

# MCC 7500

## IP Dispatch Console



The Motorola MCC 7500 IP Dispatch Console is designed to ease the complex job of a mission critical radio system dispatcher.

### **Easy to Use, Flexible, and Customizable User Interface**

Features the Elite Graphical User Interface (GUI) that has been refined and proven through years of use in mission critical dispatch operations. This

eases migration and minimizes user training requirements.

Intuitive and familiar GUI is based on Microsoft Windows® and uses easily recognized icons and aliases.

Flexible and customizable GUI provides multiple screen layouts (folders) to organize resources by agency, shift, or any criteria that meets the needs of the console user(s).

Trunked and conventional radio channels are customizable with various controls, such as patch status, frequency select, coded/clear select, and individual volume control, based on user preferences. Per-channel controls can be fully or partially shown, or hidden to save space on the screen.

Busy dispatchers can respond to a missed call by simply clicking on an entry in the Activity Log.

The number of calls and call information displayed in the Activity Log is customizable to suit the needs of the user(s).

The status of auxiliary inputs and outputs is conveniently interpreted from the GUI with the use of familiar graphical icons, such as a door shown open or closed.

The MCC 7500 Dispatch Console is a Mission Critical IP command and control solution designed to ensure optimal quality audio and reliable communication. Console positions are connected directly to the IP network which supports communication with both trunked and conventional radios and all other dispatch

activity. Integration of the MCC 7500 positions with the radio system enables full participation in end-to-end voice encryption for secure communication, priority handling of emergency calls, and Agency Partitioning. Each console is centrally configured and managed from the network manager, providing vital efficiency.

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### Operator Position Components



Voice Processor Module



Gooseneck Microphone



**Recommended Plantronics SupraPlus headset pictured. Two headsets are accommodated by the MCC 7500 Headset Jack box (not shown), which is useful for supervisory applications.**



**Standalone Speakers provide ample flexibility.**

**Optional Footswitch not pictured**

### Key Interoperability Features

**Works with CENTRACOM Gold Elite™:** The MCC 7500 console can be combined in the same dispatch center with CENTRACOM Gold Elite, with robust feature interaction.

**Agency Partitioning:** Allows multiple agencies to share a system to gain interoperability and cost savings benefits, while still maintaining control of their own channels, encryption keys, console configuration, etc.

**Priority for Emergencies:** Transmit Priority Levels provide an orderly and consistent method for ensuring higher priority

transmissions are able to take over resources from lower priority transmissions.

**Optimized Patch Functionality:** MCC 7500 console users can patch communication between trunked and/or conventional radios that are normally unable to communicate with each other.

Patched radio users see the ID or alias of the other patched radio(s), as opposed to that of the console. This minimizes confusion and the need for the dispatcher to intervene in the call.

Patches are automatically re-established if interrupted so the MCC 7500 user can concentrate on

continuing operations.

**Enhanced Secure Operation:** Encryption and decryption services within each dispatch operation position enable dispatchers to fully participate in secure communications while keeping the sensitive, vital information completely encrypted between the dispatcher and the radio users.

Dispatchers can interface with agencies that have different encryption configurations without any manual intervention or delay. Up to 60 calls using up to four different algorithms and multiple secure keys can be supported simultaneously.

To help reduce dispatcher stress and potential errors when managing encrypted audio situations, indicators and alerts are provided when the console mode does not match that of a received call; or when a patch or multi-select group is being set up between a mix of clear and secure channels.

**Integrates with Motorola PremierOne™ CAD:** The MCC 7500 can be integrated with the Motorola PremierOne CAD common platform and intuitive user interface to simplify dispatch operations, improve data accuracy and enhance operational efficiencies.

### The MCC 7500 dispatch solution consists of the following:

#### MCC 7500 Dispatch Console Operator Position

MCC 7500 operator positions connect directly to the radio system's IP transport network without gateways or interface boxes. Audio processing, encryption, and switching intelligence for dispatch is performed within each software-based operator position, without additional centralized electronics. Consoles function as integrated components of the total radio system, enabling full participation in system level features such as end-to-end encryption and agency partitioning.

Operator position hardware consists of a monitor, personal computer, keyboard and mouse/trackball/touchscreen, speakers, audio accessories, and a Voice Processor Module (VPM). The VPM provides connections for analog devices to be connected to the digital console. The low-profile VPM can be rack mounted, furniture mounted, or placed on the desktop.

The MCC 7500 console system does not require separate configuration or performance management equipment. The MCC 7500 console system is configured and managed by the radio system's configuration manager, fault manager and performance reporting applications. This provides the customer with a single point for configuring

and managing the entire radio system. Changes are automatically distributed throughout the system. This centralized approach saves valuable time and efforts for system administrators and technicians.

#### Conventional Channel Gateway (CCGW)

The CCGW enables trunked system users to incorporate analog conventional channels into their dispatch operations without a separate hardware network and channel banks. Conventional audio is transported between the dispatch consoles and the CCGWs by the same IP network that is used for the trunked audio. The CCGW provides E&M and tone remote station control and supports the 4-wire analog connections for conventional. Each CCGW in a system can support up to four analog channels.

#### Digital CCGW (DCCGW)

The DCCGW enables trunked system users to incorporate ASTRO 25 conventional channels into their dispatch operations without a separate hardware network and channel banks. ASTRO 25 conventional audio is transported by the same IP network used for the trunked radio. The DCCGW provides digital control of the station via a V.24 connection. Each DCCGW can support up to two ASTRO 25 conventional channels.

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### Auxiliary Input/Output Server

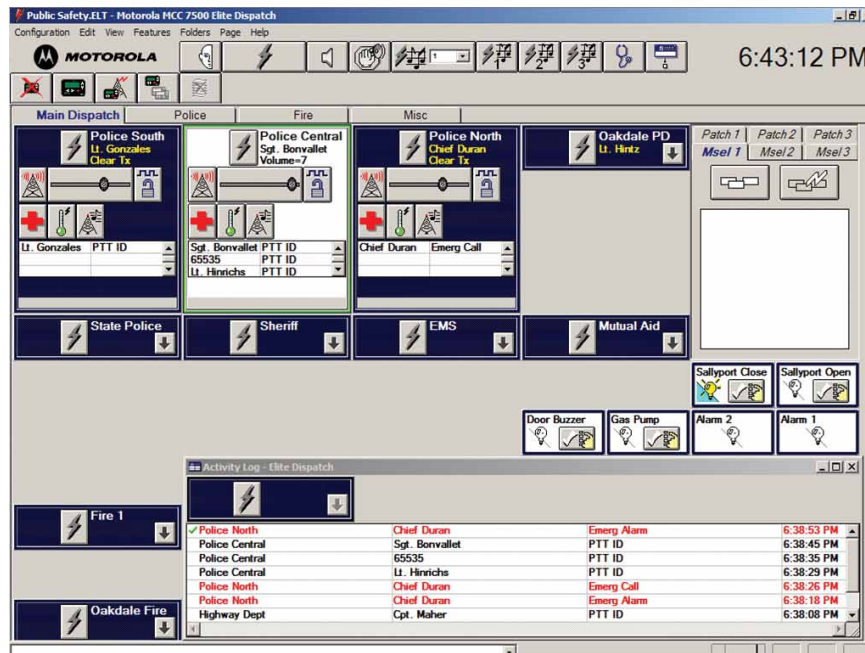
The Auxiliary Input/Output server enables console operators to control and monitor external devices, such as doors and lights, from the console user interface. Since the MCC 7500 Dispatch Console does not rely on centralized electronics, contact closures and input buffers required to interface to these devices are housed in Remote Terminal Units (RTUs). These RTUs can be physically located close to where they are needed, at any console site or RF site. The dispatch consoles and RTUs communicate with each other across the radio system's IP transport network.

### Archiving Interface Server (AIS)

The AIS is a digital logging interface, comprised of a personal computer and a VPM. Each AIS works with an IP-based logging recorder. Audio and call control information is sent across the IP network between

the AIS and recorder. Highly configurable, the MCC 7500 logging solution includes:

- Recorded audio quality equivalent to audio heard at console position
- Information associated with radio calls recorded in addition to the call audio.
- Dispatcher and radio initiated events on radio channels (such as changing the frequency, sending an alarm) are recorded.
- Recorder capacity based on the number of radio transmissions it will need to record simultaneously, not on the number of channels it may record.
- Supports Agency Partitioning, enhancing control over which resources are recorded by which agency or department.
- Security and fault management centralized at the radio system's network manager.



The MCC 7500 Dispatch Console connects directly to the IP network without interface boxes, digital voice gateways, or backroom electronics, providing your organization with important interoperability and cost savings for today's Mission Critical operations.

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System Compatibility	ASTRO® 25 System and PremierOne™ CAD Application	
Vocoder Algorithms supported	AMBE, IMBE, ACELP, G.728 (for Analog Conventional)	
Encryption Algorithms supported	AES (256 bit), DES-OFB, DVI-XL, ADP (Advanced Digital Privacy)	
Monitor requirements		
With Mouse or Trackball	17" minimum, 20" recommended	
Touchscreen	20" minimum	
Voice Processor Module (VPM) connections	Device	Connector type
	One desktop microphone	RJ45
	Two headset jacks connectors	DB15
	Four desktop speakers	RJ45
	One local logging recorder	RJ45
	One radio instant recall recorder	RJ45
	One external telephone set	RJ45
	One external paging encoder	RJ45
	One footswitch	RJ45
VPM mounting options	EIA 19" rack mount, console furniture mount, Desktop – supports monitor up to 80 lbs	
VPM audio inputs and outputs	600 Ohm, balanced and transformer coupled (except for microphone which is 2000 Ohm, balanced, and does not use a transformer)	
Speaker Mounting Options	Desktop, furniture mount, or wall mount (with bracket accessory)	
Dispatch Console Cable Lengths	VPM to Speaker cable	10.1 feet (3.09 meters) standard
	VPM to Headset Jack cable	6 feet (1.8 meters) standard
	Headset Jack Extension cable	6 feet (1.8 meters) standard
	VPM to Microphone cable	10 feet (3.05 meters) standard
	VPM to Footswitch cable	10 feet (3.05 meters) standard
Supported Console Site Link types	Fractional T1/E1, Single T1/E1, Multiple T1/E1s Redundant and non-redundant versions are supported IP site links	
MCC 7500 Dispatch Console Capacities	Up to 60 simultaneous audio sessions per console Up to 60 simultaneous encryption/decryption sessions per secure capable console Up to 3 Multi-Select groups per dispatch console (with up to 20 members per Multi-Select group) Up to 16 Patch groups per dispatch console (with up to 20 members per Patch group) 160 resources per operator position	
Conventional Channel Gateway (CCGW)	Rack mountable, 1 rack unit high T1R1, T2R2, T4R4, T8R8, T12R12, T14R14 channels Each CCGW provides four RJ45 connector ports for interfacing to analog conventional base stations. Each port contains the following inputs and outputs: <ul style="list-style-type: none"><li>• 600 Ohm, balanced analog audio input – To accept radio audio from the station</li><li>• 600 Ohm, balanced analog audio output – To send console transmit audio to the station</li><li>• Input buffer – To detect Carrier Operated Relay (COR) closure in the station</li><li>• 1 Amp, 24 VDC relay output – For relay keying of the station</li></ul> Can be configured to support AGC, DLM, or no input conditioning	
Digital Conventional Channel Gateway (DCCGW)	Rack mountable, 1 rack unit high T1R1, T2R2, T4R4, T8R8, T12R12, T14R14 Each DCCGW provides two RJ45 connector ports for interfacing to ASTRO 25 conventional base stations V.24 to station or comparator. No Digital Interface Unit (DIU) required	

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**SPECIFICATIONS (cont'd)**

**Auxiliary Input/Output**

**Server Hardware**

A simplified, user-friendly version of the MOSCAD SDM 3000 RTU is used to support most MCC 7500 dispatch console Aux I/O needs.  
The output relays are capable of switching 1A @ 24VDC or 1A @ 24VAC.  
Input buffers are capable of sensing a dry closure through 1000 feet or less (round trip) of 24 AWG wire.  
The RTU provides single pole Form A relay outputs. (Double pole, Form B or Form C relays must be implemented using external relays which are controlled by the RTU relays.)

Auxiliary Input/Output Capacities	Number of Output Relays	Number of Input Buffers
Single SDM 3000 RTU	16	48
Single SDM 3000 RTU with 1 expansion chassis	32	96
Single SDM 3000 RTU with 2 expansion chassis	48	144

**Auxiliary Input/Output Mounting**

Each SDM 3000 RTU and each SDM 3000 RTU Expansion Chassis is rack mountable in a standard 19 inch rack and is one rack unit high.

SIZE AND WEIGHT	DEVICE	HEIGHT	WIDTH	DEPTH	WEIGHT
	VPM	1.75 inches	16.9 inches	12.3 inches	3.6 lbs
		44.5 millimeters	430 millimeters	312 millimeters	1.6 kg
	Speaker	4.9 inches	4 inches	<i>Without bracket:</i>	0.7 lbs
		124 millimeters	102 millimeters	3.5 inches	0.3 kg
				89 millimeters <i>With bracket:</i> 5.8 inches 146 millimeters	
	Headset Jack	1.6 inches	5 inches	6 inches	1.2 lbs
		41 millimeters	127 millimeters	152 millimeters	0.5 kg
	Microphone	<i>Gooseneck at 90°:</i>	4.8 inches	6.6 inches	2.4 lbs
		4.5 inches	121 millimeters	168 millimeters	1.1 kg
		114 millimeters			
		<i>Gooseneck at 180°:</i>	21.8 inches		
		552 millimeters			

**POWER CONSUMPTION AND THERMAL**

Device	Power Input	Thermal Output
VPM	0.4 Amps at 120VAC 0.2 Amps at 240VAC	171 BTUs/hour
Speaker	Add 0.05 Amps per speaker to VPM power Input at 120VAC (0.025 Amps at 240VAC)	Add 15 BTUs/hour per speaker to VPM thermal output
Headset Jack	negligible	negligible
Microphone	negligible	negligible

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### CERTIFICATIONS

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	The various hardware elements of the Motorola MCC 7500 dispatch console product line are certified to meet the requirements for UL, CSA and CE.
Safety	CSA 60950-1-03 / UL 60950-1 EN60950-1 2001
EMC Emissions & Immunity	FCC part 15 Class A ICES-003 EN55022 1998 + A1: 2001 + A2:2003 (CISPR-22 Class A) EN55024 + A1:2001 + A2:2003 EN61000-3-2 2000 EN61000-3-3 1995 + A1:2001

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