


CS[®] 3000/4000/4080 HZ

Power Amplifier Owner's Manual



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. Earplugs 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!





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 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 prevenir choque eléctrico o riesgo de incendios, este aparato no se debe exponer a la lluvia o a la humedad. Los objetos llenos de líquidos, como los floreros, no se deben colocar encima de este aparato. Antes de usar este aparato, lea la guía de funcionamiento para otras advertencias.



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.

AVIS: Dans le but de réduire les risques d'incendie ou de décharge électrique, cet appareil ne doit pas être exposé à la pluie ou à l'humidité et aucun objet rempli de liquide, tel qu'un vase, ne doit être posé sur celui-ci. Avant d'utiliser de cet appareil, lisez attentivement le guide fonctionnant pour avertissements supplémentaires.



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.

WARNUNG: Um elektrischen Schlag oder Brandgefahr zu verhindern, sollte dieser Apparat nicht Regen oder Feuchtigkeit ausgesetzt werden und Gegenstände mit Flüssigkeiten gefüllt, wie Vasen, nicht auf diesen Apparat gesetzt werden. Bevor dieser Apparat verwendet wird, lesen Sie bitte den Funktionsführer für weitere Warnungen.



人体への電気ショックの危険が考えられる製品筐体内の非絶縁「危険電圧」の存在をユーザーに警告するものです。

製品に付属している説明書に記載の重要な操作およびメンテナンス(サービス)要領の存在をユーザーに警告するものです。

注意: 電気ショックの危険あり — 開けないでください!



注意: 電気ショックの危険を低減するため、カバーを外さないでください。内部部品はユーザーによるサービス不可。資格のあるサービス要員のサービスを要請してください。

警告: 電気ショックまたは火災の危険を避けるため、この装置を雨または湿気にさらしてはなりません。また、過敏など液体を含む物をこの装置上に置いてはなりません。この装置を使用する前に、警告事項について操作ガイドをお読みください。

CS® 3000/4000/4080 HZ

Power Amplifiers

Congratulations on your purchase of a Peavey CS Series power amplifier! Designed for years of reliable operation, CS Series amplifiers offer the sonic superiority and unsurpassed reliability for which Peavey is famous in a rugged, compact unit. Advanced technologies and extensive protection circuitry allow operation with greater efficiency, even under difficult loads and power conditions. The DDT™ (Distortion Detection Technique) circuit ensures trouble-free operation into loads as low as 2 ohms (4 ohms for model CS 4080 HZ), protects speakers and ensures, protects drivers and ensures sonic integrity even in extreme overload conditions. Peavey's high-efficiency design uses tunnel-cooled heat sinks and dual-speed DC fans for consistent lower overall operating temperature, resulting in longer output transistor life.

Peavey CS Series amplifiers are simple to operate and housed in ultra-strong steel chassis, but improper use can be dangerous. Some CS Series amplifiers are very high powered and can put out high voltages and sizable currents at frequencies up to 30 kHz. Always use safe operating techniques with these amplifiers.



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

Unpacking

Upon unpacking, inspect the amplifier. If you find any damage, notify your supplier immediately. Only the consignee (the supplier from whom you purchased the amplifier) 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 or 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

CS Series amplifiers will mount in standard 19" 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



CS Series amplifiers use a forced-air cooling system to maintain a low, consistent operating temperature. Air is drawn into the amplifier by fans on the back panel and courses through the cooling fins of the tunnel-configured channel heat sinks, then exhausts through the front panel grilles. If either heat sink gets too hot, a sensing circuit will disconnect the load for that particular channel. It is important to have an air inlet at the back of the amplifier to allow cooling air to enter. If the amp is rack mounted, do not use doors or covers on the back of the rack, as the intake air must flow without resistance. Make sure that there is one (1) standard rack space opening for every three mounted power amplifiers.

Introduction

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 CS® Series 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 3000/4000/4080 HZ amplifiers have 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. Always use high-quality input and speaker cables to ensure trouble-free operation. Most intermittent problems are caused by faulty cables.

Consult the Wire Gauge Charts (page 9) to determine proper gauges for differing load impedances and cable lengths. Cable resistance robs amplifier power in two ways: power lost directly to resistance (I^2R loss) and by increasing the impedance of the load presented to the amplifier, thereby decreasing the power demanded of the amplifier. Also make sure the mode switch is correctly set for the desired application. See sections on Stereo, Parallel and Bridged Mono Operation for more information.

Connecting Inputs

Input connections are made via the three-pin XLR (pin 2+) or 6.3 mm plug “combi” connectors on the rear panel of the amplifier. The inputs are actively balanced and the 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 five-way binding posts. The preferred connection method is via the Speakon® connectors. Pin connections are noted on the rear panel.



CAUTION: This amplifier is capable of producing hazardous voltage at the speaker outputs under certain operation conditions. The speaker outputs must be protected from direct contact and caution must be observed to lessen the accidental contact with hazardous energy on speaker connections, terminals, and speaker wiring.

Connecting Power



CS Series amplifier power requirements are rated at 1/8 power (typical music conditions) and 1/3 power (extreme music conditions). The maximum power current draw rating is limited only by the front panel circuit breaker. Consult the specifications in the Appendices section for figures on the current that each amplifier will demand. Unless otherwise specified when ordered, Peavey amplifiers shipped to customers are configured as follows:

North America	-	120VAC / 60Hz
Europe, Asia, Australia	-	230/240VAC / 60-50Hz
South America	-	120VAC / 60Hz or 240VAC / 50Hz



Note: Always turn off and disconnect the amplifier from mains voltage before making audio connections. As an extra precaution, have the attenuators turned down while powering up.

Wire Gauge Charts

Stranded Cable Lgth. (ft.)	Wire Gauge (AWG)	Power Loss (8 ohm load)	Power Loss (4 ohm load)	Power Loss (2 ohm load)
5	18	0.81%	1.61%	3.2%
	16	0.51	1.02	2.0
	14	0.32	0.64	1.28
	12	0.20	0.40	0.80
	10	0.128	0.25	0.51
10	18	1.61%	3.2%	6.2%
	16	1.02	2.0	4.0
	14	0.64	1.28	2.5
	12	0.40	0.80	1.60
	10	0.25	0.51	1.01
40	18	6.2%	11.9%	22%
	16	4.0	7.7	14.6
	14	2.5	5.0	9.6
	12	1.60	3.2	6.2
	10	1.01	2.0	4.0
	8	0.60	1.20	2.4
80	18	11.9%	22%	37%
	16	7.7	14.6	26
	14	5.0	9.6	17.8
	12	3.2	6.2	11.8
	10	2.0	4.0	7.7
	8	1.20	2.4	4.7
Stranded Cable Lgth. (m)	Wire Gauge (mm ²)	Power Loss (8 ohm load)	Power Loss (4 ohm load)	Power Loss (2 ohm load)
2	0.3	2.9%	5.6%	10.8%
	0.5	1.74	3.4	6.7
	0.75	1.16	2.3	4.5
	1.5	0.58	1.16	2.3
	2.5	0.35	0.70	1.39
	4	0.22	0.44	0.87
5	0.5	4.3%	8.2%	15.5%
	0.75	2.9	5.6	10.8
	1.5	1.45	2.9	5.6
	2.5	0.87	1.74	3.4
	4	0.55	1.09	2.2
	6	0.37	0.73	1.45
10	0.5	8.24%	15.5%	28%
	0.75	5.6	10.8	19.9
	1.5	2.9	5.6	10.8
	2.5	1.74	2.9	6.7
	4	1.09	1.74	4.3
	6	0.73	1.09	2.9
30	0.75	15.5%	25%	45%
	1.5	8.2	15.5	28
	2.5	5.1	9.8	18.2
	4	3.2	6.3	12.0
	6	2.2	4.3	8.2
	10	1.31	2.6	5.1

Operation Modes

Stereo Operation

For stereo (dual channel) operation, turn the amplifier OFF and set the mode select switches on the back panel to the out (extended) 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.

Parallel Operation

For parallel (dual-channel/single input) operation, turn the amplifier OFF and set the connector mode (CONN MODE) switch to the parallel position by depressing the switch. Both input connectors are then strapped together and drive both channels with the same input signal. Because both connectors are strapped together, either connector can be used with a patch cable to drive the input of another amplifier. Output connections are the same as in Stereo mode. Both input attenuators remain active when in Parallel mode, allowing you to set different levels for each channel. Power and other general performance specifications are the same as in Stereo mode.

Bridged Mono Operation

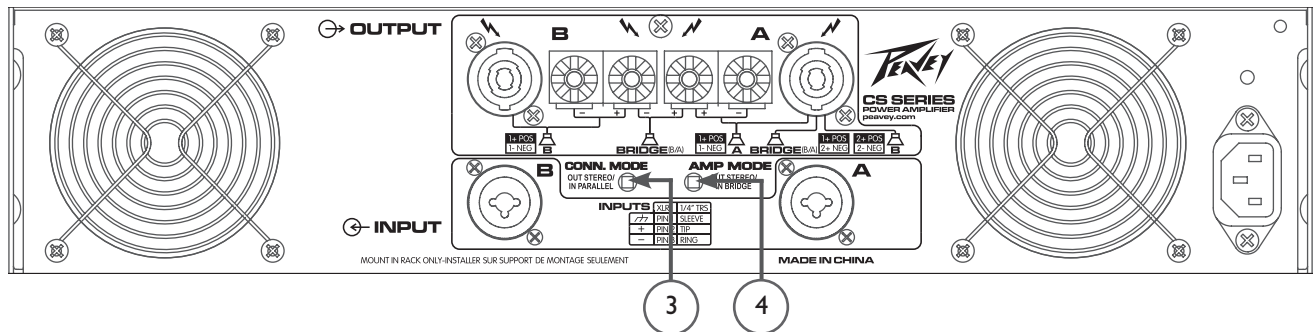
Both amplifier channels can be bridged together to make a very powerful single-channel monaural amplifier. Use extreme caution when operating in the bridged mode; potentially lethal voltage may be present at the output terminals. To bridge the amplifier, depress the rear panel Bridge switch to the IN position. Direct the signal to channel A's input and connect the speakers across the hot outputs (the "+" binding posts) of channels A and B. Only channel A's input attenuator is active while in Bridge Mono mode. Both connectors are strapped together, so either connector can be used with a patch cable to drive the input of another amplifier.

Unlike the stereo mode, in which one side of each output is at ground, both sides are hot in bridged mode. Channel A's side is the same polarity as its input with the minimum nominal load impedance being 4 ohms (equivalent to driving both channels at 2 ohms) in bridged mode. Driving bridged loads of less than 4 ohms will activate the DDT™ circuitry (see Indicators section), resulting in a loss of power, and may also cause a thermal (overheating) overload.

Front Panel



Rear Panel



Switches & Controls

AC Power Switch/Circuit Breaker (1)

The CS® Series amplifiers feature 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 the switch will not stay in the ON position, the amplifier needs servicing.



CAUTION: 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.

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 on the front panel attenuate signal level (decrease gain) for the respective amplifier channels in all modes. See the specifications at the end of this manual for standard voltage gain and input sensitivity information.

CONN. MODE Select Switch (3)

Depressing the rear panel CONN. MODE select switch connects both input connectors together in parallel. This directs the same input signal to both channels and allows one connector to be used with a patch cable to drive another amplifier. When in the out position, both input connectors operate independently. Do not operate the CONN. MODE select switch with the amplifier powered on. See the sections on Stereo, Parallel and Bridged Mono mode for more information.

AMP MODE Select Switch (4)

The rear panel AMP MODE select switch determines if the amplifier is in Stereo (two channels) or in Bridged Mono mode. Do not operate the AMP MODE select switch with the amplifier powered on. See the Operations Mode section for more information on Stereo, Parallel and Bridged Mono mode applications.

Front Panel



Indicators

CS® Series amplifiers feature three front panel LED indicators per channel: PWR (power), SIG (signal) and DDT™ (Distortion Detection Technique). These LED indicators inform the user of each channel's operating status and warn of possible abnormal conditions.

PWR LED (1)

The Power LED indicates that the channel is operational. It illuminates under normal operation and remains on even when the channel's DDT circuit is activated.

SIG LED (2)

The Signal LED illuminates when its channel produces an output signal of greater than 1 volt RMS or 25 mV input with a 0 dB attenuation of the front panel knobs. This is useful in determining whether a signal is reaching and being amplified by the amplifier. If the Signal LED is illuminated but no sound is present, that means a signal is present at the amplifier but a problem may exist after the amplifier, such as in the cables or speakers.

DDT LED (3)

A channel's DDT LED will illuminate at the onset of clipping. If the LEDs are flashing quickly and intermittently, the channel is just at the clip threshold, while a steady, bright glow means the amp is clip limiting, or reducing gain to prevent severely clipped waveforms from reaching the speakers. See Distortion Detection Technique Limiting under the Protection Features section for more information.

Protection Features

The Peavey CS[®] Series incorporates several circuits to protect the amplifier and speakers under virtually any situation. Peavey has made the amplifiers as foolproof as possible by making them immune to short and open circuits, mismatched loads, DC voltage and overheating. If a channel goes into the DDT[™] gain reduction mode, the DDT LED illuminates. The clipping percentage or output power is instantly reduced. When a problem occurs that causes a channel to go into a protection mode, the PWR (Power) LED for that channel will turn off. DC voltage on the output or excessive subsonic frequencies will cause the speaker protection relay for that channel to open, protecting the speakers. If an amplifier channel overheats, the relay for that channel will open, disconnecting the load until the channel cools down, thus protecting the amplifier.

Distortion Detection Technique Limiting

Any time a channel is driven into hard, continuous clipping, the DDT circuit will automatically reduce the channel gain to a level just slightly into clipping, guarding the speakers against the damaging, high-power, continuous square waves that may be produced. Situations that may activate the DDT circuit include uncontrolled feedback, oscillations, an improper equipment setting or malfunction upstream from the amplifier. Normal program transients will not trigger DDT; only steady, excessive clipping will cause the DDT LED to illuminate.

LFC Impedance Sensing

CS Series amplifiers feature innovative circuitry for safe operation into any load. When an amplifier senses a load that overstresses the output stage, the Load Fault Correction circuit adjusts the channel gain to a safe level. Extreme load fault under high power levels will cause the speaker relay to disconnect the load for the associated channel. This method of output stage protection is far more effective than the standard limiting found on conventional power amplifiers. The LFC circuit is sonically transparent in normal use and unobtrusive when activated.

Thermal Protection

The internal fans will keep the amplifier operating well within its intended temperature range under all normal conditions. If a channel's heat sink temperature reaches 85°C (which may indicate an obstructed air supply), that channel will independently protect itself by opening the speaker relay to disconnect the load until it has cooled. During this time, the PWR LED will go out and the cooling fans will continue operating at high speed.

Short Circuit

If an output is shorted, the LFC and thermal circuits will automatically protect the amplifier. The LFC circuit senses the short circuit as an extremely stressful load condition and attenuates the signal, protecting the channel's output transistors from over-current stress. If the short circuit remains, the channel may eventually thermally protect itself by opening the speaker relay thereby disconnecting the load.

DC Voltage Protection

If an amplifier channel detects DC voltage or subsonic frequencies at its output terminals, the speaker protection relay for that channel will open, protecting the speakers.

Turn-On/Turn-Off Protection

Upon powering up, the amplifier mutes the input signals and stays in Protect mode with the speaker connect relays open for approximately four seconds. This allows the internal power supplies to charge and the amplifier to stabilize. After the relays engage, the signals slowly increase from muted to their normal level. Also, when power is removed, the input signals are muted so that no thumps or pops are heard.

Protection Features

RampUp™ Signal Control

Whenever a CS® Series 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 and activates the DDT™ LED. After the output relay closes, the signal slowly and gradually raises up to its set level. The PWR LED will illuminate and the DDT LED will turn off when the signal is no longer attenuated. The RampUp Signal Control circuit has some important advantages over the conventional instant-on circuits:

1. 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.
2. 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. Excessive power, low frequencies applied to high frequency drivers, severely clipped waveforms, and DC voltage can all be fatal to cone and compression drivers. Peavey CS Series amplifiers automatically protect speakers from DC voltages and subsonic signals. If using an electronic crossover, be extremely careful that the low and mid bands are connected to the correct amplifiers and drivers and not to those designed for a higher frequency band. An amplifier's clipping point is its maximum peak output power, and some of the higher powered Peavey CS Series amplifiers 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. For more information, see the section on Protection Features.

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 acoustic 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 Series amplifier requires no routine maintenance and should not need internal adjustment during its lifetime. Your CS Series 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.

Service / Warranty Information

In the unlikely event that your amplifier develops a problem, it must be returned to an authorized distributor, service center or shipped directly to our factory. To obtain service, contact your nearest Peavey Service Center, Distributor, Dealer, or any of the worldwide Peavey offices. For contact information, reach Peavey Inc. Customer Service directly:

Telephone: 601-483-5365 (USA)

Fax Number: 601-486-1278 (USA)

For technical inquiries only, the Peavey Technical Services department can be faxed at 601-486-1361 (USA)

Because of the complexity of the design and risk of electrical shock, all repairs must be performed only by qualified technical personnel. If the unit needs to be shipped back to the factory, it must be sent in its original carton. It is the responsibility of the person shipping the unit to properly package the amplifier. If you need a product shipping carton, please contact Peavey for a replacement.

Please visit the Peavey website at: <http://www.peavey.com>.

CS[®] Series 3000/4000/4080 HZ

Power Amplifiers

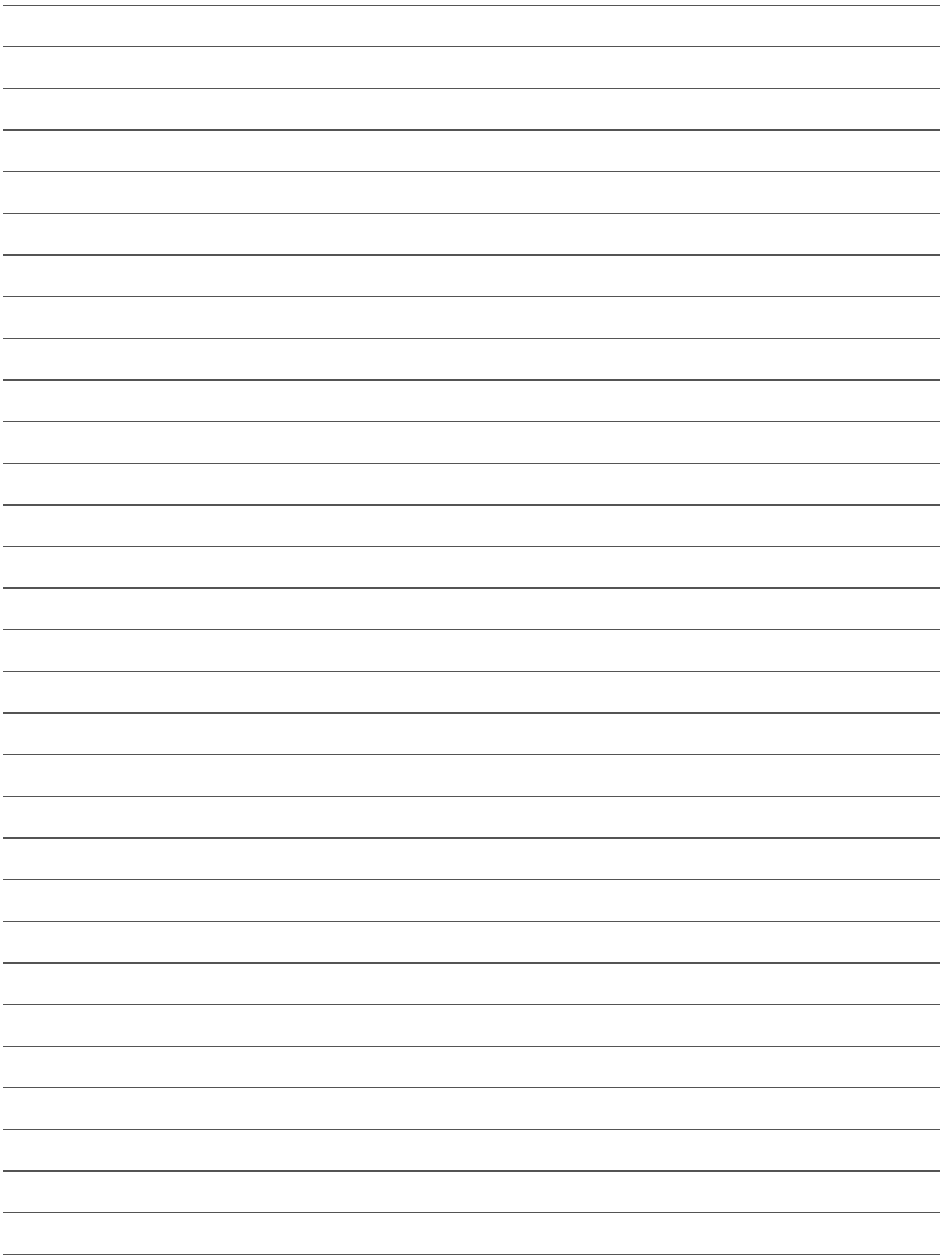
SPECIFICATIONS

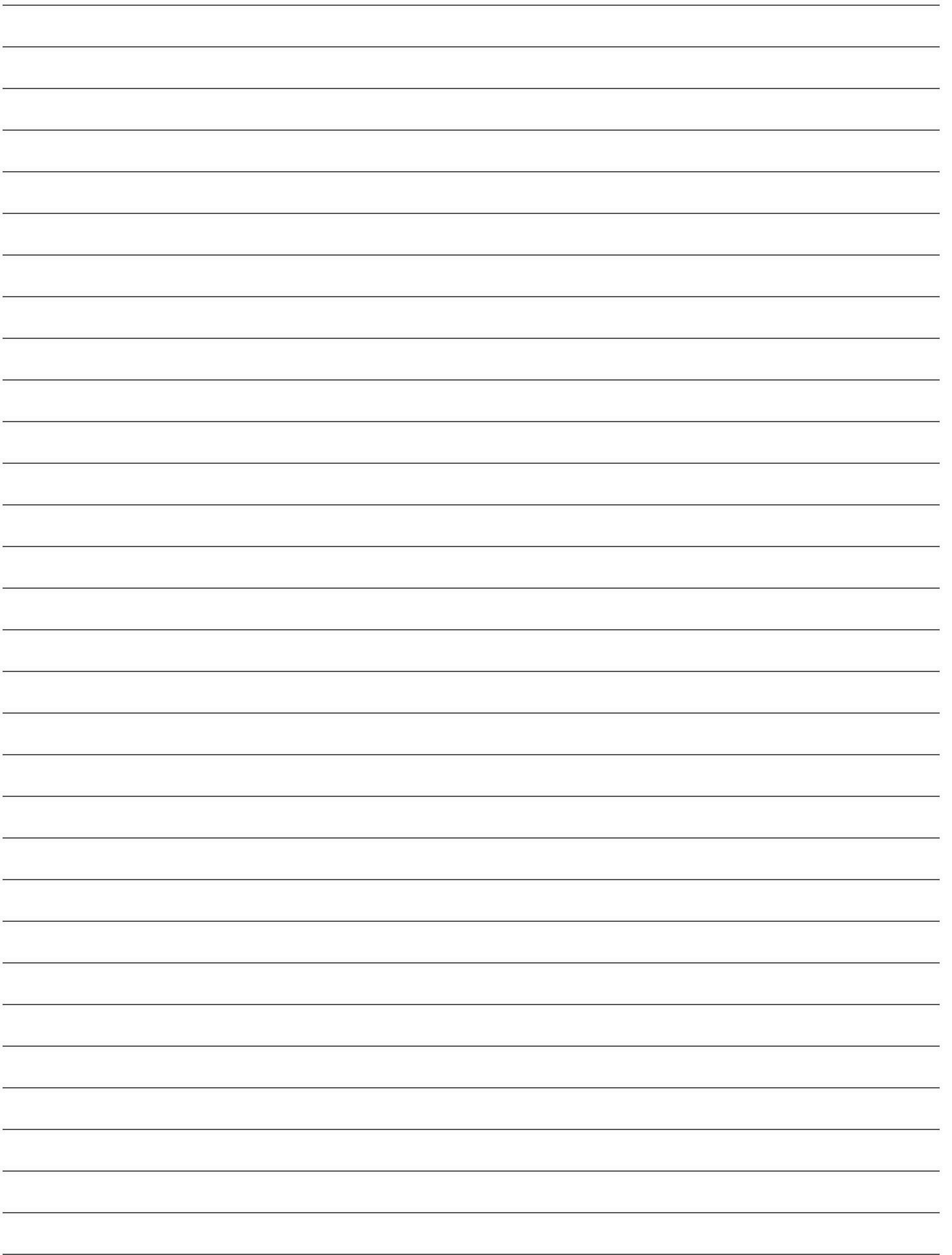
	CS 3000	CS 4000	CS 4080 HZ
Rated Power Bridged	3,050 watts @ 1 kHz at <0.1% T.H.D. @ 4 ohms	4,000 watts @ 1 kHz at <0.1% T.H.D. @ 4 ohms	4,080 watts @ 1 kHz at <0.1% T.H.D. @ 8 ohms
Rated Power 2 x 2 ohms	1,500 watts per channel @ 1 kHz <0.05% T.H.D. both channels driven	2,000 watts per channel @ 1 kHz <0.1% T.H.D. both channels driven	N/A
Rated Power 2 x 4 ohms	1,025 watts per channel @ 1 kHz at <0.05% T.H.D. both channels driven	1,350 watts per channel @ 1 kHz at <0.05% T.H.D. both channels driven	2,040 watts per channel @ 1 kHz at <0.05% T.H.D. both channels driven
Rated Power 2 x 8 ohms	650 watts per channel @ 1 kHz at <0.05% T.H.D. both channels driven	800 watts per channel @ 1 kHz at <0.05% T.H.D. both channels driven	1,250 watts per channel @ 1 kHz at <0.05% T.H.D. both channels driven
Rated Power 1 x 2 ohms	2,000 watts @ 1 kHz at <0.1% T.H.D.	2,550 watts @ 1 kHz at <0.1% T.H.D.	N/A
Rated Power 1 x 4 ohms	1,275 watts @ 1 kHz at <0.05% T.H.D.	1,600 watts @ 1 kHz at <0.05% T.H.D.	2,450 watts @ 1 kHz at <0.05% T.H.D.
Rated Power 1 x 8 ohms	750 watts @ 1 kHz at <0.05% T.H.D.	900 watts @ 1 kHz at <0.05% T.H.D.	1,400 watts @ 1 kHz at <0.05% T.H.D.
Minimum Load Impedance	2 ohms	2 ohms	4 ohms
Maximum RMS Voltage Swing	86 volts	93 volts	115 volts
Frequency Response	10 Hz - 100 kHz; +0, -1.5 dB at 1 watt	10 Hz - 100 kHz; +0, -2 dB at 1 watt	10 Hz - 100 kHz; +0, -0.75 dB at 1 watt
Power Bandwidth	10 Hz - 35 kHz; +0, -3 dB at rated 4 ohms power	10 Hz - 35 kHz; +0, -3 dB at rated 4 ohms power	10 Hz - 35 kHz; +0, -3 dB at rated 4 ohms power
T.H.D. 2 x 2 ohms	<0.2% @ 1,200 watts per channel from 20 Hz to 20 kHz	<0.2% @ 1,500 watts per channel from 20 Hz to 20 kHz	N/A
T.H.D. 2 x 4 ohms	<0.1% @ 925 watts per channel from 20 Hz to 20 kHz	<0.1% @ 1,150 watts per channel from 20 Hz to 20 kHz	<0.1% @ 1,650 watts per channel from 20 Hz to 20 kHz
T.H.D. 2 x 8 ohms	<0.1% @ 600 watts per channel from 20 Hz to 20 kHz	<0.1% @ 750 watts per channel from 20 Hz to 20 kHz	<0.1% @ 950 watts per channel from 20 Hz to 20 kHz
Input CMRR	> - 55 dB @ 1 kHz	> - 75 dB @ 1 kHz	> - 75 dB @ 1 kHz
Voltage Gain	x 40 (32 dB)	x 40 (32 dB)	x 40 (32 dB)
Crosstalk	> -55 dB @ 1 kHz at rated power @ 8 ohms	> -70 dB @ 1 kHz at rated power @ 8 ohms	> -70 dB @ 1 kHz at rated power @ 8 ohms
Hum and Noise	> -109 dB, "A" weighted referenced to rated power @ 8 ohms	> -108 dB, "A" weighted referenced to rated power @ 8 ohms	> -108 dB, "A" weighted referenced to rated power @ 8 ohms

CS[®] Series SPECIFICATIONS

	CS 3000	CS 4000	CS 4080 HZ
Slew Rate	> 15V/us	> 15V/us	> 15V/us
Damping Factor (8 ohms)	> 500:1 @ 20 Hz - 1 kHz	> 500:1 @ 20 Hz - 1 kHz	> 500:1 @ 20 Hz - 1 kHz
Phase Response	+5 to - 15 degrees from 20 Hz to 20kHz	+5 to - 12 degrees from 20 Hz to 20kHz	+5 to - 12 degrees from 20 Hz to 20kHz
Input Sensitivity	1.6 volts +/- 3% for 1 kHz. 4 ohms rated power, 1.37 volts +/- 3% for 1 kHz. 2 ohms rated power	1.84 volts +/- 3% for 1 kHz. 4 ohms rated power, 1.58 volts +/- 3% for 1 kHz. 2 ohms rated power	2.25 volts +/- 3% for 1 kHz. 4 ohms rated power
Input Impedance	15 k ohms, balanced	15 k ohms, balanced	15 k ohms, balanced
Current Draw @ 1/8 power	1,540 watts @ 2 ohms, 1,000 watts @ 4 ohms, 610 watts @ 8 ohms	1,825 watts @ 2 ohms, 1,185 watts @ 4 ohms, 720 watts @ 8 ohms	1,185 watts @ 4 ohms, 720 watts @ 8 ohms
Current Draw @ 1/3 power	3,650 watts @ 2 ohms, 2,510 watts @ 4 ohms, 1,535 watts @ 8 ohms	4,535 watts @ 2 ohms, 2,975 watts @ 4 ohms, 1,835 watts @ 8 ohms	2,975 watts @ 4 ohms, 1,835 watts @ 8 ohms
Cooling	Two back panel temperature dependant variable speed 80 mm DC fans	Two back panel temperature dependant variable speed 80 mm DC fans	Two back panel temperature dependant variable speed 80 mm DC fans
Controls	2 front panel attenuators, rear panel Mode switches	2 front panel attenuators, rear panel Mode switches	2 front panel attenuators, rear panel Mode switches
Indicator LEDs	2 DDT™ (clip limiting), 2 Signal presence, 2 Active status	2 DDT™ (clip limiting), 2 Signal presence, 2 Active status	2 DDT™ (clip limiting), 2 Signal presence, 2 Active status
Protection	Thermal, DC, turn-on bursts, subsonic, incorrect loads	Thermal, DC, turn-on bursts, subsonic, incorrect loads	Thermal, DC, turn-on bursts, subsonic, incorrect loads
Connectors	Combi XLR & 6.3 mm phone input, Speakon [®] and Binding Post speaker output, 15 amp IEC mains connector	Combi XLR & 6.3 mm phone input, Speakon [®] and Binding Post speaker output, 15 amp IEC mains connector	Combi XLR & 6.3 mm phone input, Speakon [®] and Binding Post speaker output, 15 amp IEC mains connector
Construction	16 ga. steel with cast front panel and cast handles	14 ga. steel with cast front panel and cast handles	16 ga. steel with cast front panel and cast handles
Dimensions	88.9mm x 482.6mm x 376.3mm + 31.8mm for rear support ears and connectors (3.5"x19"x 14.81" + 1.25") + (1.5") for handle depth	88.9mm x 482.6mm x 376.3mm + 31.8mm for rear support ears and connectors (3.5"x19"x 4.81" + 1.25") + (1.5") for handle depth.	88.9mm x 482.6mm x 376.3mm + 31.8mm for rear support ears and connectors (3.5"x19"x 14.81" + 1.25") + (1.5") for handle depth.
Net Weight	18.05 kg (39.8 lbs.)	19.64 kg (43.3 lbs.)	21.45 kg (47.3 lbs.)
Gross Weight	19.23 kg.(42.4 lbs.)	20.8 kg.(45.8 lbs.)	25.4 kg. (56 lbs.)

All power measurements made at 120 VAC, power transformer cold. 4 ohm power is time limited by magnetic circuit breaker.





PEAVEY ELECTRONICS CORPORATION LIMITED WARRANTY

Effective Date: 09/15/2010

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 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, Preamplifiers, Mixers, Electronic Crossovers and Equalizers	2 years *(+ 3 years)
Drums	2 years *(+ 1 year)
Enclosures	3 years *(+ 2 years)
Digital Effect Devices and Keyboards and MIDI Controllers	1 years *(+ 1 year)
Microphones	2 years
Speaker Components (incl. Speakers, Baskets, Drivers, Diaphragm Replacement Kits and Passive Crossovers)	1 year
Tubes and Meters	90 Days
Cables	Limited Lifetime
AmpKit Link, Xport, Rockmaster Series, Strum'n Fun, RetroFire, GT & BT Series Amps	1 year

[* 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 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 services 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 are 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

Optional Product Extended Warranty Registration

Give us some information and put your extended warranty into effect!

Please take a few minutes to fill out this information/survey sheet to help us get to know and serve you better.

To save time, submit your warranty registration online at www.peavey.com/support/warrantyregistration

1.

First Name _____ Initial _____ Last Name _____

Street Address _____

City _____ State/Province _____ Postal Code _____

() _____
Telephone Number _____ E-mail Address _____

() _____ - _____ - _____
Fax Number _____ Date of birth _____

Gender M F

2.

Model _____ Serial # _____

Date of Purchase _____ Price Paid _____

3.

Name of store where purchased _____

City _____ State _____

4. Top two (2) reasons why you purchased from this store/dealer:

- Availability of product
- Friend/Relative's recommendation
- Store credit card
- Knowledgeable staff
- Availability of lessons
- Technical instruction
- Past favorable experience
- Best price
- Advertised special
- Convenient location
- Received as a gift
- Other _____

5. Where do you most often shop for music and sound products?

- Independent retailer
- Mass market retailer
- Mail order magazines
- Newspaper ads
- Internet/Web sites
- Other _____

6. What two (2) factors most influenced your purchase of this product?

- Peavey brand name
- Craftsmanship
- Features for price
- Bundled accessories
- Sound quality
- Product appearance
- Durability
- Prior experience with Peavey
- Packaging
- Other _____

15. In your opinion, what could Peavey do to improve its products and/or service? Please use the space below to tell us your answer.

7. How did you learn about this Peavey product? (select best answer)

- Magazine review
- Newspaper review
- Radio advertisement
- Advertised special
- Friend/Relative's recommendation
- Salesperson's recommendation
- Teacher's recommendation
- Catalog or flyer
- Saw in store
- Use by professional
- Other _____

8. Which other brands/models did you consider?

9. How would you describe your level of musicianship/technical expertise?

- Beginner - Never played or taken less than one (1) year of lessons
- Intermediate - One (1) to five (5) years of lessons or playing
- Advanced - More than five (5) years of lessons or playing; play professionally

10. Education: (select best answer)

- High school
- Some college
- Completed college
- Graduate school

11. Which best describe your family income? (select best answer)

- Under \$15,000
- \$15,000 - \$24,999
- \$25,000 - \$34,999
- \$35,000 - \$49,999
- \$50,000 - \$74,999
- \$75,000 - \$99,999
- \$100,000 - \$149,999
- Over - \$150,000

12. Which of the following is your primary source of information on musical products: (select best answer)

- Television
- Radio
- Internet
- Newspaper
- Magazines
- Mail order catalogs
- Direct mail
- Literature from manufacturer
- Other _____

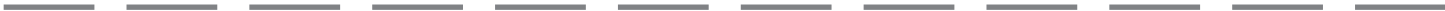
13. What is your main motivation for buying new equipment?

- Replacing old product
- Want new and leading edge equipment
- Fullfill a specific need
- Supplement existing products
- Value
- Impulse
- Need for improved performance
- New technology
- Availability of product
- Other _____

14. Please list your three most frequently visited Web sites.

- 1. <http://> _____
- 2. <http://> _____
- 3. <http://> _____





Peavey Electronics Corporation
Attn: Warranty Department
P.O. Box 5108
Meridian, Ms 39302-5108



Place
Postage
Here

FROM: