



XR® 1212 & XR® 1220 Powered Mixing Consoles



Operating
Manual





Intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



Intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

CAUTION: Risk of electrical shock — DO NOT OPEN!

CAUTION: To reduce the risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

WARNING: To prevent electrical shock or fire hazard, this apparatus should not be exposed to rain or moisture, and objects filled with liquids, such as vases, should not be placed on this apparatus. Before using this apparatus, read the operating guide for further warnings.



Este símbolo tiene el propósito de alertar al usuario de la presencia, en el interior del producto, de “voltajes peligrosos” sin aislamiento protector, que pudieran ocasionar descargas eléctricas de la magnitud suficiente para ser consideradas como de riesgo para las personas.



Este símbolo tiene el propósito de alertar al usuario de la presencia, en los documentos que acompañan al producto, de instrucciones importantes de operación y mantenimiento (servicio).

PRECAUCIÓN: Riesgo de descargas eléctricas — ¡EVITE ABRIR!

PRECAUCIÓN: Evite quitar la cubierta, a fin de reducir el riesgo de descargas eléctricas. No contiene componentes que puedan ser mantenidos o reparados por el usuario. Para todo mantenimiento o reparación acuda al personal de servicio calificado.

ADVERTENCIA: Para evitar el riesgo de descargas eléctricas y de incendios, no se debe exponer este equipo a la lluvia o la humedad, ni se debe colocar sobre él objeto alguno que contenga líquidos, tales como floreros. Antes de utilizar este equipo, lea la guía de operación a fin de conocer acerca de otras advertencias.



Ce symbole est utilisé pour indiquer à l'utilisateur la présence d'un “courant électrique dangereux” non isolé pouvant être d'amplitude suffisante pour constituer un risque de choc électrique.



Ce symbole est utilisé pour indiquer à l'utilisateur qu'il ou elle trouvera d'importantes instructions concernant l'utilisation et l'entretien de l'appareil dans la documentation accompagnant le produit.


AVERTISSEMENT : Risque de choc électrique — NE PAS OUVRIR !

ATTENTION ! Pour limiter les risques de choc électrique, ne démontez pas le boîtier. Aucun élément intérieur ne peut être révisé par l'utilisateur. Toute opération de maintenance doit être réalisée par un personnel qualifié.

ATTENTION ! Pour limiter les risques de choc électrique ou d'incendie, cet appareil ne doit pas être exposé à la pluie ou à l'humidité. De même, aucun objet contenant du liquide (vases, etc.) ne doit être placé sur cet appareil. Avant d'utiliser cet appareil lisez tous les avertissements de sécurité contenus dans le manuel d'utilisation.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: When using electrical products, basic cautions should always be followed, including the following:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any of the ventilation openings. Install in accordance with manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding plug. The wide blade or third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point they exit from the apparatus.
11. Only use attachments/accessories provided by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13.  Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Never break off the ground pin. Write for our free booklet "Shock Hazard and Grounding." Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.
16. If this product is to be mounted in an equipment rack, rear support should be provided.
17. Note for UK only: If the colors of the wires in the mains lead of this unit do not correspond with the terminals in your plug, proceed as follows:
 - a) The wire that is colored green and yellow must be connected to the terminal that is marked by the letter E, the earth symbol, colored green or colored green and yellow.
 - b) The wire that is colored blue must be connected to the terminal that is marked with the letter N or the color black.
 - c) The wire that is colored brown must be connected to the terminal that is marked with the letter L or the color red.
18. This electrical apparatus should not be exposed to dripping or splashing and care should be taken not to place objects containing liquids, such as vases, upon the apparatus.
19. The on/off switch in this unit does not break both sides of the primary mains. Hazardous energy can be present inside the chassis when the on/off switch is in the off position. The mains plug or appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
20. Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures:



Duration Per Day In Hours	Sound Level dBA, Slow Response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

According to OSHA, any exposure in excess of the above permissible limits could result in some hearing loss. Ear plugs or protectors to the ear canals or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss, if exposure is in excess of the limits as set forth above. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels such as this amplification system be protected by hearing protectors while this unit is in operation.

SAVE THESE INSTRUCTIONS!

XR® 1200 Series

Powered Mixing Consoles

The XR 1200 mixing console family boasts a built-in DSP and enough input channels to handle almost any application. All models combine ease of use with an impressive list of features including a digital effects processor with user-preset storage, output signal processor with graphic EQ, auto EQ, Feedback Ferret® and a powerful class-D amplifier.

The mixer is available in two sizes. The XR 1212 packs 12 XLR input channel strips and an extensive output section into a lightweight, rackmountable package. The XR 1220 shares the same features as the XR 1212 but has 20 XLR input channels in a low-profile, tabletop design.

The XR 1200 provides channel EQ that addresses real-life applications and is remarkable easy to use. It has a low-cut filter to clean the bottom end, high and low shelving controls, a low-mid control targeting muddiness and Peavey's patent pending high MidMorph® control to cut harshness or add crispness.

Instead of the simple low-pass subwoofer output found on many mixers, the XR 1200 family has a full 4th order crossover network that removes the power robbing low frequencies from the main outputs.

The two-channel power amplifier provides 600 watts per channel, using state-of-the-art HWF class-D technology. This clever design provides heavy weight performance at a carrying weight of only 18 lbs. (XR 1212).

FEATURES:

XR® 1212

- 12 XLR mic channels
- Dual 600W amps lightweight Class D
- Auto GEQ
- Feedback Ferret® feedback elimination
- Digital GEQ and multi-band compression
- 4-band EQ on input channels
- Digital effects
- Rack mountable
- Dual 9-band graphic EQ
- Two monitor sends
- Dedicated effect return fader

XR® 1220

- 20 XLR mic channels
- Dual 600W amps lightweight Class D
- Auto GEQ
- Feedback Ferret® feedback elimination
- Digital GEQ and multi-band compression
- 4-band EQ on input channels
- Digital effects
- Dual-9 band graphic EQ
- Two monitor sends
- Dedicated effect return fader

INPUT CHANNELS

1

XLR MIC INPUT

The XLR mic input is balanced for connection of microphones, DI boxes (special adapters for unbalanced instrument outputs to balance microphone inputs) and other low-level balanced sources. Many microphones require external power to operate, and these mixers can provide phantom power on all of the XLR inputs. Engaging the phantom power switch (40) lights the +48V LED and provides +48 volts to the microphone inputs. The phantom power switch is located in the master section below the meters. Be sure to turn down the master faders whenever you change this switch to prevent a loud thump from going to the speakers. It is always a good idea to mute input channels whenever a microphone is connected or disconnected for the same reason.

2

LINE INPUT mono channels only

The 1/4" line input connector is used to connect line-level sources to the channel input. The line input is typically used for sources like keyboards and CD players and can be used with the high level output of wireless microphone receivers. When this input is used, the XLR mic input is disconnected.

Warning: Do not connect speaker-level signals to this input.

3

INSERT

The 1/4" TRS input connector is used to connect an external signal processor such as a compressor or gate into the channel signal path. In most cases, a special "Y" cable is needed for this connection. The channel signal is sent on the "Tip" connection and returns to the channel on the "Ring." The sleeve provides the ground connection. Inserting a connector into this jack breaks the channel signal path.

4

GAIN

The channel gain control is one of the most important controls on the mixer and sets the overall operating level for the channel. The input gain can be adjusted over a wide range to accommodate signals from soft voices to very loud drums. To minimize noise and distortion, the gain should be set for the proper mixer output level with the channel (19) and master (26) faders set to zero. If the clip LED comes on and remains lit, try reducing the gain. On the mono channels, the gain control affects both the mic and line inputs. There are two gain controls on the stereo channels, one for the mic input and the other for the line input.

Note for Stereo channels only: Both the mic and line inputs can be active at the same time on the stereo channels. Be sure to turn down the gain knob of any unused mic or line input to keep noise from being introduced to the channel.

5

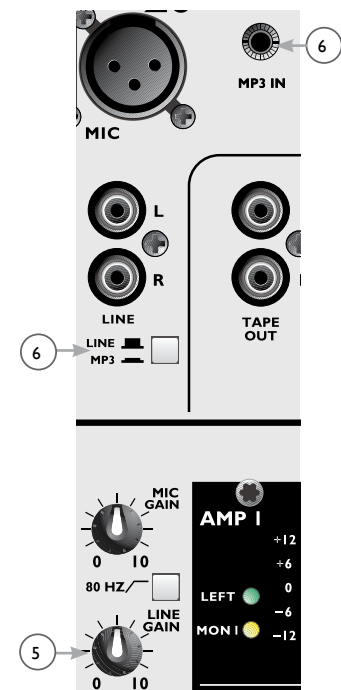
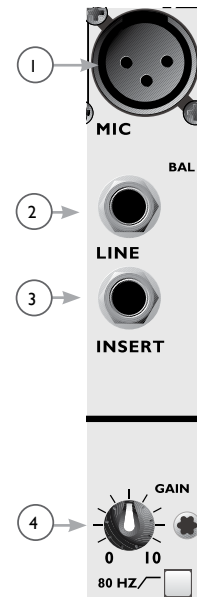
LINE GAIN stereo channels only

The line input gain control sets the normal operating level for the line inputs. The gain control ranges from Off to High Gain to accommodate most stereo sources. If the line input is not used, turn the gain control down to reduce noise.

6

LINE MP3 SWITCH/INPUT channel 12 or 20 only

This switch selects between the RCA and MP3 line input connectors. The MP3 input allows you to connect your MP3 player directly into the mixer.



EQUALIZATION SECTION

Peavey XR[®] mixers have powerful but simple-to-use equalization sections. These controls allow the tone of each input signal to be adjusted to blend with the other inputs. The equalization section starts with an 80 Hz low-cut filter and EQ at five different frequencies carefully chosen to address real world problems. The High Mid-Morph™ EQ is a Peavey innovation that helps make mid equalization easy by shifting frequencies between cut and boost. It is important to remember that equalization is best done by cutting. (Turn the EQ controls counterclockwise to reduce the volume at troublesome frequencies to unmask the musical sound you are seeking.)

7

80 Hz LOW-CUT FILTER

Important: Very few input sources have useful signals below 80 Hz (low bass). In particular, any signal in this range on a vocal channel is undesirable. Engaging the 18 dB per octave, 80 Hz low-cut filter on most inputs not only helps improve the sound of the mix by reducing these unwanted low-bass signals, but it also reduces the drain on the power amplifiers. Sources like bass, keyboards and low toms produce legitimate signals in this frequency range so you may not want to use the filter on these channels. However, it is a good idea to engage this filter on the other input channels.

8

HI EQ

The high EQ control is an active tone control (shelving type: ±15 dB @ 12 kHz) that varies the level of the high frequency range (Treble). The high EQ affects the brightness of a signal.

9

HI MID MORPH™ EQ mono channels only

An active two-band tone control used to cut mid frequencies and boost high-mid frequencies (peak dip: +15 dB @ 4 kHz and -15 dB @ 2 kHz). When the Mid Morph control is boosted (turned clockwise from zero), the upper-mid frequencies that add articulation or crispness to the signal are increased. When the Mid Morph EQ is cut, the frequencies that can make the signal sound harsh are reduced.



10

LOW MID mono channels only

The low mid control is an active tone control that adjusts low-mid frequencies that are usually associated with boxiness. (peak dip: ±15 dB @ 450 Hz). Cutting the level at these frequencies on vocal channels in most cases will add clarity.

11

MID EQ stereo channels only

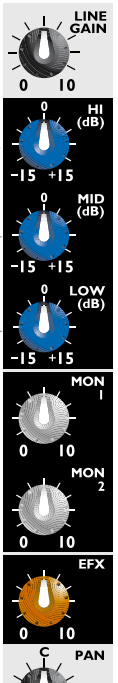
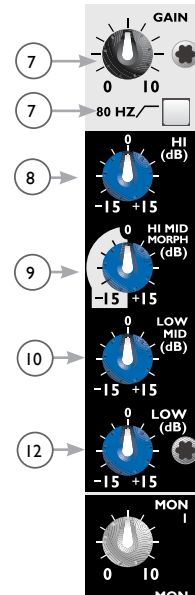
The stereo mid EQ control is an active tone control that allows adjustment of mid frequencies that are often associated with a boxy sound (peak dip: ±15 dB @ 450 Hz).

12

LOW EQ

The low EQ control is an active tone control that varies the level of the low frequency signals (shelving type: ±15 dB @ 80 Hz).

Caution: Excessive low-frequency boost causes greater power consumption and increases the possibility of speaker damage.



13

MON SEND 1 AND 2

These controls adjust the level of the channel signal sent to their respective monitor outputs. The signal is not affected by the channel fader (19) but is affected by channel EQ and gain. The monitor outputs are used to provide a mix of input signals that are independent of the main mix and are used to allow the musicians or stage participants to hear. It is generally best to add as few signals as possible to each monitor mix. This makes it easier to hear what is important. The 12 o'clock position is generally a good starting point for setting this control.

Note: These mixers have an internal jumper option that allows the monitor send signals to be changed to pre-EQ if desired. This change requires soldering and should be made by a qualified technician.

14

EFX SEND

This control adjusts the level of the channel signal added to the effects mix and must be turned up for the signal to go to the effects processor. The effects send signal is taken after the channel fader (19) so that adjustments made to the channel fader will also affect the EFX send level. The EFX bus output is connected to the internal effects processor by default. It can also be connected to an external effects processor if desired.

15

PAN

This knob controls the placement of the signal in the stereo field. When rotated completely counterclockwise, the signal is present only on the left output channel; when rotated completely clockwise, only in the right channel. Setting the control in the center sends the channel signal equally to the left and right outputs. On the stereo channels, this control is a balance control for adjustment of the relative level of the left and right signals.

16

CLIP LED

This light normally indicates that the channel signal level is nearing the overload point. The clip indicator circuit monitors the signal at many points in the channel to ensure that it catches all instances of clipping (distortion). It illuminates at +19 dBu and warns that the gain or EQ boost should be reduced. When it lights, roughly 3 dB of headroom remains.

The Clip LED also lights when the channel mute button is engaged.

17

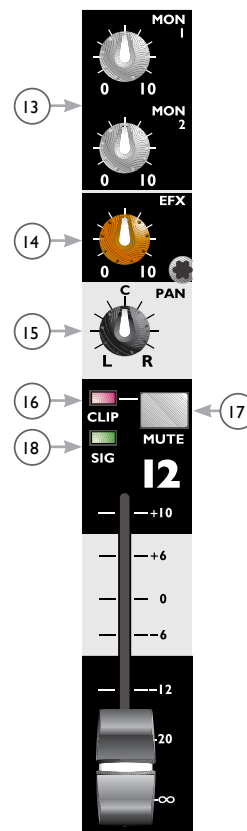
MUTE BUTTON

The mute button is a quick way to remove the channel signal from the left/right main mix, as well as effects and monitor sends, without disturbing the control settings.

18

SIGNAL LED

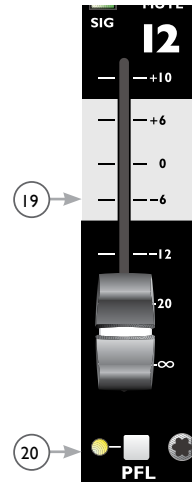
The green signal LED illuminates to indicate the presence of signal in the channel. The intensity of the LED also serves to indicate the strength of the signal. You can also press the PFL button to display the channel level on the LED meter array in the master section.



19

LEVEL FADER

This 60mm “easy touch” fader is the channel output level control. The optimum setting is the zero (unity gain) position for lowest noise and distortion. Of course it would be hard to mix if you could not move the fader from the 0 position, but if you find that you are normally operating the fader outside of the +/- 10 dB range outlined on the front panel, then adjust channel gain so that normal fader settings are in that range.



20

PFL SWITCH AND LED

The PFL switch (Pre Fader Listen) allows the user to isolate and listen to a selected input and view its signal level on the master output meter. The signal in the headphones and on the meter is pre-fader and pre-mute so it can be monitored even if the signal is not going to the main outputs. The PFL LED in the channel and PFL LED below the meter illuminate when this function is engaged.

MASTER SECTION

The master section of the XR[®] 1200 family of mixers hosts a broad range of features to simplify sound system setup and operation. Some of the many features include two digital graphic equalizers, a digital effects unit including tap delay, a two-channel Feedback[®] Ferret automatic feedback eliminator, auto EQ and a crossover network for subwoofer and mains.

21

POWER LED

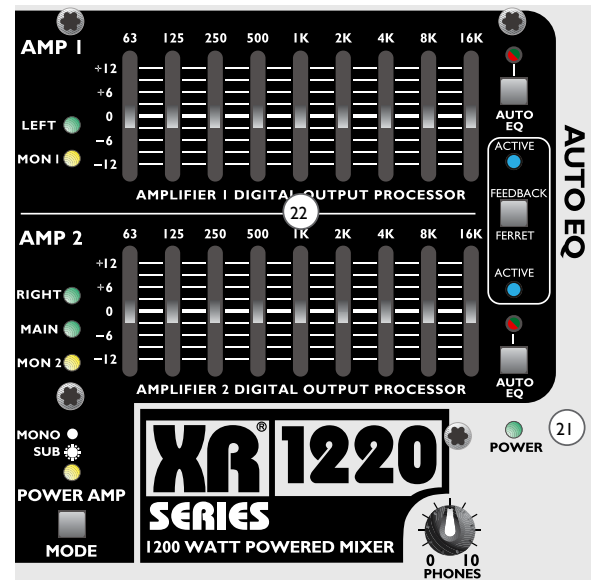
This is one of the most important features on your XR mixer. When illuminated, it indicates that it is possible for a signal to be amplified and pass through the product.

22

GRAPHIC EQUALIZER

The two nine-band graphic equalizers are dedicated to the on-board power amplifiers, allowing the overall response to be adjusted. Graphic equalizers are powerful tools that can be used for good or evil in any sound system. Just as channel equalization is used to adjust the “sound” of individual channel signals, the graphic EQ is used to adjust the overall sound system response. Subtle adjustments made with the graphic equalizer can improve the way your loudspeaker system sounds in the room. You should be aware however, that setting large amounts of boost or arbitrary curves can reduce amplifier headroom, leading to early distortion or just plain bad or unintelligible sound. Although some people use graphic equalizers to reduce feedback, the built in Feedback Ferret is designed to automatically solve that problem. The auto EQ can also set notch filters to reduce feedback.

It is always best to start with the EQ controls in the center “o” position. Raising or lowering the sliders from the center (flat) position adjusts the relative volume of the selected octave band. The EQ settings on the graphic equalizer are added to the Auto EQ settings when the Auto EQ is active. (LED Green, see Auto EQ below)

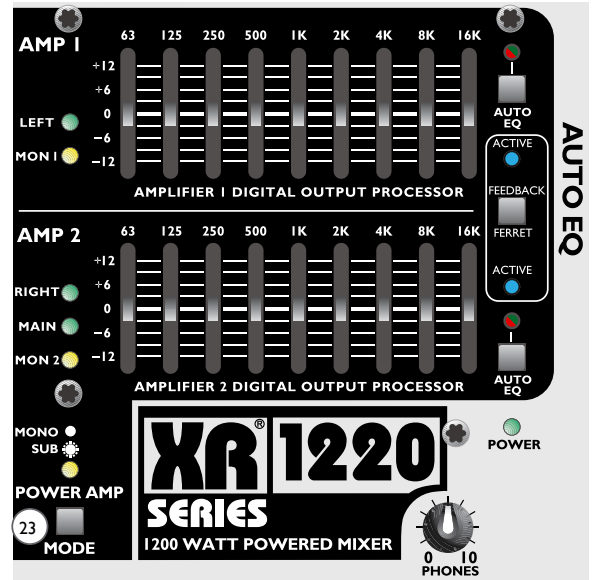


23

POWER AMP MODE SWITCH

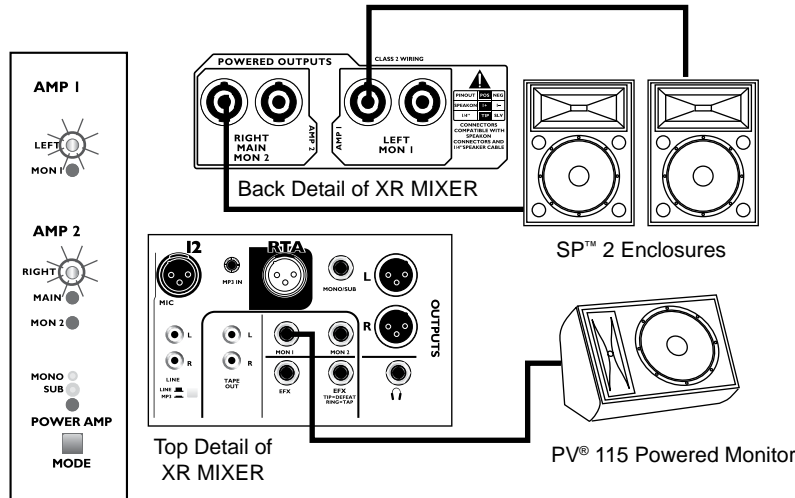
This switch is used to set the main operating mode of the mixer. It selects the mixer outputs that are connected to the internal power amplifiers and receive digital processing (graphic EQ, Feedback Ferret® and Auto EQ). It also controls the function of the Mono/Subwoofer output. The LEDs to the left of the graphic equalizers and the Mono/Sub LED above the switch illuminate to indicate the selected mode. You must hold the mode button a couple of seconds before the selection changes to prevent an errant button press from accidentally changing the mode. The five power amplifier/processing modes are described below.

IMPORTANT NOTE: If you are not using subwoofers, make sure that the subwoofer LED is turned OFF. Selecting the subwoofer mode without subwoofers will cut the low bass from the main speakers.

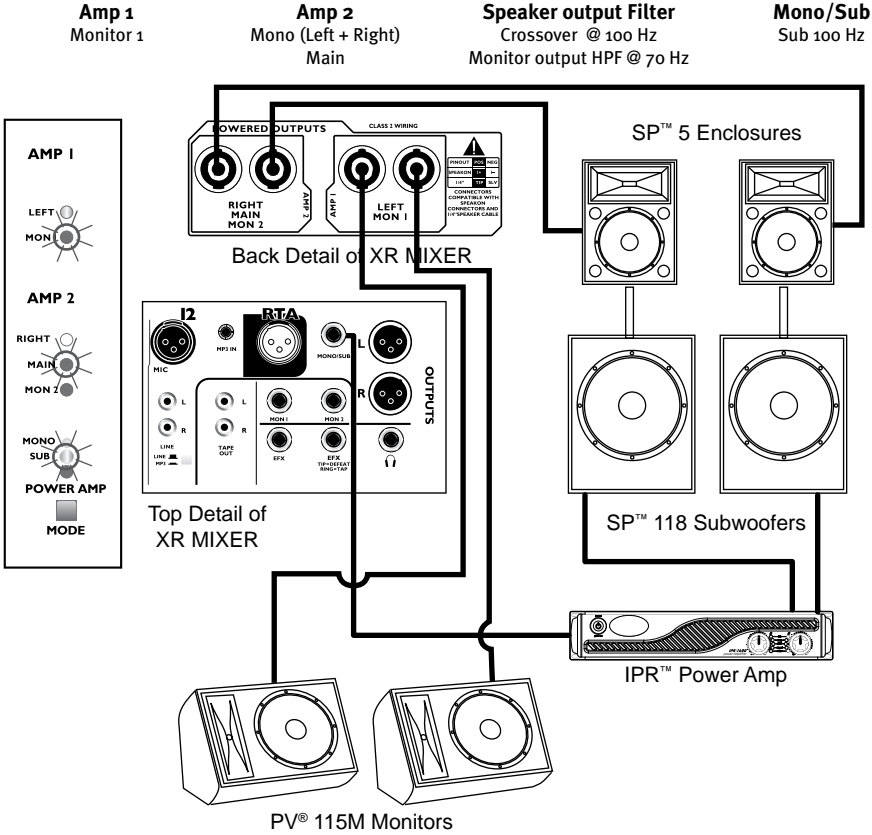


Stereo mode full range

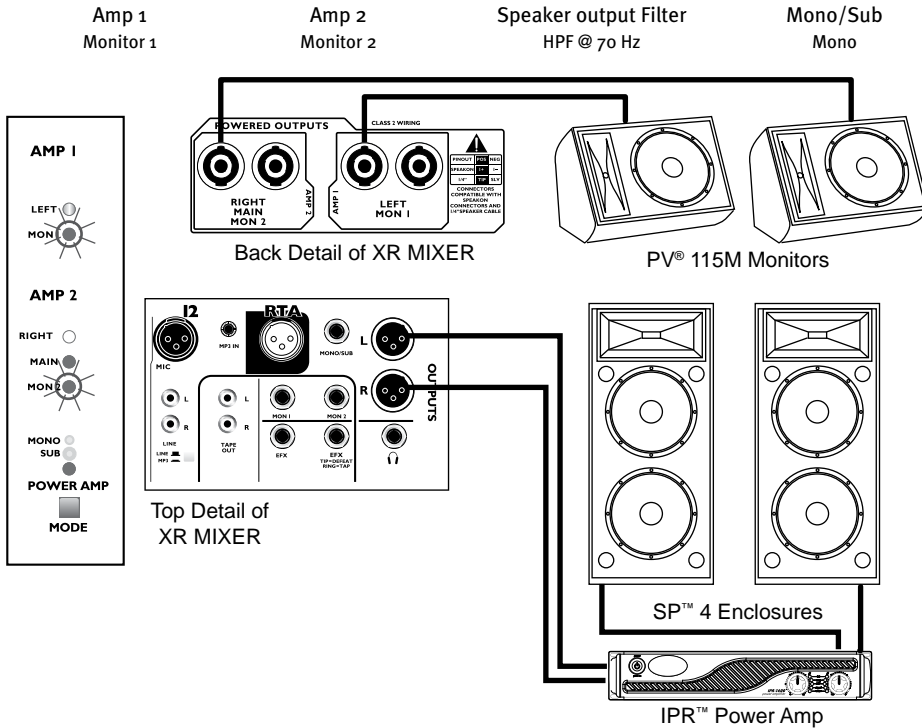
- Amp 1
Left
- Amp 2
Right
- Speaker output Filter
HPF @ 40 Hz
- Mono/Sub
Mono



Main with crossover for subwoofer and Monitor 1



Monitor 1 and Monitor 2



SUBWOOFER OUTPUT

One of the outstanding features of these XR® mixers is the built-in electronic crossover network for adding subwoofer(s) to your system. Although some mixers have a subwoofer output, few actually cut the subwoofer frequencies from the main speakers. The built in crossover in the XR 1200 series lets you get the most from its built-in power amplifiers.

There are two operating modes that activate a crossover between the main channel output(s) and the mono subwoofer output. A powered subwoofer or subwoofer and power amplifier combination can be connected to this output to take advantage of this feature.

WHY HIGH-PASS FILTERS?

High-pass filters (HPF), also known as low-cut filters, are an important addition to the XR 1200 mixers. For many people, the idea of cutting low frequencies from the outputs sounds bad. Why would I want to cut the bass? In reality, HPFs offer several very real benefits. First, low bass signals are not reproduced well by most loudspeakers, so the filter cuts material you are not hearing to begin with. Cutting these signals saves that power for frequencies that are actually useful.

Secondly, when loudspeakers are driven in this low-bass range, they can produce noises that sound bad and can damage the woofer. Cutting these frequencies with a sharp filter helps solve both of these problems.

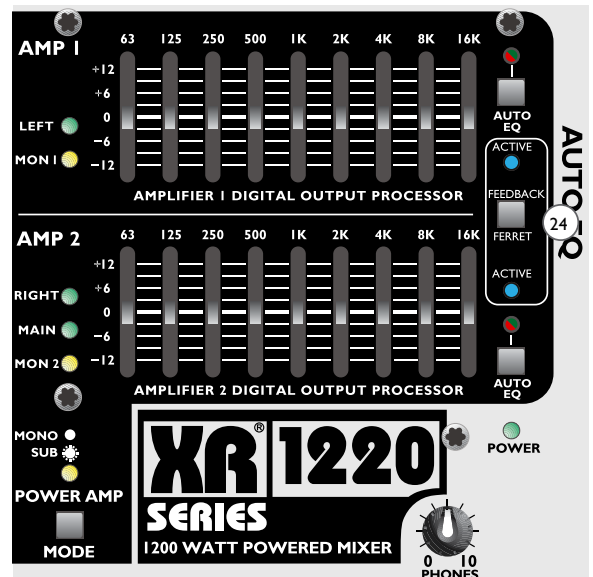
MONITOR SPEAKERS

Because monitor loudspeakers are generally physically smaller than main system loudspeakers, the high-pass filter frequency needs to be higher.

24 **FEEDBACK FERRET® SWITCH AND LEDS**

The Feedback Ferret is a sophisticated processor for automatic elimination of acoustic feedback. The processor recognizes the telltale signs of acoustic feedback and then configures a notch filter to cut the feedback frequency. One of the strengths of the Feedback Ferret is that it gradually removes the filters it creates after the feedback is eliminated. It can do this because feedback is generally caused by a momentary “oops” such as turning a mic gain up too far or moving a mic too close to a speaker system. Whatever the cause, the Feedback Ferret quickly puts a stop to the noise while the performer or operator corrects the cause. And even though the filters are very narrow and only deep enough to do the job, it eliminates them quickly to eliminate any possible affect on sound quality.

The Feedback Ferret can be activated in any combination on the processed outputs using the Feedback Ferret switch (24). You must hold the button for a couple of seconds to prevent accidental changes when setting the mode. While holding the button, the blue LEDs next to the graphic EQ light to indicate that the Feedback Ferret is active on that channel. Release the button when the LEDs indicate operation on the desired outputs.



25 **AUTO EQ/ RTA MIC INPUT**

The Auto EQ feature performs two different tests that set EQ filters to improve sound quality and reduce feedback. No system can counter the affect of poor speaker placement, sub-optimal equipment selection or difficult room acoustics, but it can make adjustments to improve response and gain before feedback. The Auto EQ system requires the use a PVM™ 22 or similar microphone to perform the speaker EQ portion of the test. The Auto EQ button for amp 1 or 2 selects that channel for testing.

The Auto EQ process actually performs two separate test functions. The first test pushes the system into feedback and configures notch filters to address the most troublesome feedback frequencies. To perform this test, the microphones used for performance should be un-muted and left at normal operating level.

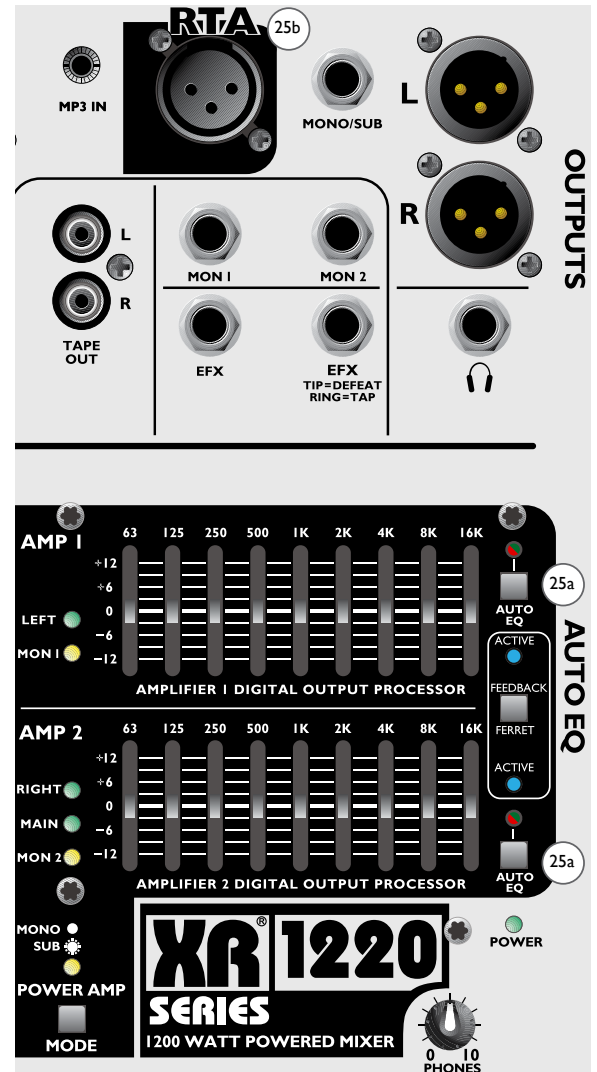
The second test examines system frequency response by sending a short burst of pink noise through the system. To perform this test connect a microphone to the RTA input to measure the speaker system response. Peaks in the response are then reduced. The quality of your loudspeakers will affect how dramatically the sound will change when you apply the Auto EQ curve. You may hear very little change when you measure good speakers, but the change with other speakers in a difficult room may be more noticeable.

As described above, there are actually two tests performed as part of the auto EQ process. However, you may prefer to run just one of the tests. For example, if you only wish to set up the feedback filters, then turn the system mics on at normal operating level (set for performance), but do not connect the RTA mic. To perform the speaker EQ test only, connect your test mic to the RTA input and mute your performance mics. If the XR® 1200 does not detect feedback or an input from the RTA mic, that test will be skipped and the Auto EQ LED will flash to indicate the results. If only one test is successful, the LED will alternately flash red and green for 10 seconds. If both test fail, it will flash red.

AUTO EQ PROCEDURE

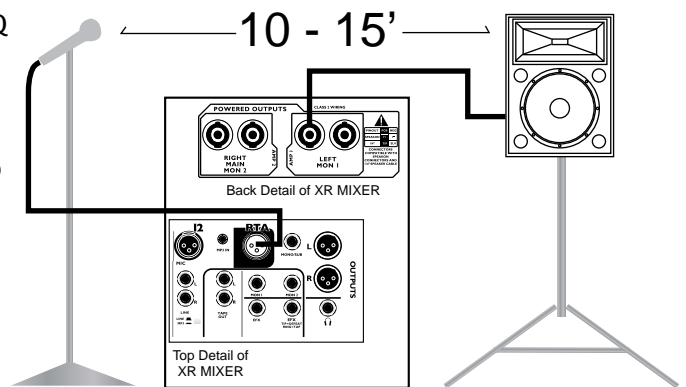
Note: The Graphic Equalizer is turned off during the Auto EQ process.

1. Begin by setting up the sound system for use including the performance microphones. If you intend to perform the feedback filter test, the performance microphones that are not moved much must be left ON during the test. Make sure that the mics are working and set at normal performance levels.
2. If you want the XR 1200 to make speaker EQ adjustments during the test, place the test microphone (PVM 22 or equivalent vocal mic) on a tall stand 10 to 15 feet in front of the speaker channel to be tested. Connect the microphone to the RTA input (25b).



3. To start the test, press and hold the Auto EQ button (25) of the amplifier channel to be tested until the LED begins flashing green. If you have left the performance microphones on, you may hear a brief period of feedback. This is a normal part of the setup process as filters are configured to reduce feedback.

4. Following the feedback test, the speaker EQ test will begin if a microphone has been connected to the RTA input. You should hear one or more short bursts of noise from the speaker system. The volume of the noise will depend upon the noise level in the room but it should be brief and not very loud. It is always best to perform these tests in a quiet room if possible.



TEST RESULTS:

LED Solid Green

Both tests were successfully completed. You are done with this channel. The button can be now used to turn the filters on and off to hear the result.

LED Flashes Red and Green

One test succeeded and one failed.

If you only intended to perform one test, you are done with this channel. After 10 seconds the flashing will stop and the LED will light green. The button can be now used to turn the filters off and on to hear the result.

If you intended to perform both tests but only one was successful, you need to determine the fault and rerun the test. See “Determining Test Fault” below for troubleshooting assistance.

LED flashes RED

Both tests have failed. See “Determining Test Fault” below for troubleshooting assistance.

Determining the Test Fault

If you heard feedback occur during the test that diminished soon after it started, the feedback part of the test was successful. The XR[®] 1212 was unable to complete the speaker EQ test. Check to be sure that the test mic is properly connected to the RTA input. Make sure that the mic is in front of the correct loudspeaker. Make sure the noise level in the room is not so high that it interferes with the test (not above conversation level). Rerun the test when corrected.

If you did not hear feedback at the beginning of the test, the feedback test failed. Make sure that the performance mics are un-muted and set at normal operating levels just below feedback and working properly. Correct and rerun the test.

The Auto EQ button can now be used to turn the filters set by the Auto EQ process ON and OFF to listen the results. Remember, the Graphic Equalizer was bypassed for the Auto EQ process but its settings are now added to the Auto EQ filters. The Graphic EQ can now be used to make adjustments to suit your needs.

Repeat the above process for the other channel.

EQ STATES WITH LED STATUS

LED	STATE
Green Solid	EQ On Auto EQ process successfully completed
LED Off	EQ Off
EQ LED goes out until Autograph process starts	Auto EQ Button pressed and held 2 Sec
LED flashes Green, other channel Off	Auto EQ in Process
LED Flashes Green and Red for 10 Sec	One of the Auto EQ test did not complete
LED Flash Red for 10 Sec	Both Auto EQ test did not complete

26 **MAIN LEFT AND RIGHT FADERS**

These 60mm (easy touch) faders are the master output level controls for the left and right main outputs. The optimum setting is the zero (unity gain) position for lowest noise and distortion. The left and right faders always control the level at the XLR main output jacks.

NOTE: When the amplifier mode switch is in mono Main/Monitor 1 mode, both master left and right controls (26) affect the main output signal. These master faders control the balance (levels) of the left and right signals being sent to the Main output mix.

27 **LEFT AND RIGHT OUTPUTS**

These XLR balanced outputs are from the left and right mix bus. The signals for these outputs are taken after the master faders but before the digital processing. No matter which amplifier mode is selected, these outputs can be used to drive powered speakers, outboard processors and power amplifier(s).

28 **TAPE OUTPUTS L&R**

These unbalanced outputs provide the same signal as the left and right balanced outputs. The left and right masters affect these outputs.

29 **LEFT AND RIGHT LED METER ARRAY**

The output meters on these mixers can provide a lot of information to the user. To begin with, they indicate the strength of the output signals. When the “o” LED lights, the power amplifiers in the XR[®] mixers are approaching their rated output power. Because the power amplifier input has a limiter, the meter can go above this level without clipping but the sound will not get louder.

Whenever a PFL button is pressed, the meter array switches to display that channel’s signal level. The PFL/AFL LED illuminates/blinks to indicate that meter function has changed. The same happens when the AFL button is pressed on the monitor masters.

30 **MONITOR 1 AND 2 MASTER FADERS**

These 60mm (easy touch) faders are the master output level controls for the Monitor 1 and Monitor 2 outputs. The optimum setting is the 0 (unity gain) position for lowest noise and distortion. They always control the output level of the Monitor 1 and 2 output jacks, but also control the amplified output level if the monitors are assigned to the internal power amplifiers.

31 **MONITOR 1 AND 2 OUTPUTS**

These ¼” TRS balanced output jacks are the source for the Monitor 1 & 2 signals. They will accept either a standard mono Tip-Sleeve plug or a balanced stereo Tip-Ring-Sleeve plug. These output signals are also routed to the internal power amplifiers in certain amplifier output modes. See Power Amp Mode Switch (23).

32 **MONITOR CLIP/MUTE LED**

This light normally indicates that the monitor signal level is nearing the overload point. The clip indicator circuit watches the signal at the summing amplifier and the monitor output to ensure that it catches all instances of clipping. It illuminates when roughly 3 dB of headroom remains and warns that the send level or master fader should be reduced.

The Clip LED also lights when the monitor Mute (34) button is engaged.

33 **MONITOR SIGNAL LED**

The green signal LED illuminates to indicate the presence of signal in the monitor output. The intensity of the LED also serves to indicate the strength of the signal. Press the AFL button to view the output level on the LED meter array in the master section.

34 **MONITOR MUTE SWITCH**

Pressing the Mute switch illuminates the red Mute/Clip LED and turns off the output signal.

35 **MONITOR AFL SWITCH**

The AFL button allows the user an easy way to see the signal level of the monitor outputs and listen to the monitor mix. The AFL (After Fader Listen) is similar in function to the channel PFL button but it monitors the signal after the master fader. The yellow AFL LED illuminates when active, and the signal level is displayed on the main LED arrays.

36 **EFFECTS SEND JACK**

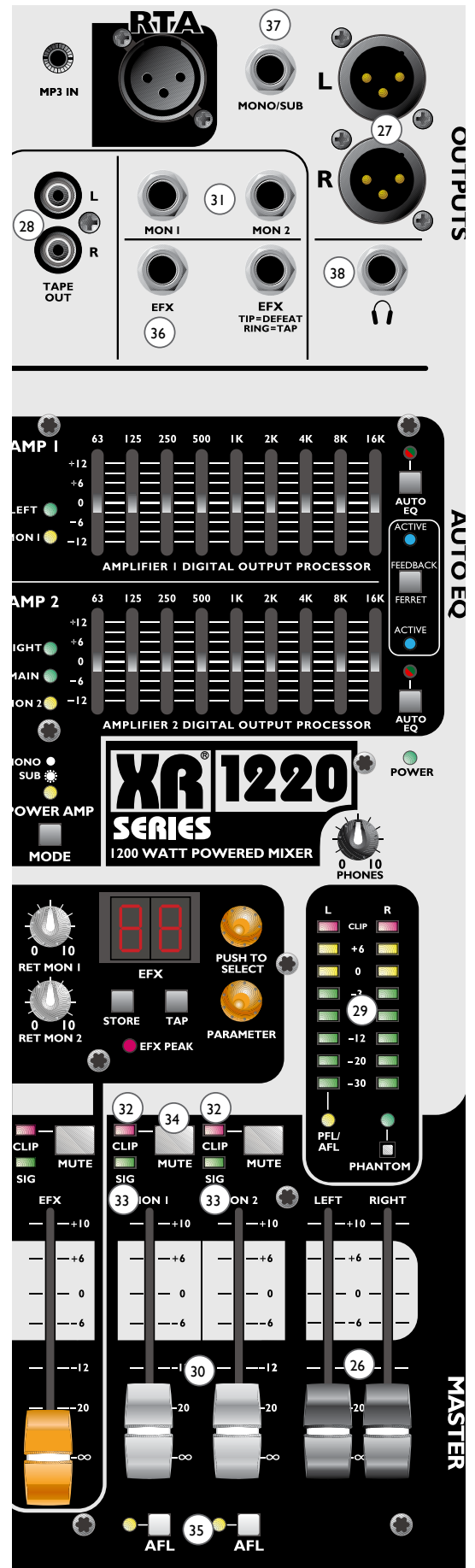
This 1/4" phone, TRS balanced output jack is the source for the effects bus signal. This same signal is sent to the internal effects processor. If connecting an external effects processor, connect this output to the processor input and return the processor output to an open channel.

37 **MONO/SUB OUTPUT JACK**

This 1/4" phone, TRS balanced output jack provides either a mono signal that is a sum of the left and right main outputs or a mono subwoofer output signal. The amplifier mode switch is used to make the selection. The LED located just above the switch illuminates when the subwoofer signal is chosen and is dark for mono (full range).

38 **HEADPHONE OUTPUT JACK**

The headphone output monitors the left and right outputs unless a PFL or AFL button is engaged. The PFL/AFL LED below the meter array illuminates/blinks whenever a PFL or AFL button is engaged as a reminder that the headphone output and meter array are currently monitoring the selected signal.



39 PHONES LEVEL

The headphone level control adjusts the headphone volume. It is best to turn the level down before putting the headphones on to avoid receiving loud signals through headphones.

40 GLOBAL PHANTOM POWER SWITCH WITH LED

Many microphones today require external power to operate. This phantom power is sent down the cable to microphone. Engaging the phantom power switch provides +48 volts to these microphones. Be sure to turn down the master faders whenever you change this switch to prevent the speakers from producing a loud "thump". It is always a good idea to mute input channels whenever a microphone is connected or disconnected for the same reason.

41 INTERNAL EFFECTS RETURN FADER

The 60mm (easy touch) fader controls the output level of the internal effects processor going to the left and right main outputs. If you find that you have to turn the fader way down or if the EFX peak light flashes, turn down the EFX send level controls on the channels. Remember, a little reverb goes a long way. If you hear reverb, it is likely too loud.

42 EFX RETURN TO MONITOR 1 AND 2

These level controls are used to route the effects signal to monitor outputs 1 and 2. Turn up these controls as needed to hear the effects in the monitors.

43 EFX RETURN CLIP/MUTE LED

This light normally indicates that the monitor signal level is nearing the overload point. The Clip LED also illuminates when the effects mute button is engaged.

44 EFX RETURN SIGNAL LED

The green signal LED illuminates to indicate the presence of signal in the effects return. The intensity of the LED also serves to indicate the strength of the signal.

45 EFX MUTE SWITCH

46 Pressing the Mute switch lights the red Mute/Clip LED and turns off the effects output signal. In addition to lighting the mute LED, the effects display also changes to indicate that the effects are muted by putting a "-" in the right digit. The mute button for the effects return differs from other mute buttons in this mixer in another way. The effects mute can also be activated using a foot switch. Connecting a "momentary action" footswitch to the footswitch jack (46) allows hands-free effects muting. When a momentary switch is used, the effects can be muted and un-muted by either the front panel mute button or the footswitch.

The same connector used for the mute also has a connection for a remote "tap" switch. The tap switch (49) is tapped on the beat to set the delay time in a tap delay effect described in the effects section below.

EFFECTS PROCESSOR

The effects processor in these mixers is a sophisticated DSP-based processor that provides the user with powerful tools to enhance their sound. Effects include reverbs, delays, a tap-to-set delay, chorus and a parallel reverb and delay. A parameter control allows the settings to be customized and then stored in one of the user-storage locations. A footswitch jack is also provided for hands-free bypass and tap delay setting.

47 **EFFECTS SECTION**

48 The upper encoder (47) and display are used to select the effect presets. Turning the encoder changes the selection in the display. Pressing the encoder knob after selection completes the recall. When the effects type is changed, the display will flash until the preset is recalled. If the preset is not recalled, the display will return to the active effect after a short interval. The second encoder (48) is used to adjust the effect parameters. The parameter available for adjustment depends on the effect selected.

A two-digit LED display indicates the selected effect. The first character is a letter that indicates the effect type as shown in table 1.

DISPLAY	EFFECT	PARAMETER
r	Reverb	Reverb Time
d	Delay	Delay time
P	Parallel Rev/Delay	Effect Bal.- Tap for delay
t	Tap Delay	Feedback
C	Chorus	Rate
U	User Storage	For Stored Effect

Table 1

The second digit in the display is a number that indicates which particular effect of the type chosen has been selected. For example, changing the reverb selection allows you to select reverbs with different characteristics. Once the basic effect is selected, the parameter control can be used to tailor the effect to your needs. When a preset is recalled, it is loaded with the default parameter setting. The parameter encoder allows the user to then adjust that parameter from the preset value setting. Once you get a setting you like, you can store the effect with your parameter setting in one of the user locations. You are still able to adjust the parameter on a user preset. Table 1 shows the parameter that can be adjusted for each of the effect types. This same table is located on the rear of the mixer for your reference.

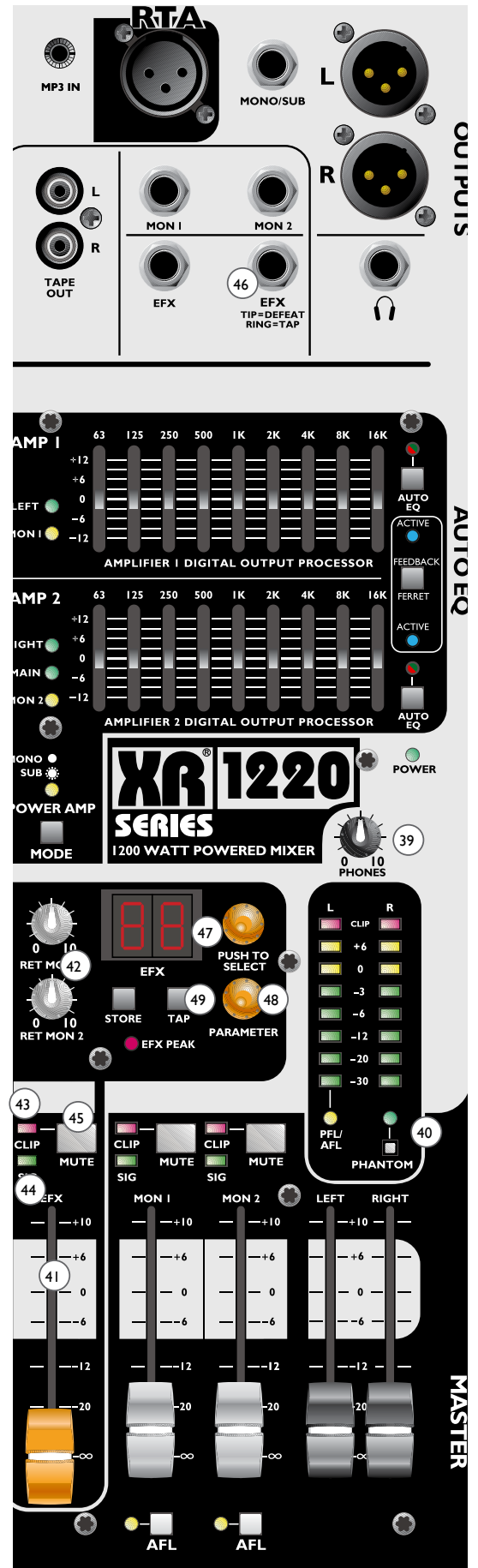
When adjusting the parameter, the display momentarily shows the parameter value. After a short time the display will revert back to the selected effect.

BYPASS

Bypassing (muting) the effect will also change the display. The right-hand digit will show a "-" to indicate the effect is bypassed (e.g. r-). The effects processor can be bypassed using the front-panel switch (45) or footswitch.

49 **TAP DELAY**

The tap delay effect allows the user to tap a beat using a footswitch or front-panel switch to set the delay time to an interval relating to the music. Tap several times to accurately set the delay. The footswitch tap function is implemented in a way that the frontpanel tap will still work properly even if a footswitch with a TS (mono) plug is used for muting the effects.



USER STORAGE LOCATIONS:

Once a desirable preset has been created, pressing the store button causes the display to change to U1, the first user-storage location. The “U” in the display flashes to indicate that the store operation is not yet complete. The user must then select one of the storage locations and press either the store button or encoder switch to complete the operation. If the store operation is not completed in 15 seconds, the store operation is canceled but the setting information is not lost.

EFFECTS PRESET LISTS:

REVERBS

DISPLAY	EFFECT	USER PARAMETER
r1	Vocal Reverb. Smooth Hall	Reverb Time
r2	Plate Reverb.	Reverb Time
r3	Vocal Reverb. Bigger Hall	Reverb Time
r4	Plate Reverb Big	Reverb Time
r5	Chamber Reverb	Reverb Time
r6	Concert Hall	Reverb Time
r7	Snare	Reverb Time
r8	Acoustic Guitar	Reverb Time
r9	Ridiculous	Reverb Time

DELAYS

DISPLAY	EFFECT	USER PARAMETER
d1	Single	Delay Time
d2	Bright Few Repeats	Delay Time
d3	Bright More Repeats	Delay Time
d4	Dark Few Repeats	Delay Time
d5	Dark More Repeats	Delay Time
d6	Ping Pong	Delay Time

PARALLEL REVERB AND DELAY

DISPLAY	EFFECT	USER PARAMETER
p1	Vocal Reverb + Delay	Reverb/Delay Balance
p2	Plate Reverb + Delay	Reverb/Delay Balance
p3	Snare Reverb + Delay	Reverb/Delay Balance
p4	Acoustic Guitar + Delay	Reverb/Delay Balance

TAP DELAY

DISPLAY	EFFECT	USER PARAMETER
t1	Tap Delay Bright	Feedback
t2	Tap Delay Dark	Feedback

CHORUS

DISPLAY	EFFECT	USER PARAMETER
c1	Chorus - Shallow	Chorus Rate
c2	Chorus - Shallow	Chorus Rate
c3	Chorus - Shallow	Chorus Rate
c4	Chorus - Deep	Chorus Rate

51 **EFX PEAK LED**

This red LED illuminates to indicate 6 dB of headroom before the signals being sent to the effects circuit are clipped. Ideally, you want this LED to light only occasionally. An occasional blink indicates that your levels are set optimally.

52 **POWER SWITCH**

This is the main power switch. The Power On LED indicator (21) on the front of the unit will illuminate when the unit is powered.

53 **IEC INLET**

The IEC power inlet allows connection of the appropriate power cord for your location.

NOTE: Be sure to observe the inlet voltage requirement printed near the IEC connector.

U.S. DOMESTIC AC MAINS CORD

The mains cord supplied with the unit is a heavy-duty, three-conductor type with a conventional 120VAC plug with ground pin. If the outlet used does not have a ground pin, a suitable adapter should be used and the third wire grounded properly. All apparatus with class 1 construction shall be connected to a mains socket with a protective Earthing connection.

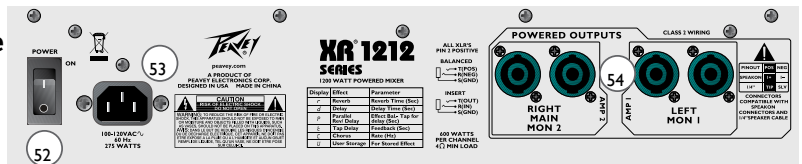
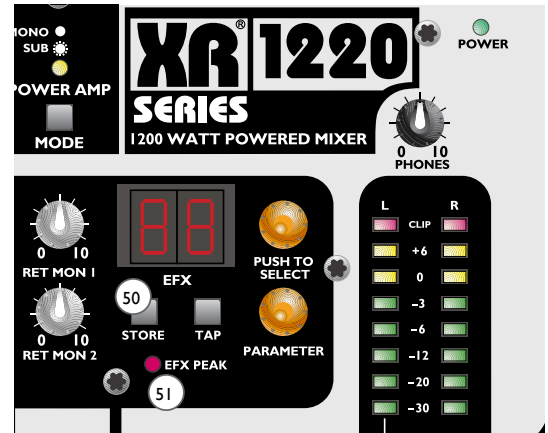
Never break off the grounding pin on any equipment. It is provided for your safety. The use of extension cords should be avoided, but if necessary, always use a three-wire type with at least #14 AWG wire size. Always use a qualified electrician to install any electrical equipment. To prevent the risk of shock or fire hazard, always be sure the console and all associated equipment is properly grounded.

NOTE: For U.K. Only

If the colors of the wires in the mains lead of this unit do not correspond with the colored markings identifying the terminals in your plug, proceed as follows: (1) The wire that is colored green and yellow must be connected to the terminal that is marked by the letter E, the earth symbol, colored green or green and yellow. (2) The wire that is colored blue must be connected to the terminal that is marked with the letter N or the color black. (3) The wire that is colored brown must be connected to the terminal that is marked with the letter L or the color red.

SPEAKER OUTPUTS

54 The power amplifier output connectors on the XR[®] 1200 family mixers use Neutrik[®] Speakon[®] ¼" phone plug combo connectors. Each of these connectors accept a Speakon NL2FC or NL4FC or ¼" phone plug. There is no advantage to using four-conductor speaker cables with XR mixers, as only two conductors are used (1+, 1-). With dual connectors per channel, two 8 ohm loudspeakers can be connected to each channel either by connecting both to the mixer/amplifier or by daisy-chaining the connection from amplifier to speaker to speaker. Remember, when using Speakon cables you must turn them clockwise to lock after inserting them into the connector.



INPUT SPECIFICATIONS

FUNCTION	INPUT Z (MIN OHMS)	INPUT GAIN SETTINGS	INPUT LEVELS			BAL/ UNBAL	CONNECTOR XLR: PIN 1 GND.
			MIN.*	NOMINAL**	MAX.		
XLR (150 Ohms)	2.2 k	Max Gain (57 dB)	-73 dBu	-53 dBu	-35 dBu	Bal.	Pin 2 (+)
		Min Gain (3 dB)	-19 dBu	+1 dBu	+19 dBu		Pin 3 (-)
Line Input (10 k ohms)	10 k	Max Gain (37 dB)	-53 dBu	-33 dBu	-15 dBu	Bal.	1/4" TRS: Tip (+)
		Min Gain (-17 dB)	+1 dBu	+21 dBu	+39 dBu		Ring (-) Sleeve Gnd.

* Minimum input level (sensitivity) is the smallest signal that will produce nominal output (+4 dBu) with sub and master controls set for maximum gain.
 **Nominal settings are defined as all controls set at 0 dB (or 50% rotation for rotary pots) except the gain adjustment pot, which is as specified.

OUTPUT SPECIFICATIONS

FUNCTION	MIN. LOAD (OHMS)	OUTPUT LEVEL		BAL/ UNBAL	CONNECTOR(S)
		MIN.	MAX.		
Main L/R	600	+4 dBu	+22 dBu	Bal.	XLR: Pin 1 Gnd Pin 2 (+) Pin 3 (-)
Monitor	600	+4 dBu	+22 dBu	Bal.	1/4" TRS: Tip (+) Ring (-), Sleeve Ground
EFX	600	+4 dBu	+22 dBu	Bal.	1/4" TRS: Tip (+) Ring (-), Sleeve Ground
Tape	600	+4 dBu	+22 dBu	Unbal.	RCA Phono
Headphone	8	+4 dBu	+22 dBu (No Load)	Unbal.	1/4" TRS: Tip Left Ring Right Sleeve Gnd

0 dBu = 0.775 V RMS

HUM & NOISE

Output	Residual Noise	S/N Ratio (Ref. +4 dBu)	Test Conditions
Master L/R Mono	-95 dBu	99 dB	Master Fader Down, Channels Muted
	-90 dBu	94 dB	Master Fader Nominal, Channels Muted
	-82 dBu	86 dB	Master Fader Nominal, Channel Faders Nominal Panned Odd Channels (left), Even Channels (right)
Mono/Subwoofer	-95 dBu	99 dB	All Controls Off
	-90 dBu	94 dB	All Channel Sends Nominal, Masters Nominal
Monitor Sends	-95 dBu	99 dB	All Controls nominal_ mic gain min
	-85 dBu	89 dB	All Channel Sends Nominal, Masters Nominal
Effects Send	-90 dBu	94 dB	All Controls Off
	-85 dBu	89 dB	All Channel Sends Nominal

(Hum & Noise measurements: 22 Hz to 22 kHz BW)

GAIN

Mic input gain adjustment range: 3 dB to 57 dB
Mic input to any output: 77 dB (max. gain)
Stereo Channel in to any output: 37 dB (max. gain)

CHANNEL EQ

High Shelving ±15 dB @ 12kHz
Mid-morph +15 dB @ 4kHz
 -15 dB @ 2kHz
Low-mid ±15 dB @ 450Hz
Low ±15 dB @ 80Hz

FREQUENCY RESPONSE

Mic input to L/R output: 11 Hz to 30 kHz (+0 dB / -1 dB)

TOTAL HARMONIC DISTORTION (THD)

< 0.01%, 20 Hz to 20 kHz Mic to Left/Right Output (22 Hz to 80 kHz BW)
< 0.003% Typical (22 Hz to 22kHz BW)

EQUIVALENT INPUT NOISE (EIN)

-128 dBu (input terminated with 150 ohms, max gain)

CROSSTALK/ATTENUATION

Adjacent Input Channels (1kHz) > 90 dB
Left to Right outputs (1kHz) > 85 dB
Mute Button Attenuation (1kHz) > 90 dB
Channel Fader Kill (1kHz) > 80dB

COMMON MODE REJECTION RATIO (MIC INPUT)

60 dB min. (20 Hz to 20 kHz)
70 dB typ. @ 1 kHz

9-BAND GRAPHIC EQ FILTERS

Mains and Monitors ±12 dB @ 63, 125, 250, 500, 1k, 2k, 4k, 8k & 16kHz

METERS

8-segment peak reading (0 dB = +4 dBu)
Signal/Overload Indicators
Red LED illuminates 2 dB below clipping

POWER SECTION

POWER AND LOAD:

600 Watts Program into 4 Ohms, both channels driven
500 Watts RMS per channel into 4 Ohms, both channels driven
360 Watts Program into 8 Ohms, both channels driven
300 Watts RMS per channel into 8 Ohms, both channels driven

OUTPUT CONNECTIONS:

Speakon[®] – ¼” Phone combo output connectors are compatible with Neutrik NL2FC and NL4FC cable connectors and ¼” phone plugs. Speakon connections are made to 1+ and 1- only.

FREQUENCY RESPONSE:

20 Hz–20 kHz (+0/-1 dB)

TOTAL HARMONIC DISTORTION:

<0.1% at 500Watts per channel @ 1kHz both channels driven

HUM & NOISE:

95 dB below rated power level (600 Watts)

DDT™ DYNAMIC RANGE:

Greater than 12 dB

POWER REQUIREMENTS:

Dom: 120VAC 60Hz;275 W nominal
Export: 220-240VAC 50/60Hz;275 W nominal

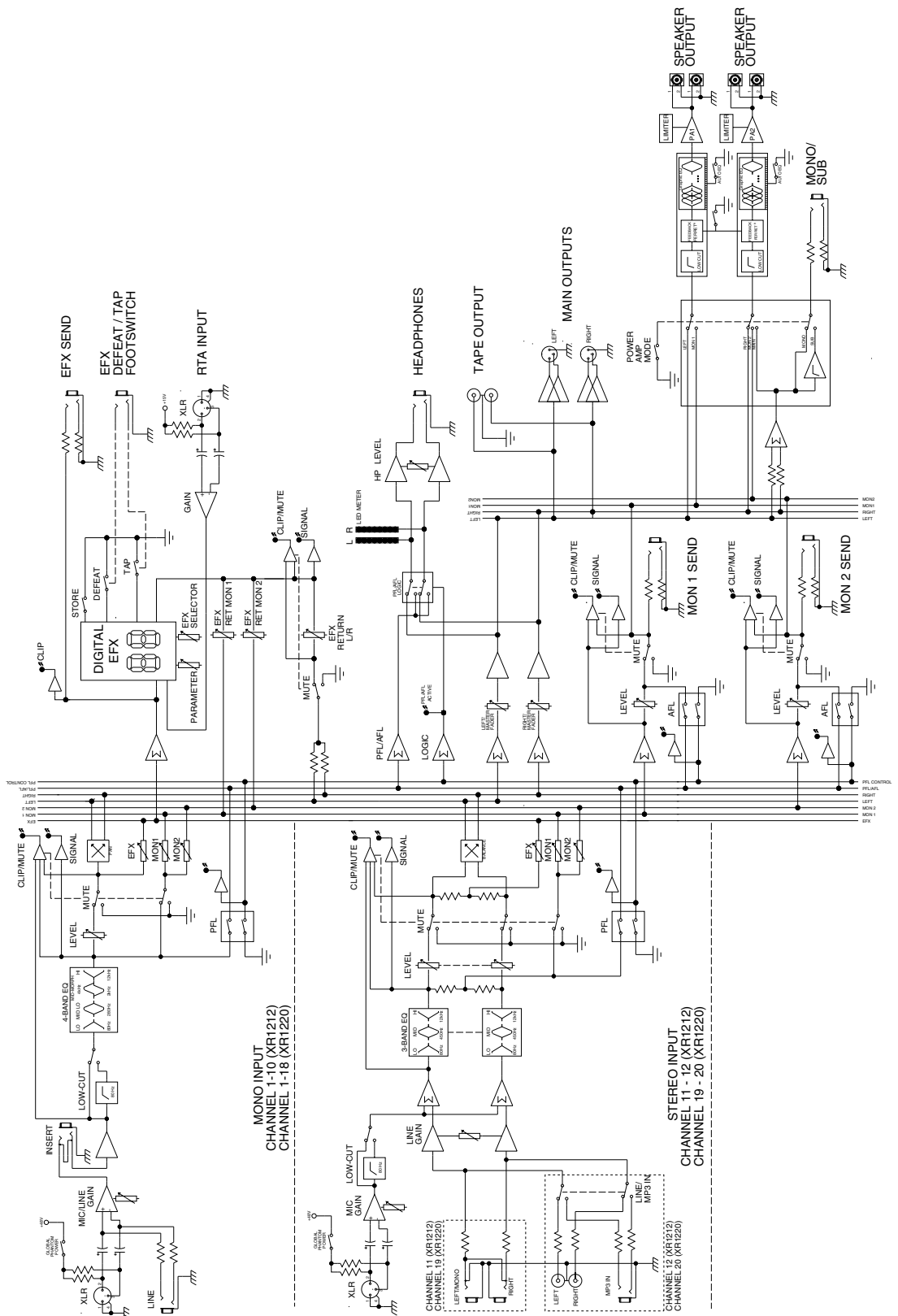
DIMENSIONS: **XR[®] 1212** Inches: 16.5 X 17 X 5.5 mm: 419 X 432 X 140

WEIGHT: **XR 1212** 18.4 lbs 8.4 kg

DIMENSIONS: **XR 1220** Inches: 24 X 17 X 5.5 mm: 610 X 432 X 140

WEIGHT: **XR 1220** 25 lbs 11.4 kg

Block Diagram



PEAVEY ELECTRONICS CORPORATION LIMITED WARRANTY

EFFECTIVE DATE: JANUARY 1, 2009

What This Warranty Covers

Your Peavey Warranty covers defects in material and workmanship in Peavey products purchased and serviced in the U.S.A. and Canada.

What This Warranty Does Not Cover

The Warranty does not cover: (1) damage caused by accident, misuse, abuse, improper installation or operation, rental, product modification or neglect; (2) damage occurring during shipment; (3) damage caused by repair or service performed by persons not authorized by Peavey; (4) products on which the serial number has been altered, defaced or removed; (5) products not purchased from an Authorized Peavey Dealer.

Who This Warranty Protects

This Warranty protects only the original retail purchaser of the product.

How Long This Warranty Lasts

The Warranty begins on the date of purchase by the original retail purchaser. The duration of the Warranty is as follows:

Product Category	Duration
Guitars/Basses, Amplifiers, Pre-Amplifiers, Mixers, Electronic Crossovers and Equalizers	2 years (+ 3 years)*
Drums	2 years (+ 1 year)*
Enclosures	2 years (+ 3 years)*
Digital Effect Devices	1 year (+ 1 year)*
Microphones	2 years
Speaker Components (including speakers, baskets, drivers, diaphragm replacement kits and passive crossovers)	1 year
Rockmaster[®] Series, Strum'n Fun, Vectra, Rotor[®], OCC Stage Pack, GT & BT Series Amps, Retro Fire, Metal Maker, and Iron Wing	1 year
Tubes and Meters	90 days
Cables	Limited Lifetime

[*Denotes additional warranty period applicable if optional Warranty Registration Card is completed and returned to Peavey by original retail purchaser within 90 days of purchase.]

What Peavey Will Do

We will repair or replace (at Peavey's discretion) products covered by warranty at no charge for labor or materials. If the product or component must be shipped to Peavey for warranty service, the consumer must pay initial shipping charges. If the repairs are covered by warranty, Peavey will pay the return shipping charges.

How To Get Warranty Service

(1) Take the defective item and your sales receipt or other proof of date of purchase to your Authorized Peavey Dealer or Authorized Peavey Service Center.
OR

(2) Ship the defective item, prepaid, to Peavey Electronics Corporation, International Service Center, 412 Highway 11 & 80 East, Meridian, MS 39301. Include a detailed description of the problem, together with a copy of your sales receipt or other proof of date of purchase as evidence of warranty coverage. Also provide a complete return address.

Limitation of Implied Warranties

ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE LENGTH OF THIS WARRANTY.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Exclusions of Damages

PEAVEY'S LIABILITY FOR ANY DEFECTIVE PRODUCT IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE PRODUCT, AT PEAVEY'S OPTION. IF WE ELECT TO REPLACE THE PRODUCT, THE REPLACEMENT MAY BE A RECONDITIONED UNIT. PEAVEY SHALL NOT BE LIABLE FOR DAMAGES BASED ON INCONVENIENCE, LOSS OF USE, LOST PROFITS, LOST SAVINGS, DAMAGE TO ANY OTHER EQUIPMENT OR OTHER ITEMS AT THE SITE OF USE, OR ANY OTHER DAMAGES WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE, EVEN IF PEAVEY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

If you have any questions about this warranty or service received or if you need assistance in locating an Authorized Service Center, please contact the Peavey International Service Center at (601) 483-5365

FEATURES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.



Logo referenced in Directive 2002/96/EC Annex IV (OJ(L)37/38, 13.02.03 and defined in EN 50419: 2005. The bar is the symbol for marking of new waste and is applied only to equipment manufactured after 13 August 2005

Features and specifications subject to change without notice.
Peavey Electronics Corporation • 5022 Hartley Peavey Drive • Meridian, MS 39305
Phone: (601) 483-5365 • Fax: (601) 486-1278 • www.peavey.com

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