ERICSSON

Mobile Communications

EDACS®
C3 MAESTRO CONSOLE SYSTEM

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Maintenance Manual

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SPECIFICATIONS*

GENERAL

OPERATING VOLTAGE	92 – 130 and 185 – 260 Vac (automatic selection), 47 – 63 Hz
MAXIMUM POWER CONSUMPTION	
Audio Tower	200 Watts
Personal Computer System	(see manufacture's specifications)
OPERATING TEMPERATURE RANGE	0° to 75° Fahrenheit
DIMENSIONS (height x width x depth)	
Audio Tower	18 x 6.5 x 15 inches
Volume Controller Box	2.25 x 12 x 13 inches
Personal Computer System	(see manufacture's specifications)
WEIGHT	
Audio Tower	27 lbs.
Volume Controller Box	8 lbs.
Personal Computer System	(see manufacture's specifications)
CEC/IMC CONTROL DATA CONNECTION	9.6k or 19.2k baud RS-232 or RS-422 full-duplex serial connection between the console's Personal Computer (PC) and the Console Interface Module (CIM) within the CEC/IMC. Data modems may be employed between the PC and CIM.

AUDIO INPUTS

MICROPHONES

Supervisor and Operator Headsets	Inputs for two simulated carbon telephone-style headset microphones similar to Plantronics model HS-0309-1. Typical input = 280 mVp-p. ALC/clipping threshold = 600 mVp-p. DC bias = 3.0 ±0.5 Vdc at 50 ohms.
Desk Mic	Input for an electret-type microphone similar to Ericsson GE part number 19C851086P10 or P11. Typical input = 300 mVp-p. ALC/clipping threshold = 600 mVp-p. DC bias = 5.7 ±0.5 Vdc at 1000 ohms.
Boom or Gooseneck Mic	Input for a dynamic microphone similar to Shure Bros. model VR300 / Ericsson GE part number 19C337100P1. Typical input = 4.4 mVp-p. ALC/clipping threshold = 9.5 mVp-p. No dc mic bias provided.
LINE A, B, C & D	Balanced 2-wire 600-ohm inputs each designed to receive voice bandwidth audio from one pair of a 4-wire 600-ohm twisted-pair transmission system provided by the CEC/IMC. Capacitively coupled and transformer isolated. Typical input = -5 dBm. Input range = -20 to +10 dBm.
CALL DIRECTOR PATCH (LINE D)	Balanaced 600-ohm input designed to accept audio from a Call Director device similar to Plant Equipment model 3780-L1-TT-010. Capactively coupled and transformer isolated. Typical input = -25 dBm. Input range = -37 to +8 dBm.
PAGER	Unbalanced 600-ohm input designed to accept audio from a paging tone encoder or similar device. Typical input = 140 mVp-p. Input range = 28 mVp-p to 2.0 Vp-p.

OTHER INPUTS

MICROPHONE PTT AND MONITOR SWITCH	Active-low inputs used to detect "dry-contact" switch closures of the type found in standard microphones, footswitches and headset jacks. Typical open-circuit voltage = 12 Vdc. Max. open-circuit voltage = 16 Vdc. Max. short-circuit current = 30 mA.
MICROPHONE SENSE	Active-low inputs used to sense the connection of a microphone. Typical open-circuit voltage = 12 Vdc. Max. open-circuit voltage = 16 Vdc. Max. short-circuit current = 30 mA
PAGE PTT	Active-low input used to signal presence of paging signal on paging audio input. Typical open-circuit voltage = 12 Vdc. Max. open-circuit voltage = 16 Vdc. Max. short-circuit current = 30 mA

AUDIO OUTPUTS

EARPHONES	
Supervisor and Operator Headsets	Outputs for two telephone-style headset earphones similar to Plantronics model HS-0309-1. Typical output = 300 µW (-5 dBm) into 600 ohms. Max. output power before limiting = 3.5 mW (+5 dBm) into 600 ohms.
SPEAKERS	
Select and Unselect(s)	Audio power amplifier differential outputs designed to drive 3.2 to 16-ohm speakers. Max. output power selectable to 5 or 8 watts (minimum) into 8 ohms at full volume. Max. number of unselect speakers = 3.
LINE A, B, C & D	Balanced 2-wire 600-ohm outputs each designed to transmit voice bandwidth audio to one pair of a 4-wire 600-ohm twisted-pair transmission system provided by the CEC/IMC. Capacitively coupled and transformer isolated. Typical output = -5 dBm. Output range = -20 to +10 dBm.
CALL DIRECTOR PATCH (LINE D)	Balanaced 600-ohm output designed to deliver audio to a Call Director device similar to Plant Equipment model 3780-L1-TT-010. Typical output = -5 dBm. Output range = -20 to 0 dBm.
SELECT & UNSELECT RECORDERS	Unbalanced 600-ohm outputs each designed to drive audio inputs of an external recording device. Capacitively coupled. Typical output = -5 dBm. Output range = -20 to +2 dBm.
RELAY CONTACT OUTPUTS	Form-A (SPST normally-open dry contacts) relay connections isolated from ground and all other signals. One relay activates on console PTTs. Two others are activated via reserved keystrokes at the Dispatch Keyboard. Contact rating = 0.75 amps at 26 Vdc. Ground isolation = 500 Vrms (60 Hz). Open contact isolation = 500 Vrms (60 Hz).

* These specifications are intended primarily for the use of the serviceman. See the appropriate Specifications Sheet for complete specifications.

CREDITS

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MS-DOS® is a registered trademark of Microsoft Corporation.

INTRODUCTION

The EDACS® C3 Maestro console system is a state-of-the-art CRT-based dispatch console system designed to interface to an EDACS® CEC/IMC Digital Audio Switch. It provides enhanced console dispatch features on a PC-AT™ computer platform. A standard C3 Maestro console system consists of:

- an IBM® PC-AT™ compatible Personal Computer (PC) system running MS-DOS software and custom C3 Maestro application software, a color video display monitor ("CRT") and a standard PC keyboard
- a Dispatch Keyboard typically referred to as the "Custom Keyboard"
- a specialized Logic Board installed in one of the PC's internal expansion slots
- a specialized Audio Tower which provides audio conditioning, routing and amplification functions
- a Volume Controller Box for the speakers
- a set of speakers (typically two)
- other accessories such as headsets, microphones and footswitches

The Audio Tower consists of:

- a case assembly
- a power supply
- Backplane and Spreader Boards
- one Audio PA Board (2-speaker system) ***or*** two Audio PA Boards (3- or 4-speaker system or if interfaced to a Call Director for Call Director patch operations)
- an Audio Matrix Board
- an I/O Board

The C3 Maestro console's video display monitor ("CRT") and keyboard replace the array of controls and indicators found on traditional modular/desktop-type consoles. Standard headsets, microphones, footswitches and speakers can be connected to the C3 Maestro. Also, a variety of other external inputs and outputs are supported.

NOTE

Refer to LBI-38662 for a complete description of the EDACS CEC/IMC Digital Audio Switch.

DESCRIPTION

Using the C3 Maestro console, a dispatcher can monitor and communicate with a large number of personnel on the EDACS CEC/IMC network. A typical C3 Maestro console installation is shown in the Outline Diagram drawing in this manual (page 12).

The PC's video display monitor displays graphical representations of the radio links which are currently being controlled by the dispatcher. Using the Dispatch Keyboard ("Custom Keyboard"), a dispatcher can issue commands to control receive and transmit audio signal routing between the CEC/IMC and audio devices connected to the C3 Maestro such as microphones and speakers. These keyboard commands are sent to the PC. Software running on the PC in-turn controls audio matrix switching circuitry inside the Audio Tower via the Logic Board and the related interconnect cable.

PERSONAL COMPUTER

The PC within the C3 Maestro console system provides all computer processing functions for the console. Software includes the Microsoft's MS-DOS operation system and a custom C3 Maestro application program developed by Ericsson GE. This custom program automatically starts when the computer is "booted". PC components also include the video display monitor ("CRT") and a standard PC keyboard.

Video Display Monitor ("CRT")

The PC's video display monitor provides all visual dispatch control indications to the operating dispatcher. This color monitor is typically of a VGA or super-VGA resolution. Basic screen layout is shown in Figure 1. Screen areas include:

- **Module Display Area** – Fourteen (14) communication modules are displayed at all times in the upper portion of the screen. Each module provides instant communication access to a talk group, an individual unit, a conventional channel, or another console. Eight (8) pages of fourteen (14) modules are available for a total of 112 unique communication modules. Each module can be programmed by the console operator.
- **Module Page Area** – This area, located in the top right-hand side of the screen, indicates which one of the eight (8) module pages is displayed. When a call is received on a non-displayed page, the respective page indicator is high-lighted in yellow. If an emergency call is received on a non-

displayed page, the indicator is high-lighted in red.

- **System Status Area** – This area indicates various status information such a console ID number, name or ID number of the caller, emergency status, and EDACS operational status (full-feature trunking, failsoft trunking, etc.).

- **Note Card Area** – Note cards provide instructions and menus for module programming functions which are referred to as "module modify" operations. Note cards also provide advanced dispatch operations such as patch and simulselect set-up. These cards are located on the left-hand side of the screen below the modules.

- **Call History and Scroll Area** – This area, located in the lower right-hand side of the screen, displays the last five (5) select calls and the last five (5) unselect calls received. The list is displayed on a caller-to-callee basis. In addition, a detailed scroll list of the last thirty-two (32) select and thirty-two unselect calls is provided. For each call, this detailed list includes caller and callee ID numbers, time the call started, type of call, site used by caller, and the call's module information. A scroll list is *not* shown in Figure 1.

- **System Message/Command Line Area** – This area, located at the bottom left-hand side of the screen, displays prompts and operator-entered data such as radio ID numbers. Various system messages are also displayed in this area such the up/down status of the CEC/IMC-to-console control data communication link and successful/unsuccessful execution of a patch or simulselect. No messages/commands are shown in the figure.

- **Clock Display** – A continuous time display is provided (12 or 24-hour format) in the lower right side of the screen. The time is set and maintained by the CEC/IMC Manager (MOM PC); therefore all consoles' clocks are synchronized together.

Standard PC Keyboard

During dispatch operations, the standard PC keyboard is not used. However, during the console set-up process, access to this keyboard is required for basic file management, configurations and maintenance operations. This keyboard is also used to exit and re-execute the C3 Maestro's application program if/when additional configuration, diagnostic and/or maintenance procedures are required.

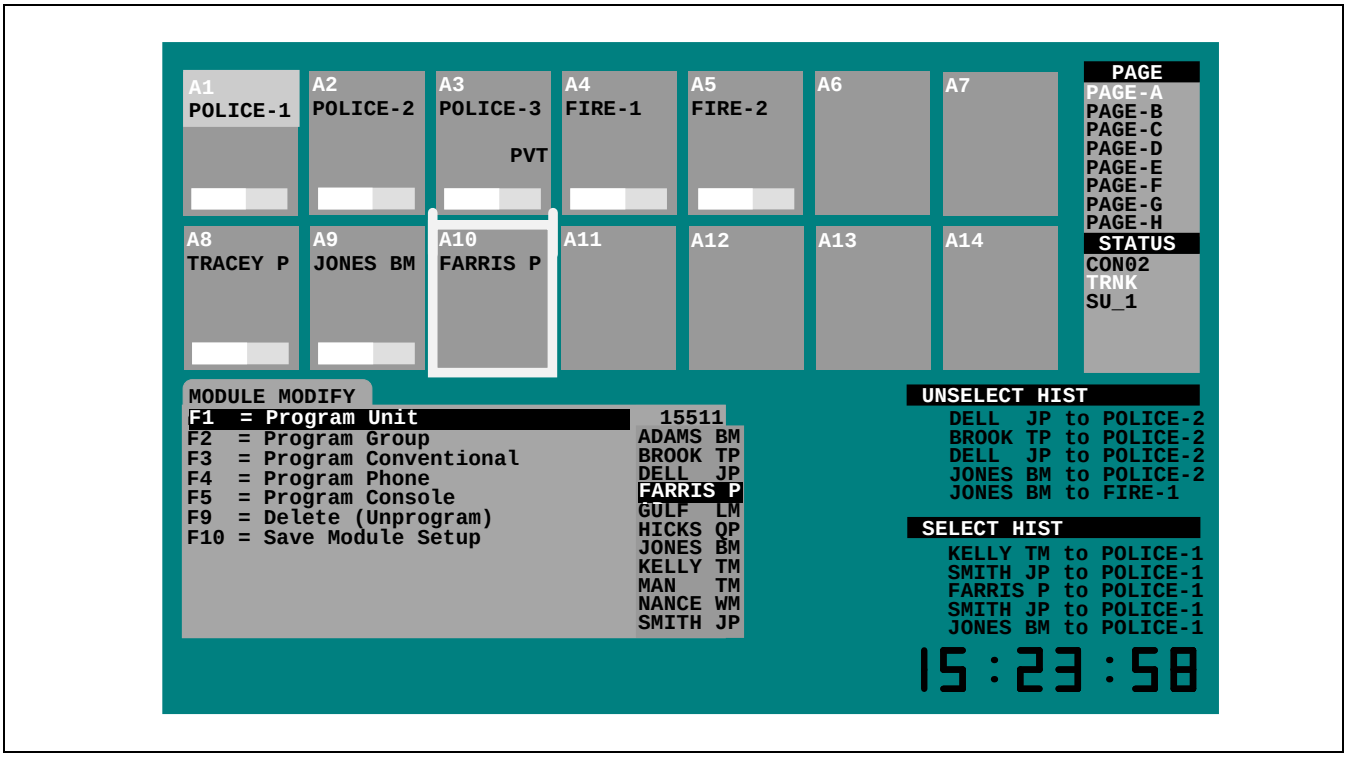

Figure 1 – C3 Maestro Video Display Monitor (Typical; Module Modify Operation Shown)

CEC/IMC Interface

The PC's COM1 serial port provides the control data connection for the C3 Maestro. This serial data link between the Maestro and the Console Interface Module (CIM) within the CEC/IMC can be configured for RS-232 or RS-422 operation. Detailed configuration and wiring information is contained in the *Installation, Set-Up and Testing* maintenance manual (LBI-39055) included with this manual set.

LOGIC BOARD

The Logic Board is installed in one of the PC's internal expansion slots. It contains interface circuitry for the Dispatch Keyboard and the Audio Tower. Connections are made at the Logic Board's rear cover plate on the back of the PC. The Dispatch Keyboard connects to the Logic Board via a round 4-pin interlocking plug and the Audio Tower connects via an interconnect cable with DB-37 subminiature type connectors on both ends.

Using the Logic Board, all Audio Tower functions are controlled via the 37-conductor interconnect cable. Basically, this cable provides a parallel-type interface. Switching signals are sent through the cable only when an event, such as a console PTT, occurs. Other than PTT pull-up and Vu meter dc voltages, the cable is idle at most times. This prevents induction of unwanted signals into the audio system.

Many console audio routing functions are controlled directly by the Logic Board without PC intervention. For example, when the Logic Board senses a microphone change via a mic jack sense line from the Audio Tower, it switches the matrix circuitry on the Audio Matrix Board appropriately.

DISPATCH KEYBOARD ("CUSTOM KEYBOARD")

The C3 Maestro's Dispatch Keyboard provides instant dispatcher operations. Keys with similar functions are grouped together and most frequently used key groups are located near the bottom of the keyboard for quick and easy access. For example, transmit and module pick keys are at the bottom. Seldom used keys are located near the top of the keyboard. Key groups include:

- a selected transmit (PTT) key
- fourteen (14) module pick keys
- fourteen (14) instant module transmit keys
- nine (9) module control keys
- three (3) emergency keys
- nine (9) edit control keys
- three (3) tone keys
- a numeric keypad (telephone style)
- eight (8) common control function keys

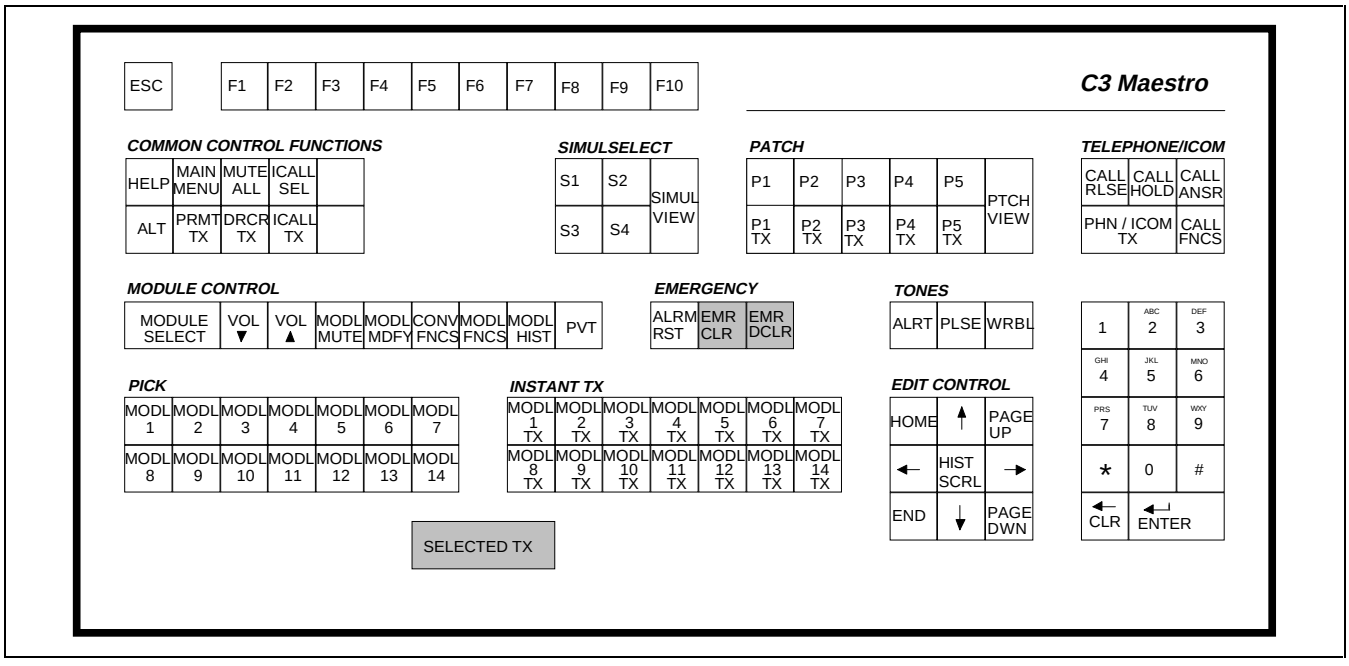

Figure 2 – C3 Maestro Dispatch Keyboard

- five (5) simulselect keys
- eleven (11) patch keys
- five (5) telephone/intercom keys
- ten (10) function keys and an escape key

AUDIO TOWER

The Audio Tower contains all of the audio interface and audio routing circuitry for the C3 Maestro console system. This unit is interfaced to the PC by the Logic Board and the 37-conductor interconnect cable between the two units.

Case Assembly

The Audio Tower's case provides housing for all major components within the unit. As shown in the Mechanical Parts drawing in this manual (page 15), the case assembly consists of a frame support assembly, a card cage assembly, side panels, front and rear door assemblies, and other miscellaneous items. A lock is included on the rear door to prevent access by unauthorized persons.

All cables are routed out of the bottom of the case through the cut-out in the bottom of the rear door. If necessary, some or all of the cables can be routed under the case's stand and out to the front of the Audio Tower. For example, it may be advantageous to route a microphone cable in this manner.

Power Supply

As shown in the Mechanical Parts drawing, the power supply is mounted in the bottom of the case near the front end of the Audio Tower. This power supply converts ac line power to regulated 15 Vdc power. It is a non-serviceable unit.

Fifteen volts dc power is applied to all boards within the Audio Tower by the supply's output cables and the Backplane. The ac power on/off switch is located near the bottom of the rear vertical panel just above the ac power cord connector.

Backplane And Spreader Boards

The Backplane and Spreader Boards are installed in the case assembly. The "Backplane" actually mounts on rails near the Audio Tower's front-end. The Spreader Board mounts on the rear vertical panel.

The Backplane provides signal interconnections between the slide-in boards installed in the Audio Tower. These boards include the Audio Matrix Board, the Audio PA Board(s) and the I/O Board. The Backplane also furnishes 15 Vdc interconnections from the power supply to these boards.

In a C3 Maestro console system equipped with multiple unselect speakers, two (2) Audio PA Boards are required. Essentially, the Spreader Board's earns its name in a console system of this type because it expands or "spreads" volume control wiper connections from the Volume Controller Box to both Audio PA Boards within the Audio Tower. Basically, it is a "Y" cable adapter. The Spreader Board also has an LED ac power indicator and current-limited auxiliary 15 Vdc connections for external equipment. The aux. 15 Vdc connections are available at the removable screw-terminal type terminal block. This terminal block is located on the rear vertical panel adjacent to the ac on/off power switch.

Audio PA Board(s)

Primary circuits on the Audio PA Board in the Audio Tower include two 4-wire 600-ohm balanced line audio coupling circuits and two audio power amplifier circuits. The balanced line audio coupling circuits provide audio interfacing to and from the Console Interface Module (CIM) within the CEC/IMC. The audio power amplifier circuits drive the consoles speakers. The board also contains two relay output circuits and two optically-coupled digital inputs. From top to bottom, the connectors on the board's panel provide:

- select and unselect speaker audio outputs (Speaker A and B respectively; terminal block connector)
- speaker volume control connections from Volume Controller Box via Spreader Board and associated cables (DB-9 subminiature connector)
- relay Form-A contact outputs (terminal block connector)
- Line A balanced line audio input and output (modular jack)
- Line B balanced line audio input and output (modular jack)
- digital inputs (terminal block connector; these inputs not supported)

NOTE

In the dispatch environment, "select" audio is audio received from the dispatcher's primary or "selected" entity (group, individual, conventional channel, etc.) and "unselect" audio is audio received from all other entities which are currently programmed into communication modules.

In a typical C3 Maestro console installation, the Audio Tower is equipped with only one Audio PA Board (#1) and this board is installed in the slot position adjacent to the Audio Matrix Board. In this installation, a blank cover plate is installed over the unused far right-hand slot position. However, a 3- or 4-speaker console or console connected to a Call Director requires a second Audio PA Board (#2) installed in the Audio Tower's far right-hand slot position. In this case, the blank cover plate is not employed.

All Console Installations

All C3 Maestro console installations use Line A on the first Audio PA Board (#1) to couple select audio from the CIM and mic audio to the CIM. Also, one-half of Line B (the input pair) is used to couple unselect audio from the CIM. The other half of Line B (the output pair) is not used. Line A and B are connected to CIM channels 1 and 2 respectively.

Speaker A output drives the select speaker and Speaker B drives the first unselect speaker. Some installations may not employ speakers and thus connection to the speaker outputs are not required.

Multiple Unselect Speakers or Call Director Patch Installation

In a multiple unselect speaker or Call Director patch installation, Line A and B balanced lines at the second Audio PA Board (#2) are considered Line C and D respectively. These balanced lines couple to CIM channels 3 and 4 respectively. One-half of Line C (board #2 Line A) carries the second (2) unselect audio from CIM channel 3; the other half (the output pair) is not used. Line D (board #2 Line B) couples Call Director patch audio to and from the CIM *or*, if no Call Director patch is present, it may be used to couple the third (3) unselect audio to the console from CIM channel 4. Unselect audio speaker routing configuration is accomplished using the console's "MODULE FUNCTIONS" note card.

Audio Matrix Board

The primary purpose of the Audio Matrix Board in the Audio Tower is to route or switch audio signals from an input source(s) to the appropriate output destination(s). This routing is accomplished via audio matrix circuitry on the board as controlled by the PC and the Logic Board. The PC and Logic Board control the Audio Matrix Board (and all other circuitry in the Audio Tower) via the 37-conductor interconnect cable.

For example, when a dispatcher keys the desk mic, the PC commands the Audio Matrix Board to switch the desk mic audio input (source) through the audio matrix to the Line A output (destination). This audio is applied to channel 1 of the console's CIM within the CEC/IMC.

Other Audio Matrix Board functions/circuits include:

- audio conditioning for the supervisor headset, operator headset, desk mic and boom/gooseneck mic inputs
- mic PTT interfacing to the PC
- mic sense (connected/not connected) interfacing to the PC
- headset audio amplification for the supervisor and operator headset earphone audio outputs
- pager audio input coupling and page enable/disable input interfacing to the PC
- Call Director patch coupling audio and control interfacing
- relay drive logic

Audio routing on the Audio Matrix Board is accomplished via the audio matrix. This matrix consists of eight (8) "cross-point switch" integrated circuits which each have an 8 x 8 switch matrix. All console audio signals are routed through the matrix ICs. Input signals are applied to the "Y" side of the matrix and output signals are sent out from the "X" side. Audio matrix and other circuitry on this board is controlled by the Logic Board inside the PC and the C3 Maestro application program running on the PC

From top to bottom, the connectors on the Audio Matrix Board's front panel provide:

- supervisor headset mic and earphone connections (DB-9 subminiature connector)
- operator headset mic and earphone connections (DB-9 subminiature connector)
- desk mic connections (DB-9 subminiature connector)
- boom or gooseneck mic connections (DB-9 subminiature connector)
- PC interfacing (DB-37 subminiature connector)

Several microphones may be concurrently connected to the C3 Maestro console system via the Audio Matrix Board. These include the mics in the supervisor and operator headsets, a desk mic, and a boom or gooseneck mic. Mic jack sense circuitry on the Audio Matrix Board and the Logic Board within the PC determine which mic audio signal will be used when the console is keyed. The console may be keyed from either the Dispatch Keyboard, a push-

to-talk (PTT) button at one of the connected mics or a footswitch.

A pager audio input is provided at the I/O Board. When enabled, paging audio overrides all other mic audio inputs.

I/O Board

The I/O Board used in the Audio Tower interconnects signals between the Audio Tower's Backplane Board and the terminal blocks and connectors located on its front panel. In a typical C3 Maestro console installation, no or only a few devices are interconnected the I/O Board. It contains no active electronic components.

The I/O Board is inserted into the Audio Tower's far left-hand slot. From top to bottom, connectors on the board's panel provide:

- select and unselect recorder audio outputs (terminal block connector)
- pager audio and pager enable ("PTT") inputs (terminal block connector)
- Call Director patch audio/control inputs and outputs (DB-9 subminiature connector)
- boom/gooseneck and monitor switch inputs (terminal block connector)
- footswitch 1 inputs for desk mic PTT and monitor switch functions (DB-9 subminiature connector)
- footswitch 2 inputs for boom/gooseneck mic PTT and monitor switch functions (DB-9 subminiature connector)
- digital inputs (terminal block connector; these inputs not supported)
- relay Form-A contact outputs (terminal block connector)

VOLUME CONTROLLER BOX

The Volume Controller Box contains volume controls for the speakers. Normally, there are two (2) volume controls, one for the select speaker and one for the unselect speaker. This box is not required if the console is not equipped with speakers.

Audio signals *are not* routed through the Volume Controller Box. Instead, each volume control's potentiometer sets a dc voltage which in turn controls the gain of the respective speaker's audio amplifications circuitry on the Audio PA Board.

CALL DIRECTOR PATCH

The C3 Maestro console system can be connected to Call Director (CD) telephone patch equipment. This feature allows the C3 Maestro to "patch" a telephone line to a specific unit, talk group, conventional channel or radio patch in the CEC/IMC network. See Figure 3.

The term *patch* or *patched*, derived from *phone patch*, is used to convey the CD is connected to the CEC/IMC. A *Call Director patch* should not be confused with a *radio patch* in which a collection of radio talk groups are interconnected for common communications as one group.

Call Director patch operates independently of normal console-to-radio dispatch communications. Using the CD interface, the dispatcher is only required to connect the CD with the target entity (unit, group, etc.). After this operation, no other dispatcher intervention is required until the CD patch must be disconnected.

Audio connections between the CD and the CEC/IMC are done inside the C3 Maestro's Audio Tower as controlled by the Logic Board within the PC. The console's application program running on the PC has minimal involvement in the control of CD patch audio switching.

As with other telephone interconnect calls, CD patch calls operate in the message trunked mode. From the standpoint of the radio user, a CD patch operates identically to any other telephone interconnect call.

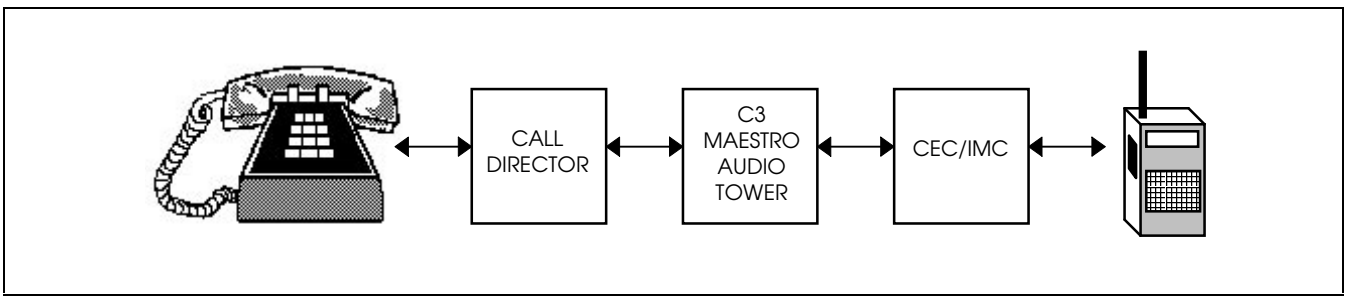

Figure 3 – Basic Call Director Patch Audio Routing

The console uses a secondary LID (Logical ID) for the patch channel requests, thus allowing CD patch operation to work separately from, and concurrently with, the normal console-to-radio dispatch communications. This LID is referred to as the "Call Director ID".

If the C3 Maestro console is connected to a Call Director, the Audio Tower must be equipped with two (2) Audio PA Boards. The second board interfaces the CD patch audio to CEC/IMC CIM channel four.

OPERATING PROCEDURES

Refer to the *C3 Maestro Training Manual* LBI-38660 for complete operation details. This manual includes *User Training Study Guide* ECR-4488 and *Administrators Training Manual* ECR-4489.

INSTALLATION, SET-UP AND TESTING

Refer to maintenance manual LBI-39055 for installation, set-up (configuration) and console system test procedures. LBI-39055 is included with this manual set.

MAINTENANCE

Refer to the appropriate board maintenance manual included with this manual set for board-level maintenance information. These manuals include board outline and schematic diagrams, parts lists, detailed circuit analysis descriptions and board-level test and alignment procedures.

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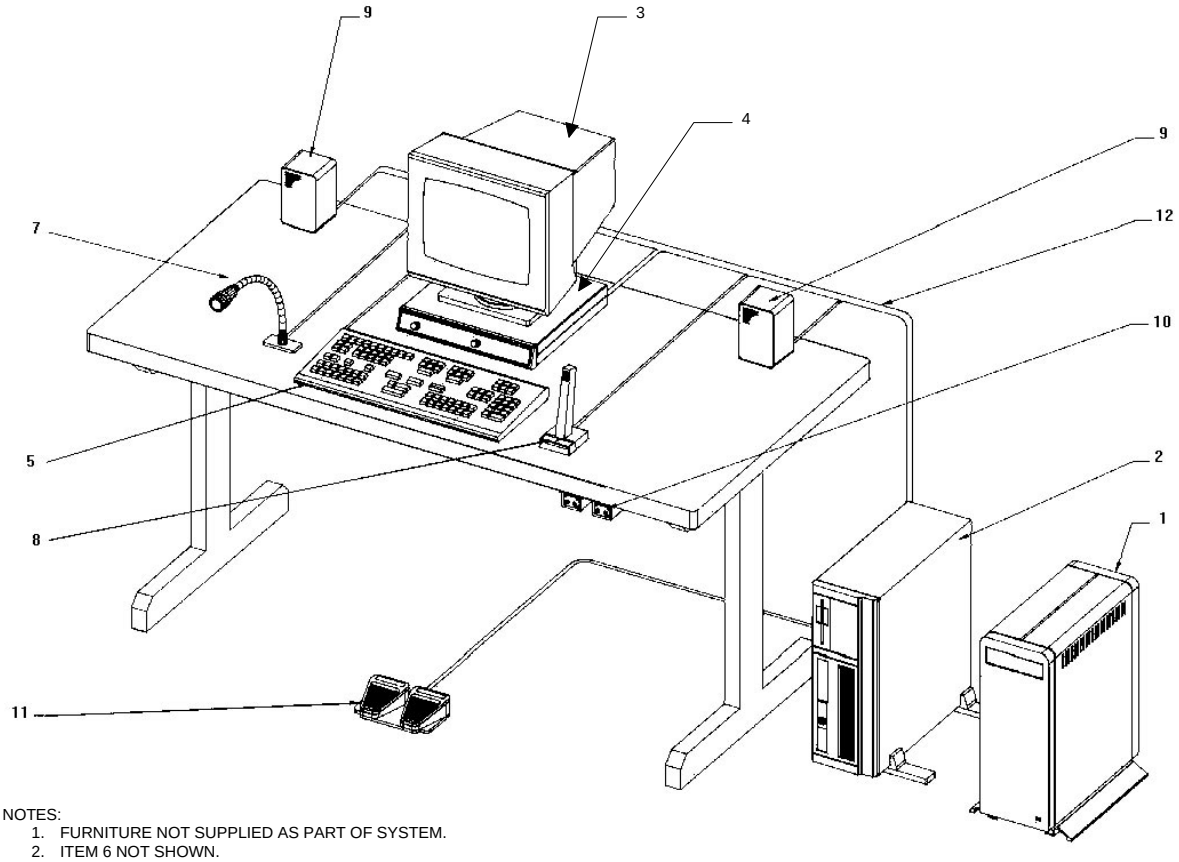
NOTE

See the parts list on page 14 for item descriptions.

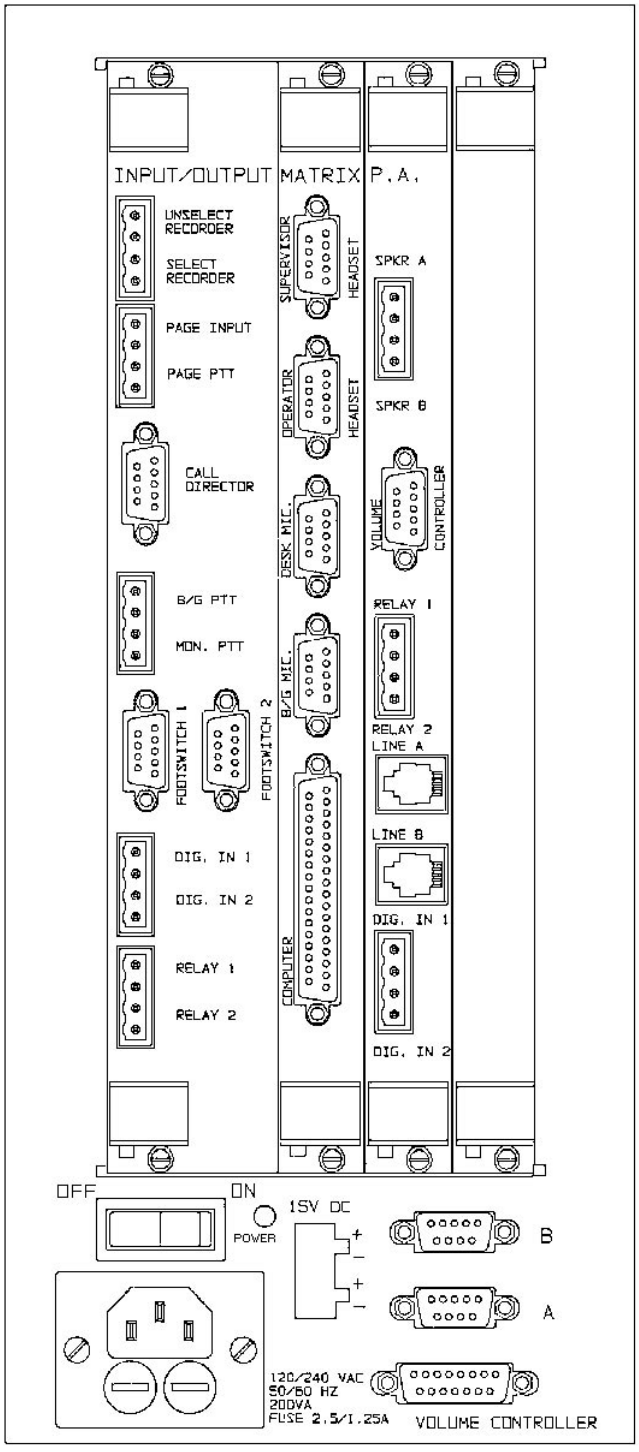


NOTES:
1. FURNITURE NOT SUPPLIED AS PART OF SYSTEM.
2. ITEM 6 NOT SHOWN.

C3 MAESTRO CONSOLE SYSTEM

Sheet 1 of 2

(Made from 903-0001-000 Rev. 0)

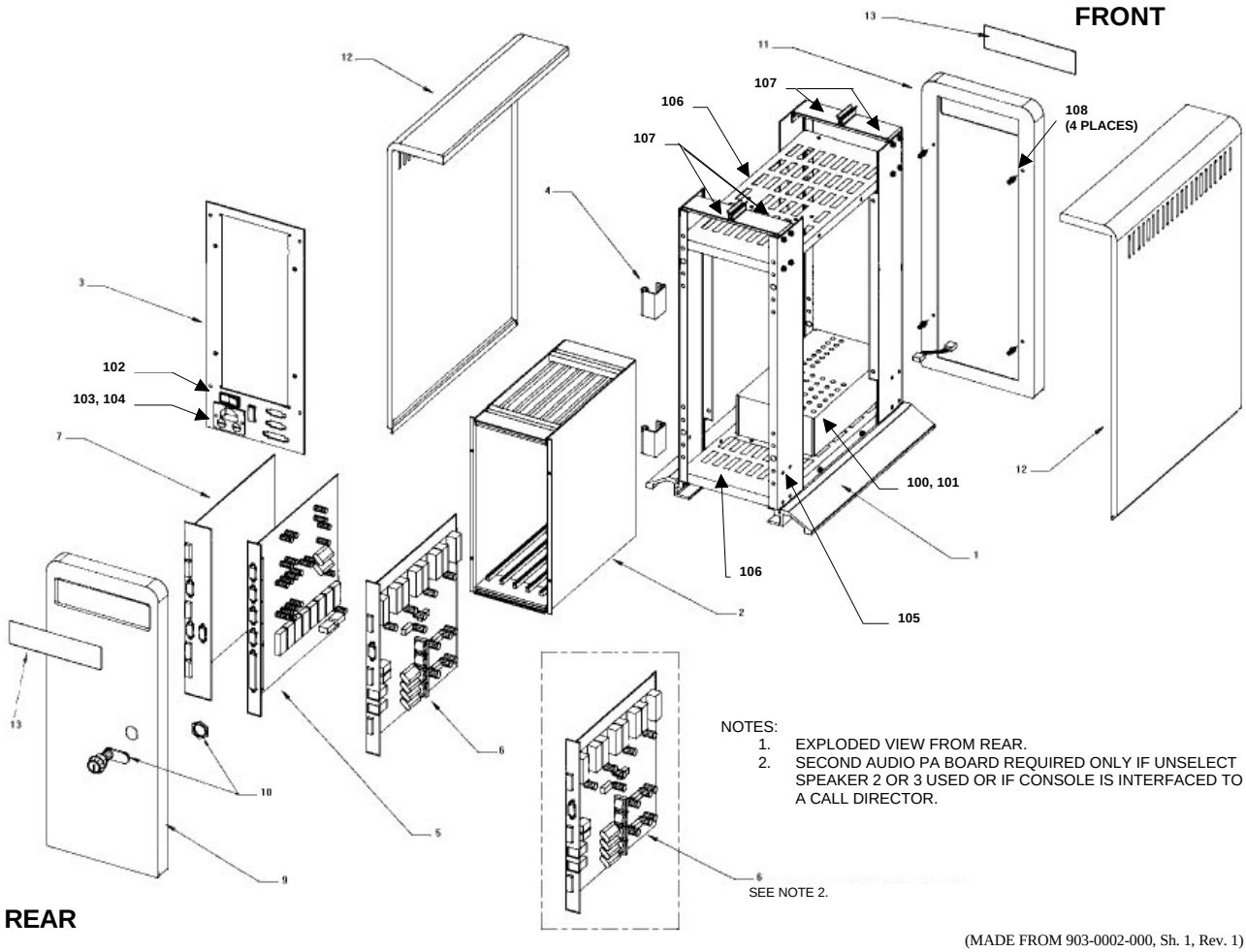


C3 MAESTRO CONSOLE SYSTEM
AUDIO TOWER (REAR PANEL)
Sheet 2 of 2
(903-0007-000, Rev. 1)

C3 MAESTRO CONSOLE SYSTEM
P29/7720033000 (344A3927P11) – 2 SPEAKERS
P29/7720033001 (344A3927P28) – 4 SPEAKERS

ISSUE 2

SYMBOL	PART NUMBER	DESCRIPTION
1	P29/7720032000 (344A3927P15)	Audio Tower (equipped for 2-speaker operation – one Audio PA Boards).
1	P29/7720032001 (344A3927P46)	Audio Tower (equipped for 4-speaker operation – two Audio PA Boards).
2	P29/7720035000 (344A3927P22)	Personal Computer, Keyboard and Logic Board.
2	P29/7590282000 (344A3927P23)	Personal Computer, DOS and 14" Color Monitor.
2	P29/7590245000 (344A3927P36)	Personal Computer and Keyboard.
3	P29/7590287000 (344A3927P37)	14" VGA Color Monitor.
4	P29/5050008002 (344A3927P12)	Volume Controller Box: 2-speaker.
4	P29/5050012002 (344A3927P41)	Volume Controller Box: 4-speaker (not shown in diagram).
5	P29/7590182002 (344A3927P25)	Dispatch Keyboard.
7	CRMC3F	Gooseneck Microphone.
8	CRMC3D	Desk Microphone.
9	P29/3360011000 (344A3927P40)	Speaker.
10	CRCN1W	Headset Jacks.
11	CRSU3B	Footswitch, Single (not shown in diagram).
11	CRSU3C	Footswitch, Dual.
12	P29/5050006000 (344A3927P26)	Interface Cables. Includes:
	P29/1030048000	Male DB-9-to-Male DB-9, 2 ft.
	P29/1030049000	Male DB-15-to-Male DB-15, 10 ft.
	P29/1030050000	Male DB-37-to-Male DB-37, 10 ft.
	P29/3820021000	AC Power Cord, 5 ft.
		---------- ASSOCIATED PARTS ----------
	P29/5000060001 (344A3927P24)	Logic Board.
	P29/7590257002 (344A3927P38)	RS-422 Board (ESD protected).



NOTES:
1. EXPLODED VIEW FROM REAR.
2. SECOND AUDIO PA BOARD REQUIRED ONLY IF UNSELECT SPEAKER 2 OR 3 USED OR IF CONSOLE IS INTERFACED TO A CALL DIRECTOR.

(MADE FROM 903-0002-000, Sh. 1, Rev. 1)

C3 MAESTRO AUDIO TOWER
MECHANICAL PARTS

ISSUE 2

SYMBOL	PART NUMBER	DESCRIPTION
1	P29/6090307001	Feet, base. (Qty. of 2 required.)
2	P29/6090354001	Card Cage, assembly.
3	P29/6090283102	Panel, rear vertical.
4	P29/6090304000	Hinge (Qty. of 2 required.)
5	P29/7720030000	Board, Audio Matrix. (See LBI-39065.)
6	P29/7720028000	Board, Audio PA. (See LBI-39064.)
7	P29/7720031000	Board, I/O. (See LBI-39066.)
8	P29/6090282102	Panel, blank filler (plated and marked.)
9	P29/6090210201	Door, rear.
10	P29/6090352000	Lock, assembly.
11	P29/6090209101	Door, front.
12	P29/6090208101	Panel, side. (Qty. of 2 required.)
13	P29/6140088002	Nameplate, front.
13	P29/6090209101	Nameplate, rear.
100	P29/3860026000	Supply, power.
101	P29/6090302100	Shield, power supply.
102	P29/3650028000	Switch, ac power
103	P29/3800188000	Receptacle, IEC: ac power, fused.
104	P29/3250077000	Fuse, 2.5A slow blow. (Qty. of 2 required.)
105	P29/6090207101	Support, side. (Qty. of 4 required.)
106	P29/6090206001	Support, vented. (Qty. of 2 required.)
107	P29/6090213001	Support, strut (Qty. of 4 required.)
108	P29/2110009000	Stud, ball fastener. (Used on front door; qty. of 4 required.)
	P29/2110008000	Receptacle, ball fastener. (Used on side supports; qty. of 4 required.)
	P29/3430008000	LED. (Used on front door.)
	P29/2070014000	Nut, stainless steel: 8-32. (Secures ball studs; qty. of 4 required.)
	P29/2020192000	Screw, Phillips: 8-32 x 3/8".
	P29/2020191000	Screw, Phillips: 4-40 x 1/2".
	P29/2070073000	Nut, keeper: 4-40.
	P29/2070074000	Nut, keeper: 6-32.
	P29/2070075000	Nut, keeper: 8-32.
	P29/2080106000	Washer, lock: stainless steel, No. 4
	P29/2090088009	Spacer, nylon: No. 4 x 1/4".
	P29/2090070000	Spacer, metal. (Under power supply.)
	P29/6010082000	Bumper, rubber.