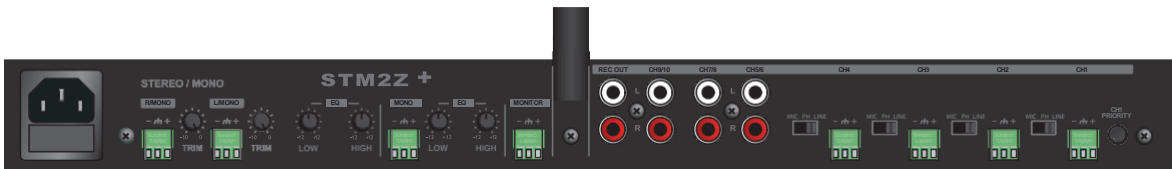


# User's Manual



# STM2Z+



*Specifications are subject to change without notice*



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# Introduction

## 10-Channel stereo preamplifiers

The STM2Z+ is a simple but versatile preamplifier, offering a multifunction solution for installations where multiple voice and music sources need to be mixed to two output zones. The stereo design with ten inputs allows connection for any type of audio source such as microphones, Bluetooth devices and various balanced or unbalanced line level audio sources.

Channel one to four are balanced inputs, allowing connection of microphone and line level audio sources. Channel 1 feature LINE/MIC, phantom power and talk over for priority announcement and Channel 2~ Channel 4 feature LINE/MIC and phantom power. The other inputs are three unbalanced stereo line inputs allowing connection of any line level audio sources.

An integrated Bluetooth receiver offers convenient wireless connection possibilities for mobile and portable devices including laptops, smartphones and tablets.

A front panel 3.5mm jack allows monitoring MONO or STEREO input signal with MONITOR level dial.

Two master volume controls for the outputs of MONO (1-MONO) and STEREO (2-MONO/STEREO) including Signal and Peak LED is located on the front panel, also accommodating each input mixing dial.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment 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 residential installation. 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

# Precautions

**READ THE FOLLOWING INSTRUCTIONS FOR YOUR OWN SAFETY**

ALWAYS KEEP THESE INSTRUCTIONS. NEVER THROW THEM AWAY ALWAYS HANDLE THIS UNIT WITH CARE

HEED ALL WARNINGS FOLLOW ALL INSTRUCTIONS

NEVER EXPOSE THIS EQUIPMENT TO RAIN, MOISTURE, ANY DRIPPING OR SPLASHING LIQUID. AND NEVER PLACE AN OBJECT FILLED WITH LIQUID ON TOP OF THIS DEVICE.

DO NOT PLACE THIS UNIT IN AN ENCLOSED ENVIRONMENT SUCH AS A BOOKSHELF OR CLOSET. ENSURE THERE IS ADEQUATE VENTILATION TO COOL THE UNIT. DO NOT BLOCK THE VENTILATION OPENINGS.

DO NOT STICK ANY OBJECTS THROUGH THE VENTILATION OPENINGS.

DO NOT INSTALL THIS UNIT NEAR ANY HEAT SOURCES SUCH AS RADIATORS OR OTHER APPARATUS THAT PRODUCE HEAT

DO NOT PLACE THIS UNIT IN ENVIRONMENTS WHICH CONTAIN HIGH LEVELS OF DUST, HEAT, MOISTURE OR VIBRATION

THIS UNIT IS DEVELOPED FOR INDOOR USE ONLY. DO NOT USE IT OUTDOORS PLACE THE UNIT ON A STABLE BASE OR MOUNT IT IN A STABLE RACK

ONLY USE ATTACHMENTS & ACCESSORIES SPECIFIED BY THE MANUFACTURER

UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME

ONLY CONNECT THIS UNIT TO A MAINS SOCKET OUTLET WITH PROTECTIVE EARTHING CONNECTION

THE MAINS PLUG OR APPLIANCE COUPLER IS USED AS THE DISCONNECT DEVICE, SO THE DISCONNECT DEVICE SHALL BE READILY OPERABLE



**CAUTION - SERVICING**

This product contains no user serviceable parts. Refer all servicing to qualified service personnel. Do not perform any servicing (unless you are qualified to)



**EC DECLARATION OF CONFORMITY**

This product conforms to all the essential requirements and further relevant specifications described in following directives: 2014/30/EU (EMC) and 2014/35/EU (LVD)

**WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)**



The WEEE marking indicates that this product should not be disposed with regular household waste at the end of its life cycle. This regulation is created to prevent any possible harm to the environment or human health.

This product is developed and manufactured with high quality materials and components which can be recycled and/or reused. Please dispose this product at your local collection point or recycling center for electrical and electronic waste. This will make sure that it will be recycled on an environmentally friendly manner and will help to protect the environment in which we all live.

The device has been evaluated to meet general RF exposure requirement. To maintain compliance with FCC's RF exposure guidelines, the distance must be at least 20 cm between the radiator and your body, and fully supported by the operating and installation configurations of the transmitter and its antenna(s).

**CAUTION**

The symbols shown are internationally recognized symbols that warn about potential hazards of electrical products. The lightning flash with arrowpoint in an equilateral triangle means that the unit contains dangerous voltages. The exclamation point in an equilateral triangle indicates that it is necessary for the user to refer to the user's manual.



These symbols warn that there are no user serviceable parts inside the unit. Do not open the unit. Do not attempt to service the unit yourself. Refer all servicing to qualified personnel. Opening the chassis for any reason will void the manufacturer's warranty. Do not get the unit wet. If liquid is spilled on the unit, shut it off immediately and take it to a dealer for service. Disconnect the unit during storms to prevent damage.

# Chapter 1

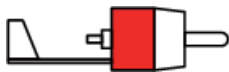
## Pin connections and connectors

### CONNECTION STANDARDS

The input and output connections for this audio equipment are performed corresponding to international wiring standards for professional audio equipment.

#### RCA:

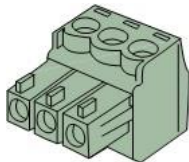
For unbalanced line input connections



**Tip:** Signal  
**White:** Left  
**Sleeve:** Ground  
**Red:** Right

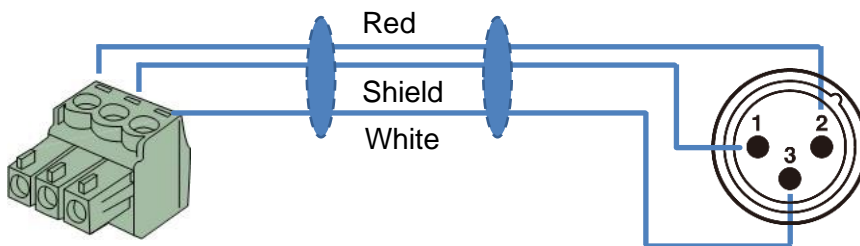
#### 3-Pin Terminal Block:

For balanced signal input & link output connections.

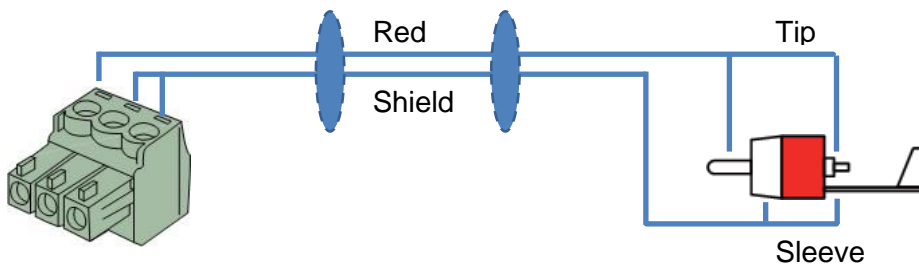


**Left:** Signal - (XLR Pin 3)  
**Center:** Ground (XLR Pin 1)  
**Right:** Signal+ (XLR Pin 2)

For balanced line output connections:



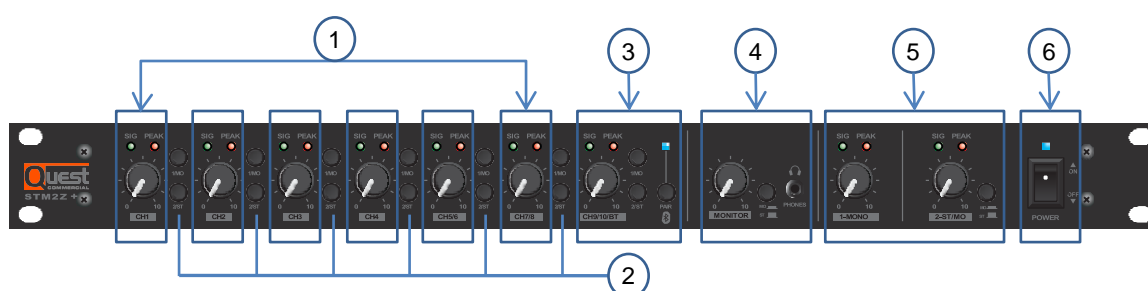
For unbalanced line output connections:



# Chapter 2

## Front & rear panel

### Front panel overview



### Front panel description

#### 1. Input mixing controls:

Using the input mixing controls, the individual level for each input can be adjusted. Each input control is provided with signal and peak indicator LED which illuminates when the maximum level (clipping) is almost reached. To ensure the best signal-to-noise ratio, illumination of this indicator should only occur at peak levels. When it illuminates frequently, the channel will be overdriven, and a distorted ‘clipping’ sound will occur.

#### 2. Signal routing selection buttons:

The signal routing buttons located on the right side of each input mixing control (indicated with ‘1/MO’ and ‘2/ST’) are used for selection for routing each input to one or both output channels. Press this button to enable the input routing to the corresponding output.

#### 3. Bluetooth (CH9/10):

The integrated Bluetooth receiver is mixed with channel 9/10 and contains a pairing button besides the input mixing control. This allows connection of the pre-amplifier with any supporting audio source device such as smartphone or tablet. The LED positioned on top of this button indicates the current operation mode. When non illuminating, the device cannot be discovered by (new) Bluetooth devices. When blinking, the device is not connected but can be discovered by Bluetooth devices, and when illuminated it is connected and doesn’t allow pairing with another device.

When pairing with your device for the first time, the ‘PAIR’ button should be pressed, and the LED will start blinking for about 2 minutes. During this period, the device can be discovered and is indicated as Bluetooth ID ‘STM2Z+’. When both devices have been paired before, the transmitter will be recognized by the receiver, and it will allow continuous pairing without pressing the ‘PAIR’ button.

#### 4. 3.5 mm Jack output (MONITOR):

A 3.5 mm jack output connection is provided on the front panel of the unit besides the MONITOR control. This output is for monitoring mono or stereo output signal by headphone.

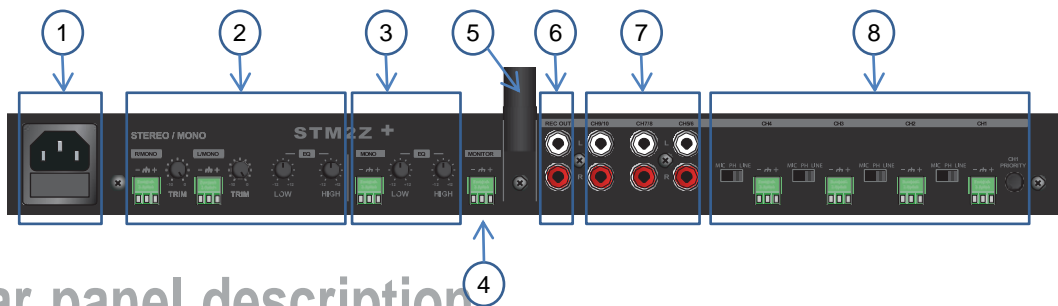
**5. Output master control (1-MONO, 2-ST/MO)**

Each output section contains a master volume controls for 1-MONO and 2-ST/MO and Signal, Peak LED. These master volume control allows regulation of the overall output level, and the Signal and Peak LED indicates of the overall output level.

**6. Power switch:**

Allows to power the system ON and OFF. The blue indicator LED illuminates when switched on.

## Rear panel overview



## Rear panel description

**1. AC Power inlet with fuse:**

The mains power supply (100-240V AC - 50/60 Hz) must be applied to this AC power inlet. The connection is made by an IEC C14 power connector and is fitted with a fuse. When replacing the fuse, make sure that the value of the replacement fuse matches the value of the original fuse. (T630mAL/250V)

**2. Balanced STEREO/MONO line output:**

The balanced STEREO/MONO line output(s) is implemented using two 3-pin terminal block output connectors with TRIM pot on 2band EQ. The stereo L/R and mono output can be selected by MO/ST switch besides 2-ST/MO master VR on front panel. The audio signal available on these connectors allows it to be fed to any amplifier. In mono mode, a summed mono signal will be available on both left & right outputs, allowing the signal to be fed to mono systems such as 70/100V PA systems.

**3. Balanced MONO line output:**

The balanced MONO line output is implemented using a 3-pin terminal block output connector with TRIM pot on 2band EQ. The mono output can be assigned by 1/MO, 2/ST switch on each channel on front panel. The audio signal available on these connectors allows it to be fed to any amplifier. In mono mode, a summed mono signal will be available on both left & right outputs, allowing the signal to be fed to mono systems such as 70/100V PA systems.

**4. Balanced MONITOR output:**

The balanced MONITOR output is implemented using a 3-pin terminal block output connector. The MONITOR output can be selected by MO/ST switch besides MONITOR master volume on front panel. In mono mode, we can monitor output signal on MONO output jack. In stereo mode, we can monitor a summed mono signal on L/MONO and R/MONO jacks. The audio signal available on these connectors allows it to be fed to any amplifier.



### **5. Bluetooth antenna connection:**

The included Bluetooth antenna should be connected to this terminal for good signal reception. It is connected using an SMA type connector and allows antenna extension (with an optional extension cable) for mounting outside of closed rack cabinets.

### **6. Unbalanced REC outputs:**

Use standard stereo RCA cables to connect these outputs to a remote recording device, remote mixer, etc. This REC output signal is pre-2-ST/MO volume and 0dBV output level.

### **7. Unbalanced stereo line inputs: CH5/6~CH9/10**

Unbalanced line level input sources (e.g., media-players, radio tuners, ...) can be connected to line inputs channel 5/6 to channel 9/10. These standard line inputs are implemented using RCA connectors.

### **8. Balanced microphone/line inputs: CH1~CH4**

Balanced mono sources (e.g., microphones) can be connected to inputs CH 1 ~ CH 4 which are implemented using 3-pin terminal block connectors. They are fitted with a LINE/PH/MIC selector switch whereby the sensitivity can be adjusted within a range of -6 dB ~ -44 db. At PH position enables 15 Volts phantom power supply for powering condenser microphones and a priority switch on CH1 suppresses (-24 dB) all other audio sources in that zone.

# Chapter 3

## Additional information

### Technical specifications

Inputs	Mic 1~4	Type	Balanced
		Connector	3pin terminal block
		Sensitivity	-56dB
		Other	Phantom power (15Vdc) Priority on Mic1
	Line 1~4	Type	Balanced
	Connector	3pin terminal block	
	Sensitivity	-18dB	
	Other	Priority on Line1	
	CH5/6~CH9/10	Type	Unbalanced stereo
		Connector	Female RCA
		Sensitivity	-22dB
	Bluetooth	Type	Integrated Bluetooth receiver
		Other	Included antenna Pair contact with LED, Mixed with CH9/10
	Phone	Type	Unbalance stereo for Monitor
		Connector	3.5mm stereo jack
Outputs	Stereo	Type	Balanced
		Connector	3pin terminal block
		Other	2 band EQ
	Mono	Type	Balanced
	Connector	3pin terminal block	
	Other	2 band EQ	
	Monitor	Type	Balanced
		Connector	3pin terminal block
	Rec	Type	Unbalance
		Connector	Female RCA

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Controls	Inputs	CH1~CH9/10BT on Front MO/ST select switch on Front LINE/PH/MIC select switch on Rear. CH1 priority switch on rear Bluetooth pairing switch on Front.
	Output	Monitor with MO/ST switch on Front. 1-MONO on Front 2-2-STEREO with MO/ST switch on Front TRIM for L/MONO, R/MONO on rear
Frequency response		20Hz~20KHz
Signal to Noise ratio		>90dB
Total Harmonic Distortion + Noise		<0.05%
Cross talk		>70dB
Indicators		Power Input SIG, PEAK Output SIG, PEAK
Power supply Type		Switching mode 100Vac~240Vac
Power consumption		12 W
Dimensions		19" x 1.75" x 5.5" (483 x 44 x 139 mm)
Unit Height		1 RU
Weight		5.73 lb. (2.6 Kg)

