

CPX™ 3800 Power Amplifier Owner's 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, 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 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 prong. 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 when 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
1.5	102
1	105
.5	110
.25 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!

WICHTIGE SICHERHEITSHINWEISE



ACHTUNG: Beim Einsatz von Elektrogeräten müssen u.a. grundlegende Vorsichtsmaßnahmen befolgt werden:

1. Lesen Sie sich diese Anweisungen durch.
2. Bewahren Sie diese Anweisungen auf.
3. Beachten Sie alle Warnungen.
4. Befolgen Sie alle Anweisungen.
5. Setzen Sie dieses Gerät nicht in der Nähe von Wasser ein.
6. Reinigen Sie es nur mit einem trockenen Tuch.
7. Blockieren Sie keine der Lüftungsöffnungen. Führen Sie die Installation gemäß den Anweisungen des Herstellers durch.
8. Installieren Sie das Gerät nicht neben Wärmequellen wie Heizungen, Heizgeräten, Öfen oder anderen Geräten (auch Verstärkern), die Wärme erzeugen.
9. Beeinträchtigen Sie nicht die Sicherheitswirkung des gepolten Steckers bzw. des Erdungssteckers. Ein gepolter Stecker weist zwei Stifte auf, von denen einer breiter ist als der andere. Ein Erdungsstecker weist zwei Stifte und einen dritten Erdungsstift auf. Der breite Stift bzw. der dritte Stift dient Ihrer Sicherheit. Sollte der beiliegende Stecker nicht in Ihre Steckdose passen, wenden Sie sich bitte an einen Elektriker, um die ungeeignete Steckdose austauschen zu lassen.
10. Schützen Sie das Netzkabel, sodass niemand darauf tritt oder es geknickt wird, insbesondere an Steckern oder Buchsen und ihren Austrittsstellen aus dem Gerät.
11. Verwenden Sie nur die vom Hersteller erhältlichen Zubehörgeräte oder Zubehörteile.
12. Verwenden Sie nur einen Wagen, Stativ, Dreifuß, Träger oder Tisch, der den Angaben des Herstellers entspricht oder zusammen mit dem Gerät verkauft wurde. Wird ein Wagen verwendet, bewegen Sie den Wagen mit dem darauf befindlichen Gerät besonders vorsichtig, damit er nicht umkippt und möglicherweise jemand verletzt wird.
13.  Trennen Sie das Gerät während eines Gewitters oder während längerer Zeiträume, in denen es nicht benutzt wird, von der Stromversorgung.
14. Lassen Sie sämtliche Wartungsarbeiten von qualifizierten Kundendiensttechnikern durchführen. Eine Wartung ist erforderlich, wenn das Gerät in irgendeiner Art beschädigt wurde, etwa wenn das Netzkabel oder der Netzstecker beschädigt wurden, Flüssigkeit oder Gegenstände in das Gerät gelangt sind, das Gerät Regen oder Feuchtigkeit ausgesetzt wurde, nicht normal arbeitet oder heruntergefallen ist.
15. Der Erdungsstift darf nie entfernt werden. Auf Wunsch senden wir Ihnen gerne unsere kostenlose Broschüre „Shock Hazard and Grounding“ (Gefahr durch elektrischen Schlag und Erdung) zu. Schließen Sie nur an die Stromversorgung der Art an, die am Gerät neben dem Netzkabel angegeben ist.
16. Wenn dieses Produkt in ein Geräte-Rack eingebaut werden soll, muss eine Versorgung über die Rückseite eingerichtet werden.
17. Hinweis – Nur für Großbritannien: Sollte die Farbe der Drähte in der Netzleitung dieses Geräts nicht mit den Klemmen in Ihrem Stecker übereinstimmen, gehen Sie folgendermaßen vor:
 - a) Der grün-gelbe Draht muss an die mit E (Symbol für Erde) markierte bzw. grüne oder grün-gelbe Klemme angeschlossen werden.
 - b) Der blaue Draht muss an die mit N markierte bzw. schwarze Klemme angeschlossen werden.
 - c) Der braune Draht muss an die mit L markierte bzw. rote Klemme angeschlossen werden.
18. Dieses Gerät darf nicht ungeschützt Wassertropfen und Wasserspritzern ausgesetzt werden und es muss darauf geachtet werden, dass keine mit Flüssigkeiten gefüllte Gegenstände, wie z. B. Blumenvasen, auf dem Gerät abgestellt werden.
19. Der Netzschalter in dieser Einheit bricht beide Seiten von den primären Hauptleitungen nicht. Gefährliche Energie kann anwesend innerhalb des Chassis sein, wenn her Netzschalter im ab Position ist. Die Hauptleitungen stöpseln zu oder Gerätekupplung ist benutzt, während das Vorrichtung abschaltet, das schaltet Vorrichtung wird bleiben sogleich hantierbar ab.
20. Belastung durch extrem hohe Lärmpegel kann zu dauerhaftem Gehörverlust führen. Die Anfälligkeit für durch Lärm bedingten Gehörverlust ist von Mensch zu Mensch verschieden, das Gehör wird jedoch bei jedem in gewissem Maße geschädigt, der über einen bestimmten Zeitraum ausreichend starkem Lärm ausgesetzt ist. Die US-Arbeitsschutzbehörde (Occupational and Health Administration, OSHA) hat die folgenden zulässigen Pegel für Lärmbelastung festgelegt:

Dauer pro Tag in Stunden	Geräuschpegel dBA, langsame Reaktion
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
.5	110
.25 oder weniger	115


Laut OSHA kann jede Belastung über den obenstehenden zulässigen Grenzwerten zu einem gewissen Gehörverlust führen. Sollte die Belastung die obenstehenden Grenzwerte übersteigen, müssen beim Betrieb dieses Verstärkungssystems Ohrenstopfen oder Schutzvorrichtungen im Gehörgang oder über den Ohren getragen werden, um einen dauerhaften Gehörverlust zu verhindern. Um sich vor einer möglicherweise gefährlichen Belastung durch hohe Schalldruckpegel zu schützen, wird allen Personen empfohlen, die mit Geräten arbeiten, die wie dieses Verstärkungssystem hohe Schalldruckpegel erzeugen können, beim Betrieb dieses Geräts einen Gehörschutz zu tragen.

BEWAHREN SIE DIESE SICHERHEITSHINWEISE AUF!

INSTRUCTIONS IMPORTANTES DE SECURITE

ATTENTION: L'utilisation de tout appareil électrique doit être soumise aux précautions d'usage incluant:



1. Lire ces instructions.
2. Gardez ce manuel pour de futures références.
3. Prêtez attention aux messages de précautions de ce manuel.
4. Suivez ces instructions.
5. N'utilisez pas cette unité proche de plans d'eau.
6. N'utilisez qu'un tissu sec pour le nettoyage de votre unité.
7. N'obstruez pas les systèmes de refroidissement de votre unité et installez votre unité en fonction des instructions de ce manuel.
8. Ne positionnez pas votre unité à proximité de toute source de chaleur.
9. Connectez toujours votre unité sur une alimentation munie de prise de terre utilisant le cordon d'alimentation fourni.
10. Protégez les connecteurs de votre unité et positionnez les cablages pour éviter toutes déconnexions accidentelles.
11. N'utilisez que des fixations approuvées par le fabricant.
12. Lors de l'utilisation sur pied ou poteau de support, assurez dans le cas de déplacement de l'ensemble enceinte/support de prévenir tout basculement intempestif de celui-ci.
-  14. Il est conseillé de déconnecter du secteur votre unité en cas d'orage ou de durée prolongée sans utilisation. Seul un technicien agréé par le fabricant est à même de réparer/contrôler votre unité. Celle-ci doit être contrôlée si elle a subi des dommages de manipulation, d'utilisation ou de stockage (humidité,...).
15. Ne déconnectez jamais la prise de terre de votre unité.
16. Si votre unité est destinée à être montée en rack, des supports arrière doivent être utilisés.
17. Note pour les Royaumes-Unis: Si les couleurs de connecteurs du câble d'alimentation ne correspondent pas au guide de la prise secteur, procédez comme suit:
 - a) Le connecteur vert et jaune doit être connecté au terminal noté E, indiquant la prise de terre ou correspondant aux couleurs verte ou verte et jaune du guide.
 - b) Le connecteur Bleu doit être connecté au terminal noté N, correspondant à la couleur noire du guide.
 - c) Le connecteur marron doit être connecté au terminal noté L, correspondant à la couleur rouge du guide.
18. Cet équipement électrique ne doit en aucun cas être en contact avec un quelconque liquide et aucun objet contenant un liquide, vase ou autre ne devrait être posé sur celui-ci.
19. L'interrupteur (on-off) dans cette unité ne casse pas les deux côtés du primaire principal. L'énergie hasardeuse peut être présente dans le châssis quand l'interrupteur (on-off) est dans la position. Le bouchon principal ou atelage d'appareil est utilisé comme le débrancher l'appareil restera facilement opérable.
20. Une exposition à de hauts niveaux sonores peut conduire à des dommages de l'écoute irréversibles. La susceptibilité au bruit varie considérablement d'un individu à l'autre, mais une large majorité de la population expérimentera une perte de l'écoute après une exposition à une forte puissance sonore pour une durée prolongée. L'organisme de la santé américaine (OSHA) a produit le guide ci-dessous en rapport à la perte occasionnée:

Durée par Jour (heures)	Niveau sonore moyen (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
.5	110
.25 ou inférieur	115


D'après les études menées par le OSHA, toute exposition au delà des limites décrites ci-dessus entraînera des pertes de l'écoute chez la plupart des sujets. Le port de système de protection (casque, oreillette de filtrage,...) doit être observé lors de l'opération cette unité ou des dommages irréversibles peuvent être occasionnés. Le port de ces systèmes doit être observé par toutes personnes susceptibles d'être exposées à des conditions au delà des limites décrites ci-dessus.

GARDEZ CES INSTRUCTIONS!

INSTRUCCIONES IMPORTANTES PARA SU SEGURIDAD



CUIDADO: Cuando use productos electrónicos, debe tomar precauciones básicas, incluyendo las siguientes:

1. Lea estas instrucciones.
2. Guarde estas instrucciones.
3. Haga caso de todos los consejos.
4. Siga todas las instrucciones.
5. No usar este aparato cerca del agua.
6. Limpiar solamente con una tela seca.
7. No bloquear ninguna de las salidas de ventilación. Instalar de acuerdo a las instrucciones del fabricante.
8. No instalar cerca de ninguna fuente de calor como radiadores, estufas, hornos u otros aparatos (incluyendo amplificadores) que produzcan calor.
9. No retire la patilla protectora del enchufe polarizado o de tipo "a Tierra". Un enchufe polarizado tiene dos puntas, una de ellas más ancha que la otra. Un enchufe de tipo "a Tierra" tiene dos puntas y una tercera "a Tierra". La punta ancha (la tercera) se proporciona para su seguridad. Si el enchufe proporcionado no encaja en su enchufe de red, consulte a un electricista para que reemplaze su enchufe obsoleto.
10. Proteja el cable de alimentación para que no sea pisado o pinchado, particularmente en los enchufes, huecos, y los puntos que salen del aparato.
11. Usar solamente añadidos/accesorios proporcionados por el fabricante.
12. Usar solamente un carro, pie, trípode, o soporte especificado por el fabricante, o vendido junto al aparato. Cuando se use un carro, tenga cuidado al mover el conjunto carro/aparato para evitar que se dañe en un vuelco. No suspenda esta caja de ninguna manera. Desenchufe este aparato durante tormentas o cuando no sea usado durante largos periodos de tiempo.
13.  Para cualquier reparación, acuda a personal de servicio cualificado. Se requieren reparaciones cuando el aparato ha sido dañado de alguna manera, como cuando el cable de alimentación o el enchufe se han dañado, algún líquido ha sido derramado o algún objeto ha caído dentro del aparato, el aparato ha sido expuesto a la lluvia o la humedad, no funciona de manera normal, o ha sufrido una caída.
15. Nunca retire la patilla de Tierra. Escríbanos para obtener nuestro folleto gratuito "Shock Hazard and Grounding" ("Peligro de Electrocuación y Toma a Tierra"). Conecte el aparato sólo a una fuente de alimentación del tipo marcado al lado del cable de alimentación.
16. Si este producto va a ser enracado con más equipo, use algún tipo de apoyo trasero.
17. Nota para el Reino Unido solamente: Si los colores de los cables en el enchufe principal de esta unidad no corresponden con los terminales en su enchufe, proceda de la siguiente manera:
 - a) El cable de color verde y azul debe ser conectado al terminal que está marcado con la letra E, el símbolo de Tierra (earth), coloreado en verde o en verde y amarillo.
 - b) El cable coloreado en azul debe ser conectado al terminal que está marcado con la letra N o el color negro.
 - c) El cable coloreado en marrón debe ser conectado al terminal que está marcado con la letra L o el color rojo.
18. Este aparato eléctrico no debe ser sometido a ningún tipo de goteo o salpicadura y se debe tener cuidado para no poner objetos que contengan líquidos, como vasos, sobre el aparato.
19. El interruptor de en/lejos en esta unidad no rompe ambos lados de la red primaria. La energía peligrosa puede ser presente dentro del chasis cuando el interruptor de en/lejos está en el de la posición. El tapón de la red o el acoplador del aparato son utilizados como el desconecta dispositivo, el desconecta dispositivo se quedará fácilmente operable.
20. La exposición a altos niveles de ruido puede causar una pérdida permanente en la audición. La susceptibilidad a la pérdida de audición provocada por el ruido varía según la persona, pero casi todo el mundo perderá algo de audición si se expone a un nivel de ruido suficientemente intenso durante un tiempo determinado. El Departamento para la Salud y para la Seguridad del Gobierno de los Estados Unidos (OSHA) ha especificado las siguientes exposiciones al ruido permisibles:

Duración por Día en Horas Nivel de Sonido dBA, Respuesta Lenta

8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
.5	110
.25 o menos	115

De acuerdo al OSHA, cualquier exposición que exceda los límites arriba indicados puede producir algún tipo de pérdida en la audición. Protectores para los canales auditivos o tapones para los oídos deben ser usados cuando se opere con este sistema de sonido para prevenir una pérdida permanente en la audición, si la exposición excede los límites indicados más arriba. Para protegerse de una exposición a altos niveles de sonido potencialmente peligrosa, se recomienda que todas las personas expuestas a equipamiento capaz de producir altos niveles de presión sonora, tales como este sistema de amplificación, se encuentren protegidas por protectores auditivos mientras esta unidad esté operando.

GUARDE ESTAS INSTRUCCIONES!

important precautions

- 1 Save the carton and packing materials!** Should you ever need to ship the unit, use only the original factory packing.

For replacement packaging, call Crest Performance's Customer Service Department directly.

- 2 Read all documentation before operating your equipment.** Retain all documentation for future reference.

- 3 Follow all instructions printed on unit chassis for proper operation.**

- 4 Never hold a power switch or circuit breaker in the "ON" position if it won't stay there by itself!**

- 5 Do not use the unit if the electrical power cord is frayed or broken.**

The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them.

- 6 Always operate the unit with the AC ground wire connected to the electrical system ground.** Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.

- 7 Damage caused by connection to improper AC voltage is not covered by any warranty.** Mains voltage must be correct and the same as that printed on the rear of the unit.

- 8 Do not ground any hot (red) terminal. Never connect a hot (red) output to ground or to another hot (red) output!**

- 9 Power down and disconnect units from mains voltage before making connections.**

- 0 Do not drive the inputs with a signal level greater than that required to enable equipment to reach full output.**

- i Do not run the output of any amplifier channel back into another channel's input.**

Do not parallel- or series-connect an amplifier output with any other amplifier output.

Crest Performance is not responsible for damage to loudspeakers for any reason.

- Ô Do not connect the inputs or outputs of amplifiers to any other voltage source,** such as a battery, mains source or power supply, regardless of whether the amplifier is turned on or off.

- £ Connecting amplifier outputs to oscilloscopes or other test equipment while the amplifier is in bridged mono mode may damage both the amplifier and test equipment!**

- ¢ Do not spill water or other liquids into or on the unit, or operate the unit while standing in liquid.**

- ^ Do not block fan intake or exhaust ports.**

Do not operate equipment on a surface or in an environment which may impede the normal flow of air around the unit, such as a bed, rug, weathersheet, carpet or completely enclosed rack.

- § If the unit is used in an extremely dusty or smoky environment** the unit should be periodically blown free of foreign matter.

- ¶ Do not use the unit near stoves, heat registers, radiators or other heat-producing devices.**

- f The equipment power cord should be unplugged from the outlet when left unused for a long period of time.**

Service Information

Do not remove the cover!

Removing the cover will expose you to potentially dangerous voltages. There are no user-serviceable parts inside.

Equipment should be serviced by qualified service personnel when:

- A.** The power supply cord or the plug has been damaged.
- B.** The equipment has been exposed to rain.
- C.** The equipment does not appear to operate normally or exhibits a marked change in performance.
- D.** The equipment has been dropped or the enclosure damaged.

To obtain service:

contact your nearest Crest Performance Service Center, Distributor, Dealer or Crest Performance at 601.486.2000 USA or visit www.crest-performance.com for additional information, email techserve@crestaudio.com



This symbol is used to alert the operator to follow important procedures and precautions detailed in documentation.



This symbol is used to warn operators that uninsulated "dangerous voltages" are present within the equipment enclosure that may pose a risk of electric shock.

1 how to use this manual p.9
introduction p.10

2 installation p.11
unpacking
mounting
connecting power
cooling requirements
operating precautions
connecting inputs
connecting outputs

3 features overview p.15
front panel
rear panel

4 operation modes p.22
stereo
parallel
bridged mono

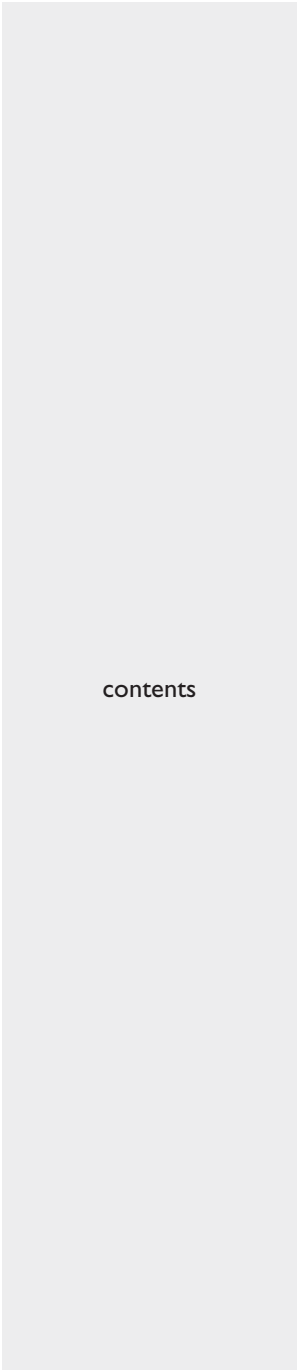
5 protection features p.24
GCL™ Gain Comparator Limiting
IGM™ impedance sensing
thermal protection
short circuit
DC voltage protection
turn on/off protection
AUTORAMP™ signal control

6 safety p.27
speaker protection
user responsibility

7 service and support p.29
support
contact us

a specifications p.31

b wire gauge charts p.32



contents



appendices

conventions

terms

official Crest Performance features and each indicator or control on the amplifier will appear as: *terms*


actions

specific actions or selections the user can execute will appear as: *actions*

tasks


are broken down into steps 1
2
3

warnings

Procedures **not** to attempt. 


Issues or hazards to keep in mind when operating the equipment.

indicators

What to look for on the equipment display. 

Alerts, indicators or prompts that may appear.

tips

Preferred methods.
Helpful hints.
Feature insights. 

see

see—refers to other sections of the manual containing supplementary information on the current topic or a related issue


note

note—supplementary feature information

welcome

Congratulations on your purchase of the CPX 3800 Series, a power amplifier designed for years of reliable, flawless operation under rigorous use. This amplifier offers the sonic superiority and unsurpassed reliability for which Crest Performance is famous while remaining surprisingly compact. Advanced technology and extensive protection circuitry allow operation with greater efficiency into difficult loads and power conditions. The GCL (Gain Comparator Limiting)™ circuit ensures trouble-free operation into loads as low as 2 ohms. The Gain Comparator Limiting circuit protects drivers and ensures that sonic integrity is maintained even in extreme overload conditions. The CPX 3800's high-efficiency design uses tunnel-cooled heat sinks and variable-speed DC fans. This cooling topology maintains a lower overall operating temperature, resulting in longer output transistor life. For your safety, read the important precautions section, as well as input, output, and power connection sections.

Although the CPX Series amplifiers are quite simple to operate and are 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.

/ **what to do with the shipping carton**

unpacking

/ **proper rack-mounting technique**

mounting

/ **required AC line voltages**

**connecting
power**

/ **keeping the amplifier cooled**

**cooling
requirements**

/ **preventing amplifier damage**

**operating
precautions**

**connecting
inputs**

**connecting
outputs**

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 Crest Performance, one of its offices, service centers or the supplier, use only the original factory packing. If the shipping carton is unavailable, contact Crest to obtain a replacement.

For replacement packaging, call Crest Performance's Customer Service Department directly. see—**service and support**

mounting

CPX 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.

connecting power

CPX Series amplifier power requirements are rated at 1/8^c power (typical music conditions) and 1/3^c 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. 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, Crest amplifiers shipped to customers are configured as follows:

- | | |
|-------------------------------|----------------------------------|
| Option 1 North America | 120VAC / 60 Hz |
| Option 2 Europe, Asia | 230/240VAC / 50 Hz |
| Option 3 Australia | 240VAC / 50 Hz |
| Option 4 South America | 120VAC / 60 Hz or 240VAC / 50 Hz |

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

cooling requirements

The CPX™ Series amplifiers use a forced-air cooling system to maintain a low, consistent operating temperature. Air is drawn into the amplifier by fan(s) on the rear panel, courses through the cooling fins of the tunnel-configured channel heat sink(s), and then exhausts through the front panel grille. If either heat sink gets too hot, its sensing circuit will open the output relay, disconnecting the load from that particular channel. The CPX 3800 utilizes one common heat sink and a single fan, but retains the separate circuitry. **NOTE: Maintain an adequate air supply at the back of the amplifier and enough space around the front 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 exhaust air must flow without resistance. If you are using racks with closed backs, use fans on the rear rack panel to pressurize the rack and ensure an ample air supply.

operating precautions

Make sure the mains voltage is correct and 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.

Although the CPX Series amplifiers have AUTORAMP™ circuitry, which raises the signal level gradually after the output relay closes, remember 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 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 increasing the total load impedance, 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** modes for more information.

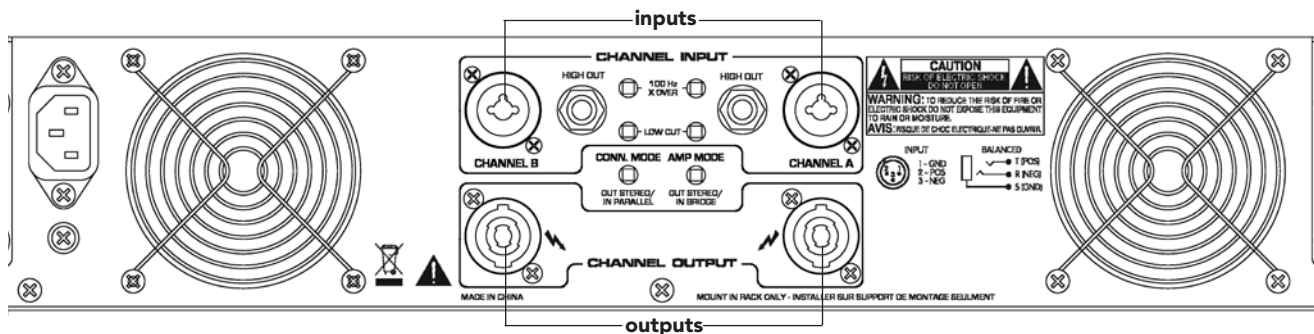
Make certain that there is enough space around the front and rear of the amplifier to allow the heated air to escape.

suggestion: In racks with closed backs, allow at least one standard-rack-space opening for every four mounted power amplifiers.

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

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. 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 five-way binding posts. The preferred method is connection via the Speakon® connectors.



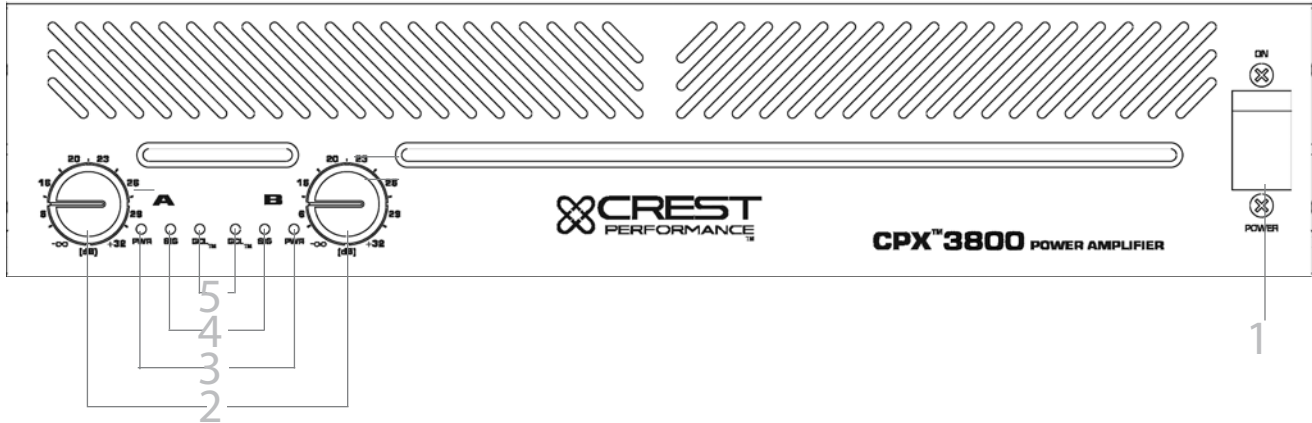
Output terminals are hazardous live and the external wiring connected to these terminals requires installation by an instructed person or the use of ready-made leads or cords.

/ location of connectors and controls

front panel

/ legend of panel symbols

rear panel



front panel

switches and controls

1 AC Power Switch/Circuit Breaker

The CPX Series amplifiers have 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.

2 Input Attenuators

Whenever possible, set the attenuators fully clockwise to maintain optimum system headroom. The input attenuator controls located at the front panel, (one for channel A, one for channel B), 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.

The power only breaks one side of the AC mains. Hazardous energy may be present in the enclosure when the power switch is in the OFF position.



When operating in the bridged mode, both attenuators must be in the same position so the speaker load will be equally shared between the channels. See the section on Bridged Mono operation for more information and precautions.

6

indicators

CPX™ Series amplifiers feature three front panel LED indicators per channel: **GCL™**, **SIGNAL** and **POWER**. These LED indicators inform the user of each channel's operating status and warn of possible abnormal conditions.

3 GCL (Gain Comparator Limiting) LED

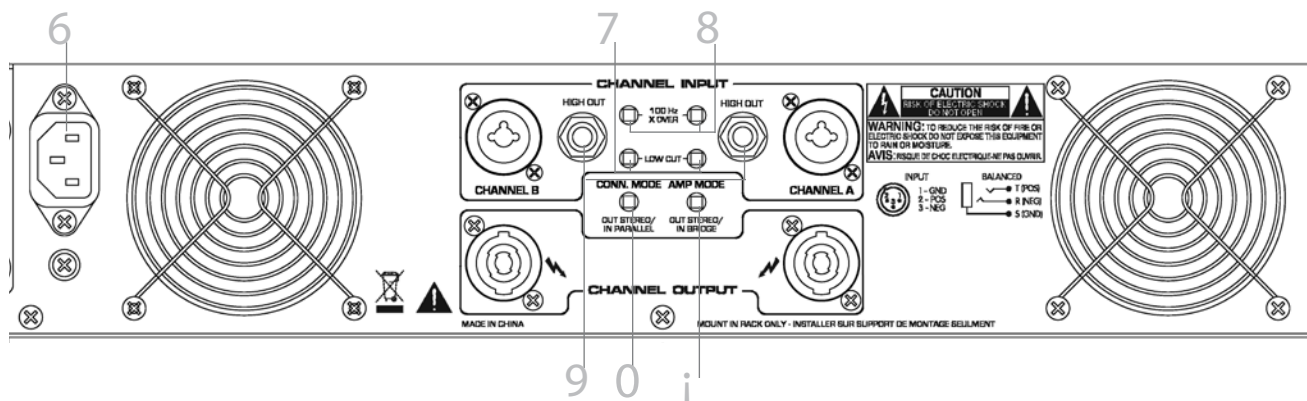
A channel's GCL LED will light at the onset of clipping. If the LEDs are flashing quickly and intermittently, the channel is just at the clip threshold. A steady, bright glow means the amp is clip limiting, or reducing gain to prevent severely clipped waveforms from reaching the loudspeakers. See the Gain Comparator Limiting section for more information. During initial power-up the GCL LED will light to indicate that the AUTORAMP™ gain reduction circuitry is activated. This prevents sudden signal bursts when the speaker relays are closed.

4 Signal LED

This LED lights when its channel produces an output signal of about 4 volts RMS or more (0.1 volt or more at the input, with 0 dB attenuation and standard x40 voltage gain). This signal indicates whether a signal is reaching and being amplified by the amplifier.

5 Power LED

The Power LED indicates that its channel's output relay is closed and the channel is operational. It lights under normal operation and remains on, even when the channel is in Gain Comparator Limiting or GCL gain reduction. These protection features leave the output relay closed. If the Power LED goes off, there is no signal at the output connectors.



rear panel

6 IEC Mains Connector

This is a standard IEC power connector. An AC mains cord having the appropriate AC plug and ratings for the intended operating voltage is included in the carton.



Warning - all apparatus with class I construction shall be connected to a mains socket outlet with a protective earthing connection.

U.S. DOMESTIC AC MAINS CORD

The mains cord supplied with the unit is a heavy-duty, three-conductor type with a conventional 120 VAC plug with ground pin. It should be connected to an independent circuit capable of continuously supporting at least 15 amps. This is particularly critical for sustained high-power applications. If the outlet used does not have a ground pin, a suitable grounding adapter should be used and the third wire grounded properly. Never break off the ground 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 a #14 AWG wire size. The use of lighter wire will severely limit the power capability of this amplifier. Always have a qualified electrician install any new electrical equipment. To prevent the risk of shock or fire hazard, always be sure that the amplifier 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 colored 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.

rear panel legend

- input connection
- XLR connector polarity
- TRS connector polarity
- bridged mono mode
- parallel mode
- stereo mode
- output connection
- Speakon® output
- channel A stereo/parallel
- channel B stereo/parallel
- bridged mono
- five-way binding post
- channel A stereo/parallel
- bridged mono
- channel B stereo/parallel

7 Low Cut Switch

This switch is used to activate the LOW CUT filter for the corresponding channel. It is a push-type switch that requires a small tool to activate. The IN position routes the input signals through the 40 Hz LOW CUT filter; while the OUT position bypasses the filter. This filter will cut extremely low frequencies, protecting speakers from the possibility of over-excursion. The filter low-frequency rolloff is 12 dB per octave. The LOW CUT filter for each channel will function independently of the crossover function.

8 Crossover Switch (100 Hz crossover)

This switch is used to activate the 100 Hz crossover for the corresponding channel. It is also a pushpush type switch and requires a small tool to activate. The CPX offers two 100 Hz crossovers. These are specially designed features that enhance the response of most loudspeakers in a typical bi-amped application. Rather than having a flat output curve, these crossovers use special filters to tailor the response and provide a flat acoustical output. This type of crossover sounds more natural than conventional state-variable crossovers. With the switch IN, the input signals are routed through the crossover and the low frequencies are automatically sent to the corresponding channel. At the same time, the high frequencies are sent to the HIGH OUT (9) jack and must then be patched to the INPUT of the other channel of this amplifier or to another amplifier input to complete the bi-amped system. With the switch OUT, the crossover is defeated and the input signal is routed directly to the respective power amp channel. The crossover frequency is fixed at 100 Hz and cannot be changed. The crossover configuration is a four-pole Linkwitz-Riley approximation.

9 High Out Jacks

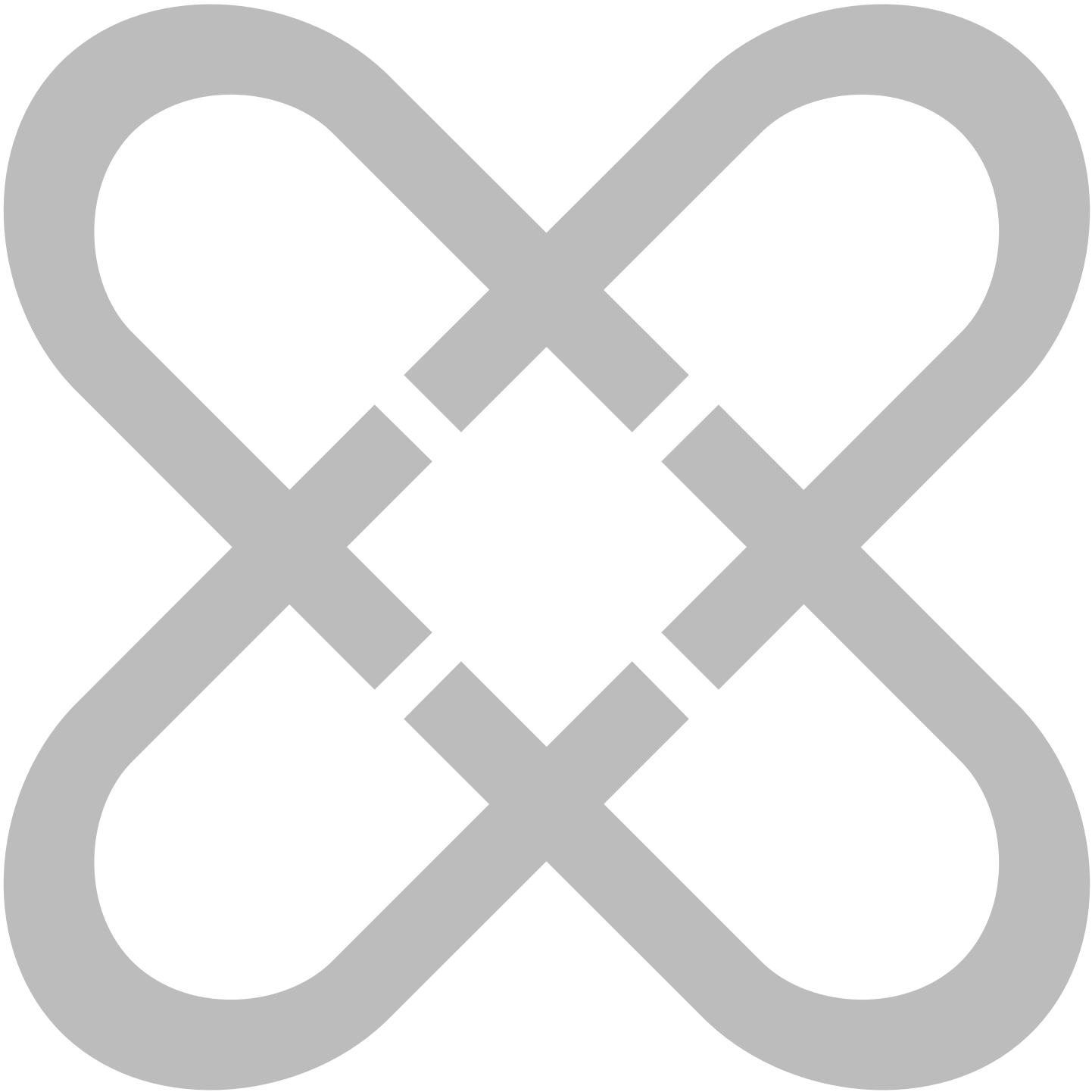
This 1/4" jack supplies high-frequency output signals from the activated crossover for patching to this amplifier and/or additional power amplifier inputs. Unlike the low-frequency crossover output that is automatically routed to the associated channel, the high-frequency output signal must be patched to some suitable input in order to complete the bi-amped system. This 1/4" jack also provides an unbalanced (tip/sleeve) output to be patched with single-conductor shielded cables.

0 Conn. Mode Select Switch

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. 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.

i Amp Mode Select Switch

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.



/ choosing the appropriate mode

stereo

/ switching between operation modes

/ special considerations when using bridged mode

parallel

bridged mono

stereo

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. For example, 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

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 the Stereo Mode. In Parallel Mode, both input attenuators remain active, allowing users to set different levels for each channel. Power and other general performance specifications are the same as in the Stereo Mode.

bridged mono

Both amplifier channels can be bridged together to make a very powerful single-channel monaural amplifier. **Use extreme caution when operating in bridged mode; potentially lethal voltage may be present at the output terminals.** To bridge the amplifier, depress the rear panel Amp Mode switch (11) to the IN position. Direct the signal to channel A's input and connect the speakers across pin +1 and pin +2 of the channel A Speakon® output connector. Only channel A's input attenuator is active while in Bridged Mono mode. Both connectors are strapped together, so either connector can be used with a patch cable to drive the input of another amplifier.

When operating in the Bridged Mode, both attenuators must be in the same position so the speaker load will be equally shared between the channels.

6

Unlike the Stereo and Parallel Modes, in which one side of each output is at ground, in the Bridged Mode both sides are hot. Pin +1 is Channel A's side, which is the same polarity as the input. The minimum nominal load impedance in the Bridged Mode is 4 ohms, which is equivalent to driving both channels at 2 ohms. Driving bridged loads of less than 4 ohms will activate GCL™ circuitry, resulting in a loss of power and potential thermal overload.

6

/ description of protection features

GCL™
gain
comparator
limiting

IGM™
impedance
sensing

AUTORAMP™
signal control

thermal
protection

short circuit

DC voltage
protection

turn on/off

The CPX Series amplifiers incorporate several circuits to protect both themselves and loudspeakers under virtually any situation. Crest Performance has attempted to make 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 Gain Comparator Limiting or GCL™ gain reduction mode, the speaker load remains connected but clipping percentage or output power are instantly reduced. 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.

GCL gain comparator limiting

Any time a channel is driven into hard, continuous clipping, the GCL 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 GCL circuit include uncontrolled feedback, oscillation, an improper equipment setting or malfunction upstream from the amplifier. Normal program transients will not trigger the GCL, only steady, excessive clipping will. The GCL LED will glow brightly and continuously when limiting occurs.

IGM™ impedance sensing

The CPX Series amplifiers feature innovative circuitry that allows safe operation into any load. When an amplifier sees a load that overstresses the output stage, the Instantaneous Gain Modulation (IGM) 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 IGM circuit is sonically transparent in normal use and unobtrusive when activated.

thermal protection

Internal fans keep the amplifier operating well within its intended temperature range under all normal conditions. If a channel's heat sink temperature reaches 75°C, 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 POWER LED will go out, the GCL LEDs will remain lit and the cooling fans will continue running at high speed.

short circuit

If an output is shorted, the IGM and thermal circuits will automatically protect the amplifier. The IGM 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 will eventually thermally protect itself by disconnecting the load.

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.

turn-on/turn-off protection

At power-up, the amplifier stays in the protect mode with outputs disconnected for approximately six seconds while the power supplies charge and stabilize. While the output relays are open, the GCL™ LEDs light. When power is removed, the speaker loads immediately disconnect so that no thumps or pops are heard.

AUTORAMP™ signal control

Whenever a CPX Series amplifier powers up or comes out of a protect mode, the AUTORAMP circuit activates. While the speakers are disconnected, the AUTORAMP circuit fully attenuates the signal and activates the GCL LED. After the output relay closes, the signal slowly and gradually raises to its set level. The PWR LED will illuminate and the GCL LED will turn off when the signal is no longer attenuated. The AUTORAMP Signal Control circuit has some important advantages over 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. This extends the contacts' useful life.

- / **protecting your speakers**
- / **the owner's role in amplifier safety**

**speaker
protection**

**user
responsibility**

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 Crest Performance CPX Series amplifiers automatically protect 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 higher frequency band. The amplifier's clipping point is its maximum peak output power and 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.

To ensure that the speakers never receive excessive power and that the amplifier never clips, use a properly adjusted external limiter (or a compressor with a ratio of 10:1 or higher) to control power output. In systems with active electronic crossovers, use one for each frequency band. The clip limiter will automatically limit the duration of continuous square waveforms applied to the speakers. The amplifier will, however, allow normal musical transient bursts to pass. Some speaker systems are packaged with processors that have power limiting circuits and should not require additional external limiting.

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. As the weakest links, fuses 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 CPX Series amplifier requires no routine maintenance and should never need any internal adjustment during its lifetime. Your CPX 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 in the front of this manual and to make sure that the amplifier is installed, wired and operated properly. 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.

/ **when to get support**

support

/ **ways to contact Crest Performance**

contact us

support

In the unlikely event that your amplifier develops a problem, it must be returned to an authorized distributor or service center or shipped directly to our factory for service.

To obtain service, contact your nearest Crest Performance Service Center, Distributor, Dealer or any of the worldwide Crest Performance offices. For those with Internet access, please visit the Crest Performance web site.

Because of the complexity of the design and the risk of electrical shock, all repairs must be performed by qualified technical personnel only. If the unit needs to be shipped back to the factory, it must be sent in its original carton. If improperly packed, your amplifier may be damaged.

+

6

contact us

customer service

phone 601.486.2000 USA

fax 601.486.1380 USA

email customerserve@crestaudio.com

technical support

phone 601.486.2000 USA

fax 601.486.1380 USA

email techserve@crestaudio.com

web site

www.crest-performance.com

mail

Crest Performance Inc.
5022 Hwy. 493 North
Meridian, MS 39305 USA

For replacement packaging, call Crest Performance's Customer Service

+

CPX™ Series

CPX 3800

Rated Power Bridged 8 ohms	2650 watts @ 1 kHz at <0.1% T.H.D.
Rated Power (2 x 4 ohms)	1300 watts per channel @ 1 kHz at <0.05% T.H.D. both channels driven
Rated Power (2 x 8 ohms)	775 watts per channel @ 1 kHz at <0.05% T.H.D. both channels driven
Rated Power (1 x 4 ohms)	1500 watts @ 1 kHz at <0.05% T.H.D.
Rated Power (1 x 8 ohms)	875 watts @ 1 kHz at <0.05% T.H.D.
Minimum Load Impedance	4 ohms
Maximum RMS Voltage Swing	93 volts
Frequency Response	10 Hz - 100 kHz; +0, -2 dB at 1 watt
Power Bandwidth	10 Hz - 35 kHz; +0, -3 dB at rated 4 ohm power
T.H.D. (2 x 4 ohms)	<0.1% @ 1050 watts per channel from 20 Hz to 20 kHz
T.H.D. (2 x 8 ohms)	<0.1% @ 700 watts per channel from 20 Hz to 20 kHz
Input CMRR	> -55 dB @ 1 kHz
Voltage Gain	x40 (32 dB)
Crosstalk	> -55 dB @ 1 kHz at rated power @ 8 ohms
Hum and Noise	> -108 dB, "A" weighted reference to rated power @ 8 ohms
Slew Rate	> 15V/us
Damping Factor (8 ohms)	> 500:1 @ 20 Hz - 1 kHz
Phase Response	+5 to - 12 degrees from 20 Hz to 20 kHz
Input Sensitivity (x40)	1.8 volts +/- 3% for 1 kHz, 4 ohm rated power
Input Impedance	15 k ohms, balanced
Current Draw @ 1/8 Power	1185 watts @ 4 ohms 720 watts @ 8 ohms
Current Draw @ 1/3 Power	2975 watts @ 4 ohms 1835 watts @ 8 ohms
Cooling	Two front panel temperature dependent variable speed 80 mm DC fans
Controls	2 front panel attenuators, rear panel Mode switches
Indicator LEDs	2 GCL (gain comparator limiting), 2 Signal presence, 2 Active Status
Protection	Thermal, DC, turn-on bursts, subsonic, incorrect loads
Connectors	Per channel, Combi XLR & 6.3 mm phone input, Speakon® and Binding Post speaker output, 15 amp IEC mains connector
Construction	14 ga. steel with cast front panel and cast handles
Dimensions	88.9 mm x 482.6 mm x 376.3 mm + 31.8 for rear support ears and connectors (3.5" x 19" x 14.81" + 1.25") + 38.1 mm (1.5") handle depth
Net Weight	19.5 kg (43 lbs)
Gross Weight	20.6 kg (45.5 lbs)

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

All power measurements made at 120 VAC, power transformer cold, 2 ohm power is time limited by magnetic circuit breaker

cable length (in feet)	standard wire gauge (AWG)	power loss into 8 Ω load (%)	power loss into 4 Ω load (%)	power loss into 2 Ω load (%)
5 ^{feet}	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 ^{feet}	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 ^{feet}	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 ^{feet}	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

glossary of terms (for setup)

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, 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 have the same signal. When referring to speakers, this means plugging the second speaker into the first speaker and so on.

CREST AUDIO LIMITED WARRANTY

Effective Date: November 1, 2000

What This Warranty Covers

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

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 Crest Audio; (4) products on which the serial number has been altered, defaced or removed; (5) products not purchased directly from Crest Audio or from an Authorized Crest Audio 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
Amplifiers	5 years
Consoles	5 years
Signal Processing	2 years <i>*(+1 year)</i>
Enclosures	3 years <i>*(+2 years)</i>
"Crest Performance"	2 years <i>*(+2 years)</i>

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

[**Denotes all products sold under the "Crest Performance" brand including amplifiers, consoles, signal processing, enclosures and any other product category.]

What Crest Audio Will Do

We will repair or replace (at Crest Audio's discretion) products covered by warranty at no charge for labor or materials. If the product or component must be shipped to Crest Audio for warranty service, the consumer must pay initial shipping charges. If the repairs are covered by warranty, Crest Audio 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 Crest Audio Dealer or Authorized Crest Audio Service Center. OR
- (2) Ship the defective item, prepaid, to Crest Audio, 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

CREST AUDIO'S LIABILITY FOR ANY DEFECTIVE PRODUCT IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE PRODUCT, AT CREST AUDIO'S OPTION. IF WE ELECT TO REPLACE THE PRODUCT, THE REPLACEMENT MAY BE A RECONDITIONED UNIT. CREST AUDIO 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 CREST AUDIO 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 Crest Audio at (201) 909-8700 and ask for the service department.

Features and specifications subject to change without notice.

#80304822



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

**CREST
AUDIO**

Free Manuals Download Website

<http://myh66.com>

<http://usermanuals.us>

<http://www.somanuals.com>

<http://www.4manuals.cc>

<http://www.manual-lib.com>

<http://www.404manual.com>

<http://www.luxmanual.com>

<http://aubethermostatmanual.com>

Golf course search by state

<http://golfingnear.com>

Email search by domain

<http://emailbydomain.com>

Auto manuals search

<http://auto.somanuals.com>

TV manuals search

<http://tv.somanuals.com>