the line #n is communicating (Note).				
BLn3	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).				
	Off	Remains off while the corresponding circuit is idle.				
	Green	Remains lit when B2 channel of line #n is communicating (Note).				
BLn2	Flashing	Flashes while the corresponding circuit is in make-busy state (60 IPM).				
	Off	Remains off while the corresponding circuit is idle.				
	Green	Remains lit when the layer 2 link of line #n is established.				
I VD n	Flashing	Flashes when synchronization is established on Layer 1 of S Reference Point (60 IPM).				
LIKI	Trashing	Flashes when synchronization is established on Layer 1 of U Reference Point (120 IPM).				
	Off	Synchronization is not established on both Layer 1 and Layer 2.				
BERn	Red	Two or more CRC errors occur per second and the condition lasts for 10 seconds.				
	Off	One or no CRC error occurs per second.				

n=0~3

**Note 1:** *B2 through B4 channels represent channel names of 32K ADPCM.* 

Note 2: Establishment of synchronization on U Reference Point may take 30 seconds or more.

## 5. Switch Settings

Switches on this card have the following meanings.

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
MB ON (MB)		UP		Circuit card make-busy
(Toggle Switch)		DOWN	×	Circuit card make-busy cancel
MBR	0	ON		Line 0 make-busy request
	0	OFF	×	Line 0 make-busy request cancel
No. 3	1	ON		Line 1 make-busy request
No. 2	1	OFF	×	Line 1 make-busy request cancel
	2	ON		Line 2 make-busy request
	2	OFF	×	Line 2 make-busy request cancel
(Plano Switch)	2	ON		Line 3 make-busy request
	5	OFF	×	Line 3 make-busy request cancel
LPB	0	ON		Loop back is set on NT1 for Line 0.
		OFF	×	Loop back is canceled on NT1 for Line 0.
No. 3	1	ON		Loop back is set on NT1 for Line 1.
No. 2 No. 1 No. 0		OFF	×	Loop back is canceled on NT1 for Line 1.
	2	ON		Loop back is set on NT1 for Line 2.
		OFF	×	Loop back is canceled on NT1 for Line 2.
(Plano Switch)		ON		Loop back is set on NT1 for Line 3.
		OFF	×	Loop back is canceled on NT1 for Line 3.
MODE		0	×	Fixed
(Rotary Switch)		1~F		Not used
SW10	1	ON		Mounted in WCS
		OFF	×	Mounted in PCS
	2	ON	×	Fixed
(DIP Switch)	2	ON	×	μ-law
	5	OFF		A-law
	4	ON	×	Fixed

SWITCH NAME	SWITCH NUMBER	SWITCH STANDARD SETTING SETTING		DARD TNG		MEANING			
SW11		PAD on TS	W side						
ON 12345678	1	SWI	TCH 1	SWI	тсн	2	PAD		
		0	)FF	0	FF	N	Not used		
		(	DN	0	FF	N	Not used		
	2	OFF		ON		A	A-Law	andard Satting)	
	_		<b>JN</b>	Ľ		μ	-Law (St	andard Setting)	
	3	ON	×	:	Fi	xed			
	4	ON		•	Fi	xed			
					PF	B Sende	er Mod	e (Law/Level)	
	5	ON	×			SW5	SW6	LAW/LEVEL	]
						OFF	OFF	Not used	]
						ON OFF	OFF ON	-	
		OFF				ON	ON	μ-law standard A-law standard <b>Note</b>	
	6	ON	×	:	No	ote: μ Ρ. μ	/A-law o AD. -law sto	can be selected on the TSW sid undard = High: -7.0 dBm	de
	U	OFF				A	-law sta	Low: -9.0 dBm andard = High: -8.0 dBm Low: -10.0 dBm	
	7	ON	×		No	ot used	-		
	o	ON			Sealing Current is not supplied.				
	ð	OFF	×		Se	aling C	Current	is supplied.	

## [Firmware: SW-360]

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STAND SETTI	ARD ING		М	EANING
SW12	1~8	Connection with C.C		). Note			
		SWIT	CH 1	SWITCH	12	SWITCH 3	PAD VALUE
ON 12345678		OF	ΤF	OFF		OFF	Not used
		Ol	N	OFF		OFF	Not used
		OF	ïF	ON		OFF	PAD 1=3 dB
(DIP Switch)		Ol	N	ON		OFF	PAD 1=0 dB
		OF	ΤF	OFF		ON	PAD 1=-3 dB
		Ol	N	OFF		ON	PAD 1=-5 dB
							(Standard setting)
		OF	ΈF	ON		ON	PAD 1=-7 dB
		Ol	Ν	ON		ON	PAD 1=-10 dB
		SWITCH 4		PAD VAL	PAD VALUE		
		O	N PA	PAD 2=3 dB (Standard setting)			
		OF	F PA	D 2=0 dI	В		
		Connection		Nata			
		SWIT			46		
			ъп. F	OFF		OFF	Not used
			J	OFF		OFF	PAD 1–5 dB
		OF	Ϋ́F	ON		OFF	PAD 1=3 dB $PAD 1=3 dB$
			N	ON		OFF	PAD 1=0 dB
							(Standard setting)
		OF	F	OFF		ON	PAD 1=-3 dB
		O	N	OFF		ON	PAD 1=-5 dB
		OF	F	ON		ON	PAD 1=-7 dB
		O	N	ON		ON	PAD 1=-10 dB
			I		I		
		SWIT	CH 8			PAD VAL	_UE
		0	N PA	D 2=3 dI	В		
		OF	F PA	D 2=0 dI	B (Standar	rd setting)	

Note 1: PAD control is shown below.



SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
SW20	1	OFF	×	Fixed
ON 1234	2	OFF	×	Fixed
	3	OFF	×	Fixed
(DIP Switch)	4	OFF	×	Fixed
SW21	1	ON	×	Not used
ON 4 2 2 4 5 0 7 8	2	ON	×	Not used
	3	ON	×	Not used
(DIP Switch)	4	ON	×	Not used
	5	ON	×	Not used
	6	ON	×	Not used
	7	ON	×	Not used
	8	ON	×	Fixed

MODULE NAME	SLOT	SWITCH NAME	SWITCH SHAPE	REMARKS
PIM		МВ		ON : Make-busy set of circuit card OFF : Make-busy cancel of circuit card
		MBR	OFF • • • • • • • • • • • • • • • • • •	
		LPB	OFF • • • • • • • • • • • • • • • • • •	
		MODE	0	
		SW10		
		SW11	ON 1 2 3 4 5 6 7 8	
		SW12	ON 12345678	
		SW20		
		SW21	ON 12345678	

Switch Setting Table

#### 6. External interface

Shown in Figure 3-15 are accommodation of the LT connector leads of this circuit card and connecting route diagram.

a. When this circuit card is mounted in PIM.



Figure 3-15 LT Connector Leads Accommodation of PIM: PA-4CSIF



Figure 3-16 Connecting Route Diagram

# PA-CK16 [SYNC] Synchronous Signal Transmission Circuit for CS/ZT

## 1. General Function

This circuit card is designed to realize 5 ms synchronization between CSINTs (Clock Source Office and Subordinate Office) in conjunction with the PLO card. Details are shown in Figure 3-17.



- ① The Clock Source Office side transmits the 5 ms synchronous signal (which synchronize with TSW/MUX) to the Clock Subordinate Office side.
- ② The Clock Subordinate Office side extracts the 5 ms synchronous signal from transmitted signal.
- ③ The Clock Subordinate Office side transmits the extracted 5 ms synchronous signal to PLO, at that time, loops back the 5 ms synchronous signal to the Clock Source Office side.
- (4) The Clock Source Office side detects a phase difference between looped 5 ms synchronous signal and 5 ms synchronous signal output from TSW/MUX.
- (5) The Clock Source Office side retransmits the revised signal to Clock Subordinate Office.

**Note 1:** *Maximum length of the cable connection between the Clock Source Office and the Clock Subordinate Office is 6560 ft. (24 awg) [2000 m (0.5\phi)].* 

#### Figure 3-17 Location of Card in the System

#### 2. Mounting Location/Condition

The PA-CK16 [SYNC] card can be mounted in any universal slot as shown below.



**Note 1:** • *Indicates universal slots for line/trunk circuit cards.* 

## **Note 2:** *Do not accommodate an analog line in the LT connector used by this card.*

3. Face Layout of Lamps and Switches

The face layout of lamps and switches is shown in Figure 3-18.



Figure 3-18 Lamp, Key and Connectors: PA-CK16

## 4. Lamp Indications

The contents of lamp indications on this circuit card are shown in Table 3-2:

LAMP NAME	COLOR	MEANING
OPE	Green	Remains lit while this circuit card is in normal operation.
SYNC 0	Green	Lights when the Circuit 0 is synchronized.
SERR 0	Red	Lights when the Circuit 0 is out of synchronization.
TLOS 0	Red	Lights when an output slave signal of the Circuit 0 is disconnected.
RLOS 0	Red	Lights when an input loopback signal of the Circuit 0 is disconnected. Note
SYNC 1	Green	Lights when the Circuit 1 is synchronized.
SERR 1	Red	Lights when the Circuit 1 is out of synchronization.
TLOS 1	Red	Lights when an output slave signal of the Circuit 1 is disconnected.
RLOS 1	Red	Lights when an input loopback signal of the Circuit 1 is disconnected. Note
SYNC 2	Green	Lights when this Circuit 2 is synchronized.
SERR 2	Red	Lights when this Circuit 2 is out of synchronization.
TLOS 2	Red	Lights when an output slave signal of the Circuit 2 is disconnected.
RLOS 2	Red	Lights when an input loopback signal of the Circuit 2 is disconnected. Note
SYNC 3	Green	Lights when the Circuit 3 is synchronized.
SERR 3	Red	Lights when the Circuit 3 is out of synchronization.
TLOS 3	Red	Lights when an output slave signal of the Circuit 3 is disconnected.
RLOS 3	Red	Lights when an input loopback signal of the Circuit 3 is disconnected. <b>Note</b>

#### Table 3-2 PA-CK16 Lamp Indications Reference

**Note:** When the input loopback signal failure occurs in the clock source office, the office suspends output of the slave signal.

## 5. Switch Settings

Standard settings of switches on this circuit card are shown in Table 3-3.

SWITCH NAME	SWITCH No.	SETTING	STANDARD SETTING	MEANING
MB		UP		Circuit card make busy.
MD		DOWN	х	Circuit card make busy cancel.
	1	ON		Circuit 0 alarm detection is not used.
	1	OFF		Circuit 0 alarm detection is used.
	2	ON		Circuit 1 alarm detection is not used.
	2	OFF		Circuit 1 alarm detection is used.
SW01	3	ON		Circuit 2 alarm detection is not used.
3 W 01	5	OFF		Circuit 2 alarm detection is used.
	Λ	ON		Circuit 3 alarm detection is not used.
	4	OFF		Circuit 3 alarm detection is used.
	5	OFF	х	Fixed to OFF.
	6 ~ 8	OFF	х	Fixed to OFF.
	1	ON		When Circuit 0 is used to receive the clock.
		OFF		When Circuit 0 is used to transmit the clock.
	2	ON		When Circuit 1 is used to receive the clock.
		OFF		When Circuit 1 is used to transmit the clock.
	3	ON		When Circuit 2 is used to receive the clock.
SW02		OFF		When Circuit 2 is used to transmit the clock.
5 W 02	4	ON		When Circuit 3 is used to receive the clock.
		OFF		When Circuit 3 is used to transmit the clock.
	5	OFF	х	Fixed to OFF.
	6	OFF	х	Fixed to OFF.
	7	OFF	х	Fixed to OFF.
	8	OFF	х	Fixed to OFF.

Table 3-3 Standard Switch Settings

#### 6. External Interface



Figure 3-19 LT Connector Lead Accommodation of PIM: PA-CK16 (1/2)



Figure 3-19 LT Connector Lead Accommodation of PIM: PA-CK16 (2/2)




NDA-24301

The PA-CK16 [SYNC (WCS)] has four ports to synchronize with other PBXs. Figure 3-21 shows an example of clock network using PA-CK16.



Figure 3-21 Example of Clock Network Using PA-CK16 [SYNC]

# 7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		
SW01	ON 1 2 3 4 5 6 7 8	
SW02	ON 1 2 3 4 5 6 7 8	

# CHAPTER 4 OFFICE DATA ASSIGNMENT

This chapter explains the office data assignment for the System. Refer to the "Feature Programming Manual" for basic office data assignment for the PBX and other programming for service features. Sections 1 and 2 of this chapter provide guidelines to the system data and the programming of ZT and PS office data as a basic data assignment, while Section 3 provides information regarding each service data assignment.

# 1. BASIC OFFICE DATA ASSIGNMENT (STANDALONE)

## 1.1 SYSTEM DATA

The following data assignment is necessary for activating the Wireless service.

```
ASYD-SYS1
```

SI30=06

SI420

b0: Access code using the Pre-Set dialing

0/1: Out/In service (Normal Setting=0)

- SI421 : AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE disconnection timer
- SI422 : No tone connection timer to the called party during the handover
- SI423 : ZT start-up Guard Timer when system initialization is in progress (The timer is designed to have the PS location registration required after being placed Out of Zone): Reserved for future use.

SI427

bit4-7:Assign the tone sent to the caller when waiting for the system finding PS.

Note: Effective since Series 7400 Release 9 software.

0 =No tone, 1 =SPDT, 2 =RBT, 3 =CWT,

4 = BT, 5 = ROT, 6 = SST, 7 = SDT, 8 = No tone,

9 = SDTT, A = CWRBT, B = No Tone, C = 2DT, D = No Tone,

E = MUSIC, F = No tone

## ASYDL-SYS1

SI513=01 LDM is use

SI800

b3: PCN for Tenant

0/1: Different PCN for Tenant/Same PCN for Tenant

Note 1: For more detail about the above data, refer to the ASYD command in Chapter 5, "Commands".

Note 2: Do not assign the FPC in a standalone configuration.

## 1.2 ZT OFFICE DATA ASSIGNMENT



- CSINT circuit card can accommodate a maximum of four ZTs.
- Every ZT has three speech channels in the form of 3B+D.
- Each ZT is provided with PHS Community, Calling Area, Group and ZT number, given a maximum capacity to have 32 areas while each area has eight groups. One group can house 32 ZTs.

PHS Community: PHS community having the same SYS-ID is identified by PHS community Number (PCN).

- Calling Area: When a dedicated PS is called, the system is designed to search first for a PS in its registered area and if the PS has moved Out of Zone, the PS Location Registration is automatically performed in no time just when the dedicated PS has moved to another place.
- Group: Dividing into groups is not presently used.

1. ZT Initial Start-Up



CHAPTER 4 Page 97 Revision 1.0

2. Add Operating ZT



3. ZT Deletion Procedure



## 1.3 PS OFFICE DATA ASSIGNMENT

Below are explanations about assigning office data by which the PS can be in operation in the Built-in PCS system.

<IPX-UMG system (in conjunction with Series 7400 Release 9 software)>

The port is automatically occupied for each PS assignment from the bigger numbered port (MG=31,U=3, G=23, Level=7) to the smaller. When adding UNIT to the system later, you must concern about the number of assigned PS (for example, if 192 PSs are assigned, the biggest numbered UNIT can not be used for the station assignment). Conversely, if a station data is assigned against the biggest numbered MG, PS can not be assigned to your system.

- 1. Initial Start-UP of the PS
- 2. Addition of the PS

## START

- 1) APSD (Assignment of the PS Operation Data for DM) This command assigns the PS operation data including its tenant No., station No., Service Feature Restriction Class (SFC) and the Route Restriction Class (RSC) in consideration of the numbering plan/restriction data.
  TN : Tenant
  PS STN : PS Station Number
  KIND : PS KIND :6 (My Line) or 7 (Sub Line)
  RSC : Route Restriction Class
  SFC : Service Feature Restriction Class
  - PS-ID : Max. 9 [DEC]
    - PSNO : PS KIND : 2 (13 digits or less [BCD]) fixed
      - NO. : Assign the same number as the PS NO. according to PS KIND.
    - NWN : Network Number : Only for Roaming Feature
  - ADERA : Additional Area Number : Only for Roaming Feature
  - CTRN : Country Number : 794 (USA) fixed
  - Sub-Sysid : Number of Sub-Sysid : Not used
  - 3) ALGSL (Assignment of Telephone Number Data for Local Data Memory) Refer to "Office Data Specification Manual".
  - 4) APDLL (Download of PS Operation Data for Local Data Memory) This command loads the PS operation data to the PS.
    - UGN
    - PS Telephone Number : Max. 16 Digits
    - TYPE=2
    - PS No : Max. 13 Digits



3. Deletion of the PS data

RSC.



1) ALGSL (Assignment of Telephone Number Data for Local Data Memory)

Using this command, delete the PS data to be cleared such as tenant No., station No., SFC and

Delete the related Telephone Number and LENS.

2) APSD (Assignment of the PS Operation Data for DM)

# 2. BASIC OFFICE DATA ASSIGNMENT (FUSION)

# 2.1 SYSTEM DATA

The following data assignment is necessary for activating the PCS service.

ASYD-SYS1

SI30=06

SI420

b0: Access code using the Pre-Set dialing

0/1: Out/In service (Normal Setting=0)

- SI421 : AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE disconnection timer
- SI422 : No tone connection timer to the called party during the handover
- SI423 : ZT start-up Guard Timer when system initialization is in progress (The timer is designed to have the PS location registration required after being placed Out of Zone): Reserved for future use.

SI427

bit4-7: Assign the tone sent to the caller when waiting for the system finding PS. Available since Release 9 software.

0 = No tone, 1 = SPDT, 2 = RBT, 3 = CWT,

- 4 = BT, 5 = ROT, 6 = SST, 7 = SDT, 8 = No tone,
- 9 = SDTT, A = CWRBT, B = No Tone, C = 2DT, D = No Tone,
- E = MUSIC, F = No tone

## ASYDL-SYS1

SI512=01 ~ FD : FPC SI513=01 LDM is used SI514=01 NDM is used SI800 b3: PCN for Tenant

0/1: a Tenant basis/Common

Note: For more detail about the above data, refer to the ASYD command in Chapter 5.

### 2.2 ZT OFFICE DATA ASSIGNMENT



- CSINT circuit card can accommodate a maximum of four ZTs.
- Every ZT has three speech channels in the form of 3B+D.
- Each ZT is provided with PHS Community, Calling Area, Group and ZT number, given a maximum capacity to have 32 areas while each area has eight groups. One group can house 32 ZTs.
  - PHS Community: PHS community having the same SYS-ID is identified by PHS community Number (PCN).
  - Calling Area: When a dedicated PS is called, the system is designed to search first for a PS in its registered area and if the PS has moved Out of Zone, the PS Location Registration is automatically performed in no time just when the dedicated PS has moved to another place.
    - One area cannot exist in multiple node.
  - Group: Dividing into groups is not presently used.

NDA-24301

1. ZT Initial Start-Up





2. Procedure to Add Operating ZT



3. ZT Deletion Procedure

# ● START

- 1) MBCSN (MAKE BUSY CS/ZT for Network Data Memory)
- 2) ACSDN (Assignment of CS/ZT Data for Network Data Memory) Delete the ZT Data.



## 2.3 PS OFFICE DATA ASSIGNMENT

Below are explanations about assigning office data to place the PS in operation in the Built-in PCS system.

<IPX-U2 system (in conjunction with Series 7400 Release 9 software)>

The port is automatically occupied for each PS assignment from the bigger numbered port (MG=31,U=3, G=23, Level=7) to the smaller. When adding UNIT to the system later, you must concern about the number of assigned PS (for example, if 192 PSs are assigned, the biggest numbered UNIT can not be used for the station assignment). Conversely, if a station data is assigned against the biggest numbered MG, PS can not be assigned to your system.

- 1. Initial Start-UP of the PS
- 2. Addition of the PS

	1) AFMU
	<ul> <li>Note: When a PS is assigned by APSD command, logically it occupies a port from module group (MG) 31 to 26, from larger number of MG to smaller. Using AFMU command, those MGs must be assigned for Fusion Network.</li> <li>Since One MG can contain up to 768 PSs in it, for instance. If you need maximum of 4000 PSs in a node, MG31, 30, 29, 28, 27 and 26 must be assigned.</li> <li>At the beginning of installation, you do not have to allocate all six MGs in a node, just the aamount needed at the time. Later, when you need to add more PSs to the node, you can come back to AFMU again. ALGSN command will tell you when it's time by giving you an error in assigning telephone number to a MG which has not been assigned yet.</li> </ul>
]	<ul> <li>2) APSD (Assignment of the PS Operation Data for DM) This command assigns the PS operation data including its tenant No., station No., Service Feature Restriction Class (SFC) and the Route Restriction Class (RSC) in consideration of the numbering plan/restriction data.</li> <li>TN : Tenant</li> <li>PS STN : PS Station Number</li> <li>KIND : PS KIND :6 (My Line) or 7 (Sub Line)</li> <li>RSC : Route Restriction Class</li> <li>SFC : Service Feature Restriction Class</li> <li>SFC : Service Feature Restriction Class</li> <li>PS-ID : Max. 9 [DEC]</li> <li>PSNO : PS KIND : 2 (13 digits or less [BCD]) fixed NO. : Assign the same number as the PS NO. according to PS KIND.</li> <li>NWN : Network Number : Only for Roaming Feature</li> <li>ADERA : Additional Area Number : Only for Roaming Feature</li> <li>CTRN : Country Number : 794 (USA) fixed</li> <li>Sub-Sysid : Number of Sub-Sysid : Not used</li> </ul>
	<ul> <li>3) ALGSN (Assignment of Telephone Number Data for Network Data Memory) Refer to "Office Data Specification Manual".</li> <li>4) APDLN (Down loads of PS Operation Data) This command loads the PS operation data to the PS.</li> <li>UGN</li> <li>PS Telephone Number : Max. 16 Digits</li> <li>TYPE-2</li> </ul>
	• PS No. : Max. 13 Digits
JD	<b>Note:</b> If CBCN has never been done in Fusion Network after the last initialization, please do CBCN before ALGNN.

3. Deletion of the PS data

# ●START

- 1) ALGSN (Assignment of Telephone Number Data for Network Data Memory) Delete the Telephone Number and LENS related.
- APSD (Assignment of the PS Operation Data for DM) Using this command, delete the PS data to be cleared such as tenant No., station No., SFC and RSC.
- **Note:** If CBCN has never been done in Fusion Network after the last initialization, please do CBCN before ALGSN.

END

# 3. ASSIGNMENT OF SERVICE FEATURE DATA

This section describes how to assign the data for the following service features.

- Automatic Announcement-PS Out of Zone/C.F.-PS Incoming Incomplete
- Automatic Announcement-Disconnected PS Out of Zone
- Name Display
- Name Display-CCIS
- Number Sharing
- PCS Roaming
- TTC Q. 931a protocol Tie Line with PCS Roaming
- Two-Line Operation
- Voice Mail Indication (VMI)
- ZT Program Download
- Call Forwarding-Dropped Calls
- Data Communications-32 kbps
- Authorization Code
- Call Park
- Group Call-Automatic Conference (20-party)
- Short Text Message Service
- PCS↔Nurse Call Integration
- Speed Calling System

## AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE/C.F.-PS INCOMING INCOMPLETE

#### 1. GENERAL DESCRIPTION

When a call cannot terminate to a PS which is Out of Zone or whose power is OFF, the system automatically answers the call and provides an announcement to notify the calling party that the called PS is Out of Zone or if the C.F.-PS Incoming Incomplete is set to a given destination, the aborted call can be transferred to the preprogrammed station or PS.

### 2. OPERATING PROCEDURE

No manual operation.

## 3. SERVICE CONDITIONS

- 1. C.F.-PS Incoming Incomplete can be programmed and cancelled with the PS by pressing Access Code+target station number (transferred station number).
- 2. When the PS is Out of Zone or its power is OFF, and the call is an incoming call directly via the Attendant Console, the caller does not hear the AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE, but hears the following tones.
  - DIT: RBT is heard
  - REMOTE ACCESS TO SYSTEM: BT is heard
  - AUTOMATED ATTENDANT: BT is heard
  - ATTENDANT CONSOLE : BT is heard
  - ISDN-DID ADDRESSING: Announcement of ISDN (PSTN) is heard.
- 3. One system is given one kind of recorded message for the AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE.
- 4. On the condition that both the AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE and C.F.-PS INCOMING INCOMPLETE are assigned to a PS, priority is given to the C.F.-PS INCOMING INCOMPLETE.
- 5. If an incoming call terminated at the very moment when a PS user is setting the C.F.-PS INCOMING INCOMPLETE with a Pre-Set Dialing (before OFF-HOOK), the procedure becomes invalid.
- 6. If another transfer service is set to the target destination party of the C.F.-PS INCOMING INCOMPLETE, the call is transferred to the last end party.
- 7. When a call is transferred to another PS activated by the C.F.-PS INCOMING INCOMPLETE and when the call termination is not completed, the caller can hear the announcement if the AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE is assigned.
- 8. When the AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE is activated but all the announcement trunks are busy (single connection: AAED M=0), the calling party encounters BT.
- 9. AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE does not allow the incoming call from outside to be connected to announcement trunk. The calling party hears RBT.

NDA-24301

- 10. The incoming incomplete call to PS can be transferred to other PSs, stations, Attendant Consoles, Central Office and TIE lines when the C.F.-INCOMING INCOMPLETE is in service.
- 11. The timer value of incoming incomplete call is approximately eight seconds, time duration until the system recognizes that the PS is Out of Zone from an incoming call attempt to the PS.

Priority is given to the C.F.-INCOMING INCOMPLETE over the C.F.-DON'T ANSWER.

- 12. C.F.-PS INCOMING INCOMPLETE is not activated in an incoming call from ISDN and an incoming call via the Attendant Console. The caller encounters the AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE or BT.
- 13. When a forwarded station for the C.F.-PS INCOMING INCOMPLETE sets the CALL FORWARDING-ALL CALLS to the announcement, the C.F.-PS INCOMING INCOMPLETE is not activated, instead the caller hears BT.
- 14. In the Fusion Network, every node must have one or more Announcement Trunk.
- 15. When incoming call comes from ISDN Network, and the timer (T310) of the Network side is expired, the caller hears the Announcement from Network side.
- 16. When a call in two-way connection is transferred to the PS which is out of zone, the system does not provide the AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE (i.e. the call is not connected to the announcement trunk).

## 4. PROGRAMMING

## 4-1 Automatic Announcement-PS Out of Zone

• Entry Procedure

## ● START

Α

1)	ARTD (Route Class Data)
	Assign the Route Class Data for announcement trunk.
	RT : Route Number
	OSGS(CDN: 1) = 2
	ONSG (CDN: 2) $= 2$
	TF (CDN: 5) = 1
	TCL (CDN: 6) = 4
	L/T (CDN: 7) = 1
	ANS (CDN28) $= 1$
	Assign "0" for other parameters.
2)	ALRTN (Assignment of Logical RT for Network Data Memory)
	LGRT : Logical Route Number
	FPC : Fusion Point Code
	RT : Route Number
No	te: Not Necessary in the standalone situation.
3)	ATRK (Trunk Data)
	Assign the data for the announcement trunk.
	RT : Route Number
	TK : Trunk Number
	LENS : Line Equipment Numbers (6 digits)
	TN : Tenant Number
4)	MBTK (Make Busy of Trunk)
,	Set the announcement trunk in a make-busy cancel state.
5)	ARSC (Route Restriction Class Data)
	Assign a Route Restriction Class (RSC) to the station which allows access to the announcement
	route.
	D/N : Day/Night Mode
	TN : Tenant Number
	RT : Route Number

- RSC : Route Restriction Class (0-15)
- RRI : Route Restriction Index (0-3)
- RES = 1 (Allowed)



## 4-2 C.F.-PS Incoming Incomplete

Entry Procedures

## ● START

- ASYD (Assignment for System Data)
   Assign whether to use a same access code for Call Forwarding-Busy Line, Call Forwarding-Don't Answer and C.F.-PS Incoming Incomplete, or use separate access codes.
   SYS1, INDEX5, bit 0
   0=Same
   1=Separate
- ANPD (Numbering Plan Data) Assign the necessary number of digits needed to determine the service which is required according to the first digit received.
- 3) ASPA (Special Access Code Data) Assign the Special Access Code for the C.F.-PS INCOMING INCOMPLETE CI=N SRV=SSCA SIDA=101 (C.F.-PS INCOMING INCOMPLETE: Set) CI=N SRV=SSCA SIDA=102 (C.F.-PS INCOMING INCOMPLETE: Cancel)
- ASFC (Service Feature Class Data)
   Allow the C.F.-PS INCOMING INCOMPLETE according to PS Service Feature Class. SFI=147 (C.F.-INCOMING INCOMPLETE) RES=1 (Allowed)

END

## AUTOMATIC ANNOUNCEMENT-DISCONNECTED PS OUT OF ZONE

#### 1. GENERAL DESCRIPTION

When a PS user moves Out of Zone (out of the PCS service area) and the call is disconnected, the counterpart hears the announcement stating the call was disconnected due to the the wireless user going Out of Zone.

#### 2. OPERATING PROCEDURE

No manual operation

#### 3. SERVICE CONDITIONS

1. This service is valid only in a two-party call.

This service cannot be used when a call is placed on hold or conference calling participated in by three-party or more is in progress.

- 2. Digital Announcement Trunk (DAT) circuit card can be used as an announcement trunk.
- 3. PS user encounters BT when the announcement trunk, when used as single connection (M=0 in the command AAED) and all the trunks are used.
- 4. AUTOMATIC ANNOUNCEMENT-DISCONNECTED PS OUT OF ZONE is not applied when calls are in progress via a COT line or Attendant Console. A C.O. line subscriber hears ROT and a caller via the Attendant Console encounters BT.
- 5. In the Fusion Network, every node must have one or more announcement trunks.

## 4. PROGRAMMING

• Entry Procedures

## • START

1) ARTD (Route Class Data)

Assign the Route Class Data of the announcement trunk. RT : Route Number OSGS (CDN: 1) = 2 ONSG (CDN: 2) = 2 TF (CDN: 5) = 1 TCL (CDN: 6) = 4 L/T (CDN: 7) = 1 ANS (CDN: 28) = 1

Assign "0" for other data.

- 2) ALRTN (Assignment of Logical RT in Network Data Memory)
  - LGRT : Logical Route Number
  - FPC : Fusion Point Code
  - RT : Route Number

**Note:** Not necessary in a standalone type.

3) ATRK (Trunk Data)

Assign the LENS of the announcement trunk.

- RT : Route Number
- TK : Trunk Number
- LENS : Line Equipment Numbers
- TN : Tenant Number



## NAME DISPLAY

### 1. GENERAL DESCRIPTION

This feature allows a PS to indicate the user information corresponding to the calling station number while engaged in a station-to-station call.

## 2. OPERATING PROCEDURE

Examples of LCD display are shown below.

• When originating a station-to-station call: LCD display of the calling station:

Н	•	Т	A	R	0	1	I	I	I	Ī
D	Ι	R		S	Р	D		L	N	R

LCD display of the called station:



• When a station call has been transferred to another station by Call Forwarding-All Calls/Busy Line/Don't Answer/PS-Incoming Incomplete:

LCD display of the calling station:

LCD display of the called station:

С	F	:	Μ	•	Т	A	R	0		
D	I	R		S	Р	D		L	N	R

## 3. SERVICE CONDITIONS

- 1. This feature is available for Series 7300 or later software.
- 2. User information corresponding to the station number that can be displayed on the LCD is a maximum of 16 digits.
- 3. User information is displayed on the LCD, intended to the left. The information may consist of upper case letters, numeric characters, and most keyboard symbols.
- 4. When user information is 12 digits or more, the first or last part of information can be displayed by key operation (Refer to the User Guide of PS).
- 5. This service and NAME DISPLAY service by Open Application Interface (OAI) cannot be activated concurrently.
- 6. This service and NAME DISPLAY service for D<sup>term</sup>s can be activated concurrently.
- 7. 8-digit display or 16-digit display is selectable by System Data, but cannot be used concurrently.
- 8. If the PS station has no name programmed for NAME DISPLAY service, the station number is displayed in the name field.
- 9. NAME DISPLAY is available for the following services:
  - Station-to-station connection
  - Call Forwarding-All Calls/Busy Line/Don't Answer/PS-Incoming Incomplete
  - Call Waiting
  - Call Transfer
- 10. MEM\_HDD, HDD\_FDD and HDD\_MAT commands can be used for saving, loading and verifying Name Display data. For detailed information, refer to System Operation and Maintenance Manual.

#### 4. PROGRAMMING



## NAME DISPLAY - CCIS

## 1. GENERAL DESCRIPTION

In between CCIS nodes, this feature allows calling or called party information to be displayed on the LCD of a PS.

## 2. OPERATING PROCEDURE

Examples of LCD display are shown below.

• When originating a call: LCD display of the calling station:

Η	•	Т	A	R	0	I	I	I	I	I
D	I	R		s	Р	D		L	N	R

LCD display of the called station:



• When a call has been transferred to another station by Call Forwarding-All Calls/Busy Line/Don't Answer/ PS-Incoming Incomplete:

LCD display of the calling station:



LCD display of the called station:

С	F	:	Μ	•	Т	A	R	0	1	1
D	I	R		S	Р	D		L	N	R

### 3. SERVICE CONDITIONS

- 1. This feature is available for Series 7300 or later software.
- 2. User information corresponding to the station number that can be displayed on the LCD is a maximum of 16 digits.
- 3. User information is displayed on the LCD, intended to the left. The information may consist of upper case letters, numeric characters, and most keyboard symbols.
- 4. When user information is 12 digits or more, the first or last part of information can be displayed by the key operation (Refer to the User Guide of PS).
- 5. This service and NAME DISPLAY service by Open Application Interface (OAI) cannot be activated concurrently.
- 6. This service and NAME DISPLAY service for D<sup>term</sup>s can be activated concurrently.
- 7. Either an 8-digit display or 16-digit display is selectable by System Data, but they cannot be used concurrently.
- 8. If the PS station has no name programmed for NAME DISPLAY CCIS service, "Office Code + Station Number" is displayed in the name field.
- 9. NAME DISPLAY CCIS is available for the following services:
  - Tie line connection
  - Call Forwarding-All Calls/Busy Line/Don't Answer/PS-Incoming Incomplete-CCIS
  - Call Waiting
  - Call Transfer
- 10. When the parameter CI of ARTD command is set to "1" (Information transfer from ISDN line to CCIS line is available), if Low layer compatibility and/or Calling party subaddress information elements are included in a SETUP message from a PS, user information cannot be included in the IAI message. In this case, user information from the PS is not displayed on the called station (PS or D<sup>term</sup>).
- 11. MEM\_HDD, HDD\_FDD and HDD\_MAT commands can be used for saving, loading and verifying Name Display data. For detailed information, refer to System Operation and Maintenance Manual.

## 4. PROGRAMMING



## NUMBER SHARING

#### 1. GENERAL DESCRIPTION

This feature allows the D<sup>term</sup> user to use a PS as a sub station. In this feature, the D<sup>term</sup> and PS are referred as Main Station and Sub Station, respectively. The main functions of this feature are as follows:

- Call Forwarding-All Calls to PS When the D<sup>term</sup> (Main Station) user presses the feature key or dials the access code, Call Forwarding-All Calls to PS (Sub Station) is set or canceled. This function can also be set or canceled by dialing the access code from the PS (Sub Station).
- 2. D<sup>term</sup>-Station Number Display Even if a call is connected to the PS (Sub Station), the station number of the D<sup>term</sup> (Main Station) is displayed on the other party's LCD.
- Billing Information
   Even if a call is originated from the PS (Sub Station), billing information is recorded as a call origination
   from the D<sup>term</sup> (Main Station).
- 4. Voice Mail Indication

Even if a call is transferred from the PS (Sub Station) to the Voice Mail System, the voice mail is recorded on the mail box of the  $D^{term}$  (Main Station). The system controls Message Waiting Indication on both the  $D^{term}$  (Main Station) and PS (Sub Station).

## 2. OPERATING PROCEDURE

To set from the D<sup>term</sup>:

- 1. While in idle state, press the feature key for this feature. The PS Transfer lamp lights on the D<sup>term</sup> (Main Station).
- 2. All the calls to the D<sup>term</sup> (Main Station) are forwarded to the PS (Sub Station).

To cancel from the D<sup>term</sup>:

- 3. While the Sub Station Transfer lamp lights, press the feature key for this feature. The PS Transfer lamp goes off on the D<sup>term</sup> (Main Station).
- 4. This feature is canceled.

To set from the PS:

- 5. While in idle state, dial the access code for this feature and receive Service SetTone. The PS Transfer lamp lights on the D<sup>term</sup> (Main Station).
- 6. All the call to the D<sup>term</sup> (Main Station) is forwarded to the PS (Sub Station).

To cancel from the PS:

- 7. While this feature is set, dial the cancel code for this feature and receive Service SetTone. The PS Transfer lamp goes off on the D<sup>term</sup> (Main Station).
- 8. This feature is canceled.

NDA-24301

## 3. SERVICE CONDITIONS

- 1. This feature is available for Series 7300 or later software.
- 2. Telephone Number must be assigned to both Main and Sub Stations.
- 3. The PS cannot be assigned as Main Station.
- 4. Any combination of Main Station and Sub Station is available in a Fusion network.
- 5. The access code for an outgoing call cannot be assigned as a Sub Station number.
- 6. Dialing the access code for this feature is available only for Main Station and Sub Station. Any other station or trunk cannot set this feature.
- 7. The D<sup>term</sup> user can set this feature using any line on the D<sup>term</sup>. In other words, even if the D<sup>term</sup> user sets this feature using a sub line, this feature is set to My Line.
- 8. The "PS Transfer" key is available only when the D<sup>term</sup> is in idle state.
- 9. When this feature is set while a call is terminating to Main Station, the call is not transferred to Sub Station. In this case, this feature is available from the next call.
- 10. When changing the parameter MW of ANSDN/ANSDL command from 0 to 1, each station must not have MW indication. Otherwise the MW indication remains.
- 11. Message Waiting Lamp control by MESSAGE REMINDER or CMWL command is applied only to the called/designated station.
- 12. Even if this feature is set, recall to Main Station is not forwarded to Sub Station.
- 13. Forwarding operation of this feature is not counted in Multiple Call Forwarding features.
- 14. When a call is originated from Sub Station to OAI or MFC, the Sub Station number is sent.
- 15. MEM\_HDD, HDD\_FDD and HDD\_MAT commands can be used for saving, loading and verifying Number Sharing data. For detailed information, refer to System Operation and Maintenance Manual.

## 4. INTERACTIONS

- 1. This feature takes precedence over the Call Forwarding, Do Not Disturb and Station Hunting features set to Main Station.
- 2. When this feature is set, all the calls are forwarded to Sub Station even if CALL BLOCK [C-150] is set to Main Station.
- 3. Off-Hook Line Number Display feature of the PS is independent of this feature.
- 4. MW indication for Sub Station is available for My Line of the D<sup>term</sup>-PS II only.
- 5. When a Main Station is in a Station Hunting group, this feature can be activated only if the Main Station is the pilot station.

NDA-24301

## 5. PROGRAMMING

● START			
	1)	ASYD (Sy SYS1 IN blo IN blo	Astem Data) DEX 513 (LDM Memory Usage): Assign data "1" for the corresponding memory ock. DEX 514 (NDM Memory Usage): Assign data "1" for the corresponding memory ock.
	2)	ANSDN/A M-UGN: S-UGN: M-TELN: S-TELN: OD: MW:	<ul> <li>ANSDL (Number Sharing Data)</li> <li>Main User Group Number</li> <li>Sub User Group Number</li> <li>Main Telephone Number (Max. 16 digits)</li> <li>Sub Telephone Number (Max. 16 digits)</li> <li>Output External Equipment Note 1</li> <li>Only Main Telephone Number is used for SMDR, MCI and VPS Mail Box Number.</li> <li>1: Both Main Telephone Number and Sub Telephone Number are used for SMDR, MCI and VPS Mail Box Number.</li> <li>Message Waiting Control Note 2</li> <li>O: Message Waiting Control for Main and Sub Telephone Numbers</li> <li>1: Message Waiting Control for Main Telephone Number 2</li> </ul>
		INDEX:	Telephone Equipment Number (1-65535)
	No	ote 1: When	this parameter is set to "0", the mail box for the Sub Station must be deleted.
	No	ote 2: This p	parameter is valid when the parameter OD is assigned as "1".
$\square$	3)	ASPA (Sp Assign the SRV=S SRV=S	ecial Access Code) access code for this feature to the D <sup>term</sup> and PS. SCA, SIDA=108 (Number Sharing; Set) SCA, SIDA=109 (Number Sharing; Cancel)
	4)	AKYD (K Assign FK	ey Data for $D^{term}$ ) the following key data on the $D^{term}$ (Main Station). Y = 126 (PS key)
## PCS ROAMING

#### 1. GENERAL DESCRIPTION

This feature allows a PS to move to another PBX which has a different SYS-ID via Q. 931a or IS-11572 connection. The PBX which PS can roam from/to is assigned Network Number (NWN). Network Number must be assigned as a unique number for each network.

## 2. OPERATING PROCEDURE

- 1. PS moves to another PBX which has a different SYS-ID.
- 2. PS registers its location automatically at Visitor PBX to the Home PBX via Q. 931a or IS-11572 connection.
- 3. PS can originate a call from Visitor PBX.
- 4. Termination to the PS is transferred from the Home PBX to the Visitor PBX via Q. 931a or IS-11572 connection.

## 3. SERVICE CONDITIONS

- 1. This feature is available for Series 7300 software (Release 5 or later).
- 2. This feature is available between the PBXs which are connected via Q. 931a or IS-11572.
- 3. SMDR outputs the PS number instead of the account code when the PS is at Visitor PBX.
- 4. In Visitor PBX PS cannot use supplementary services which need service access code. But TRANSFER, CALL HOLD and some ANNOUNCEMENT SERVICES are available.
- 5. If there is TS between the Home PBX and Visitor PBX, TS must also have roaming feature.
- 6. CF-A/B/Incomplete
  - a. CF-A

If PS assigns CF-A at the Home PBX, all terminations are transferred. PS can also originate a call at the Visitor PBX.

- b. CF-B If PS is busy at the Visitor PBX, terminating call is transferred at the Home PBX.c. CF-Incomplete
  - If a call to PS is incomplete at the Visitor PBX, terminating call is transferred at the Home PBX.
- 7. In Visitor PBX, a pseudo PS station number (VISITOR PSSTATION NUMBER) must be assigned. Visitor PS station number must also be assigned by APSD command. In addition, telephone number for visitor PS station number must be assigned by ALGSL/N command.

**Note:** *Visitor PS station number must be a number which is not used in the Visitor PBX for other station number.* 

- 8. Maximum PS station amount includes amount of visitor PS station number.
- 9. Roaming PS cannot use Two-Line Feature.
- 10. Roaming PS cannot use Voice Mail Indication (VMI) Feature.

11. Roaming PS cannot use OAI features.

< Series 7400 (Release 8) software enhancement >

From Series 7400 or later software, a PS can move to any node of the Fusion network that has a different SYS-ID, on condition that a Q.931a/IS-11572 Tie Line is established between the different SYS-ID Fusion networks. Figure 4-1 depicts this software enhancement, in comparison with the former software capability.



Figure 4-1 PS Roaming in Release 8 Enhancement

## 4. PROGRAMMING

• Basic Data Assignment

# ● START

ARTD	<ul> <li>Assignment of Route Class Data</li> <li>Assign Q.931 Route Class D Channel and B Channel. (Refer to Table.)</li> </ul>
ATRK	Assignment of Trunk Data
MBTK	<ul><li>Make Busy Trunk Data</li><li>Make Idle the B channels.</li></ul>
ANPD	<ul> <li>Assignment of Numbering Plan Data</li> <li>Assign the first digits of the Visiting PS. Also, include the Numbering Plan of the Self-PBX Office Code and the Office Code of the destination PBX.</li> </ul>
ASPA	Assignment of Special Access Code ACC: Destination Office Code CI: N/H/B SRV: LCR BLF: 0 RT: 31 (Dummy RT) • Assign PS Numbering Plan as Stations
AFRS	Assignment of Flexible Route SelectionRT:31NPC:Destination Office CodeOPR:Choose and OPR
AOPR	Assignment of Outgoing Pattern Routing DataTDPTN: 0OPR: XXRA: 0RA END: 0RT: B Chn RTSKIP: Number of Digits in DOCPNL: 0OVFT: 0
AMND	Assignment of Maximum Necessary DigitsTN:1DC:Destination Office CodeMND:(DOC + Station Digits)TOLL:0AN:0A/D:1
ARNP	Assignment of Reverse Numbering Plan ROUTE: B Chn ACCESS CODE: DOC
	<b>Note:</b> When not using ARNP-Route 0, assign ARODL Command for "Roaming Self-PBX Office Code.

А



• CS/ZT Settings - Office Data



·						
	APCNL	Register FUNK: PCN:	PCN (Com 1 (Fixed) 1	munity N TN: 1	Nui	mber)
	ACSEL	Set Cour PCN: ADERA NPCD:	ntry Number 1 .:0 0 (Fixed)	and Net NWNC CTRN:	tw ):	ork Roaming Number Assigned by NEC America 31A (North America)
	ALVPL	Input LV KIND: CODE:	VP Code 1 / 2 LVP			
	ACSDL	Assignm KIND: ERN: CSN:	nent of CS/Z 4 1 1	T Data PCN: GRN: TN:	1 1 1	
END						

#### **OFFICE DATA ASSIGNMENT**

• PS Office Data Setting



- **Note:** A closed Numbering Plan shall be used when assigning the Visitor PS. The Logical Number of the Visiting PS must correspond to the Logical Numbering Plan of the Home PBX.
  - Set PS Roaming / Visitor Office



## Table 4-1 Roaming Class Data List

#### **B** Channel Route Data

CDN		DATA	CDN		DATA	CDN		DATA
001	OSGS	0	042	TRSC	0	083	CST	4
002	ONSG	2	043	BT	0	084	CSEG	0
003	ISGS	0	044	PRV	0	085	CSEU	0
004	INSG	2	045	A/D	1	086	CSEL	0
005	TF	3	046	CW	1	087	CMP	0
006	TCL	4	047	TPQ	0	088	TALK	0
007	L/T	1	048	BL	0	089	FOT	0
008	RLP	2	049	TRKS	0	090	RST	0
009	TQ	0	050	DPLY	1	091	TOCI	0
010	SMDR	0	051	ACD	0	092	TOCD	0
011	TD	0	052	2W/4W	0	093	ODGD	0
012	DR	0	053	FAAT	0	094	RLS	0
013	AC	0	054	GW	0	095	GWD	0
014	TNT	0	055	ТСМА	0	096	H1	0
015	LSG	12	056	SMDR3	0	097	DT	0
016	SMDR2	9	057	HDT	0	098	CI	0
017	H/M	0	058	CD	0	099	OID	0
018	MC	0	059	ССН	0	100	TKS	0
019	ANI	1	060	TC/EC	0	101	PAD2	0
020	D	0	061	IRE	0	102	TRM	0
021	MSB	0	062	SCR	0	103	TRPX	0
022	MSW	0	063	LYER1	0	104	LDR	0
023	TR	0	064	NET	0	105	TSC	0
024	OC	0	065	INT	9	106	SATS	0
025	R/L	0	066	DC	15	107	RVPX	0
026	RVSD	0	067	HKS	0	108	DQ	0
027	TL	0	068	SCF	0	109	SLOV	0
028	ANS	1	069	SMDR4	0	110	SDTO	0
029	TELP	0	070	TCMN	0	111	ADVPR	0
030	PAD	7	071	TCMC	0	112	IND	0
031	OGRL	1	072	MFSP	0	113	UUI	0
032	ICRL	1	073	KPST	0	114	DCH	0
033	HD	0	074	KPPT	0	115	CMRT	0
034	GUARD	1	075	STC	0	116	PREF	0
035	WINK	0	076	MC2	0	117	DFS	0
036	VAD	0	077	MT	0	118	BOB	0
037	CLD	0	078	TONE	0	119	HOLCH	0
038	FA	0	079	PPTM	0	120	IFR	0
039	BC	0	080	MPTM	0	121	CONV	0
040	ТСМ	0	081	LPTM	0	122	OPRT	0
041	TDMQ	0	082	RSAX	0	123	CNI	0

#### **OFFICE DATA ASSIGNMENT**

# Table 4-1 Roaming Class Data List (Continued)

#### D Channel Route Data

CDN		DATA	CDN		DATA	CDN		DATA
001	OSGS	0	042	TRSC	0	083	CST	4
002	ONSG	2	043	BT	0	084	CSEG	0
003	ISGS	0	044	PRV	0	085	CSEU	0
004	INSG	2	045	A/D	1	086	CSEL	0
005	TF	3	046	CW	1	087	CMP	0
006	TCL	4	047	TPQ	0	088	TALK	0
007	L/T	1	048	BL	0	089	FOT	0
008	RLP	2	049	TRKS	0	090	RST	0
009	TQ	0	050	DPLY	1	091	TOCI	0
010	SMDR	0	051	ACD	0	092	TOCD	0
011	TD	0	052	2W/4W	0	093	ODGD	0
012	DR	0	053	FAAT	0	094	RLS	0
013	AC	0	054	GW	0	095	GWD	0
014	TNT	0	055	ТСМА	0	096	H1	0
015	LSG	13	056	SMDR3	0	097	DT	0
016	SMDR2	9	057	HDT	0	098	CI	0
017	H/M	0	058	CD	0	099	OID	0
018	MC	0	059	ССН	0	100	TKS	0
019	ANI	1	060	TC/EC	0	101	PAD2	0
020	D	0	061	IRE	0	102	TRM	0
021	MSB	0	062	SCR	0	103	TRPX	0
022	MSW	0	063	LYER1	0	104	LDR	0
023	TR	0	064	NET	0	105	TSC	0
024	OC	0	065	INT	9	106	SATS	0
025	R/L	0	066	DC	15	107	RVPX	0
026	RVSD	0	067	HKS	0	108	DQ	0
027	TL	0	068	SCF	0	109	SLOV	0
028	ANS	1	069	SMDR4	0	110	SDTO	0
029	TELP	0	070	TCMN	0	111	ADVPR	0
030	PAD	7	071	TCMC	0	112	IND	0
031	OGRL	1	072	MFSP	0	113	UUI	0
032	ICRL	1	073	KPST	0	114	DCH	0
033	HD	0	074	KPPT	0	115	CMRT	0
034	GUARD	1	075	STC	0	116	PREF	0
035	WINK	0	076	MC2	0	117	DFS	0
036	VAD	0	077	MT	0	118	BOB	0
037	CLD	0	078	TONE	0	119	HOLCH	0
038	FA	0	079	PPTM	0	120	IFR	0
039	BC	0	080	MPTM	0	121	CONV	0
040	ТСМ	0	081	LPTM	0	122	OPRT	0
041	TDMQ	0	082	RSAX	0	123	CNI	0

# TTC Q.931A PROTOCOL TIE LINE WITH PCS ROAMING

#### 1. GENERAL DESCRIPTION

When the Built-in PCS system is connected to another Built-in PCS system, TTC Q.931a protocol Tie Line can be used as an interface for call origination and termination with PCS Roaming feature.

**Note:** From software Series 7400 or later, a PS can move to any node of the Fusion network that has a different SYS-ID. Refer to PCS Roaming (Release 8 software enhancement).



#### 2. OPERATING PROCEDURE

No manual operation is required.

## 3. SERVICE CONDITIONS

Table 4-2 through 4-10 show functions available for TTC Q.931a protocol Tie Line with PCS Roaming feature.

- OG Call Features : Table 4-2
- IC Call Features : Table 4-3
- Station Service Features : Table 4-4
- Other Service Features : Table 4-5
- Attendant Console Service Features : Table 4-6
- Network Service Features : Table 4-7
- Operation/Maintenance Service Features : Table 4-8
- ISDN Service Features : Table 4-9
- CCIS Service Features : Table 4-10

	Visitor PBX	(Standalone)	DEMADKS			
NAME OF SERVICE FEATORES	From PS	To PS	REMARKS			
ALTERNATE ROUTING/ROUTE ADVANCE	×	_				
SPEED CALLING-STATION/GROUP	-	-	To be substituted for the memory dial of PS			
SPEED CALLING-SYSTEM	_	-				
TOLL CALL RESTRICTION	Δ	_	Note			
PUSH-BUTTON TO ROTARY CONVERSION	-	_				
PRIMARY CODE RESTRICTION	Δ	_	Note			
OG TRUNK QUEUING	-	_				
OFF HOOK QUEUING	-	_				
MISCELLANEOUS TRUNK RESTRICTION/ RESTRICTION FROM OG CALL	Δ	_	Note			

## Table 4-2 List of OG Call Features for Q.931a

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

**Note:** When a PS has roamed to a Visitor PBX, RSC and SFC for Visitor PS assigned at the Visitor PBX are used for OG call restriction.

Table 4-3	List of IC	<b>Call Features</b>	for Q.931a
		oun routeroo	

	Visitor PBX	(Standalone)	DEMARKS	
NAME OF SERVICE FEATURES	From PS	To PS	REMARKS	
EXTERNAL MUSIC-ON-HOLD	_	_		
ATTENDANT CONSOLE	×	×		
DID	_	×	Note 1	
DIT	_	×	Note 2	
SLUMBER TIME - DO NOT DISTURB	_	_		
POWER FAILURE TRANSFER	_	_	PS cannot be used for the Night station	
DISTINCTIVE RINGING	_	_	Available in the D <sup>term</sup> PS or D <sup>term</sup> PSII Note 3, Note 4	
REMOTE ACCESS TO SYSTEM/ AUTOMATED ATTENDANT	_	×	Note 5	
TENANT SERVICE	×	×		
MUSIC-ON-HOLD	×	×		

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

Note 1: DID

- 1) When the PS is out of zone, the calling party from the C.O. line still hears Ring Back Tone (RBT). Automatic Announcement - Called PS Out of Zone feature set on the PS is not available.
- 2) Even if the PS becomes Out of Zone while connected with the calling party from the C.O. line, Automatic Announcement Disconnected PS Out of Zone is not available. The calling party hears Reorder Tone (ROT).
- 3) When a C.O. line incoming call is transferred to another PS or station by C.F.-PS Incoming Call Incomplete, and the transfer destination is Out of Zone, the calling party will hear Ring Back Tone (RBT).
- 4) When the PS is ringing, Handover is not available. When a PS moves to another zone while ringing, the PS stops to ring but the calling party from the C.O. line still hears Ring Back Tone (RBT).
- 5) When a C.O. line incoming call terminates to a PS which has roamed to a Visitor PBX and the PS is busy, the calling party still hears Ring Back Tone (RBT). However, if C.F.-B is set at the Home PBX, the call is transferred to the destination station.
- **Note 2:** When a PS is assigned as the target station of DIRECT IN TERMINATION (DIT).
  - 1) When the PS is Out of Zone (Out of Zone or in POWER OFF state), RBT is heard by the calling party.

If AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE is assigned by the PS, the calling party does not hear the Out of Zone Announcement, but hears RBT instead.

- 2) If a PS user moves Out of Zone while connected to an outside party, AUTOMATIC ANNOUNCEMENT-DISCONNECTED PS OUT OF ZONE cannot be heard by the outside party, but BT is heard instead.
- 3) When a PS is engaged and an outside call attempts CALL WAITING, the caller will hear RBT.
- 4) When a DIT call is transferred to a PS or a station that has set C.F.-PS INCOMING INCOMPLETE, the calling party hears RBT if the target PS or station is Out of Zone.
- 5) PS is unable to hand over when it is ringing. When the PS handsover, the called PS stops ringing, and the calling party hears RBT.
- **Note 3:** When a PS has roamed to a Visitor PBX, the PS cannot use Distinctive Ringing.
- **Note 4:** A call from an incoming Tie Line gives the same ringing as a station call.
- **Note 5:** *Remote Access to System/Automated Attendant: Terminating side is PS.* 
  - 1) When the PS is Out of Zone (Out of Area or in a state of POWER OFF), the calling party will hear BT.

If the AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE is set by the PS, the calling party does not hear Out of Zone Announcement. The calling party hears BT.

- 2) If a PS user moves Out of Zone while connected to an outside line, AUTOMATIC ANNOUNCEMENT-DISCONNECTED PS OUT OF ZONE cannot be heard by the subscriber outside. BT is heard.
- 3) When a REMOTE ACCESS TO SYSTEM/AUTOMATED ATTENDANT call is transferred to a PS or a station with C.F.-INCOMING INCOMPLETE set and when the transferred party is Out of Zone, the calling party hears RBT.
- 4) PS is not allowed to hand over while ringing. When the called PS is ringing from REMOTE ACCESS TO SYSTEM/AUTOMATED ATTENDANT and the PS hands over, the PS stops ringing and the calling party hears RBT.

Table 4-4	List of	Station	Service	Features	for	Q.931a
-----------	---------	---------	---------	----------	-----	--------

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

	Visitor PBX	(Standalone)	DEMARKS
NAME OF SERVICE FEATURES	From PS	To PS	REMARKS
OFF HOOK ALARM	-	-	
8-PARTY CONFERENCE	_	_	
C.FA-OUTSIDE	Δ	×	Note 1
C.FD-OUTSIDE	Δ	×	Note 1, Note 2
C.FB-OUTSIDE	Δ	×	Note 1, Note 3
C.FA	Δ	×	Note 1
C.FA CANCEL BY A ROUTINE DIAGNOSIS	-	_	
CALL TRANSFER - ALL CALLS	Х	×	Note 4
EMERGENCY CALL	_	_	
DAY/NIGHT CLASS OF SERVICE	Δ	_	Only RSC is available
CALL WAITING	_	_	Note 5
CALL PICK UP - GROUP	_	_	
CALL HOLD	_	_	
THREE-WAY CALLING	Х	×	
TIMED REMINDER	_	_	
CALL PICK UP - DIRECT	_	_	
STEP CALL	×	$\bigtriangleup$	Note 6
SPLIT C.F.	_	_	
HOT LINE	_	×	
PERIODICAL INDICATION TONE	_	_	
AUTOMATIC CALL BACK CANCEL	_	_	
CLASS OF SERVICE - INDIVIDUAL	Δ	×	Note 7
STATION-TO-STATION CALLING	×	$\bigtriangleup$	Note 8
STATION-TO-STATION CALL RESTRICTION	×	_	
EXECUTIVE RIGHT OF WAY	_	_	Note 9
STATION HUNTING	-	-	
CALL BACK	-	-	
FLEXIBLE NUMBERING OFSTATION	-	-	
AUTOMATIC HOWLER TONE SENDING	-	-	

	Visitor PBX	(Standalone)	DEMADKS	
NAME OF SERVICE FEATURES	From PS	To PS	REMARKS	
STATION 5DB PAD	×	_		
BOSS/SECRETARY	-	_		
C.FD	Δ	×	Note 1	
PUSH-BUTTON CALLING	-	-		
PRIORITY CALL	×	_	Note 10	
LINE LOCK-OUT	-	_		
RECALL	Δ	_		
C.FB	×	×	Note 1	
PRIVACY	-	—		
ONE DIGIT HOOKING	-	_		

## Table 4-4 List of Station Service Features for Q.931a (Continued)

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

Note 1: Conditions for Call Forwarding features are shown in the table below.

×: Available –: Not available

Transfer Set/Cancel			Transfer Operation					
	Location of PS set C.F.		Location of	PS set C.F.	Location of Transferred PS			
	Home PBX	Visitor PBX	Home PBX	Visitor PBX	Home PBX	Visitor PBX		
C.FA	×	-	×	×	×	×		
C.FD	×	-	×	-	×	×		
C.FB	×	_	×	×	×	×		

**Note 2:** *C.F.-D-Outside is not applicable by CALL TRANSFER-ALL CALLS.* 

- **Note 3:** When the Attendant calls a PS which has roamed to a visitor PBX and set C.F.-B-Outside, the C.F.-B-Outside does not work and the Attendant hears Busy Tone (BT).
- **Note 4:** Recall service can be activated to the transferred station when the PS, with C.F.-PS INCOMING CALL INCOMPLETE in service, moves Out of Zone, after placing a call on hold.

#### Note 5: Call Waiting

- 1) This service is valid in a two-party call when a call is terminated from station-to-station, to PS, to Central Office line, or to Tie line call but invalid when other services using switch hook flash are executed to the PS or when the PS is connected to the Attendant Console.
- 2) To set CALL WAITING, it is necessary that the Service Restriction Class data (ASFC) be assigned in the office data assignment. Call Waiting service is provided according to each service feature restriction class.
- 3) There is no limitation of the number of CALL WAITING services such as the number of simultaneous settings/the number of occurrence of answers.
- 4) This service cannot be used if the Central Office line (DIRECT IN TERMINATION) or a call via the Attendant Console.
- 5) Call Waiting cannot be set to the PS which has roamed to a Visitor PBX. Service conditions for Call Waiting to the station connected to the Visitor PS varies depending on the routing method as shown below.
  - a. When a station in a Visitor PBX places a call to a PS which has roamed to the Visitor PBX, Call Waiting to the station is available.



b. When a PS which has roamed to a Visitor PBX places a call to a station in the Visitor PBX, Call Waiting to the station is not available.



c. When a PS which has roamed to a Visitor PBX and a station in the Home PBX are connected, Call Waiting to the station is available.



#### Note 6: Step Call

- 1) Tie line Step Call is not available from PS.
- 2) If Visitor PS is busy, Step Call is not available.
- **Note 7:** This feature depends on the RSC for the Visitor PS number assigned at the visitor PBX. Therefore, Visitor PS cannot have its own RSC.
- **Note 8:** When a PS has roamed to the Visitor PBX, all calls to the PS are transferred to the Visitor PBX via Q.931a/ IS-11572 line from the Home PBX.
- **Note 9:** *Executive Right-of -Way is restricted when the destination station is talking with a PS which has roamed to the visitor PBX.*
- Note 10:PS can activate this feature only for Attendant Console.

	Visitor PBX	(Standalone)	DEMADIZE
NAME OF SERVICE FEATORES	From PS	To PS	REMARKS
AUTHORIZATION CODE	_	_	
ACCOUNT CODE	_	_	
C.FINTERCEPT/ANNOUNCEMENT	×	_	
CALL PARK	_	_	Note
DISTRIBUTION ACCESS UNIT (DAU)	_	_	
DSS CONSOLE	_	_	
ANNOUNCEMENT SERVICE	×	_	
OG CALL RESTRICTION ANNOUNCEMENT	×	_	*
PAGING	_	_	
PAGING TRANSFER	_	_	
RADIO PAGING	_	_	
UNIFORM CALL DISTRIBUTION (UCD)	_	_	
UCD-DELAY ANNOUNCEMENT	—	_	
LAST NUMBER CALL	-	_	Substituted for the LAST NUMBER CALL function of PS

## Table 4-5 List of Other Service Features for Q.931a

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

**Note:** When a PS which has roamed to the Visitor PBX places a call and is connected to a D<sup>term</sup>, the D<sup>term</sup> cannot set Call Park.

	Visitor PBX (	Standalone)	
NAME OF SERVICE FEATURES	From PS	To PS	REMARKS
AUTOMATIC RECALL	-	×	
ATTENDANT LOOP RELEASE	-	_	
CALL TRANSFER-ATTENDANT	-	×	Note 1
SUPERVISORY CALL	_	-	
DIGITAL DISPLAY-TRUNK	_	_	
CALL PROCESSING INDICATION	_	_	
SERIAL CALL	_	_	Note 2
CALL WAITING LAMP DISPLAY	×	_	
ATTENDANT CAMP-ON	-	_	
NON-DELAY OPERATION	×	_	
INTER-POSITION TRANSFER	-	_	
DELAY OPERATION	×	_	
DIAL MONITOR	-	×	
SPLIT CALL FORWARDING	-	_	
TRUNK GROUP BUSY LAMP	-	_	
SPEED CALLING-STATION/GROUP	-	_	
SPEED CALLING-SYSTEM	-	_	
INDIVIDUAL ATTENDANT ACCESS	×	_	
ATTENDANT OVERRIDE	_	_	
STEP CALL	_	$\bigtriangleup$	Note 3
ATTENDANT MONITOR SERVICE	-	_	
ATTENDANT NIGHT TRANSFER	×	_	
BUSY VERIFICATION	-	_	
INDIVIDUAL TRUNK ACCESS	-	_	
DIAL ACCESS TO ATTENDANT	×	×	Note 4
DIGITAL DISPLAY-STATION		$\bigtriangleup$	Note 5
BUSY LAMP FIELD-FLEXIBLE	-	_	
RECALL	×	—	

## Table 4-6 List of Attendant Console Service Features for Q.931a

- Note 1: Upon receiving an incoming call the Attendant Console transfers the call to a PS, it ends up with the PS connected to the outside. If, in this situation, the PS user moves to a place Out of Zone, the caller from the outside line will hear BT.
- **Note 2:** Serial Call can be set only after the called PS answered.
- **Note 3:** *Step Call is not available for the PS in busy status.*
- **Note 4:** While the Attendant Console is calling a PS, the services associated with Out of Zone such as C.F.-PS INCOMING INCOMPLETE, AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE and AUTOMATIC ANNOUNCEMENT-DISCONNECTED PS OUT OF ZONE are not available. When an Attendant calls a PS, the individual attendant number can be displayed on the LCD of the PS. However "OPR" cannot be displayed on the LCD of the PS.
- **Note 5:** When a Visitor PS calls to a station/Attendant, Home PBX number + PS station number is displayed on the called station/Attendant. To identify the Visitor PS number, the station/Attendant needs to display all the digits of Home PBX number + PS station number.

	Visitor PBX	(Standalone)	
NAME OF SERVICE FEATURES	From PS	To PS	REMARKS
AUTOMATIC CIRCUIT ASSURANCE	×	_	
CENTREX COMPATIBILITY	-	×	
DELUXE TRAVEL CLASS MARK	-	_	
LCR - AUTOMATIC OVERFLOW	×	_	
LCR-3/6-DIGIT	×	-	
TANDEM CONNECTION	-	_	
TANDEM TRUNK QUEUING	-	_	
TANDEM PAD CONTROL	-	_	
TIE LINE ACCESS	×	×	
OUTGOING TRUNK BUSY - ANNOUNCEMENT	×	-	
HOT LINE - OUTSIDE	-	_	
DIGITAL TRUNK INTERFACE	×	×	
LCR - SPECIAL LINEWARNING	×	_	
UNIFORM NUMBERING PLAN	×	×	
LCR - TIME OF DAY ROUTING	-	_	
LCR - CLOCKED MANUAL OVERRIDE	-	_	
ATTENDANT MANUAL OVERRIDE	-	_	

## Table 4-7 List of Network Service Features for Q.931a

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

## Table 4-8 List of Operation/Maintenance Service Features for Q.931a

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

	Visitor PBX	(Standalone)	DEMADKS
NAME OF SERVICE FEATURES	From PS	To PS	<b>NEWARKS</b>
SERVICE PEG COUNT	×	_	
TRAFFIC MEASUREMENT	×	×	
INDIVIDUAL TRUNK ACCESS	_	_	
LINE LOAD CONTROL	_	-	

## Table 4-9 List of ISDN Service Features for Q.931a

	Visitor PBX	(Standalone)	DEMADKS	
	From PS	To PS	<b>NEMANNO</b>	
DIRECT INWARD DIALING	—	×	Note 1	
SUB ADDRESS - PRESENT	×	_		
SUB ADDRESS - ADDRESSING	_	×	Note 1	
CALLING PARTY NUMBER - PRESENT	×	_		
CALLING PARTY NUMBER - DISPLAY	—	×		

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

- Note 1: Automatic Announcement PS Out of Zone/C.F. PS Incoming Incomplete may not be available. It depends on Public ISDN Network.
   When a PS has roamed to a Visitor PBX, all calls to the PS are transferred to the Visitor PBX via Q.931a/IS-11572 line from the Home PBX.
- **Note 2:** *The ISDN terminal cannot transfer the call to a PS or provide the 3-party conference feature including a PS.*
- **Note 3:** A PS can transfer the call to ISDN terminal and provide the 3-party conference feature including the ISDN terminal.

## Table 4-10 List of CCIS Service Features for Q.931a

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

	Visitor PBX	(Standalone)	DEMARKO
NAME OF SERVICE FEATURES	From PS	To PS	REMARKS
Attendant Controlled Conference - CCIS	-	×	
Automatic Recall - CCIS	×	_	
Brokerage Hotline - CCIS	_	×	
Call Forwarding - All Calls - CCIS	_	×	
Call Forwarding - Busy Line - CCIS	_	×	
Call Forwarding - Don't Answer - CCIS	_	×	
Call Transfer - All Calls - CCIS	×	×	
Calling/Called Number Display - CCIS	×	×	
Consultation Hold - All Calls - CCIS	×	×	
Deluxe Traveling Class Mark - CCIS	×	×	
Dial Access to Attendant - CCIS	×	_	
Digital Display - Station - CCIS	_	_	
Direct In Termination - CCIS	_	×	
Distinctive Ringing - CCIS	_	_	
Do not Disturb - CCIS	_	×	
Dial Number Display - Recall - CCIS	_	_	
Flexible Numbering of Station - CCIS	×	_	
House Phone - CCIS	_	×	
Hot Line - CCIS	_	×	
Incoming Call Identification - CCIS	×	_	
Individual Attendant Access - CCIS	×	_	
LDN Night Connection - CCIS	_	×	
Miscellaneous Trunk Access - CCIS	×	_	
Miscellaneous Trunk Restriction - CCIS	×	_	
Multiple Call Forwarding - All Calls - CCIS	_	×	
Multiple Call Forwarding - Busy Line - CCIS	_	×	
Multiple Call Forwarding - Don't Answer - CCIS	_	×	
Night Connection - Fixed - CCIS	-	×	
Night Connection - Flexible - CCIS	_	×	
Off-Hook Queuing - CCIS	×	-	

CHAPTER 4 Page 148 Revision 1.0

		5		
	Visitor PBX	(Standalone)	DEMADKS	
	From PS	To PS	REMARKS	
Single Digit Station Calling - CCIS	×	-		
Station Controlled Conference - CCIS	-	×		
Step Call - CCIS	-	Δ	Note 1	
Supervisory Call - CCIS	_	_	Note 2	

## Table 4-10 List of CCIS Service Features for Q.931a (Continued)

 $\times$ : Available  $\triangle$ : Conditionally available -: Not available/Not used

**Note 1:** If Visitor PS is busy, Step Call is not available.

**Note 2:** *Supervisory Call - CCIS can be activated only when PS is ringing.* 

## 4. PROGRAMMING

Access Code Assignment

## ● START

- 1) ANPD (Numbering Plan Data) Assign the first digit of the LCR access code for the TTC Q.931a protocol Tie Line.
- 2) ASPA (Special Access Code Data) Assign the LCR access code for a dummy route number.
- AMND (Maximum Necessary Digits Data) Assign the Maximum Necessary Digits (MND) for each Destination Code (DC).
- 4) ARNP (Reverse Numbering Plan Data) Assign the trunk access code to the Bch route number, but not a dummy route number.
- 5) ARTD (Route Class Data) Assign the following CDN data for the dummy route number. L/T(CDN 7)=1 AC(CDN 13)=1 The other CDNs may be left default (0) for the dummy route.
- 6) AFRS (Flexible Route Selection Data) Assign number pattern code (NPC) and Outgoing Route Selection Pattern Number (OPR) for the dummy route number. OPR is a kind of intermediator between AFRS and AOPR. Therefore any number may be used from 1 through 255. (Be careful not to assign duplicated OPR.)
- AOPR (Outgoing Pattern Routing Data) Assign Bch route number to the OPR which has been assigned in the AFRS command. Route advance is available by programming RA, E and RT.
- ARSC (Route Restriction Class Data) Assign RSC that allows RRIs for both Bch trunk route and the dummy route but not for Dch trunk route.

END

• Trunk Data Assignment

# • START

- ASYD (System Data) Assign the following indexes. SYS1 Index 186 b6: Assign 1 (CCIS/ISDN in service). SYS1 Index 187: Assign 00 (Hex).
- ARTD (Route Class Data) Assign route class data for both Bch and Dch routes referring to Table 4-10.

 ATRK (Trunk Data) Assign Bch trunk data referring to Figures 4-2 through 4-5. Note that Dch trunk data is NOT assigned in this step.

ATRK for 24PRT : Figure 4-2 ATRK for 24DTI + 2DCH : Figure 4-3 ATRK for 30PRT : Figure 4-4 ATRK for 30DTI + 2DCH : Figure 4-5

Proceed to (4) ADPC (Destination Point Code Data)

ROUTE CL	ASS	DA	TA	ROUTE CL	ASS	DA	TA	ROUTE CLASS		DA	TA
FUNCTION	CDN	B-CH	D-CH	FUNCTION	CDN	B-CH	D-CH	FUNCTION	CDN	B-CH	D-CH
OSGS	1	0	0	OC	24	0	0	TPQ	47	0	0
ONSG	2	2	2	R/L	25	0	0	BL	48	0	0
ISGS	3	0	0	RVSD	26	0	0	TRKS	49	0	0
INSG	4	2	2	TL	27	0	0	DPLY	50	1	0
TF	5	3	0	ANS	28	1	1	ACD	51	0	0
TCL	6	1	1	TELP	29	0	0	2W/4W	52	0	0
L/T	7	1	1	PAD	30	4	7	FAAT	53	0	0
RLP	8	2	2	OGRL	31	1	0	GW	54	0	0
TQ	9	0	0	ICRL	32	1	0	TCMA	55	0	0
SMDR	10	1	0	HD	33	0	0	SMDR3	56	0	0
TD	11	0	0	GUARD	34	1	0	HDT	57	0	0
DR	12	0	0	WINK	35	0	0	CD	58	0	0
AC	13	0	0	VAD	36	0	0	ССН	59	0	0
TNT	14	0	0	CLD	37	0	0	TC/EC	60	0	0
LSG	15	12	13	FA	38	0	0	IRE	61	0	0
SMDR2	16	0	0	DC	39	0	0	SCR	62	0	0
H/M	17	0	0	TCM	40	0	0	LYER1	63	0	0
MC	18	0	0	TDMQ	41	0	0	NET Note	64	0	0
ANI	19	0	0	TRSC	42	0	0	INT	65	9	9
D	20	0	0	BT	43	0	0	DC	66	15	15
MSB	21	0	0	PRV	44	0	0	HKS	67	0	0
MSW	22	0	0	A/D	45	1	0	SCF	68	0	0
TR	23	0	0	CW	46	0	0	SMDR4	69	0	0

Table 4-11 Route Class Data Assignment Table for Q.931a

**Note:** Regarding the ARTD command, the same data "0 (User Side)" is also assigned at the opposite office. However, for the switch setting on the circuit card, this setting must be different from the opposite office.



Figure 4-2 ATRK for 24PRT



Figure 4-3 ATRK for 24DTI + 2DCH



Figure 4-4 ATRK for 30PRT



Figure 4-5 ATRK for 30DTI + 2DCH

- 4) ADPC (Destination Point Code Data)
  - Assign Point Code for both Bch route and Dch route.
  - The values for a Point Code is 1 through 16383. You can assign any number as the Point Code for them, however, do not duplicate the Point Code which is used for No. 7 CCIS.
- 5) ACSC (CSC Data)
  - Assign Dch and Bch location for CSCG.
  - The values for CSCG is 130 through 255.
  - Even number CSCGs are used for Dch location and odd number CSCGs are used for Bch location. Although Bch location is the same as Dch location when PRT is used.
  - CCH, which represents Dch and Bch location, is assigned as shown below.



- CCH must be assigned as the first group in the highway to which PRT is mounted.
- CCH=00000 is prohibited.
- Assign the same CCH in CIC GROUP (0~7) for a CSCG when PRT is used for 23B+D or 30B+D
- An example of ACSC assignment is shown below.

00-03	04	05	06	07	08	09
	01	03	05	07	09	11
	00	02	04	06	08	10
	HW0		HW1		H	W2

1) Condition: 24PRT/30PRT is mounted in slot 07 of PIM0. ACSC data is as follows.

CSCG	ССН	CIC GROUP
130	00004	0
(for Dch)	00004	1
	00004	2
	00004	3
	00004	4
	00004	5
	00004	6
	00004	7

CSCG	ССН	CIC GROUP
131	00004	0
(for Bch)	00004	1
	00004	2
	00004	3
	00004	4
	00004	5
	00004	6
	00004	7

**Note:** The location of DCH (Dch Handler) which is built in PRT must be assigned in parameter "CCH" of this command.

2) Condition: 24DTI/30DTI is mounted in Slot 07 of PIM0 and 2DCH is mounted in Slot 05 of PIM0. ACSC data is as follows.

CSCG	ССН	CIC GROUP
	00002	0
	00002	1
	00002	2
130	00002	3
(for Dch)	00002	4
	00002	5
	00002	6
	00002	7

**Note 1:** *The location of DCH (Dch Handler) must be assigned in parameter "CCH" of this command.* 

**Note 2:** Above is an example when #0 DCH of PA-2DCH circuit card is used.

6) ACIC1 (CIC Code Data1) With respect to PC assigned in the

- With respect to PC assigned in the ADPC command, assign CSCG of the Dch assigned in the ACSC command.

7) ATRK (Trunk Data)- Assign Dch trunk data referring to Figures 4-2 through 4-5.

ATRK for 24PRT : Figure 4-2 ATRK for 24DTI + 2DCH : Figure 4-3 ATRK for 30PRT : Figure 4-4 ATRK for 30DTI + 2DCH : Figure 4-5

8) MBTK (Make Busy of Trunk)- Cancel Make Busy Status of all B channels in the PRT card.

**Note:** Circuit Card must be initialized after these assignment.



В

## **TWO-LINE OPERATION**

#### 1. GENERAL DESCRIPTION

This feature allows for the appearance of two lines on the line (L1 and L2) keys of the PS.

#### 2. OPERATING PROCEDURE

No manual operation is required.

#### 3. SERVICE CONDITIONS

- 1. This feature is available for Series 7300 or later software.
- 2. Two kinds of lines can appear on the PS: My Line and Sub Line. These lines are associated with the station numbers assigned to the port on the interface circuit.
  - L1 key: My Line
  - L2 key: Sub Line
- 3. When a PS becomes Out of Zone state while terminating to Sub Line, the call is disconnected by release timer about one minutes after.
- 4. When a PS user places a call on hold and presses the END key, the line lamp on the PS goes OFF. The PS is recalled when the recall timer expires.
- 5. Voice Mail Indication (VMI) is not available for Sub Line.
- 6. When a PS is moved to a visitor PBX using Roaming function, only My Line is available.
- 7. While a PS-to-PS connection is established, Dual Hold feature is not available.

#### 4. INTERACTIONS

- 1. Blind Transfer to Sub Line is not available. When a station transfers a call to Sub Line on a PS, the transferring station is recalled.
- 2. While a PS is in conversation, Blind Transfer to the PS is not available even if either of the lines on the PS is idle. When a station transfers a call to a PS in conversation, the transferring station is recalled.
- 3. HLD key on the PS is not effective while:
  - a PS is in conversation with the third party using Consultation Hold
  - a PS is in conversation with a station which has a call placed on hold
  - a PS is connected with the other party using CallWaiting-Originating/Terminating
  - the other party has a Call Waiting-Terminating call.
- 4. Call Waiting-Terminating is not available for a PS which has a call placed on hold (The calling party hears Busy Tone). However, Call Forwarding-Busy Line is available.

#### 5. PROGRAMMING

# START

 APSD (Assignment of the PS Operation Data for DM) This command assigns the PS operation data including its tenant No., station No., Service Feature Restriction Class (SFC) and the Route Restriction Class (RSC) in consideration of the numbering plan/restriction data. Assign My Line and Sub Line data of the PS.

- TN : Tenant
- PSTN : PS STN
- KIND : PS KIND : Assign 6 (D<sup>term</sup>-PSII) for My Line.
  - Assign 7 (D<sup>term</sup>-PSII Sub Line) for Sub Line.
- RSC : Route Restriction Class
- SFC : Service Feature Restriction Class
- PS-ID : Max. 9 digits
- PSNO : TYPE : 2 (13 digits or less [BCD] fixed
  - NO. : Assign the same number as the PS NO. according to PS KIND.
- NWN : Network Number : Only for Roaming Feature
- ADERA : Additional Area Number : Only for Roaming Feature
- CTRA : Country Number : 794 (USA) fixed
- Sub-Sysid : Number of Sub-Sysid : Not used
- 2) ALGSL (Allocation of Telephone Number Data for Local Data Memory)/ ALGSN (Allocation of Telephone Number Data for Network Data Memory) Assign Telephone Number data for My Line and Sub Line. For more information, refer to "Office Data Specification".
- APMLL/APMLN (Assignment of PS Multiline Data) Specify Telephone Numbers of My Line and Sub Line for the PS.
  - MY-UGN :PS My Line User Group Number
  - MY-TLN :PS My Line Telephone Number
  - SUB-UGN :PS Sub Line User Group Number
  - SUB-TLN :PS Sub Line Telephone Number
- APDLL (Download of PS Operation Data for Local Data Memory)/ APDLN (Download of PS Operation Data for Network Data Memory) This command loads the PS operation data to the PS. Specify Telephone Number of My Line.
  - UGNPS Tele
  - PS Telephone Number : Maximum 16 Digits
  - TYPE=2
  - PS No. : Maximum 13 Digits



## **VOICE MAIL INDICATION (VMI)**

#### 1. GENERAL DESCRIPTION

This feature provides ON/OFF control of the Voice Mail Message (VMM) indication of the PS (including the PS in a visitor node) via Message Center Interface (MCI). This feature is also available in the CCIS and Netfusing networks.

There are two types of notification methods: active notification and passive notification. Active notification:The notification is given when a voice message is received. Passive notification:The notification is given at the time of PS Location Registration or end of call.

#### 2. OPERATING PROCEDURE

No manual operation is required.

#### 3. SERVICE CONDITIONS

- 1. This feature is available for Series 7300 or later software.
- 2. Active notification is executed at the rate of one PS for each second. When multiple voice mails are received at higher rate, control information for a maximum of 240 PSs is placed in a queue. When the queue overflows, active notification is not executed with regard to the overflowed information (passive notification only).
- 3. When an active notification is not completed because of PS Out of Zone etc., retry operation is executed 4 minutes after. If the retry operation also fails, further active notification is not executed (passive notification only).
- 4. When control information on a PS is already in a queue, further control information on the same PS is not entered in the queue. Whenever active notification is executed, the latest information is sent.
- 5. When a voice mail is received while the PS is in conversation, passive notification is executed after the conversation ends.
- 6. At the time of active notification, if the same information has already been sent using passive notification, active notification is not executed.
- 7. For activating this feature, PS supporting VMM indication is required.
- 8. In Netfusing networks, active notification is executed from the Home node of the PS.
- 9. Control information is not available for a PS which has not executed PS Location Registration.
- 10. This feature is not available for Sub Line on the PS.
- 11. This feature does not support Message Center Interface with LAN interface.
- 12. This service and Open Application Interface (OAI) cannot be activated concurrently.

#### 4. PROGRAMMING

Refer to MESSAGE CENTER INTERFACE [M-26] in the Feature Programming Manual.

## ZT PROGRAM DOWNLOAD

#### 1. GENERAL DESCRIPTION

This feature allows maintenance personnel to update the ZT program by command operation. Accordingly, only one ZT needs to be updated by the dedicated tool.

#### 2. OPERATING PROCEDURE

- 1. Using the dedicated tool, write new program into a ZT. This ZT is called "Program Master ZT".
- 2. Connect "Program Master ZT" to the system.
- 3. Download new program from "Program Master ZT" to the other ZTs, called "PROGRAM DOWNLOAD ZTs", using AZDL command.

#### 3. SERVICE CONDITIONS

- 1. This feature is available for the Series 7300 or later software.
- 2. When using this feature, Program Master and Program Download ZTs must be in normal operation.
- 3. ZTs cannot execute call processing during download.
- 4. When this feature is activated during conversation, the call is forcibly released.
- 5. Program download requires about 5 minutes for each ZT.
- 6. Program Master ZT and Program Download ZT must be accommodated in the same node.

#### 4. PROGRAMMING

#### ● START

 ACSDL (Assignment for CS/ZT Data for LDM)/ACSDN (Assignment for CS/ZT Data for NDM) This command is used to assign the ZT related data including the PHS Community Number, Calling Area No., Group No., ZT NO., ZT LENS, and ZT KIND.

When this data assignment is finished, 3B+D channels of the CSINT circuit card start up.

- PHS Community Number: 1-1024
- Calling Area Number: 1-32
- Group Number: 1-8
- ZT Number: 1-32
- TN: Tenant Number
- LENS: ZT Equipment Number

#### 2) AZDL

•	PROGRAM MASTER ZT PCN	PHS Community Number of Program Master ZT	1-1024
•	PROGRAM MASTER ZT CRN	Calling Area Number of Program Master ZT	1-32
•	PROGRAM MASTER ZT GRN	Group Number of Program Master ZT	1-8
•	PROGRAM MASTER ZT CSN/ZTN	ZT Number of Program Master ZT	1-32
•	PROGRAM DOWNLOAD ZT PCN	PHS Community Number of Program Download ZT	1-1024
•	PROGRAM DOWNLOAD ZT CRN	Calling Area Number of Program Download ZT	1-32
•	PROGRAM DOWNLOAD ZT GRN	Group Number of Program Download ZT	1-8
•	PROGRAM DOWNLOAD ZT CSN/ZTN	ZT Number of Program Download ZT	1-32

When program download is activated using this command, a B-channel link is established and new ZT program is downloaded from "Program Master ZT" to "Program Download ZT".

END
## **CALL FORWARDING - DROPPED CALLS**

## 1. GENERAL

This feature provides a call forwarding function when a PS encounters a Squelch Disconnection (such as PS moving out of zone, failing to hand over a call, or a sudden power down of the PS) during a two-way connection with a station/trunk. If this feature is set, the PS can forward the unexpectedly disconnected call to a pre-assigned forwarding destination, such as a PS, a user of voice mail system, or an analog/D<sup>term</sup> station, etc.

Note: This feature is available when C.F.-PS INCOMING INCOMPLETE is already assigned to the PS.

## 2. OPERATING PROCEDURE

The procedure to set up this feature is shown below:

- Pre-set Dialing
  - 1) Dial the access code to set this feature.
  - 2) Go off-hook and hear the SST (Service Set Tone).
  - 3) Go on-hook.
- Overlap Dialing
  - 1) Go off-hook and hear the DT (Dial Tone).
  - 2) Dial the access code to set this feature.
  - 3) Hear the SST.
  - 4) Go on-hook.

The procedure to cancel this feature is shown below: Note 1

- Pre-set Dialing
  - 1) Dial the access code to cancel this feature.
  - 2) Go off-hook and hear the SST (Service Set Tone). Note 2
  - 3) Go on-hook.
- Overlap Dialing
  - 1) Go off-hook and hear the DT (Dial Tone).
  - 2) Dial the access code to cancel this feature.
  - 3) Hear the SST. Note 2
  - 4) Go on-hook.
- **Note 1:** This feature can be cancelled also by cancelling C.F.-PS INCOMING INCOMPLETE. (Refer to Item 3 under Service Conditions.)
- **Note 2:** When dialing the cancel access code while this feature has not been assigned, ROT (Reorder Tone) is returned.

## 3. SERVICE CONDITIONS

- 1. This feature can be set at each PS, that is already provided with the C.F.-PS INCOMING INCOMPLETE feature.
- 2. The forwarding destination of C.F.-PS INCOMING INCOMPLETE is also designated as the destination of this feature.
- 3. This feature can be cancelled also by cancelling C.F.-PS INCOMING INCOMPLETE. However, if the following is set, C.F.-PS INCOMING INCOMPLETE is cancelled, while this feature is maintained: ASYD command, SYS 1, Index 420, b1 = 1
- 4. After this feature is once in service, the function of this feature is still maintained, even if a service class of C.F.-PS INCOMING INCOMPLETE is restricted.
- 5. When a call is currently being transferred by this feature, the forwarded party (not the forwarding destination but the party first connected to the Squelch PS) hears the RBT (Ring Back Tone).
- 6. When this feature has been activated during a two-way call between a PS and a station (including PS), the station, now being transferred to the forwarding destination, cannot use "TRF" and "HLD" keys (restriction is imposed).
- 7. This feature can be applied to:
  - a basic two-way connection between a PS and a station (including PS)
  - a basic two-way connection between a PS and a trunk (analog, ISDN, CCIS, TLT)
- 8. The forwarding destination of this feature can be:
  - a PS
  - an analog/Dterm station
  - an attendant
  - a trunk (COT)
  - Tie Line
- 9. When a call terminates just in the middle of "service set" access code dialing (Pre-set Dialing: before going off-hook), the key operation up until this moment goes all null and void.
- 10. This feature is not available for a two-way connection between a PS and a (an) ATTCON/DESKCON.
- 11. When a PS attempts an OG call and it ends up in a Squelch Disconnection before connected to the self-node/ other node trunk, this feature is not activated.
- 12. If a Squelch Disconnection occurs just during the following state, this feature is not activated:
  - A PS is placed on hold during a two-way connection with a station (including PS)
  - A station (including PS) is placed on hold during a two-way connection with a PS
- 13. When a PS encounters a Squelch Disconnection during a two-way connection with a UCD station, this feature is not available.
- 14. When this feature is activated and the forwarded party does not answer, the following occurs:

[When CALL FORWARDING - DON'T ANSWER is assigned at the forwarded party]

- After a certain period of no answer, the call is shifted to the destination of CALL FORWARDING - DON'T ANSWER.

[When CALL FORWARDING - DON'T ANSWER is not assigned at the forwarded party] - Recall to the Squelch PS is not made, and the forwarded party continues to ring.

- 15. When a call is forwarded by this feature and also is shifted to another destination, the forwarding kind to be notified to the destination is "C.F.-PS INCOMING INCOMPLETE".
- 16. When this feature is activated, the LCD indication on the D<sup>term</sup> (forwarded party) is identical to that of C.F.-PS INCOMING INCOMPLETE.
- 17. When a Squelch Disconnection occurs simultaneously at both PSs in a two-way connection, this feature is activated by neither PS.
- 18. The forwarding kind to be reported to MCI is "C.F.-DON'T ANSWER".
- 19. The assigned data for this feature can be backed up on the HDD/FDD of the PBX.
- 20. The forwarding destination of this feature is not designated by the ACFS command.
- 21. This service supports 32 kbps data communication only.
- 22. Service conditions for 2-line D<sup>term</sup> PS are shown below:
  - a. This service can be assigned to both lines of this type PS.
  - b. When a Squelch Disconnection occurs, while a line is in a two-way connection and the other line is placed on hold, this service is applied to the former line only (two-way connection line only).

## 4. INTERACTIONS

1. When a Squelch Disconnection occurs during a two-way connection between a PS and a station (including PS), the following ensues according to the assigned service(s):

[When AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE is assigned to the Squelch PS]

- The party, not the Squelch PS, hears the announcement.

[When this feature is assigned to the Squelch PS]

- The disconnected call is forwarded to the target destination.

[When this feature and AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE are both assigned to the Squelch PS]

- The disconnected call is forwarded to the target destination, as this feature takes priority over AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE.

[If neither this feature nor AUTOMATIC ANNOUNCEMENT-PS OUT OF ZONE is assigned to the Squelch PS]

- No measures are taken. The party, not the Squelch PS, hears the ROT (Reorder Tone).
- 2. A call forwarded by this feature can be answered by the CALL PICKUP GROUP feature.
- 3. A call forwarded by this feature can be answered by the CALL PICKUP DIRECT feature.

- 4. The Call Waiting service is available for the call forwarded by this feature.
- 5. When a PS moves to a visitor PBX (when roaming) and it encounters a Squelch Disconnection, this feature is not activated.

<FCCS Conditions>

None

## 5. PROGRAMMING

• Entry Procedures

START

- ANPD (Assignment of Numbering Plan Data) Assign 1st digit code (1st DC) and number of necessary digits (NND) for feature access and cancel.
- 2) ASPA (Assignment of Special Access Code Data)
  - Assign the access code for this feature.
  - For service setting
    - CI : N
    - SRV : SSCA
    - SIDA : 114 (Call Forwarding Dropped Calls: SET)
  - For service cancel
    - CI : N
    - SRV : SSCA
    - SIDA : 115 (Call Forwarding Dropped Calls: CANCEL)
  - **Note:** When a node has the (node-level) ASPA/ASPAL data and also the network-level ASPAN data (for the Fusion service), the node can use both node-level access code and network-level access code. Also, if both data of ASPA/ASPAL is assigned, ASPAL data takes priority over ASPA data.
- ASYD (Assignment of System Data) Assign whether to cancel this feature once C.F.-PS INCOMING INCOMPLETE is cancelled. SYS 1, Index 420, b1
  - 0: Cancel
  - 1: Not cancel

END

## **AUTHORIZATION CODE**

## 1. GENERAL DESCRIPTION

An AUTHORIZATION CODE is a numerical code dialed by PS users (up to ten digits), which will override the station CLASS OF SERVICE - INDIVIDUAL [C-15] for facility access restriction.

## 2. OPERATING PROCEDURE

Procedure 1

- With a feature Access Code
  - 1) Go off-hook and receive Dial Tone.
  - 2) Enter the feature Access Code and receive Service Set Tone.
  - 3) Enter the AUTHORIZATION CODE (up to ten digits).
  - 4) Receive Dial Tone.
  - 5) Enter the number to be called.

## Procedure 2 (only for LEAST COST ROUTING [L-5] calls)

- Without a feature Access Code
  - 1) Go off-hook and receive Dial Tone.
  - 2) Enter the number to be called.
  - 3) If an AUTHORIZATION CODE is required, the caller will receive Special Dial Tone.
  - 4) If Special Dial Tone is received, enter the AUTHORIZATION CODE (up to ten digits) or the call is denied.

**Note:** *The feature access code for AUTHORIZATION CODE will be a maximum of three digits.* 

## 3. SERVICE CONDITIONS

- 1. The following service feature restriction classes cannot be overrided by using feature.
  - SFI=125(PAD LOCK)
  - SFI=137(Authorization Code Display Elimination)
- 2. The followings are conditions of this feature when using My Line (L1) and Sub Line (L2) simultaneously. (Tow-Line Operation)
  - When holding a line, the held line becomes class before changeover, and then after return to original call, the class becomes changed class.
  - When both My Line and Sub Line are held, the class changeover of earliest held line is invalid.
- 3. The user cannot use "Data Communications-32kbps" using Authorization Code.
- 4. Visitor PS of "TTC Q.931 protocol Tie Line with PCS Roaming" is not available.

## 4. PROGRAMMING

- Note 1: To use this feature, basic office data assignment is also required. Refer to Sections 1 and 2 of this chapter.
- **Note 2:** When a user restricts a feature which is not available for PCS system by service feature restriction class (SFC) before class changeover, the user must also restrict the feature for the service restriction class after changeover.
- **Note 3:** When using this feature in fusion network, the user must assign the identical Authorization Code to all nodes.
- **Note 4:** There are two methods of Authorization Code assignment: Full Implementation and the Checksum methods. In the Full Implementation method, the whole AUTHORIZATION CODE is assigned in the AATC command and SYS1. Indexes 12, 13, & 14 are assigned 00H. In the Checksum method, partial assignment for each AUTHORIZATION CODE is assigned in the AATC command. The last one or two digits (programmable option) are determined by the system according to the data assignments in ASYD, SYSI, Indexes 12, 13, & 14.

## ● START

 ASYD - System Data 1, Index 12. If Index 12 = 0, no Checksum method is used, and Indexes 13 and 14 are ignored, regardless of their assignments. Each Bit in Index 12 directly correlates to a digit in the AUTHORIZATION CODE assigned in AATC, and will determine the first digit of the Checksum method. For this example, 26428 has been assigned as the AUTHORIZATION CODE in AATC. Arbitrarily pick any Bits, 0 - 4, and flag those Bits as data 1.

 Note:
 Bit 0 - 7 may be used when 8-digit AUTHORIZATION CODES are assigned in the AATC command.

 Bit 4
 Bit 3
 Bit 2
 Bit 1
 Bit 0

	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
AATC	8	2	4	6	2
SYS1, IN12	0	1	0	0	1
Designation	d4	d3	d2	d1	d0

System Data 1, Index 13. Each Bit in Index 13 directly correlates to a digit in the AUTHORIZATION CODE assigned in AATC, and will determine the second digit of the Checksum method. Pick any Bits 0 - 4, but not the same combination of Bits as picked in Index 12.

	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
AATC	8	2	4	6	2
SYS1, IN13	1	0	0	1	0
Designation	d4	d3	d2	d1	d0

System Data 1, Index 14 determines the algorithm used to calculate the last two digits of every AUTHORIZATION CODE. (Only decimal numbers may be used in this index, therefore, hexadecimal values A to F may not be assigned). System Data 1, Index 14 =X & Y, where X and Y represent any arbitrarily chosen decimal digit 1-9, and where Y is used to determine the first digit and X is used to determine the second digit in the Checksum method. The following data, 37H, has been used for the example calculation:

SYS1,	X			Y				REMARKS		
INX 14	Bit 7	6	5	4	3	2	1	0		
DATA	0	0	1	1	0	1	1	1		

**Note:** If only one digit is to be added via the Checksum method, then Index 13 data will be 00H and Index 14, b4~b7 are 0.

## **EXAMPLE CALCULATION:**

In AATC, 26428 has been assigned. In System Data 1, Index 12, Bits 0 and 3 were chosen; 26428 2 + 2 = 4.

The decimal value of Bits 0 - 3 of Index 14 = 7.

4 + N = 7. N = 3.

7 is obtained as any whole number greater than 4 that ends with a 7, the decimal value as determined in System Data 1, Index 14, Bits 0 to 3. In AATC, 26428 has been assigned. In System Data 1, Index 13, Bits 4 and 1 were chosen; 26428.

8 + 6 = 14.

The decimal value of Index 14, Bits 4 - 7 is 3.

14 + N = 23. N = 9.

23 is obtained as any whole number greater than 14 that ends with a 3, the decimal value determined in System Data 1, Index 14, Bits 4 - 7. The AUTHORIZATION CODE will be 26428-<u>39</u>.

**Note:** *Digits 39 determined by the Checksum method will be unique to the AUTHORIZATION CODE 26428. In other words, 26428 will not be followed by any digits other than 39.* 

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ASYD - System Data 1, Index 43, Bit 2, is Service Set Tone sent after AUTHORIZATION CODE. ASPA access code? 0/1: No/Yes. Assign data "1".

System Data 1, Index 43, bit 0, is AUTHORIZATION CODE required for DISA? 0/1: required/ not required. Normally assign data "0."

System Data 1, Index 93, Bit 6. Are the AMND tables Separate or Common for tenants in the system? 0/1: Separate/Common. Assign data "0" for separate tables.

System Data 2, Index 3, Bit 4: Is Account Code used with AUTHORIZATION CODE? 0/1: No/ Yes.

System Data 2, Index 3, Bit 5: Type of code? 0/1: AUTHORIZATION CODE/ Forced Account Code; assign data "0".

- 2) ANPD Reserve a number level for feature access. Assign for normal (N), hooking (h), and busy (b) (if applicable to any feature in this level). Assign NND in accordance with a predetermined numbering plan.
- 3) ASPA For SRV = SSC (Service Code), SID = 42, assign the access code.

45 - 26428 - 9-1-617-555-2323

$(\Lambda CC)$	(Auth Code)	(Destination	Coda)
(ACC)	(Autil Coue)	(Destination	Coue

ASPA ACC=45 NND=7 (ACC + Authorization Code)

ASPA - For SRV = LCR (Least Cost Route Selection) / LCRS (Register Sender LCR), if operating Procedure 2 is to be used (dialing the AUTHORIZATION CODE after the number dialed), then assign data "1" to the AH parameter when programming the LCR(S) access code. Therefore, operating Procedure 2 is only available with LEAST-COST ROUTING - 3/6 DIGIT [L-5].

- 4) ASFC For stations allowed AUTHORIZATION CODE, assign a Class of Service that allows SFI27.
- 5) AMND For Tenant 0, assign the Destination Code (DC) as the first digit of all AUTHORIZATION CODES and the Maximum Necessary Digits (MND) of the AUTHORIZATION CODE. For the above example, a DC of 2 is assigned with an MND of 7. The MND value will include the digits added by the Checksum method.
- 6) AATC Assign the TN, Digit Code (DC) (the actual code itself), the AUTHORIZATION CODE RESTRICTION (ACR) as data "1" and Service Feature Class (SFC) and Route Restriction Class (RSC). If ACR is assigned as data 2, Allowed: RSC and SFC parameters are not programmed. (SFC parameters are not operational.)
- 7) LATC List up all the AUTHORIZATION CODES. This is the simplest way to determine what digits have been added to the system with the Checksum method. This is not required if the Checksum method is not used.

END

В

## CALL PARK

#### 1. GENERAL DESCRIPTION

This feature enables a PS user to "Park" a call (C. O. line, Tie line, station, PS) by hooking and dialing a Call Park Access Code, and by dialing the Call Park retrieval code and a station number that parked the call, the parked call can easily be retrieved from any station/PS within the system. If the user forgets to retrieve the parked call, automatic recall function informs the user.

#### 2. OPERATION PROCEDURE

To park a call from PS:

- 1) Go hooking (press TRF key).
- 2) Receive a Special Dial Tone.
- 3) Dial the Call Park a access code.
- 4) Receive Service Set Tone.
- 5) Replace the handset.

To retrieve a parked call from the originating station:

- Overlap sending procedure
  - 1) Go off-hook.
  - 2) Receive a Dial Tone.
  - 3) Dial the Call Park local retrieval code (SID=62).
  - 4) The parked call is reconnected.
- Enbloc sending procedure
  - 1) Dial the Call Park local retrieval code (SID=62).
  - 2) Go off-hook.
  - 3) The parked call is reconnected.

To retrieve a parked call from a different station:

- Overlap sending procedure
  - 1) Go off-hook.
  - 2) Receive a Dial Tone.
  - 3) Dial the Call Park remote retrieval code (SID=63) and the number of the station that parked the call.
  - 4) The parked call is reconnected.
- Enbloc sending procedure

When access code operation that using enbloc sending is invalid. (SYS1 INDEX420 bit0=0)

- 1) Dial the Call Park remote retrieval code (SID=63).
- 2) Go off-hook.
- 3) Dial the number of the station that parked the call.
- 4) The parked call is reconnected.

When access code operation that using enbloc sending is valid. (SYS1 INDEX420 bit 0=1)

- 1) Dial the Call Park remote retrieval code (SID=63) and the number of the station that parked the call.
- 2) Go off-hook.
- 3) The parked call is reconnected.

## 3. SERVICE CONDITIONS

- 1. This feature is also available for Sub Line (L2) of a two-line D<sup>term</sup> PS. (By using Two-Line Operation)
- 2. The parked PS cannot hold a terminal.
- 3. A PS can park only one call at the same time.
- 4. A PS cannot park Attendant Console.
- 5. When Call Park key of Attendant Console key pattern (SYS1 INDEX6 bit 4 ~ bit 6) is valid, and an Attendant Console is parking a PS, the Attendant Console operator can retrieve the PS by dialing an Access Code and an Individual Attendant Identification number which is assigned by "Individual Attendant Access".

Note: An Attendant Console is not made to recall.

- 6. When a PS which parks a call does not retrieve the call, the PS is recalled after fixed time which depends on Automatic Recall Timer (SYS1 INDEX142 default: 500 sec.). When PS parks a call via C. O. line and then the C. O. side goes on-hook, PBX does not detect the release, however, the COT can be released by Automatic Recall Timer.
- 7. This feature can be used all PSs within the system. (Depending on Service Feature Restriction Class)
- 8. When a parked PS encounters the squelch disconnection, Call Forwarding-Dropped Calls is not available even though it is set.
- 9. If a PS which is recalled by Automatic Recall Timer is out of zone, the parked PS user receives Reorder Tone (ROT).
- 10. If a parked PS moves on out of zone, the PS is disconnected.
- 11. As regards condition of "TTC Q.931 a protocol Tie Line with PCS roaming", as shown below.

		×: Possible –: Impossible
	Home PBX	Visitor PBX
PS parks a call.	×	-
PS retrieves a call.	×	-
PS is parked by terminal.	×	×

- **Note 1:** When a visitor PS originates a call to station/PS that belongs to the same intra-office, the visitor PS cannot be parked.
- **Note 2:** When a PS which parked a terminal moves to visitor office, and then the PS is recalled by Automatic Recall Timer, the terminal receives ROT.

12. When user programs this feature, use Telephone Number.

## 4. INTERACTIONS

The following features cannot be activated to a PS/station that has been set Call Park:

- Busy Verification
- Call Waiting
- Attendant Camp-On with Tone Indication
- Executive Right of Way-D<sup>term</sup>

## 5. PROGRAMMING

## START

1) ASYD (Assignment of System Data) SYS1 INDEX139 bit0-6 Assignment of No Answer Timer for Automatic Recall. (default: 30 sec.) SYS INDEX142 bit0-6 Assignment of Automatic Recall Timer for Call Park. (default: 500 sec.) SYS1 INDEX6 bit4-6 Assignment of key pattern of the Attendant Console. This service is required, only when Attendant Console uses this feature. (default: bit4-6=000) 2) ANPD (Assignment of Numbering Plan Data) Reserve a number level for feature access and retrieval. 3) ASPA (Assignment of Special Access Code Data) Assign an access code to: a) Call Park access code, SRV=SSC (Service Code), SID=61, CI=H. b) Call Park local retrieval code, SRV=SSC (Service Code), SID=62, CI=N c) Call Park remote retrieval code, SRV=SSC (Service Code), SID=63, CI=N, NND=number of digits in the access code. 4) ASFC (Service Feature Restriction Class Data) Assign a Service Feature Class that allows SFI 67 to the applicable stations. This allows the station/PS to park a call and to retrieve a parked call. Assign stations/PSs a Service Feature Class that allows SFI 68, Call Park-Called. This allows a station/PS to be parked by another station or Attendant Console. END

## **GROUP CALL-AUTOMATIC CONFERENCE (20-PARTY)**

## 1. GENERAL DESCRIPTION

This feature enables a PS user to call a maximum of "20-Party (self + other 19 members)" conference, by only dialing a pre-programmed Group Calling Conference Number. If the Group Calling Conference Number is once dialed, the member stations/PSs are automatically called in assigned order at the interval of every 2 seconds. This feature also allows Station Hunting Group-Circular, and the use of Phantom Telephone Number(s) which is available for flexible arrangement of conference member tables.

## 2. OPERATING PROCEDURE

- 1. Dial the Group Calling Conference Number (Telephone Number/Phantom Telephone Number of conference leader port)
- 2. The conference leader hears the RBT.
- 3. When the first party (conferee) answers, the RBT stops, and the conference is in progress.
- 4. The called party (conferee) participates in the conference one after another after answering the call.
- **Note:** *While the conference is in progress, the called party releases to get out of the conference.* 
  - 5. When the conference leader hangs up, the conference connection is released.

## 3. SERVICE CONDITION

- 1. Conference leader and conferee must be a station/PS.
- 2. PA-CFTB can be available for Group Calling Conference.

**Note:** *The following table shows conditions of CFTB circuit card to use this feature.* 

Firmware Name	Maximum Number of Conference Members	Key Setting SW2-2	Key Setting SW2-3
Firmware SP-1141	20	OFF	OFF
Firmware SP-388 (This firmware cannot be used for cascade connection.)	8	OFF	ON

3. The maximum number of CFTB circuit cards per one conference group is 3. A conference leader port and 19 conferee ports are allocated as follows.



- Note: The number of CFTB circuit cards required to call a conference depends on the maximum number of conference members per conference group.
  2~8 members (including conference leader):one circuit card
  9~14 members (including conference leader):two circuit cards
  15~20 members (including conference leader):three circuit cards (Maximum)
  - 4. Assign the maximum 16 digits of Group Calling Conference Number (Telephone Number/Phantom Telephone Number corresponding to a conference leader port of CFTB).
  - 5. The user must assign Telephone Number for the conferee.

6. By making a group of Station Hunting Group-Circular between conference leader ports or conference leader ports for cascade connection of multiple sets of CFTB circuit cards, the conference can be held looking for idle CFTB circuit cards when dialed port is already used by others. The below shows an example of this feature using Station Hunting-Circular.



leader port A1.

## Figure 4-6 Group Call-Automatic Conference using Station Hunting-Circular

- 7. By assigning Phantom Telephone Number to Telephone Number, the maximum number of conference group per set of CFTB circuit cards is 17 (Phantom Telephone Number: 16+Telephone Number: 1).
- 8. Do not assign this service to ports of LC used for LC-COT connection.
- 9. If conference leader hangs up (or is out of zone), the conference will be released.
- 10. When a conferee is busy or out of zone during a conference call, the conferee is not called a conference.
- 11. When all conferees are busy, out of zone, or they do not answer the conference call, the conference leader hears RBT.
- 12. When a conferee who answers a conference call goes on-hook before a conferee who is lastly called in the group is called a conference, and other conferees are busy, out of zone or do not answer the call, a conference leader receives no tone.

- 13. ISDN terminal and Attendant Console are not available in this feature.
- 14. The conference can not be held by calling the conference leader port using Blind Transfer.
- 15. Call Back service cannot be set to conference leader port.
- 16. If programming the ASDT command data (TEC=14: Hot Line) to CFTB circuit card, the user must also assign ALGSL/ALGSN command and AHLGL/AHLGN command to the card, otherwise when user dials this feature access code, an Attendant Console is called by Hot Line function.
- 17. When using this feature, the user must assign Service Feature Restriction Class and Route Restriction Class, which are different from those of other stations to ports of CFTB circuit card, and also restrict all outgoing routes using ARSC/ARSCN command. If outgoing trunk is used for this feature, noise or announcement of another office may be heard.
- 18. If a PS is in one of the following conditions, Call Forwarding-Dropped Call is not executed.
  - When the PS encounters a squelch disconnection while the PS is in conference.
  - When a connected terminal is in conference.
- 19. When a conferee is a UCD group member;

<Release 8 software is used> the conferee will not be called a conference.

<Release 9 software or the later is used> the conferee is not called a conference if ASYD, SYS2, Index6,bit0=1(Message Center Interface service when terminating to a UCD Group is in service).

## 4. PROGRAMMING

• Entry procedure (Standalone)

## **•**START

- 1) ASYD (Assignment of System Data)
  - SYS1 INDEX20 b6=0 (Line Circuit Reverse Relay Control when Reorder Tone is connected to a station.) Note 1

SYS1 INDEX139 (No Answer Timer for Station to Station, DID and Tie Line calls.)

**Note 1:** *Only when using firmware SP-1141.* 

- ANPD (Assignment of Numbering Plan) Assign the first digit and the necessary number of digits needed to determine the Group Calling Conference number.
  - **Note 2:** The first digit of the Group Calling Conference Number is assigned in the same manner as that of a station number. So, if any station number has already been assigned, programming here is not necessary.
- ASPA (Assignment of Special Access Code Data)
   Assign the Access Code of Station Number (For Conference Leader port and Conferee port).
   ACC=Access Code
   SRV=STN

NND=Necessary Number of Digits of Station Number Note 3

**Note 3:** This parameter is displayed only when you assign two or more digits for Access Code.

ASDT (Assignment of Station Data)

Assign appropriate data in the L (Level) 0-7 on the CFTB circuit cards 1 thought 3 used for the Group Calling Conference Number.

- Assignment for Level 0 on circuit card (conference leader port and conference leader port for cascade connection)
  - TN : Tenant Number
  - STN : Station Number
  - LENS : Line Equipment Number of CFTB circuit card, Level 0
  - TEC : 2 (PB)
  - RSC : Route Restriction Class Note 4
  - SFC : Service Feature Restriction Class Note 4
- Assignment for Level 1-7 on circuit card (conferee ports)
  - TN : Tenant Number

STN : Station Number

- LENS : Line Equipment Number of CFTB circuit card, Level 1~7
- TEC : 14 (Hot Line)
- RSC : Route Restriction Class Note 4
- SFC : Service Feature Restriction Class Note 4

**Note 4:** Assign RSC and SFC exclusive for CFTB.

A		
Ť	5)	ASFC (Service Feature Class Data) Allow the following Service Feature to the levels 0-7 on the CFTB circuit card. SFI=71 (Distinctive Dial Tone) SFI=72 (Called Station Hooking Restriction) SFI=32 (Line Circuit Reverse Relay Control) Note 6
		<b>Note 5:</b> <i>Do not allow the other service restriction data.</i>
		Note 6: Only when using firmware SP-1141.
	6)	ASPAL (Assignment of Special Access Code for LDM) Assign Telephone Number to the all ports which are used for Group Calling Conference Number.
	7)	ALGSL (Assignment of Telephone Number Data for LDM) Assign Telephone Number to the all ports used for Group Calling Conference Number.
$\square$	8)	APHNL (Assignment of Phantom Telephone Number for LDM) Assign Phantom Telephone Number for port 0 (conference leader port and/or conference leader port for cascade connection) on CFTB circuit card. When making a group of Station Hunting Group-Circular, assign PH=1 to conference leader port number and conference leader port for cascade connection number.
		<b>Note 7:</b> Only when grouping CFTB circuit cards.
	9)	<ul> <li>AHLGL (Assignment of CFT Hot Line Group for LDM)</li> <li>Assign the CFT Hot Line Group for each Group Calling Conference Number.</li> <li>Assignment for Level 0 on circuit card (conference leader port and cascade connection port) UGN : User Group Number TELN : CFTB H/L ACC Code (Telephone Number)</li> <li>DA : 0/1=Stop/Continue calling, when the station does not answer.</li> <li>PORT : PORT NUMBER</li> <li>TYPE : KIND OF STN (0-2) 0=Vacant Port 1=STN/PS 2=OUTSIDE TRUNK (Not used)</li> <li>D_UGN : USER GROUP NUMBER OF DESTINATION</li> <li>D_TELN : TELEPHONE NUMBER OF DESTINATION</li> <li>D_ADC : SPEED CALLING DIAL NUMBER (Not used)</li> </ul>
		<b>Note 8:</b> Don't Answer Timer depends on SYS1 INDEX139. When Call Forwarding-Don't Answer is set to the called station, it has priority over this feature.
		<ul> <li>Assignment for Level 1-7 on circuit card (conferee ports) TYPE         <ul> <li>Kind of destination (0-2)</li></ul></li></ul>
B		<b>Note 9:</b> When using firmware SP-1141, the conference group members are called into a conference in assigned order.
	_	

CHAPTER 4 Page 180 Revision 1.0



- ASHC (Assignment of Station Hunting Group-Circular) Assign Station Hunting Group-Circular between conference leader ports and/or conference leader ports for cascade connection on each set of CFTB circuit cards.
  - **Note 10:** *This command is required, only when calling a conference discovering a set of CFTB circuit cards which is in an idle state from plural set of CFTB circuit cards.*



Cancel Procedure

When deleting the ASDT/ALGSL/APHNL command data assigned as conferee, the user must first, delete the AHLGL data.

• Entry procedure (Fusion Network)

●START		
	ASYD (Assignment of Sy SYS 1 INDEX 20 b6=0 ( t	vstem Data) Line Circuit Reverse Relay Control when Reorder Tone is connected o a station.) Note 1
	SYS 1 INDEX 139 (	No Answer Timer for Station to Station, DID and Tie Line calls.)
	Note 1: Only when using	firmware SP-1141.
2)	ANPD (Assignment of Na Assign the first digit and t Conference number.	umbering Plan) he necessary number of digits needed to determine the Group Calling
	<b>Note 2:</b> The first digit of a state of a state programming here.	the Group Calling Conference Number is assigned in the same manner tion number. So, if any station number has already been assigned, re is not necessary.
	Note 3: User must assign	n the same value to all nodes.
3)	ASPA (Assignment of Spe Assign the Access Code of ACC=Access Code SRV=STN NND=Necessary Number	ecial Access Code Data) f Station Number (For Conference Leader port and Conferee port).
	Noto 4: This parameter i	s displayed only when you assign two or more digits for Access Code
		s displayed only when you assign two of more algus for Access Code.
4)	<ul> <li>ASDT (Assignment of States Assign appropriate data in Group Calling Conference)</li> <li>Assignment for Level (cascade connection)</li> <li>TN : Tenant Numbers STN : Station Numbers STN : Station Numbers Contended States Contended States St</li></ul>	the L (Level) 0-7 on the CFTB circuit cards 1 thought 3 used for the e Number. ) on circuit card (conference leader port and conference leader port for er er ent Number of CFTB circuit card, Level 0 tion Class <b>Note 5</b> re Restriction Class <b>Note 5</b>
	<ul> <li>Assignment for Level TN : Tenant Numb STN : Station Numb LENS : Line Equipme TEC : 14 (Hot Line) RSC : Route Restric SFC : Service Featu</li> </ul>	1-7 on circuit card (conferee ports) er er ent Number of CFTB circuit card, Level 1~7 tion Class <b>Note 5</b> re Restriction Class <b>Note 5</b>
A	Note 5: Assign RSC and	SFC exclusive for CFTB.

5)	ASFC (Service Feature Class Data) Allow the following Service Feature to the levels 0-7 on the CFTB circuit card. SFI=71 (Distinctive Dial Tone) SFI=72 (Called Station Hooking Restriction) SFI=32 (Line Circuit Reverse Relay Control) Note 7
	<b>Note 6:</b> <i>Do not allow the other service restriction data.</i>
	Note 7: Only when using firmware SP-1141.
6)	ASPAN (Assignment of Special Access Code for NDM) Assign Telephone Number to the all ports which are used for Group Calling Conference Number.
7)	ALGSN (Assignment of Telephone Number Data for NDM) Assign Telephone Number to the all ports used for Group Calling Conference Number.
8)	APHNN (Assignment of Phantom Telephone Number for NDM) Assign Phantom Telephone Number for port 0 (conference leader port and/or conference leader port for cascade connection) on CFTB circuit card. When making a group of Station Hunting Group-Circular, assign PH=1 to conference leader port number and conference leader port for cascade connection number.
	Note 8: Only when grouping CFTB circuit cards.
9)	<ul> <li>AHLGN (Assignment of CFT Hot Line Group for NDM)</li> <li>Assign the CFT Hot Line Group for each Group Calling Conference Number.</li> <li>Assignment for Level 0 on circuit card (conference leader port and cascade connection port) UGN : User Group Number</li> <li>TELN : CFTB H/L ACC Code (Telephone Number)</li> <li>DA : 0/1=Stop/Continue calling, when the station does not answer.</li> <li>PORT : PORT NUMBER</li> <li>TYPE : KIND OF STN (0-2) 0=Vacant Port 1=STN/PS 2=OUTSIDE TRUNK (Not used)</li> <li>D_UGN : USER GROUP NUMBER OF DESTINATION</li> <li>D_TELN: TELEPHONE NUMBER OF DESTINATION</li> <li>D_ADC : SPEED CALLING DIAL NUMBER (Not used)</li> </ul>
	<b>Note 9:</b> Don't Answer Timer depends on SYS1 INDEX139. When Call Forwarding-Don't Answer is set to the called station, it has priority over this feature.
	<ul> <li>Assignment for Level 1-7 on circuit card (conferee ports) TYPE : Kind of destination (0-2) 0=Vacant Port 1=(STN/PS) UGN : User Group Number TELN : STN No. (Telephone Number) of the conferee's</li> </ul>
	<b>Note 10:</b> When using firmware SP-1141, the conference group members are called into a conference in assigned order.

Α

В



- ASHCN (Assignment of Station Hunting Group-Circular for NDM) Assign Station Hunting Group-Circular between conference leader ports and/or conference leader ports for cascade connection on each set of CFTB circuit cards.
  - **Note 11:** *This command is required, only when calling a conference discovering a set of CFTB circuit cards which is in an idle state from multiple CFTB circuit cards.*



When deleting the ASDT/ALGSL/APHNL command data assigned as conferee, the user must first, delete the AHLGL data.

## SHORT TEXT MESSAGE SERVICE

## 1. **GENERAL** Description

This feature enables a short text message (STM), once arrived at a mail box of the Short Text Message Server (external equipment), to be automatically distributed to the addressee PS via Open Application Interface (OAI). This feature also provides a Zip Tone and "TM WAITING" notification on the display (LCD) of the addressee PS that is busy, and if the PS is out of zone, even makes retransmission of the STM after the PS returns to the zone. See Figure 4-7 for details:

**Note:** This describes STM Facilities available for external STM OAI application. Actual functionalities all depend on the application. Please refer to the OAI application manuals.



Figure 4-7 Outline of Short Text Message (STM) Service

## 2. OPERATING PROCEDURE

- By using PS function key, user can set a password (less than 4 digits) to the PS to enter STM (short text message system) mode, if more details are required, please refer to "PS's manual".
- The STM transmitted to the PS while PS's buffer (max. 10 messages) is full is temporarily kept in STM server. When requesting the STM, delete old STM data in the buffer using function key. Then the PS automatically requests STM server to retransmit the STM. If more details are required, please refer to "PS's manual".

## 3. SERVICE CONDITIONS

- 1. This feature is available only for My Line (L1) of a two-line PS. (Not provided for Sub line (L2))
- 2. This feature is provided in the same form as that for call termination.
- 3. STM Message transmission route is only one way: STM server  $\rightarrow$  PS.
- 4. An STM can contain 128 byte data in the maximum.
- 5. The followings are not available in this feature.
  - Call Forwarding-All Calls
  - Call Forwarding-Don't Answer
  - Call Forwarding-Busy Line
  - Call Forwarding-PS Incoming Incomplete
- 6. This feature is counted as CS peg count.
- 7. If the following occur, STM is not distributed, but stays in the mail box of the STM server. The STM is later safely transmitted by this feature's retransmission function.
  - Addressee PS is out of zone.
  - Addressee PS has a power down.
  - The line of addressee PS is busy.
  - PS is in a state of hand-over. Note
- **Note:** When hand-over unexpectedly starts, while the message transmission is partially in progress, this feature sees this as a squelch disconnection and performs message retransmission after the hand-over is completed.
  - 8. In this feature, PCS Roaming is not available.
  - 9. When STMs from two or more servers are directed to a single PS almost simultaneously, the PS can receive only one STM which is created first.
  - 10. Hardware Requirements: Be sure to use PS and ZT that are both supporting this feature. If other PS/ZT is used, the following occurs at the PBX side:
    - PBX sends an STM request to a PS.
    - PBX cannot obtain a response signal from the PS. Also, PBX cannot identify that the PS/ZT is not compatible with the STM feature.
    - PBX judges the PS as in (and returning from) the out-of zone area.
    - According to the judgement above, PBX performs adequate processing (PS is judged as returning from the zone, and a retry of STM request is made).

CHAPTER 4 Page 186 Revision 1.0

## 4. PROGRAMMING

No data programming is required.

## $\textbf{PCS}{\leftarrow}{\rightarrow}\textbf{NURSE CALL INTEGRATION}$

#### 1. GENERAL

By using both TCP/IP data channel and voice station circuit connections to an external Nurse Call System, this feature enables the PS user (in this service, the user is care giver in a hospital) to receive immediate indication and respond to an assigned patient's request or alarm. On the care giver (PS user) side, a PS (wireless) is connected to the IPX system, and on the patient side, a nurse call button (or other alerting device) is connected to the Nurse Call System. The IPX system and Nurse Call System are connected via an OpenWorx server application. Thus, with the patient pressing the nurse call button (or other alarm or event requiring Nurse Call system action), the care giver, by a single key depression, speak with the patient through the bedside Nurse Call system speaker or signal the Nurse Call system to alert an alternate party to the condition.



#### 2. OPERATING PROCEDURE

- Originating Nurse Call
  - 1 User (patient) presses a nurse call button.
  - 2 PS rings; PS LCD displays "Room No." + "Priority", and "FWD" is displayed above F2 key.
- Answering Nurse Call
  - 1 User (care giver) presses L1 key on the PS terminal.
  - 2 PS stops ringing and conversation starts.
- Rejecting Nurse Call
  - 1 User (care giver) presses F2 key on the PS terminal.
  - 2 PS stops ringing and the nurse call is disconnected.

- Disconnecting Nurse Call
  - 1 User (care giver) presses "#" key two times;
  - 2 The reorder tone is heard.
  - 3 Presses END key.

## 3. SERVICE CONDITIONS

- 1. This feature is available since Release 9 software.
- 2. This feature is provided when the OAI system is effective at the PBX side.
- 3. Maximum of 16 bytes data (Room no., Priority, etc.) is displayed on the PS for the nurse call information.

## 4. INTERACTIONS

- 1. Two-line Operation is not available for this feature. The PS terminal to be set for single line operation is used for this service. Be sure to assign the single line data to a PS if the terminal is used for this service.
- 2. The following services are not available by this feature:
  - Call Forwarding All Calls
  - Call Forwarding Don't Answer
  - Call Forwarding Busy Line
  - Call Forwarding PS Incoming Incomplete
- 3. Call Transfer service cannot be operated from PS while PS is engaged in this service.
- 4. This feature is not available for the PS in PCS Roaming status.
- 5. The call traffic by this feature is included in the "CS Peg Count" category.

## 5. PROGRAMMING

Assign the normal station data for care-giver PS.

## **SPEED CALLING - SYSTEM**

#### 1. GENERAL

This feature allows a PS user to call certain frequently dialed numbers using fewer digits (abbreviated call codes) than would normally be required.

#### 2. OPERATING PROCEDURE

- 1. Press off-hook button; receive Dial Tone.
- 2. Dial SPEED CALLING-SYSTEM- PS access code (maximum three digits).
- 3. Dial abbreviated call code (maximum four digits).
- 4. Call is completed.

#### 3. SERVICE CONDITIONS

This item describes conditions exclusive for PS only. For other service conditions, see SPEED CALLING-SYSTEM [S-3, 3D] and SPEED CALLING OVERRIDE-SYSTEM [S-61] in Feature Programming Manual.

- 1. This feature is available since Release 9 software.
- 2. For SPEED CALLING-SYSTEM PS call origination using Pre-set dialing, system data assignment (ASYD, SYS1, INDEX420, b0=1) is required.
- 3. This feature is guaranteed for outgoing calls using LCR/LCRS method.
- 4. This service is available for PS in Fusion-Roaming status. In that case, this service is activated following the SFC data and SPEED CALLING-SYSTEM data in the node where the used ZT is installed.

## 4. PROGRAMMING

END

## START 1 ASYD (Assignment of System Data) System Data 1, Index 93, Bit3. Separate or Common Tenant Data table development for ASPD command data. 0/1 =Separate/Common System Data 2, Index 1, Bit 6. Toll restriction for trunk outgoing call using SPEED CALLING-SYSTEM–PS. 0/1 = Restricted/Allowed (SFC of AABD command basis). System Data 2, Index 1, Bit 7. Toll Restriction for trunk outgoing call using SPEED CALLING-SYSTEM–PS (system basis). 0/1 = Restricted/Allowed (If required) System Data 1, Index 420, Bit0. Access Code using the Pre-set dialing. 0/1 = No/Yes2 ANPD (Assignment of Numbering Plan) Reserve a number level for feature access. Assign for Normal (N). Assign NND in accordance with a predetermined numbering plan. 3 ASPA (Assignment of Special Access Code) CI=N, SRV = SSC (Service Code), SID = 15. \*Value in NND is the sum of digits of Access code plus Abbreviated Digit Code (ADC) programmed in ASPD. Example: 6 (1 digit's access code) + 010 (3 digits' ACD) $\rightarrow$ NND = 4 4 ASFC (Assignment of Service Restriction Class) SFC that allows this service, SFI = 12, RES=15 ASPD (Assignment of Speed Calling) Assign ACD (Abbreviated code) against CD (called party's number including the access code of the route). AABD (Assignment of Speed Calling Restriction Data) 6 Assign that ADC (Abbreviated Speed Calling Code assigned in ASPD command) is allowed or

restricted (RES: 0/1 = Connection is restricted/Connection is allowed) for each SFC.

This page is for your notes.

CHAPTER 4 Page 192 Revision 1.0

# CHAPTER 5 COMMANDS

This chapter explains some commands added or revised in the PCS system. Table 5-1 below shows the list of related commands.

COMMAND NAME	FULL COMMAND NAME
ACSDL	Assignment of CS/ZT Data for Local Data Memory
ACSDN	Assignment of CS/ZT Data for Network Data Memory
ACSEL	Assignment of Expansion CS/ZT System Data for Local Data Memory
ACSEN	Assignment of Expansion CS/ZT System Data for Network Data Memory
ACSPL	Assignment of CS/ZT Peg Count Data for Local Data Memory
AHRTL	Assignment of Home PBX Routing Number Data for Local Data Memory
ALVPL	Assignment of LVP Code for Local Data Memory
ALVPN	Assignment of LVP Code for Network Data Memory
APCNL	Assignment of PHS Community Data for Local Data Memory
APCNN	Assignment of PHS Community Data for Network Data Memory
APDLL	Download of PS Operation Data for Local Data Memory
APDLN	Download of PS Operation Data for Network Data Memory
APSD	Assignment of PS Operation Data for DM
ARODL	Assignment of Roaming Self PBX Number Data for Local Data Memory
AVPD	Assignment of Visitor PS Data
AVPDL	Assignment of Telephone Number for Visitor PS for Local Data Memory
AVPDN	Assignment of Telephone Number for Visitor PS for Network Data Memory
*ASFC	Assignment of Service Feature Class
*ASPA	Assignment of Special Access Code
*ASYD	Assignment of System Data
*AAED	Assignment of Announcement Equipment Data
*ALGSL	Assignment of Telephone Number Data for Local Data Memory
*ALGSN	Assignment of Telephone Number Data for Network Data Memory
*ALRTN	Assignment of Logical Route for Network Data Memory
*ANSDL	Assignment of Number Sharing Data for Local Data Memory
Note: An asterist system. Th refer to "C commands	k(*) indicates the commands whose contents are given slight addition or amendment in the PCS is manual only describes the parts revised from the previous ones. Additionally, for more detail, Office Data Specification" or "System Operations and Maintenance Manual" for the PBX for s marked with an asterisk (*).

## Table 5-1 List of Commands

COMMAND NAME	FULL COMMAND NAME
*ANSDN	Assignment of Number Sharing Data for Network Data Memory
APMD	Assignment of Trunk Line Appearance Maximum Necessary Digit for DM
APMLL	Assignment of PS Multiline Data for Local Data Memory
APMLN	Assignment of PS Multiline Data for Network Data Memory
APSP	Assignment of Trunk Line Appearance for DM
AZDL	ZT Program Download
AHLG	Assignment of CFT Hot Line Group
AHLGL	Assignment of CFT Hot Line Group for LDM
AHLGN	Assignment of CFT Hot Line Group for NDM
*ATRF	Assignment of Traffic Measurement Order
AZARL	Assignment of ZT Area Information for Local Data Memory
AZARN	Assignment of ZT Area Information for Network Data Memory
COCS1L	Control of CS/ZT Status Read for Local Data Memory
COCS1N	Control of CS/ZT Status Read for Network Data Memory
COCS2L	Change of CS/ZT Operation Parameter for Local Data Memory
COCS2N	Change of CS/ZT Operation Parameter for Network Data Memory
COCS3L	Control of CS/ZT Reset for Local Data Memory
COCS3N	Control of CS/ZT Reset for Network Data Memory
DLIN	Display of a List of Roaming PS
DPSN	Display of PS Station Data
DRPS	Display of Reverse Develop PS Data
DTFP	Display of CS/ZT Peg Count Data
MBCSL	Make Busy of CS/ZT for Local Data Memory
MBCSN	Make Busy of CS/ZT for Network Data Memory
Note: An asterisi system. Th refer to "C commands	k(*) indicates the commands whose contents are given slight addition or amendment in the PCS is manual only describes the parts revised from the previous ones. Additionally, for more detail, Office Data Specification" or "System Operations and Maintenance Manual" for the PBX for s marked with an asterisk (*).

## Table 5-1 List of Commands (Continued)

L

## 1. COMMAND DESCRIPTION AND DATA SHEET FOR ASSIGNMENT

This chapter explains assignment commands and their parameters for this system. The contents of each assignment command description are illustrated in Figure 5-1.

Γ	- Command name
$\square$	AFDD Assignment of Function Display Data Command name (full name)
	<form>         Image: A contrast of the device of the offer the distance of the distance</form>
	The required parameters, the applicable data range and parameter descriptions are explained here.

Figure 5-1 Command Descriptions

## ACSDL : Assignment of CS/ZT Data for Local Data Memory

## 1. GENERAL

This command is used to assign, delete, and display the CS/ZT-related data. A CSINT circuit card can accommodate four CSs/ZTs, allowing each two groups of the Levels 0 and 4 to be assigned for one circuit card.

List Up Command: LCSDL

## 2. PRECAUTIONS

- 1. This command is used for the Local Node.
- 2. When assigning LENS, CS/ZT should be assigned in the Group of less than 24 and the Levels to be available are 0 and 4.
- 3. While the CS/ZT is busy, the data cannot be deleted.

## 3. DATA ENTRY INSTRUCTIONS



# 4. DATA SHEET

## **CS/ZT** Data Assignment Sheet

PHS		GROUP	CS/ZT		LENS				CS/7T
COMMUNITY NUMBER (PCN) 1-1024	AREA NO. (ERN) 1-32	NO. (GRN) 1-8	NO. (CSN/ ZTN) 1-32	(TN) 1- SYSTEM MAX	MG 00-07	U 0-3	G 00-23	LV 0/4	(KIND) 3, 4
	I								
	I								
					<u> </u>				
					<u> </u>				
				I					
					<u>                                      </u>				
					<u>                                      </u>				
	I				<u> </u>		<u> </u>		
				I					

## ACSDN : Assignment of CS/ZT Data for Network Data Memory

## 1. GENERAL

This command is used to assign, delete and display the CS/ZT-related data of the Network Control Node (NCN). A CSINT circuit card can accommodate four CSs/ZTs, allowing each two groups of the Levels 0 and 4 to be assigned for one circuit card.

List Up Command: LCSDN

## 2. PRECAUTIONS

- 1. This command is used for the Network Control Node.
- 2. When assigning LENS, CS/ZT should be assigned in the Group of less than 24 and the Levels to be available are 0 and 4.
- 3. The same ERN cannot be assigned to multiple nodes.
- 4. When you want to move ERN from A node to B node, you must delete each CS/ZT in the ERN of A node.
- 5. When assigning/deleting the CS/ZT-related data of the NCN, you must back up the Office data of the NCN and the LN that mounts the CS.

## 3. DATA ENTRY INSTRUCTIONS


#### CS/ZT Data Assignment Sheet

PHS				CS/	TENANT	T			<u>CS/</u>	
COMMUNITY NUMBER (PCN) 1-1024	FUSION POINT CODE (FPC) 1-253	AREA NO. (ERN) 1-32	GROU P NO. (GRN) 1-8	NO. (CSN / ZTN) 1-32	NUMBER (TN) 1- SYSTEM MAX	MG 00-07	U 0-3	G 00-23	LV 0/4	ZT KIND (KIND) 3, 4
		I								
		I								
		I			I					
		I			I					
		I			I					
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		I			I					
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## ACSEL : Assignment of Expansion CS/ZT System Data for Local Data Memory

### 1. GENERAL

This command is used to assign, delete and display the expansion CS/ZT System data in Local Node.

List Up Command : LCSEL

### 2. PRECAUTIONS

- 1. This command is used to the Local Node.
- 2. Enter "0" when you make the corresponding parameter invalid (NWNO., ADERA, CTRN).
- 3. This command can be used to change the data.

## 3. DATA ENTRY INSTRUCTIONS



Expansion CS/ZT System Data Assignment Sheet

PHS COMMUNITY NUMBER (PCN) 1-1024	NET\ (M 00	WORK N NWNO.) 01-FFFF	Ю.	ADD A (ADE 01-1	REA RA) FF	COUNTRY NO. (CTRN)	NUMBER OF PHS-MANAGER CODE (NPCD) 0-4
		I	1		I		0
					Ì		0
			1				0
							0
					Ì		0
	i		1		i		0
					Ì		0
			1				0
							0
					I		0
			1		I		0
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					Ì		0
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		 	1				0
		- ·			I		0
					I		0
					I		0
			1		I		0

## ACSEN : Assignment of Expansion CS/ZT System Data for Network Data Memory

## 1. GENERAL

This commands is used to assign, delete, and display the expansion CS/ZT System data in Network Data Memory.

### 2. PRECAUTIONS

- 1. This Command is used for the Network Control Node.
- 2. Enter "0" when you make the corresponding parameter invalid (NWNO, ADERA, CTRN).
- 3. This command can be used to change the data.

## 3. DATA ENTRY INSTRUCTIONS



Expansion CS/ZT System Data Assignment Sheet

PHS COMMUNITY NUMBER (PCN) 1-1024	NETW (NV 0001	ork no. /NO.) -FFFF	ADD / (ADE 01-	AREA ERA) FF	COUNTRY NO. (CTRN)	NUMBER OF PHS-MANAGER CODE (NPCD) 0-4
		1 1		1		0
		· ·		· 		0
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		 		· 		0
		·····		· 1		0
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						0

## ACSPL : Assignment of CS/ZT Peg Count Data for Local Data Memory

#### 1. GENERAL

This commands is used to assign, delete, and display the CS/ZT observed in the CS/ZT Peg Count, one of the items for traffic measurement. Also, the measurement can be conducted on an-area-basis.

#### 2. PRECAUTIONS

This command is used to the Local Node.

#### 3. DATA ENTRY INSTRUCTIONS



## AHRTL : Assignment of Home PBX Routing Number Data for Local Data Memory

### 1. GENERAL

This command is used to assign and display the Home PBX Routing Number data in Local Data Memory.

### 2. PRECAUTIONS

- 1. This command is used in the Local Node.
- 2. If HID and HAC are equal, this data assignment is not necessary.

### 3. DATA ENTRY INSTRUCTIONS



HOME PBX routing number DATA Assignment Sheet

PHS COMMUNITY NUMBER (PCN) 1-1024	Home PBX Identify Number (HID) MAX: 7 digits	Home PBX Access Code (HAC) MAX: 6 digits

## ALVPL : Assignment of LVP Code for Local Data Memory

### 1. GENERAL

This command is used to assign the LVP Code/SYS-ID Code.

#### 2. PRECAUTIONS

This command is used to the Local Node.

### 3. DATA ENTRY INSTRUCTIONS

♦ When KIND = 1 (Kind type, LVP Code) is assigned;

KIND		· · · · · · · · · · · · · · · · · · ·
Enter the kind of code type 1: LVP Code 2: SYS-ID Code	<b>CODE</b> Enter the LVP system code	<b>ZT COUNT</b> This parameter is assigned automatically with LVP code.
	I L <u></u>	L

KIND OF CODE (KIND) 1/2	LVP CODE (CODE) 26 DIGITS FIX	ZT COUNT ( ZT CNT) 0 - 768



• When KIND = 1 (Kind type, LVP Code) is assigned;

KIND OF CODE (KIND) 1/2	LVP CODE (CODE) 26 DIGITS FIX	ZT COUNT (ZT CNT) 0-768	REMARKS
1			
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KIND OF CODE (KIND) 1/2	PHS COMMUNITY NUMBER (PCN) 1-1024	SYS-ID CODE (CODE) 26 DIGITS FIX	SYSTEM-IDENTIFY (SYS-ID) 12 DIGITS FIX	REMARKS
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## ALVPN : Assignment of LVP Code for Network Data Memory

### 1. GENERAL

This commands is used to assign the SYS-ID Code.

### 2. PRECAUTIONS

This command is used to the Network Control Node.

#### 3. DATA ENTRY INSTRUCTIONS



$\begin{array}{ c c c c c c c c } \hline 2 &   &   &   &   &   &   &   &   &   &$	KIND OF CODE (KIND) 1/2	PHS COMMUNITY NUMBER (PCN) 1-1024	SYS-ID CODE (CODE) 26 DIGITS FIX	SYSTEM-IDENTIFY (SYS-ID) 12 DIGITS FIX	REMARKS
2IIII2II <td>2</td> <td></td> <td></td> <td></td> <td></td>	2				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2				
	2				
	2				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2				
2             2             2             2              2               2	2				
2             2             2             2              2               2	2				
$\begin{array}{ c c c c c c c c } \hline 2 &   &   &   &   &   &   &   &   &   &$	2				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2				
$\begin{array}{ c c c c c c c c } 2 &   &   &   &   &   &   &   &   &   &$	2				
2	2				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2				
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2				
2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2         2       2       2       2       2       2         2       2       2       2       2       2         2       2       2       2       2       2         2       2       2       2       2       2         2       2       2       2       2	2				
2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       3       3       3	2				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2				
2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       2       2       2         2       3       3       3	2				
2	2				
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2				
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2				
2     2     1     1       2     1     1     1       2     1     1     1       2     1     1     1       2     1     1     1       2     1     1     1       2     1     1     1       2     1     1     1       2     1     1     1	2				
2	2				
2	2				
2	2				
2	2				
$\begin{array}{c c} 2 \\ \hline 2 \\ \hline 2 \\ \hline \end{array}$	2				
	2				
	2				

## APCNL : Assignment of PHS Community Number Data for Local Data Memory

### 1. GENERAL

This command is used to assign, delete, display the PHS Community Number for tenant and copy the SYS-ID to LDM for reuse.

### 2. PRECAUTIONS

This command is used to the Local Node.

### 3. DATA ENTRY INSTRUCTIONS

• When FUNC = 1 (FUNC type, PHS Community Number Entry) is assigned;



• When FUNC = 2 (FUNC type, SYS-ID copy) is assigned;



• When FUNC = 1 (FUNC type, PHS Community Number Entry) is assigned;

FUNCTION NUMBER (FUNC) 1/2	TENANT NUMBER (TN) 1-SYSTEM MAX	PHS COMMUNITY NUM- BER (PCN) 1-1024	REMARKS
1			
1			
1			
1			
1			
1			
1			
1			
1			
1			
1			
1			
1			
1			
1			
1			
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1			
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1			
1			
1			
1			
1			
1			
1			

• When FUNC = 2 (FUNC type, SYS-ID Copy) is assigned;

FUNCTION NUMBER (FUNC) 1/2	FUNCTION KIND (KIND) 1/2	TENANT NUMBER (TN) 1-63	SYSTEM-IDENTIFY (SYS-ID) 12 DIGITS FIX	WRITE PCN 1-1024
2	1			
2	1			
2	1			
2	1			
2	1			
2	1			
2	1			
2	1			
2	1			
2	1			
2	1			
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2	1			
2	1			

### APCNN : Assignment of PHS Community Number Data for Network Data Memory

#### 1. GENERAL

This command is used to assign, delete, display the PHS Community Number for Tenant and copy the SYS-ID to NDM for reuse.

#### 2. PRECAUTIONS

This command is used for the Network Control Node.

#### 3. DATA ENTRY INSTRUCTIONS

• When FUNC = 1 (FUNC type, PHS Community Number Entry) is assigned;



When FUNC = 2 (FUNC type, SYS-ID Entry) and KIND = 1 (KIND type, SYS-ID copy DM to NDM) is assigned;



When FUNC = 2 (FUNC type, SYS-ID Entry) and KIND = 2 (KIND type, SYS-ID copy LDM to NDM) is assigned;



• When FUNC = 1 (FUNC type, PHS Community Number Entry) is assigned;

FUNCTION NUMBER (FUNC) 1/2	FUSION POINT CODE (FPC) 1-253	TENANT NUMBER (TN) 1-SYSTEM MAX	PHS COMMUNITY NUMBER (PCN) 1-1024
1			
1			
1			
1			
1			
1			
1			
1			
1			
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1			

When FUNC = 2 (FUNC type, SYS-ID Entry) and KIND = 1 (KIND type, SYS-ID copy DM to NDM) is assigned;

FUNCTION NUMBER (FUNC) 1/2	FUNCTION KIND (KIND) 1/2	FUSION POINT CODE (FPC) 1-253	TENANT NUMBER (TN) 1-63	SYSTEM-IDENTIFY (SYS-ID) 12 DIGITS FIX	WRITE PCN 1-1024
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
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2	1				
2	1				

When FUNC = 2 (FUNC type, SYS-ID Entry) and KIND = 2 (KIND type, SYS-ID copy LDM to NDM) is assigned;

FUNCTION NUMBER (FUNC) 1/2	FUNCTION KIND (KIND) 1/2	FUSION POINT CODE (FPC) 1-253	PHS COMMUNITY NUMBER (PCN) 1-1024	SYSTEM-IDENTIFY (SYS-ID) 12 DIGITS FIX	WRITE PCN 1-1024
2	2				
2	2				
2	2				
2	2				
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2	2				
2	2				
2	2				
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$\frac{2}{2}$	2				
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$\frac{2}{2}$	2				
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2	2				

### APDLL : Download of PS Operation Data for Local Data Memory

#### 1. GENERAL

This command is download of PS operation data to D<sup>term</sup>-PS/PSII in the Local Node (LN). Download of PS operation data is executed by click "DownLoad" button of this command.

List Up Command: LPDLL

#### 2. PRECAUTIONS

- 1. This command is used for the Local Node.
- 2. PS must be in the Least Calling Area No. Area of PCN that the PS belongs to at the first time of downloading.
- 3. After the PS registers the location, the PS does not need to be in (2) Area.
- 4. After change of PS Number (not mandatory), click Download Button.

#### 3. DATA ENTRY INSTRUCTIONS



• After assigning above data, following data are automatically displayed.





## PS Operation Data Assignment Sheet (1/2)

UGN (UGN)	PS TELEPHONE NUMBER (LPSTN)	PS KIND (KIND) 1-3	ROUTE RESTRICTION CLASS (RSC) 1-15	SERVICE FEATURE RESTRICTION CLASS (SFC) 1-15	PS-ID MAX.9 [DEC]	INDIVIDUAL PS NUMBER (IND-PS) MAX.5 [BCD]
			1	1		
			1	1		
			1	1		
			1	1		
			1	1		
			1	I		
			1	I		
				1		
			1	1		
			I	I		
				I		
			1	1		
				1		
	<u>                                      </u>					
	1					

## PS Operation Data Assignment Sheet (2/2)

PS NUMBER		NET- WORK	ADD AREA	COUNTRY	SUB	PHANTOM	
кілд 1-3	NUMBER	NUMBER (NWN) 1-65535	(ADERA) 1-255	(CTRN) 1-65535	1-10	EQUIPMENT NUMBER (PHIN)	REMARKS
2							
2							
2							
2							
2							
2							
2							
2							
2							
2							
2			1 1				
2			1 1				
2							
2							
2			<u> </u>				
2							
2							
2							
2			1 1				
2			<u> </u>				
2							
2							
2							
2							
2							
2							

## APDLN : Download of PS Operation Data for Network Data Memory

### 1. GENERAL

This command is used to down load the PS operation data to D<sup>term</sup>-PS/PSII in Network. Download of PS operation data is executed by clicking the "DownLoad" button of this command.

List Up Command: LPDLN

#### 2. PRECAUTIONS

- 1. This command is used in the Network Control Node.
- 2. PS must be in the node in which the PS is assigned with APSD command and in the least Calling Area No.'s Area of PCN that the PS belongs to at the first time of downloading.
- Note 1: If the above area's ZTs are assigned by ACSDN but no ZTs in that Area are activated, download fails.
- **Note 2:** If there are no ZTs assigned by ACSDN command in the node in which the PS is assigned with APSD and in the PCN that the PS belongs to, the PS must be in the least calling Area No.'s Area of PCN that the PS belongs to in Fusion Network at the first time of downloading.
  - 3. After the PS registers the location, the PS does not need to be in (2) Area.
  - 4. After change of PS Number (not mandatory), click Download Button.

### 3. DATA ENTRY INSTRUCTIONS

UGN (UGN)	PS TELEPHONE NUMBER (LPSTN)
	$\sim$

**PS TELEPHONE NUMBER** Access code (Max. 16 digits) • After assigning above data, the following data is automatically displayed.



PS Operation Data Assignment Sheet (1/2)

UGN (UGN)	PS TELEPHONE NUMBER (LPSTN)	PS KIND (KIND) 1-3	ROUTE RESTRICTION CLASS (RSC) 1-15	SERVICE FEATURE RESTRICTION CLASS (SFC) 1-15	PS-ID MAX.9 [DEC]	INDIVIDUAL PS NUMBER (IND-PS) MAX.5 [BCD]
				I		
			I	I		
	1111111111111111			I		
			I	I		
			I	I		
			I	I		
			I	I		
			I	I		
			I	I		
			1	1		
			I	I		
	<u> </u>		I	I		
			I	I		

## PS Operation Data Assignment Sheet (2/2)

PS NUMBER		NET- ADD WORK AREA		COUNTRY	SUB	PHANTOM	
kind 1-3	NUMBER	NUMBER (NWN) 1-65535	(ADERA) 1-255	(CTRN) 1-65535	1-10	EQUIPMENT NUMBER (PHIN)	REMARKS
2							
2							
2							
2							
2							
2							
2							
2							
2							
2							
2							
2			1 1				
2							
2							
2							
2			1 1				
2							
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2							
2							

## APSD : Assignment of PS Operation Data for DM

### 1. GENERAL

This command is used to assign, delete and display the PS operation data. This command assignment makes the PS in operation.

List Up Command: LPSD

#### 2. PRECAUTIONS

- 1. PS STN (PS Station Number) should coincide with the station numbering plan.
- 2. PS-ID is the information indigenous to each PS (PS-ID is written on each PS terminal).
- 3. When deleting the PS operation data, the number cannot be deleted if the Phantom station number or PS Telephone Number is assigned.

#### 3. DATA ENTRY INSTRUCTIONS



• When KIND = 6 is assigned ( $D^{\text{term}}$  PSII):



PS Operation Data Assignment Sheet (1/5)

TENANT NUMBER	PS STATION NUMBER	PS KIND	ROUTE RESTRICTION	SERVICE FEATURE	
(TN)	(PS STN)	(KIND)	(RSC)	CLASS	REMARKS
1-SYSTEM MAX	MAX.5 DIGITS	4, 5, 6, 7	0-15	(SFC) 0-15	
			 	I	
			1	1	

## PS Operation Data Assignment Sheet (2/5)

		PS NUMBER			
PS-IDENTIFY (PS-ID) MAX. 9 [DEC]	түре 1-3	NUMBER	COUNTRY NUMBER (CTRN)	REMARKS	
		, , , , , , , , , , , , ,			
# PS Operation Data Assignment Sheet (3/5)

NETWORK NUMBER	ADD AREA	SUB SYSTEM -IDENTIFY NO.	SUB SYSTEM -IDENTIFY 1	SUB SYSTEM -IDENTIFY 2	
(NWM)	(ADERA)	(SUB SYS-ID NO.)	(SUB SYS-ID 1)	(SUB SYS-ID 2)	REMARKS
1-65535	1-255	1-10	1-268435455	1-268435455	

PS Operation Data Assignment Sheet (4/5)

SUB SYSTEM -IDENTIFY 3	SUB SYSTEM -IDENTIFY 4	SUB SYSTEM -IDENTIFY 5	SUB SYSTEM -IDENTIFY 6			
(SUB SYS-ID 3)	(SUB SYS-ID 4)	(SUB SYS-ID 5)	(SUB SYS-ID 5) (SUB SYS-ID 6)			
1-268435455	1-268435455	1-268435455	1-268435455			

PS Operation Data Assignment Sheet (5/5)

SUB SYSTEM -IDENTIFY 7	SUB SYSTEM -IDENTIFY 8	SUB SYSTEM -IDENTIFY 9	SUB SYSTEM -IDENTIFY 10	
(SUB SYS-ID 7)	(SUB SYS-ID 8)	(SUB SYS-ID 9)	(SUB SYS-ID 10)	REMARKS
1-268435455	1-268435455	1-268435455	1-268435455	

# ARODL : Assignment of Roaming Self PBX Number for Local Data Memory

#### 1. GENERAL

This command is used to assign and display the Roaming Self PBX number data in Network Data Memory. This command assigns Home Node Number (Roaming Self PBX Number) to display on the PS. (PS displays this Roaming Self PBX Number + PS Station Number)

#### 2. PRECAUTIONS

- 1. This command is used in the Local Node.
- 2. If the network adopts closed user group numbering plan, this data assignment is not necessary.



Roaming self PBX number DATA Assignment Sheet

PHS COMMUNITY NUMBER (PCN) 1-1024	Roaming Self PBX Number (RSN) MAX: 6 digits code

CHAPTER 5 Page 240 Revision 1.0

# AVPD : Assignment of Visitor PS Data

# 1. GENERAL

This command is used to continuously assign/delete the Visitor PS data.

### 2. PRECAUTIONS

None.



Visitor PS Data Assignment Sheet

TENANT (TN)	START NUMBER of VISITOR PS STATION NUMBER (VPSTN START) MAX: 6 digits	END NUMBER of VISITOR PS STATION NUMBER (VPSTN END) MAX: 6 digits	ROUTE RESTRICTION CLASS (RSC) 1-15

# AVPDL : Assignment of Telephone Number for Visitor PS for Local Data Memory

# 1. GENERAL

This command is used to continuously assign the Visitor PS data in Local Data Memory.

### 2. PRECAUTIONS

- 1. This command is used in the Local Node.
- 2. This command is equal to APSD + ALGNL + ALGSL.





Visitor PS Data for Local Data Memory Assignment Sheet

USER GROUP NUMBER (UGN)	TENANT (TN)	START NUMBER of TELEPHONE NUMBER (TELN START)	END NUMBER of TELEPHONE NUMBER (TELN START)	START NUMBER of VISITOR PS STATION NUMBER (VPSTN START)	END NUMBER of VISITOR PS STATION NUMBER (VPSTN END)
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					

# AVPDN : Assignment of Telephone Number for Visitor PS for Network Data Memory

#### 1. GENERAL

This command is used to continuously assign the Visitor PS data in Network Data Memory.

#### 2. PRECAUTIONS

- 1. This command is used in the Network Control Node.
- 2. This command is equal to APSD + ALGNN + ALGSN.



Visitor PS Data for Local Data Memory Assignment Sheet

USER GROUP NUMBER (UGN)	FUSION POINT CODE (FPC)	TENANT (TN)	START NUMBER of TELEPHONE NUMBER (TELN START)	END NUMBER of TELEPHONE NUMBER (TELN START)	START NUMBER of VISITOR PS STATION NUMBER (VPSTN START)	END NUMBER of VISITOR PS STATION NUMBER (VPSTN END)
1						
1						
1						
1						
1						
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1						

# ASFC : Assignment of Service Feature Restriction Class

# 1. GENERAL

This command is used to assign the Service Feature Restriction Class (SFC) for the Service Feature Index (SFI).

### 2. PRECAUTIONS

This part describes only the content of the command added in the PCS system. For more details, refer to the "Office Data Specification."



Table 5-2 SFI

SFI	SERVICE FEATURE
1~146	Note
147	C.F-PS Incomplete
148~255	Note

Note: Refer to the "Office Data Specification" regarding this data

DAY/NIGHT MODE (D/N)		SERVICE FEATURE INDEX					SE	RVIC	ER	EST	RICT	ION	CLA	SS				
1/2	(TN)	(SFI) 1-255	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
																-		
			-															
		<u> </u>																
		<u> </u>																
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			<u> </u>															
			<u> </u>															
			<u> </u>															

### ASPA : Assignment of Special Access Code

### 1. GENERAL

This command is used to determined the kind of service and its Access Code to be executed.

List Up Command: LSPA

### 2. PRECAUTIONS

This part describes only the content of the command added in the PCS system. For more details, refer to the "Office Data Specification".



• When SRV = SSCA (Service code appendix) is assigned;



• SRV=SSCA Service code Appendix

TENANT NUMBER (TN)	ACCESS CODE (ACC) MAXIMUM 6 DIGITS	CONNECTION STATUS INDEX (CI) N/H/B		KIND OF SERVICE (SRV)	SERVICE FEATURE INDEX (SIDA) 1 - 255	NUMBER OF NEC- ESSARY DIGITS (NND)	SERVICE CONTENTS
					1 ≀ 100		Note
		N H B	Normal Hooking Busy	SSCA	101		Call Forwarding Incoming Incomplete Set
		N H B	Normal Hooking Busy	SSCA	102		Incoming Incomplete Cancel
					103 ≀ 107		Note
		Ν	Normal	SSCA	108		Number Sharing; Set
		N	Normal	SSCA	109		Number Sharing; Cancel
					110 ≀ 113		Note
		N	Normal	SSCA	114		Call Forwarding-Dropped Calls ; Set
		N	Normal	SSCA	115		Call Forwarding-Dropped Calls ; Cancel
					116 ≀ 255		Note

**Note:** *Refer to the "Office Data Specification" regarding this data.* 

### ASYD : Assignment of System Data

#### 1. GENERAL

The ASYD/ASYDL command is used to assign the system data of the following node;

Local Node (LN) / Network Control Node (NCN) of the Fusion network. Stand alone PBX.

List Up Command: LSYD

#### 2. PRECAUTIONS

This part describes only the contents of the command added in Built-in PCS system. For more details, refer to the "Office Data Specification."



SYSTEM DATA TYPE	SYSTEM DATA INDEX (INDEX)	DATA (DATA) 00-FF	DATA BIT CORRE- DATA SPONDING DATA) DATA		SYSTEM DAT	A CONTENTS
(SYS)	(INDEX) 0 - 511	(Hex)	DATA 0/1	BIT		
				b <sub>0</sub>	Access Code for C.FBusy Line and 0/1 = Same/Separate Note 1: If a PCS system, C.FP refers to this system dat Note 2: If "0" is assigned, an command "ASPA".	d C.F. – Don't Answer Services PS Incoming Call Incomplete also ta. ssign either SID: 10 or 12 in
				b <sub>1</sub>	Maximum number of Multiple C Line occurrences:	Call Forwarding – All Calls/Busy
				b <sub>2</sub>	$\frac{\mathbf{b}_3}{0} \frac{\mathbf{b}_2}{0} \frac{\mathbf{b}_1}{0} : \neg$ once	$\frac{\mathbf{b}_3}{1} \frac{\mathbf{b}_2}{0} \frac{\mathbf{b}_1}{0} : \text{ four times}$
1	5			b <sub>3</sub>	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{bmatrix} 1 & 0 & 1 & : \\ 1 & 1 & 0 & : \\ 1 & 1 & 1 & : \end{bmatrix}$ five times
					<b>Note:</b> <i>This data is valia when S</i> as "1".	YS-1, INDEX 69, bit / is assigned
				b <sub>4</sub>	Miscellaneous Timer Counter	Call Back – Delay Timer Timer Value Setting is MTC × 2
				b <sub>5</sub>		sec.
				b <sub>6</sub>	(0-7)	When this data is "000", Timer value is 2 sec.
				b <sub>7</sub>	Call Back – Delay Timer 0/1 = Ineffective/Effective	

# 4. SYSTEM DATA PROGRAMMING SHEET (1)

	SYSTEM DATA INDEX 0-511	DATA 00-FF	B I T	SYSTEM DATA CONTENTS
S Y	30	06	0 1 2 3 4 5 6 7	b7       b6       b5       b4       b3       b2       b1       b0         0 <td< td=""></td<>
S 1	420		0 1 2 3 4 5 6 7	b7       b6       b5       b4       b3       b2       b1       b0         0       0       0       0       0       0       Data         Access code using Pre-set dialing (e.g.: Special Access Code + Station number) 0/1 : Out/In service         By cancelling C.FPS INCOMING INCOMPLETE 0 = C.FDROPPED CALL is also cancelled 1 = C.FDROPPED CALL is not cancelled         Not used

	SYSTEM DATA INDEX 0-511	DATA 00-FF	B I T	SYSTEM DATA C	ONTENTS
	421	0 1 2		b7       b6       b5       b4       b3       b2       b1       b0         0 <td< td=""><td><ol> <li>Announcement PS-Out of Zone disconnection timer (Release Guard timer) Timer value setting is as</li> </ol></td></td<>	<ol> <li>Announcement PS-Out of Zone disconnection timer (Release Guard timer) Timer value setting is as</li> </ol>
			3 4 5 6 7	Timer class (TC) $0:  3: 2 \text{ sec.}$ $6:  1:  4:  7:  2:  5: -$ Not used	follows: (TC) sec. × (MTC) When the data is assigned as 00, the default data is 30 sec.
S Y S 1	422		0 1 2 3 4 5 6 7	b7       b6       b5       b4       b3       b2       b1       b0         0       0       0       0       0       0       0       0         Miscellaneous Time Counter (MTC) is to be assigned a value from 1 Hex to F       Hex.       Hex.       F         Timer class (TC)       0: -       3: -       6: -       1: 64 msec.       4: -       7: -         2: -       5: -       Not used       Not used       Not used       Not used       Not used	<ul> <li>2) No-tone connection timer to the called party during the handover Timer value setting is as follows: 800 msec.+ (TC)× (MTC) When the data is assigned as 00, the default data is 800 msec.</li> </ul>
	423		0 1 2 3 4 5 6 7	b7       b6       b5       b4       b3       b2       b1       b0         0       0       0       0       0       0       0       0         Miscellaneous Time Counter (MTC) is to be assigned a value from 1 Hex to F       Hex.       1       Hex to F         Timer class (TC)       0 : -       3 : 2 sec.       6 : -       1         0 : -       3 : 2 sec.       6 : -       2 : -       5 : -         Not used       Not used       Not used       Not used       Not used	<ul> <li>3) ZT start-up Guard Timer when initialization is in progress.</li> <li>(This is the timer by which the ZT is placed out of Zone and made send PS location registration.) Timer value setting is as follows: (TC) sec.× (MTC) When the data is assigned as 00, the default data is 60 sec.</li> </ul>

# AAED : Assignment of Announcement Equipment Data

# 1. GENERAL

This command is used to assign the trunk information related to Announcement Equipment on a tenant basis.

List Up Command: LAED

### 2. PRECAUTIONS

This part describes only the contents of the command added in PCS system. For more details, refer to the "Office Data Specification".



TENANT NUMBER (TN)	ANNOUNCE -MENT EQUIPMENT NUMBER (EQP) 0-127	KIND OF LANGUAGE (LANG) 0-15 Note	DURATION OF CONNEC- TION (C) 0/1	SENDING RBT (R) 0/1	ANSWER SIGNAL SENDING (A) 0/1	MULTIPLE CONNEC- TION (M)0/1	ROUTE NUMBER (RT)	TRUNK NUMBER (TK)	REMARKS
							1 1		
							1 1		
I							1 1		
ļ							- 1 - 1		

**Note:** *Parameter LANG is available for the Hotel System.* 

# ALGSL : Assignment of Telephone Number Data for LDM

### 1. GENERAL

This command is used to assign the data pertaining to the relationship between the Telephone Number (TELN) and physical station.

List Up Command : LLGSL

#### 2. PRECAUTIONS

- 1. This Telephone Number can be used in the self (local) node only. Use the ALGSN command if the Telephone Number for the Fusion network is required.
- 2. TYPE parameter designates the programming method of physical station (the result is the same whichever selected). When TYPE = 1 (LENS) is selected, the physical station which accommodates the Telephone Number (TELN) is specified by the LENS. Likewise, TYPE = 2 (STN) is selected, the physical station number (STN) is used.
- 3. The system data assignment (ASYDL, SYS1, INDEX513 Data 01hex) is needed to provide the Local Data Memory (LDM).
- 4. The applicable tenant number (TN) range is designated by the ASYD command, SYS1, INDEX8.
- 5. When deleting the telephone number, the user must first delete the data which is concerned with Group Calling Conference.

# 3. DATA ENTRY INSTRUCTIONS

• TYPE = 1 (LENS is used to specify the Telephone number.)



• TYPE = 2 (STN is used to specify the Telephone number.)



<a></a>	TYPE=1	(LENS is used	to specify the	Telephone number.)
---------	--------	---------------	----------------	--------------------

ТҮРЕ	USER GROUP NUMBER (UGN)	TELEPHONE NUMBER (TELN)	LINE EQUIPMENT NUMBER (LENS)	REMARKS
1	1			
1	1			
1	1			
1	1			
1	1			
1	1			
1	1			
1	1			
1	1			
1	1			
1	1			
1	1			
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1	1			
1	1			
1	1			
1	1			
1	1			

TYPE	USER GROUP NUMBER (UGN)	TELEPHONE NUMBER (TELN)	TENANT NUMBER (TN)	STATION NUMBER (STN)	REMARKS
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
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2	1				
2	1				

# <B> TYPE=2 (STN is used to specify the Telephone number.)

# ALGSN : Assignment of Telephone Number Data for NDM

### 1. GENERAL

This command is used to assign the related data for the Telephone Number (TELN) corresponding to the physical station. The data assigned by this command is written in Network Data Memory (NDM) of the Network Control Node (NCN), updating the NDM at each Local Node (LN).

List Up Command : LLGSN

#### 2. PRECAUTIONS

- 1. The ALGSN command is used to assign the Telephone Number (TELN) for a Network Control Node (NCN).
- 2. TYPE parameter allows user to choose the programming method of physical station. TYPE = 1 (LENS) : Telephone number is to be given to the LENS TYPE = 2 (STN) : Telephone number is to be given to the station
- 3. The system data assignment (ASYDN, SYS 1, INDEX 514, bit1=1) is needed to provide the Network Data Memory (NDM).
- 4. When the parameter "TYPE" is 1 (LENS is used to specify the physical station number), the assignment of the Fusion Point Code (FPC) entered by the AFMU command is required.
- 5. When deleting the telephone number, the user must first delete the data concerned with Group Calling Conference.
- 6. For more details, see the "Fusion Network System Manual".

# 3. DATA ENTRY INSTRUCTIONS

• When assigning TYPE = 1 (LENS is used to specify the Telephone number)



• When assigning TYPE = 2 (STN is used to specify the Telephone number)



<A> LENS is used to specify the Telephone number (TYPE = 1)

ТҮРЕ	USER GROUP NUMBER (UGN)	TELEPHONE NUMBER (TELN) MAX. 16 DIGITS	LINE EQUIPMENT NUMBER (LENS)	FUSION POINT CODE (FPC)	
1	1			1 1	
1	1				
1	1				
1	1				
1	1				
1	1				
1	1				
1	1				
1	1				
1	1				
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1	1				
1	1				

CHAPTER 5 Page 268 Revision 1.0

ТҮРЕ	USER GROUP NUMBER (UGN)	TELEPHONE NUMBER (TELN) MAX. 16 DIGITS	TENANT NUMBER (TN)	STATION NUMBER(STN)	REMARKS
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
2	1				
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2	1				
2	1				

# ALRTN : Assignment of Logical Route for Network Data Memory

### 1. GENERAL

This command is used to allocate the Logical Route Number which is the unique number of the external trunk route in the Fusion network.

List Up Command : LLRTN

#### 2. PRECAUTIONS

- 1. Logical Route Number allocation is required for the Fusion network only.
- 2. For more detailed information, see the "Fusion System Manual".



LOGICAL ROUTE NUMBER (LGRT) 1-899	FUSION POINT CODE (FPC) 1-253	EXTERNAL ROUTE NUMBER (RT) 1-255	REMARKS
	I		
	I		
	I		
	I		
	I		
	I		
	I		
	<u> </u>		
	I		
	I		
	I		
	<u> </u>		
	<u> </u>		
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	<u> </u>		
	<u> </u>		
## ANSDL : Assignment of Number Sharing Data for Local Data Memory

## 1. GENERAL

This command is used to assign and delete Main Station and Sub Station data for Number Sharing service.

## 2. PRECAUTIONS

- 1. This command is available for Series 7300 or later software.
- 2. This command is used for the Local Node.
- 3. For detailed information on Number Sharing service, see "Number Sharing" in Chapter 4.

#### 3. DATA ENTRY INSTRUCTIONS

- M-UGN : Main User Group Number
- S-UGN : Sub User Group Number
- M-TELN : Main Telephone Number (Maximum 16 digits)
- S-TELN : Sub Telephone Number (Maximum 16 digits)
- OD : Output External Equipment Note
  - 0: Only Main Telephone Number is used for SMDR, MCI and VPS Mail Box Number.
  - 1: Both Main Telephone Number and Sub Telephone Number are used for SMDR, MCI and VPS Mail Box Number.

**Note:** When this parameter is set to "0", the mail box for the Sub Station must be deleted.

- MW : Message Waiting Control
  - 0: Message Waiting Control for Main and Sub Telephone Numbers
  - 1: Message Waiting Control for Main Telephone Number Only
- LM : Service Conrol
  - 0 : Number Sharing

Number sharing Data Assignment Sheet (1/2)

MAIN USER GROUP NUMBER (M-UGN)	SUB USER GROUP NUMBER (S-UGN)	MAIN TELEPHONE NUMBER (M-TELN) MAX. 16 DIGITS	SUB TELEPHONE NUMBER (S-TELN) MAX. 16 DIGITS

Number sharing Data Assignment Sheet (2/2)

OUTPUT EXTERNAL EQUIPMENT (OD) 0/1	MESSAGE WAITING CONTROL (MW) 0/1	SERVICE CONROL (LM) 0/1	REMARKS
		1	

## ANSDN : Assignment of Number Sharing Data for Network Data Memory

# 1. GENERAL

This command is used to assign and delete Main Station and Sub Station data for Number Sharing service.

# 2. PRECAUTIONS

- 1. This command is available for Series 7300 or later software.
- 2. This command is used for the Network Control Node.
- 3. For detailed information on Number Sharing service, see "Number Sharing" in Chapter 4.

# 3. DATA ENTRY INSTRUCTIONS

- M-UGN : Main User Group Number
- S-UGN : Sub User Group Number
- M-TELN : Main Telephone Number (Maximum 16 digits)
- S-TELN : Sub Telephone Number (Maximum 16 digits)
- OD : Output External Equipment Note
  - 0: Only Main Telephone Number is used for SMDR, MCI and VPS Mail Box Number.
  - 1: Both Main Telephone Number and Sub Telephone Number are used for SMDR, MCI and VPS Mail Box Number.

**Note:** When this parameter is set to "0", the mail box for the Sub Station must be deleted.

- MW : Message Waiting Control
  - 0: Message Waiting Control for Main and Sub Telephone Numbers
  - 1: Message Waiting Control for Main Telephone Number Only
- LM : Service Conrol
  - 0 : Number Sharing

Number sharing Data Assignment Sheet (1/2)

MAIN USER GROUP NUMBER (M-UGN)	SUB USER GROUP NUMBER (S-UGN)	MAIN TELEPHONE NUMBER (M-TELN) MAX. 16 DIGITS	SUB TELEPHONE NUMBER (S-TELN) MAX. 16 DIGITS

Number sharing Data Assignment Sheet (2/2)

OUTPUT EXTERNAL EQUIPMENT (OD) 0/1	MESSAGE WAITING CONTROL (MW) 0/1	SERVICE CONROL (LM) 0/1	REMARKS

## APMD : Assignment of Trunk Line Appearance Maximum Necessary Digit for DM

## 1. GENERAL

This command is used to assign/delete the maximum necessary digits (MND) data, associated with a PS call to be originated by dialing an area/office code of the "existing PBX with no wireless function".

### 2. PRECAUTIONS

None

### 3. DATA ENTRY INSTRUCTION



Maximum Necessary Digit Data Assignment Sheet

TENANT (TN)	DESTINATION CODE (DC) MAX: 10 digits	MAXIMUM NECESSARY DIGITS (MND) 1 - 24
<u> </u>		

NDA-24301

## APMLL : Assignment of PS Multiline Data for Local Data Memory

## 1. GENERAL

This command is used to assign and delete My line and Sub Line data for Two-Line Operation.

# 2. PRECAUTIONS

- 1. This command is available for Series 7300 or later software.
- 2. This command is used for the Local Node.
- 3. For detailed information on Two-Line Operation service, see "Office Data Assignment" in Chapter 4.

## 3. DATA ENTRY INSTRUCTIONS

MY-UGN:PS My Line User Group NumberMY-TLN:PS My Line Telephone NumberSUB-UGN:PS Sub Line User Group Number (Maximum 16 digits)SUB-TLN:PS Sub Line Telephone Number (Maximum 16 digits)

**PS Multiline Data Assignment Sheet** 

PS MY LINE USER GROUP NUMBER (MY-UGN)	PS MY LINE TELEPHONE NUMBER (MY-TLN)	PS SUB LINE USER GROUP NUMBER (SUB-UGN)	PS SUB LINE TELEPHONE NUMBER (SUB-TLN)	REMARKS

## APMLN : Assignment of PS Multiline Data for Network Data Memory

## 1. GENERAL

This command is used to assign and delete My line and Sub Line data for Two-Line Operation.

## 2. PRECAUTIONS

- 1. This command is available for Series 7300 or later software.
- 2. This command is used for the Network Control Node.
- 3. For detailed information on Two-Line Operation service, see "Office Data Assignment" in Chapter 4.

#### 3. DATA ENTRY INSTRUCTIONS

MY-UGN:PS My Line User Group NumberMY-TLN:PS My Line Telephone NumberSUB-UGN:PS Sub Line User Group Number (Maximum 16 digits)SUB-TLN:PS Sub Line Telephone Number (Maximum 16 digits)

**PS Multiline Data Assignment Sheet** 

PS MY LINE USER GROUP NUMBER (MY-UGN)	PS MY LINE TELEPHONE NUMBER (MY-TLN)	PS SUB LINE USER GROUP NUMBER (SUB-UGN)	PS SUB LINE TELEPHONE NUMBER (SUB-TLN)	REMARKS

# APSP : Assignment of Trunk Line Appearance for DM

## 1. GENERAL

This command is used to assign/delete the "COT trunk seizure" data, when a PS makes a call via this trunk and an LC (made cross connection with the COT) of the existing PBX with no wireless feature.

## 2. PRECAUTIONS

- 1. Assign the physical PS station number for the "PS STN" input data.
- 2. This command data must be assigned to each COT circuit, that is provided with the physical cross connection with an LC of the "existing PBX with no wireless feature".

#### 3. DATA ENTRY INSTRUCTIONS



COT Trunk Seizure Data Assignment Sheet

TENANT (TN)	PS STATION NUMBER (PS STN)	ROUTE NUMBER (RT) 1 - 255	TRUNK NUMBER (TK) 1 - 255

## AZDL : ZT Program Download

## 1. GENERAL

This command is used to download ZT program from "Program Master ZT" to "Program Download ZT".

## 2. PRECAUTIONS

- 1. This feature is available for Series 7300 or later software.
- 2. For detailed information on ZT program Download service.

### 3. DATA ENTRY INSTRUCTIONS

PROGRAM MASTER ZT PCN	: PHS Community Number of rogram Master ZT:	1-1024
PROGRAM MASTER ZT CRN	: Calling Area Number of Program Master ZT:	1-32
PROGRAM MASTER ZT GRN	: Group Number of Program Master ZT:	1-8
PROGRAM MASTER ZT CSN/ZTN	: ZT Number of Program Master ZT:	1-32
PROGRAM DOWNLOAD ZT PCN	: PHS Community Number of Slave Program Download ZT:	1-1024
PROGRAM DOWNLOAD ZT CRN	: Calling Area Number of Slave Program Download ZT:	1-32
PROGRAM DOWNLOAD ZT GRN	: Group Number of Slave Program Download ZT:	1-8
PROGRAM DOWNLOAD ZT CSN/ZT	N: ZT Number of Slave Program Download ZT:	1-32

ZT Program Download Data Sheet

1-1024

## AHLG : Assignment of CFT Hot Line Group

### 1. GENERAL

This command is used to assign, delete and display the DM data which is concerned with PCS Calling Conference Group.

List Up Command: LHLG

### 2. PRECAUTIONS

- 1. This command is available for Series 7400 or later software.
- "Set" key and "Del" key can be used after TN and ACC are entered and then this data is read by pressing "Get" key.
   If this data is not programmed, press "Get" key again, PORT, TYPE, D\_TN, D\_STN and D\_ADC can be assigned.
- 3. The input parameter depends on TYPE value.

TYPE=0 or blank	: Not displayed
TYPE=1	: D_TN, D_STN
TYPE=2	: D_ADC

- 4. Only Speed Calling Dial Number which is the same tenant as conference leader port can be entered.
- 5. The user must assign the data to all ports (PORT 0-7).
- 6. If all ports are TYPE=0, this assignment ends in failure.
- 7. Data writing is executed by pressing "Set" key.

#### 3. DATA ENTRY INSTRUCTIONS

TN (TENANT NUMBER)	:	1-
ACC (CFTB H/L ACCESS CODE)	:	0-9, #, * (maximum 5 digits)
PORT (PORT NUMBER)	:	1-7
TYPE (KIND OF STN)	:	0=Vacant Port
		1=STN/PS
		2=OUTSIDE TRUNK
D_TN (TENANT NUMBER OF DESTINATION)	:	1-
D_STN (STATION NUMBER OF DESTINATION)	:	0-9, #, * (maximum 5 digits)
D_ADC (SPEED CALLING DIAL NUMBER OF DESTINATION)	):	0-9, #, * (maximum 4 digits)

TENA NUMB (TN)	INT STATION NUMBER OF C ACCESS CODE (ACC) Max. 5 digits			CFTB H/L		
PORT	KIND OF STN (TYPE) 0~2		TENANT NUMBER OF DESTINATION (D_TN)	STATION DES (I Ma:	N NUMBER OF STINATION D_STN) x. 5 digits	SPEED CALLING DIAL NUMBER (D_ADC) Max. 4 digits
1						
2						
3						
4						
6						
7						
TENA NUMB (TN)	NT ER )	STA	TION NUMBER OF ( ACCESS CODE (ACC) Max. 5 digits	CFTB H/L		
PORT	PORT KIND OF STN (TYPE) 0~2		TENANT NUMBER OF DESTINATION (D_TN)	STATION NUMBER OF DESTINATION (D_STN) Max. 5 digits		SPEED CALLING DIAL NUMBER (D_ADC) Max. 4 digits
1						
2						
3						
4						
5						
7						
TENA NUMB (TN)	NT ER )	STA	TION NUMBER OF ( ACCESS CODE (ACC) Max. 5 digits	CFTB H/L		
PORT	PORT KIND OF STN (TYPE) 0~2		TENANT NUMBER OF DESTINATION (D_TN)	STATION DES (I Maz	N NUMBER OF TINATION D_STN) x. 5 digits	SPEED CALLING DIAL NUMBER (D_ADC) Max. 4 digits
1						
2						
<u> </u>						
5						
6						
7						

## AHLGL : Assignment of CFT Hot Line Group for LDM

### 1. GENERAL

This command is used to assign, delete and display the LDM data which is concerned with PCS Calling Conference Group.

List Up Command: LHLGL

### 2. PRECAUTIONS

- 1. This command is available for Series 7400 or later software.
- 2. This command is used for the Local Node (LN).
- "Set" key and "Del" key can be used after UGN and TELN are entered and then this data is read by pressing "Get key".
   If this data is not programmed, press "Get" key again, DA, PORT, TYPE, D\_UGN, D\_TELN and D\_ADC can be assigned.
- 4. The input parameter depends on TYPE value.

TYPE=0 or blank: Not displayedTYPE=1: D\_UGN, D\_TELNTYPE=2: D\_ADC

- 5. Only Speed Calling Dial Number which is the same tenant as conference leader port can be entered.
- 6. The user must assign the data to all ports (PORT 0-7).
- 7. If all ports are TYPE=0, this assignment ends in failure.
- 8. Data writing to LDM is executed by pressing "Set" key.

#### 3. DATA ENTRY INSTRUCTIONS

UGN (USER GROUP NUMBER)	
TELN (CFTB H/L ACCESS CODE	: 0-9, #, * (maximum 16 digits)
[TELEPHONE NUMBER])	
DA	: 0=Stop
	: 1=Continue alerting, when the STN
	does not answer.
PORT (PORT NUMBER)	: 1-7
TYPE (KIND OF STN)	: 0=Vacant Port
	1=STN/PS
	2=OUTSIDE TRUNK (Not used)
D_UGN (USER GROUP NUMBER OF DESTINATION)	
D_TELN (TELEPHONE NUMBER OF DESTINATION)	: 0-9, #, * (maximum 16 digits)

D\_ADC (SPEED CALLING DIAL NUMBER OF DESTINATION): 0-9, #, \* (maximum 4 digits) (Not used)

USER GF NUMB (UGN	ROUP ER Ŋ	TELEF	HONE NUMBER OF ACCESS CODE (TELN) Max. 16 digits	F CFTB H/L	RINGING STOP AFTER NO ANSWER TIMER (DA) 0/1		
PORT	KIND OF STN (TYPE) 0~2		USER GROUP NUMBER OF DESTINATION (D_UGN)	TELEPHONE NUMBER OF DESTINATION (D_TELN) Max. 16 digits		SPEED DIAL (D_ Max.	CALLING NUMBER _ADC) 4 digits
1				ļ		ļ	
2							
3			 			<b> </b>	
4							
6							
7							
USER GF NUMB (UGN	२०UP ER १)	TELEF	HONE NUMBER OF ACCESS CODE (TELN) Max. 16 digits	F CFTB H/L E ANSWEF (DA)		)P AFTER NO R TIMER ) 0/1	
PORT	ORT KIND OF STN (TYPE) 0~2		USER GROUP NUMBER OF DESTINATION (D_UGN)	TELEPHONE NUMBER OF DESTINATION (D_TELN) Max. 16 digits		SPEED DIAL I (D_ Max.	CALLING NUMBER _ADC) 4 digits
1							
2							
3						ļ	
4							
5							
0			<b> </b>				
USER GROUP NUMBER (UGN)		'HONE NUMBER OI ACCESS CODE (TELN) Max. 16 digits	F CFTB H/L	RINGING STO ANSWE	)P AFTER NO R TIMER ) 0/1		
PORT	PORT KIND OF STN (TYPE) 0~2		USER GROUP NUMBER OF DESTINATION (D_UGN)	TELEPHOI OF DES (D_ Max. 1	NE NUMBER TINATION TELN) 16 digits	SPEED DIAL (D_ Max.	CALLING NUMBER _ADC) 4 digits
1						ļ	
2							
3							
6							
7							

NDA-24301

## AHLGN : Assignment of CFT Hot Line Group for NDM

### 1. GENERAL

This command is used to assign, delete and display the NDM data which is concerned with PCS Calling Conference Group.

List Up Command: LHLGL

### 2. PRECAUTIONS

- 1. This command is available for Series 7400 or later software.
- 2. This command is used for the Network Control Node (NCN).
- 3. "Set" key and "Del" key can be used after UGN and TELN are entered and then this data is read by pressing "Get key". If this data is not programmed, press "Get" key again, DA, PORT, TYPE, D\_UGN, D\_TELN and D\_ADC can be assigned.
- 4. The input parameter depends on TYPE value. TYPE=0 or blank : Not displayed
  TYPE=1 : UGN, TELN
  TYPE=2 : ADC (Only Speed Calling Dial Number of a node assigned conference leader port can be entered.)
- 5. Only Speed Calling Dial Number which is the same tenant as conference leader port can entered.
- 6. The user must assign the data to all ports (PORT 0-7).
- 7. If all ports are TYPE=0, this assignment ends in failure.
- 8. Data writing for NDM is executed by pressing "Set" key.

#### 3. DATA ENTRY INSTRUCTIONS

UGN (USER GROUP NUMBER)		
TELN (CFTB H/L ACCESS CODE	:	0-9, #, * (maximum 16 digits)
[TELEPHONE NUMBER])		
DA	:	0=Stop
		1=Continue alerting, when the STN
		does not answer.
PORT (PORT NUMBER)	:	1-7
TYPE (KIND OF STN)		0=Vacant Port
		1=STN/PS
		2=OUTSIDE TRUNK (Not used)
D_UGN (USER GROUP NUMBER OF DESTINATION)		
D_TELN (TELEPHONE NUMBER OF DESTINATION)	:	0-9, #, * (maximum 16 digits)
D_ADC (SPEED CALLING DIAL NUMBER OF DESTINATION)	:	0-9, #, * (maximum 4 digits)
		(Not used)

NDA-24301

USER GF NUMB (UGN	ROUP ER I)	TELEF	PHONE NUMBER OF ACCESS CODE (TELN) Max. 16 digits	F CFTB H/L	RINGING STOP AFTER NO ANSWER TIMER (DA) 0/1		
PORT	KIND OF STN (TYPE) 0~2		USER GROUP NUMBER OF DESTINATION (D_UGN)	TELEPHONE NUMBER OF DESTINATION (D_TELN) Max. 16 digits		SPEED DIAL (D_ Max.	CALLING NUMBER _ADC) 4 digits
1							
2							
3							
4							
6							
7							
USER GF NUMB (UGN	ROUP ER I)	TELEF	PHONE NUMBER OF ACCESS CODE (TELN) Max. 16 digits	F CFTB H/L E ANSWEF (DA)		DP AFTER NO R TIMER ) 0/1	
PORT	PORT KIND OF STN (TYPE) 0~2		USER GROUP NUMBER OF DESTINATION (D_UGN)	TELEPHONE NUMBER OF DESTINATION (D_TELN) Max. 16 digits		SPEED DIAL (D_ Max.	CALLING NUMBER _ADC) 4 digits
1							
2							
3							
4							
<u> </u>							
7							
USER GROUP NUMBER (UGN)		PHONE NUMBER OF ACCESS CODE (TELN) Max. 16 digits	F CFTB H/L	RINGING STO ANSWE (DA	DP AFTER NO R TIMER ) 0/1		
PORT	PORT KIND OF STN (TYPE) 0~2		USER GROUP NUMBER OF DESTINATION (D_UGN)	TELEPHOI OF DES (D_ Max. 1	NE NUMBER TINATION TELN) I6 digits	SPEED DIAL (D_ Max.	CALLING NUMBER _ADC) 4 digits
1							
2							
3							
4							
6							
7							

## 2. COMMANDS FOR OPERATION AND MAINTENANCE

[Contents of Command Description]

Each command is explained dividing into the following parts.

- Command Name Explained here are the command names to be entered via the keyboard and its full command names.
- General General functions of each command are explained.
- Precaution Cautions to be made when using each command are explained.
- Parameters Parameters (data) assigned by each command are shown.
- How to Use Usage of each command is explained.
- Related Commands Related commands are shown.

## ATRF : Assignment of Traffic Measurement Order

## 1. GENERAL

This command is used to assign and delete traffic measurement programs. A request for traffic measurement is performed when a traffic measurement instruction has been assigned by this command. The collected traffic measurement data can be output from the MAT printer or stored on the HD of the MAT, which can be designated on the basis of traffic measurement type.

## 2. PRECAUTIONS

None

#### 3. PARAMETERS

Input Data

TYPE

: Type of Traffic Measurement (1-16)

DATA	MEANING	DATA	MEANING
1~16	Note	17	ZT peg count

Note: Refer to the "Operation & Maintenance Manual" for information about this data.

PORT	:	Traffic Information Output Terminal Number (0-7)
INTERVAL	:	Output interval (0-120)
		Interval must be assigned in 10 minute increments or 0 can be assigned which will require that an output time is assigned to "OUTPUT HOUR/MINUTE".
START HOUR		
START MINUTE		
END HOUR		
END MINUTE		
OUTPUT HOUR	:	This data is valid only when " $INTERVAL$ " = 0.
OUTPUT MINUTE	:	This data is valid only when " $INTERVAL$ " = 0.
SRT	:	Start External Route Number
ERT	:	End External Route Number

## AZARL : Assignment of ZT Area Information for Local Data Memory

### 1. GENERAL

This command is used to assign and delete the Zone Transceiver Area information in the Local Node (LN).

## 2. PRECAUTIONS

- 1. This command is used for the Local Node.
- 2. All PSs data must be re-download, if control carrier data is changed via this command.
- 3. The parameters, WTZNSL, WTZNKL, RCHOOL, RCHOSL, RCHFE, CCHGFE, should not be changed from default setting.
- 4. ZT must be restarted after using this command.

#### 3. DATA ENTRY INSTRUCTIONS

PCN (PHS COMMUNITY NUMBER)	:	1-1024
ZSL (ZONE SELECT LEVEL)	:	0-255
ZKL (ZONE KEEP LEVEL)	:	0-255
HOL (HAND-OVER OPERATION LEVEL)	:	0-255
HSL (HAND-OVER SELECT LEVEL)	:	0-255
HFT (HAND-OVER FOR THRESHOLD)	:	0-255
CCFT (CHANNEL CHANGE FOR THRESHOLD)	:	0-255
NCCR (NUMBER OF CONTROL CARRIER)	:	0-5
CCR 1-5 (CONTROL CARRIER 1-5)	:	0-20

If this is not assigned, the default setting is below.

ZSL	= 67 (33dB μ V)
ZKL	$= 56 (22 dB \mu V)$
HOL	$= 59 (25 \text{dB} \mu \text{V})$
HSL	= 67 (33dB μ V)
HFT	= 10 frame error/240 frame (1.2 sec)
	(This is effective for mode2 ZT.)
CCFT	= 24 frame error/240 frame (1.2 sec)
NCCR	= 3
CCR 1	= 2 Channel
CCR 2	= 4 Channel
CCR 3	= 6 Channel
CCR 4	= 0 None
CCR 5	= 0 None

# AZARN : Assignment of ZT Area Information for Network Data Memory

## 1. GENERAL

This command is used to assign and delete the Zone Transceiver Area information in the Network Control Node (NCN).

## 2. PRECAUTIONS

- 1. This command is used for the Network Control Node.
- 2. All PSs data must be re-download, if control carrier data is changed via this command.
- 3. The parameters, WTZNSL, WTZNKL, RCHOOL, RCHOSL, RCHFE, CCHGFE, should not be changed from default setting.
- 4. ZT must be restarted after using this command.

## 3. DATA ENTRY INSTRUCTIONS

PCN (PHS COMMUNITY NUMBER)	:	1-1024
ZSL (ZONE SELECT LEVEL)	:	0-255
ZKL (ZONE KEEP LEVEL)	:	0-255
HOL (HAND-OVER OPERATION LEVEL)	:	0-255
HSL (HAND-OVER SELECT LEVEL)	:	0-255
HFT (HAND-OVER FOR THRESHOLD)	:	0-255
CCFT (CHANNEL CHANGE FOR THRESHOLD)	:	0-255
NCCR (NUMBER OF CONTROL CARRIER)	:	0-5
CCR 1-5 (CONTROL CARRIER 1-5)	:	0-20

If this data is not assigned, the default setting is below.

ZSL	$= 67 (33 dB \mu V)$
ZKL	$= 56 (22 dB \mu V)$
HOL	= 59 (25dB μ V)
HSL	$= 67 (33 dB \mu V)$
HFT	= 10 frame error/240 frame (1.2 sec)
	(This is effective for mode 2 ZT.)
CCFT	= 24 frame error/240 frame (1.2 sec)
NCCR	= 3
CCR 1	= 2 Channel
CCR 2	= 4 Channel
CCR 3	= 6 Channel
CCR 4	= 0 None
CCR 5	= 0 None

# COCS1L : Control of CS/ZT Status Read for Local Data Memory

#### 1. GENERAL

This command is used to read the status of the CS/ZT in the Local Node (LN).

#### 2. PRECAUTIONS

This command is used for the Local Node.

#### 3. DATA ENTRY INSTRUCTIONS

PCN (PHS COMMUNITY NUMBER)	:	1-1024
ERN (CALLING AREA NUMBER)	:	1-32
GRN (GROUP NUMBER)	:	1-8
CSN (CS/ZT NUMBER)	:	1-32

◆ After the assignment data is processed between PBX and MAT; following parameter is automatically assigned

LENS (EQUIPMENT NUMBER)	:	Line Equipment Number	)
TN (TENANT NUMBER)	:	1-6	
CS-ID (CS/ZT-IDENTIFY)	:	CS/ZT-Identify	
MAIN (MAIN CONDITION OF CS/ZT	:	Main Condition of CS/ZT Management	Only
MANAGEMENT FOR DEVICE SIDE)		For Device Side	Display
SUB (CONTROL CONDITION OF CS/ZT	:	Control Condition of CS/ZT Management	
MANAGEMENT FOR DEVICE SIDE)		For Device Side	
CS/ZT TYPE (CS TYPE)	:	Control (Control CS/ZT)	
		General (Control CS/ZT)	)
CS STATUS (CS/ZT STATUS)	:	CS/ZT status (If parameter can be changed)	
		NON-OP (Non Open)	
		CLOSE (Close)	
		OPERATE (Operating Now)	
LINK STATUS (DATA LINK STATUS)	:	Data Link Status (If parameter can be changed	ged)
		UNLINK (Data Link Break)	
		OPEN (Data Link Open)	
		CLOSE (CS/ZT Fault After Return)	
		FAULT (CS/ZT Fault)	
BCH B2 (B2CH STATUS)	:	B2ch Status (If parameter can be changed)	
		IDLE (B2ch Idle)	
		BUSY (B2ch Busy)	
		CLOSE (B2ch Close)	
BCH B3 (B4CH STATUS)	:	B3ch Status (If parameter can be changed)	
		IDLE (B3ch Idle)	
		BUSY (B3ch Busy)	
		CLOSE (B3ch Close)	
BCH B4 (B4CH STATUS)	:	B4ch Status (If parameter can be changed)	
		IDLE (B4ch Idle)	
		BUSY (B4ch Busy)	
		CLOSE (B4ch Close)	
FLT (NG CAUSE)	:	0-FF (Only Display)	

CHAPTER 5 Page 298 Revision 1.0

#### NDA-24301

# COCS1N : Control of CS/ZT Status Read for Network Data Memory

#### 1. GENERAL

This command is used to read the status of the CS/ZT status read in the Network Control Node (NCN).

#### 2. PRECAUTIONS

This command is used for the Network Control Node.

#### 3. DATA ENTRY INSTRUCTIONS

:	1-1024
:	1-32
:	1-8
:	1-32
	: : :

◆ After the assignment data is processed between PBX and MAT; following parameter is automatically assigned

LENS (EQUIPMENT NUMBER)	:	Line Equipment Number	)
TN (TENANT NUMBER)	:	1-6	
CS-ID (CS/ZT-IDENTIFY)	:	CS/ZT-Identify	0.1
MAIN (MAIN CONDITION OF CS/ZT	:	Main Condition of CS/ZT Management	Only D: 1
MANAGEMENT FOR DEVICE SIDE)		For Device Side	Display
SUB (CONTROL CONDITION OF CS/ZT	:	Control Condition of CS/ZT Management	
MANAGEMENT FOR DEVICE SIDE)		For Device Side	
CS/ZT TYPE (CS TYPE)	:	Control (Control CS/ZT)	
		General (Control CS/ZT)	
CS STATUS (CS/ZT STATUS)	:	CS/ZT status (If parameter can be changed)	
		NON-OP (Non Open)	
		CLOSE (Close)	
		OPERATE (Operating Now)	
LINK STATUS (DATA LINK STATUS)	:	Data Link Status (If parameter can be changed	ged)
		UNLINK (Data Link Break)	
		OPEN (Data Link Open)	
		CLOSE (CS/ZT Fault After Return)	
		FAULT (CS/ZT Fault)	
BCH B2 (B2CH STATUS)	:	B2ch Status (If parameter can be changed)	
		IDLE (B2ch Idle)	
		BUSY (B2ch Busy)	
		CLOSE (B2ch Close)	
BCH B3 (B4CH STATUS)	:	B3ch Status (If parameter can be changed)	
		IDLE (B3ch Idle)	
		BUSY (B3ch Busy)	
		CLOSE (B3ch Close)	
BCH B4 (B4CH STATUS)	:	B4ch Status (If parameter can be changed)	
		IDLE (B4ch Idle)	
		BUSY (B4ch Busy)	
		CLOSE (B4ch Close)	
FLT (NG CAUSE)	:	0-FF (Only Display)	

NDA-24301

## COCS2L : Change of CS/ZT Operation Parameter for Local Data Memory

## 1. GENERAL

This command is used to change the CS/ZT operation parameter in the Local Node (LN).

## 2. PRECAUTIONS

This command is used for the Local Node.

### 3. DATA ENTRY INSTRUCTIONS

PCN (PHS COMMUNITY NUMBER) ERN (CALLING AREA NUMBER) MODE (GLOBAL DEFINITION INFORMATION PATTERN NUMBER) ZONE (ZONE KIND)

PAS (POSITION ASSIGNMENT)

: 1-1024
: 1-32
: 1: NOR (Normal)
2: HBY (Heavy)
: 1: LG (Large)
2: SM (Small)
: 1: SET
2: CANCEL

## COCS2N : Change of CS/ZT Operation Parameter for Network Data Memory

## 1. GENERAL

This command is used to change the CS/ZT operation parameter in the Network Control Node (NCN).

## 2. PRECAUTIONS

This command is used for the Network Data Node.

### 3. DATA ENTRY INSTRUCTIONS

PCN (PHS COMMUNITY NUMBER):1-1024ERN (CALLING AREA NUMBER):1-32MODE (GLOBAL DEFINITION:1: NOR (Normal)INFORMATION PATTERN NUMBER)2: HBY (Heavy)ZONE (ZONE KIND):1: LG (Large)2: SM (Small)2: SM (Small)PAS (POSITION ASSIGNMENT):1: SET2: CANCEL

## COCS3L : Change of CS/ZT Reset for Local Data Memory

## 1. GENERAL

This command is used to control CS/ZT Reset for the Local Node (LN).

## 2. PRECAUTIONS

This command is used for the Local Node.

## 3. DATA ENTRY INSTRUCTIONS

PCN (PHS COMMUNITY NUMBER)	:	1-1024
ERN (CALLING AREA NUMBER)	:	1-32
GRN (GROUP NUMBER)	:	1-8
CSN (CS/ZT NUMBER)	:	1-32

• After the assignment data is processed between PBX and MAT; following parameter is automatically assigned

TN (TENANT NUMBER)	:	1-System Max.
LENS (EQUIPMENT NUMBER)	:	LENS EQUIPMENT NUMBER
FLT (NG CAUSE)	:	0-FF (Only Display)

# COCS3N : Control of CS/ZT Reset for Network Data Memory

## 1. GENERAL

This command is used to control CS/ZT Reset for the Local Node (LN).

## 2. PRECAUTIONS

This command is used for the Network Control Node.

## 3. DATA ENTRY INSTRUCTIONS

PCN (PHS COMMUNITY NUMBER)	:	1-1024
ERN (CALLING AREA NUMBER)	:	1-32
GRN (GROUP NUMBER)	:	1-8
CSN (CS/ZT NUMBER)	:	1-32

• After the assignment data is processed between PBX and MAT; following parameters are automatically assigned

TN (TENANT NUMBER)	:	1-System Max.
LENS (EQUIPMENT NUMBER)	:	LENS EQUIPMENT NUMBER
FLT (NG CAUSE)	:	0-FF (Only Display)

# DLIN : Display of a List of Roaming PS

#### 1. GENERAL

This command is used to display/delete a list of data related to the Roaming PS that is available on the Home Location Register (HLR) or Visitor Location Register (VLR).

#### 2. PRECAUTIONS

None

#### 3. DATA ENTRY INSTRUCTION

	FUNK (FUNCTION NUMBER) : $1 = PS - Mc$ 2 = PS - Mc	ovi ovi	ing to another PBX (HLR Display) ing from another PBX (VLR Display)
	CNT (DELETION NUMBER) : Used to dele	ete	the currently Roaming PS data, displayed below.
٠	Display Data		
	UGN (USER GROUP NUMBER)	:	Displayed when "FUNK = 1" is assigned.
	TELN (TELEPHONE NUMBER)	:	Max. 16 digits Displayed when "FUNK = 1" is assigned.
	RTN (ROUTE NUMBER)	:	Max. 24 digits Displayed when "FUNK = 1" is assigned.
	VPSCN (VISITOR PS CALLING NUMBER)	:	Max. 24 digits Displayed when "FUNK = 2" is assigned.
	PSN (PS NUMBER)	:	Displayed when "FUNK $= 2$ " is assigned.

### **DPSN** : Display of PS Station Data

#### 1. GENERAL

This command is used to display the PS station data. The display appears when the Tenant Number and Physical Station/Telephone Number are entered. This command can also be used to display information on Hot Line station, details on PS data, Call Pickup Group data, Station Hunting data and Uniform Call Distribution (UCD) data.

## 2. PRECAUTIONS

Station Hunting data and Uniform Call Distribution (UCD) data are displayed when using Series 7400 Release 8 or later software.

#### 3. PARAMETERS

a.

b.

Parameters on PS Station Number		
TN/UGN:	Tenant Number/User Group Number	
STN/PS TELN:	Station Number/PS Telephone Number	
ETN:	Effective Tenant Number	
LENS:	Equipment Number	
TEC:	Telephone Equipment Class	
RSC:	Route Restriction Class	
SFC:	Service Feature Class	
Parameters on Related Data		
PH: Phantom Kind		

- 0: PHSTN Data is ALL 0. (PHSTN is Not Registered)
- 1: PHSTN Data is Individual Phantom Number.
- 2: PHSTN Data is Group Phantom Number.
- PHSTN 0-4: Phantom Station Number

CPGF: Call Pickup Flag

- 0: Not Belong in Call Pickup Group
- 1 or 2: Belong in Call Pickup Group

HTI: Hot Line Index

- 0: Hot Line Data is Nothing
- 1: Connection for Station HOT CON TN: Hot Line Connective Tenant Number HOT CON STN: Hot Line Connective Station Number
- Connection for External Line
   HOT ADC: Hot Line Connective Speed Calling Abbreviated Digit
   Connection for Taul
- 4: Connection for Trunk HOT CON RT: Hot Line Connective Route Number HOT CON TK: Hot Line Connective Trunk Number

PS-ID:	PS-ID
IND-PS:	Individual PS Number
PS STN:	PS Station Number
PSNO. TYPE:	PS Number Type

PSNO.:	PS Number		
CPCNT:	Call Pickup Group Station Count		
CP STN 0-n:	Call Pickup Group Station Number		
LNFLG:	LDM/NDM		
	0: Input STN is DM		
	1: Input STN is PS TELN (LDM)		
	2: Input STN is PS TELN (NDM)		
MID EN:	Middle EN		
FPC NO.:	Fusion Point Code for Node Number		
Log Index:	Logical Index		
MASTER TN:	Master Tenant Number		
MASTER STN:	Master Station Number		
MASTER LENS:	Master Equipment Number		
MASTER TN:	Master Tenant Number		
MASTER TEC:	Master Telephone Equipment Number		
MASTER RSC:	Master Route Restriction Class		
MASTER SFC:	Master Service Feature Class		
SHP:	Hunting Group-Pilot Data		
	0: Out of Service		
	1: In Service		
SHC:	Hunting Group-Circular Data		
	0: Out of Service		
	1: In Service		
SHU:	Hunting Group-UCD Data		
	0: Out of Service		
	1: In Service		

## DRPS : Display for Reverse Develop PS Data

### 1. GENERAL

This command is used to read/display the PS operation data from a PS number or PS-ID.

### 2. PRECAUTIONS

None

## 3. DATA ENTRY INSTRUCTION

IKIND (INPUT KIND) Note	: $1 =$ Individual PS number (5 digits or less) 2 = PS-ID (1-268435455)		
	3 = PS number (12 digits or less: Decimal) 4 = PS number (13 digits or less: Decimal)		
	5 = PS number (13 digits or less: Hexadecimal)		
IPSNO Note	: PS Number		

Note: Reading process is executed by clicking the "Read" button, after finishing these parameters' data entry.
## DTFP : Display of CS/ZT Peg Count Data

## 1. GENERAL

This command is used for displaying the result of traffic measurement data for "Type"=17 (CS Peg Count) assigned by the ATRF command.

## 2. PARAMETERS

Iraffic Data 1    : Terminal Traffic-DTF101		
	Route Traffic-DTF102	
	Station Peg Count-DTF103	
	Attendant Peg Count-DTF104	
	Route Peg Count-DTF105	
Traffic Data 2	: Service Peg Count-DTF201	
Traffic Data 3	: UCD Route Peg Count-DTF301	
	UCD Group Peg Count-DTF302	
	UCD Station Peg Count-DTF303	
Traffic Data 5	: Attendant Ans. Peg Count-DTF501	
	CS/ZT Peg Count-DTFP	
	Kind 1: System In All	
	Kind 2: Each PCN Number	
	Kind 3: Each Call Area Number	
	Kind 4: Each ZT in the Calling Area Number to be assigned by ACSPL	
Traffic Data 6	: Connection Route Peg Count-DTF601	
	: Connection Route Traffic-DTF602	

## **DPSN** : Display of PS Station Data

## 1. GENERAL

This command is used to display the PS station data. The display appears when the Tenant Number and Physical Station/Telephone Number are entered. This command can also be used to display information on Hot Line station, details on PS data and Call Pickup Group data.

## 2. PRECAUTIONS

None

### 3. PARAMETERS

a. Parameters on PS Station Number

TN/UGN:	Tenant Number/User Group Number
STN/PS TELN:	Station Number/PS Telephone Number
ETN:	Effective Tenant Number
LENS:	Equipment Number
TEC:	Telephone Equipment Class
RSC:	Route Restriction Class
SFC:	Service Feature Class

- b. Parameters on Related Data
  - PH: Phantom Kind
    - 0: PHSTN Data is ALL 0. (PHSTN is Not Registered)
    - 1: PHSTN Data is Individual Phantom Number.
    - 2: PHSTN Data is Group Phantom Number.
  - PHSTN 0-4: Phantom Station Number
  - CPGF: Call Pickup Flag
    - 0: Not Belong in Call Pickup Group
    - 1 or 2:Belong in Call Pickup Group
  - HTI: Hot Line Index
    - 0: Hot Line Data is Nothing
    - 1: Connection for Station HOT CON TN: Hot Line Connective Tenant Number HOT CON STN: Hot Line Connective Station Number
    - 2: Connection for External Line HOT ADC: Hot Line Connective Speed Calling Abbreviated Digit
      4: Connection for Trunk HOT CON RT: Hot Line Connective Route Number HOT CON TK: Hot Line Connective Trunk Number

PS-ID
Individual PS Number
PS Station Number
PS Number Type
PS Number
Call Pickup Group Station Count
Call Pickup Group Station Number

LNFLG:	LDM/NDM
	0: Input STN is DM
	1: Input STN is PS TELN (LDM)
	2: Input STN is PS TELN (NDM)
MID EN:	Middle EN
FPC NO.:	Fusion Point Code for Node Number
Log Index:	Logical Index
MASTER TN:	Master Tenant Number
MASTER STN:	Master Station Number
MASTER LENS:	Master Equipment Number
MASTER TN:	Master Tenant Number
MASTER TEC:	Master Telephone Equipment Number
MASTER RSC:	Master Route Restriction Class
MASTER SFC:	Master Service Feature Class

## DTFP : Display of CS/ZT Peg Count Data

## 1. GENERAL

This command is used for displaying the result of traffic measurement data for "Type"=17 (CS Peg Count) assigned by the ATRF command.

## 2. PARAMETERS

Traffic Data 1	: Terminal Traffic-DTF101
	Route Traffic-DTF102
	Station Peg Count-DTF103
	Attendant Peg Count-DTF104
	Route Peg Count-DTF105
Traffic Data 2	: Service Peg Count-DTF201
Traffic Data 3	: UCD Route Peg Count-DTF301
	UCD Group Peg Count-DTF302
	UCD Station Peg Count-DTF303
Traffic Data 5	: Attendant Ans. Peg Count-DTF501
	CS/ZT Peg Count-DTFP
	System In All
	Each Pcn Number
	Each Call Area Number
	Specify Each Number
Traffic Data 6	: Connection Route Peg Count-DTF601
	: Connection Route Traffic-DTF602

## MBCSL : Make Busy of CS/ZT for Local Data Memory

## 1. GENERAL

This command is used to assign and delete IDLE/BUSY status of B/D channel of the CS/ZT.

## 2. PRECAUTIONS

This command is used for the Local Node.

## 3. PARAMETERS

4.

PCN (PHS COMMUNITY NUMBER)	:	1-1024
ERN (CALLING AREA NUMBER)	:	1-32
GRN (GROUP NUMBER)	:	1-8
CSN (CS/ZT NUMBER)	:	1-32
APCH (APPOINTMENT CHANNEL)	:	CS/ZT B2 B3 B4
		Make-busy cancel/set between CS/ZT and CS/ZT
		Make-busy cancel/set of B2 channel
		Make-busy cancel/set of B3 channel
		Make-busy cancel/set of B4 channel
LENS (EQUIPMENT NUMBER)	:	LINE EQUIPMENT NUMBER (Only Display)
MB (MAKE BUSY/IDLE DATA)	:	0/1 Idle/Busy
FLT (NG CAUSE)	:	NG Cause (Only Display)
ENTRY PROCEDURE		
1. Assignment Procedure		
a. PCN (PHS COMMUNITY NUMBER)		: 1-1024
b. ERN (CALLING AREA NUMBER)		: 1-32

- c. GRN (GROUP NUMBER)
- d. CSN (CS/ZT NUMBER)
- e. APCH (APPOINTMENT CHANNEL)
- f. MB (MAKE BUSY/IDLE DATA)

: 1-8

- : 1-32
- : CS/ZT B2 B3 B4 (Entering data can be selected)
- : 1 Busy

## MBCSN : Make Busy of CS/ZT for Network Data Memory

## 1. GENERAL

This command is used to assign and delete IDLE/BUSY status of B/D channel of the CS/ZT.

## 2. PRECAUTIONS

This command is used for the Network Control Node.

## 3. PARAMETERS

4.

PCN (PHS COMMUNITY NUMBER)	:	1-1024
ERN (CALLING AREA NUMBER)	:	1-32
GRN (GROUP NUMBER)	:	1-8
CSN (CS/ZT NUMBER)	:	1-32
APCH (APPOINTMENT CHANNEL)	:	CS/ZT B2 B3 B4
		Make-busy cancel/set between CS/ZT and CS/ZT
		Make-busy cancel/set of B2 channel
		Make-busy cancel/set of B3 channel
		Make-busy cancel/set of B4 channel
LENS (EQUIPMENT NUMBER)	:	LINE EQUIPMENT NUMBER (Only Display)
MB (MAKE BUSY/IDLE DATA)	:	0/1 Idle/Busy
FLT (NG CAUSE)	:	NG Cause (Only Display)
ENTRY PROCEDURE		
1. Assignment Procedure		
a. PCN (PHS COMMUNITY NUMBER)		: 1-1024
b. ERN (CALLING AREA NUMBER)		: 1-32

- c. GRN (GROUP NUMBER)
- d. CSN (CS/ZT NUMBER)
- e. APCH (APPOINTMENT CHANNEL)
- f. MB (MAKE BUSY/IDLE DATA)

: 1-32 : CS/ZT

: 1-8

:

CS/ZT B2 B3 B4 (Entering data can be selected) 1 Busy This page is for your notes.

# CHAPTER 6 SYSTEM OPERATION AND MAINTENANCE

## 1. CSINT CIRCUIT CARD MAKE-BUSY SET/CANCEL

1. Make-Busy Set and Cancel of CSINT Circuit Card



Explained below are methods to set the CSINT circuit card in a state of make-busy and cancel the busy state.

• Make-Busy Set



Figure 6-1 Make-Busy Set of CSINT Circuit Card

Make-Busy Cancel



Figure 6-2 Make-Busy Cancel of CSINT Circuit Card

- 2. Make-busy Set and Cancel of ZT and B Channel
  - Make-Busy Set



Figure 6-3 Make-Busy Set of ZT and Each B Channel

Make-Busy Cancel



Figure 6-4 Make-Busy Cancel of ZT and Each B Channel

## 2. ZT PEG COUNT FOR TRAFFIC CONTROL

## 1. General

Below are some items that can be measured in the traffic control of ZTs.

Items	Meanings
Outgoing Calls	Measurement of the number of the PS in off-hook status. This is counted to ZT that is grabbed when PS does Off Hook.
Completed Outgoing Calls	Measurement of the number of the call that the called party answered. This includes the number of the call connecting to Announcement Trunk. This is counted to ZT that PS is connected to.
Terminating Calls	Measurement of the number of the incoming calls to PS. This is counted to ZT that is grabbed when PS rings.
Completed Terminating Calls	Measurement of the number of the incoming call answered by the PS. This is counted to ZT that is grabbed when PS answers.
Line-Key Terminating Calls (Note 1)	Measurement of the number of the "Line-Key Terminating Calls" answered by the PS.
Paging Terminating Calls (Note 2)	Measurement of the number of the "Paging Terminating calls".
Completed Paging Terminating Calls (Note 2)	Measurement of the number of the Paging Terminating calls answered by the PS.
No Answer of Ringing Calls	<ul> <li>Measurement of the count that the calls can not terminate to PS.</li> <li>The cause of not terminating to PS is as follows:</li> <li>PS power off.</li> <li>PS is out of Zone.</li> <li>There is not idle Bch/Tch.</li> <li>This is counted to Calling Area that PS do "Location Registration". This is not count on a per PCN basis and ZT basis.</li> </ul>
Re-Connected Channel Changeover	Measurement of the number of the requested Hand-Over. This is counted to ZT that PS does Hand-Over to.
Completed Re-Connected Channel Changeover	Measurement of the number of the completed Hand-Over. This is counted to ZT that PS does Hand-Over to.
Position Assignment Request Count	<ul> <li>Measurement of the number of the "PS Location Registration". PS do "Location Registration" in the following cases.</li> <li>PS Power ON.</li> <li>PS moves the Calling Area.</li> <li>This is counted to ZT that PS is connected to for the "PS Location Registration".</li> </ul>
Bch All Busy Count for CS/ZT	Measurement of the number of the Bch all busy on ZT basis. In the case that Bch is made busy by command, even if other Bch became busy, this is not counted.
Abnormal Access Count	Measurement of the number of the call that authentication fails. This is counted to ZT that PS is connected to when authentication fails.

Items	Meanings		
Roaming Count for Home Office	Measurement of the count that the PS of self PBX roams to other PBX. This includes the count that the PS roams from other PBX to still other PBX. This counted on a per PCN basis (Kind=1,2). This is not counted on a per Calling Area basis and ZT basis (Kind=3,4).		
Roaming Terminating Calls for Home Office	Measurement of the number of the incoming calls to PS that is roaming to other PBX. This is counted to the Calling PBX. This is not counted on a per Calling Area basis and ZT basis (Kind=3,4).		
Roaming Count for Visitor Office	Measurement of the count that the PS of other PBX roams to self PBX. This is counted to ZT that PS is connected to when PS does Location Registration.		
Abnormal Access for Visitor Office	Measurement of the number of the call that authentication fails on the roaming PS. This is counted to ZT that PS is connected to when authentication fails.		
T-ch can not Connect ( <b>Note 3</b> )	Measurement of the count that Tch establishment fails by cause of radio part. This is counted to ZT that Tch establishment fails.		
Release-out of Cell (Note 3)	Measurement of the number of the "squelch disconnect". This is counted to ZT that the "squelch disconnect" occurred at.		
Channel Changeover for CS/ZT (Note 3, Note 4)	Measurement of the number of the Channel changeover inside of ZT. This is counted to ZT that PS is connected to.		

- **Note 1:** *"Line-Key Terminating" is not available.*
- **Note 2:** "Paging Terminating" is not available.
- Note 3: This is counted to the Calling Area that is assigned by ACSPL.
- **Note 4:** *"Channel changeover inside of ZT" is not available.*

### 2. Operation Procedures

The following chart explains the operation procedure concerning ZT Peg Count.



## 3. OFFICE DATA MANAGEMENT

### 3.1 DISPLAY OF PS STATION DATA

1. General

The designated PS station data can be displayed by selecting the corresponding Tenant number and the Station number.

2. Operation Procedures



### 3.2 CONDITIONS FOR IPX-UMG SYSTEM

This section explains some notifications exclusive for IPX-UMG System.

For more detail information of how to manage Office Data and Management Commands, see Operation and Maintenance Manual.

When the Wireless CALL FORWARDING data is saved or installed, note that there are two files for Wireless CALL FORWARDING data. When the data is saved on FD (HDD\_FDD), one FD is required for each file (two FDs are necessary).

- /RCF/00/RCF01.DAT --> Existing file used for all model systems including IPX-UMG system
- /RCF/00/RCF02.DAT --> Exclusive for IPX-UMG system Note
- **Note:** If installing the file for IPX-UMG system (/RCF/00/RCF02.DAT) into other models, the system does not work correctly.

## 4. REPLACEMENT PROCEDURE OF CSINT CIRCUIT CARD/ZT

This section explains how to replace CSINT circuit card and ZTs. Refer to the "System Operations and Maintenance Manual" for the PBX for circuit cards that are not covered here.

1. Replacement procedure of CSINT Circuit Card

Confirm the BLn1 (n=0~3) is flashing and other BL lamps light off (Not used).



2. Replacement Procedure of ZTs



### 5. SYSTEM MESSAGE

This section describes the system messages concerning the ZT. Other system messages are to be explained in "The System Operations and Maintenance Manual" for the PBX.

1. Detection of WIRELESS SYSTEM (PCS) Fault

"26-L" WIRELESS SYSTEM Failure Report

2. Detection of ZT Fault

When the detected trouble or faulty part concerns the ZTs, the following messages appear.

- "25-J" ZT Operation Start
- "25-K" ZT Set Up NG
- "25-L" ZT Fault
- "25-M" ZT Fault Recovery
- "25-N" ZT Carrier Fault
- System Messages and its reason

MESSAGE NAME	MEANING	SYSTEM MESSAGE
ZT Operation Start	Indicates ZT is put into normal operation.	25-J
ZT Set Up NG	Indicates ZT start-up ends in failure.	25-К
ZT Fault	Indicates ZT Fault.	[SUP] 25-L
ZT Fault Recovery	Indicates ZT Fault recovery	25-M
ZT Carrier Fault	Indicates ZT Control Carrier Fault	25-N
Wireless System Failure Report	Indicates WIRELESS SYSTEM Fault	[MN] 26-L

- 3. Detail of Each Message
  - a. "25-J" ZT Operation Start

Detail message data 1: XX XX 00 00 00 00 00 -Ť - ZT which sends notification G L MG U b. "25-K" ZT Set Up NG Detail message data 1: XX XX XX XX 00 00 00 -Set UP NG KIND 00: ZT Restart Process 01: ZT Status Adjustment 02: ZT Bch Status Adjustment Set UP NG Factor 00~04 : Not Used. 05~08 : System-ID down load processing NG. 09~0A : System-ID down load processing timeout. 0B~0D : ZT Data down load processing NG. 0E~10 : ZT Data down load processing timeout. 11 : CS-ID setting NG 12 : CS-ID setting timeout. 13 : Carrier decision order processing NG 14 : Carrier decision order processing timeout. 15~16 : Not Used. : ZT make busy processing NG 17 18 : ZT make busy processing timeout. 19 : B channel make busy/cancel processing NG. : B channel make busy/cancel processing timeout. 1A 1B : B channel initialization processing NG : B channel initialization processing timeout. 1C 1D~1F : Not Used. 20 : ZT operation parameter change processing NG. 21 : ZT operation parameter change processing T.O. 22 : ZT Status request processing NG. 23 : ZT Status request processing timeout. 24~ : Not Used. Detected ZT G L MG U





NDA-24301

#### d. "25-M" ZT Fault recover



e. "25-N" Carrier Fault



### f. "26-L" WIRELESS SYSTEM Failure Report



01: ZT operation timer Write NG

02: ZT operation timer Read NG

This page is for your notes.

CHAPTER 6 Page 328 Revision 1.0

NDA-24301