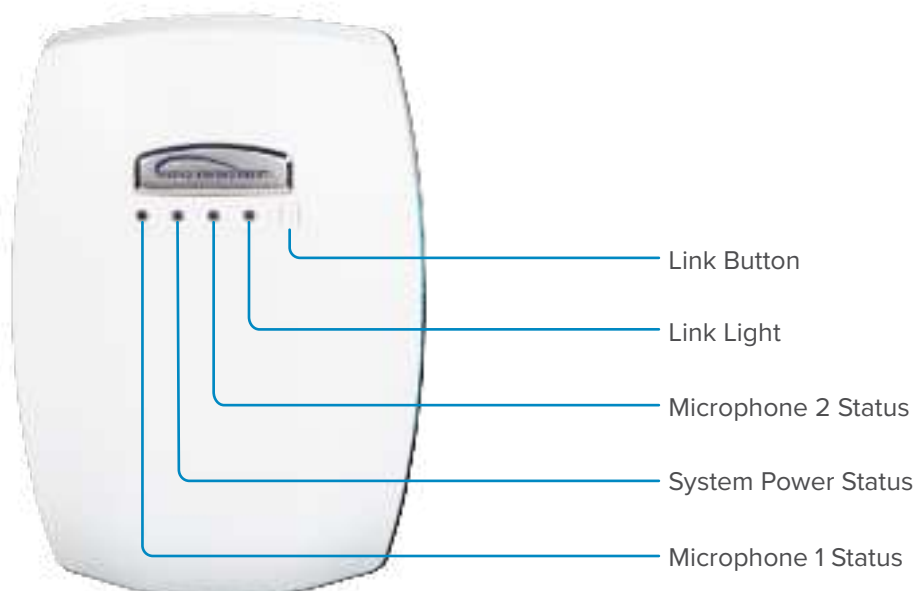
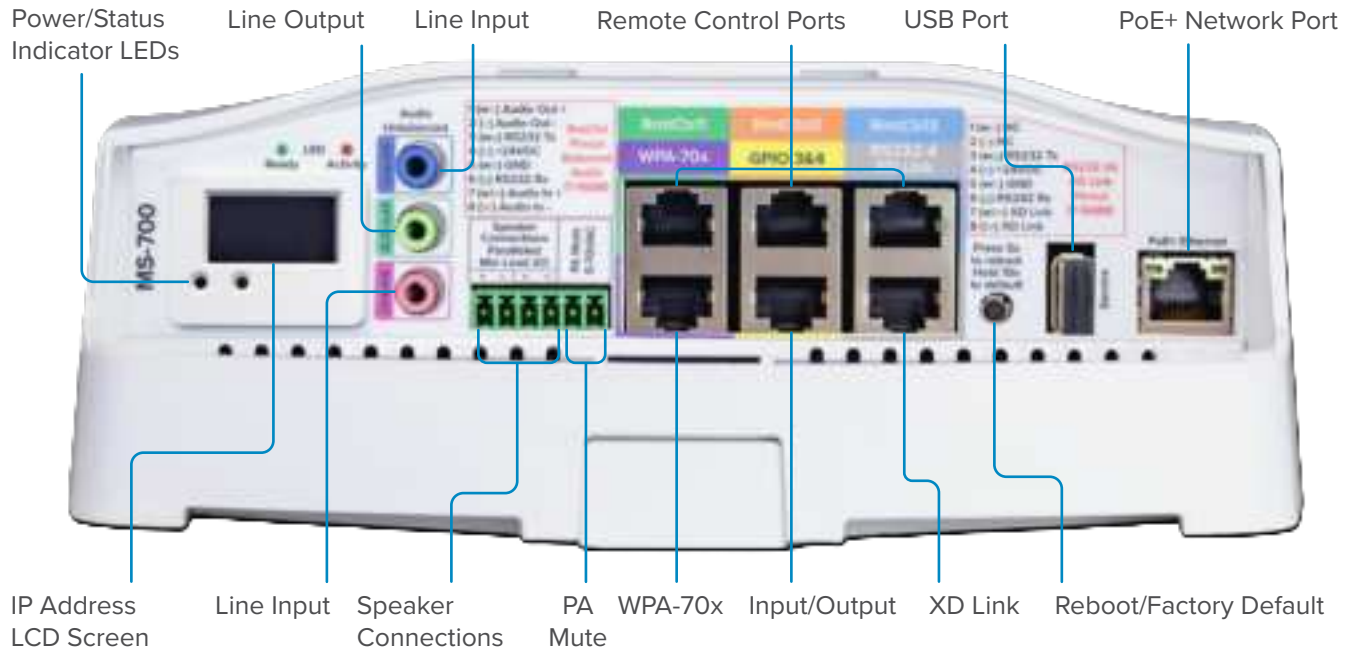


MS-700 OPTIMUM AMPLIFIER

QUICK START GUIDE



DESCRIPTION

The **MS-700 Optimum Amplifier** is a fully integrated networked classroom amplifier and wireless microphone receiver. This amplifier has network-based intercom, paging and emergency notifications, and provides full-duplex audio. It is easy-to-use, easy-to-install, and has a simple user interface software. The entire unit utilizes Power over Ethernet (PoE+). Intercom and paging functionalities⁺ are built-in. When used in conjunction with an Uninterruptable Power Supply (UPS), during emergencies, paging can still be heard, even when the power goes out. This unit can be installed as part of the SAFE (Signal Alert For Education) System[®].

FUNCTIONAL SUMMARY

GENERAL PURPOSE IO

- (4) Discrete Inputs
- (4) Discrete Outputs

SERIAL COMMUNICATION

- (4) RS232 Connections

WALL PLATE ACCESSORY

- (1) Port

AUDIO

- (2) Unbalanced Audio In
- (3) Balanced Audio In
- (1) Unbalanced Audio Out
- (3) Balanced Audio Out
- (2) Amplified Audio Out with minimum load of 2ΩRemote Power
- (4) 24V Out Ports

INTERFACES

(4) REMOTE PORTS (RMTCTRL)

- Audio Out (Balanced)
- Audio In (Balanced)
- RS232
- 24VDC
- Also Connects to the ITC2

WALL PLATE AUDIO (WPA) PORT

- Connects to Audio Enhancement Wall Plates

IO PORT (GPIO 3 & 4)

- (2) Input
- (2) Output

SERIAL + XD PAIR (RS232 4 XD LINK)

- RS232
- 24VDC
- XD Link

USB PORT (FOR SERVICE ONLY) DISPLAY

- PoE+ Warning
- IP Address
- Firmware Version

LEDS

Power LED

- Red while booting
- Green when operational
- Yellow when a recording from a classroom camera is happening.

Status LED

- Red while booting and getting an IP address.
- Green blink when operational and there is activity on the ethernet port.

3.5MM AUDIO

- (2) Line In (Unbalanced)
- (1) Line Out (Unbalanced)

SPEAKER CONNECTION X2 (2Ω MIN LOAD)

- (2) Line In (2Ω Min Load)

PA MUTE

- Audio is muted when 5-70VAC is present

POE+ ETHERNET

RESET BUTTON

PROCESS

1. Physically install components in the room such as speakers and/or AV Touch Wall Control to MS-700.
2. Confirm that the included dongle is connected to USB port.
3. Apply Power by connecting the MS-700 to the POE Switch.
 - a. Monitor the display during power up and note the firmware version, PoE LLDP Detection and IP Address
4. Install the Device Configuration App (For Apple and Android phones search for the Device Configuration App by Audio Enhancement.) For more information on the Device Configuration please view the [Device Configuration Guide](#) document.
5. The app is available on iOS and Android app stores under the name Device Configuration.



Android



iOS

6. Start the Device Configuration App. (Figure 1)
7. Select the dongle for the MS-700 you are configuring. If multiple dongles are found, select the dongle with the largest signal strength. Note that all MS-700s with a dongle in range of the device will be displayed. Give the application time to gather data before selecting a system to connect to. (Figure 2)
8. Set up school information. (Figure 3)
9. Input and/or confirm network configuration information. Note the values for your system will be different than those shown in the example. (Figure 4)

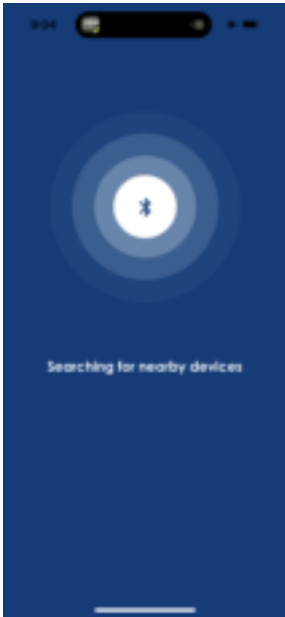


Figure 1



Figure 2



Figure 3



Figure 4

10. Set default audio input levels. (Figure 5)
11. Set audio output levels. (Figure 6)
12. Set up the equalizer. In most cases the default settings work best in the classroom. (Figure 7)



Figure 5



Figure 6



Figure 7

13. Link classroom microphones.
14. Remove the dongle (recommended, but not required).
15. Start EPIC, update the firmware, and continue the setup using the EPIC software.

XD TEACHER MICROPHONE LINKING

1.

With the microphone off, *press* the *Link* button on the front of the amplifier or side of the BEAM (Look for the blinking yellow LED).
2.

With the microphone off, *press* and *hold* *REC* button. Then promptly press and hold *PWR* until microphone is linked.



3.

Successful microphone linking will produce a *beep* through the system, and on the front of the amplifier you will see an additional *green* LED.



XD STUDENT MICROPHONE LINKING

1.

With the microphone off, *press* the *Link* button on the front of the XD Receiver. (Look for the blinking yellow LED)
2.

Press and hold the *PWR LINK* button on the back of the XD Student Microphone.



3.

While *holding* use your thumb to *slide* the *TALK* button up into to the on position. Successful linking will produce an audible beep as well as an additional *green* LED.



LINKING THE MEDIA CHANNEL

1. The microphone cannot be linked to the Media channel unless *MIC 1* and *MIC 2* channels are on.
2. Make sure the microphone needing to be linked, either the Teacher or Student, is turned off.
3. Confirm that both *Channel 1* and *Channel 2* mics are on and connected to the amplifier.
4. Follow XD Teacher or XD Student Microphone Linking section instructions.
5. In around 10 seconds you should hear a beep and the amplifier *LINK* LED will be solid *yellow*.

CHARGING YOUR XD MICROPHONE

1. Charge the microphone at the end of each day.
2. Connect the USB-C plug of the charger to the DC input terminal of the microphone. After connecting the microphone to the charger, the charge indicator *red* indicates the charging status.
3. When the charge indicator stops blinking, the microphone is fully charged. If the charge indicator is blinking rapidly it means that the USB-C isn't fully inserted.

XD TEACHER MICROPHONE VOLUME CONTROL

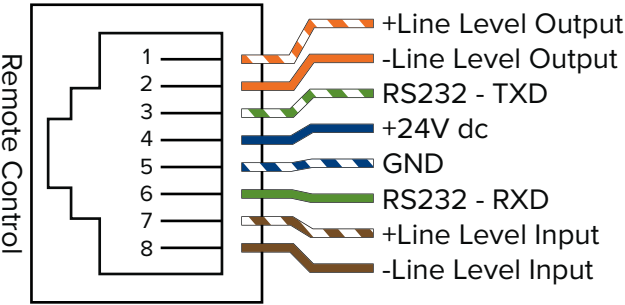
1. Press *SELECT* to choose the desired source to control. An LED will illuminate to indicate the selected source. *OWN* will control the level of the microphone currently in use. *CH3* will control the other microphone if a second microphone has been linked.
2. Press the *up arrow* to increase the level of the selected source or the *down arrow* to decrease the level.

CONNECTOR DETAILS

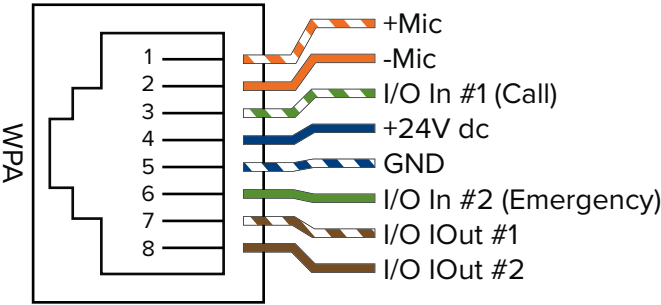
NOTE

Note that some Pin outs for the MS-700 are different than the MS-600.

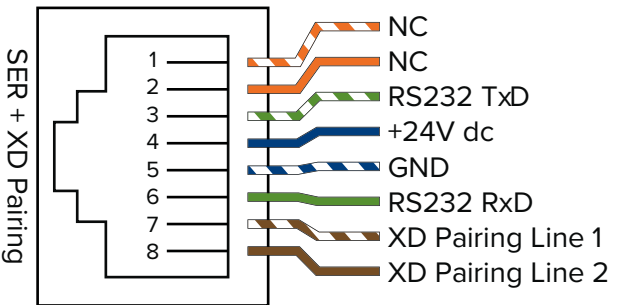
RMTCTRL PORTS



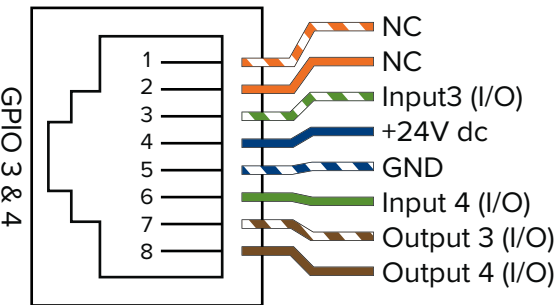
WALL PLATE AUDIO



SER + XD LINK



GPIO 3 & 4



TROUBLESHOOTING

REBOOT BUTTON FUNCTIONALITY

Reboot

Press button (5 seconds).

Factory Reset Procedure

Press for 10 seconds wait for *Green* LED flashes and release.

Rescue Mode

Press until *Red* light illuminates or disconnect power, press and hold the *reset* button while applying power.

MS-700 AND SPEAKER VOLUME

If you have speakers connected to an MS-700 with the volume at max and the sound is very quiet, the OHMs settings need to be changed in the software. The MS-700 will be defaulted to 2 OHMS and should read just when speakers are connected, but if this does not occur increase the OHM setting in the EPIC MS-700 software and volume will be corrected.

“SIP NOT CONNECTED”

Verify that the SIP settings are correct on the device. Try pushing *settings* from EPIC again- specifically from the configure tab, as pushing settings from the devices list does not push SIP settings.

REBOOTING ISSUE

If MS-700 is constantly rebooting and has peripherals plugged in, such as an ITC, it might be pulling too much power. Try lowering the Nominal Speaker Impedance option in the advanced Audio Settings by editing the device in the devices list.

NO AUDIO

If there is no audio going through the speakers (bells, paging, intercom, teacher mic) check the audio output to see if there is any audio passing through there. This can be done by connecting a pair of wired headphones to the audio out of the MS-700 and playing audio through the MS-700. If you hear audio through the headphones, it is most likely not a problem with the MS-700 and more related to the speakers or speaker wiring.