



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 and 24 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 24 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 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 VoIP radio 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.

PRODUCT SPEC SHEET
MIP 5000 VoIP RADIO CONSOLE

KEY FEATURES

Fully featured to meet your needs, the MIP 5000 VoIP Radio 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.

INTEROPERABILITY

The MIP 5000 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 VoIP Radio Console meets the standard for Level 4 Interoperability with dispatcher-controlled, radio-to-radio patching.

LICENSING

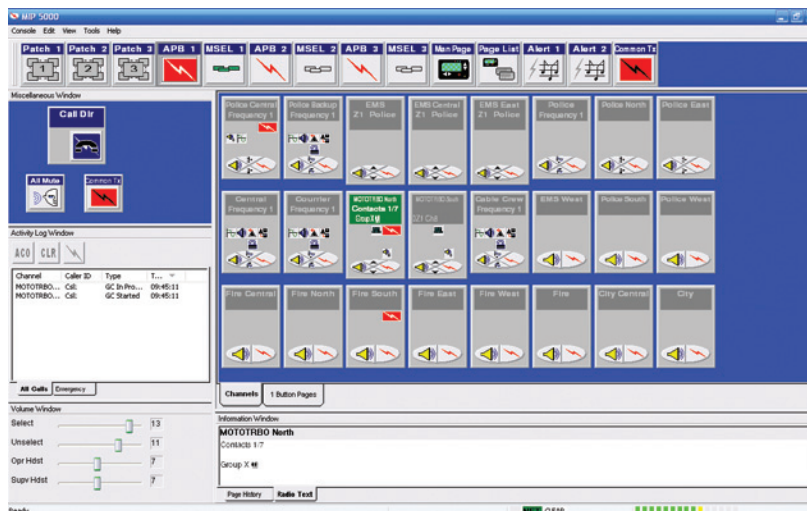
A hardware USB HASP key is required at each operator position to license and enable radio resources. USB HASP keys are available in 1, 4, 8, 12 or 24 resource configurations.

MIP 5000 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 VoIP Radio 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 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 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.



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

COMPATIBILITY

MIP 5000 software is compatible with Microsoft® operating systems Windows XP® Professional-SP3, Windows VISTA® Business Edition SP2, and Windows 7 Professional deployed on a desktop or laptop computer. Note: It is strongly recommended that public safety customers use Motorola-certified desktop computers.

TRUNKED OR CONVENTIONAL

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

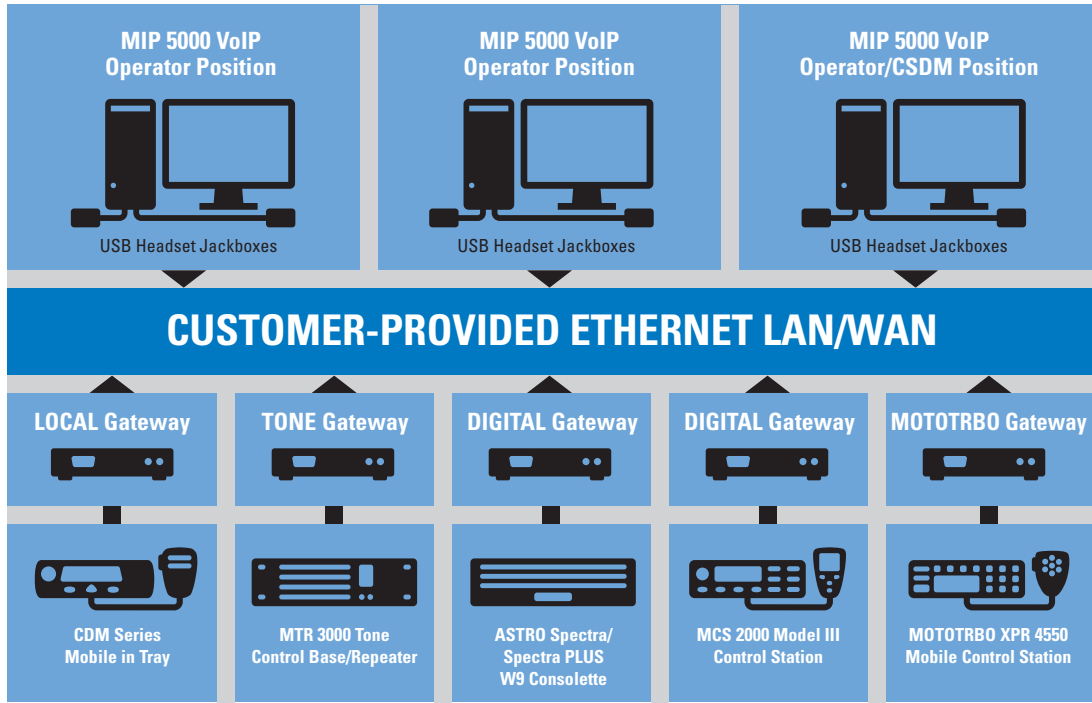
MIP 5000 VOIP RADIO GATEWAY

The MIP 5000 Radio 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 Gateways have temperature operating specifications of -30 to +60 degrees Celsius for use in extreme environments.

NETWORK AND VPN

The MIP 5000 Radio 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.

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COMPUTER REQUIREMENTS

Windows XP® Professional SP3 Computer	Windows Vista® Business SP2 and Windows 7 Professional Computer
Intel® Pentium 4 (or better) personal computer, 1.5 GHz (or faster)	Intel® Core™2 Duo (or better) personal computer, 2.13 GHz (or faster)
1 GB or more RAM	2 GB or more RAM
20 GB hard drive, CD-ROM drive	80 GB hard drive, DVD-ROM drive
Two serial ports, one parallel port, two USB ports, and 10/100 Base-T Ethernet adapter	Four USB ports, and 10/100 Base-T Ethernet Adapter
SVGA display adapter (1024 x 768 pixel or better resolution, 256 colors minimum, 16 MB RAM minimum)	PCI Express video adapter (128 MB SDRAM)
Integrated high-definition digital audio adapter (SoundBlaster® Live! 24-bit sound card equivalent or better)	
Additional USB ports are required to support up to three USB JackBoxes. A USB 2.0 hub can be used to increase the number of USB ports available.	
17-inch or larger, touch-sensitive (optional) or regular color monitor	
Pointing device (two-button mouse or trackball; optional for touch-sensitive screens)	

OTHER CONSOLE COMPONENTS

101-key Keyboard
Headset Interface (up to three USB Enhanced or Basic Jackboxes)
Two External Speakers (4 W amplified, 3" minimum)
Desktop Gooseneck Microphone or Headset
Dual-pedal Footswitch

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LOCAL RADIO GATEWAY

Rx Impedance	47 Kohm
Receive Input Level	50 – 250 mVrms
Tx Impedance	130 ohm
Transmit Output Level	50 – 250 mVrms
Opto-Input	Qty 1, for High Speed Mute or COR detect (selectable)
Opto-Input Rating	5-20mA input current, unbalanced, 5K Ohm impedance
Relay Output	Qty 7, for PTT, Monitor, Takeover, Binary Freq. Select, PL Select. Wildcard, (Selectable)
Relay Output Type	Form C, DPDT, Dry Closure, 150mA max., or 60VDC max.
Relay Output Switching Power	3 Watts max., non-inductive load
Radio Connector Type	DB25

TONE RADIO GATEWAY SPECIFICATIONS

Rx Impedance	600 ohm
Receive Input Level	-40 dBm – 0 dBm
Tx Impedance	600 ohm
Transmit Output Level	-40 dBm – 0 dBm
Guard Tones Supported	2175Hz (Default), 2100Hz, 2300Hz and 2325Hz
Function Tones Supported	550Hz - 2050Hz in 100Hz increments, qty 16
Tone Tolerance	± 2%
Opto-Input	Qty 1, for High Speed Mute, COR detect, Cd/Clr Rx Status (selectable)
Opto-Input Rating	5-20mA input current, unbalanced, 5K Ohm impedance
Relay Output	Qty 1, follows PTT command to radio
Relay Output Type	Form C, DPDT, Dry Closure, 150mA max., or 60VDC max.
Relay Output Switching Power	3 Watts max., non-inductive load
Radio Connector Type	RJ45

DIGITAL RADIO GATEWAY SPECIFICATIONS

MIP Digital when interfacing with a Digital Junction Box (DJB)

Rx and Tx Impedance	600 ohm
Rx and Tx Levels	-40 dBm – 0 dBm

MIP Digital when interfacing directly to radio speaker and microphone

Receive Impedance	47 Kohm
Receive Input Level	50 – 250 mVrms
Transmit Impedance	130 ohm
Transmit Output Level	50 – 250 mVrms
Radio Data Interface	RS485
Maximum Cable Length to Radio	50 feet

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MOTOTRBO® RADIO GATEWAY SPECIFICATIONS

Receive Impedance	47 Kohm
Receive Input Level	50 – 250 mVrms
Transmit Impedance	130 ohm
Transmit Output Level	50 – 250 mVrms
Relay Output	Quantity 1 for PTT
Relay Output Type	Form C, DPDT, Dry Closure, 150mA max., or 60VDC max.
Relay Output Switching Power	3 Watts max., non-inductive load
Radio Connector Type	USB for Data and RJ45 for Audio
Max Cable Length to Radio	6 feet

GENERAL GATEWAY AUDIO SPECIFICATIONS

Transmit Line Outputs

Line Output	Adjustable from -40 to +11 dBm.
Output Impedance	600 ohms and 10 kOhms (Tone control model only)

Receiver Line Inputs

Receive Sensitivity	Adjustable from -40 to +11 dBm.
Call Light Sensitivity	Adjustable from -5 to -32 dBm, relative to receive sensitivity.
Line Balance	60 dB @ 1004 Hz.
Input Impedance	600 ohms and 10 kOhms (Tone control model only)

Audio Controls

Individual Volume	34 dB range in 15 discrete steps. Muting configurable for -24 dB or full mute.
All Mute	24 dB below current setting or full muting of unselected channels with timer programmable from 1 to 120 seconds or for an infinite duration.

USB JACKBOX DESKTOP MICROPHONE INTERFACE

Impedance	2.2 Kohm
Input Level	max 50 mVrms, nominal level at 5 mVrms

USB JACKBOX HEADSET INTERFACE

Receive Impedance	50 ohm
Receive Level	max 150 mVrms, nominal level at 20 mVrms
Transmit Impedance	120 ohm
Impedance	max 100 mVrms, nominal level at 55 mVrms

ENHANCED USB JACKBOX

Recorder Port	The output shall consist of different sources (select, unselect, and Call Director) and the transmit audio of the operator. The fixed nominal output is -10 dBm into 600 ohms.
Paging Input	Adjustable from -40 to 0 dBm, balanced 600-ohm input.
Call Director Output	-40 to -5 dBm, with a nominal -20 dBm, balanced 600-ohm input.
Call Director Input	-40 to -5 dBm, with a nominal -10 dBm, balanced 600-ohm input.

Status Outputs and Inputs

Auxiliary Outputs (PTT, DTMF/STAT-ALERT, Recorder)

Form A Dry Closures	150 mA max. or 60VDC max. Switching power 3 watts max. Maximum distance 200 ft within one building.
Auxiliary Input (Paging Encoder)	Opto-coupled input, 5 to 20 mA input current, unbalanced. Active: Ground. Maximum distance 200 ft within one building.

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GATEWAY POWER SUPPLY

AC Input Voltage	90-264 VAC
Input Frequency	47–63 Hz
Power Output	12 W max.
DC Outputs	+5 VDC @ 2.4 A
Agency Approvals	UL (Underwriters Laboratories), CSA (Canadian Standards Association) CE Mark (Conformité Européenne), FCC (Federal Communications Commission)

CALIFORNIA-COMPLIANT GATEWAY POWER SUPPLY

AC Input Voltage	90-264 VAC
Input Frequency	47–63 Hz
Power Output	12 W max.
DC Outputs	+5 VDC @ 4.0 A
Agency Approvals	UL (Underwriters Laboratories), CSA (Canadian Standards Association) CE Mark (Conformité Européenne), FCC (Federal Communications Commission)

NETWORK REQUIREMENTS

Type Multicast and QoS Enabled	10/100 Mbps Ethernet
Bandwidth Usage	100kbps per radio voice channel, gateway
Packet Loss	1% max.
End-To-End Delay	150ms max.
Jitter	100ms max.

CERTIFICATION S AND COMPLIANCE

Radio Gateway (applies to all gateways)	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
Headset Jackbox	FCC Part 15, Class B; CE; ICES-003; UL and CS

Specifications subject to change without notice.

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