



DISPATCH CONTROL WHEREVER A NETWORK CONNECTION IS AVAILABLE

# MIP 5000 VoIP RADIO CONSOLE

You need a flexible and affordable VoIP radio console solution to transmit dispatch-quality voice over your existing multicast-enabled Ethernet network. With the ability to connect up to 100 remote users and flexible licensing with 1, 4, 8, 12, 24 and 48 channel software options, the MIP 5000 VoIP Radio Console is designed to meet your requirements. You can connect up to 128 radio resources to the network and configure them in the Console System Database Manager (CSDM). Plus, save configuration files on each operator position to allow a dispatcher to access and control different combinations of radio resources (up to 48 at a time). The console system consists of two parts – a graphical user interface (GUI) and a radio gateway or gateways.

## FLEXIBLE AND CUSTOMIZABLE USER INTERFACE

To minimize user-training requirements, the MIP 5000 Console features the familiar MCC 5500 GUI. This intuitive GUI is based on Microsoft® Windows® with

pull-down menus, icons and tool tips. The 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 users. The GUI provides extensive user options for full-color control of the display and re-sizeable windows and icons. To save time, dispatchers can easily access Page History and Activity Log windows for real-time-status information.

## CUSTOMIZABLE CHANNEL CONTROL

Customize MIP 5000 Console channels for user preferences with patch status, frequency select, coded/clear select and individual volume controls. 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 can be tailored to suit the particular needs of users. Digitally controlled resources can display the radio channel name as the top line of the resource window. The second and third lines of the resource window display the control head text as supplied by the radio.

In the Activity Log, unit identifications (IDs) or alias names for push-to-talk (PTT) IDs and emergency alarms are displayed for analog conventional, ASTRO® 25 and MOTOTRBO™ systems.

## Release 4.2 Feature Highlights

- 48 channel capacity
- Windows 8.1-64 bit compatible
- Virtual control head support for MOTOTRBO XPR 5550

## KEY FEATURES

Fully featured to meet your needs, the MIP 5000 Console includes multi-select, all-points bulletin (APB) and single-button page capabilities. For local and tone-controlled resources, DTMF decode and MDC 1200 inbound and outbound signaling is supported. MDC signaling features include PTT ID Alias, Emergency, Call Alert, Selective Call, Frequency Select and Radio Enable/Disable, Voice Alert, Remote Monitor, Status Request, Repeater Enable/Disable and Manual RAC. Mobile, digitally controlled resources mimic the control head functionality, including all buttons and display, for specific Motorola radios including the MOTOTRBO XPR 4550, XPR 5550 and APX™ 7500 Mobile.

## INTEROPERABILITY

The MIP 5000 Console allows users to patch communication between dissimilar radios with an easy drag and drop capability; patches can contain active “Call Director” telephone calls. And the MIP 5000 Console meets the standard for Level 4 Interoperability with dispatcher-controlled, radio-to-radio patching.

## MIP 5000 VOIP RADIO CONSOLE OPERATOR POSITION

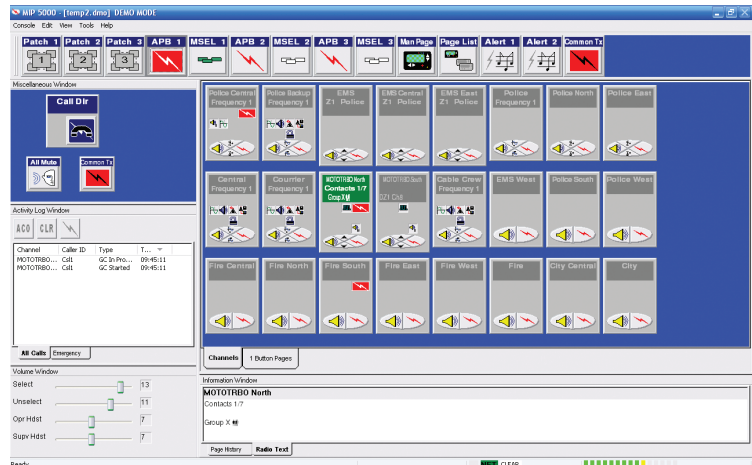
Audio processing, including routing and intelligence for the MIP 5000 Console, is performed within each software-based operator position without additional centralized electronics. The MIP 5000 Console system is configured and managed by the Console System Database Manager (CSDM). This centralized approach, with a single point for configuring and managing the entire console, saves valuable time and effort for system administrators and technicians. To help radio service and information technology (IT) personnel with system troubleshooting, the MIP 5000 Console operator position features a built-in network monitoring tool that instantly reports changes in the ethernet network that could affect audio quality.

## MIP 5000 AUDIO ACCESSORIES

The MIP 5000 VoIP Radio Console supports public safety grade audio accessories, which can be supported with either basic or enhanced Motorola Headset Jackbox models. Both Headset Jackboxes model types support standard Plantronics four or six-wire headsets, dual-pedal footswitches and Motorola Desktop Gooseneck Microphones. The enhanced Jackbox has an additional port to support a call director-equipped external phone, an external paging encoder, an analog recorder output, or PTT/On-The-Air-Relay output for an operator position. Any combination of basic and enhanced Jackboxes (up to a maximum of three) can be added to each console position.

## LICENSING

A hardware USB HASP key is required at each operator position to license and enable radio resources. USB HASP keys are available in 1, 4, 8, 12, 24 and 48 resource configurations



The MIP 5000 VoIP Radio Console GUI provides extensive user options for full control of the display.

## COMPATIBILITY

MIP 5000 Console software is compatible with Microsoft operating systems Windows 8.1 (64 bit) and Windows 7 SP1 (32 or 64 bit) deployed on a desktop or laptop computer. Note: It is strongly recommended that public safety customers use Motorola-certified desktop computers.

## TRUNKED OR CONVENTIONAL

MIP 5000 Console interfaces with trunked and conventional radio systems. Plus, the MIP 5000 Console can work in parallel with existing console systems for backup or migration applications.

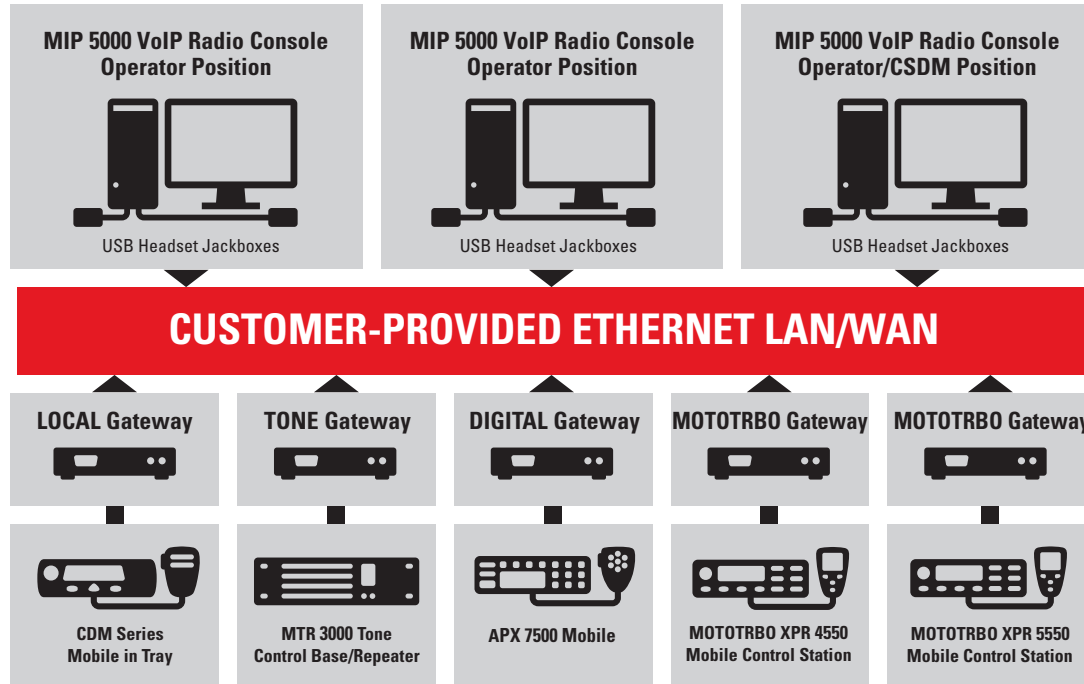
## MIP 5000 VOIP RADIO CONSOLE RADIO GATEWAY

The MIP 5000 Console Gateway provides access to multiple radio types using local control, tone control, Motorola digital control and MOTOTRBO control. Each Gateway interfaces to one two-way radio. All MIP 5000 Console gateways have temperature operating specifications of -30 to +60 degrees Celsius for use in extreme environments.

## NETWORK AND VPN

The MIP 5000 Console system requires a multicast-enabled network that is secure, non-congested and is quality of service (QoS) enabled. In all cases the gateways must be installed on a network where they are protected by a firewall. The MIP 5000 Console position(s) may operate on the same network as the gateways or operate remotely using a secure virtual-private network (VPN) connection with a router-to-router configuration over the Internet. Additional hardware may be required for VPN set up.

**PRODUCT SPEC SHEET**  
MIP 5000 VoIP RADIO CONSOLE



**CONSOLE SOFTWARE REQUIREMENTS**

MIP 5000 VoIP Radio Console program

Windows 7 Professional Operating System SP1 (32-bit or 64-bit) or Windows 8.1 Professional Operating System (64-bit)

Default Web browser: Windows Internet Explorer 8 and later

**COMPUTER REQUIREMENTS (MINIMUM REQUIREMENTS)**

Intel® Core™ 2 Duo (or better) personal computer, 2.13 GHz (or faster)

2 GB or more RAM

80 GB hard drive, DVD-ROM Drive

2 USB ports: one for the HASP key and one for the USM Jackbox or USB headset.  
Additional USB ports are required to support more devices. See "Connecting the MIP 5000 USB Jackbox" on page 5-5 for a known USB limitation with the HP Z420 workstation.

10/100 Base T Ethernet adapter

Integrated high-definition digital audio adapter

17-inch or larger touch-sensitive (optional) or regular color monitor

Screen resolution - 1280 x 1024 pixels

Pointing device (two-button mouse or trackball; optional for touch-sensitive screens)

Desktop gooseneck microphone or two prong quick disconnect headset

2 external speakers for select and unselect speaker

**OPTIONAL CONSOLE COMPONENTS**

101-key keyboard

Two additional USB Headset Jackboxes (3 supported at one operator position)

Up to 4 additional Monitor Speakers (Maximum total of 6 external speakers)

Dual-pedal footswitch

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**GATEWAY SPECIFICATIONS**

<b>Dimensions:</b>	1.5 in. (40 mm) H x 6 in. (150 mm) W x 7 in. (180 mm) D
<b>Weight:</b>	Max. approx. 2 lb (0.9 kg)
<b>Temperature Range:</b>	-22°F to 140°F (-30°C to 60°C)
<b>Humidity:</b>	5% to 95% at 122°F (50°C) (non-condensing)
<b>Control Type:</b>	32-bit Microprocessor
<b>Audio Switch Type:</b>	VoIP G.711
<b>Electrostatic Discharge Immunity:</b>	8kV on all exposed operator control areas. At 4kV no operation is disturbed and at 8 kV no permanent failures
<b>Line Protection:</b>	Fast-acting solid-state surge protection
<b>Memory Protection:</b>	Settings preserved in non-volatile memory

**GATEWAY POWER SUPPLY**

<b>AC Input Voltage:</b>	90-264 VAC
<b>Input Frequency:</b>	47-63 Hz
<b>Power Output:</b>	12 W maximum
<b>DC Outputs:</b>	+5 VDC @ 4 A
<b>Agency Approvals:</b>	UL (Underwriters Laboratories) CSA (Canadian Standards Association) CE Mark (Conformité Européenne) FCC (Federal Communications Commission)

**CERTIFICATIONS AND COMPLIANCE**

<b>Radio Gateway (applies to all gateways):</b>	FCC Part 15, Class A; FCC Part 68/TIA968-A; Industry Canada CS03; Industry Canada ICES-003; UL and CSA listed PSU; CE/RTTE; WEEE
<b>Headset Jackbox:</b>	FCC part 15, Class B; CE; ICES-003; UL and CS

**END-TO-END SPECIFICATION**

<b>Frequency Response:</b>	300 to 3400 Hz + 1, -3 dB @ less than 3% distortion
<b>Hum and Noise:</b>	65 dB below rated output at any port
<b>Cross Talk:</b>	Less than -65 dB at 0 dBm transmit level

**NETWORK REQUIREMENTS**

<b>Type Multicast and QoS Enabled:</b>	10/100 mbps Ethernet
<b>Bandwidth Usage:</b>	100 kbps per radio voice channel / gateway
<b>Packet Loss:</b>	1% max.
<b>End-To-End Delay (Ethernet Network)</b>	150ms max.
<b>Jitter:</b>	100ms max.

**BASE STATION CONTROLS BY GATEWAY**

<b>Tone Gateways</b>	<ul style="list-style-type: none"><li>• Rx Impedance - 600 Ohm or 10 Kohm</li><li>• Receive Input Level - -40dBm - 0 dBm</li><li>• Tx Impedance - 600 Ohm or 10 Kohm</li><li>• Transmit Output Level - -40 dBm - 0 dBm</li><li>• Guard Tones Supported - 2175Hz (Default), 2100Hz, 2300Hz and 2325Hz</li><li>• Functions Tones Supported - 550Hz - 2050Hz in 100Hz increments, qty 16</li><li>• Tone Tolerance - ± 2%</li><li>• Opto-Input - Qty 1, for High Speed Mute, CORdetect, Dc/Clr Rx Status (selectable)</li><li>• Opto-Input Rating - 5-20mA input current, unbalanced, 5K Ohm impedance</li><li>• Relay Output - Qty 1, follows PTT command to radio</li><li>• Relay Output Type - Form C, DPDT, Dry Closure, 150mA max., or 60VDC max.</li><li>• Relay Output Switching Power - 3 Watts max., non-inductive load</li><li>• Radio Connector Type - RJ45</li></ul>
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<b>Local Gateways</b>	<ul style="list-style-type: none"> <li>• Rx Impedance - 47 Kohm</li> <li>• Receive Input Level - 50 - 250 m Vrms</li> <li>• Tx Impedance - 130 Ohm</li> <li>• Transmit Output Level - 50 - 250m Vrms</li> <li>• Opto-Input - Qty 11, for High Speed Mute or COR detect (selectable)</li> <li>• Opto-Input Rating - 5-20 mA input current, unbalanced, 5K Ohm impedance</li> <li>• Relay Output Qty - 7, for PTT, Monitor, Takeover, Binary Freq. Select, PL Select. Wildcard (selectable)</li> <li>• Relay Output Switching Power - 3 Watts max., non-inductive load</li> <li>• Radio Connector Type - DB25</li> </ul>
<b>Digital Gateways</b>	<ul style="list-style-type: none"> <li>• Rx and Tx Impedance - 600 Ohm</li> <li>• Rx and Tx Levels - -40dBm - 0 dBm</li> <li>• Radio Data Interface - RS-485</li> <li>• Maximum Cable Length to Radio - 50 feet</li> <li>• Radio Connector Type - RJ45</li> </ul>
<b>MOTOTRBO Gateways</b>	<ul style="list-style-type: none"> <li>• Receive Impedance - 600 Ohm</li> <li>• Receive Input Level - 50 - 250 m Vrms</li> <li>• Transmit Impedance - 600 Ohm</li> <li>• Transmit Output Level - 50 - 250 m Vrms</li> <li>• Relay Output Quantity - 1 for PTT</li> <li>• Relay Output Type - Form C, DPDT, Dry Closure, 150mA max., or 60VDC max.</li> <li>• Relay Output Switching Power - 3 Watts max., non-inductive load</li> <li>• Radio Connector Type - USB for Data and RJ45 for Audio</li> <li>• Max Cable Length to Radio - 6 feet</li> </ul>
<b>DESKTOP MICROPHONE INTERFACE - USB JACKBOX</b>	
<b>impedance</b>	2.2 Kohm
<b>Input Level</b>	max 50 m Vrms, nominal level at 5 m Vrms
<b>HEADSET INTERFACE - USB JACKBOX</b>	
<b>Receive Impedance</b>	50 Ohm
<b>Receive Level</b>	max 50 m Vrms, nominal level at 5 m Vrms
<b>Transmit Impedance</b>	120 Ohm
<b>Transmit Level</b>	max 100 m Vrms, nominal level at 55 m Vrms
<b>ENHANCED USB JACKBOX</b>	
<b>Recorder Port</b>	The output consists of transmit audio from the operator and any combination of select audio, unselect audio, monitor speaker, or Call Director audio. Audio fixed -10 dBm at 600 Ohm.
<b>Paging Input</b>	Adjustable from -40 to 0 dBm, balanced 600-Ohm input.
<b>Call Director Output</b>	-40 to -5 dBm, with a nominal -20 dBm, balanced 600-Ohm output.
<b>Call Director Input</b>	-40 to -5 dBm, with a nominal -10 dBm, balanced 600-Ohm input.
<b>Auxiliary Outputs: (PTT, DTMP/STAT-ALERT, Recorder, Call Director)</b>	Form A dry closures, 150 mA max. or 60 VDC max. Switching power 3 W max. Maximum distance 200 ft within one building. Call Director and Recorder Outputs: JACK_IN
<b>Auxiliary Input: (Paging Encoder, Call Director)</b>	Opto-coupled input, 5 to 20 mA input current, unbalanced. Active: Ground. Maximum distance 200ft within one building. Call Director Inputs: OFF_HOOK and HDST SENSE External Pager Inputs: PTT_DETECT

Specifications subject to change without notice.

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