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Electra **Elite**[®]IPK



KEY-COMMON CHANNEL INTEROFFICE SIGNALING (K-CCIS) MANUAL

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Technology Development

Preface

ABOUT THIS MANUAL The Key-Common Channel Interoffice Signaling (K-CCIS) System Manual describes the system and provides hardware installation and programming procedures for the Electra Elite IPK system.

Some programming can be accomplished using a PC or a Multiline Terminal.

MANUAL ORGANIZATION

This manual contains the following Chapters:

Chapter 1 – General Information

This chapter is an outline of the K-CCIS system that explains the equipment names and functions, and provides system specifications, capacities, and operating conditions.

Chapter 2 – Hardware Installation

This chapter explains the hardware installation procedure to interface the CCIS system with the Key Telephone Service.

Chapter 3 – System Data Programming

This chapter provides a list of the Memory Blocks that need to be assigned to support K-CCIS.

Chapter 4 – Features and Specifications

This chapter contains features available with the K-CCIS system.

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Chapter 1 General Information

This chapter provides a system outline, the name and functions of the circuit cards required, system capacity, time slot assignments, system specifications and network structure considerations.

SECTION 1 SYSTEM OUTLINE

Key-Common Channel Interoffice Signaling (K-CCIS) can interface this system with a Public Network. The system is configured with the 24 channel Digital Trunk Interface (DTI) for digital network. A Phase Locked Oscillator (PLO) for digital network synchronization is needed, and a Common Channel Handler (CCH) for receiving/ transmitting common signaling data from/to the distant office.

The system can provide a variety of inter-office service features such as Link Reconnect, Virtual Look Ahead Routing, Centralized Voice Mail/Auto Attendant Integration, Call Forwarding, Voice Call with Handsfree Answerback and Caller ID Display – K-CCIS. For a more detail description refer to Chapter 4 Features and Specifications. For a diagram of the system outline, refer to Figure 1-1 K-CCIS System Outline.



Figure 1-1 K-CCIS System Outline

1.1 Digital Trunk Interface (DTI)

The Digital Trunk Interface (DTI) interfaces the PBX directly to a 24-channel PCM transmission line. The 24-channel DTI has the following functions.

- O Unipolar/Bipolar Conversion (AMI Format/B8ZS Format)
- O Alarm Detection/Insertion
- O Digital PAD on Voice Signal Transmission
- O Loop-Back Test (Local/Remote Loop Back)
- O Cyclic Redundancy Checking (based on ITU-T Rec. G704)

The Electra Elite IPK system does not support 30-channel DTI.

When connecting a 24-channel DTI to a transmission line, use twisted-pair cables.

1.2 Common Channel Handler (CCH)

The Common Channel Handler (CCH) card provides a common channel signal through the DTI to a Electra Elite IPK network, and it is responsible for signaling between the KTS (KeyTelephone System) and the Electra Elite IPK network under control of the CPU.

1.3 Phase Locked Oscillator (PLO)

The Phase Locked Oscillator (PLO) is responsible for providing synchronization between the TDSW and other offices. In this system, the CLKG-U Unit is used. The clock generates a synchronized clock signal according to the source clock signals supplied from the source office within the network, and supplies the generated clock signal to the TDSW. The clock is supplied with clock signals extracted from the DTI.



Figure 1-2 Clock Supply Route

1.4 Common Channel Interoffice Signaling (K-CCIS)

The PBX can provide Electra Elite IPK via a digital network. The network requires Common Channel Handler (CCH) to control the common signaling between offices.

Digital Network

When Electra Elite IPK is provided via a digital network, the CCH is connected to the DTI by a fixed path in the TDSW and transmits/receives common signaling data to/from the distant office through a predetermined channel. Voice signals are transmitted/received on a per line basis through other channels.

Figure 1-3 K-CCIS System Configuration shows the system configuration of K-CCIS provided via a digital network.



- CCH: Common Channel Handler DTI: Digital Trunk Interface
- CLK: Clock (Phase Lock Oscillator) MP: Main Processor

Figure 1-3 K-CCIS System Configuration

DTI SPECIFICATIONS SECTION 2

The following specifications applies to the DTI-U30.

Characteristics 2.1

Output

Line Rate	1.544 Mbps + 50 ppm
Line Code	AMI with ZCS/B8ZS *
Line Impedance	100 Ω
Pulse Amplitude (Base to Peak)	3 volts ± 0.6 volts
Pulse Width	3214 ns ± 30 ns

Input

*

	Line Rate	1.544 Mbps ± 200 ppm(130 ppm)
	Pulse Amplitude (Base to Peak)	1.5 volts ~ 3 volts
	Frame Synchronization Pattern	100011011100
	Input Jitter	ITU-T Fig.1/G743
	Wander	±138UI, –193UI or –138UI, +193UI
	Cable Length from Elite to MDF or External Equipment	Maximum 196m (655 ft.) with (22 AWG) twisted-pair cable
AMI ZCS B8Z	 Alternate Mark Inversion Zero Code Suppression Bipolar Eight Zero Substituting 	

2.2 Frame Configuration for 24 DTI

According to the AT&T Specifications for 24-channel transmission, there are two types of frame configurations: 12 Multi-Frame (D4) and 24 Multi-Frame (ESF).

12 Multi-Frame (D4)

The frame has 12 Multi-Frames, and each Multi-Frame has a 24-channel PCM signal (8 bits/channel) and an S bit (Superframe bit). Figure 1-4 Frame Configuration of 24-DTI (12 Multi-Frame) shows the frame configuration, and Figure 1-5 Frame Configuration of 24-DTI (24 Multi-Frame) shows the frame bit assignment.



S: Superframe Bit

Figure 1-4 Frame Configuration of 24-DTI (12 Multi-Frame)

Fromo	S-Bit		
Frame Number	r Terminal Signal Synchronization (FT)		
1	1		
2		0	
3	0		
4		0	
5	1		
6		1	
7	0		
8		1	
9	1		
10		1	
11	0		
12		0	

Table 1-1	12 Multi-Frame	Bit Assignment
		Dit Assignment

The S-bit is the first bit in each frame.
 Frames are repeated in the order shown in this table.

24 Multi-Frame (Extended Superframe – ESF)

This frame has 24 Multi-Frames and each Multi-Frame has a 24-channel PCM signal (8 bits/channel) and an S bit (Superframe bit).



S: Superframe Bit

Figure 1-5 Frame Configuration of 24-DTI (24 Multi-Frame)

Framo	S-Bit					
Number	Frame Synchronization	4 kbps Data Link	CRC			
1		m				
2			CB1			
3		m				
4	0					
5		m				
6			CB2			
7		m				
8	0					
9		m				
10			CB3			

Table 1-2	24 Multi-Frame	Bit Assignmen f	t
		Dit Assignment	٠

Eramo	S-Bit				
Number	Frame Synchronization	4 kbps Data Link	CRC		
11		m			
12	1				
13		m			
14			CB4		
15		m			
16	0				
17		m			
18			CB5		
19		m			
20	1				
21		m			
22			CB6		
23		m			
24	1				

Table 1-2	24 Multi-Frame	Bit Assignment	(Continued)
			(••••)

Solution The S-bit is the first bit in each frame.

Frames are repeated in the order shown in this table. The letter "m" in the 4 kbps Data Link column indicates the frame is usually assigned to 1.

SECTION 3 NETWORK STRUCTURE CONSIDERATIONS

3.1 Determining System Configurations

The configuration of the network and the number of lines (channels) should be determined, and is dependent upon the traffic between each office.

The topologies listed in this section are supported in the Electra Elite IPK system KTS-to-KTS structure.

- O Star Topology (Refer to Figure 1-6 Star Topology (KTS-to-KTS or PBX-to-KTS) on page 1-9.)
- O Tree Topology (Refer to Figure 1-7 Tree Topology (KTS-to-KTS or PBX-to-KTS) on page 1-10.)
- Mesh Topology only supported when the KTS is the end-point in a PBX-to-KTS network. (Refer to Figure 1-8 Mesh Topology (PBX-to-KTS) on page 1-11.)



Star Topology supports a total of five systems; this restriction is due to CCH(4)-U10 ETU in the Main/Hub system.

Figure 1-6 Star Topology (KTS-to-KTS or PBX-to-KTS)



- Tree Topology supports a total of 17 systems; this restriction is due to the Closed Numbering Plan Assignments (programmed using Memory Blocks 1-1-46/47 – Items 401~416). Even though 17 systems are allowed, only five hops* are permitted. Software does not limit the number of hops. The limitation is due to the CCH message delay through each of the tandem systems.
- * Hops Tandem through another system

Figure 1-7 Tree Topology (KTS-to-KTS or PBX-to-KTS)



An Electra Elite IPK can be connected to a PBX only as a remote office. The Electra Elite IPK software can register a maximum of 255 point codes in the Electra Elite IPK network. The network must consist of a PBX-to-KTS structure with the KTS programmed as a remote office. The KTS must be located as the end-point in the Electra Elite IPK network.

Figure 1-8 Mesh Topology (PBX-to-KTS)

3.2 Determining Number of K-CCIS Routes

When the system is a Central office orTandem office, two or more routes to other offices are required. Each CCH(4)-U10 can support K-CCIS links. Only one CCH(4)-U10 can be installed in an Electra Elite IPK KSU. The KTS requires the following to support a K-CCIS interface:

- O CCH(4)-U10 ETU
- O DTI(1)-U30 ETU
- O CLKG-U Unit

One Common Signaling Channel (CSC) can support up to 63 voice channels, if needed.

Any one of the channels from the 24-channel T1 circuit on a DTI PKG can be assigned as a CCH channel. One T1 circuit (DTI) can support four K-CCIS links. The CCH(4)-U10 ETU can be installed into any interface slot (IF 1~8) of any Electra Elite IPK cabinet in the KSU.



Note: System A has one CCH(4)-U10 ETU and one DTI-U30 ETU.

Figure 1-9 K-CCIS Routes

3.3 Determining the Type of Transmission Lines

The types of transmission lines available on the Electra Elite IPK system are digital only (DTI-U30 ETU).

3.4 Determining which Systems Should be the Central Office

If using a KTS-to-KTS only network and features such as Voice Mail Integration – K-CCIS will be used, the key system that has the voice mail system installed, must be programmed as the Central Office. All other key systems must be programmed as Remote offices.

3.5 Determining Point Codes

Point Codes are used to distinguish an originating office from a destination office in the K-CCIS network. A Point Code is assigned to each office in the K-CCIS network. The following guidelines apply when determining the Point Codes:

- O The same Point Code cannot be assigned to more than one office.
- O The same origination Point Code must be assigned to each K-CCIS channel in the same system.
- O The maximum number of Point Codes that can be assigned is 256 (a maximum of 256 offices can be connected in the same network).



Figure 1-10 Point Code Assignment Example

Data A	ssignment f	or System A	A
M.B.	Setting Data 1	Setting Data 2	Remarks
1-15-03	1	00001	Assign the Originating Point Code for System
	2	00001	Α.
1-15-04	1	00002	Assign the Destination Point Code for CCH 1.
	2	00003	Assign the Destination Point Code for CCH 2.

• Data Assignment for System B

M.B.	Setting Data 1	Setting Data 2	Remarks
1-15-03	1	00002	Assign the Originating Point Code for System B.
1-15-04	1	00001	Assign the Destination Point Code for CCH 1.

• Data Assignment for System C

М.В.	Setting Data 1	Setting Data 2	Remarks
1-15-03	1	00003	Assign the Originating Point Code for System C.
1-15-04	1	00001	Assign the Destination Point Code for CCH 1.

Setting Data 1 = CCH Setting Data 2 = Point Code

3.6 Determining CCH Link to Send Messages

The tandem office must be programmed with the proper information to indicate how the CCH (in its own system) is connected to other offices in the network. Every office that will be linked to the CCH must be identified by assigning the Point Codes that it will accept within the network (refer to the following example). If using features such as the Link Reconnect (K-CCIS), this must be programmed using MB 1-15-05. MB 1-5-05 allows the links between each system and the CCH, through which it will be directed, to be assigned.



Figure 1-11 CCH Linking

• Data Assignment for System A

M.B.	Setting Data 1	Setting Data 2	Remarks
1-15-05	None	None	It is not necessary to assign system data for this office.

• Data Assignment for System B

M.B.	Setting Data 1	Setting Data 2	Remarks
1-15-05	00001	1	Assign the data to create a link between office B
	00003	2	and office A using CCH 1 and a link between office B and office C using CCH 2.
	00004	2	

• Data Assignment for System C

М.В.	Setting Data 1	Setting Data 2	Remarks
1-15-05	00001	1	Assign the data to create a link between office C
	00002	1	and office B using CCH 1 and a link between office C and office C using CCH 2.
	00004	2	

• Data Assignment for System D

M.B.	Setting Data 1	Setting Data 2	Remarks
1-15-05	None	None	It is not necessary to assign system data for this office.

System Data 1 = Point Code

System Data 2 = CCH used to link between offices

3.7 Determining Circuit Identification Code (CIC)

The DTI trunk needs to distinguish between Voice Path and Common Signaling channel. The trunks using Voice Path are assigned a CIC number for each T1 trunk. The CIC numbers must match those in the connected system. Refer to Figure 1-12 Circuit Identification Codes (CIC).



Figure 1-12 Circuit Identification Codes (CIC)

3.8 Determining Numbering Plan

The Uniform Numbering Plan is used for the numbering plan in the K-CCIS network. The Closed Numbering Plan is provided by the Closed Numbering Blocks. The Automatic Route Selection (ARS) feature provides Open Numbering Plan.

When an outgoing call is placed through a K-CCIS link, the originating station number (Office Code and Station Number) and a terminating Station Number are transmitted across the link to the destination office. The originating station number consists of the office number assigned in Memory Block 1-15-06 and the station number assigned in Memory Block 4-10 for the station.

Figure 1-13 Closed Numbering Plan Example and Figure 1-14 Open Numbering Plan Example provide examples of Station Numbering (Closed Numbering) and Office Code and Station Numbering (Open Numbering).







Figure 1-13 Closed Numbering Plan Example



Notes: When a call is originated from Office A to Office C, 8 + 58 + 2100 is dialed. 8 = Access Code for ARS 58 = Office Code for System C 2100 = Station Number

The Station Number can be two to four digits long.

Memory Block 1-15-06 allows a maximum or four digits, including the Access Code and the Office Code.

When using the Open Numbering Plan, the following combination of digits can be used:

- When the Access Code is set for two digits, the Office Code can only be two digits. Access Code = XX
 Office Code = XX
 Station Number = XXXX
- When the Access Code is set for one digit, the Office Code can be two or three digits. Access Code = X
 Office Code = XX or XXX
 Station Number = XXXXX

Figure 1-14 Open Numbering Plan Example
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Chapter 2

Hardware Installation

Hardware Installation

CHAPTER 2

SECTION 1 INSTALLATION PRECAUTIONS



Observe the following precautions when installing the ETUs to avoid static electricity damage to hardware or exposure to hazardous voltages.

- O The ETUs used in this system make extensive use of CMOS technology that is very susceptible to static; therefore, extreme care must be taken to **avoid static discharge** when handling ETUs.
- O Make all switch setting changes on the ETU before inserting it into the KSU.
- O When installed, the component side of all ETUs must face the left side of the KSU. Ejector tabs are always on top. Refer to Figure 2-1 Inserting the ETU into the KSU.



Figure 2-1 Inserting the ETU into the KSU

- O When carrying an ETU, keep it in a conductive polyethylene bag to prevent damage due to static electricity.
- O When handling an ETU, the installer must wear a grounded wrist strap to protect the ETU from static electricity.

O When inserting or removing an ETU, be sure the wrist strap is connected to the Frame Ground Terminal on the KSU.



Figure 2-2 Inserting or Removing ETUs from the KSU

O When holding an ETU, do not touch the components or the soldered surfaces with your bare hands. Place one hand under the bottom corner of the ETU and with the other hand hold the ejector tab (located in the top corner of the ETU).



Figure 2-3 Handling an ETU

O When setting switches on the ETU, wear a wrist strap and stand on a grounded conductive work surface to avoid static electricity.



Figure 2-4 Safety Precautions when Setting Switches on an ETU

SECTION 2 INSTALLATION PROCEDURE FOR THE DIGITAL K-CCIS

2.1 Installing the DTI-U30 ETU

2.1.1 Description

The DTI-U30 ETU is a Digital Trunk Interface that provides termination of FT1 (DS-0 channels) trunks that support K-CCIS and Automatic Number Indication (ANI) on a T1.

A combination of Loop Start and Ground Start signaling can be used on the DTI-U30 ETU. DTMF, Dial Pulse dialing, Tie line (E&M) and DID are supported. The DTI-U30 ETU has 24 built-in DTMF detectors. Tip and Ring electrical fuses are provided to comply with UL 1459 requirements.

Only the DIT-U30 ETU can be used to support the K-CCIS feature with point-to-point E&M Tie lines.



Figure 2-5 DTI-U30 ETU

2.1.2 Considerations when Installing a DTI-U30 ETU in an Electra Elite IPK System

When a DTI-U30 ETU is installed, a CLKG-U10 Unit must be installed on the CPUI()-U10 ETU.

The DTI-U30 ETU can be installed in any slot of the B64-U20 KSU. The maximum number depends on other trunk cards installed. Refer to the **Universal Slots** feature in the Electra Elite IPK Features and Specifications Manual.

Switch	Setting			Description
SW1-1	0	On:	Indicates alarm or loopback status of the channel	Used to assign LED indications
	0	Off:	Indicates channel is busy or idle (Default)	
SW1-2	0	On:	Loopback on	Switches loopback on
	0	Off:	Loopback off (Default)	and off
SW1–3	0	On:	DTE Loopback enabled (Software loopback within the DTI ETU)	Sets loopback
	0	Off:	Line Loopback enabled (Loopback to CO) (Default)	When SW1-2 is On, this switch is active.
SW1-4	0	On:	Test Mode	Switches between
	0	Off:	Normal Operation Mode (Default)	normal operation mode and test mode
SW1–5	N/A	١		N/A
SW1-6	N/A	\		N/A
SW2	N/A	1		Resets the DTI ETU

Table 2-1 DTI-U30 Default Switch Settings

2.1.3 LED Indications

Live LED indications are listed below.

- Blinking RedNormal Operation
- Steady RedOperation Stopped (Power On)
- o Off No Power

When SW1-1 is OFF, LEDs 1~24 indicate the following:

o LEDs 1~24Channel Busy or idle

When SW1–1 is ON, LEDs 1~24 indicate the following: (For a description of the alarms refer to 2.1.4 Alarm Conditions.)

- o LED 1 LSA Alarm
- o LED 2 AIS Alarm
- o LED 3 OOF Alarm
- o LED 4 RAI Alarm
- o LED 5 CRC Alarm

- o LED 6 BPV Alarm
- o LED 7 SLIP Alarm
- o LED 8 N/A
- o LED 9 TSC Alarm
- o LED 10 ESA Alarm
- o LED 11 LOS Alarm
- o LEDs 12~16 N/A
- o LED 17 Line Loopback On
- o LED 18 DTE Loopback On
- 0 LEDs 19~24 N/A
- 2.1.4 Alarm Conditions

A brief description of each alarm is given below.

• Alarm Indication Signal (AIS) Detection

When the system is receiving an Alarm Indication Signal from an FT1 trunk, the LED is red.

• Controlled Slip Event Detection (SLIP)

If the timing difference between a synchronous receiving terminal and the received signal exceeds the buffering ability of the terminal, the LED is red.

o Cyclic Redundancy Check (CRC) Error Event Detection

When a CRC Error occurs, the LED lights red.

• Excessive Bipolar Violation (BPV) Detection

When excessive BPV is detected, the LED lights red.

o Line Synchronization Alarm (LSA) Detection

When an FT1 trunk loses frame synchronization, the LED lights red.

• Out-of-Frame (OOF) Condition Detection

When two of the four or five framing data bits received are in error, the LED lights red.

• Remote Alarm Indication (RAI) Detection

When RAI is received, the LED lights red.

2.1.5 Connectors

The DTI ETU-U30 has one connector:

- o CN1 Connects to the backboard
- 2.1.6 Connections





2.2 Installing the CCH(4)-U10 ETU

2.2.1 Description

The Common Channel Handler ETU [CCH(4)-U10 ETU] provides a common channel signal through the DTI ETU to a K-CCIS network. It is responsible for the signaling between the KTS and the CPU. Each CCH ETU supports four K-CCIS links.

Only one CCH(4)-U10 ETU can be installed in each system.



Figure 2-7 CCH(4)-U10 ETU

2.2.2 Considerations when Installing a CCH(4)-U10 ETU in an Electra Elite IPK System

The CCH(4)-U10 ETU can be installed in any IF slot in the B64-U10 KSU or any IF slot in the second or third expansion cabinet. Only one CCH(4)-U10 ETU can be installed in a system.

2.2.3 Switch Settings

Default switch settings are shown in the following table.

Table 2-2 CCH(4)-U10 ETU Default Switch Settings

Switch	Setting/Description				
SW1	Momentary Switch Resets the CCH ETU. If this switch is pressed, it interrupts all K-CCIS users connected to the CCH ETU. This switch				
	should only be used after all other options have been tried.				
SW2-1	 O Off:Normal Operation (Default) O On:Test Mode 				
SW2–2	 Off:Boot from Flash Memory (Default) On:Boot from E-PROM (IC30) 				
SW2–3	 Off:Normal Operation (Default) On:Test Mode 				
SW2-4	O Off:Watch Dog Timer On (Default)O On:Watch Dog Timer Off				

LED	Description	On	Flashing	Off
1	Link status for CCH1	Layer 2: Up	Not Used	Layer 2: Down
2	Link status for CCH2	Layer 2: Up	Not Used	Layer 2: Down
3	Link status for CCH3	Layer 2: Up	Not Used	Layer 2: Down
4	Link status for CCH4	Layer 2: Up	Not Used	Layer 2: Down
5	Link status for CCH1	Data sent/received	Not Used	Idle
6	Link status for CCH2	Data sent/received	Not Used	Idle
7	Link status for CCH3	Data sent/received	Not Used	Idle
8	Link status for CCH4	Data sent/received	Not Used	Idle
9	CCH status	Alarm	Normal Operation	Not Operating
10	LIVE	Operation stopped (Power still on)	Normal Operation	No Power

2.2.4 LED Indications

Table 2-3 CCH(4) LED Indications

2.2.5 Connectors

The CCH(4)-U10 ETU has two connectors:

- CN1 Connects to the backboard
- CN2 Performs maintenance functions

2.2.6 Connections

There are no physical connections to the MDF for the CCH ETU.

2.3 Installing the CLKG-U10 ETU on the Main Processor

2.3.1 Description

The CLKG-U10 Unit provides clock synchronization for FT1 lines, ISDN-BRI lines, ISDN-PRI lines, and wireless lines that are connected to the Electra Elite IPK system.

This unit works with the DTI-U30 ETU, BRT(4)-U10 ETU, PRT(1)-U10/20 ETU, BSU(2)-U10 ETUs and is piggybacked on the CPUI()-U() ETU.



The PHS is only used for Wireless mode. ISDN.PHS is used for all other modes.

Figure 2-8 CLKG-U10 Unit

2.3.2 Installation

Only one CLKG-U10 Unit can be installed in an Electra Elite IPK system.

2.3.3 Connectors

The following connectors are located on the CLKG-U10 Unit.

- CN1 Connect to CN5 on the CPUI()-U() ETU
- CN2 Connects to CN6 on the CPUI()-U() ETU
- 2.3.4 Switch Settings

Leave SW1 set to **ISDN.PSH** when ISDN/T1 or ISDN/T1 and wireless trunks are installed.

When on wireless trunks are installed, set SW1 to PHS.

Chapter 3

Programming

SECTION 1 K-CCIS PROGRAMMING

This chapter provides a list of the Memory Blocks that need to be assigned to support K-CCIS. The Memory Blocks that are programmed, depends on the K-CCIS features that will be used. The tables provided in this sections provide a complete list of Memory Blocks that need to be programmed to support the function (e.g., Digital Trunk Assignment, CCH Assignment, Numbering Plan Assignment).

At the end of this section, programming samples are provided for Open and Closed Numbering Plans.

1.1 Digital Trunk Data Assignment

Use these Memory Block assignments to indicate to the system where (which slot) the DTI ETU card is located, the signaling format the DTU ETU will use, and to assign other information relating to the trunks.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
7-1	Card Interface Slot Assignment	Select Slot and Card type to be assigned.	Page 6, LK 1~6 DTI-U30 ETU	Upper and lower Slot must be assigned to allocate the correct number of channels needed.
1-8-33	Master Clock Selection	Select the cabinet and slot number to assign the slave clock source.	Not Assigned ◀ ◀ = <i>Default</i>	
1-11-00	Signal Format Selection	Assign the necessary function to each DTI-U30 ETU installed.	LK1 = 12 SF LK2 = 24 ESF ◀ ◀ = Default	If 56K K-CCIS is used. 24 Multi-Frame (ESF) must be assigned.
1-11-01	Clear Channel Selection	Assign the necessary function to each DTI-U30 ETU installed.	LK1 = ZCS ◀ LK2 = B8ZS ◀ = Default	

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-11-02	Line Length Selection	Assign the necessary function to each DTI-U30 ETU installed.	$LK1 = 0 - 131 \blacktriangleleft$ $LK2 = 132 - 262$ $LK3 = 263 - 393$ $LK4 = 394 - 524$ $LK5 = 525 - 655$ $\blacktriangleleft = Default$	Maximum distance back-to-back T1s can be connected is 655 ft without CSU/DSU service.
1-11-05	T1 Channel Selection	Select the channels to be used.	LK On = Allow LK Off = Deny	Only the amount of channels assigned in MB 7-1 can be allowed.
1-11-07	DTI Trunk Type Assignment	Assign the trunk type in groups of 4 as E&M for each T1 used for K-CCIS service.	$LK1 = CO \blacktriangleleft$ $LK2 = E&M$ $LK3 = DID$ $LK4 = ANI$ $\blacktriangleleft = Default$	
3-03	Trunk-to-Trunk Group Assignment	Assign voice channels to Trunk Group. The data channel must be assigned to Trunk Group 00.	Assign Trunks to Trunk Group <i>Default</i> = Not Assigned	Recommend to start with Trunk Group 10 for Voice Channels.
3-14	Tie Line Type Assignment	Assign the Voice and Data channels as Wink Start.	LK1 = 2 nd Dial Tone ◀ LK2 = Immediate LK3 = Delay LK4 = Wink ◀ = Default	
3-91	Trunk Type Assignment	Assign the Voice Channels as TIE and the Data Channel as CO .	$LK1 = CO \blacktriangleleft$ $LK2 = PBX$ $LK3 = TIE$ $LK4 = DID$ $LK5 = CTX$ $\blacktriangleleft = Default$	
5-06	Trunk Group Outgoing Priority Selection	Assign the outgoing priority for Trunk access to each Trunk Group.	LK1 = H>L ◀ LK2 = L>H	

1.2 CCH Assignment

Use these Memory Block assignments to indicate to the system where (which slot) the CCH ETU card is located, the signaling format the DTU ETU will use, and to assign other information relating to the trunks.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
7-1	Card Interface Slot Assignment	Select slot and card type to be assigned.	Page 4, LK 2 CCH (4)-U10	Only one CCH (4) ETU per system.
1-15-00	K-CCIS Main/Remote Office Selection	Assign the main or remote system. It is recommend that this setting done last.	LK1 = None ◀ LK2 = Main LK3 = Remote ◀ = Default	Only one system in the network can be assigned as the Main System. All others should be assigned as Remote if in a PBX environment.
1-15-01	Common Signal Channel Data Speed Assignment	Assign the data speed for each CCH channel.	LK1 = 64k LK2 = 56k ◀ LK3 = 48(1)k LK4 = 48(2)k ◀ = Default	Should have the same settings as the CCH channel is on opposite side of link.
1-15-02	Common Signal Channel Assignment	Assign the trunk(s) to be used as the common signaling channel.	<i>Default</i> = Not Assigned	Enter the trunk number.
1-15-03	Originating Point Code Assignment	Assign the Originating Point Code (OPC) to each CCH number.	<i>Default</i> = Not Assigned for CCH 1 ~ 4	Originating point code will be the same for all CCHs that are being used.
1-15-04	Destination Point Code Assignment	Assign the Destination Point Code (DPC) to each CCH number.	<i>Default</i> = Not Assigned for CCH 1~4	DPC will be what the OPC is on the opposite side of the link.
1-15-05	Destination Point Code Transfer Assignment	Assign the CCH number to which a signaling message is transferred according to the Point Code received. Up to 256 point codes can be assigned.	Default = 0 for T001~T256	Only used when K-CCIS calls are tandem through the system via CCIS.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-15-06	Originating Office Code Number Assignment	Assign the Trunk Access Code and Office Code numbers.	Assign up to four digits.	Only used in an open numbering plan network. This should include the Trunk Access Code and Office Code numbers.
3-70	CIC Number Assignment	Assign a Circuit Identification Code (CIC) number to each trunk number used for voice channel.	<i>Default</i> = 000 for Trunks 01~ 64	Circuit Identification Code (CIC) represents a circuit number that designates a trunk (of each Trunk Group) used as a voice channel in the K-CCIS network. A CIC should not be assigned to a trunk used as a Common Signaling Channel.
5-05	Common Signaling Channel Route Selection	Assign a CCH number to each common signaling channel trunk group.	<i>Default</i> = 0 for Trunk Groups 00~32	
5-06	Trunk Group Outgoing Priority Selection	Assign the outgoing priority for Trunk access to each Trunk Group.	LK1 = H>L ◀ LK2 = L>H	

1.3 Numbering Plan Assignment

Use these Memory Block assignments to indicate to the system the number of digits that will be assigned to stations, the number of digits assigned to Access Codes, and to assign stations to ports.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-2-03	2-, 3-, or 4-Digit Station Number Selection	Assign the number of digits for station numbers.	2 DGT 3 DGT ◀ 4 DGT ◀ = Default	
1-1-46/47/48	Access Code (1-,2- or 3- Digit) Assignment	Assign Access Code to Intercom Function Number.	1=001 ◀ 2=001 ◀ 3=001 ◀ ◀ = Default	
4-10	Station Number Assignment	Assign station number to ports.	<i>Default</i> = 100's are assigned	

1.4 Programming for Closed Numbering Plan

Use these Memory Block assignments to assign Access Code to the Intercom Function Numbers, to assign closed numbering block to the appropriate Trunk Groups and the specify the digits that will be added to the dialed number.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-1-46/47/48	Access Code (1-,2- or 3-Digit) Assignment	Assign Access Code to Intercom Function Number.	1=001 ◀ 2=001 ◀ 3=001 ◀ ◀ = Default	Starting digits of remote extensions will equal (401~416) for Closed Numbering Block.
1-1-49	Networking Trunk Group/ Route Advance Assignment	Assign the Closed Numbering Block to the appropriate Trunk Group.	01~16 = Trunk Group Function number 101~132 <i>Default</i> = Not Assigned	
1-1-50	CO/PBX Outgoing Digit Add Assignment	Specify the digits to be added back to the number dialed.	01~16 = Digits to be added back <i>Default</i> = Not Assigned	Digits added should be the digits, which accessed the Closed Numbering Block.

1.5 **Programming for Open Numbering Plan**

Use these Memory Block assignments to assign the number of digits to Access Code and to make ARS assignments.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-1-46/47/48	Access Code (1-,2- or 3-Digit) Assignment	Assign Access Code to Intercom Function Number.	1=001 ◀ 2=001 ◀ 3=001 ◀ ◀ = Default	Starting digits of remote system access should equal (601, 602, 603 or 604) for ARS.
1-14-01	ARS Dialing Assignment	Assign the dialing plan to one of the four ARSTables. Each table contains 128 maximum dialing assignments for the selected dialing plan.	Up to eights digits can be assigned <i>Default</i> not assigned	Assign the digits used for the open numbering plan.
1-14-02	ARS Dial Allow/Deny Selection	Specify whether or not to Allow digits that are entered in the ARS dialing assignment to be routed.	ARS Table 1~4 Dial Number 01~C8 <i>Default =</i> Allow	
1-14-03	ARS Route Table Number Assignment	Assign each ARS Dialing Assignment to an ARS Route Assignment.	Dial Number 01~C8 <i>Default =</i> 00	The same Routes are used for all four ARS Tables.
1-14-04	ARS Trunk Group to Route Number Assignment	Specify a Trunk Group used for each Route Assignment.	Route 01~32 Default = Normal	
1-14-05	ARS Digit Delete Assignment	Specify the number of digits to be deleted from the Route Assignment.	Route 01~32 Default = None	
1-14-06	ARS Digit Add Assignment	Specify the number of digits to be added to the Route Assignment.	Route 01~32 <i>Default</i> = None	
1-14-07	ARS Max Digit Assignment	Specify the number of digits to be collected by the system before the K-CCIS message is sent to the network.	Route 01~32 = 24 ◀ ◀ = <i>Default</i>	

1.6 Closed Number Programming Example

This sections provides the steps needed to program a closed numbering plan.

Step 1: T1 Tie Lines

The following diagram provides an example of Memory Blocks that are programmed for T1 Tie lines. The example assumes that the Electra Elite systems are defaulted with the T1 cards and the CCH ETU card(s) are installed.

Abbreviations used in the diagram:

MB = Memory Block TRK = Trunk TG = Trunk Group

CC = Clear Channel TT = Trunk Type

	Electra Elite	Tie L	ines	Electra Elite	Tie Li	ines	Electra Elite	Tie Li	ines	Electra Elite
		TG 10	TG 10		TG 11	TG 10		TG 11	TG 10	
	(100)			(200)			(300)			(400)
		-						-		
]	<u>MB 1-8-33</u>		M	<u>IB 1-8-33</u>		MB	<u>1-8-33</u>		<u>MB 1</u>	<u>1-8-33</u>
	Master		S	lave		Sla	ve		Slave	Э
]	<u>MB 1-11-01</u>		M	<u>IB 1-11-01</u>		MB	<u>1-11-01</u>		<u>MB 1</u>	<u>l-11-01</u>
(CC = B8ZS		С	C = B8ZS		CC	= B8ZS		CC =	B8ZS
]	<u>MB 1-11-07</u>		M	<u>IB 1-11-07</u>		MB	<u>1-11-07</u>		<u>MB 1</u>	<u>l-11-07</u>
-	TT = E&M		T	T = E&M		TT	= E&M		TT =	E&M
]	<u>MB 3-03</u>		M	<u>IB 3-03</u>		MB	<u>3-03</u>		<u>MB 3</u>	<u>3-03</u>
-	TRK 01~24 =	TG 10	Т т	RK 01~24 = T RK 25~48 = T	G 10	TRI	K 01~24 = TG K 25~48 = TG	6 10 5 11	TRK	01~24 =TG 10
			1	NN 23~40 = 1	011		R 25~40 − 10	, , ,		
]	<u>MB 3-04</u>	VES	<u>M</u>	<u>IB 3-04</u> DK 01 49 V	/F.O.	MB TD	<u>3-04</u> K 01 49 VE	<u>.</u>	<u>MB 3</u>	<u>3-04</u>
	IRK 01~24 =	TES	I	KK U = 1	Eð	IK	K U = 12	.5	IKK	01~24 = 165
]	<u>MB 3-14</u>		M	<u>IB 3-14</u>		MB	<u>3-14</u>		<u>MB 3</u>	<u>8-14</u>
	IRK 01~24 =	WINK	I	RK 01~48 = V	VINK	IR	K 01~48 = WI	NK	IRK	$01 \sim 24 = WINK$
]	<u>MB 3-91</u>		M	<u>IB 3-91</u>		<u>MB</u>	<u>3-91</u>		<u>MB 3</u>	<u>3-91</u>
-	TRK 01~24 =	Tie	Т	RK 01~48 = T	ie	TRI	K 01~48 = Ti€	9	TRK	01~24 = Tie
			M	<u>IB 4-10</u>		<u>MB</u>	<u>4-10</u>		<u>MB 4</u>	<u>l-10</u>
			A	ll Phone = 2X	Х	All	Phones = 3X)	X	All Pl	hones = 4XX

Step 2: Closed Numbering Plan

The following diagram provides an example of Memory Blocks that are programmed for Closed Numbering. The example assumes that Step 1: T1 Tie Lines was completed.

AC = Access CodeBLK = Closed Numbering BlockMB = Memory BlockACG = Access Item CodeTT = Trunk Type

Electra Elite IPK	TG 10 TG 10	Electra Elite IPK	TG 11 TG 10	Electra Elite IPK	TG 11 TG 10	Electra Elite IPK
(100)		(200)		(300)		(400)
100~130		200~230		300~330		400~430
Calling	Calling		<u>Calling</u>		Calling	
200 ~ 230	100 ~ 1	30	100 ~ 13	60	100 ~ 130	
300 ~ 330	300 ~ 3	30	200 ~ 23	0	200 ~ 230	
400 ~ 430	400 ~ 4	-30	400 ~ 43	0	300 ~ 330	
<u>MB 1-1-46</u>	<u>MB 1-1</u> -	<u>-46</u>	<u>MB 1-1-4</u>	<u>16</u>	<u>MB 1-1-46</u>	
AC 1 = Item 001	AC 1 =	Item 401	AC $1 = I$	tem 401	AC 1 = Ite	m 401
AC 2 = Item 401	AC 2 =	Item 001	AC $2 = I$	tem 402	AC 2 = Ite	m 402
AC 3 = Item 402	AC 3 =	Item 402	AC 3 = I	tem 001	AC 3 = Ite	m 403
AC 4 = Item 403	AC 4 =	Item 403	AC 4 = I	tem 403	AC $4 = $ Ite	m 001
<u>MB 1-1-49</u>	<u>MB 1-1</u> -	<u>-49</u>	<u>MB 1-1-4</u>	<u>19</u>	<u>MB 1-1-49</u>	2
BLK 01 = 110	BLK 01	= 110	BLK 01 =	= 110	BLK 01 =	110
BLK 02 = 110	BLK 02	= 111	BLK 02 =	= 110	BLK 02 =	110
BLK 03 = 110	BLK 03	= 111	BLK 03 :	= 111	BLK 03 =	110
<u>MB 1-1-50</u>	<u>MB 1-1</u> -	<u>-50</u>	<u>MB 1-1-5</u>	<u>50</u>	<u>MB 1-1-50</u>	<u>!</u>
BLK 01 = Add 2	BLK 01	= Add 1	BLK 01 =	= Add 1	BLK 01 =	Add 1
BLK 02 = Add 3	BLK 02	= Add 3	BLK 02 =	= Add 2	BLK 01 =	Add 2
BLK 03 = Add 4	BLK 03	= Add 4	BLK 03 =	= Add 4	BLK 01 =	Add 3

Note: Before moving on to the next step, test the T1 Tie lines and the Closed Numbering Plan.

Step 3: K-CCIS Activation

The following diagram provides an example of Memory Blocks that are programmed for K-CCIS. The example assumes that Step 1: T1 Tie Lines and Step 2: Closing Number Plan were completed.

DSTCCH = Destination Point CodeCCH = Control Channel HandlerTRK = TrunkORGCCH = Originating Point CodeTG = Trunk Group



<u>MB 3-70</u>	<u>MB 3-70</u>	<u>MB 3-70</u>	<u>MB 3-70</u>
TRK 01~23 = 001~023	TRK 01~23 = 001~023	TRK 01~23 = 001~023	TRK 01~23 = 001~023
	TRK 25~47 = 001~023	TRK 25~47 = 001~023	
MD 2 02	MD 2 02	MD 2 02	MD 2 02
			<u>MD 3-03</u>
1 RK 24 = 00	1RK 24 = 00	1RK 24 = 00	1RK 24 = 00
	TRK 48 = 00	TRK 48 = 00	
MB 3-91	MB 3-91	MB 3-91	MB 3-91
TRK 24 = CO	TRK 24 = CO	TRK 24 = CO	TRK 24 = CO
	TRK 48 = CO	TRK 48 = CO	TRK 48 = CO
<u>MB 1-15-01</u>	<u>MB 1-15-01</u>	<u>MB 1-15-01</u>	<u>MB 1-15-01</u>
CCH 1 = 56K	CCH 1 = 56K	CCH 1 = 56K	CCH 1 = 56K
	CCH2 = 56K	CCH2 = 56K	
MR 1-15-02	MR 1-15-02	MR 1.15.02	MB 1-15-02
$\frac{1}{1} \frac{1}{1} \frac{1}$	$\frac{1}{1} \frac{1}{1} \frac{1}$	$\frac{1}{2} \frac{1}{2} \frac{1}$	
CCH I = IKK 24			GGH I = IKK 24
	CCH2 = TRK 48	CCH 2 = TRK 48	
<u>MB 1-15-03</u>	<u>MB 1-15-03</u>	<u>MB 1-15-03</u>	<u>MB 1-15-03</u>
ORGCCH 1 = 00001	ORGCCH 1 = 00002	ORGCCH 1 = 00003	ORGCCH 1 = 00004
	ORGCCH 2 = 00002	ORGCCH 2 = 00003	

<u>MB 1-15-04</u> DSTCCH1 = 00002	<u>MB 1-15-04</u> DSTCCH 1 = 00001 DSTCCH 2 = 00003	<u>MB 1-15-04</u> DSTCCH 1 = 00002 DSTCCH 2 = 00004	<u>MB 1-15-04</u> DSTCCH 1 = 00003
<u>MB 1-15-05</u>	<u>MB 1-15-05</u> T001:00001 = 1 T002:00003 = 2 T003:00004 = 2	<u>MB 1-15-05</u> T001:00001 = 1 T002:00002 = 1 T003:00004 = 2	<u>MB 1-15-05</u>
MB 1-15-06	MB 1-15-06	MB 1-15-06	MB 1-15-06
Office = Vacant	Office = Vacant	Office = Vacant	Office = Vacant
<u>MB 5-05</u>	<u>MB 5-05</u>	<u>MB 5-05</u>	<u>MB 5-05</u>
TG 10 = CCH 1	TG 10 = CCH 1	TG 10 = CCH 1	TG 10 = CCH 1
	TG 11 = CCH 2	TG 11 = CCH 2	
MB 5-06	MB 5-06	MB 5-06	MB 5-06
TG 10 = H ⊏) L	TG 10 = L ⊏> H	TG 10 = H ⊏) L	TG 10 = L ⊏> H
-	TG 11 = L ⊨> H	TG 11 = H ⊏) L	-
<u>MB 1-15-00</u> *Main	<u>MB 1-15-00</u> *Remote	<u>MB 1-15-00</u> *Remote	<u>MB 1-15-00</u> *Remote

* Any setting other than NONE (default) activates K-CCIS. A setting of Main or Remote depends on the system software level and the system location.

1.6.1 Closed Number Programming Example using Automatic Route Selection

The following diagram provides an example of Memory Blocks that are programmed for Closed Numbering using ARS Table 4. ARS table 4 automatically inserts the access code assigned in MB 1-14-01 in front of digits dialed. This diagram and programming example can replace **STEP 2** in Closed Number Programming Example.

	_			r			
Electra Elite IPK	TG 10 TG 10	Electra Elite IPK	TG 11	TG 10	Electra Elite IPK	TG 11 TG 10	Electra Elite IPK
(100)		(200)]		(300)		(400)
100~130		200~230			300~330		400~430
Calling	Ca	lling		Calling	r.	<u>Calling</u>	
200 ~ 230	10	0 ~ 130		100 ~ 1	130	100 ~ 1	30
300 ~ 330	30	0 ~ 330		200 ~ 2	230	200 ~ 2	30
400 ~ 430	40	0 ~ 430		400 ~ 4	430	300 ~ 3	30
<u>MB 1-1-46</u>	<u>M</u>	<u>B 1-1-46</u>		<u>MB 1-1</u>	<u>l-46</u>	<u>MB 1-1-</u>	<u>-46</u>
AC 1 = Item 00	1 AC	21 = Item 604		AC 1 =	Item 604	AC 1 =	Item 604
AC 2 = Item 60	4 AC	2 = 1 tem 001		AC 2 =	Item 604	AC 2 =	Item 604
AC $3 = \text{Item } 60^{4}$	4 AC	3 = 1 tem 604		AC 3 =	: Item 001	AC 3 =	Item 604
AC 4 = Item 60^{4}	4 AC	5 4 = Item 604		AC 4 =	1tem 604	AC 4 =	Item 001
<u>MB 1-14-01</u>	M	<u>B 1-14-01</u>		<u>MB 1-1</u>	<u>14-01</u>	<u>MB 1-14</u>	<u>4-01</u>
TB 04 DN 01 =	2 TB	04 DN 01 = 1		TB 04	DN 01 = 1	TB 04 D	0N 01 = 1
1B 04 DN 02 =	3 TB	04 DN 02 = 3			DN 02 = 2	TB 04 D	0N 02 = 2
1B 04 DN 03 =	4 IB	5 04 DN 03 = 4		IB 04	UN 03 = 4	1 B 04 L	03 = 3
<u>MB 1-14-02</u>	M	<u>B 1-14-02</u>		<u>MB 1-1</u>	<u>14-02</u>	<u>MB 1-14</u>	<u>4-02</u>
TB 04 DN 01 =	Yes TB	04 DN 01 = Ye	es	TB 04	DN 01 = Yes	TB 04 E	0N 01 = Yes
IB 04 DN 02 =	Yes TE	0.04 DN 02 = Ye	s		DN 02 = Yes		ON 02 = Yes
1 B 04 DN 03 = 3	res IE	5 04 DN 03 =Ye	5	IB 04	UN U3 =Yes	1 B 04 L	UN U3 = Yes
<u>MB 1-14-03</u>		<u>B 1-14-03</u>	F 04	<u>MB 1-1</u>	14-03	<u>MB 1-14</u>	<u>4-03</u>
IB 04 DN 01 =		0.04 DN 01 = R	1 U1 F 00		UN U1 = KI U1		VN U1 = KI U1
TB 04 DN 02 =		04 DN 02 = R	1 UZ E 02		DN 02 = KT 02	2 ΙΒΟ4Ι Σ ΤΡΟΛΓ	VN UZ = KI UZ
1 D 04 DN 03 =		0 04 DN 03 = R	1 03	10 04	UN US = KT US	0 1004L	0.00 = 100 = 100
<u>MB 1-14-04</u>	<u>M</u>	<u>B 1-14-04</u>		<u>MB 1-1</u>	<u>14-04</u>	<u>MB 1-14</u>	<u>4-04</u>
RI U1 = IG 10	R I	01 = 1G 10			= 1G 10 - TC 10	KI 01 =	= 1G 10 TC 10
RT 02 = TG 10	R I	02 = 10 11			= 1G 10 - TG 11	RT 02 =	TG10
KT 05 = 10 10	KI	03 = 10 11		111-03	- 10 11	KT 03 =	. 1010
<u>MB 1-14-07</u>	<u>M</u>	<u>B 1-14-07</u>		<u>MB 1-1</u>	<u>14-07</u>	<u>MB 1-14</u>	<u>4-07</u>
RT 01 = 03	RT	01 = 03		RT 01	= 03	RT 01 =	: 03
RT 02 = 03	RT	02 = 03		RT 02	= 03	RT 02 =	= 03
RT 03 = 03	RT	03 = 03		RT 03	= 03	RT 03 =	: 03

1.7 **Open Number Programming Example**

This sections provides the steps needed to program an open numbering plan.

Step 1: T1 Tie Lines

The following diagram provides an example of Memory Blocks that are programmed for T1 Tie lines. The example assumes that the Electra Elite IPK systems are defaulted with the T1 ETUs and the CCH ETU(s) are installed.

Abbreviations used in the diagram:

MB = Memory Block TRK = Trunk CC = Clear Channel

TG = Trunk Group

TT = Trunk T

Electra Elite IPK	Tie L	ines	Electra Elite IPK	Tie L	ines	Electra Elite IPK	Tie L	ines	Electra Elite IPK
System A 25	TG 10	TG 10	System B 26	TG 11	TG 10	System C 27	TG 11	TG 10	System D 28
(100)			(100)			(100)			(100)
MR 1.8.33		м	IR 1.8.33		MB	1-8-33		MR 1	-8-33
Master		SI	lave		Sla	ve		Slave	e
<u>MB 1-11-01</u>		<u>M</u>	[<u>B 1-11-01</u>		MB	<u> </u>		<u>MB 1</u>	<u>l-11-01</u>
CC = B8ZS		C	C = B8ZS		CC	= B8ZS		CC =	B8ZS
<u>MB 1-11-07</u> TT 1= E&M		<u>М</u> Т Т	(B 1-11-07 T 1= E&M T 2= E&M		<u>MB</u> TT TT	<u>- 1-11-07</u> 1= E&M 2= E&M		<u>MB 1</u> TT 1:	L <u>-11-07</u> = E&M
<u>MB 3-03</u> TRK 01~24 = TG 10		M TI TI	<u>MB 3-03</u> TRK 01~24 = TG 10 TRK 25~48 = TG 11		<u>MB</u> TRI TRI	<u>MB 3-03</u> TRK 01~24 = TG 10 TRK 25~48 = TG 11		<u>mb 3</u> Trk	<u>3-03</u> 01~24 =TG 10
<u>MB 3-04</u> TRK 01~24 =	YES	<u>M</u> TI	(<u>B 3-04</u>) RK 01~48 = Y	ES	<u>MB</u> TRI	<u>8 3-04</u> K 01∼48 = YE	S	<u>MB 3</u> TRK	<u>3-04</u> 01∼24 = YES
<u>MB 3-14</u> TRK 01~24 =	WINK	<u>M</u> TI	I <u>B 3-14</u> RK 01~48 = V	VINK	<u>MB 3-14</u> TRK 01~48 = WINK		INK	<u>MB 3</u> TRK	<u>3-14</u> 01~24 =WINK
<u>MB 3-91</u> TRK 01~24 =	Tie	<u>M</u> TI	I <u>B 3-91</u> RK 01~48 = T	ie	<u>MB</u> TRI	<mark>3 3-91</mark> K 01~48 = Ti€	9	<u>MB 3</u> TRK	<u>8-91</u> 01~24 = Tie

Step 2: Open Numbering Plan

The following diagram provides an example of Memory Blocks that are programmed for Open Numbering. The example assumes that Step 1: T1 Tie Lines was completed.

Abbreviations	used	in	the	diagram:

Calling

100 ~ 130

<u>MB 1-1-46</u>

MB 1-14-01

MB 1-14-02

<u>MB 1-14-03</u>

AC 8 = Item 601

TB 01 DN 01 = 25

TB 01 DN 02 = 26

TB 01 DN 03 = 27

TB 01 DN 04 = 28

TB 01 DN 01 = Yes

TB 01 DN 02 = Yes

TB 01 DN 03 = Yes

TB 01 DN 04 = Yes

AC = Access Code ACG = Access Item Code

RT = Route

TB = ARS Table

MB = Memory Block

Electra Elite IPK	TG 10 TG 10	Electra Elite IPK	TG 11 TG 10	Electra Elite IPK	TG 11 TG 10	Electra Elite IPK
System A 25		System B 26		System C 27		System D 28
(100)		(100)		(100)		(100)
100~130		100~130		100~130		100~130

100~130

100~130

Calling

<u>Callin</u>	g
100 ~	130

MB 1-1-46 AC 8 = Item 601

MB 1-14-01

TB 01 DN 01 = 25 TB 01 DN 02 = 26 TB 01 DN 03 = 27 TB 01 DN 04 = 28

MB 1-14-02

TB 01 DN 01 = Yes TB 01 DN 02 = Yes TB 01 DN 03 = Yes TB 01 DN 04 = Yes

<u>MB 1-14-03</u>

TB 01 DN 01 = RT 01 TB 01 DN 01 = RT 01 TB 01 DN 02 = RT 02 TB 01 DN 02 = RT 02 TB 01 DN 03 = RT 03 TB 01 DN 03 = RT 03 TB 01 DN 04 = RT 04 TB 01 DN 04 = RT 04 **Calling** 100 ~ 130

MB 1-1-46 AC 8 = Item 601

MB 1-14-01

TB 01 DN 01 = 25 TB 01 DN 02 = 26 TB 01 DN 03 = 27 TB 01 DN 04 = 28

MB 1-14-02

TB 01 DN 01 = Yes TB 01 DN 02 = Yes TB 01 DN 03 = Yes TB 01 DN 04 = Yes

MB 1-14-03

TB 01 DN 01 = RT 01 TB 01 DN 02 = RT 02 TB 01 DN 03 = RT 03 TB 01 DN 04 = RT 04

MB 1-1-46 AC 8 = Item 601

100 ~ 130

MB 1-14-01 TB 01 DN 01 = 25 TB 01 DN 02 = 26

TB 01 DN 03 = 27 TB 01 DN 04 = 28

MB 1-14-02

TB 01 DN 01 = Yes TB 01 DN 02 = Yes TB 01 DN 03 = Yes TB 01 DN 04 = Yes

<u>MB 1-14-03</u>

TB 01 DN 01 = RT 01 TB 01 DN 02 = RT 02 TB 01 DN 03 = RT 03 TB 01 DN 04 = RT 04

<u>MB 1-14-04</u>	<u>MB 1-14-04</u>	<u>MB 1-14-04</u>	<u>MB 1-14-04</u>
RT 01 = ICM	RT 01 = TG 10	RT 01 = TG 10	RT 01 = TG 10
RT 02 = TG 10	RT 02 = ICM	RT 02 = TG 10	RT 02 = TG 10
RT 03 = TG 10	RT 03 = TG 11	RT 03 = ICM	RT 03 = TG 10
RT 04 = TG 10	RT 04 = TG 11	RT 04 = TG 11	RT 04 = ICM
<u>MB 1-14-05</u>	<u>MB 1-14-05</u>	<u>MB 1-14-05</u>	<u>MB 1-14-05</u>
RT 01 = 03	RT 01 = 00	RT 01 = 00	RT 01 = 00
RT 02 = 00	RT 02 = 03	RT 02 = 00	RT 02 = 00
RT 03 = 00	RT 03 = 00	RT 03 = 03	RT 03 = 00
RT 04 = 00	RT 04 = 00	RT 04 = 00	RT 04 = 03
<u>MB 1-14-06</u>	<u>MB 1-14-06</u>	<u>MB 1-14-06</u>	<u>MB 1-14-06</u>
RT 01 = Blank	RT 01 = 8	RT 01 = 8	RT 01 = 8
RT 02 = 8	RT 02 = Blank	RT 02 = 8	RT 02 = 8
RT 03 = 8	RT 03 = 8	RT 03 = Blank	RT 03 = 8
RT 04 = 8	RT 04 = 8	RT 04 = 8	RT 04 = Blank
<u>MB 1-14-07</u>	<u>MB 1-14-07</u>	<u>MB 1-14-07</u>	<u>MB 1-14-07</u>
RT 01 = 03	RT 01 = 06	RT 01 = 06	RT 01 = 06
RT 02 = 06	RT 02 = 03	RT 02 = 06	RT 02 = 06
RT 03 = 06	RT 03 = 06	RT 03 = 03	RT 03 = 06
RT 04 = 06	RT 04 = 06	RT 04 = 06	RT 04 = 03

Note: Before moving to the next step, test the T1 Tie lines and the Open Numbering Plan.

Step 3: K-CCIS Activation

The following diagram provides an example of Memory Blocks that are programmed for K-CCIS. The example assumes that Step 1: T1 Tie Lines and Step 2: Open Number Plan were completed.

DSTCCH = Destination Point Code CCH = Control Channel Handler TRK = Trunk ORGCCH = Originating Point Code TG = Trunk Group

Electra Elite IPK			Electra Elite IPK	E	Electra Elite IPK			
	MAIN Electra Elite	TG 10	TG 10	REMOTE Electra Elite	TG 11 TG 10	REMOTE Electra Elite	TG 11 TG 10	REMOTE Electra Elite
	IPK	TG 00	TG 00	IPK	TG 00 TG 00	IPK	TG 00 TG 00	IPK
	System A 25			System B 26	ССН	System C 27	ССН	System D 28
	(100)	CCH1	CCH1	(100)	CCH2 CCH1	(100)	CCH2 CCH1	(100)
	PC00001 100~130			PC00002 100~130		PC00003 100~130		PC00004 100~130

<u>MB 3-70</u> TRK 01~23 = 001~023	<u>MB 3-70</u> TRK 01~23 = 001~023 TRK 25~47 = 001~023	<u>MB 3-70</u> TRK 01~23 = 001~023 TRK 25~47 = 001~023	<u>MB 3-70</u> TRK 01~23 = 001~023
<u>MB 3-03</u> TRK 24 = 00	<u>MB 3-03</u> TRK 24 = 00 TRK 48 = 00	<u>MB 3-03</u> TRK 24 = 00 TRK 48 = 00	<u>MB 3-03</u> TRK 24 = 00
<u>MB 3-91</u> TRK 24 = CO	<u>MB 3-91</u> TRK 24 = CO TRK 48 = CO	<u>MB 3-91</u> TRK 24 = CO TRK 48 = CO	<u>MB 3-91</u> TRK 24 = CO TRK 48 = CO
<u>MB 1-15-01</u> CCH 1 = 56K	<u>MB 1-15-01</u> CCH 1 = 56K CCH2 = 56K	<u>MB 1-15-01</u> CCH 1 = 56K CCH2 = 56K	<u>MB 1-15-01</u> CCH 1 = 56K
<u>MB 1-15-02</u> CCH 1 = TRK 24	<u>MB 1-15-02</u> CCH 1 = TRK 24 CCH2 = TRK 48	<u>MB 1-15-02</u> CCH 1 = TRK 24 CCH 2 = TRK 48	<u>MB 1-15-02</u> CCH 1 = TRK 24
<u>MB 1-15-03</u> ORGCCH 1 = 00001	<u>MB 1-15-03</u> ORGCCH 1 = 00002 ORGCCH 2 = 00002	<u>MB 1-15-03</u> ORGCCH 1 = 00003 ORGCCH 2 = 00003	<u>MB 1-15-03</u> ORGCCH 1 = 00004

<u>MB 1-15-04</u> DSTCCH1 = 00002	<u>MB 1-15-04</u> DSTCCH 1 = 00001 DSTCCH 2 = 00003	<u>MB 1-15-04</u> DSTCCH 1 = 00002 DSTCCH 2 = 00004	<u>MB 1-15-04</u> DSTCCH 1 = 00003
<u>MB 1-15-05</u>	<u>MB 1-15-05</u> T001:00001 = 1 T002:00003 = 2 T003:00004 = 2	<u>MB 1-15-05</u> T001:00001 = 1 T002:00002 = 1 T003:00004 = 2	<u>MB 1-15-05</u>
<u>MB 1-15-06</u> Office = 825	<u>MB 1-15-06</u> Office = 826	<u>MB 1-15-06</u> Office = 827	<u>MB 1-15-06</u> Office = 828
<u>MB 5-05</u> TG 10 = CCH 1	<u>MB 5-05</u> TG 10 = CCH 1 TG 11 = CCH 2	<u>MB 5-05</u> TG 10 = CCH 1 TG 11 = CCH 2	<u>MB 5-05</u> TG 10 = CCH 1
<u>MB 5-06</u> TG 10 = H ⊏ 〉 L	<u>MB 5-06</u> TG 10 = L ⊏> H TG 11 = L ⊏> H	<u>MB 5-06</u> TG 10 = H ⊏ 〉 L TG 11 = H ⊏ 〉 L	<u>MB 5-06</u> TG 10 = L ⊏} H

Note: Any setting other than NONE (default) activates Electra Elite IPK. A setting of Main or Remote depends on the system software level and system location.

1.8 Dedicated Tandem CO Trunk Calls

The following diagram provides an example of Memory Blocks that are programmed when all Local and Long Distance CO calls, from the REMOTE site, are routed through the MAIN site using Automatic Route Selection (ARS).

The example assumes that the Electra Elite IPK systems are connected via K-CCIS and using Closed Numbering Plan. All local calls are 10-digit dial and all 1+ calls are 11-digit dial. Only one COTrunk is set for 911 in the REMOTE system.



<u>MB 1-14-03</u>

TB 01 DN 01 = RT 01 TB 01 DN 02 = RT 02 TB 01 DN 03 = RT 03

<u>MB 1-14-04</u>

RT 01 = TG 10 RT 02 = TG 10 RT 03 = TG 10

<u>MB 1-14-05</u>

RT 01 = 00 RT 02 = 00 RT 03 = 00

<u>MB 1-14-06</u>

RT 01 = 9 RT 02 = 9 RT 03 = 9

<u>MB 1-14-07</u>

RT 01 = 11 RT 02 = 10 RT 03 = 1

1.9 Shared Tandem CO Trunk Calls

The following diagram provides an example of Memory Blocks that are programmed when two sites share CO lines for reducing Long Distance calls using Automatic Route Selection (ARS).

The example assumes that the Electra Elite IPK systems are connected via K-CCIS and using Closed Numbering Plan. All local calls are 10-digit dial and all 1+ calls are 11-digit dial.


<u>MB 1-14-04</u>	<u>MB 1-14-04</u>
RT 01 = TG 10	RT 01 = TG 10
RT 02 = TG 10	RT 02 = TG 10
<u>MB 1-14-05</u>	<u>MB 1-14-05</u>
RT 01 = 00	RT 01 = 00
RT 02 = 00	RT 02 = 00
<u>MB 1-14-06</u>	<u>MB 1-14-06</u>
RT 01 = 9	RT 01 = 9
RT 02 = 9	RT 02 = 9
MR 1-14-07	MB 1-14-07
DT 01 = 11	$\frac{1}{1}$ DT 01 - 11
RT 02 = 11	RT 02 = 11

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Chapter 4

Features and Specifications

SECTION 1 GENERAL INFORMATION

Key-Common Channel Interoffice Signaling (K-CCIS) allows multiple systems to be connected together to provide additional feature compatibility, above what normal Tie Lines provide. The system is configured with the 24-channel Digital Trunk Interface (DTI), a Common Channel Handler (CCH) for receiving/transmitting common signaling data from/to the distant office and a CLK unit for network synchronization. The system provides a variety of interoffice service features such as Calling Name Display, Centralized Voice Mail Integration and Link Reconnect.

The following features are available with the Electra Elite IPK system. The remainder of this chapter discusses each feature in detail.

- □ Call Forwarding All Calls (K-CCIS)
- Call Forwarding Busy/No Answer (K-CCIS)
- □ Call Transfer All Calls (K-CCIS)
- □ Calling Name Display (K-CCIS)
- □ Calling Number Display (K-CCIS)
- Centralized Billing (K-CCIS)
- Centralized Day/Night Mode Change (K-CCIS)
- Dial Access to Attendant (K-CCIS)
- Direct Inward Dialing (K-CCIS)
- Dual Hold (K-CCIS)
- Elapsed Time Display (K-CCIS)
- □ Flexible Numbering of Stations (K-CCIS)
- Handsfree Answerback (K-CCIS)
- □ Hot Line (K-CCIS)

- □ Link Reconnect (K-CCIS)
- □ Multiple Call Forwarding All Calls (K-CCIS)
- □ Multiple Call Forwarding Busy/No Answer (K-CCIS)
- Paging Access (K-CCIS)
- □ Station-to-Station Calling (K-CCIS)
- Uniform Numbering Plan (K-CCIS)
- □ Voice Calls (K-CCIS)
- □ Voice Mail Integration (K-CCIS)

SECTION 2 SYSTEM REQUIREMENTS

2.1 Software

To program the expanded Route Advance Block Assignments for Least Cost Routing (LCR), MIFM-U() software version 4.00 or higher and LCR PC software 3.00 or higher are required.

2.2 Hardware

The following components are required:

DTI-U30 ETU

CCH(4)-U10 ETU

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 ETU with KMM(1.0)U (if call routing using LCR)

2.3 Terminals

All Electra Elite IPK Multiline Terminals can be used with Electra Elite IPK system.

SECTION 3 K-CCIS SERVICE CONDITIONS

The following service conditions apply when programming the Electra Elite IPK system. These conditions are grouped into categories to make them easier to find.

General:

- A maximum of one CCH(4)-U10 ETU can be installed in a system.
- The maximum number of K-CCIS routes is four per system.
- One DTI-U30 can be used to support/connect a maximum of four K-CCIS Links.
- The maximum number of DTI trunks used for K-CCIS Voice paths is:
 - O Electra Elite Expanded Port Package = 63
 - Electra Elite Basic Port Package = 15
- □ The K-CCIS feature shares the available CO/PBX/Tie/DID trunks with the system.
- When assigning a Closed Numbering Plan, the Electra Elite IPK uses the Closed Number Blocks.
- □ When assigning an Open Numbering Plan, the Electra Elite IPK uses the Automatic Route Selection (ARS) tables 1, 2 or 3.
- □ If all K-CCIS voice channels are busy when an Electra Elite user attempts to make a K-CCIS call, the originator hears a BusyTone from the system.
- □ In a K-CCIS network, outgoing CO calls can be routed over the K-CCIS link and then use the distant system CO lines.
- Distant extension numbers in the K-CCIS network can be assigned to Feature Access or One-Touch keys and Speed Dial buffers.

Restrictions:

- The Electra Elite IPK system only supports 2-, 3-, or 4-digit station numbers.
- □ For a Closed Numbering Plan network, a maximum of 16 Numbering Blocks are available allowing a maximum of 17 connected systems per K-CCIS network.
- In a Closed Numbering Plan network, a user can call another station by dialing the distance extension number. When a Closed Numbering plan is used the extensions in the network cannot have the same prefix number.

- For an Open Numbering Plan network, the Automatic Route Selection (ARS) feature, tables 1, 2 or 3 must be used to place Station-to-Station calls over K-CCIS.
- In an Open Numbering Plan network, a user can call another station by dialing the office location number followed by extension number. When an Open Numbering plan is used the extensions in the network can have the same prefix number, however the office location number cannot be the same.
- An Elite IPK K-CCIS network should never have more than a maximum of 5 hops (tandem connections). The reason for the Hop limitation is due to the CCH message being delayed through each tandem system.
- A Star Topology network only supports a total of five systems. This restriction is due to CCH channels in the Main/Hub System.
- ☐ A Tree Topology network is supported. The maximum number of systems allowed is depended on the type of numbering plan used and maximum number of hops (tandem connections).
- A Mesh Topology network is not supported in a K-CCIS network that contains only Elite KTS systems.

Refer to Chapter 1, Section 3 Network Structure Considerations on page 1-9 for details concerning Star, Tree and Mesh topology.

- K-CCIS requires a point code to be assigned per system (office). Point codes are used to distinguish between an originating office and destination office in the K-CCIS network. The following considerations are required when assigning Point Codes.
 - The point code must be unique in the same network.
 - When a system that has two or more CCH channels, the same Point Code (originating) has to be assigned to all CCH channels in that system.
 - The Electra Elite IPK can have a maximum of 255 Point Codes assigned for distant systems.
- With an Elite-to-Elite network, centralized voice mail is not supported when an Open Numbering plan is used.
- Each Electra Elite IPK system in a K-CCIS network is required to have at least one local trunk for Emergency 911 calls.
- With a NEAX-to-Elite network, the PBX must supply the voice mail for centralized voice mail.
- Multiline Terminals must have an available Call Appearance (CAP) key to originate or answer a K-CCIS call. K-CCIS calls are treated as trunk calls.

- Direct access of K-CCIS voice or data channels, using Line Keys or Specified Line Seizure access codes, is not allowed.
- A Single Line Telephone or PSII user cannot transfer a trunk or K-CCIS call to another user on a remote system across K-CCIS.
- □ The Recall key and the Drop Key functions do not operate on K-CCIS calls. If either key is pressed, the operation is ignored and the call continues.
- **Trunk Queuing is not supported on K-CCIS trunk route.**
- The ability to route an incoming DID call directly across a K-CCIS link (Direct Inward Dialing – K-CCIS) is only supported when a Closed Numbering Plan is in use.
- This feature is not supported by Analog TLI(2)-U10 lines interface.
- □ The DSS Console does not support the Direct Station Selection for a station on a remote system.
- A PSII is unable to place K-CCIS calls on hold or into the transfer state until the ISDN Dial Interval Time Selection (MB 1-1-81) has expired.
- K-CCIS calls into ACD Plus is not supported. This restriction applies because Specified Line Seizure Access Codes are not allowed.

Data Assignment:

- Use Memory Block 1-1-46/47/48 (Access Code Assignments) for assigning a Closed Numbering Plan (Closed Number Block) or an Open Numbering Plan (ARS Access for Class 1 ~ 3).
- Use Memory Block 1-15-00 (K-CCIS Main/Remote Office Selection) to activate K-CCIS by assigning a Main or Remote system.
- Use Memory Block 1-15-01 (Common Signal Channel Data Speed Assignment) to assign the data transmission speed for each Common Signaling Channel.
- Use Memory Block 1-15-02 (Common Signal Channel Assignment) to assign the T1 Trunk(s) to be a Common Signaling Channel.
- □ Use Memory Block 1-15-03 (Originating Point Code Assignment) to assign the originating point code for each Common Signaling Channel.
- Use Memory Block 1-15-04 (Destination Point Code Assignment) to assign the destination point code for each Common Signaling Channel.

- □ Use Memory Block 1-15-05 (Destination Point Code Transfer Assignment) to assign the incoming point code(s) to the destination Common Signaling Channel when tandem calls are required. A maximum of 255 Point Codes per system can be assigned.
- □ Use Memory Block 1-15-06 (Originating Office Code Number Assignment) to assign the Office Code to the system when an Open Numbering Plan is in use.
- Use Memory Block 1-15-07 (K-CCIS Message Response Timeout Assignment) to assign the length of time before a call or message request is canceled if no response is received from the destination office.
- Use Memory Block 1-15-08 (Link Reconnect Allow/Deny Selection) to allow or deny the Link Reconnect feature.
- Use Memory Block 1-15-09 (K-CCIS Maximum Call Forwarding Hop Assignment) to specify the maximum number of multiple Call Forwarding hops over the K-CCIS Network.
- Use Memory Block 1-15-10 (Calling Name Display Allow/Deny Selection) to allow or deny the sending of station name display per Common Signaling Channel.
- □ Use Memory Block 3-70 (CIC Number Assignment) to assign the Circuit Identification Code (CIC) for each voice channel used for K-CCIS.
- Use Memory Block 5-04 (LCR Class to Trunk Group Selection) to specify per trunk group the Least Cost Routing (LCR)/Automatic Route Selection (ARS) Class. For systems connected via K-CCIS, the Electra Elite IPK can analyze incoming phone numbers received from a distant system and use its LCR/ARS assignments to route the call out to its desired destination.
- Use Memory Block 5-05 (Common Signaling Channel Route Selection) to specify the Common Signaling Channel to each of the voice trunk groups used for K-CCIS.
- □ Use Memory Block 5-06 (Trunk Group Outgoing Priority Selection) to assign the Outgoing Priority for trunk access to each Trunk Group.

SECTION 4 FEATURES

In this section, each feature available with K-CCIS is discussed in detail.

Call Forwarding – All Calls (K-CCIS)

FEATURE DESCRIPTION

This feature allows all calls destined for a particular station to be routed to another station or to an Attendant, in another office in the K-CCIS network, regardless of the status (busy or idle) of the called station. The activation and cancellation of this feature may be accomplished by either the station user or an Attendant position if allowed by Class of Service (COS). Attendant Positions can be used to cancel Call Forward - All Call system-wide.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

To set Call Forward – All Calls (K-CCIS) from a Multiline Telephone (Closed Numbering plan):

- 1. Press the Call Forward All ON/OFF key.
- 2. Dial the remote K-CCIS station number.
- 3. Press Speaker).

- OR -

- 1. Lift the handset or press (Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ {}_{\tiny en} \end{pmatrix}$ (set as default).
- 3. Dial the remote K-CCIS station number.
- 4. Restore handset or press Speaker).

To set Call Forward – All Calls (K-CCIS) from a Multiline Telephone (Open Numbering Plan):

- 1. Press the Call Forward All ON/OFF key.
- 2. Dial the trunk Access Code (normally $(\overset{\textcircled{B}}{\textcircled{W}})$).
- 3. Dial the Office Code number.
- 4. Dial the distant K-CCIS station number.
- 5. Press Speaker.

- OR -

- 1. Lift the handset or press (Speaker).
- 2. Dial Access Code $\binom{4}{\text{GH}}$ (set as default).
- 3. Dial the trunk Access Code (normally $\binom{9}{W}$).
- 4. Dial the Office Code number.
- 5. Dial the distant K-CCIS station number.
- 6. Restore handset or press Speaker).

To cancel Call Forward – All Calls (K-CCIS) from a Multiline Telephone:

- 1. Press Call Forward All ON/OFF key.
- 2. Press Speaker.

- OR -

- 1. Lift the handset or press Speaker.
- 2. Dial Access Code $\begin{pmatrix} 4 \\ GH \end{pmatrix}$ $\begin{pmatrix} 2 \\ GH \end{pmatrix}$ (set as default).
- 3. Restore the handset or press (Speaker).

To set for any station on - Attendant Positions only (Closed Numbering Plan):

- 1. Lift the handset or press Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ GH \end{pmatrix}$ $\begin{pmatrix} 7 \\ GRS \end{pmatrix}$ (set as default).
- 3. Dial the station number to be forwarded
- 4. Dial the remote K-CCIS station number.
- 5. Restore handset or press Speaker).

To set for any station - Attendant Positions only (Open Numbering Plan):

- 1. Lift the handset or press Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ GH \end{pmatrix}$ $\begin{pmatrix} 7 \\ QRS \end{pmatrix}$ (set as default).
- 3. Dial the station number to be forwarded.
- 4. Dial the trunk Access Code (normally $\binom{\vartheta}{\text{rev}}$).
- 5. Dial the Office Code number.
- 6. Dial the distant K-CCIS station number.
- 7. Restore handset or press Speaker.

To cancel for any station - Attendant Positions only:

1. Lift the handset or press Speaker.

- 2. Dial Access Code $\begin{pmatrix} 4 \\ GH \end{pmatrix}$ (set as default).
- 3. Dial the station number where forwarding is to be canceled.
- 4. Restore handset or press Speaker).

SERVICE CONDITIONS

General:

Any station or Call Arrival (CAR) key can be set for Call Forwarding - All Calls -K-CCIS.

Restrictions:

- Call Forward Off-Premise must be allowed in Class of Service (Station)
 Feature Selection to set call forwarding to a remote K-CCIS station number.
- Trunk-to-Trunk Transfer must be allowed in Memory Block 3-04 (Trunk-to-Trunk Transfer Yes/No Selection).
- An Single LineTelephone or PSII user is allowed to transfer a trunk call to another internal station that is set for Call Forwarding - All Calls (K-CCIS), however, when the distant party answers the call, a conference cannot be established.
- ☐ The destination station in the distant systems is the only station that can call a station with Call Forwarding All Calls (K-CCIS) set.

RELATED FEATURE LIST

- Call Forwarding Busy/No Answer (K-CCIS)
- □ Multiple Call Forwarding All Calls (K-CCIS)
- □ Multiple Call Forwarding Busy/No Answer (K-CCIS)
- □ Link Reconnect (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Memory Block	System Data Name	Description/ Selection	Description/ Selection Assigned Data	
1-8-07	Class of Service (Attendant) Feature Selection 1	Call Forward - Set/Reset from Destination Station	Page 2, LK2 On = Allow ◀ Off = Deny	
		System-wide Reset of Call Forward - All Call	Page 2, LK3 On = Allow Off = Deny ◀ ◀ = Default for class 00	
1-8-08	Class of Service (Station) Feature Selection 2	Call Forward - All Calls/ DND	Page 1, LK1 On = Allow ◀ Off = Deny	
		Call Forward – Off-Premise	Page 5, LK4 On = Allow Off = Deny ◀ ◀ = Default for class 00	
4-17	Station to Class of Service Feature Assignment	Select Stations and Class Type - Selection 1 or 2	Assign appropriate class	
4-12	Line Key Selection for Telephone Mode	Select Stations and Line key to be assigned	Page 1, LK4 Call Forward All -Set/ Reset	
3-04	Trunk-to-Trunk Transfer Yes/ No Selection	Allow for CO/PBX lines to be assigned	LK1 = No ◀ LK2 = Yes ◀ = Default all Trunks	
1-15-08	Link Reconnect Allow/Deny Selection	Select Allow or Deny	LK1 = No LK2 = Yes ◀ ◀ = Default	
1-15-09	K-CCIS Maximum Call Forwarding Hop Assignment	Select the maximum number of Call Forward hops	Range: 1 to 7 Default = 5	

This guide provides a list of associated Memory Blocks that support this feature.

Call Forwarding - Busy/No Answer (K-CCIS)

FEATURE DESCRIPTION

This feature permits a call to a Busy or unanswered station to be forwarded to another station or an Attendant, in another office in the K-CCIS network. The activation and cancellation of this feature may be accomplished by either the station user or an Attendant position if allowed by Class of Service (COS).

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

To set Call Forward – Busy/No Answer (K-CCIS) from a Multiline Telephone: (Closed Numbering Plan):

- 1. Press the Call Forward Busy/No Answer ON/OFF key.
- 2. Dial the remote K-CCIS station number.
- 3. Press Speaker).

- OR -

- 1. Lift the handset or press Speaker.
- 2. Dial Access Code $\begin{pmatrix} 4 \\ GH \end{pmatrix} \begin{pmatrix} 3 \\ GH \end{pmatrix}$ (set as default).
- 3. Dial the remote K-CCIS station number.
- 4. Restore handset or press Speaker).

To set Call Forward – Busy/No Answer (K-CCIS) from a Multiline Telephone (Open Numbering Plan):

- 1. Press the Call Forward Busy/No Answer ON/OFF key.
- 2. Dial the trunk Access Code (normally $(\overset{\textcircled{l}}{\textcircled{}})$).
- 3. Dial the Office Code number.
- 4. Dial the distant K-CCIS station number.
- 5. Press Speaker.

- OR -

- 1. Lift the handset or press Speaker.
- 2. Dial Access Code $\begin{pmatrix} 4 \\ \text{\tiny eff} \end{pmatrix} \begin{pmatrix} 3 \\ \text{\tiny off} \end{pmatrix}$ (set as default).
- 3. Dial the trunk Access Code (normally $(\mathfrak{B}_{\mathbb{T}})$).
- 4. Dial the Office Code number.
- 5. Dial the distant K-CCIS station number.
- 6. Restore handset or press Speaker).

To cancel Call Forward - All Calls (K-CCIS) from a Multiline Telephone:

- 1. Press Call Forward Busy/No Answer On/Off key.
- 2. Press Speaker.

- OR -

- 1. Lift the handset or press Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ GH \end{pmatrix} \begin{pmatrix} 4 \\ GH \end{pmatrix}$ (set as default).
- 3. Restore handset or press Speaker).

To set for any station - Attendant Positions only (Closed Numbering plan):

- 1. Lift the handset or press (Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ {}_{\text{H}} \end{pmatrix} \begin{pmatrix} 5 \\ {}_{\text{H}} \end{pmatrix}$ (set as default).
- 3. Dial the station number to be forwarded.

- 4. Dial the remote K-CCIS station number.
- 5. Restore handset or press Speaker).

To set for any station - Attendant Positions only (Open Numbering Plan):

- 1. Lift the handset or press Speaker.
- 2. Dial Access Code $\begin{pmatrix} 4 \\ {}_{\text{eff}} \end{pmatrix} \begin{pmatrix} 5 \\ {}_{\text{KL}} \end{pmatrix}$ (set as default).
- 3. Dial the station number to be forwarded.
- 4. Dial the trunk Access Code (normally $\binom{\$}{1}$).
- 5. Dial the Office Code number.
- 6. Dial the distant K-CCIS station number.
- 7. Press Speaker.

To cancel for any station - Attendant Positions only:

- 1. Lift the handset or press Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ {}_{\text{HI}} \end{pmatrix} \begin{pmatrix} 6 \\ {}_{\text{HI}} \end{pmatrix}$ (set as default).
- 3. Dial the station number where forwarding is to be canceled.
- 4. Restore handset or press Speaker).

SERVICE CONDITIONS

General:

Any station or Call Arrival (CAR) key can be set for Call Forwarding – Busy/No Answer (K-CCIS).

Restrictions:

- Call Forward Off-Premise must be allowed in Class of Service (Station)
 Feature Selection to set call forwarding to a remote K-CCIS station number.
- Trunk-to-Trunk Transfer must be allowed in Memory Block 3-04 (Trunk-to-Trunk Transfer Yes/No Selection).
- An Single Line Telephone or PSII user is allowed to transfer a trunk call to another internal station that is set for Call Forwarding – All Busy/No Answer (K-CCIS), however, when the distant party answers the call, a conference cannot be established.
- The destination station in the distant systems is the only station that can call a station with Call Forwarding Busy (K-CCIS) set.

RELATED FEATURE LIST

- Call Forwarding Busy/No Answer (K-CCIS)
- □ Multiple Call Forwarding All Calls (K-CCIS)
- □ Multiple Call Forwarding Busy/No Answer (K-CCIS)
- □ Link Reconnect (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

This guide provides a list of associated Memory Blocks that support this feature.

Memory Block	System Data Name	Description/ Selection Assigned Data		Comments
1-8-07	Class of Service (Attendant) Feature Selection 1	Call Forward - Set/Reset from Destination Station	vard - Set/Reset Page 2, LK2 Stination Station Off = Deny ◀ = Default for class 00	
1-8-08	Class of Service (Station) Feature Selection 2	Call Forward - Busy/ No Answer Set	Page 2, LK5 On = Allow ◀ Off = Deny	
		Call Forward – Off-Premise	Page 5, LK4 On = Allow Off = Deny ◀ ◀ = Default for class 00	
4-17	Station to Class of Service Feature Assignment	Select stations and class type - Selection 1 or 2	Assign appropriate class	
4-12	Line Key Selection for Telephone Mode	Select stations and Line key to be assigned	ey Page 1, LK3 FW B/NA -Set/Reset	
3-04	Trunk-to-Trunk Transfer Yes/ No Selection	Allow for CO/PBX lines to be assigned	LK1 = No ◀ LK2 = Yes ◀ = Default all Trunks	
1-15-08	Link Reconnect Allow/Deny Selection	Select Allow or Deny	LK1 = No LK2 = Yes ◀ ◀ = Default	
1-15-09	K-CCIS Maximum Call Forwarding Hop Assignment	Select the Maximum number of Call Forward Hops	Range: 1 to 7 <i>Default</i> = 5	

Call Transfer - All Calls (K-CCIS)

FEATURE DESCRIPTION

This feature allows a station user to transfer incoming or outgoing Central Office, intra-office and inter-office calls to another station in the K-CCIS network, without Attendant assistance.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

Using a Multiline Terminal with a call in progress (Closed Numbering Plan):

- 1. Press (Transfer), internal dial tone is heard. The call is placed on Non-Exclusive Hold.
- 2. Dial the distant K-CCIS station number where the call is to be transferred.
- 3. Wait for the ringback tone.
- 4. Hang up.
- OR -
- 1. When the party answers, announce the transfer.
- 2. Restore the handset (transfer is completed).

Using a Multiline Terminal with a call in progress (Open Numbering Plan):

- 1. Press Transfer and receive internal dial tone. The call is placed on Non-Exclusive Hold.
- 3. Dial the Office Code number.
- 4. Dial the distant K-CCIS station number where the call is to be transferred.
- 5. Wait for the ringback tone.
- 6. Hang up.

- OR -

- 1. When the party answers, announce the transfer.
- 2. Restore the handset (transfer is completed).

SERVICE CONDITIONS

General:

An Elite station can receive a K-CCIS transferred call as a camp-on call if allowed by Class of Service (Station) Feature Selection 2.

Restrictions:

- □ A Single Line Telephone or PSII user cannot transfer a trunk or K-CCIS call to another user on a remote system across K-CCIS.
- Trunk-to-Trunk Transfer must be allowed in Memory Block 3-04 (Trunk-to-Trunk Transfer Yes/No Selection).
- Station Trunk-to-Trunk transfers must be allowed in Class of Service (Station) Feature Selection 2.
- A blind transfer across a K-CCIS link cannot be completed until ringback tone is received at the transferring station.

RELATED FEATURE LIST

- □ Link Reconnect (K-CCIS)
- □ Station-to-Station Calling (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

This guide provides a list of associated Memory Blocks that support this feature.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-8-08	Class of Service (Station) Feature Selection 2	Station Trunk-to-Trunk Transfer	Page 3, LK5 On = Allow Off = Deny ◀ ◀ = Default for class 00	
		Call Alert Notification	Page 3, LK8 On = Allow ◀ Off = Deny ◀ = Default for class 00	
4-17	Station to Class of Service Feature Assignment	Select stations and class type - Selection 1 or 2.	Assign appropriate class	
3-04	Trunk-to-Trunk Transfer Yes/ No Selection	Allow for CO/PBX lines to be assigned.	LK1 = No ◀ LK2 = Yes ◀ = Default all Trunks	
1-15-08	Link Reconnect Allow/Deny Selection	Select Allow or Deny	LK1 = No LK2 = Yes ◀ ◀ = Default	

Calling Name Display (K-CCIS)

FEATURE DESCRIPTION

This feature permits the station name of a calling or called party at another switching office, through the K-CCIS network, to be displayed on a Multiline Terminal.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type: All Multiline Terminals Required Components: DTI-U30 ETU CCH(4)-U10 CLKG-U10 Unit (Phase Lock Oscillator) MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

Normal call handling procedures apply.

SERVICE CONDITIONS

General:

- Both the caller/calling station number name and number can be displayed on an Elite station if allowed by Class of Service (Station) Feature Selection 2.
- For incoming or outgoing K-CCIS calls, a user can press the green line key where the call resides during the call, to verify the Calling/Called Name. Both Name and Number (depending on the system assignment) are displayed for five seconds, followed by the Elapsed Call Timer.

RESTRICTIONS:

□ In the Electra Elite IPK system, only six digits/characters can be entered for each station name.

RELATED FEATURE LIST

- □ Calling Number Display (K-CCIS)
- □ Station-to-Station Calling (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

This guide provides a list of associated Memory Blocks that support this feature.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-8-08	Class of Service (Station) Feature Selection 2	ANI/Caller ID Number/ Name Selection	Page 4, LK4 On = Allow Off = Deny ◀	Off = Name on top row of Display. On = Number on top row of Display.
		Caller ID Display Selection	Page 5, LK7 On = Allow Off = Deny ◀ ◀ = Default for class 00	If Allow is set, Caller ID Name and Number are displayed at the same time.
1-15-10	Calling Name Display Allow/ Deny Selection	Select Allow or Deny.	LK1 = No ◀ LK2 = Yes ◀ = Default	
4-17	Station to Class of Service Feature Assignment	Select stations and class type - Selection 1 or 2.	Assign appropriate class.	
4-18	Station Name Assignment	Select stations to be assigned.	Enter up to six digits/ characters.	

Calling Number Display (K-CCIS)

FEATURE DESCRIPTION

This feature permits the number of a calling or called party at another switching office, through the K-CCIS network, to be displayed on a Multiline Terminal.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U installed if call routing using LCR is desired)

OPERATING PROCEDURES

Normal call handling procedures apply.

SERVICE CONDITIONS

General:

- Both the caller/calling station number and name can be displayed on an Electra Elite IPK station if allowed by Class of Service (Station) Feature Selection 2.
- □ For incoming or outgoing K-CCIS calls, a user can press the green line key where the call resides during the call, to verify the Calling/Called Number. Both Name and Number (depending on the system assignment) are displayed for 5 seconds, followed by the Elapsed Call Timer.
- ☐ For an open numbering plan the Office Code number and station number will be displayed for caller/calling station number.

Restrictions:

- The Electra Elite IPK only supports 2-, 3-, or 4-Digit station numbers.
- □ When calling over a K-CCIS tandem connection, the calling party number (CPN) is not transferred to the ISDN network.

RELATED FEATURE LIST

- □ Calling Name Display (K-CCIS)
- □ Station-to-Station Calling (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

This guide provides a list of associated Memory Blocks that support this feature.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-8-08	Class of Service (Station) Feature Selection 2	ANI/Caller ID Number/ Name Selection	Page 4, LK4 On = Allow Off = Deny ◀	Off = Name on top row of Display On = Number on top row of Display
		Caller ID Display Selection	Page 5, LK7 On = Allow Off = Deny ◀ ◀ = Default for class 00	If allow is set, Caller ID Name and Number are displayed at the same time.
1-15-06	Originating Office Code Number Assignment	Assign the Trunk Access Code and Office Code numbers.	Assign up to four digits.	Only used in an open numbering plan network. This should include the Trunk Access Code and Office Code numbers.
1-15-10	Calling Name Display Allow/Deny Selection	Select Allow or Deny	LK1 = No ◀ LK2 = Yes ◀ = Default	
4-17	Station to Class of Service Feature Assignment	Select stations and class type - Selection 1 or 2.	Assign appropriate class.	
4-18	Station Name Assignment	Select stations to be assigned.	Enter up to six digits/ characters.	

Centralized Billing (K-CCIS)

FEATURE DESCRIPTION

This feature sends the billing information from local systems to a billing center office for central management of all billing information within the network. The Electra Elite IPK can send billing information to a billing center office (NEAX2000/2400), but cannot receive the billing information as the billing center office.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components

DTI-U30 ETU (or higher)

CCH(4)-U() ETU (firmware version 2.0 or higher)

CLKG-U() Unit (Phase Lock Oscillator)

MIFM-U() ETU (firmware version 5.00 or higher)

OPERATING PROCEDURES

Not Applicable

SERVICE CONDITIONS

General:

- The Station Message Detail Recording (SMDR) feature and Centralized Billing Feature can be used at the same time.
- Centralized Billing (K-CCIS) feature supports the following types of calls:
 - Incoming CO Calls (using the main system and another system trunk/ K-CCIS trunk)
 - Outgoing CO Call (using the main system and another system trunk/ K-CCIS trunk)

Restrictions:

- ☐ An MIFM-U10 with firmware version 5.00 or higher is required fro every Electra Elite IPK system in the network that needs to send the billing information to the billing center office.
- □ Station-to-station calls within their own system are not reported to the billing center office with Electra Elite IPK.
- □ The information storage capacity of the local Electra Elite IPK office is approximately 300 calls. If the K-CCIS link is down due to network trouble, the billing information is stored by the MIFM ETU. When the maximum calls exceed this amount, the oldest call information is overwritten by the latest (newest) call.
- With the Electra Elite IPK, trunk type (analog/ISDN, etc.) information is not reported to the billing center office.
- ☐ When the K-CCIS link is down due to network trouble, the Electra Elite IPK system does not provide and SMDR alarm indication to station ports 01 and 02.

RELATED FEATURE LIST

- Account Code Forced/Verified/Unverified
- Account Code Entry
- **Authorization Code**
- Centralized Day/Night Mode Change (K-CCIS)
- Station Message Detail Recording (SMDR)
- Voice Mail Integration (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

This guide provides a list of associated Memory Blocks that support this feature.

For Centralized Billing Installation

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
7-1	Card Interface Slot Assignment	 Select the following: Cabinet Number (1~3) Lower Slot (01~08) Setting Data to be assigned 	Page 4, LK2 CCH(4)-U10 Page 3, LK8 MIFM-U10	Refer to Electra Elite IPK Programming Manual for all options and default settings.
7-3-02	MIF (SMDR) Assignment	Find the associated port number from MB 7-1 for MIFM-U10 ETU.	Associated Port (01 or 02)	
1-15-00 (Required)	K-CCIS Main/Remote Office Selection	Activate K-CCIS using this setting.	LK1 = None ◀ LK2 = Main LK3 = Remote ◀ = Default	Either Main or Remote can be selected for Centralized Billing.
1-15-05	Destination Point Code Transfer Assignment	Select the table (001~255).	Point Code: (00001~16367) CCH Channel: (1~4)	This Memory Block must be assigned for tandem offices and is used for Centralized Billing (K-CCIS)
1-15-11 (Required)	Centralized Billing Allow/ Deny Selection	Select this Memory Block if Centralized Billing is provided.	LK1 = Deny ◀ LK2 = Allow ◀ = Default	
1-15-12 (Required)	Centralized Billing – Point of Code of Center Office Assignment	Select the CCH Channel (1~4).	Center Office Code (00001~16367) Default = Blank	

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-1-05	Start Time Selection	Select timeout.	LK1 = 10 seconds ◀ LK2 = 20 seconds LK3 = 30 seconds LK4 = 40 seconds LK5 = 50 seconds LK6 = 60 seconds LK7 = 70 seconds LK8 = 2 seconds ◀ = Default	
1-5-02	SMDR Print Format	Print all digits or mask the last four digits.	LK1 = All ◀ LK2 = Mask ◀ = Default	

For Station Message Detail Recording (SMDR) Installation

For Centralized Billing (K-CCIS)

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-5-13	Printer Connected Selection	Select No or Yes	LK1 = No ◀ LK2 = Yes ◀ = Default	
1-5-14	Printer Line Feed Control Selection	Select Yes or NO	Yes or NO LK1 = Yes ◀ LK2 = No ◀ = Default	
1-5-25	SMDR Valid Call Time Assignment	Enter timeout.	Time Assignment: 00~99 (000~999) seconds <i>Default</i> = 040 seconds	Time assignment can be set from 000~999 seconds in increments of 10.
1-5-26	SMDR Incoming/Outgoing Print Selection	Select type of calls to be printed.	LK1 = All Calls LK2 = Outgoing Calls ◀ LK3 = Incoming Calls ◀ = Default	

For	Centralized	Billing	(K-CCIS)	(Continued)
	ContrainEca	Dining		

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-8-35	COM Port Baud Rate Setting Assignment	Enter the COM port.	Baud Rate: LK1 = 4.8 Kbps LK2 = 9.6 Kbps LK3 = 19.2 Kbps LK4 = 38.4 Kbps <i>Default Values:</i> COM1 = 38.4 COM2 = 4.8 COM3 = 4.8 COM4 = 9.6	COM3 is not used.
4-56	SMDR Telephone Print Selection	Select station ports (01~C0) to be assigned.	LK1 = Yes ◀ LK2 = No ◀ = Default	

Refer to Chapter 3 System Data Programming for detailed K-CCIS network programming instructions.

Centralized Day/Night Mode Change (K-CCIS)

FEATURE DESCRIPTION

This feature switches the Day/Night mode of a remote office that is linked to a main office using K-CCIS, in accordance with the Day/Night mode switching from an Attendant Position at the main office.

When an Electra Elite IPK system is connected to another Electra Elite IPK system, a main office *can* control remote offices.

When connected to a NEAX2400, the Electra Elite IPK can only be used as a remote office.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components

DTI-U30 ETU (or higher) CCH(4)-U() ETU (firmware version 2.0 or higher) CLKG-U() Unit (Phase Lock Oscillator)

OPERATING PROCEDURES

To set or cancel Night Transfer system-wide from an Attendant Position:

Main Office:

- 1. Press Feature.
- 2. Dial Access Code $\begin{pmatrix} \boldsymbol{\vartheta} \\ \boldsymbol{\Pi} \end{pmatrix} \begin{pmatrix} \boldsymbol{\vartheta} \\ \boldsymbol{\Psi} \end{pmatrix}$.
- 3. Press (Feature).

- OR -

1. Press the Night Transfer key on the Attendant Add-On Console.

Remote Office:

No manual operation is required.

SERVICE CONDITIONS

General:

- A maximum of 16 remote offices can be controlled by one main office.
- □ If Automatic Day/Night Mode Switching is assigned in the main office, all remote offices will change the mode, if assigned.
- □ If the remote office is to be restricted from overriding the Day/Night Mode setting, the following Memory Blocks should be assigned:

0	1-8-07	Class of Service (Attendant) Feature Selection 1	(Page 1, LK1 = Deny) (Page 2, LK2 = Deny)
0	1-1-27	Automatic Day/Night Mode Switching Time Assignment	Not assigned
0	1-1-32	Automatic Day/Night Mode by Day of Week Selection	Not assigned
0	1-6-05	Attendant Add-On Console Key Selection	Delete Night Mode Switching Key

- The remote office an override the Day/Night Mode setting if allowed in any of the system data assignments listed above.
- □ If the remote office is in Night Mode [as assigned in the Centralized Billing (K-CCIS) feature], normal Night Mode indications are provided.
 - The Night Mode indication is first character on the second row of the Multiline Terminal LCD. Any Feature Access keys assigned for Night Mode transfer or the Night Mode key on the Attendant console are lit.)
- If the K-CCIS link is not available due to network trouble, the Electra Elite IPK main office resends the K-CCIS Day/Night Mode switch command every 16 minutes.

Restrictions:

Centralized Day/Night Mode switching from a main office can only send a system-wide K-CCIS Day/Night mode switch command. Individual Tenant Mode switching is not supported.

- ☐ When an Electra Elite IPK receives the K-CCIS Day/Night Mode switch command from a main office, the remote office will change all tenants to the requested mode.
- Memory Block 1-15-05 (Destination Point Code Transfer Assignment) must be set for all tandem offices for the Centralized Day/Night Mode feature.
- □ A NEAX2000 cannot be used as a main office or a tandem office for the Centralized Day/Night Mode Change (K-CCIS) feature.

RELATED FEATURE LIST

- Assigned Night Answer (ANA)
- **Authorization Code**
- Automatic Day/Night Mode Switching
- □ Centralized Billing (K-CCIS)
- Code Restriction
- Dial Access to Attendant (K-CCIS)
- Direct Inward Termination (DIT)
- **Flexible Ringing Assignment**
- Night Call Pickup
- □ Night Chime
- Night Transfer
- □ Voice Mail Integration (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

This guide provides a list of associated Memory Blocks that support this feature.

For Centralized Billing Day/Night Mode Change Installation

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-15-00 (Required)	K-CCIS Main/Remote Office Selection	Activate K-CCIS using this setting.	LK1 = None ◀ LK2 = Main LK3 = Remote ◀ = Default	Either Main or Remote can be selected for Centralized Day/Night Switching.
1-15-05	Destination Point Code Transfer Assignment	Select a table (001~255).	Point Code: (00001~16367) CCH Channel: (1~4)	This Memory Block must be assigned for tandem offices and is used for Centralized Billing (K-CCIS).
1-15-13 (Required)	Centralized Day/Night Switching for Remote Office Assignment	Select if Centralized Day/ Nigh Switching for Remote Office is provided.	LK1 = Deny ◀ LK2 = Allow ◀ = Default	
1-15-14 (Required)	Centralized Day/Night Switching for Main Office Assignment	Select a table (01~16).	Point code: (00001~16367) CCH Channel: (1~4)	

For Night Transfer Feature

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-1-27	Automatic Day/Night Mode Switching Time Assignment	Select either Pattern 1 or Pattern 2.	Day Mode Start Time Setting Night Mode Start Time Setting	The time is entered using a 24-hour clock.
1-1-32	Automatic Day/Night Mode by Day of Week Selection	Select either Pattern 1 or Pattern 2.	LK1 = Sunday LK2 = Monday LK3 = Tuesday LK4 = Wednesday LK5 = Thursday LK6 = Friday LK7 = Saturday	Off = Day/Night Automatic Switching Pattern 1 On = Day/Night Automatic Switching Pattern 2

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For Night Transfer Feature

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-6-05	Attendant Add-On Console Key Selection	Select the DSS No. (1~4) and the Button Number (01~60) and assign the appropriate data.	Page 2, LK4 Night Mode Key	Refer to the Electra Elite IPK Programming Manual for all options and default settings.
1-8-07	Class of Service (Attendant) Feature Selection 1	Night Mode Switching (system-wide) Night Mode Switching (tenant)	Page 1, LK1 On = Allow ◀ Off = Deny Page 1, LK2 On = Allow ◀ On = Deny ◀ = Default	
2-01	Trunk to Tenant Assignment	Select Tenants (00~47) to be assigned.	Page 1 LK1 = Trunk 01 LK2 = Trunk 02 LK3 = Trunk 03 LK4 = Trunk 04 LK5 = Trunk 05 LK6 = Trunk 06 LK7 = Trunk 07 LK8 = Trunk 08	Refer to the Electra Elite IPK Programming Manual for all options and default settings.
4-09	Telephone to Tenant Assignment	Select station ports (01~C0) to be assigned.	Tenant Number (00~47) <i>Default = Tenant 00</i>	
4-12	Line Key Selection for Telephone Mode	Select station ports (01~C0) and line keys to be assigned.	Page 1, LK6 Feature Access Code (01~16)	Refer to the Electra Elite IPK Programming Manual for all options and default settings.
4-17	Station to Class of Service Feature Assignment	Select station ports (01~C0) and class type (1 or 2) to be assigned.	Assign the appropriate class (00~15).	Refer to the Electra Elite IPK Programming Manual for all options and default settings.
Dial Access to Attendant (K-CCIS)

FEATURE DESCRIPTION

This feature allows a station user to call an Attendant by dialing an operation call code through the K-CCIS network.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU CCH(4)-U10 CLKG-U() Unit (Phase Lock Oscillator)

OPERATING PROCEDURES

To call an Attendant Position:

- 1. Lift the handset or press (Speaker).
- 2. Dial $(0)_{\text{PEF}}$ (or the operator call code if it is different from $(0)_{\text{PEF}}$).

SERVICE CONDITIONS

- The operator call code must be an individual Attendant Access Code number.
- □ When a call to an Electra Elite IPK Attendant Position, the Electra Elite IPK sends "OPR XXX" to the call originator as the name information.
 - XXX = Station Number of the Attendant Position.
- □ If using an Open Numbering Plan and a call is made to an Electra Elite IPK Attendant Position, the operator's office code is included with the name information.

- When making a call from an Electra Elite IPK Attendant Position across a K-CCIS network, the Caller ID Name and Number display is the same as a station-to-station call.
- This feature is also available when the Attendant Console is in a NEAX2000 IVS2 or NEAX2400 in the CCIS network.
- When an Electra Elite IPK station calls a NEAX Desk Console Attendant Position, "OPR" is displayed on the LCD during the incoming ring. If using an Open Number Plan, the office code of the Desk Console is also displayed.
- The following can be used for the Dial Access to Attendant (K-CCIS) feature:
 - Specified Station Access Code (00~23) in Memory Block 1-2-08 (Specified Station Access Code Assignment)
 - Specified Station Access Codes (00~23, Function #176~199)
 - O Memory Blocks 1-1-46/47/49 (Access Code 1/2/3-Digit Assignment)
- In an Open Numbering Plan network, a station can call an Attendant within the K-CCIS network by dialing 0.
- In an Open Numbering Plan network, a station can call an Attendant within the K-CCIS network by dialing: Access Code + Office Code + 0.

Restrictions:

- When a PBX is in Night MOde, calls to a NEAX Desk Console are restricted. When an Electra Elite IPK station calls a NEAX Desk Console Attendant Position that is set to Night Mode, "Error" is displayed in the calling station LCD and the call is rejected.
- When a NEAX Desk Console Attendant Position calls an Electra Elite IPK station, the Electra Elite IPK station does not store the call in the Caller ID Scrolling feature. This call record can be printed on SMDR, but there will not be any Caller ID information.

RELATED FEATURE LIST

- Attendant Positions
- □ Calling Name Display (K-CCIS)
- □ Calling Number Display (K-CCIS)
- Centralized Day/Night Mode Change (K-CCIS)
- Dial 0 of Attendant
- □ Voice Calls (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

This guide provides a list of associated Memory Blocks that support this feature.

For Main System

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-1-46 1-1-47 1-1-48	Access Code (1/2/3-Digit) Assignment	Assign the Access Code for related functions.	Dial No./Function No. X = 176 Specified Station Access Code = 00	Refer to the Electra Elite IPK Programming Manual for all options and default settings.
1-2-08	Specified Station Access Code Assignment	Select the specified Station Access Code (00~23) to be assigned.	Enter station ports (01~C0) to be assigned. Default = Not Assigned	

For Main System (Continued)

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-8-08	Class of Service (Station)	Select Class No. (00~15)	Page 4, LK3	Refer to the Electra
(Required)	Feature Selection 2	and assign the appropriate	ANI/Caller ID	Elite IPK
		data.)	On = Allow	Programming Manual
			Off = Deny ◀	for all options and default settings.
			Page 4, LK4	5
			ANI/Caller ID Number	
			Selection	
			On = Allow	
			Off = Deny ◀	
			Page 5, LK7	
			ANI/Caller ID Display	
			Selection	
			On = Allow	
			Off = Deny ◀	
			Page 6, LK5	
			Caller ID for K-CCIS	
			On = Allow ◀	
			Off = Deny	
			◄ = Default	

For Remote System

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-1-46 1-1-47 1-1-48 (Required)	Access Code (1/2/3-Digit) Assignment	Assign Access Codes for related functions.	Dial No./Function No. X = 604 ARS Table 4	Refer to the Electra Elite IPK Programming Manual for all options and default settings.
1-14-01 (Required)	ARS Dialing Assignment	Select the ARSTable (1~4) number and enter and enter the Dial Number (01~128).	Enter up to 8 digits. Default = Not Assigned	
1-14-02	ARS Dial Allow/Deny Selection	Select the ARSTable (1~4) and enter the Dial Number (01~128).	LK1 = Yes (Allow) ◀ LK2 = No (Deny) ◀ = Default	

For Remote System (Continued)

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-14-03 (Required)	ARS Route Table Number Assignment	Select the ARSTable (1~4) and enter the Dial Number (01~128).	Enter the Route No. (00, 01~32) <i>Default = 00</i>	Route 00 = Not Used
1-14-04 (Required)	ARS Trunk Group to Route Number Assignment	Select the ARS Route No. (01~32).	LK1 = Normal ◀ LK2 = TG (01~32) LK5 = RAB (01~16) LK6 = ICM ◀ = Default	
1-14-05	ARS Digit Delete Assignment	Select the ARS Route (01~32).	Enter the number of digits to delete (00~10). Default = 00	
1-14-06	ARS Digit Add Assignment	Select the ARS Route (01~32).	Enter up to 10 digits to add. <i>Default = 00</i>	
1-14-07 (Required)	ARS Max Digit Assignment	Select the ARS Route (01~32).	Enter the maximum digits (00~99). <i>Default - 24</i>	
1-15-10 (Required)	Calling Name Display Allow/ Deny Selection	Select the CCH Channel (1~4).	LK1 = No ◀ LK2 = Yes ◀ = Default	

Programming Example



System A (100's) S		Sys	stem B (200's)	Sys	stem C (300's)
MB 1-1-46	0=176	MB 1-1-46	0=604 (ARS Table 4)	MB 1-1-46	0=604 (ARS Table 4)
MB 1-2-08	00=Tel 100	MB 1-14-01	Table 4, No. 01=0	MB 1-14-01	Table 4, No. 01=0
		MB 1-14-02	Table 4, No. 01=Yes	MB 1-14-02	Table 4, No. 01=Yes
		MB 1-14-03	Table 4, No. 01=RT 01	MB 1-14-03	Table 4, No. 01=RT 01
		MB 1-14-04	RT No. 01=TG 10	MB 1-14-04	RT No. 01=TG 10
		MB 1-14-05	RT No. 01=Delete 00	MB 1-14-05	RT No. 01=Delete 00
		MB 1-14-06	RT No. 01=Add None	MB 1-14-06	RT No. 01=Add None
		MB 1-14-07	RT No. 01=Max Digit 01	MB 1-14-07	RT No. 01=Max Digit 01

Direct Inward Dialing (K-CCIS)

FEATURE DESCRIPTION

This feature allows the ability to route an incoming DID call (centralized DID) directly across a K-CCIS link to reach a station in the remote system without an Attendant's assistance.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

Normal call handling procedures apply.

SERVICE CONDITIONS

- Call billing to the outside party starts when the incoming call connects to the K-CCIS trunk.
- When an incoming DID call from the PRT card with Caller ID information is transferred to the station in K-CCIS network, Caller ID Name and Number will follow across the K-CCIS network to the distant system.

Restrictions:

- Direct Inward Dialing (K-CCIS), the ability to route an incoming DID call directly across a K-CCIS link is only supported when a Closed Numbering Plan is in use.
- DNIS number and name are not indicated to the remote system via centralized DID.
- The Electra Elite system only supports 2-, 3-, or 4-digit station numbers.
- A distant extension on a remote system cannot be the destination for the DID Forward Station Number for Busy Station or Undefined Digit Assignment (MB 1-1-23).

RELATED FEATURE LIST

- **Flexible Numbering of Stations (K-CCIS)**
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-1-20	DID Digit Length Selection	Define the number of Direct Inward Dialing (DID) digits.	Enter 2, 3, or 4 <i>Default</i> = 3	
1-1-21	DID Digit Conversion Assignment	Select Allow or Deny.	LK1 = No ◀ LK2 = Yes ◀ = Default	
1-1-22	DID Digit Conversion Table	Select Station/Closed Number and enter digits to convert.	LK1 = Station /Closed Number Enter Digits Received, Enter distant extension number.	Only supported with a Closed Number plan (2-, 3-, or 4-digit number).

Dual Hold (K-CCIS)

FEATURE DESCRIPTION

This feature allows two connected Multiline Telephones to be placed on hold simultaneously over the K-CCIS link. This enables the held parties to answer or originate a call from a secondary line or intercom path.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

Normal call handling procedures apply.

SERVICE CONDITIONS

- This feature is available for inter-office calls through K-CCIS.
- Both Non-Exclusive Hold and Exclusive Hold can be used for Dual Hold (K-CCIS).
- The K-CCIS call is held on a Call Appearance key.

Restrictions:

None

RELATED FEATURE LIST

□ Station-to-Station Calling (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-1-03	Hold Recall Time Selection (Non-Exclusive Hold)	Select time out.	$LK1 = 25 \text{ sec } \blacktriangleleft$ $LK2 = 45 \text{ sec}$ $LK3 = 60 \text{ sec}$ $LK4 = 90 \text{ sec}$ $LK5 = 120 \text{ sec}$ $LK6 = 180 \text{ sec}$ $LK7 = 240 \text{ sec}$ $LK8 = \text{No Limit}$ $\blacktriangleleft = Default$	
1-1-63	Hold Recall Time Selection (Exclusive)	Select time out.	LK1 = 0.5 min LK2 = 1.0 min \triangleleft LK3 = 1.5 min LK4 = 2.0 min LK5 = 3.0 min LK6 = 5.0 min LK7 = 8.0 min LK8 = No Limit \triangleleft = Default	

Elapsed Time Display (K-CCIS)

FEATURE DESCRIPTION

This feature provides an Elapsed Call Time on the LCD which shows the duration of time that a Multiline Terminal is connected to any call through the K-CCIS network.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type: All Display Multiline Terminals Required Components: DTI-U30 ETU CCH(4)-U10 CLKG-U10 Unit (Phase Lock Oscillator) MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

No manual operation is required.

SERVICE CONDITIONS

- A continuous time display appears when a call is retrieved from Exclusive Hold and/or Non-Exclusive Hold from the same station.
- □ When a call is transferred, the elapsed time of the party receiving the transfer begins at zero.

Restrictions:

- ☐ For calls across a K-CCIS link, the Elapsed Call timer only begins after receiving answer supervision from the distant system.
- ☐ For Voice Calls across the K-CCIS link, the Elapsed Call timer does not begin until the distant station answers.

RELATED FEATURE LIST

□ Station-to-Station Calling (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

None

Flexible Numbering of Stations (K-CCIS)

FEATURE DESCRIPTION

This feature allows telephone numbers to be assigned to any stations in the K-CCIS network, based solely upon numbering plan limitations.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type: All Multiline Terminals Required Components: DTI-U30 ETU CCH(4)-U10 CLKG-U10 Unit (Phase Lock Oscillator) MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

Normal call handling procedures apply.

SERVICE CONDITIONS

General:

- □ Careful consideration should be given to the network numbering plan to avoid needless loss of Access Codes or duplication of telephone numbers.
- The first digit or first two digits of a telephone number distinguishes one system from another system.

Restrictions:

- Tenant service is not provided, i.e., numbers cannot be duplicated for different tenants.
- Two to four digits can be assigned as a telephone number.

RELATED FEATURE LIST

- Key-Common Channel Interoffice Signaling (K-CCIS)
- □ Station-to-Station Calling (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-2-03	2-, 3-, or 4-Digit Station Number Selection	Select number of digits for station numbers.	LK 1 = 2DGT LK 2 = 3DGT \triangleleft LK 3 = 4DGT \triangleleft = Default	
1-1-46 1-1-47	Access Code (1/2-Digit) Assignment	Assign Access Code for Station Number.	Dial No. Function No. 1 = 001 ◀ 2 = 001 ◀ 3 = 001 ◀ ◀ = Default	Function No. 001 equals the station number.
4-10	Station Number Assignment	Select ports to be assigned.	2-digit (00~99) 3-digit (000~999) 4-digit (0000~9999) Default = 100~399	

Handsfree Answerback (K-CCIS)

FEATURE DESCRIPTION

This feature allows Multiline Telephone station users to respond to voice calls through a K-CCIS network without lifting the handset.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type: All Multiline Terminals Required Components: DTI-U30 ETU CCH(4)-U10 CLKG-U10 Unit (Phase Lock Oscillator) MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

To turn the microphone On/Off:

- 1. Press Feature .
- 2. Dial $(^{\uparrow})$.

- OR -

1. Press the programmable line key assigned as the MIC On/Off key.

SERVICE CONDITIONS

General:

- Handsfree Answerback (K-CCIS) can only be used when responding to a Voice Calls (K-CCIS) from a remote user.
- □ The HFU Selection (Memory Block 4-29) is not required and has no effect for the Handsfree Answerback (K-CCIS) feature.

Restrictions

None

RELATED FEATURE LIST

□ Voice Calls (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-2-24	Intercom Feature Access Code Assignment	Assign the Access Code for Voice/Tone Switching.	Dial No./Function No. 1 = 001 ◀ ◀ = Default	

Hot Line (K-CCIS)

FEATURE DESCRIPTION

This feature allows two stations at different nodes in the K-CCIS network to be mutually associated on an automatic ringdown basis through the K-CCIS network.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type: All Multiline Terminals Required Components: DTI-U30 ETU CCH(4)-U10 CLKG-U10 Unit (Phase Lock Oscillator) MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

To execute at any station programmed for Hot Line:

- 1. Lift the handset or press Speaker.
- 2. The remote K-CCIS station is called.

SERVICE CONDITIONS

- Any Multiline Terminal (a maximum number of 120 stations) can be assigned for Hot Line (K-CCIS).
- Either Multiline Terminal in a Hot Line (K-CCIS) pair may transfer a Hot Line call to another station in the K-CCIS network using the Call Transfer - All Calls (K-CCIS) feature.

Restrictions:

None

RELATED FEATURE LIST

- Call Transfer All Calls (K-CCIS)
- □ Station-to-Station Calling (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
4-23	Prime Line/Hot Line Assignment	Select ports (stations) to be assigned.	Enter the telephone number. <i>Default</i> = <i>Not Assigned</i>	10 digits maximum

Link Reconnect (K-CCIS)

FEATURE DESCRIPTION

This feature provides the system that is connected to K-CCIS network the capability to release the redundant K-CCIS link connections and reconnect the link with the system for efficient usage of the K-CCIS trunks.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

Normal call handling procedures apply.

SERVICE CONDITIONS

- The link reconnect capability is provided for the following types of calls:
 - A station call over K-CCIS is transferred or forwarded to another station or trunk within the same office as the call originating station. (Refer to Figure 4-1 Link Reconnect for Station Calls.)



Stations A, B, and C must be Multiline Terminals

Note: When Station A holds the call or is in the conference, Link Reconnect is not provided.

Figure 4-1 Link Reconnect for Station Calls

A trunk call (CO/PBX/TIE/DID/K-CCIS) over a K-CCIS network is transferred or forwarded to another station or trunk within the same office as the original incoming trunk. (Refer to Figure 4-2 Link Reconnect for Trunk Tandem Calls.)



Station A must be a Multiline Telephone.

Figure 4-2 Link Reconnect for Trunk Tandem Calls

Link Reconnect occurs after answering a transferred or forwarded K-CCIS call.

Restrictions:

- Answer supervision is required for Link Reconnect to occur. For outgoing calls on analog trunks, Answer supervision is based on the Elapsed Call Timer – Memory Block 1-1-05 (Start Time Selection).
- When a call is on hold or in a conference and is transferred back across the K-CCIS link, Link Reconnect is not provided.

RELATED FEATURE LIST

- □ Call Forwarding All Calls (K-CCIS)
- Call Forwarding Busy/No Answer (K-CCIS)
- □ Call Transfer All Calls (K-CCIS)
- □ Multiple Call Forwarding All Calls (K-CCIS)
- □ Multiple Call Forwarding Busy/No Answer (K-CCIS)
- □ Station-to-Station Calling (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-15-08	Link Reconnect Allow/Deny Selection	Select Allow or Deny.	LK1 = No LK2 = Yes ◀ ◀ = Default	
1-1-05	Start Time Selection	Select time out.	LK1 = 10 Sec ◀ LK2 = 20 Sec LK3 = 30 Sec LK4 = 40 Sec LK5 = 50 Sec LK6 = 60 Sec LK7 = 70 Sec LK8 = 2 Sec ◀ = Default	

Multiple Call Forwarding – All Calls (K-CCIS)

FEATURE DESCRIPTION

This feature allows a Multiple Call Forwarding – All Calls sequence to be forwarded over a K-CCIS network to a station in another office.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

To set Call Forward – All Calls (K-CCIS) from a Multiline Telephone (Closed Numbering Plan):

- 1. Press the Call Forward All ON/OFF key.
- 2. Dial the remote K-CCIS station number.
- 3. Press Speaker).

- OR -

- 1. Lift the handset or press Speaker.
- 2. Dial Access Code $\overset{(4)}{(H)}$ (set as default).
- 3. Dial the remote K-CCIS station number.
- 4. Restore handset or press Speaker).

To set Call Forward – All Calls (K-CCIS) from a Multiline Telephone (Open Numbering Plan):

- 1. Press the Call Forward All ON/OFF key.
- 3. Dial the Office Code number.
- 4. Dial the distant K-CCIS station number.
- 5. Press Speaker).

- OR -

- 1. Lift the handset or press Speaker.
- 2. Dial Access Code $\begin{pmatrix} 4 \\ \text{\tiny eff} \end{pmatrix}$ (set as default).
- 3. Dial the trunk Access Code (normally $(\mathfrak{B}_{\mathbb{T}})$).
- 4. Dial the Office Code number.
- 5. Dial the distant K-CCIS station number.
- 6. Restore handset or press Speaker).

To cancel Call Forward – All Calls (K-CCIS) from a Multiline Telephone:

- 1. Press Call Forward All Call On/Off key.
- 2. Press Speaker).

- OR -

- 1. Lift the handset or press Speaker.
- 2. Dial Access Code $\begin{pmatrix} 4 \\ _{\text{CH}} \end{pmatrix} \begin{pmatrix} 2 \\ _{\text{ABC}} \end{pmatrix}$ (set as default).
- 3. Restore handset or press Speaker).

To set for any station for Attendant Positions only (Closed Numbering Plan):

- 1. Lift the handset or press (Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ _{\text{CH}} \end{pmatrix}$ $\begin{pmatrix} 7 \\ _{\text{ORS}} \end{pmatrix}$ (set as default).
- 3. Dial the station number to be forwarded.

- 4. Dial the remote K-CCIS station number.
- 5. Restore handset or press Speaker).

To set for any station for Attendant Positions only (Open Numbering Plan):

- 1. Lift the handset or press Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ {}_{\text{eff}} \end{pmatrix} \begin{pmatrix} 7 \\ {}_{\text{off}} \end{pmatrix}$ (set as default).
- 3. Dial the station number to be forwarded.
- 4. Dial the trunk Access Code (normally $\binom{8}{10}$).
- 5. Dial the Office Code number.
- 6. Dial the distant K-CCIS station number.
- 7. Restore handset or press Speaker).

To cancel for any station for Attendant Positions only:

- 1. Lift the handset or press Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ GH \end{pmatrix}$ (set as default).
- 3. Dial the station number where forwarding is to be canceled.
- 4. Restore handset or press Speaker).

SERVICE CONDITIONS

- Multiple Call Forwarding All Calls (K-CCIS) can forward a call up to seven times across K-CCIS links (up to seven hops) depending on system data.
- Multiple Call Forwarding over a K-CCIS link is combined with Multiple Call Forwarding All Calls/Busy/No Answer.
- If the calling station is set as the destination in a multiple hop scenario, Multiple Call Forwarding – All Calls (K-CCIS) will not be performed, i.e., an infinite loop will not occur.
- □ For multiple Call Forwarding All/Busy (Immediate) calls, the display on the calling party's Multiline Telephone displays the terminating station user's name and the station number for the first station of a distant system in the Multiple Call

Forwarding group. For the terminating station, the telephone display indicates the name and the number of the calling party and the trunk number of the incoming call.

- If a calling station has been Call Forwarding All Calls (K-CCIS) to the maximum times assigned in Memory Block 1-15-09 (K-CCIS Maximum Call Forwarding Hop Assignment) and encounters another Call Forwarding – All Calls (K-CCIS) condition, the calling station will not be forwarded and will ring at the last destination.
- If the destination station in a Multiple Call Forwarding All Calls (K-CCIS) situation is busy and has not set Call Forwarding Busy and has Call Alert Notification disabled, the calling party will receive busy tone.
- When combining Call Forwarding Busy and Call Forwarding- All Calls (K-CCIS), if the destination station is busy and has Call Alert Notification disabled, then the calling party will hear busy tone after the maximum hops assigned in Memory Block 1-15-09 (K-CCIS Maximum Call Forwarding Hop Assignment).
- Multiple Call Forwarding All Calls (K-CCIS) and Call Forwarding Busy (K-CCIS) may be mixed; up to seven combined multiple forwardings may occur.
- An example of Multiple Call Forwarding over a K-CCIS link are shown in Figure 4-3 Multiple Call Forwarding over K-CCIS Links for All Calls.



Note: The counter is reduced by one with each hop (tandem connection).



Restrictions:

Trunk-to-Trunk Transfer must be allowed in Memory Block 3-04 (Trunk-to-Trunk Transfer Yes/No Selection).

RELATED FEATURE LIST

- □ Call Transfer All Calls (K-CCIS)
- Call Forwarding All Calls (K-CCIS)
- Call Forwarding Busy/No Answer (K-CCIS)
- □ Multiple Call Forwarding Busy/No Answer (K-CCIS)
- □ Link Reconnect (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-8-07	Class of Service (Attendant) Feature Selection 1	Call Forward - Set/Reset from Destination Station	Page 2, LK2 On = Allow ◀ Off = Deny	
		System-wide Reset of Call Forward - All Call	Page 2, LK3 On = Allow Off = Deny ◀ ◀ = Default for class 00	
1-8-08	Class of Service (Station) Feature Selection 2	Call Forward - All Calls/ DND	Page 1, LK1 On = Allow ◀ Off = Deny	
		Call Forward – Off-Premise	Page 5, LK4 On = Allow Off = Deny ◀ ◀ = Default for class 00	
4-17	Station to Class of Service Feature Assignment	Select Stations and Class Type - Selection 1 or 2.	Assign appropriate class	
4-12	Line Key Selection for Telephone Mode	Select Stations and Line key to be assigned.	Page 1, LK4 Call Forward All -Set/ Reset	
3-04	Trunk-to-Trunk Transfer Yes/ No Selection	Allow for CO/PBX lines to be assigned.	LK1 = No ◀ LK2 = Yes ◀ = Default all Trunks	
1-15-08	Link Reconnect Allow/Deny Selection	Select Allow or Deny	LK1 = No LK2 = Yes ◀ ◀ = Default	
1-15-09	K-CCIS Maximum Call Forwarding Hop Assignment	Select the maximum number of Call Forward hops.	Range: 1 to 7 Default = 5	

Multiple Call Forwarding - Busy/No Answer (K-CCIS)

FEATURE DESCRIPTION

This feature allows a Multiple Call Forwarding – Busy/No Answer sequence to be forwarded over a K-CCIS network to a station in another office.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

To set Call Forward – Busy/No Answer from a Multiline Telephone (Closed Numbering Plan):

- 1. Press the Call Forward Busy/No Answer ON/OFF key.
- 2. Dial the remote K-CCIS station number.
- 3. Press Speaker).

- OR -

- 1. Lift the handset or press Speaker.
- 2. Dial Access Code $\begin{pmatrix} 4 \\ {}_{\text{eff}} \end{pmatrix} \begin{pmatrix} 3 \\ {}_{\text{eff}} \end{pmatrix}$ (set as default).
- 3. Dial the remote K-CCIS station number.
- 4. Restore handset or press Speaker).

To set Call Forward – Busy/No Answer from a Multiline Telephone (Open Numbering Plan):

- 1. Press the Call Forward Busy/No Answer ON/OFF key.
- 2. Dial the trunk Access Code (normally $(\overset{\textcircled{l}}{\textcircled{}})$).
- 3. Dial the Office Code number.
- 4. Dial the distant K-CCIS station number.
- 5. Press Speaker.

- OR -

- 1. Lift the handset or press Speaker.
- 2. Dial Access Code $\begin{pmatrix} 4 \\ {}_{\text{BH}} \end{pmatrix} \begin{pmatrix} 3 \\ {}_{\text{BF}} \end{pmatrix}$ (set as default).
- 3. Dial the trunk Access Code (normally (\mathfrak{A})).
- 4. Dial the Office Code number.
- 5. Dial the distant K-CCIS station number.
- 6. Restore handset or press Speaker).

To cancel Call Forward - All Calls from a Multiline Telephone:

- 1. Press Call Forward Busy/No Answer On/Off key.
- 2. Press Speaker).

- OR -

- 1. Lift the handset or press Speaker.
- 2. Dial Access Code $\begin{pmatrix} 4 \\ {}_{\text{\tiny GH}} \end{pmatrix} \begin{pmatrix} 4 \\ {}_{\text{\tiny GH}} \end{pmatrix}$ (set as default).
- 3. Restore handset or press Speaker.

To set for any station for Attendant Positions only (Closed Numbering Plan):

- 1. Lift the handset or press (Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ {}_{\text{eff}} \end{pmatrix} \begin{pmatrix} 5 \\ {}_{\text{eff}} \end{pmatrix}$ (set as default).
- 3. Dial the station number to be forwarded.

- 4. Dial the remote K-CCIS station number.
- 5. Restore handset or press Speaker).

To set for any station for Attendant Positions only (Open Numbering Plan):

- 1. Lift the handset or press Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ {}_{\text{HI}} \end{pmatrix}$ (set as default).
- 3. Dial the station number to be forwarded.
- 4. Dial the trunk Access Code (normally $(\overset{\textcircled{l}}{\texttt{wy}})$).
- 5. Dial the Office Code number.
- 6. Dial the distant K-CCIS station number.
- 7. Press Speaker).

To cancel for any station for Attendant Positions only:

- 1. Lift the handset or press Speaker).
- 2. Dial Access Code $\begin{pmatrix} 4 \\ G \\ H \end{pmatrix}$ (set as default).
- 3. Dial the station number where forwarding is to be canceled.
- 4. Restore handset or press Speaker).

SERVICE CONDITIONS

- Multiple Call Forwarding Busy/No Answer Calls K-CCIS can forward a call up to seven times across K-CCIS links (up to seven hops) depending on systems data.
- Multiple Call Forwarding over a K-CCIS link is combined with Multiple Call Forwarding - All Calls/Busy/No Answer.
- □ If the calling station is set as the destination in a multiple hop scenario, Multiple Call Forwarding Busy/No Answer Calls (K-CCIS) will not be performed, i.e., an infinite loop will not occur.

- □ For multiple Call Forwarding All/Busy (Immediate) calls, the display on the calling party's Multiline Telephone indicates the terminating station user's name and the station number for the first station of a distant system in the Multiple Call Forwarding group. For the terminating station, the telephone display indicates the name and the number of the calling party and the trunk number of the incoming call.
- □ For multiple Call Forwarding No Answer/Busy (Delay) calls, the display on the calling party's Multiline Telephone indicates the name and number of the first station of a distant systems in the Multiple Call Forwarding group. For the terminating station, the telephone display indicates the name and the number of the calling party and the trunk number of the incoming call.
- If a calling station has been Call Forwarding Busy/No Answer Calls (K-CCIS) to the maximum times assigned in Memory Block 1-15-09 (K-CCIS Maximum Call Forwarding Hop Assignment) and encounters another Call Forwarding Busy/No Answer Calls (K-CCIS) condition, the calling station will not be forwarded and will ring at the last destination.
- If the destination station in a Multiple Call Forwarding Busy/No Answer Calls (K-CCIS) situation is busy and has not set Call Forwarding – Busy and has Call Alert Notification disabled, the calling party will receive busy tone.
- When combining Call Forwarding Busy and Call Forwarding All Calls (K-CCIS) and the destination station is busy and has Call Alert Notification disabled, then the calling party will hear a busy tone after the maximum hops assigned in Memory Block 1-15-09 (K-CCIS Maximum Call Forwarding Hop Assignment).
- Multiple Call Forwarding All Calls (K-CCIS) can forward a call a maximum of seven times across K-CCIS link (maximum of seven hops) depending on system data assignments.
- An example of Multiple Call Forwarding over a K-CCIS link as shown Figure 4-4 Multiple Call Forwarding over K-CCIS Links for Busy/No Answer.



Note: The counter is reduced by one with each hop (tandem connection).

Figure 4-4 Multiple Call Forwarding over K-CCIS Links for Busy/No Answer

Restrictions:

Trunk-to-Trunk Transfer must be allowed in Memory Block 3-04 (Trunk-to-Trunk Transfer Yes/No Selection).

RELATED FEATURE LIST

- □ Call Forwarding All Calls (K-CCIS)
- Call Forwarding Busy/No Answer (K-CCIS)
- □ Multiple Call Forwarding All Calls (K-CCIS)
- □ Link Reconnect (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-8-07	Class of Service (Attendant) Feature Selection 1	Call Forward - Set/Reset from Destination Station	Page 2, LK2 On = Allow ◀ Off = Deny ◀ = Default for class 00	
1-8-08	Class of Service (Station) Feature Selection 2	Call Forward - Busy/ No Answer Set	Page 2, LK5 On = Allow ◀ Off = Deny	
		Call Forward – Off-Premise	Page 5, LK4 On = Allow Off = Deny ◀ ◀ = Default for class 00	
4-17	Station to Class of Service Feature Assignment	Select stations and class type - Selection 1 or 2.	Assign the appropriate class.	
4-12	Line Key Selection for Telephone Mode	Select stations and Line key to be assigned.	Page 1, LK3 FW B/NA -Set/Reset	
3-04	Trunk-to-Trunk Transfer Yes/ No Selection	Allow for CO/PBX lines to be assigned.	LK1 = No ◀ LK2 = Yes ◀ = Default all Trunks	
1-15-08	Link Reconnect Allow/Deny Selection	Select Allow or Deny.	LK1 = No LK2 = Yes ◀ ◀ = Default	
1-15-09	K-CCIS Maximum Call Forwarding Hop Assignment	Select the Maximum number of Call Forward hops.	Range: 1 to 7 Default = 5	

Paging Access (K-CCIS)

FEATURE DESCRIPTION

This feature allows users to access external paging equipment from remote sites across the K-CCIS network. Local stations where the external paging equipment is installed can use the Meet-Me Answer feature to answer the page and establish a station-to-station K-CCIS call.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U() ETU (firmware version 2.0 or higher)

CLKG-U10 Unit (Phase Lock Oscillator)

ECR-U() ETU (for Zone Paging)

OPERATING PROCEDURES

To access external paging equipment through a K-CCIS network:

- 1. Lift the handset or press Speaker.
- 2. Dial the Access Code for the required zone, or press the programmed Feature Access or One-Touch key.

SERVICE CONDITIONS

General:

- □ The single external paging zone output built into the basic B64-U20 KSU can be used for Paging Access (K-CCIS).
- Memory Block 1-7-06 (External Paging Timeout Selection) applies to Paging Access (K-CCIS).
- □ If a user dials during Paging Access (K-CCIS), DTMF tones are heard from the external paging equipment at the remote site.

Restrictions:

- Amplifiers and speakers must be locally provided.
- The following Feature Access Codes are not supported over K-CCIS:
 - All Internal Zone Paging (Function Number 070)
 - O Internal Zone A/B/C Paging (Function Numbers 071, 072, 073)
 - All Internal/External Zone Paging (Function Number 081)

RELATED FEATURE LIST

- Background Music Over External Speakers
- **External Zone Paging (Meet-Me)**
GUIDE TO FEATURE PROGRAMMING

This guide provides a list of associated Memory Blocks that support this feature.

For Paging Installation

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
7-1	Card Interface Slot Assignment	Select: Cabinet Number (1~3) Lower Sot (01~08)	Page 4, LK2 CCH(4)-U10	
		Setting Data to be assigned	Page 2, LK8 ECR-U10	
1-1-46 1-1-47 1-1-48	Access Code (1/2/3-Digit) Assignment	Assign Access Codes for related functions.	Dial No./Function No. 5 * =074 (Internal/External Meet-Me)	
			55=075 (All External Zone Paging)	
			56=076 (External Zone A Paging)	
			57=077 (External Zone B Paging)	
			58=078 (External Zone C Paging)	
			5 # =079 (External Meet-Me)	
			59=081 (All Internal/External Zone Paging)	
			Defaults are shown	

For Paging Installation

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-7-02	External Speaker Connection Selection	Specify if external speakers are connected.	LK1=EXP A LK2=ESP B LK3=ESP C LED Off =No LED On=Yes Default = All On	
1-7-03	External Paging Alert Tone Selection	Specify if a paging alert tone is sent on External Zone Paging.	LK1=Yes ◀ LK2=No ◀ = Default	
1-7-06	External Paging Timeout Selection	Select timeout.	LK1=0.5 minutes LK2=1.0 minute LK3=1.5 minutes LK4=2.0 minutes LK5=3.0 minutes LK6=5.0 minutes ◀ LK7=8.0 minutes LK8=No Limit ◀ = Default	
1-7-08	External Speaker Chime Selection	Specify the paging alert tone.	LK1=PRT ◀ LK2=C-S LK3=C-B ◀ = Default	
1-7-09	External Speaker Chime Start Time Selection	Specifies the delay time (in milliseconds).	LK1=000 msec. LK2=100 msec. LK3=200 msec. LK4=300 msec. LK5=400 msec. LK6=500 msec. LK7=600 msec. LK8=700 msec. ◀ ◀ = Default	
4-12	Line Key Selection for Telephone Mode	Select station ports (01~C0) and line keys to be assigned.	Page 1, LK6 Feature Access (01~16)	

For Remote System

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-1-46 1-1-47 1-1-48 (Required)	Access Code (1/2/3-Digit) Assignment	Assign Access Codes for related functions.	Dial No./Function No. X=604 (ARS Table 4)	Refer to the Electra Elite IPK Programming Manual for all options and default settings.
1-14-01 (Required)	ARS Dialing Assignment	Select the ARSTable (1~4) and enter the Dial Number (01~128).	Enter up to 8 digits. Default = Not Assigned	
1-14-02	ARS Dial Allow/Deny Selection	Select the ARSTable (1~4) and enter the Dial Number (01~128).	LK1=Yes (Allow) ◀ LK2=No (Deny) ◀ = Default	
1-14-03 (Required)	ARS Route Table Number Assignment	Select the ARS TAble (1~4) and enter the Dial Number (01~128).	Enter the Route Number (00, 01~33) <i>Default = 00</i>	Route 00 = Not Used
1-14-04 (Required)	ARS Trunk Group to Route Number Assignment	Select the ARS Route (01~32).	LK1=Normal ◀ LK2=TG (01~32) LK5=RAB (01~16) LK6=ICM ◀ = <i>Default</i>	
1-14-05	ARS Digit Delete Assignment	Select the ARS Route (01~32).	Enter the number of digits to delete $(00~10)$. <i>Default</i> = 00	
1-14-06	ARS Digit Add Assignment	Select the ARS Route (01~32).	Enter up to 10 digits to add. <i>Default = 00</i>	
1-14-07 (Required)	ARS Max Digit Assignment	Select the ARS Route (01~32).	Enter the maximum number of digits (00~99). Default = 24	

Programming Example



System A (100's)	Sys	stem B (200's)	Sys	stem C (300's)
MB 1-1-47 55=075 (All External Zone Paging)	MB 1-1-46	5=604 (ARS Table 4)	MB 1-1-46	5=604 (ARS Table 4)
	MB 1-14-01	Table 4, No. 01=55	MB 1-14-01	Table 4, No. 01=55
	MB 1-14-02	Table 4, No. 01=Yes	MB 1-14-02	Table 4, No. 01=Yes
	MB 1-14-03	Table 4, No. 01=RT 01	MB 1-14-03	Table 4, No. 01=RT 01
	MB 1-14-04	RT No. 01=TG 10	MB 1-14-04	RT No. 01=TG 10
	MB 1-14-05	RT No. 01=Delete 00	MB 1-14-05	RT No. 01=Delete 00
	MB 1-14-06	RT No. 01=Add None	MB 1-14-06	RT No. 01=Add None
	MB 1-14-07	RT No. 01=Max Digit 02	MB 1-14-07	RT No. 01=Max Digit 02

Station-to-Station Calling (K-CCIS)

FEATURE DESCRIPTION

This feature permits any Multiline Terminal user to dial another Multiline Terminal directly through a K-CCIS network.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U (installed if call routing using LCR is desired)

OPERATING PROCEDURES

Normal call handling procedures apply.

SERVICE CONDITIONS

General:

- □ If the called station is off-hook and has Call Alert Notification disabled, the originating station receives a busy tone. If the called station is idle, the called station rings and the caller hears ringback tone.
- □ If the called station is off-hook on a call and has Call Alert Notification enabled, the originating station receives ringback tone and the called station receives call alert tone.
- Station-to-Station Calling between tenants in the K-CCIS network is not restricted.
- □ The release process is First Party Release.

Restrictions:

- The maximum number of digits per telephone number (not including the office code) is four.
- The same telephone numbers cannot be duplicated in the same system.

RELATED FEATURE LIST

- Call Transfer --- All Calls (K-CCIS)
- Calling Name Display (K-CCIS)
- □ Calling Number Display (K-CCIS)
- Dual Hold (K-CCIS)
- Elapsed Time Display (K-CCIS)
- □ Flexible Numbering of Stations (K-CCIS)
- □ Hands-Free Answerback (K-CCIS)
- □ Key-Common Channel Interoffice Signaling (K-CCIS)
- Uniform Numbering Plan (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

This guide provid	es a list of associate	d Memory Blocks	that support this feature.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-2-03	2-, 3-, or 4-Digit Station Number Selection	Select number of digits for station numbers.	LK 1 = 2DGT LK 2 = 3DGT ◀ LK 3 = 4DGT ◀ = Default	
1-1-46 1-1-47	Access Code (1/2-Digit) Assignment	Assign access code for Station Number.	Dial No. Function # $1 = 001 \blacktriangleleft$ $2 = 001 \blacktriangleleft$ $3 = 001 \blacktriangleleft$ $\P = Default$	
4-10	Station Number Assignment	Select ports to be assigned.	2- (00~99), 3- (000~999), 4-digit (0000~9999) <i>Default</i> = 100~399	

Uniform Numbering Plan (K-CCIS)

FEATURE DESCRIPTION

In a K-CCIS network, a Uniform Numbering Plan enables a Multiline Terminal user to call any other Multiline Terminal in the network. Two types of numbering plans are provided. In the first plan, the station user dials any telephone number from two to four digits. The location of the office is identified by the first digit or first two digits of the telephone number. In the second plan, the station user dials a one-, two- or three-digit office code and a telephone number from two to four digits.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM(1.0)U (if call routing using LCR is desired)

OPERATING PROCEDURES

To call a station at another office using Numbering Plan 1 (Closed Numbering Plan):

- 1. Lift the handset or press Speaker.
- 2. Dial the remote K-CCIS station number.

To call a station at another office using Numbering Plan 1 (Open Numbering Plan):

- 1. Lift the handset or press Speaker).
- 2. Dial the trunk Access Code (normally $(\overset{\textcircled{B}}{\textcircled{W}})$).
- 3. Dial the Office Code number.

4. Dial the remote K-CCIS station number.

SERVICE CONDITIONS

General:

- □ In a closed numbering plan, the location of the office can be identified by the first digit or first two digits of the telephone number.
- In an open numbering plan, each office in the K-CCIS network is assigned a one-, two- or three-digit office code and each station in the office is assigned telephone numbers from two to four digits.
- □ Within the same office, a station-to-station call is made by simply dialing the telephone number of the desired station.

Restrictions:

- □ In both numbering plans, all the telephone numbers must be to same number of digits in length.
- □ For a Closed Numbering Plan network, a maximum of 16 Numbering Blocks are available allowing a maximum of 17 connected systems per K-CCIS Network.
- When a Closed Numbering plan is used the extensions in the network cannot have the same prefix number.
- For an Open Numbering Plan network, the Automatic Route Selection (ARS) feature, tables 1, 2 or 3 must be used to place Station-to-Station calls over K-CCIS.
- ☐ When an Open Numbering plan is used the extensions in the network can have the same prefix number, however the office location number cannot be the same.

RELATED FEATURE LIST

- □ Call Transfer All Calls (K-CCIS)
- **Flexible Numbering of Stations (K-CCIS)**
- □ Key-Common Channel Interoffice Signaling (K-CCIS)
- □ Station-to-Station Calling (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Refer to Chapter 3 System Data Programming.

Voice Call (K -CCIS)

FEATURE DESCRIPTION

This feature provides a voice path, through the K-CCIS network, between a D^{term} in one office and a D^{term} in another office. This path is established from the *calling* party to the *called* party's built-in speaker. If the called party's "MIC" is on, the called party can converse hands-free.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

Required Components:

DTI-U30 ETU

CCH(4)-U10

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM (1.0) U (installed if call routing using LCR is desired)

OPERATING PROCEDURES

From a D^{term} to another D^{term}:

- 1. The originating *D*^{term} user dials the desired station number in a different office and receives ring back tone.
- 2. Calling party presses the \bigcirc key. A signal tone is transmitted over the K-CCIS network to the called party's speaker.
- 3. The called party presses "MIC" key, or presses (Feature) and dials (1) (if the MIC LED is not on) to allow two-way conversation with the calling party.

SERVICE CONDITIONS

General:

- The Electra Elite IPK can assign a Feature Access/One Touch Button as a Voice Call key. This performs the same operation as pressing (\hat{I}) .
- Any station in the same system can use Directed Call Pick Up to retrieve the Voice Call over K-CCIS.
- When a Voice Call is sent to a station that is unable to receive voice announcement, RST is displayed on the originator's display.
- During Voice Call, the ICM Key is flashing (Red).

Restrictions:

- ☐ The calling party must wait for at least one ring back before Voice Call is attempted.
- Once the calling party changes ring back to Voice Call, it cannot be changed back to tone again.
- □ Voice Call cannot be set as the initial call across K-CCIS.
- Group Call Pick Up is not allowed to retrieve voice calls over K-CCIS.
- Single Line terminals can be used to originate a Voice Call Over K-CCIS.
 However, they are not allowed to receive a voice call.

RELATED FEATURE LIST

- □ Station-to-Station Calling (K-CCIS)
- □ Handsfree Answerback (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

This guide provides a list of associated Memory Blocks that support this feature.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-2-24	Intercom Feature Access Code Assignment	Assign Access Code for Voice/Tone switching.	Dial No./Function No. 1 = 001 ◀ ◀ = Default	

Voice Mail Integration (K-CCIS)

FEATURE DESCRIPTION

This feature allows any station user in the K-CCIS network to use the Voice Mail System (VMS) in another office in the K-CCIS network.

For more details, refer to the Electra Elite IPK Features and Specifications Manual.

SYSTEM AVAILABILITY

Terminal Type:

All Multiline Terminals

REQUIRED COMPONENTS:

VMS (8)-U10 ETU

- OR -

FMS (8)-U10 ETU

- OR -

CTI (8)/(12)/(16)-U10 ETU

- OR -

VP (8)/(12)/(16)-U10 ETU

- OR -

PBX with voice mail system installed

DTI-U30 ETU

CCH (4)-U10 ETU

CLKG-U10 Unit (Phase Lock Oscillator)

MIFM-U10 with KMM (1.0) U (installed if call routing using LCR is desired)

OPERATING PROCEDURES

To access voice mail from a Multiline Telephone in the Main system:

- 1. Lift the handset or press (Speaker).
- 2. Dial extension number for voice mail.
- 3. When voice mail answers use softkeys to navigate.

- OR -

- 4. Wait for softkeys to time out and listen to voice prompts to navigate.
- 5. When finished hang up.

To access voice mail from a Multiline Telephone in the Remote system:

- 1. Lift the handset or press Speaker.
- 2. Dial extension number for voice mail.
- 3. When voice mail answers listen to voice prompts to navigate.
- 4. When finished hang up.

To program a One-Touch/Feature Access key for easy message access:

- 1. Press (Feature).
- 2. Press Redial .
- 3. Press One-Touch/Feature Access key.
- 4. Dial (1), followed by Voice Mail extension number.
- 5. Press (Feature).

SERVICE CONDITIONS

General:

- Any station or Call Arrival (CAR) key can be set for Call Forwarding Busy/No Answer to voice mail.
- The following features **are** supported for voice mail users in remote systems:
 - Message Waiting Indication
 - O Automated Attendant
 - Auto Login
 - O Call Forward Busy/No Answer to voice mail
 - Call Forward All to voice mail
- □ It is recommended a voice mail with at least 8 ports be used in any K-CCIS system with a shared voice mail.
- In the voice mail, only release transfer type is supported for mail boxes of stations in Remote systems.

Restrictions:

- In a KTS to KTS Network, only digital voice mails are supported for K-CCIS.
- In a KTS to KTS network, Centralized Voice Mail is only supported via closed numbering plan.
- In a PBX to KTS network, Centralized Voice Mail is only supported via closed numbering plan.
- In a PBX to KTS network, Centralized Voice Mail is supported using the PBX's voice mail.
- Single Line devices (such as Single Line Telephone ports, SLT Adapters, APR/ APA) cannot be used to transfer a Trunk call across the K-CCIS Network to another station or Voice Mail.
- □ When a call is forwarded to voice mail by multiple call forwarding, the message is left in the mailbox of the first forwarded station.
- Call Forward Off-Premise must be allowed in Class of Service (Station) Feature Selection to set call forwarding to main K-CCIS voice mail.
- □ Trunk-to-Trunk Transfer must be allowed in Memory Block 3-04 (Trunk-to-Trunk Transfer Yes/No Selection).

- A remote system can only have Message Waiting LED on Line key for extensions in the remote system. Remote system users cannot press flashing Line key to be routed to voice mail and a message box of an extension on Message Waiting LED on the Line key.
- ☐ The following features are **not** supported for voice mail users in remote systems:
 - O Live Record
 - o Live Monitoring
 - O Caller ID Display
 - O Softkeys
 - O Await Answer transfer from voice mail
 - o Call Screening
 - Call Holding
 - O Constant Message Count Indication
 - O Quick Transfer to voice mail
 - O Call Back to VM (^{Speaker} + ∉))
 - Live Transfer (Caller ID Return Call)
- Dial the Access Code for Single Line Telephone Hookflash is supported for trunk calls into the main system only.

RELATED FEATURE LIST

- Call Forwarding All Calls (K-CCIS)
- Call Forwarding Busy/No Answer (K-CCIS)
- □ Multiple Call Forwarding All Calls (K-CCIS)
- □ Multiple Call Forwarding Busy/No Answer (K-CCIS)

GUIDE TO FEATURE PROGRAMMING

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
7-1	Card Interface Slot Assignment	Assign appropriate voice mail board for cabinet and slot(s).	Page 3 LK 3 = VMS 4 LK4 = VMS 8	Only assign in the main system.
7-2	Telephone Type Assignment	Assign appropriate station port(s) as Digital VM.	LK1 = NON LK2 = TEL LK3 = Console LK4 = SLT ADP LK5 = <i>Not Used</i> LK6 = <i>Not Used</i> LK7 = Digital VM LK8 = MSG Board	Only assign in the main system.
4-10	Station Number Assignment	Select the ports to be assigned.	Enter the Station No. 2-digit (00~99) 3-digit (000~999) 4-digit (0000~9999) Default = 100~399	
4-14	Intercom Master Hunt Number Selection	Select the ports to be assigned.	LK1 = No ◀ LK2 = Yes ◀ = Default	Only assign in the main system.
4-15	Intercom Master Hunt Number Forward Assignment	Select the ports to be assigned.	Enter the Station No. 2-digit (00~99) 3-digit (000~999) 4-digit (0000~9999) Default = Not Assigned	Only assign in the main system.
1-8-26	Voice Mail Quick Transfer Master Hunt Number	Assign the Voice Mail Master Hunt number.	Enter the station number. Default = Not Assigned	Assign in all systems.

This guide provides a list of associated Memory Blocks that support this feature.

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
BIOCK 1-1-46 1-1-48 1-1-46	Access Code (1-, 2-, 3-Digit) Assignment	Selection Assign Access Code for related functions.	Dial No./Function No. X = 020 Call Forward - No Answer Set X = 021 Call Forward - No Answer Cancel X = 022 Call Forward - Busy Set X = 023 Call Forward - Busy Cancel $43 = 024$ \triangleleft Call Forward - Busy/No Answer Set $44 = 025$ \triangleleft Call Forward Busy/No Answer Cancel $\triangleleft = Default$ 41 = 030 Call Forward - All Call Set $42 = 032$ \triangleleft Call Forward - All Calls/ DND Cancel X = 033 Call Forward - All Call Set from Destination X = 034 Call Forward - All Call Set from Destination X = 034 Call Forward - All Call Cancel from Destination Call Forward - All Call Call Forward - Busy/No Answer Set for (CAR) Key $46 = 141$ \triangleleft Call Forward - Busy/No Answer Cancel for (CAR) Key $46 = 141 \triangleleft$ Call Forward - All Call Set for (CAR) Key $48 - 143 \triangleleft$ Call Forward - All Call Set for (CAR) Key $48 - 143 \triangleleft$	Assign in all systems. Assign in all systems.
			Cancel for (CAR) key ◀ = <i>Default</i> 6# = 027 ◀ SLT Hookflash/DVM Hookflash ◀ = <i>Default</i>	SLT Hookflash/DVM Hookflash is only supported in the main

Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-2-24	Intercom Feature Access Code Assignment	Assign the Access Code for Quick Transfer to Voice Mail.	Dial No./Function No. 7 = 007 ◀ Quick Transfer to Voice Mail ◀ = Default	Only assign in the main system.
1-8-07	Class of Service (Attendant) Feature Selection 1	Call Forward - Set/Reset from Destination Station	Page 2, LK2 On = Allow ◀ Off = Deny ◀ = Default for class 00	Assign in all systems.
		System-wide Reset of Call Forwarding – All Calls	Page 2, LK3 On = Allow Off = Deny ◀ ◀ = Default for class 00	
1-8-08	Class of Service (Station) Feature Selection 2	Call Forward – All Calls/ DND	Page 1, LK1 On = Allow ◀ Off = Deny ◀ = Default for class 00	Assign in all systems.
		Call Forward – Busy/No Answer Set	Page 2, LK5 On = Allow ◀ Off = Deny ◀ = Default for class 00	
		Station Trunk-to-Trunk Transfer	Page 3, LK5 On = Allow Off = Deny ◀ ◀ = Default for class 00	
		ANI/Caller ID	Page 4, LK3 On = Allow Off = Deny ◀ ◀ = Default for class 00	
		ANI/Caller ID Number/ Name	Page 4, LK4 On = Allow Off = Deny ◀ ◀ = Default for class 00	
		Caller ID Display	Page 5, LK4 On = Allow Off = Deny ◀ ◀ = Default for class 00	
		Call Forward – Off-Premise	Page 5, LK7 On = Allow Off = Deny ◀ ◀ = Default for class 00	

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Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
4-17	Station to Class of Service Feature Assignment	Select stations and class type - Selection 1 or 2.	Assign the appropriate class.	Assign in all systems.
4-12	Line Key Selection for Telephone Mode	Select stations and Line key to be assigned.	Page 1 LK1 = NON LK2 = CO (01~64) LK3 = FW BNA LK4 = FW ALL LK5 = CAP Key LK6 = FA Key LK7 = TG (01~32) LK8 = Route Adv. Page 2 LK1 = SIE LK2 = Microphone LK3 = Headset LK4 = Scroll (CID) LK5 = DND LK6 = Log On/Off LK7 = BGM LK8 = ICM	Assign in all systems.
3-04	Trunk-to-Trunk Transfer Yes/ No Selection	Allow for CO/PBX lines to be assigned.	LK1 = No ◀ LK2 = Yes ◀ = Default all Trunks	Assign in all systems.
3-42	DIT Assignment	Select CO/PBX lines to be assigned.	Enter Station No. 2-digit = (00~99) 3-digit = (000~999) 4-digit = (0000~9999) Default = Not Assigned	Only assign in main system.
3-43	ANA Assignment	Select the CO/PBX line to be assigned.	Enter Station No. 2-digit = (00~99) 3-digit = (000~999) 4-digit = (0000~9999) Default = Not Assigned	Only assign in main system.
3-45	Live Record Trunk Selection	Select the lines to be assigned.	LK1 = No ◀ LK2 = Yes ◀ = Default	Only assign in main system.
4-46	Live Record Auto Delete Selection	Select the ports to be assigned.	LK1 = Yes LK2 = No ◀ ◀ = Default	Only assign in main system.
1-6-05	Attendant Add-On Console Key Selection	Assign Voice Mail functions to the DSS Console.	Page 3 LK1 = VM Live Record LK2 = VM Mail Box	Only assign in main system.

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Memory Block	System Data Name	Description/ Selection	Assigned Data	Comments
1-1-02	Hookflash Time Selection	Select timeout.	Page 1 LK1 = 20 msec LK2 = 40 msec LK3 = 60 msec LK4 = 80 msec LK5 = 100 msec LK6 = 140 msec LK7 = 160 msec LK8 = 200 msec LK8 = 200 msec LK2 = 600 msec LK2 = 600 msec LK3 = 800 msec LK4 = 1 sec LK5 = 1.5 sec LK6 = 2 sec LK7 = 3 sec LK8 = 5 sec $\blacktriangleleft = Default$	Only assign in main system.

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Electra **Elite**[®]IPK Key-Common Channel Interoffice Signaling (K-CCIS) Manual

NEC America, Inc.

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