

# MIP 5000

## VoIP Radio Console

*The MIP 5000 VoIP Radio Console is designed to provide customers an affordable solution to transmit dispatch quality voice over their existing multicast enabled Ethernet network. The MIP 5000 radio console connects up to 100 users with flexible licensing that is available with 1, 4, 8, 12 and 24 channel software options. In addition, up to 128 radio resources can be connected to the network and configured in the Console System Database Manager (CSDM). Configuration files can be saved on each operator position which will allow a dispatcher to access & 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(s).*

### Flexible and Customizable User Interface

MIP 5000 features the familiar MCC 5500 Graphical User Interface (GUI) that minimizes user-training requirements. The intuitive and familiar 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 user(s). The GUI provides extensive user options for full color control of the display and re-sizeable windows and icons. To save time, dispatchers have Page History and Activity Log windows always available for real time status information.

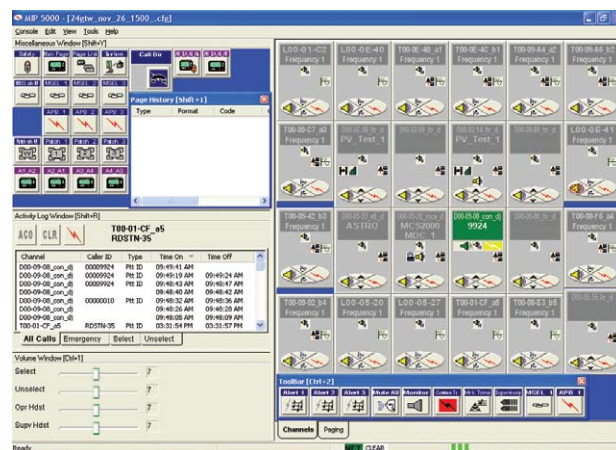
### Customizable Channel Control

MIP 5000 VoIP 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). Mobile (or SB9600) resources on the PC console 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 IDs or Alias names for PTT-IDs and Emergency Alarms are displayed. The Activity Log will display ASTRO PTT-IDs, Emergency Alarm and Emergency Call information when Mobile (or SB9600) radios with ASTRO signaling are used.

### Key Features

MIP 5000 is a full featured console including capabilities of Multi-select (APB), Single Button Page. For Local and Tone resources, DTMF Decode and MDC 1200 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 (or SB9600) resources mimic the control head functionality, including all buttons and display for specific Motorola radios.



### Interoperability

MIP 5000 allows users to patch communication between dissimilar radios with an easy drag and drop capability. Patches may contain active Call Director telephone calls. The MIP 5000 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 Console System Database Manager (CSDM) is a single point for configuring the entire console system. This centralized approach saves valuable time and effort for system administrators and technicians. MIP 5000 operator position features a built-in network monitoring tool that alerts the operator when real-time Ethernet network conditions like packet loss, jitter and latency may be affecting audio quality. This feature is designed to aid radio service and IT personnel in system troubleshooting.

**DATA SHEET**

MIP 5000  
VoIP Radio Console



**USB HASP Key**



**USB Jackbox**

**MIP 5000 Audio Accessories**

A MIP 5000 USB Jackbox provides the MIP 5000 operator position with access to standard (non USB) accessories. Two kinds of USB Jackboxes are available: Basic and Enhanced. The Basic USB Jackbox provides access for up to three accessories: a Plantronics two prong headset, plus the Motorola Desktop Gooseneck Microphone and Foot-Switch. The Enhanced USB Jackbox provides all of the accessory capability of the Basic Jackbox plus offers an auxiliary jack for access to one of five options: a) Call Director, b) External Paging Encoder or c) Analog Recorder. d) PTT, e) MDC Emergency Alarm output.

**Jackbox Limits:**

- 1 headset per Jackbox
- 1 footswitch per Jackbox
- 2 headsets maximum per operator position
- 3 Jackboxes maximum per operator position (any combination of Basic or Enhanced)

**Compatibility**

MIP 5000 software is compatible with Microsoft operating systems XP Professional-SP3 and VISTA Business Edition SP1 deployed on a desktop or laptop computer. Note: It is strongly recommended that public safety customers use Motorola certified desktop and laptop computers.

**Trunked or Conventional**

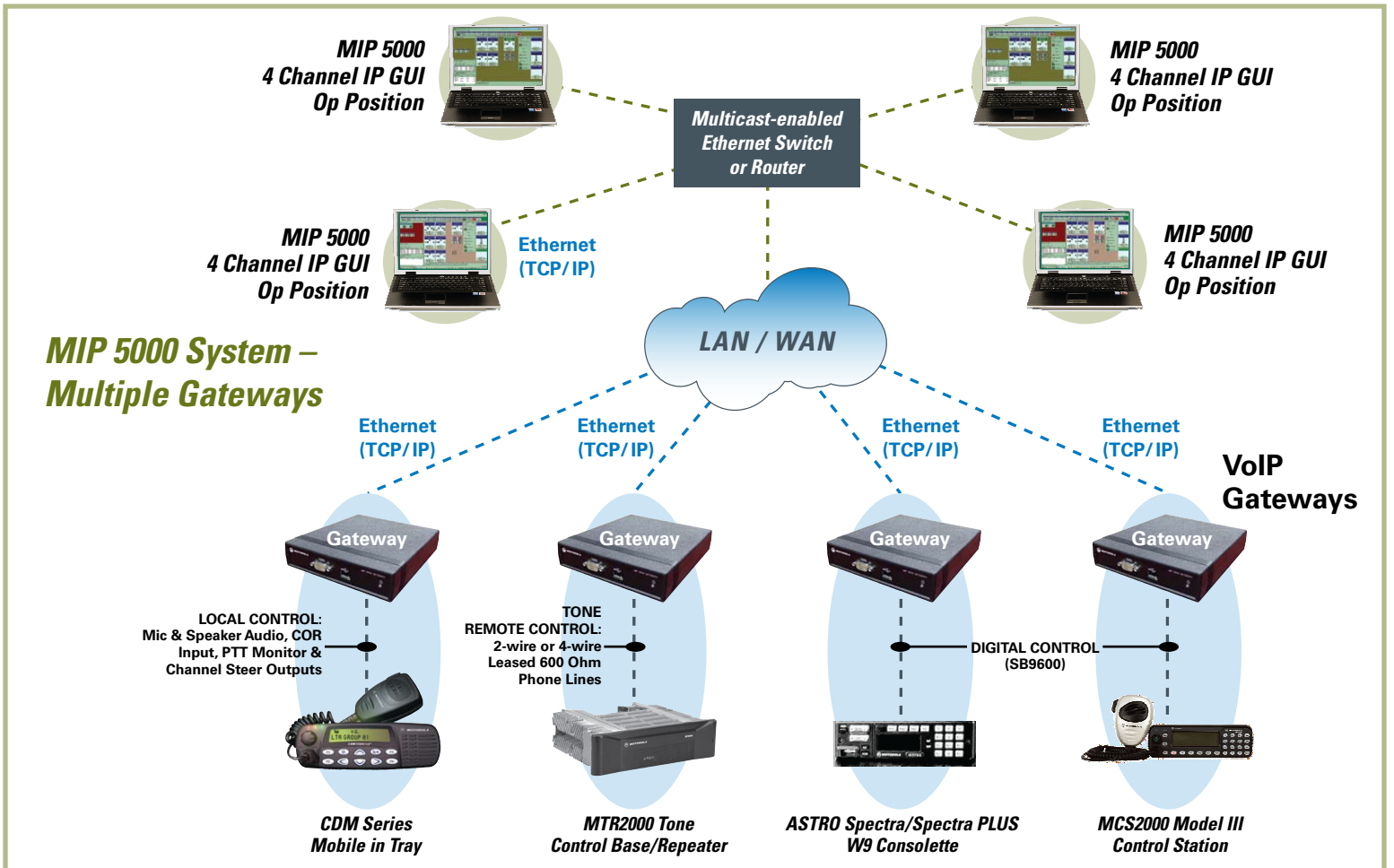
The MIP 5000 console interfaces with trunked and conventional radio systems. In addition, the MIP 5000 Local, Tone or Digital Gateways can work in parallel with existing console systems for backup or migration applications.

**MIP 5000 VoIP Radio Gateway**

The MIP 5000 radio gateway provides access to multiple radio types including local control, tone control and Motorola digital control. Each gateway interfaces to one 2-way radio.

**Network and VPN**

MIP 5000 dispatch console system requires a multicast enabled network that lets UDP packets through and is secure, non-congested and is QoS enabled. Gateways must be installed on a secure network, not the Internet. MIP 5000 console position(s) may operate on the same network as the gateways or operate remotely using a router to router VPN tunnel over the Internet. Additional hardware may be required for VPN set up.



## DATA SHEET

MIP 5000  
VoIP Radio Console

### COMPUTER REQUIREMENTS

Microsoft Windows XP Computer	Microsoft Windows Vista 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 ports1, and 10/100 Base T Ethernet Adapter	Four USB ports, and 10/100 Base T Ethernet adapter
SVGA display adapter with minimum 1024 x 768 resolution, 256 colors and 16 MB RAM	PCI Express video adapter with 128 MB SDRAM minimum
Integrated high-definition audio adapter (SoundBlaster® X-Fi Xtreme Audio sound card equivalent or better)	
Additional USB ports are required to support up to three USB jack-boxes. A USB 2.0 hub can be used to increase the number of USB ports available.	
17-inch or larger color monitor (optional touch-sensitive)	
Pointing device (two-button mouse or trackball; optional for touch-sensitive screens)	

### OPTIONAL CONSOLE COMPONENTS

101-key keyboard
Headset interface (up to three USB Enhanced or Basic jackboxes)
Two external speakers; 4 W amplified, 3" minimum
Desktop or gooseneck microphone or headset
Dual-pedal footswitch

### PHONE RADIO GATEWAY SPECIFICATIONS

Rx Impedance	600 ohm
Receive Input Level	-40 dBm to 0 dBm
Transmit Impedance	600 ohm
Transmit Output Level	-40 dBm to 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, 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)

Receive & Transmit Impedance	600 ohm
Receive & Transmit Levels	-40 dBm to 0 dBm

#### MIP Digital when interfacing directly to radio speaker and mic.

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

### USB JACKBOX DESK MIC INTERFACE

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

## DATA SHEET

MIP 5000  
VoIP Radio Console

---

### USB JACKBOX HEADSET INTERFACE

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

---

### USB JACKBOX

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
Recorder Port	Fixed nominal output is -10 dBm into 600 ohms
Paging Input	Adjustable from -40 to 0 dBm, balanced 600-ohm input

---

### STATUS OUTPUTS AND INPUTS – USB JACKBOX

Auxiliary Output Type (PTT, DTMF/STAT-ALERT, Recorder)	Form A dry closures. 150 mA max. or 60VDC max.
Auxiliary Output Switching Power (PTT, DTMF/STAT-ALERT, Recorder)	3 watts max. Maximum distance 200 ft within one building
Auxiliary Input Type (Paging Encoder)	Opto-coupled, 5 to 20 mA input current, unbalanced Active: Ground. Maximum distance 200 ft within one building.

---

### LOCAL RADIO GATEWAY

Receive Impedance	47 Kohm
Receive Input Level	50 – 250 mVrms
Transmit 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, Dry Closure, 150mA max., or 60VDC max.
Relay Output Switching Power	3 Watts max., non-inductive load
Radio Connector Type	DB25

---

### NETWORK REQUIREMENTS

Type	Multicast and layer 3 QoS enabled, 10/100 Mbps Ethernet
Bandwidth	100kbps per audio stream
Packet Loss	1% maximum
End-To-End Delay (latency)	150ms maximum
Jitter	2 mSec maximum

---

### CERTIFICATIONS 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; WEEE; CB
Headset Jackbox	FCC Part 15, Class A; CE; Industry Canada ICES-003; UL and CSA; WEEE; CB



Motorola, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. [www.motorola.com/governmentandenterprise](http://www.motorola.com/governmentandenterprise) 1-800-367-2346

MOTOROLA and the Stylized M Logo are registered in the U.S. Patent and Trademark Office.  
All other product or service names are the property of their registered owners. © Motorola, Inc. 2009 (0903)  
R3-13-2011B