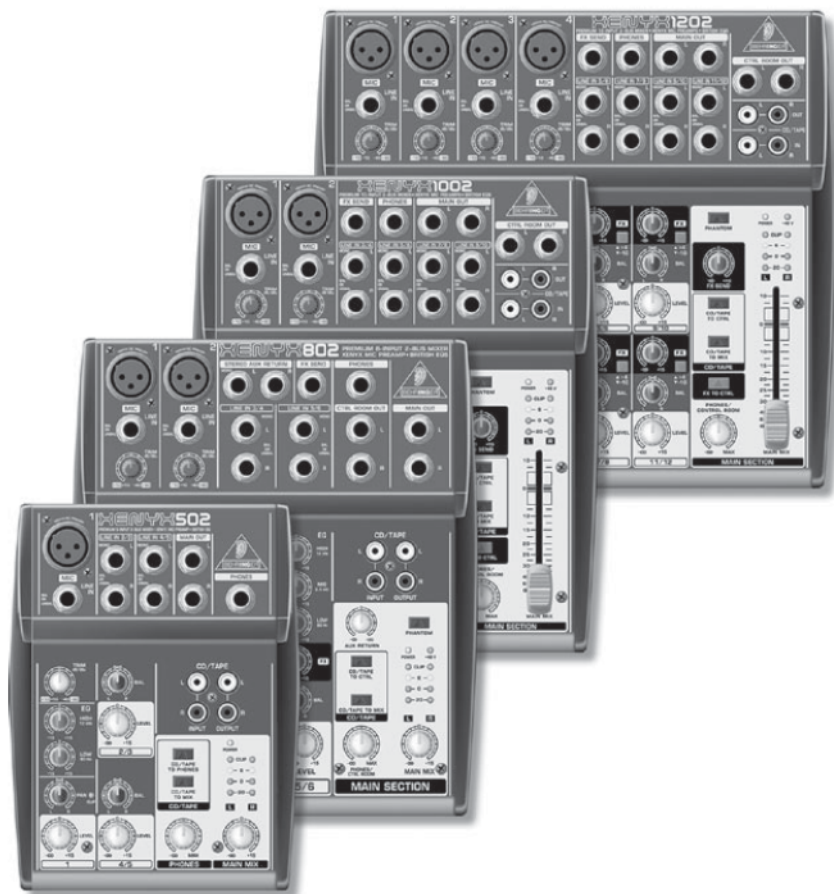


# XENYX 502/802/1002/1202

## User Manual

A50-57613-00003

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## 2. Control elements and connectors

This chapter describes the various control elements of your mixing console. All controls, switches and connectors will be discussed in detail.

### 2.1 Mono channels

#### 2.1.1 Microphone and line inputs



Fig. 2.1: Connectors and controls of mic/line inputs

#### MIC

Each mono input channel offers a balanced microphone input via the XLR connector and also features switchable +48 V phantom power supply for condenser microphones. The XENYX preamps provide undistorted and noise-free gain as is typically known only from costly outboard preamps.

**Please mute your playback system before you activate the phantom power supply to prevent switch-on thumps being directed to your loudspeakers. Please also note the instructions in chapter 2.3.5 “Phantom power and LED displays”.**

#### LINE IN

Each mono input also features a balanced line input on a 1/4" connector. Unbalanced devices (mono jacks) can also be connected to these inputs.

**Please remember that you can only use either the microphone or the line input of a channel at any one time. You can never use both simultaneously!**

#### TRIM

Use the *TRIM* control to adjust the input gain. This control should always be turned fully counterclockwise whenever you connect or disconnect a signal source to one of the inputs.

#### 2.1.2 Equalizer

All mono input channels include a 3-band equalizer, except for the 502, which is equipped with a 2-band EQ. All bands provide boost or cut of up to 15 dB. In the central position, the equalizer is inactive.

The circuitry of the British EQs is based on the technology used in the best-known top-of-the-line consoles and providing a warm sound without any unwanted side effects. The result are extremely musical equalizers which, unlike simple equalizers, cause no side effects such as phase shifting or bandwidth limitation, even with extreme gain settings of  $\pm 15$  dB.

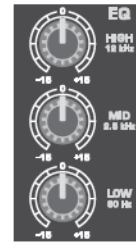


Fig. 2.2: The equalizer of the mono input channels

#### EQ

The upper (HI) and the lower band (LO) are shelving filters that increase or decrease all frequencies above or below their cut-off frequency. The cut-off frequencies of the upper and lower band are 12 kHz and 80 Hz respectively. The mid band (802/1002/1202) is configured as a peak filter with a center frequency of 2.5 kHz.

#### LOW CUT

In addition, the mono channels (1002 and 1202) are equipped with a steep *LOW CUT* filter (slope at 18 dB/oct., -3 dB at 75 Hz) designed to eliminate unwanted low-frequency signal components.

#### 2.1.3 FX sends, panorama and level adjustment

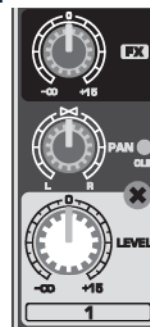


Fig. 2.3: The FX send/panorama/level controls

#### FX (802/1002/1202 only)

FX sends (or AUX sends) enable you to feed signals via a variable control from one or more channels and sum these signals to a bus. The bus appears at the console's FX send output and can be fed from there to an external effects device. The return from the effects unit is then brought back into the console on the aux return connectors (802) or normal channel inputs. Each FX send is mono and features up to +15 dB gain.

As the name suggests, the FX sends of the XENYX mixing consoles are intended to drive effects devices (reverb, delay, etc) and are therefore configured post-fader. This means that the mix between dry signal and effect remains at the level determined by the channel's aux send, irrespective of the channel fader setting. If this were not the case, the effects signal of the channel would remain audible even when the fader is lowered to zero.

#### PAN

The *PAN* control determines the position of the channel signal within the stereo image. This control features a constant-power characteristic, which means the signal is always maintained at a constant level, irrespective of position in the stereo panorama.

#### LEVEL

The *LEVEL* control determines the level of the channel signal in the main mix.

#### CLIP

The *CLIP* LED's of the mono channels illuminate when the input signal is driven too high, which could cause distortion. If this happens, use the *TRIM* control to reduce the preamp level until the LED does not light anymore.

## 2.2 Stereo channels

### 2.2.1 Stereo line inputs



Fig. 2.4: Stereo line inputs

#### LINE IN

Each stereo channel has two balanced line level inputs on 1/4" jacks for left and right channels. If only the jack marked "L" (left) is used, the channel operates in mono. The stereo channels are designed to handle typical line level signals.

Both inputs will also accept unbalanced jacks.

### 2.2.2 Equalizer stereo channels (802)

The XENYX 802 features a stereo 3-band EQ in each stereo channel. The filter characteristics and cut-off frequencies are the same as those in the mono channels.



Fig. 2.5: The equalizer of the stereo input channels

A stereo EQ is highly preferable to two mono equalizers. When working on a stereo signal, as two separate EQ's will usually produce an unwanted discrepancy between the left and right channels.

### 2.2.3 FX sends, balance and level adjustment



Fig. 2.6: The FX send/balance/level controls

#### FX

The FX sends of the stereo channels function similar to those of the mono channels. However, since the FX send buses are both mono, a mono sum is first taken from the stereo input before it is sent to the FX bus. The 502 is not equipped with FX sends.

#### BAL

The BAL(ANCE) control determines the levels of left and right input signals relative to each other before both signals are then routed to the main stereo mix bus. If a channel is operated in mono via the left line input, this control has the same function as the PAN control used in the mono channels.

#### LEVEL

The LEVEL control determines the volume of the channel being sent to the main mix.

#### +4/-10

The stereo inputs of the XENYX 1002 and 1202 have an input sensitivity switch which selects between +4 dBu and -10 dBV. At -10 dBV (home-recording level), the input is more sensitive (requires less level to drive it) than at +4 dBu (studio level).

## 2.3 Connector panel and main section

### 2.3.1 Send/return effects path



Fig. 2.7: FX send/return connectors

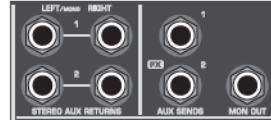


Fig. 2.8: FX send/return controls

#### STEREO AUX RETURN

802 only: the STEREO AUX RETURN connectors are used to bring the output of the external effects device (whose input is derived from the aux sends) back into the console. You can instead use these connectors as additional inputs, but any effects device will then have to be brought back into the console via a normal stereo channel. This does, however, give you the ability to use the channel EQ on the effects return signal if you wish.

**When using a stereo channel as effects return path, the FX control of the relevant channel should generally be turned fully down to avoid undesirable feedback.**

If only the left connector is used, the AUX RETURN automatically operates in mono. Use the AUX RETURN control to determine how much of the effects signal is sent to the main mix.

#### FX SEND

The FX SEND output (does not apply for 502) should be connected to the input of an external effects unit. The post-fader FX signal you created using the input channel FX controls is sent to the effects unit via the FX SEND output. Use the FX SEND control of the main section to adjust the overall send level (1002 and 1202 only).

### 2.3.2 Monitor and main mix



Fig. 2.9: Monitor/main mix connectors

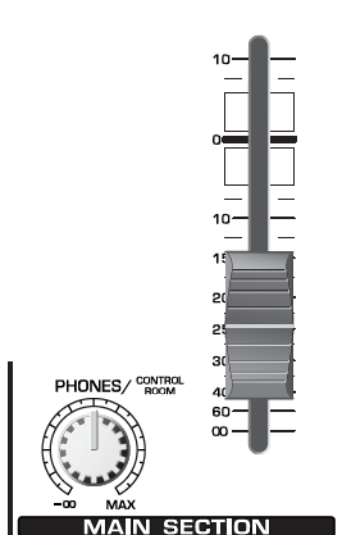


Fig. 2.10: Monitor control and main mix fader

### PHONES/CONTROL ROOM

The stereo *PHONES* jack (at the top of the connector panel) is where you connect headphones. The unbalanced *CTRL ROOM OUT* jacks carry the summed effects and main mix signals, as well as soloed channel signals. The *PHONES/CONTROL ROOM* control adjusts the level of both headphones and main monitor outputs. The 502 is not equipped with control room outputs.

### MAIN MIX

The *MAIN OUT* connectors are unbalanced mono jacks. The main mix signal appears here at a level of 0 dBu. The *MAIN MIX* fader adjusts the volume of these outputs. The XENYX 802 and 502 mixing consoles feature a rotary control for this purpose.

### 2.3.3 CD/Tape connectors

#### CD/TAPE INPUT

The *CD/TAPE INPUTS* are used to bring an external signal source (e.g. CD player, tape deck, etc.) into the console. They can also be used as a standard stereo line input, so the output of a second XENYX or BEHRINGER ULTRALINK PRO MX882 can be connected.



Fig. 2.11: CD/Tape input/output

Alternatively the line or tape output of a hi-fi amplifier with source selection switch could also be hooked up here, allowing you to easily listen to additional sources.

#### CD/TAPE OUTPUT

These connectors are wired in parallel with the *MAIN OUT* and carry the main mix signal (unbalanced). Connect the *CD/TAPE OUTPUT* to the inputs of your recording device. The output level is adjusted via the high-precision *MAIN MIX* fader or rotary control (802).

### 2.3.4 Signal assignment



Fig. 2.12: Assignment switches of the main section

#### CD/TAPE TO MIX

When the *TAPE TO MIX* switch is depressed, the 2-track input is assigned to the main mix providing an additional input for tape machines, MIDI instruments or other signal sources that do not require any processing.

#### CD/TAPE TO CTRL ROOM (502: CD/TAPE TO PHONES)

Press the *CD/TAPE TO CTRL ROOM/PHONES* switch if you want to monitor the 2-track input via the *CTRL ROOM OUT*. This provides an easy way to monitor signals coming back from tape to ensure that they are recording correctly.

**⚠ If you are recording a signal via the CD/TAPE OUTPUT and wish to listen to this simultaneously via the CD/TAPE INPUT, do not use the CD/TAPE TO MIX switch. Doing this would create a feedback loop, since the signal would be routed, via the main mix, back to tape via the CD/TAPE OUTPUT. To monitor the CD/TAPE INPUT, use the CD/TAPE TO CTRL ROOM switch to assign the tape signal to the monitor(s) or headphones. This will avoid the tape signal being routed to the CD/TAPE OUTPUT.**

#### FX TO CTRL ROOM

If you want to monitor only the *FX* send signal in your headphones or monitor speaker(s), press the *FX TO CTRL* switch. This mutes the main mix signal while routing the *FX SEND* output to the monitor(s). The XENYX 802 and 502 do not feature this switch.

### 2.3.5 Phantom power and LED displays

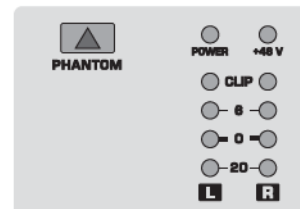


Fig. 2.13: Phantom power and control LEDs

#### +48 V (802/1002/1202 only)

The red *+48 V* LED lights up when phantom power is on. The *PHANTOM* switch activates the phantom power supply on the XLR connectors of all mono channels.

**⚠ Please do not connect microphones to the mixer (or the stagebox/wallbox) as long as the phantom power supply is switched on. Connect the micro-phones before you switch on the power supply. In addition, the monitor/PA loudspeakers should be muted before you activate the phantom power supply. After switching on, wait approx. one minute in order to allow system stabilization.**

#### POWER

The blue *POWER* LED indicates that the console is powered on.

#### Level indicator

The high-precision 4-segment display accurately displays the relevant signal level.

**LEVEL SETTING:** To correctly set the gains of the channels, first set the *LEVEL* controls of the input channels to their center posi-

# XENYX 502/802/1002/1202

tions (0 dB). Then use the TRIM controls to increase the input amplification until signal peaks show 0 dB on the level meter.

When recording to digital recorders, the recorder's peak meter should not go into overload. While analog recorders can be overloaded to some extent, creating only a certain amount of distortion (which is common and often desirable), digital recorders distort quickly when overloaded. In addition, digital distortion is not only undesirable, but also renders your recording completely useless.

**The peak meters of your XENYX display the level virtually independent of frequency. A recording level of 0 dB is recommended for all signal types.**

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## 3. Installation

### 3.1 Mains connection

#### AC POWER IN

Connect the power supply to the 3-pin mains connector on the rear of the console. Use the AC adapter supplied to connect the console to the mains. The adapter complies with all applicable safety standards.

- Please use only the power supply unit provided with the console.**
- Never connect the XENYX to the power supply unit while the latter is connected to the mains! First connect the console to the power supply unit, then connect the power supply unit to the mains.**
- Please note that both the power supply unit and the mixing console heat up considerably during operation. This is completely normal.**

### 3.2 Audio connections

You will need a large number of cables for different applications. The illustrations below show how the connectors should be wired. Be sure to use only high-grade cables.

Please use commercial RCA cables to connect the 2-track inputs and outputs.

You can, of course, also connect unbalanced devices to the balanced inputs/outputs. To do this, use either mono plugs or stereo plugs with the ring and sleeve bridged (pins 1 and 3 in the case of XLR connectors).

**Caution! Never use unbalanced XLR connectors (PIN 1 and 3 connected) on the MIC input connectors when using the phantom power supply.**

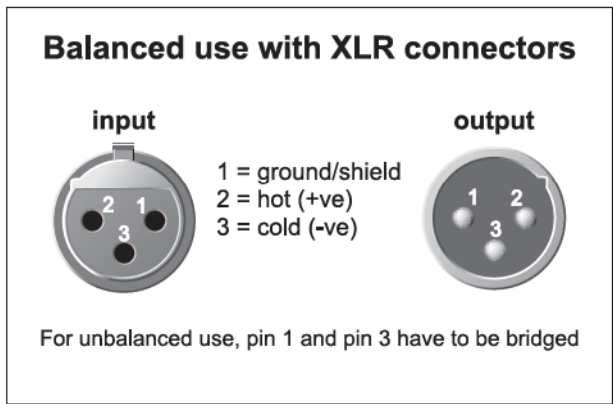


Fig. 3.1: XLR connections

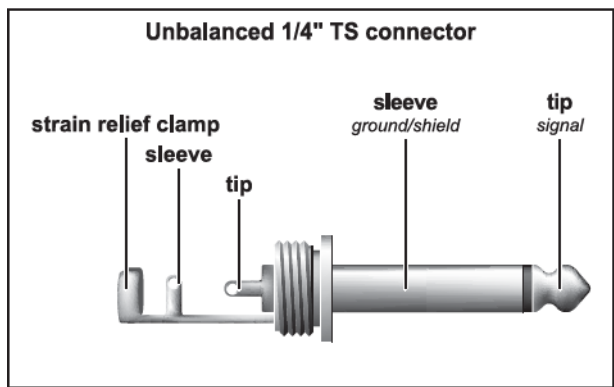


Fig. 3.2: 1/4" mono plug

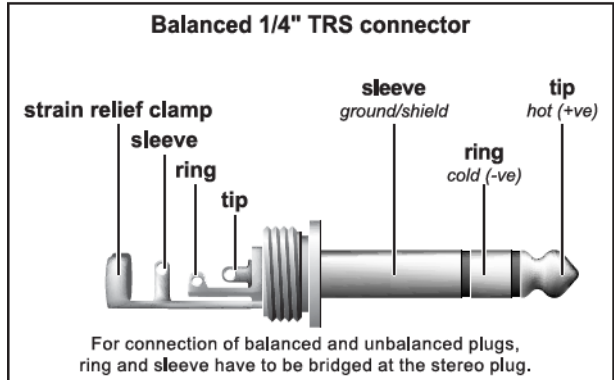


Fig. 3.3: 1/4" stereo plug

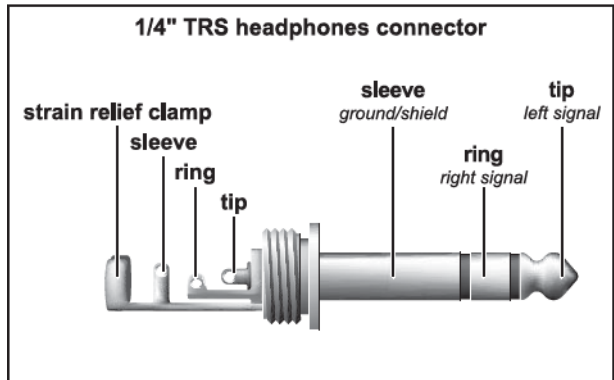


Fig. 3.4: Stereo plug for headphones connection

**4. Specifications**

**Mono inputs**

**Microphone inputs (XENYX Mic preamp)**

Type XLR connector, electronically balanced, discrete input circuit

**Mic E.I.N.<sup>1</sup> (20 Hz - 20 kHz)**

@ 0 Ω source resistance -134 dB / 135.7 dB A-weighted  
 @ 50 Ω source resistance -131 dB / 133.3 dB A-weighted  
 @ 150 Ω source resistance -129 dB / 130.5 dB A-weighted

**Frequency response**

<10 Hz - 150 kHz -1 dB  
 <10 Hz - 200 kHz -3 dB  
 Gain range +10 dB to +60 dB  
 Max. input level +12 dBu @ +10 dB GAIN  
 Impedance approx. 2.6 kΩ balanced  
 Signal-to-noise ratio 110 dB / 112 dB A-weighted (0 dBu In @ +22 dB GAIN)  
 Distortion (THD+N) 0.005 % / 0.004 % A-weighted

**Line input**

Type ¼" TRS jack, electronically balanced  
 Impedance approx. 20 kΩ balanced, approx. 10 kΩ unbalanced  
 Gain range -10 dB to +40 dB  
 Max. input level +22 dBu @ 0 dB GAIN

**Fade-out attenuation<sup>2</sup> (Crosstalk attenuation)**

Main fader closed 90 dB  
 Channel muted 89.5 dB  
 Channel fader muted 89 dB

**Frequency response (Mic In → Main Out)**

<10 Hz - 90 kHz +0 dB / -1 dB  
 <10 Hz - 160 kHz +0 dB / -3 dB

**Stereo inputs**

Type ¼" TRS jack, electronically balanced  
 Impedance approx. 20 kΩ  
 Max. input level +22 dBu

**Equalizer**

**EQ mono channels**

LOW 80 Hz / ±15 dB  
 MID 2.5 kHz / ±15 dB  
 HIGH 12 kHz / ±15 dB

**EQ stereo channels**

LOW 80 Hz / ±15 dB  
 MID 2.5 kHz / ±15 dB  
 HIGH 12 kHz / ±15 dB

**Send / Return**

**Aux sends**

Type ¼" TS jack, unbalanced  
 Impedance approx. 120 Ω  
 Max. output level +22 dBu

**Stereo aux returns**

Type ¼" TRS jack, electronically balanced  
 Impedance approx. 20 kΩ balanced / approx. 10 kΩ unbalanced  
 Max. input level +22 dBu

**Outputs**

**Main outputs**

Type ¼" TRS jack, unbalanced  
 Impedance approx. 120 Ω unbalanced  
 Max. output level +22 dBu

**Control room outputs**

Type ¼" TS jack, unbalanced  
 Impedance approx. 120 Ω  
 Max. output level +22 dBu

**Headphones output**

Type ¼" TRS jack, unbalanced  
 Max. output level +19 dBu / 150 Ω (+25 dBm)

**Main mix system data<sup>3</sup> (Noise)**

Main mix @ -∞, channel fader @ -∞ -106 dB / -109 dB A-weighted  
 Main mix @ 0 dB, channel fader @ -∞ -95 dB / -98 dB A-weighted  
 Main mix @ 0 dB, channel fader @ 0 dB -84 dB / -87 dB A-weighted

**Power supply**

**502**

Power consumption 13 W

**Mains voltage**

USA/Canada, 120 V~, 60 Hz BEHRINGER PSU MX3UL  
 Europe/U.K./Australia, 230 V~, 50 Hz BEHRINGER PSU MX3EU  
 China, 220 V~, 50 Hz BEHRINGER PSU MX3CC  
 Korea, 220 V~, 60 Hz BEHRINGER PSU MX3KR  
 Japan, 100 V~, 50/60 Hz BEHRINGER PSU MX3JP

**802**

Power consumption 17 W

**Mains voltage**

USA/Canada, 120 V~, 60 Hz BEHRINGER PSU MX3UL  
 Europe/U.K./Australia, 230 V~, 50 Hz BEHRINGER PSU MX3EU  
 China, 220 V~, 50 Hz BEHRINGER PSU MX3CC  
 Korea, 220 V~, 60 Hz BEHRINGER PSU MX3KR  
 Japan, 100 V~, 50/60 Hz BEHRINGER PSU MX3JP

**1002**

Power consumption 18 W

**Mains voltage**

USA/Canada, 120 V~, 60 Hz BEHRINGER PSU MX3UL  
 Europe/U.K./Australia, 230 V~, 50 Hz BEHRINGER PSU MX3EU  
 China, 220 V~, 50 Hz BEHRINGER PSU MX3CC  
 Korea, 220 V~, 60 Hz BEHRINGER PSU MX3KR  
 Japan, 100 V~, 50/60 Hz BEHRINGER PSU MX3JP

**1202**

Power consumption 23 W

**Mains voltage**

USA/Canada, 120 V~, 60 Hz BEHRINGER PSU MX5UL  
 Europe/U.K./Australia, 230 V~, 50 Hz BEHRINGER PSU MX5EU  
 China, 220 V~, 50 Hz BEHRINGER PSU MX5CC  
 Korea, 220 V~, 60 Hz BEHRINGER PSU MX5KR  
 Japan, 100 V~, 50/60 Hz BEHRINGER PSU MX5JP

**Physical/weight**

**502**

Dimensions (H x W x D) 1.9" / 1.5" x 5.3" x 7"  
 (47 mm / 37 mm x 134 mm x 177 mm)  
 Weight (net) 1.2 lbs (0.55 kg)

**802**

Dimensions (H x W x D) 1.9" / 1.5" x 7.4" x 8.7"  
 (47 mm / 37 mm x 189 mm x 220 mm)  
 Weight (net) 2.2 lbs (1.00 kg)

**1002**

Dimensions (H x W x D) 1.9" / 1.5" x 7.4" x 8.7"  
 (47 mm / 37 mm x 189 mm x 220 mm)  
 Weight (net) 2.3 lbs (1.05 kg)

**1202**

Dimensions (H x W x D) 1.9" / 1.5" x 9.5" x 8.7"  
 (47 mm / 37 mm x 242 mm x 220 mm)  
 Weight (net) 3 lbs (1.35 kg)

<sup>1</sup> Equivalent Input Noise

<sup>2</sup> Measuring conditions: 1 kHz rel. to 0 dBu; 20 Hz - 20 kHz; line input; main output; unity gain.

<sup>3</sup> 20 Hz - 20 kHz; measured at main output. Channels 1 - 4 unity gain; EQ flat; all channels on main mix; channels 1/3 as far left as possible; channels 2/4 as far right as possible; reference = +6 dBu.

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Phone/Fax No.: **Phone: +1 425 672 0816,  
Fax: +1 425 673 7647**

hereby declares that the product(s)

- XENYX 502**
- XENYX 802**
- XENYX 1002**
- XENYX 1202**

complies/comply with the FCC rules as mentioned in the following paragraph:

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.

**Important information:**

Changes or modifications to the equipment not expressly approved by BEHRINGER USA can void the user's authority to use the equipment.

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