

CS<sup>®</sup>1200H Operations Manual  
*power amplifier*





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.

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**WARNING:** To prevent electrical shock or fire hazard, do not expose this appliance to rain or moisture. Before using this appliance, read the operating guide for further warnings.



Este símbolo tiene el propósito, de alertar al usuario de la presencia de “(voltaje) peligroso” sin aislamiento dentro de la caja del producto y que puede tener una magnitud suficiente como para constituir riesgo de descarga eléctrica.



Este símbolo tiene el propósito de alertar al usuario de la presencia de instrucciones importantes sobre la operación y mantenimiento en la información que viene con el producto.

**PRECAUCION:** Riesgo de descarga eléctrica ¡NO ABRIR!

**PRECAUCION:** Para disminuir el riesgo de descarga eléctrica, no abra la cubierta. No hay piezas útiles dentro. Deje todo mantenimiento en manos del personal técnico cualificado.

**ADVERTENCIA:** Para evitar descargas eléctricas o peligro de incendio, no deje expuesto a la lluvia o humedad este aparato. Antes de usar este aparato, lea más advertencias en la guía de operación.



Ce symbole est utilisé dans ce manuel pour indiquer à l'utilisateur la présence d'une tension dangereuse pouvant être d'amplitude suffisante pour constituer un risque de choc électrique.



Ce symbole est utilisé dans ce manuel pour indiquer à l'utilisateur qu'il ou qu'elle trouvera d'importantes instructions concernant l'utilisation et l'entretien de l'appareil dans le paragraphe signalé.

**ATTENTION:** Risques de choc électrique — NE PAS OUVRIR!

**ATTENTION:** Afin de réduire le risque de choc électrique, ne pas enlever le couvercle. Il ne se trouve à l'intérieur aucune pièce pouvant être réparée par l'utilisateur. Confiez l'entretien et la réparation de l'appareil à un réparateur Peavey agréé.

**AVERTISSEMENT:** Afin de prévenir les risques de décharge électrique ou de feu, n'exposez pas cet appareil à la pluie ou à l'humidité. Avant d'utiliser cet appareil, lisez attentivement les avertissements supplémentaires de ce manuel.



Dieses Symbol soll den Anwender vor unisolierten gefährlichen Spannungen innerhalb des Gehäuses warnen, die von Ausreichender Stärke sind, um einen elektrischen Schlag verursachen zu können.



Dieses Symbol soll den Benutzer auf wichtige Instruktionen in der Bedienungsanleitung aufmerksam machen, die Handhabung und Wartung des Produkts betreffen.

**VORSICHT:** Risiko — Elektrischer Schlag! Nicht öffnen!

**VORSICHT:** Um das Risiko eines elektrischen Schlages zu vermeiden, nicht die Abdeckung entfernen. Es befinden sich keine Teile darin, die vom Anwender repariert werden könnten. Reparaturen nur von qualifiziertem Fachpersonal durchführen lassen.

**ACHTUNG:** Um einen elektrischen Schlag oder Feuergefahr zu vermeiden, sollte dieses Gerät nicht dem Regen oder Feuchtigkeit ausgesetzt werden. Vor Inbetriebnahme unbedingt die Bedienungsanleitung lesen.

## 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. 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.
12. Only use attachments/accessories provided by the manufacturer.
13. 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.
14. Unplug this apparatus during lightning storms or when unused for long periods of time.
15. 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.
16. 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.
17. If this product is to be mounted in an equipment rack, rear support should be provided.
18. 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 ½	102
1	105
½	110
¼ 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!**

## Description

### CS® 1200H Power Amplifier

Congratulations on your purchase of the CS 1200H power amplifier from Peavey—designed for years of reliable, flawless operation under rigorous use. This amplifier offers the sonic superiority and unsurpassed reliability for which Peavey is famous, while remaining surprisingly compact. Advanced technology and extensive protection circuitry allow operation with greater efficiency into difficult loads and power conditions. The **DDT™** (Distortion Detection) circuit ensures trouble-free operation into loads as low as 2 Ohms. The Distortion Detection circuits protect drivers and ensure that sonic integrity is maintained, even in extreme overload conditions. Peavey's hi-efficiency design uses patented Turbo-V cooling and variable speed DC fan. This cooling topology maintains a lower overall operating temperature, resulting in longer output transistor life.

Although the Peavey CS 1200H amplifier is quite simple to operate and is housed in ultra-strong steel chassis, improper use can be dangerous. This amplifier is very high-powered and can put out high voltages and sizable currents at frequencies up to 30 kHz. Always use safe operating techniques when operating this amplifier.

**FOR YOUR SAFETY, READ THE IMPORTANT PRECAUTIONS SECTION, AS WELL AS INPUT, OUTPUT, AND POWER CONNECTION SECTIONS.**

- 19" 2-space, rack-mountable design
- patented Turbo-V cooled heat sinks with variable speed DC fan
- ultra-strength steel chassis
- RampUp™ signal control
- stereo or bridged-mono modes of operation
- front panel AC power switch/circuit breaker
- amp function switch for full-range operation or crossover high/low frequency outputs
- two independent, adjustable crossovers
- two independent, low frequency filters
- five front panel LED indicators per channel: ACTIVE, DDT™, SIGNAL, TEMP and DC

### Unpacking

Upon unpacking, inspect the amplifier. If you find any damage, notify your supplier immediately. Only the consignee may institute a claim with the carrier for damage incurred during shipping. Be sure to save the carton and all packing materials. Should you ever need to ship the unit back to Peavey Electronics, one of its offices, service centers, or the supplier, use only the original factory packing. If the shipping carton is unavailable, contact Peavey to obtain a replacement.

### Mounting

The CS 1200H amplifier will mount in standard 19-inch racks. Rear mounting ears are also provided for additional support, which is recommended in non-permanent installations like mobile or touring sound systems. Because of the cables and connectors on the rear panel, a right angle or offset screwdriver or hex key will make it easier to fasten the rear mounting ears to the rails.

### Cooling Requirements

The CS 1200H amplifier uses a forced-air cooling system to maintain a low, even operating temperature. Air is drawn into the amplifier by fans on the front panel, courses through the cooling fins of the tunnel-configured channel heat sinks, and then exhausts through the rear panel slots. If either heat sink gets too hot, its sensing circuit will open the output relay, disconnecting the load from that particular channel. It is important to have an exhaust outlet at the back of the amplifier and enough space around the sides of the amplifier to allow the cooling air to escape. If the amp is rack mounted, do not use doors or covers on the front of the rack; the intake air must flow without resistance. If you are using racks with closed backs, make sure that there is one (1) standard rack space opening for every three mounted power amplifiers.



## Features



## Operating Precautions



Make sure the mains voltage is correct and is the same as that printed on the rear of the amplifier. Damage caused by connecting the amplifier to improper AC voltage is not covered by any warranty. See the Connecting Power section for more information on voltage requirements.



**Note: Always turn off and disconnect the amplifier from mains voltage before making audio connections. Also, as an extra precaution, have the attenuators turned down during power-up.**

Although the CS 1200H amplifier has **RampUp™** circuitry, which raises the signal level gradually after the output relay closes, it is always a good idea to have the gain controls turned down during power-up to prevent speaker damage if there is a high signal level at the inputs. Whether you buy or make them, use good-quality connections, input cables and speaker cables, along with good soldering technique, to ensure trouble-free operation. Most intermittent problems are caused by faulty cables.

Consult the Wire Gauge Chart (below) to determine proper gauges for different load impedances and cable lengths. Remember that cable resistance robs amplifier power in two ways: power lost directly to resistance ( $I^2R$  loss), and by lowering the total load impedance. Also make sure the mode switch is correctly set for the desired application. See Sections on **Stereo** and **Bridged Mono** operation for more information.

## W I R E G A U G E C H A R T

Cable Length (In Feet)	Stranded Wire Gauge (AWG)	Power Loss into 8 Ohms (%)	Power Loss into 4 Ohms (%)	Power Loss into 2 Ohms (%)
5	18	.79	1.58	3.16
	16	.50	1.00	2.00
	14	.31	.62	1.24
	12	.20	.40	.80
	10	.125	.25	.50
10	18	1.58	3.16	6.32
	16	1.00	2.00	4.00
	14	.62	1.25	2.50
	12	.40	.80	1.60
	10	.25	.50	1.00
40	18	8.00	12.60	25.20
	16	4.00	8.00	1.60
	14	2.50	5.00	10.00
	12	1.60	3.20	6.40
	10	1.00	2.00	4.00
	8	.625	1.25	2.50
80	16	8.00	16.00	32.00
	14	5.00	10.00	20.00
	12	3.20	6.40	12.80
	10	2.00	4.00	8.00

## Connecting Inputs

Input connections are made via the 3-pin XLR (pin 2+) or 6.3 mm plug “Combi” connectors on the rear panel of the amplifier. The inputs are actively balanced. Pinout and polarity of connection cables should be configured correctly (refer to the rear panel of the unit). The input overload point is high enough to accept the maximum output level of virtually any signal source.

## Connecting Outputs

All models have two output (speaker) connections per channel. Cables can be connected with banana plugs, spade lugs, or bare wire to the 5-way binding posts. The preferred connection method is via the Speakon connectors. Pin connections are noted on the rear panel of the unit.

## Connecting Power

The CS 1200H power requirements are rated at 1/8 power (typical music conditions). The maximum power current draw rating is limited only by the front panel circuit breaker. Consult the specifications in this manual for figures on the current that this amplifier will demand. Make sure the mains voltage is correct and is the same as that printed on the rear of the amplifier. Damage caused by connecting the amplifier to improper AC voltage is not covered by any warranty. Unless otherwise specified when ordered, Peavey amplifiers shipped to customers are configured as follows:

North America: 120 VAC/60 Hz

Europe, Asia, Australia: 230/240 VAC/50 Hz

South America: 120 VAC/60 Hz or 240 VAC/50 Hz

### Operation Modes



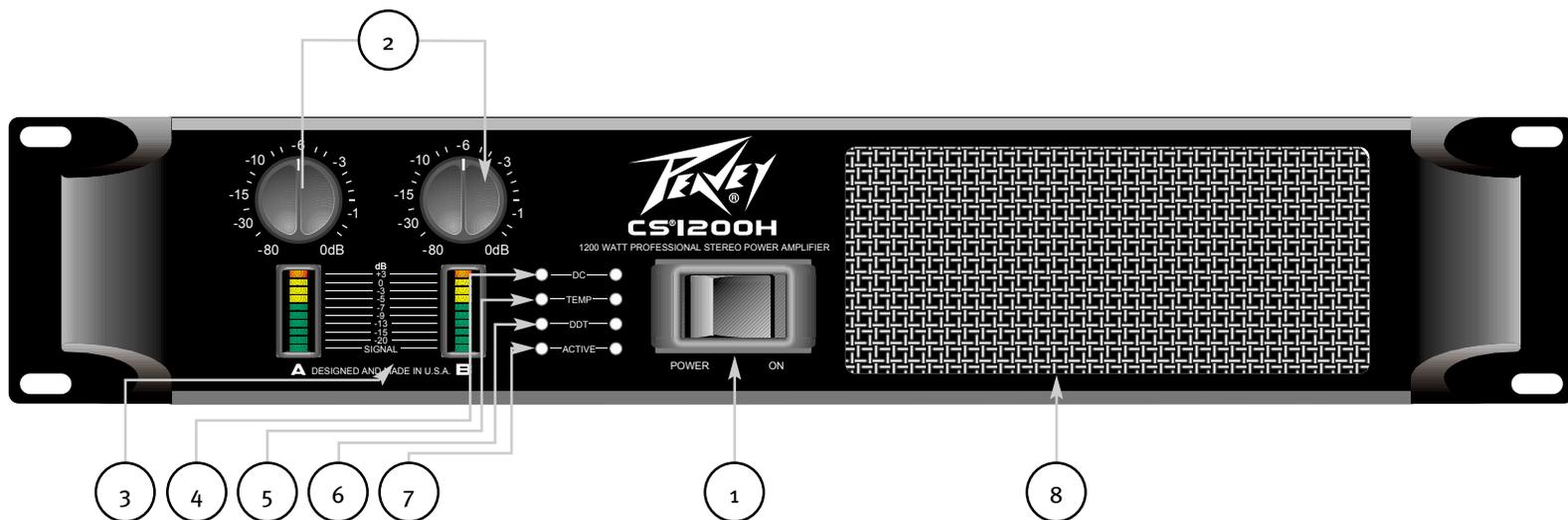
### Stereo

For stereo (dual channel) operation, turn the amplifier off and set the mode select switch to the stereo position. In this mode, both channels operate independently of each other, with their input attenuators controlling their respective levels. Thus, a signal at Channel A's input produces an amplified signal at Channel A's output, while a signal at Channel B's input produces an amplified signal at Channel B's output.

### Bridged Mono

Both amplifier channels can be bridged together to make a very powerful single-channel monaural amplifier. Use extreme caution when operating in the bridged mode; high voltage may be present at the output terminals. To bridge the amplifier, set the rear panel mode select switch to the bridge position. Apply the signal to Channel A's input (all Channel B's input functions are defeated) and connect the speakers across the hot outputs (the “+” binding posts of Channels A and B) or between the 1+ and 2+ pins of the Channel A Speakon® connector. The input level control for channel A will be the master control for input level, the level control for the B channel is inoperative. The active LED for the B channel will not light, which makes it easy to identify when the amp is in Bridge mode.

Unlike stereo mode, in which one side of each output is at ground, in the bridged mode both sides are hot. If an output patch panel is used, all connections must be isolated from each other and from the panel. The recommended minimum nominal load impedance in the bridged mode is 4 Ohms (equivalent to driving both channels at 2 Ohms). Driving bridged loads of less than 4 Ohms can activate the Load Fault Correction (LFC) circuitry resulting in a limiting of power, and may also cause a thermal overload.



**Front Panel**

**AC Power Switch/Circuit Breaker (1)**

The CS 1200H amplifier has a combination AC switch/circuit breaker on the front panel. If the switch shuts off during normal use, push it back to the ON position once. If it will not stay on, the amplifier needs servicing.

**Input Attenuators (2)**

Whenever possible, set the attenuators fully clockwise to maintain optimum system headroom. The input attenuator controls (one for channel A, one for channel B) located at the front panel adjust gain for their respective amplifier channels in all modes. See the specifications at the end of this manual for standard voltage gain and input sensitivity information.

When operating in the bridged mode, the channel A attenuator controls the signal. See the section on **Bridged Mono** Operation for more information and precautions.

**Front Panel Indicators**

The CS 1200H features four front panel discrete LED indicators per channel: **ACTIVE**, **DDT**, **TEMP** and **DC**. These LED indicators inform the user of each channel's operating status and warn of possible abnormal conditions. This amplifier also features two 10-segment bar graph indicators per channel: **SIGNAL**.

**Signal LED (3)**

This LED is at the bottom of the bar graph display and lights when its channel produces an output signal of greater than 2 Volts RMS or 50 mV input with a 0 dB attenuation of the front panel knobs. It is useful in determining whether a signal is reaching and being amplified by the amplifier. The 10-segment graphs indicate the level of signal present.

**DC LED (4)**

The DC LED lights to indicate that the channel's output relay is open, disconnecting the speaker(s) when the amplifier senses a DC voltage or subsonic high level signal at its output.

**Temp LED (5)**

The Temp LED lights to indicate that the channel's output relay is open, disconnecting the speaker(s) due to an overheating condition. Once the channel temperature has returned to safe operating conditions the LED will turn off and the speaker(s) will be reconnected.

**DDT Active LED (6)**

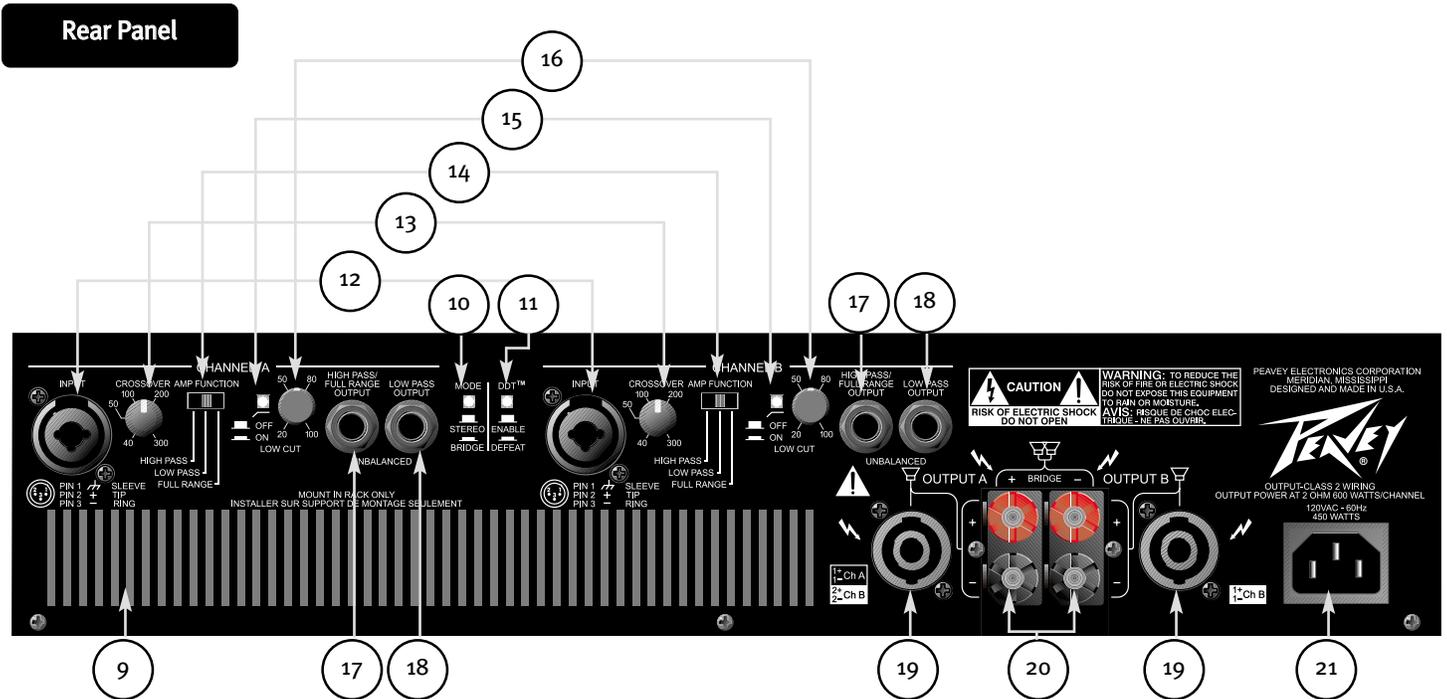
Illuminates when DDT Compression is taking place. With the Enable/Defeat switch in the Defeat position, the LED indicates when clipping distortion is occurring.

## Active LED (7)

The ACTIVE LED indicates that its channel's output relay is closed and the channel is operational. In Bridge Mode, the Channel B LED goes off.

## Air Intake Vent (8)

Cool air enters the amplifier here and exhausts through the rear vents. Any restriction or blockage could cause excessive operation temperatures and the unit could shut down.



## Air Exhaust Vents (9)

These vents provide an exhaust path for the hot air from the heatsinks. Any restriction or blockage could cause excessive operation temperature and the unit could shut down.

## Mode Select Switch (10)

The rear panel MODE Select Switch determines whether the amplifier is in stereo or bridged mono mode.

## DDT Switch (11)

This switch is used to either Enable or Defeat the DDT compressor. It is recommended to leave the DDT compression enabled at all times to protect your speakers from damage square waves.

## Channel Input (12)

This input features a combo connector that will accept a standard three-pin male XLR, 1/4" (6.3 mm) TRS (Tip-Ring-Sleeve), or 1/4" (6.3 mm) mono plug. An electronically balanced input is available via XLR and 1/4" TRS use. The unit is internally wired for the following:

Input	XLR	TRS
(+)	Pin 2	Tip
(-)	Pin 3	Ring
GND	Pin 1	Sleeve

### **Crossover Adjustment Knob (13)**

The CS 1200H is equipped with two independent, two-way crossovers adjustable from 40 Hz to 300 Hz. These crossover frequencies are appropriate for use with a subwoofer system. The output of these crossovers is selected by the Amp Function switch and connected to the corresponding amplifier channel. Frequencies above the knob setting will be connected to the corresponding channel when the Amp Function switch is in the HIGH PASS position. Frequencies below the knob setting will be connected to the corresponding channel when the Amp Function switch is in the LOW PASS position. The FULL RANGE position bypasses the crossover.

### **Amp Function Switch (14)**

The rear panel Amp Function Select Switch determines whether the associated channel is connected for full range operation or to the crossover high frequency or low frequency outputs.

### **Low Cut Switch (15)**

The LOW CUT switch is a recessed push switch used to defeat or engage the LOW CUT filter. Pushing the switch to the in position will engage the filter.

### **Low Cut Adjustment Knob (16)**

The CS 1200H is equipped with two independent low frequency filters. These filters are adjustable from 20 Hz to 100 Hz and are designed to reduce frequencies below those capable of being produced by the loudspeakers, or to reduce room "rumble." Frequencies below the knob setting of the corresponding channel will be attenuated.

### **High Pass/Full Range Output Connector (17)**

The HIGH PASS/FULL RANGE OUTPUT connector function is dependent on the setting of the corresponding Amp Function switch. This connector allows patching the frequencies above the crossover knob setting to a secondary amplifier. If the Amp Function switch is in the HIGH PASS position, the high frequency portion of the crossover will be present at the connector. If the Amp Function switch is in the FULL RANGE or LOW PASS position, the crossover will be bypassed and allow patching the full range signal to a secondary amplifier.

### **Low Pass Output Connector (18)**

The LOW PASS OUTPUT connector allows patching the frequencies below the crossover knob setting to a secondary amplifier. This output remains at low frequencies independent of the Amp Function switch setting.

### **Speakon® Output Connector (19)**

Each channel features a four-wire Speakon connector for the output. In both channels, the 1+ pin is the channel signal output and the 1- pin is chassis ground. On the Channel A connector, the 2+ pin carries the Channel B signal output and the 2- pin is chassis ground.

### **Binding Post Output Connectors (20)**

Each channel features a pair of shock-proof binding posts connected in parallel with the Speakon connector. The red binding posts are the signal output from each channel, and the black binding posts are chassis ground. For Bridge mode operation, only the red binding posts are used. The Channel A red binding post should be considered the positive output for the system and should be connected to the positive input of the associated loudspeaker system.

### **AC Line Cord Connector (21)**

Provided to accept the removable (IEC) type AC line cord. Connect only to proper source (see back panel markings).

The CS 1200H incorporates several circuits to protect both itself and loudspeakers under virtually any situation. Peavey has attempted to make the amplifier as foolproof as possible by making it immune to short and open circuits, mismatched loads, DC voltage, and overheating. If a channel goes into the Distortion Detection or DDT gain reduction mode, the speaker load remains connected, but clipping percentage or output power are instantly reduced. When a problem occurs that causes a channel to go into a protection mode, the TEMP LED or DC LED for that channel will glow. DC voltage on the output, excessive subsonic frequencies, or thermal overload will cause the channel's output relay to disconnect the speaker load until the problem is corrected or the amplifier cools down.

### **DDT**

Peavey's DDT compression system allows maximum performance of the amplifier/speaker combination by preventing the power amp from running out of headroom (clipping). This compression system is activated by a unique circuit that senses signal conditions that might overload the amplifier and reduce the amplifier's gain when clipping is imminent. The threshold of compression is clipping itself and no specific threshold control is used. This technique effectively utilizes every watt available for the power amplifier to reproduce the signal while at the same time minimizes clipping and distortion, and thus significantly reduces the potential of loudspeaker degradation and damage.

### **LFC Impedance Sensing**

The CS 1200H features innovative circuitry that allows safe operation into any load. When an amplifier sees a load that overstresses the output stage, the Load Fault Correction circuit adjusts the channel gain to a safe level. This method of output stage protection is far superior to conventional, brute force type limiting found on other amplifiers. The LFC circuit is sonically transparent in normal use and unobtrusive when activated.

### **Thermal Protection**

The internal fan will keep the amplifier operating well within its intended temperature range under all normal conditions. If a channel's heat sink temperature reaches sufficient temperature which may indicate an obstructed air supply, that channel will independently protect itself by disconnecting its load and shutting down until it has cooled. During this time, the channel's TEMP LED will light. During this time, the ACTIVE LED will go out, the Temp and DDT LEDs will stay lit and the cooling fan will stay running at high speed.

### **Short Circuit**

If an output is shorted, the LFC circuit will automatically protect the amplifier. The LFC circuit senses the short circuit as an extremely stressful load condition and mutes the signal, protecting the channel's output transistors from over current stress. Approximately 1.5 seconds later, the RampUp circuit will attempt to return the amplifier to normal operation. If the short is still present, the LFC circuit will again mute the signal. This cycle of operation will continue until the short is removed from the output.

### **DC Voltage Protection**

If an amplifier channel detects DC voltage or subsonic frequencies at its output terminals, its output relay will immediately open to prevent loudspeaker damage. The channel's DC LED will light.

### **Turn-On/Turn-Off Protection**

At power-up, the amplifier stays in the protect mode, with outputs disconnected, for approximately two seconds while the power supplies charge and stabilize. When power is removed, the speaker loads immediately disconnect so that no thumps or pops are heard.

## RampUp™ Signal Control

Whenever amplifier powers up or comes out of a protect mode, the RampUp™ circuit activates. While the speakers are disconnected, the RampUp™ circuit fully attenuates the signal. After the output relay closes, the signal slowly and gradually raises up to its set level. The RampUp™ Signal Control circuit has some important advantages over the conventional instant-on circuits:

If a signal is present during power-up (or when coming out of protect), the speakers are spared a sudden, potentially damaging burst of audio power.

Because the gain is reduced until after the output relay closes, no arcing occurs at the contacts, thereby extending their useful life.

## Speaker Protection

All loudspeakers have electrical, thermal and physical limits that must be observed to prevent damage or failure. Too much power, low frequencies applied to high frequency drivers, severely clipped waveforms, and DC voltage can all be fatal to cone and compression drivers. The Peavey CS 1200H amplifier automatically protects speakers from DC voltages and subsonic signals. For more information, see the section on Protection Features. Mid- and high-frequency speakers, especially compression drivers, are highly susceptible to damage from overpowering, clipped waveforms, or frequencies below their rated pass band. Be extremely careful that the low and mid bands of an electronic crossover are connected to the correct amplifiers and drivers and not accidentally connected to those for a lower frequency band. The amplifier's clipping point is its maximum peak output power, and the high power Peavey CS 1200H amplifier can deliver more power than many speakers can safely handle. Be sure the peak power capability of the amplifier is not excessive for your speaker system.

Fuses may also be used to limit power to speaker drivers, although as current-limiting rather than voltage-limiting devices, they are an imperfect solution, and as the weakest links, they only limit once before needing replacement. Some poor quality fuses have a significant series resistance that could degrade the amplifier's damping of the speaker's motion and may even deteriorate the system's sound quality. If you elect to use fuses, check with the speaker manufacturer to determine the proper current rating and time lag required.

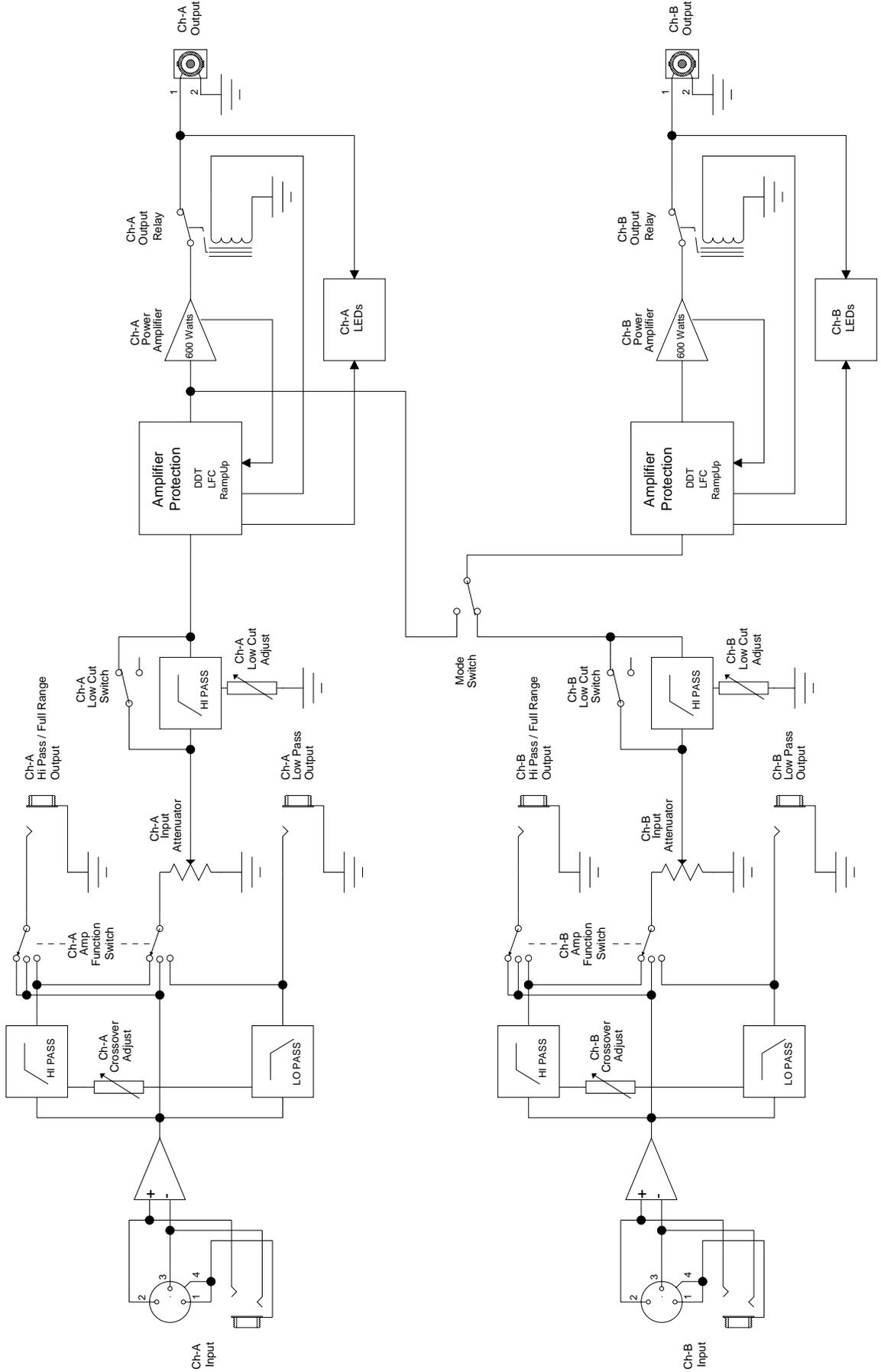
Do not drive any low-frequency speaker enclosure with frequencies lower than its own tuned frequency; the reduced acoustical damping could cause a ported speaker to bottom out even at moderate power. Consult the speaker system specifications to determine its frequency limits.

## Amplifier Maintenance and User Responsibility

A CS 1200H amplifier requires no other routine maintenance and should never need any internal adjustment during its lifetime. Your CS 1200H amplifier is very powerful and can be potentially dangerous to loudspeakers and humans alike. It is your responsibility to read the Important Precautions section and to make sure that the amplifier is installed, wired and operated properly as instructed in this manual. Many loudspeakers can be easily damaged or destroyed by overpowering, especially with the high power available from a bridged amplifier. Read the Speaker Protection section and always be aware of the speaker's continuous and peak power capabilities.



# CS 1200H Block Diagram



# Glossary of Terms

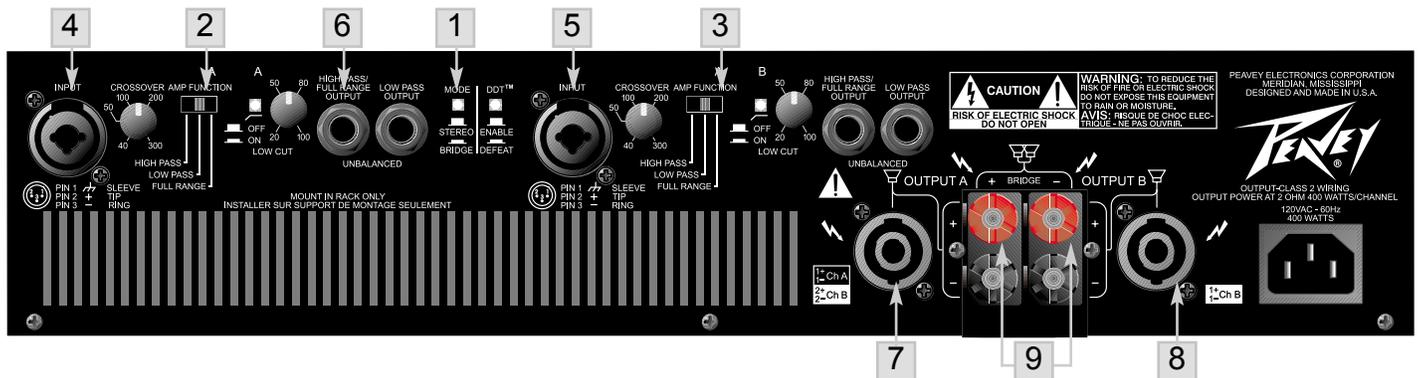
*(Used in Setup Instructions)*

- Stereo:** Music with two separate channels, usually a left and right channel.
- Mono:** Music with only one channel.
- Crossover:** An electronic device that separates high and low frequencies and sends them to different outputs. The separate signals are usually sent to a *high out* and a *low out*.
- Bi-amp:** The separation of high and low frequencies with a crossover, using separate speakers and power amps for each.
- Full Range:** Both high and low frequencies together in a single channel.
- Program:** The signal that is plugged into the amplifier.
- Hi-pass:** Allows only the high frequencies to pass, effectively blocking the low frequencies.
- Low-pass:** Allows only the low frequencies to pass, blocking the high frequencies.
- Mid/High:** The speaker designed to play everything but the low frequencies.
- Sub:** The speaker designed for low frequencies only.
- Parallel:** Both speakers or inputs having the same signal. When referring to speakers, this means plugging the second speaker into the first speaker and so on...

# SETUP INSTRUCTIONS

## Stereo Operation

1. Set **AMP MODE** switch **1** to **STEREO**.
2. Set the A and B channel **AMP FUNCTION** switches **2** and **3** to **FULL RANGE**.
3. Connect the Left and Right program signal to the A and B channel inputs: **4** and **5**.
4. Connect the A and B channel speaker outputs **7** and **8** to the loudspeaker full range inputs.

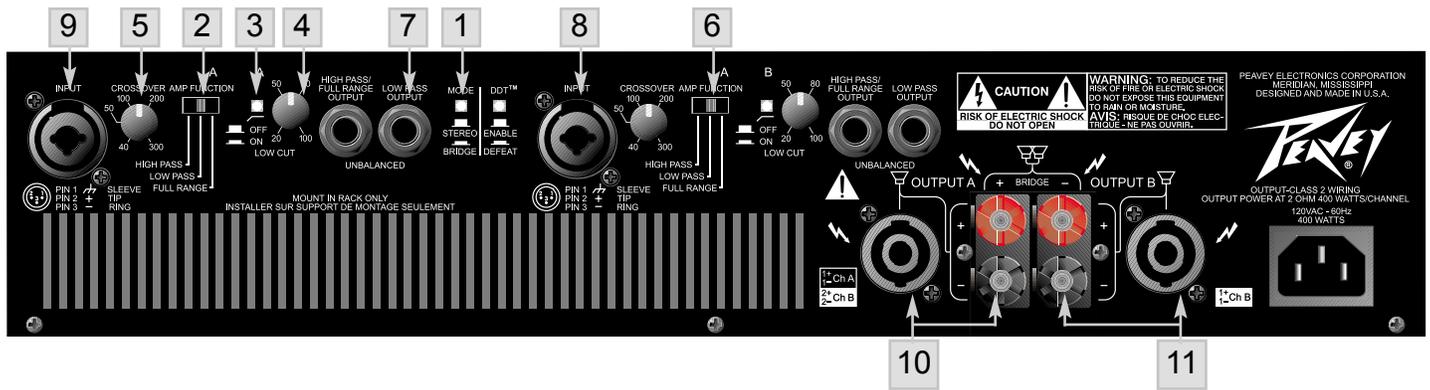


## Bridge Mode Operation

1. Set **AMP MODE** switch **1** to **BRIDGE**.
2. Connect the program signal to the A channel input **4**.
3. Connect the loudspeaker across the two RED binding posts on the amplifier outputs **9**. The A channel is positive and the B channel is negative or between the 1+ and 2+ pins of the A channel Speakon connector **7** (the 1+ positive and the 2+ pin is negative).

## Two Channel Parallel Operation (Full Range)

1. Set **AMP MODE** switch **1** to **STEREO**.
2. Set the A and B channel **AMP FUNCTION** switches **2** and **3** to **Full Range**.
3. Connect the program signal to the A channel input **4**.
4. Plug a short shielded cable into the A **HIGH PASS/FULL RANGE** output **6**.
5. Connect the other end of the same cable to the B channel input **5**.
6. Connect the A and B channel speaker outputs **7** and **8** to the loudspeaker full range inputs.



## Bi-Amp Operation *(sub woofer & mid/high enclosure)*

1. Set **AMP MODE** switch **1** to **STEREO**.
2. Set the A channel **AMP FUNCTION** switch **2** to **LOW PASS**.
3. Turn on the A channel **LOW CUT SWITCH** **3**.
4. Set channel A **LOW CUT** frequency adjustment knob **4** to match the low frequency cut-off or the -3 dB down point of the sub woofer. *(If you don't know this specification, set it for 40 Hz.)*
5. Set the channel A **CROSSOVER** frequency adjustment knob **5** to the desired crossover frequency (usually 100–150 Hz).
6. Set the channel B **AMP FUNCTION** switch **6** to **FULL RANGE**.
7. Plug a short shielded cable into the Channel A **Low Pass** output **7**.
8. Connect the other end of the same cable to the channel B input **8**.
9. Connect the Mono program signal to the channel A input **9**.
10. Connect the sub woofer(s) (in parallel) to the channel A output **10**.
11. Connect the mid/high enclosure(s) (in parallel) to the channel B output **11**.

# Bi-amp Hookup Diagram

RQ 4324



Q 215F



CEL 2a



Feedback Ferret II



Kosmos



CS 1200H



CS 1200H



SP2X



SP2X



SP 218



SP 218

# CS<sup>®</sup> 1200H

## SPECIFICATIONS

### Rated output power (120 VAC, 60 Hz):

#### Bridge mode, mono:

4 Ohms: 1,200 W @ 1 kHz, <0.1% THD

8 Ohms: 1,000 W @ 1 kHz, <0.1% THD

#### Stereo mode, both channels driven:

2 Ohms: 600 W per channel  
1 kHz, <0.05% THD

4 Ohms: 500 W per channel  
1 kHz, <0.05% THD

8 Ohms: 350 W per channel  
1 kHz, <0.05% THD

### Minimum load impedance:

Stereo mode: 2 Ohms

Bridge mode: 4 Ohms

### Frequency response:

10 Hz to 50 kHz; +0, -1 dB, 4 Ohms @ 1 W

### Power bandwidth:

15 Hz to 50 kHz; +0, -1 dB @ rated, 4 Ohms

### Total harmonic distortion:

Stereo mode, both channels driven  
<0.1% @ 500 W per channel from  
20 Hz to 20 kHz

### Voltage gain:

Input attenuator set @ FCW  
32 dB, stereo mode, 4 Ohms,  
1 kHz

38 dB, bridge mode, 8 Ohms,  
1 kHz

### Crosstalk:

>-75 dB @ 1 kHz @ rated power,  
8 Ohms

### Crossover:

Fourth order state variable filters:  
24 dB/Octave

Frequency range:  
40 Hz to 300 Hz

### Hum and noise:

Stereo mode, both channels driven  
below rated output power,  
4 Ohms,  
>100 dB (30 kHz BW, unweighted)

### Slew rate:

Stereo mode, each channel  
>20V/us

### Damping factor:

>250 @ 8 Ohms, 20 Hz to 1 kHz

### Phase response:

Stereo mode, 4 Ohms @ rated  
power  
20 Hz leading waveform: <-16.5°  
20 kHz lagging waveform: <+17.5°

### Input sensitivity:

Input attenuator set @ FCW  
1.2 V @ rated power, 4 Ohms,  
1 kHz

### Input impedance:

Input attenuator set @ FCW  
20 k Ohms, balanced

### Cooling:

One front panel, temperature  
dependant, variable speed DC fan

### Controls:

Two front panel attenuators, rear  
panel mode switch, rear panel  
DDT defeat switch, function switch  
per channel, adjustable low cut  
filter per channel, low cut filter  
bypass switch per channel,  
adjustable subwoofer crossover  
per channel

### Indicator LEDs:

Two DDT, two active status, two  
DC protect, two over-temperature,  
two ten-segment signal displays

### Protection:

Clipping, short-circuit, thermal  
overload, DC, turn-on burst,  
incorrect loads

### Connectors:

Combination XLR and 1/4"  
(6.3 mm) phone input, Speakon<sup>®</sup>  
and binding post speaker output  
1/4" (6.3 mm), high pass or full  
range patch connector per  
channel, 1/4" (6.3 mm) low pass  
patch connector per channel, 15  
amp IEC mains connectors

### Construction:

16 ga. steel with cast aluminum  
front panel and cast handles

### Dimensions (H x W x D):

3.5" x 19" 17.375"  
(8.9 cm x 48.3 cm x 44.1 cm)

### Net weight:

34.6 lbs. (15.7 kg)

### Gross Weight:

40.3 lbs. (18.3 kg)

***2 Ohms stereo mode and 4 Ohms  
bridge mode power is time limited  
by magnetic circuit breaker***

**NOTES:**

# PEAVEY ELECTRONICS CORPORATION LIMITED WARRANTY

EFFECTIVE DATE: JULY 1, 1998

## 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	3 years *(+ 2 years)
Digital Effect Devices and Keyboard and MIDI Controllers	1 year *(+ 1 year)
Microphones	2 years
Speaker Components (incl. speakers, baskets, drivers, diaphragm replacement kits and passive crossovers) and all Accessories	1 year
Tubes and Meters	90 days

[\*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 or Peavey Canada Ltd., 95 Shields Court, Markham, Ontario, Canada L3R 9T5. 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.

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## 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.

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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 / Peavey Canada Ltd. at (905) 475-2578.

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