



# ARCHITECT'S AND ENGINEER'S SPECIFICATION

**PRODUCTS SUPPORTED:**  
WS800 Wireless Microphone System

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# WS800

## 4 & 8 Channel Wireless Microphone System

### Architect's and Engineer's Specification

#### Wireless Microphone System

The 4 & 8 Channel Wireless Microphone system shall consist of a Receiver base station and four different Transmitter microphones. The system shall use 7 different UHF RF bands for the wireless signal which are country specific. The system shall operate on fixed linear frequencies. The system shall have 256 bit AES encryption for transmitting wireless audio from Transmitters to Receiver. The system shall have a frequency response of 20 Hz to 20 kHz, with audio sampling of 24 bit, 48 kHz. The RF frequency range shall have the following RF ranges which are model specific: M500 (486-512MHz), M586 (573-599MHz), M610 (603-630MHz), M715 (710-740MHz), M800 (793-819MHz), M915 (902-928MHz), M930 (917-943MHz). The RF range shall be 100 meters line of sight and overall audio latency shall be less than or equal to 3 ms for uncompressed stage model, less than or equal to 4ms for uncompressed conference model and less than or equal to 10ms for compressed model. The system shall use RF output power of 1 mW, 10 mW, 25mW, 50mW which are country specific. It shall have different types of Transmitters—Boundary or Tabletop, Gooseneck or Podium, Handheld and Beltpack. Each transmitter shall be synchronized with a receiver module to operate. The system shall have a separate docking station to charge the Transmitters with NiMH rechargeable and field replaceable AA batteries. It shall have a software application for configuring, monitoring and troubleshooting.

#### Wireless Receiver

The Wireless Receiver unit shall act as a base station to receive wireless audio from the transmitter microphones. It shall have 4 & 8 channels of receive modules with OLED displays to display the channel related details. It shall have 4 & 8 output channels with Euroblock type connector. There shall be an external adapter available to make it as XLR type output connector as needed.

The Receiver shall have built-in dipole antennas with a removable option to extend the distance by up to 300 feet from the Receiver using 15dB active gain remote phantom powered antennas. The receiver shall have an option to mount the dipole antennas on the front rack ears. The receiver shall have built in antenna distribution with a daisy chain output for connecting up to four 8 channels receivers for a total of 32 channels simultaneous.

The receiver shall have a ¼" TRS audio port for headphone/mixed audio output with an analog volume pot. It shall have a DB25 GPIO port with a Gnd and 24 assignable I/O ports with a switchable RS232 option. The receiver shall have a USB port and daisy chainable Ethernet connectivity for remote control and firmware updates. The receiver shall have an option for a Dante digital audio port. The Receiver shall be powered through either a fusible 100 to 240VAC (50 to 60Hz) IEC AC input or a 4pin 5.6Vdc external wall adapter. The power inputs AC and DC shall be redundant so as if one source is removed the other source takes over. It shall consume less than 20 Watts power. The Receiver unit shall be mountable in a standard 19" Rack.

There shall be an audio redundant mode where the audio from slot 2 shall be able to pass through slot 1 uninterrupted when two transmitters are used for one presenter. The audio redundancy feature shall be available per every 2 receiver module slots. The receiver unit shall be able to load and store presets. The receiver unit shall have a dimmable OLED display with options to stay bright or dim after pairing process.

The receiver shall have a status LED for displaying the transmitter state (on/off/mute). The receiver shall have an IR transmitter for sending over settings information from the wireless receiver. The receiver shall have a tour mode feature where the same audio encryption key can be programmed into multiple receiver channels to allow one transmitter to communicate with multiple receivers. The receiver shall have an email alert system to notify a low battery state of a transmitter unit. The receiver shall have the ability to be used in up to 6 rooms via a remote extension antenna combiner system.

#### Wireless Transmitters

The system shall have different Transmitter types – Boundary or Tabletop, Gooseneck or Podium, Handheld and Beltpack.

Boundary or Tabletop Transmitter shall have Omni or Cardioid microphone SKUs to choose from. It shall use 2 AA NiMH rechargeable or Alkaline batteries. The batteries shall be field-replaceable. This transmitter shall fit into the Docking Station for recharging when the transmitter is installed with NiMH rechargeable batteries in its battery compartment. It shall have maximum 8 hours of talk time when it is fully charged. This transmitter shall have a programmable mute button (toggle/PTT–Push to Talk/PTM–Push to Mute), programmable slide switch (on/off/mute) and LED indicator. This transmitter shall have an option to power through a micro-USB port as an additional way of charging. This transmitter shall have a RF standby mode to improve battery life. This transmitter shall have an RF power of 1, 10, 25, 50mW. This transmitter shall be configured and firmware field-upgraded using Software through Wireless Receiver.

Gooseneck or Podium Transmitter shall have a Cardioid microphone with modular length goosenecks—6", 12" and 18" to choose from. It shall use 4 AA NiMH rechargeable or Alkaline batteries. The batteries shall be field-replaceable. This transmitter shall have a battery cassette to hold and recharge the batteries. The battery cassette shall fit into the Docking Station for recharging when it is installed with NiMH rechargeable batteries in its battery compartment. It shall have maximum 16 hours of talk time when it is fully charged. This transmitter shall have a programmable mute button (toggle/PTT/PTM), programmable slide switch (on/off/mute)

and LED indicator. This transmitter shall have an option to power through micro-USB port as an additional way of charging. This transmitter shall have an RF power of 1, 10, 25, 50mW. This transmitter shall be configured and firmware field-upgraded using Software through Wireless Receiver. This transmitter shall have key slots in the base to allow for permanent mounting in the table or podium.

Handheld Transmitter shall have interchangeable mic heads with an option to choose cardioid, super cardioids and hyper cardioid mic head SKUs. It shall use 2 AA NiMH rechargeable or Alkaline batteries. The batteries shall be field-replaceable. This transmitter shall fit into the Docking Station for recharging when the transmitter is installed with NiMH rechargeable batteries in its battery compartment. It shall have maximum 8 hours of talk time when it is fully charged. This transmitter shall have a programmable slide switch (on/off/mute) and an OLED display to show transmitter related information. This transmitter shall have an option to power through micro-USB port as an additional way of charging. This transmitter shall have an RF power of 1, 10, 25, 50mW. This transmitter shall be configured and firmware field-upgraded using Software through Wireless Receiver.

Beltpack Transmitter shall have a TA4 connector for connecting with Lavalier or Single-ear headset microphone. It shall use 2 AA NiMH rechargeable or Alkaline batteries. The batteries shall be field-replaceable. This transmitter shall fit into the Docking Station for recharging when the transmitter is installed with NiMH rechargeable batteries in its battery compartment. It shall have maximum 8 hours of talk time when it is fully charged. This transmitter shall have a programmable slide switch (on/off/mute) and an OLED display to show transmitter related information. This transmitter shall have an option to power through micro-USB port as an additional way of charging. This transmitter shall have an RF power of 1, 10, 25, 50mW. It shall have an antenna and shall be field-replaceable. It shall have a reversible belt clip. This transmitter shall be configured and firmware field-upgraded using Software through Wireless Receiver.

### **Docking Station**

The system shall have a Docking Station to hold and charge all types of Transmitters that have NiMH rechargeable batteries. Typical charging time to fully charge the batteries shall be 8 hours for 2AA Transmitters and 16hours for 4AA Transmitters. Maximum 8 transmitters of any type shall be charged at the same time.

### **Remote Extension Antennas**

The system shall have active remote extension antennas with 15dB gain to extend the antennas with a maximum of 300 feet from the receiver base. The remote antennas shall be wall, ceiling or mic stand mountable. The antennas shall have a beam width of 130 degrees. The antennas shall be powered via a 3V DC bias on the remote extension coaxial cable. A maximum of 6 pairs of remote extension antennas can be powered from a single receiver.

### **Wireless Software**

Software shall provide for configuring and adjusting system parameters within each hardware unit and with a daisy-chained system. Software shall operate on a PC computer with USB port, running Windows® 7/10. The software shall provide configuration options for setting transmitter gain, RF standby mode, transmit power, button programming. The software shall have an option for an RF scan feature when it is connected with a Receiver. The software shall have an option to configure the wireless mics system alerts when it is connected with a Receiver.

### **Compliance**

The 4 & 8 Channel Wireless Microphones system shall be compliant with EU 2014/30/EU EMC Directive, the 2011/65/EU RoHS Compliance Directive.

### **Warranty**

Warranty for the system shall be 3 years.

### **Conclusion**

The 4 & 8 Channel Wireless Microphone system shall be WS800.

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