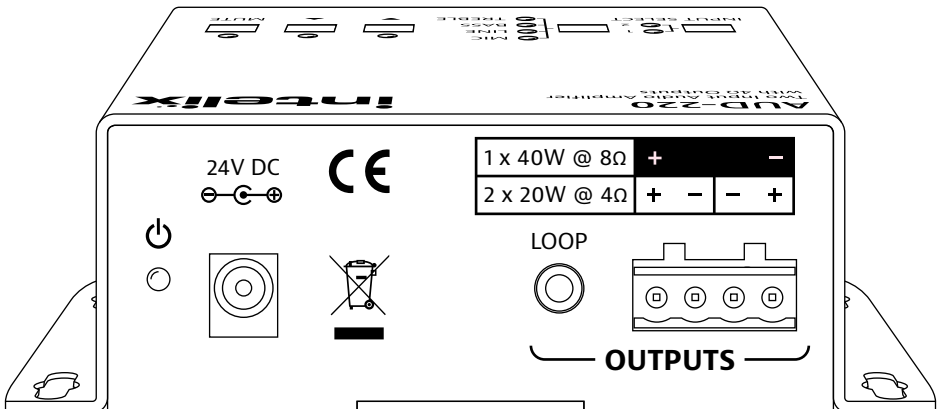
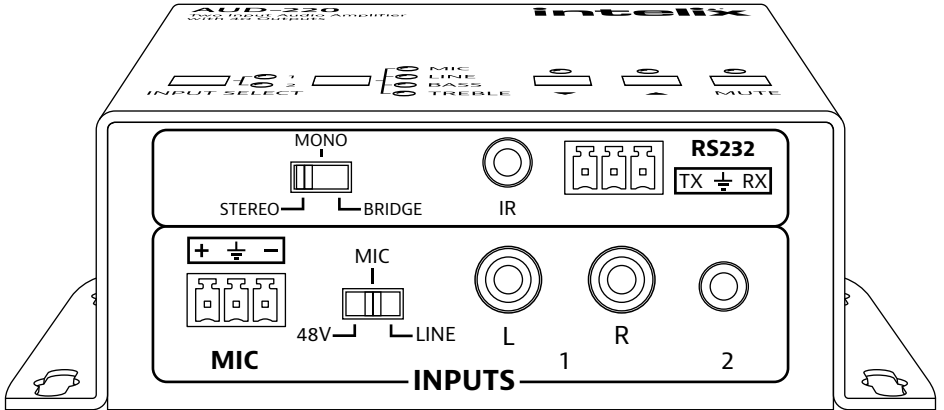


intelix

PROFESSIONAL-GRADE SYSTEM ELECTRONICS

AUD-220 Installation Guide



The Intelix AUD-220 is a 2x20 watt Class D amplifier with 8Ω speaker output. The amplifier features two analog audio inputs and a balanced microphone input with ducking functions. Additional features of the AUD-220 include input and microphone volume control, bass and treble adjustments, microphone mixing with source audio, and three modes of microphone input support (48 dB gain, 48 dB gain with 48V phantom power, and line level). The AUD-220 has three methods of control: push button, RS232, and IR with the optional AUD-220-IR accessory kit.

Safety Precautions

To insure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical waste.

FCC Statement

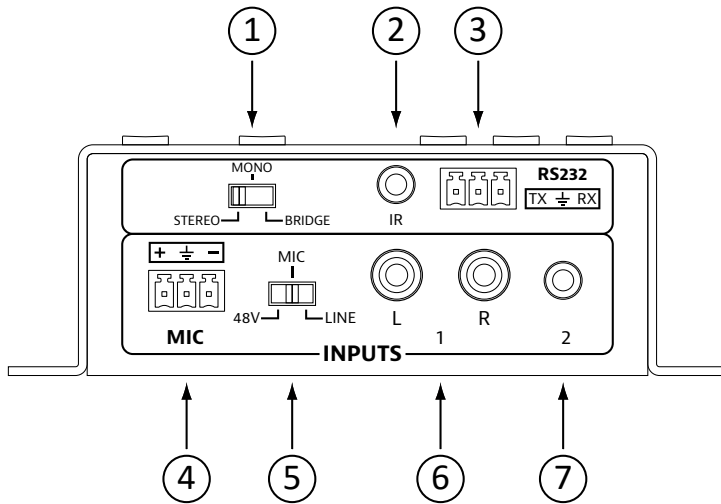
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference,

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.

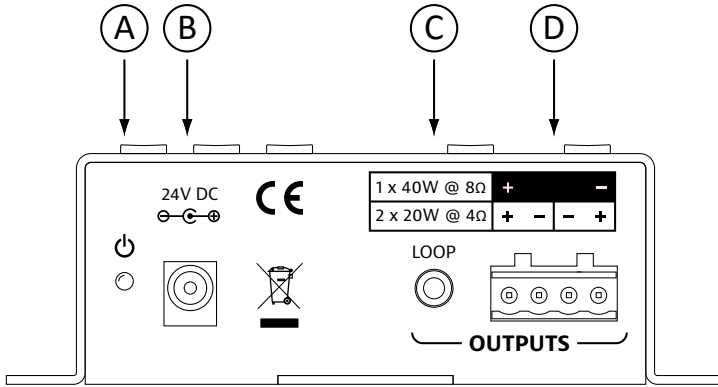
Input and Output Connections

Input Connections



1. Output Mode Selector
2. IR Input (requires optional AUD-220-IR)
3. RS232 Input
4. Microphone Input
5. Microphone Level Selector
6. Analog Input 1
7. Analog Input 2

Output Connections

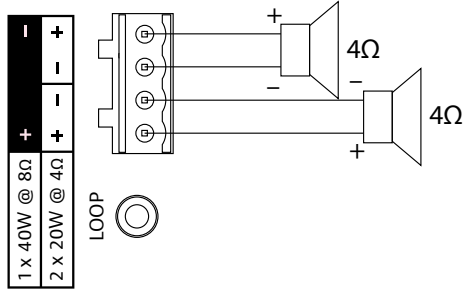


- A. Power LED
- B. 24V DC Power Input
- C. Line Level Audio Output
- D. 4 Ohm Speaker Outputs

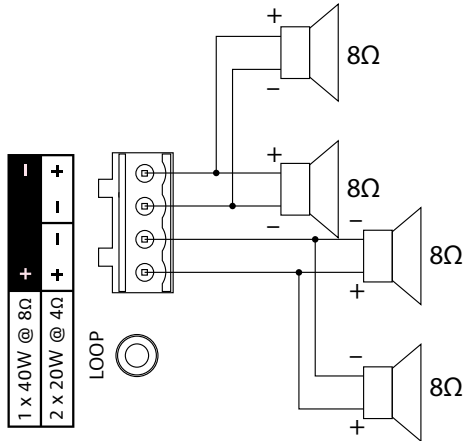
Speaker Wiring Configurations

Stereo and Mono Options

4Ω Load with 4Ω Speakers

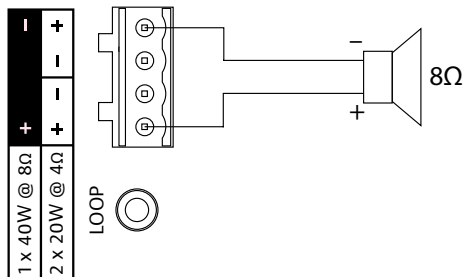


4Ω Load with 8Ω Speakers



Bridged Audio Option

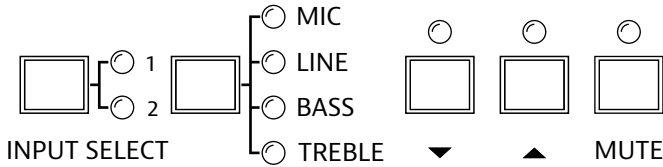
8Ω Load with 8Ω Speaker



Installation Instructions

1. Verify all components included with the amplifier are present before installation.
2. Turn off power and disconnect the audio/video equipment by following the manufacturer's instructions.
3. Connect a quality audio cable between the audio output of the source device and the appropriate audio input of the AUD-220.
4. Connect a microphone to the microphone input connector.
 - a. "+" connects to positive
 - b. "-" connects to negative
 - c. "±" connects to ground.
5. Adjust the microphone input model selector based on the type of microphone to be connected to the AUD-220.
 - a. 48V – 48dB gain with 48V phantom power
 - b. MIC – 48dB gain
 - c. LINE – 4dB gain
6. Connect the speakers to be used in accordance with the Speaker Wiring Configurations found on page 4.
7. Adjust the audio output mode selector based on the desired output mode of the AUD-220.
 - a. STEREO – Stereo audio signals will maintain stereo audio on the outputs; 20 watts per output.
 - b. MONO – Stereo audio signals will be summed to dual mono signals on the outputs; 20 watts per output.
 - c. BRIDGE – Stereo audio signals will be summed to a single, high output audio output; 40 watts total output.
8. If the device is to be controlled via IR, plug the IR receiver from the AUD-220-IR kit into the IR IN port on the input side of the AUD-220.
9. If the device is to be controlled via RS232, plug the 3-pole Euroblock plug end of the included RS232 cable into the RS232 port on the input side of the AUD-220.
10. If a second AUD-220 is required, plug a 3.5 mm TRS to 3.5 mm TRS cable between the LOOP output and Input 2 of the second AUD-220.
11. Plug the power supply into the power input port of the AUD-220.
12. Power on attached audio devices.

Operation of the Button Controls



Audio Switching

The INPUT SELECT button will switch between input 1, RCA analog audio input, and input 2, 3.5 mm TRS input.

Volume and EQ Control

The LEVEL SELECT button will switch between MIC, LINE, BASS, and TREBLE levels.

When MIC or LINE are selected, the Down, Up, and Mute buttons will adjust the volume or mute the selected input.

When BASS or TREBLE are selected, the Down and Up buttons will adjust the bass or treble levels of the analog audio input signal.

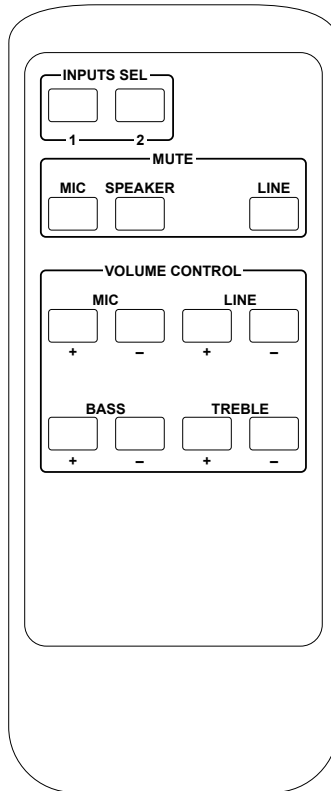
Audio Ducking

Audio ducking is enabled by default. This can be disabled via RS232.

The line level ducking amount may be increased or decreased via RS232. The default value is 10 steps below the current value.

For example, if the line audio level is at 35, it will drop to 25 while the microphone is being used. The line level audio will ramp up to the original value after five seconds of no audio signal being detected on the microphone input.

Operation of the IR Remote Controls



INPUTS SEL

Direct selection of input 1 or input 2.

MUTE

Direct muting of MIC or LINE inputs. The SPEAKER button unmutes all sources.

VOLUME CONTROL

Direct volume and level controls for MIC, LINE, BASS, and TREBLE.

RS232 Control

RS232 Settings: 9600 baud, 8 Data bits, 1 Stop bit, Parity = None

A carriage return and line feed must follow all RS232 commands. A carriage return and line feed will follow all responses.

Input Switching

Description	Command	Response
Switch to input 1	1A1.	A: 1 -> 1
Switch to input 2	2A1.	A: 2 -> 1

Volume and EQ Settings

Description	Command	Response
MIC volume up (XX = volume; 00-60)	601%	Volume of MIC: XX
MIC volume down (XX = volume; 00-60)	602%	Volume of MIC: XX
Set MIC volume to XX (XX = volume; 00-60)	5XX%	Volume of MIC: XX
LINE volume up (XX = volume; 00-60)	603%	Volume of LINE: XX
LINE volume down (XX = volume; 00-60)	604%	Volume of LINE: XX
Set LINE volume to XX (XX = volume; 00-60)	7XX%	Volume of LINE: XX
Bass level up (YY = level; 00-08)	605%	Bass of LINE: YY
Bass level down (YY = level; 00-08)	606%	Bass of LINE: YY
Set Bass level to YY (YY = level; 00-08)	8YY%	Bass of LINE: YY
Treble level up (YY = level; 00-08)	607%	Treble of LINE: YY
Treble level down (YY = level; 00-08)	608%	Treble of LINE: YY
Set Treble level to YY (YY = level; 00-08)	9YY%	Treble of LINE: YY

Input Muting

Description	Command	Response
Mute MIC and LINE	0A0.	Mute
Mute MIC	1A0.	Mute MIC
Mute LINE	2A0.	Mute LIN
Unmute MIC and LINE	0A1.	Unmute

Input Ducking

Description	Command	Response
LINE ducking amount (XX = volume; 00-60)	5XX%	Ducking of LINE: XX
Ducking toggle	610%	Ducking off OR Ducking on

System Query

Description	Command	Response
Current input and levels	600%	A: 1 -> 1 Volume: 30 Bass: 00 Treble: 00

Factory Reset

Description	Command	Response
Reset to factory defaults	609%	Init OK

Technical Specifications

I/O Connections	
Analog Inputs	Two (2) RCA Connectors; One (1) 3.5mm TRS Connector
Microphone Input	One (1) 3-Pole/3.5mm Euroblock
Control (Top Panel)	Push Button
Control (Input Panel)	RS232 via One (1) 3-Pole/3.5mm Euroblock; IR via One (1) 3.5mm TRS Connector
Microphone Signal Type Selector	One (1) 3-Position Slider Switch
Output Signal Format Selector	One (1) 3-Position Slider Switch
Analog Loop Output	One (1) 3-Pole/3.5mm Euroblock
Speaker Output	One (1) 4-Pole/3.81mm Euroblock
24V DC Power	One (1) Locking Barrel (5.5 mm OD, 2.1 mm ID)
Audio Performance	
Input Impedance	>10k Ω
Output Impedance	50 Ω Analog Output; 4/8 Ω Speaker Output
Maximum Rated Power Output	40 Watts
Frequency Response	120 Hz to 20 kHz
Common Mode Rejection Ratio (CMRR)	>70 dB at 20 Hz to 20 kHz
Signal to Noise Ratio (SNR)	80 dB (Max)
Total Harmonic Distortion + Noise (THD+N)	1% at 1 kHz; 0.3% at 20 kHz at Nominal Level
Voltage Gain	32 dB
Chassis and Environmental	
Enclosure	Painted Aluminum
Dimensions (H x W x D)	40 mm x 123 mm x 87 mm (1.57 in x 4.84 in x 3.48 in)
Shipping Weight	0.86 kg (1.90 lbs)
Operating Temperature	0° to +40° C (+32° to +104° F)
Operating Humidity	20% to 90%, Non-condensing
Storage Temperature	-10° to +60° C (+14° to +140° F)
Storage Humidity	20% to 90%, Non-condensing
Power, ESD, and Regulatory	
Minimum Power Consumption	5 watts
Maximum Power Consumption	45 watts
Power Supply Input Voltage	100-240v AC at 50/60 Hz at 0.5 A
Power Supply Output Rating	24V DC at 2 A
ESD Protection	15kV
Device Regulatory	CE, RoHS
Power Supply Regulatory	CE, RoHS, TUV, UL, SGS
Other	
Warranty	2 years
Diagnostic Indicators	Input Select LEDs, Signal Select LEDs, Up LED, Down LED, Mute LED, Power LED
Included Accessories	Installation guide, power supply, AC adapters (AU, EU, UK, and US), RS232 cable, rubber feet
Optional Accessory	AUD-220-IR IR kit

Audio quality may be affected by cable grade, cable quality, source and destination equipment, RF and electrical interference, and cable patches.

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11675 Ridgeline Dr.
Colorado Springs, CO 80921
Toll-Free: 800-530-8998
Fax: 719-260-0075
supportlibav@libav.com

www.libav.com