

# MAX Dispatch System

## Spec Sheet

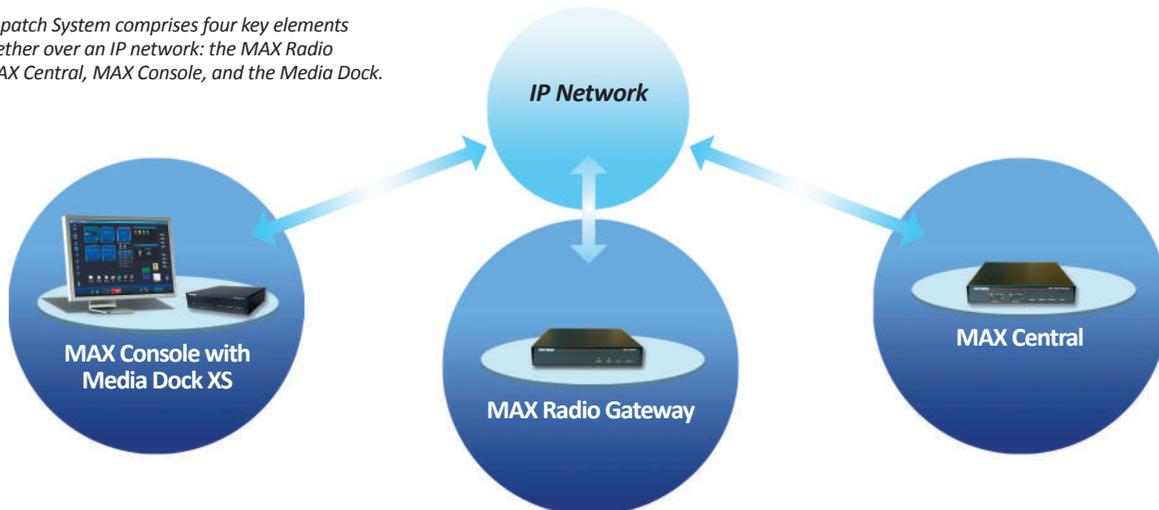
Zetron's IP-based MAX Dispatch console system is designed to meet the varying needs of the dispatch community while providing a low cost of ownership to the customer. Whether it is expanding the positions and interfaces of one system, sharing resources across multiple systems, increasing mobility options for staff or ensuring your control room can interface to legacy and emerging technologies, the MAX Dispatch radio dispatch console provides the customer an easy path on which to move forward.



## KEY FEATURES

- **Simpler Operation, Lower Training Cost:** The user interface is designed to reduce screen clutter, response times, and user stress. Requires minimal training and fewer steps to perform tasks and access information.
- **High reliability:** End-to-end network redundancy keeps the system up and running even if the IP network goes down.
- **Minimize Maintenance Time and Cost:** Configure, troubleshoot and maintain the system from the convenience of the office.
- **Scalable Operations:** The architecture provides scalability for system designs ranging from dedicated LAN network to multi-node, geographically diverse WAN applications.

The MAX Dispatch System comprises four key elements working together over an IP network: the MAX Radio Gateway, MAX Central, MAX Console, and the Media Dock.



### MAX Console w/ Media Dock:

The MAX Dispatch console is the system element that provides the critical user interface to dispatchers. Each console consists of a Windows based client running the MAX Dispatch application software and the Media Dock. The console PC is equipped with two, full-duplex Ethernet ports for full network redundancy. The Media Dock provides the audio interface and connection point for accessories.

### Media Dock Interfaces Supported:

- Up to four speakers, eight speakers supported with second dock.
- Desktop microphone.
- 4-wire or 6-wire headset jackbox.
- PTT and monitor footswitches.
- Four binary inputs and output that can be used for workstation status.
- Four relay contact closure outputs.

### Workstation Requirements:

Operating System:	Windows 7 x64 Professional.
Video Monitor(s):	1680 x 1050 resolution display or larger; 1920 x 1080 recommended. DirectX 10-compatible graphics processor with a Windows Display Drive Model (WDDM) 1.1 driver, pixel shader 3.0 in hardware, and a minimum of 512MB of video RAM. Touchscreen operation requires a monitor that supports multi-touch.
Processor:	Dual Core i3/i5 3.0 GHz or better processor. (The current reference build uses the i3 540.)
Memory:	4GB.
Drive:	80GB or larger.
Network:	100/1000 Ethernet Connection. Dual connections are required for link redundancy options.

## MAX Radio Gateway:

The Radio Gateway serves as the interface point between a radio or base station and the rest of the MAX system. Radio Gateways are available in both analog and digital forms depending on the radio interface requirement.

### Supported Features:

- Analog gateways support up to two radio connections.
- Digital gateway supports Ethernet connection to digital base station infrastructure.
- Dual Ethernet ports for network redundancy.
- Analog voice logger output.
- Four binary inputs and outputs for generic site monitoring and control use (analog gateways only). Relay closures available via optional Zetron Model 6080.

### Supported Radio Interfaces:

- 2-wire, 4-wire local (PTT/COR).
- Tone Remote Control (per TIA102.BAHA Section 7).
- Analog/conventional radios: Kenwood TK-x180, Motorola XTL 5000 (O5), Harris M7300, etc.
- P25 conventional/trunking radios: Kenwood TK-5x10, Motorola APX 7500 (O5 Mobile), Motorola XTL 5000 (O5 Mobile), Motorola Quantar with DIU-3000 (conventional only), Harris M7300.
- Smartnet/SMARTZONE radios: Motorola APX 7500 (O5 Mobile), Motorola XTL 5000 (O5 Mobile).
- EDACS radios: Harris M7300.
- Sprint Direct Connect: Kyocera Phone/cradle, AdvanceBridge.
- P25 Digital Fixed Station Interface (DFS) per TIA102.BAHA.
- Kenwood NEXEDGE radios: NX-700/800/900, NX-820
- Kenwood NEXEDGE NXR-700/800 Conventional and Trunking Repeaters.
- DMR Tier III to Tait DMR.

## MAX Central:

The Central is the hardware platform that hosts several software services used in the MAX Dispatch system. These software services provide essential management and control to the system as well as act as a gateway to various third party devices for additional functionality such as telephony gateways, IP voice loggers, MODBUS IP auxiliary I/O devices. It also hosts the service that provides remote console, remote radio gateway and multiple MAX Dispatch site linkage.

### Supported Features:

- Dual network connections
- Dual power connections
- Hot standby capability for MAX Manager, Telephony Gateway and Portal services.
- Long term IP voice loggers supported: Eventide, Exacom, Stancil, CVDS, REVCORD, HigherGround, NICE, Verint.

## HARDWARE SPECIFICATIONS

	Media Dock XS	Central	Radio Gateway
Dimensions (HxWxD)	2.5 x 7.5 x 10 in 64 x 192 x 254 mm	1.25 x 7.5 x 10 in 31.75 x 191 x 254 mm	1.25 x 7.5 x 10 in 31.75 x 191 x 254 mm
Weight	2.6 lbs (1.2 kg)	2.5 lbs (1.13 kg)	2 lbs (0.91 kg)
Operating Temperature	0 to +60 Celsius	0 to +50 Celsius	0 to +50 Celsius
Maximum Power Draw	3W, 200mA (no speakers) 21W (with speakers)	1.8A @10.5 VDC	1A @ 10.5 VDC

## NETWORK SPECIFICATIONS

Radio Gateway Payload (per radio):	168 kbps during radio Tx. 84 kbps during radio Rx. If using an IP voice logger, an additional 84 kbps maximum for each active audio stream is needed. 5 kbps average for non-audio traffic.	Packet Loss:	< 0.1% (< 1% for non-mission critical).
Console Workstation Payload:	84 kbps maximum for each active audio stream (Tx or Rx). N*84 kbps for simultaneous Tx on N channels.	Packet Delay:	< 40 ms for LAN environments; up to 2 seconds for longhaul (long delay) environments.
		Packet Jitter:	< 20 ms (< 40 ms for non-mission critical).
		Network Infrastructure:	100 Mbps minimum, full-duplex Ethernet. Switches and routers must be multicast aware. Mission-critical applications should use a dedicated network.

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