

# S-24™

Mixing Console Operating Guide





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.



**Protective earthing terminal.** The apparatus should be connected to a mains socket outlet with a protective earthing connection.



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.



**Terminal de puesta a tierra de protección.** El aparato debe estar conectado a una toma de corriente con conexión a tierra de protección.



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.



**Borne de terre de protection.** L'appareil doit être connecté à une prise secteur avec une connexion à la terre.



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.



**Schutzerdung Terminal.** Das Gerät nur an Steckdose mit Schutzleiter angeschlossen werden.



Tarkoitettu kiinnittämään käyttäjän huomio sellaiseen eristämättömään vaaralliseen jännitteeseen tuotteen kotelossa, joka saattaa olla riittävän suuri aiheuttaakseen sähköiskuvaaran.



Tarkoitettu kiinnittämään käyttäjän huomio tärkeisiin käyttö- ja huolto-ohjeisiin tuotteen mukana seuraavassa ohjeistuksessa.

**VAROITUS:** Sähköiskun vaara — ÄLÄ AVAA!

**VAROITUS:** Sähköiskuvaaran vuoksi älä poista kantta. Ei sisällä käyttäjän huollettavissa olevia osia. Huoltaminen tulee jättää pätevän huoltohenkilöstön tehtäväksi.

**VAARA:** Sähköiskun tai tulipalon vaaran estämiseksi tätä laitetta ei saa altistaa sateelle tai kosteudelle, eikä sen päälle saa asettaa nesteellä täytettyjä esineitä, kuten maljakoita. Ennen laitteen käyttöä lue muut varoitukset käyttöohjeesta.



**Suojamaadoitus terminaali.** Laitte tulee kytkeä sähköverkkoon suojajohtimella.

Laitte on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan.



Är avsedd att varna användaren för förekomsten av oisolerad "farlig spänning" inom produktens hölje som kan vara av tillräcklig nivå för att personer ska riskera elektrisk stöt.



Är avsedd att uppmärksamma användaren på förekomsten av viktiga handhavande- och underhållsinstruktioner (service) i den litteratur som medföljer produkten.

**OBSERVERA:** Risk för elektrisk stöt – ÖPPNA INTE!

**OBSERVERA:** För att minska risken för elektrisk stöt, avlägsna inte höljet. Inga delar inuti kan underhållas av användaren. Låt kvalificerad servicepersonal sköta servicen.

**WARNING:** För att förebygga elektrisk stöt eller brandrisk bör apparaten inte utsättas för regn eller fukt, och föremål fyllda med vätskor, såsom vaser, bör inte placeras på denna apparat. Läs bruksanvisningen för ytterligare varningar innan denna apparat används.



**Skyddsjordning terminalen.** Apparaten skall anslutas till ett uttag med skyddande jordanslutning.

Apparaten skall anslutas till jordat uttag.



Har til hensikt å advare brukeren om tilstedeværelse av uisolert "farlig spenning" inne i produktet, som kan ha tilstrekkelig styrke til å medføre risiko for elektrisk støt for en person.



Har til hensikt å informere brukeren om tilstedeværelsen av viktige bruks- og vedlikeholds (service)-instruksjoner i litteraturen som følger med produktet.

**ADVARSEL:** Risiko for elektrisk støt — MÅ IKKE ÅPNES!

**ADVARSEL:** For å redusere risikoen for elektrisk støt må ikke dekslet fjernes. Det finnes ingen deler på innsiden som brukeren kan justere. Overlat servicearbeidet til kvalifisert servicepersonell.

**ADVARSEL:** For å hindre elektrisk støt eller brannfare må ikke dette apparatet utsettes for regn eller fuktighet, og gjenstander fylt med væske, som en vase, må ikke settes på apparatet. Før du tar apparatet i bruk må du lese bruksanvisningen for ytterligere advarsler.



**Beskyttende jordingsterminal.** Apparatet må kobles til en elektrisk kontakt med et støpsel som har skjernet jordkontakt.

Apparatet må tilkoples jordet stikkontakt.



Bedoeld om de gebruiker te attenderen op de aanwezigheid van ongeïsoleerde "gevaarlijke spanning" binnen de behuizing van het product dat van voldoende omvang kan zijn om een risico op elektrische schokken te vormen.



Bedoeld om de gebruiker te attenderen op de aanwezigheid van belangrijke gebruiks- en onderhoudsinstructies in de literatuur bij het product.

**OPGELET:** Risico op een elektrische schok - NIET OPENEN

**OPGELET:** Om het risico op elektrische schokken te verkleinen, verwijder niet het deksel. Er zijn geen voor de gebruiker bruikbare onderdelen binnenin aanwezig. Verwijs onderhoud door naar gekwalificeerd onderhoudspersoneel.

**WAARSCHUWING:** Om elektrische schokken of brandgevaar te voorkomen, stel dit apparaat mag niet bloot aan regen of vocht ' en voorwerpen gevuld met vloeistoffen, zoals vazen mogen niet op dit apparaat worden geplaatst. Lees de gebruiksaanwijzingen voor nadere waarschuwingen voordat u dit apparaat gebruikt.



**Beschermende aardklem.** Het apparaat dient te worden aangesloten op een stopcontact met een beschermend aardcontact.



Atto ad avvisare l'utente in merito alla presenza "voltage pericoloso" non isolato all'interno della scatola del prodotto che potrebbe avere una magnitudo sufficiente a costituire un rischio di scossa elettrica per le persone.



Atto ad avvisare l'utente in merito alla presenza di istruzioni operative e di assistenza importanti (manutenzione) nel libretto che accompagna il prodotto.

**ATTENZIONE:** Rischio di scossa elettrica — NON APRIRE!

**ATTENZIONE:** per ridurre il rischio di scossa elettrica, non rimuovere il coperchio. Non vi sono parti utili all'utente all'interno. Fare riferimento a personale addetto qualificato.

**AVVERTENZA:** per prevenire il rischio di scossa o il rischio di incendio, questo apparecchio non dovrebbe essere esposto a pioggia o umidità, e oggetti riempiti con liquidi, come vasi, non dovrebbero essere posizionati sopra questo apparecchio. Prima di usare questo apparecchio, leggere la guida operativa per ulteriori informazioni.



**Morsetto di terra di protezione.** L'apparecchio deve essere collegato a una presa di corrente di rete con un conduttore di terra.



Destinado a alertar o usuário da presença de "voltage perigosa" não isolada dentro do receptáculo do produto que pode ser de magnitude suficiente para constituir um risco de choque elétrico a pessoas.



Destinado a alertar o usuário da presença de instruções importantes de operação e manutenção (conserto) na literatura que acompanha o produto.

**CUIDADO:** Risco de choque elétrico — NÃO ABRA!

**CUIDADO:** Para evitar o risco de choque elétrico, não remova a cobertura. Contém peças não reparáveis pelo usuário. Entregue todos os consertos apenas a pessoal qualificado.

**ADVERTÊNCIA:** Para evitar choques elétricos ou perigo de incêndio, este aparelho não deve ser exposto à chuva ou umidade e objetos cheios de líquidos, tais como vasos, não devem ser colocados sobre ele. Antes de usar este aparelho, leia o guia de operação para mais advertências.



Terminal de aterramento de proteção. O aparelho deve ser ligado a uma tomada eléctrica com ligação à terra de proteção.



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。



保護接地端子。装置は保護接地に接続している電源コンセントに接続する必要があります



三角形内带有箭头闪电状符号意在敬告用户，表明产品内部有非绝缘的“危险电压”存在，而且具有足以致人触电的危险。



三角形内的感叹号意在警告用户，表明与机器的操作和维护（维修）有关的重要说明。

警告：触电危险—勿打开！

警告：为了避免触电危险，请勿打开机壳。机内无用户可以维修的部件。需要维修时，请与指定的专业维修人员联系。

警告：为了避免触电或火灾危险，请勿将本机置于雨中或潮湿之处。请勿将装满液体的物体，例如花瓶等置于本机之上。使用本机之前，请仔细阅读本操作说明书中的安全说明。



保 保护接地端子。设备应该连接到带有保护接地连接的电源插座。



제품의 케이스 내에 감전을 유발할 수 있는 절연되지 않은 "위험한 전압" 이 존재함을 사용자에게 알립니다. 제품과 함께 제공되는 인쇄물에 중요

한 작동 및 유지 보수 (서비스) 지침이 있음을 사용자에게 알립니다.



**주의 :** 감전 위험 — 열지 마십시오 !

**주의 :** 감전 위험을 낮추기 위해 덮개를 제거하지 마십시오 . 장치 내부에는 사용자가 직접 수리할 수 있는 부품이 없습니다 . 자격을 갖춘 서비스 요원에게 서비스를 의뢰하십시오 .

**경고 :** 감전 또는 화재 위험을 예방하기 위해 본 기기를 비 또는 습기에 노출하거나 꽃병과 같이 액체가 들어 있는 물체를 본 기기 위에 올려놓지 마십시오 . 본 기기를 사용하기 전에 추가 경고 사항에 대한 작동 설명서를 읽어 주십시오 .



보호 접지 단자. 장치는 보호 접지 연결 전원 소켓 콘센트에 연결되어야



تشير لتنبيه المستخدم لوجود "تيارات كهربية خطيرة" غير معزولة داخل محتويات المنتج والتي قد تكون كافية لتسبب في تعرض الأشخاص لصدمة كهربية.

تشير لتنبيه المستخدم لوجود تعليمات تشغيل وصيانة (صيانة) مهمة داخل الكتيب المرفق مع هذا المنتج.



تحذير: خطر التعرض لصدمة كهربية - لا تفتح!

تحذير: لتقليل مخاطر التعرض لصدمة كهربية، لا تقم بإزالة الغطاء. لا توجد أجزاء قابلة للاستعمال للمستخدم بالداخل. ارجع إلى الصيانة للحصول على خدمة من الموظفين المؤهلين.


تحذير: لمنع حدوث صدمة كهربية أو مخاطر حريق، لا يجب تعريض هذا الجهاز للمطر أو الرطوبة، ولا يجب وضع الأشياء المملوءة بالسوائل، مثل الزهريات، فوقه. قبل استخدام هذا الجهاز، اقرأ دليل التشغيل لمزيد من التحذيرات.

تقيا وظيفتها لا تصتا عم يءبرهكلا رايتلا نذأم نفنم ىل زاهجلا الصتم نولت نأ بجي .تقيا قولاً تقىضراً قطحم



# 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!**

## 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 reemplace 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.
13. Desenchufe este aparato durante tormentas o cuando no sea usado durante largos periodos de tiempo.
14. 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 Electrocutación 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 amarillo 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 ½	102
1	105
½	110
¼ 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!**

## 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 pole de support, assurez dans le cas de déplacement de l'ensemble enceinte/support de prévenir tout basculement intempestif de celui-ci.
13. Il est conseillé de déconnecter du secteur votre unité en cas d'orage ou de durée prolongée sans utilisation.
14. 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 correspond pas au guide de la prise secteur, procédez comme suit: a) Le connecteur vert et jaune doit être connecter 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 connecter au terminal noté N, correspondant à la couleur noire du guide. c) Le connecteur marron doit être connecter 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. 1
9. L'interrupter (on-off) dans cette unité ne casse pas les deux côtés du primaire principal. L'énergie hasardeuse peut être présente dans châssis quand l'interrupter (on-off) est dans le de 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 1/2	102
1	105
1/2	110
1/4 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!**

## WICHTIGE SICHERHEITSHINWEISE

**SICHERHEITSHINWEISEACHTUNG:** 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 der Netzschalter im ab Position ist. Die Hauptleitungen stöpseln zu oder Gerätekupplung ist benutzt, während die 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 1/2	102
1	105
1/2	110
1/4 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!**

## TÄRKEÄT TURVALLISUUSOHJEET

**VAARA:** Käytettäessä sähkölaitteita tulee aina huomioida mm. seuraavat turvallisuusohjeet:

1. Lue nämä ohjeet.
2. Säilytä nämä ohjeet.
3. Huomioi kaikki varoitukset.
4. Noudata kaikkia ohjeita.
5. Älä käytä laitetta veden lähellä.
6. Puhdista vain kuivalla kankaalla.
7. Älä tuki mitään tuuletusaukkoja. Asenna valmistajan ohjeiden mukaisesti.
8. Älä asenna lämpölähteiden, kuten pattereiden, liesien tai muiden lämpöä tuottavien laitteiden (kuten vahvistinten) lähelle.
9. Älä poista polarisoidun tai maadoitustyyppisen tulpan suojausta. Polarisoidun tulpan toinen napa on leveämpi kuin toinen. Maadoitustulpassa on kaksi napaa ja kolmas maadoitusnapa. Leveä napa ja maadoitusnapa on tarkoitettu turvaamaan laitteen käyttöä. Jos mukana toimitettu tulppa ei sovi pistorasiaan, kutsu sähkömies vaihtamaan pistorasia, sillä se on vanhentunut.
10. Suojaa virtajohtoa päälle kävelemiseltä ja nipistykseltä, erityisesti pistotulppien, pistorasioiden sekä laitteen ulosvientien kohdalla.
11. Käytä vain valmistajan toimittamia lisälaitteita.
12.  Käytä vain valmistajan määrittämän tai laitteen mukana myydyin vaunun, jalustan, kolmijalan, kiinnikkeen tai pöydän kanssa. Käytettäessä vaunua liikuta vaunun ja laitteen yhdistelmää varovasti, jotta vältetään loukkaantumiset kaatumisesta johtuen.
13. Irrota laite sähköverkosta ukkosmyrskyjen aikana tai jos laitetta ei käytetä pitkään aikaan.
14. Huoltaminen tulee jättää pätevän huoltohenkilöstön tehtäväksi. Huoltoa tarvitaan, kun laite on jollakin tavoin vioittunut, esim. virtalähteen johto tai pistoke on vioittunut, laitteen sisään on joutunut nestettä tai esineitä, laite on altistettu sateelle tai kosteudelle, laite ei toimi normaalisti tai se on pudonnut.
15. Älä koskaan katkaise maadoitusnastaa. Ottamalla meihin yhteyttä saat kirjasen "Sähköiskuvaara ja maadoitus". Kytke vain virtalähteeseen, joka vastaa laitteen virtajohtoon viereen merkittyä tyyppiä.
16. Jos laite kiinnitetään laiteräkkiin, tulee se tukea takaosastaan.
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. Tätä sähkölaitetta ei tule altistaa nestetipoille tai roiskeille, eikä laitteen päälle saa asettaa nestettä sisältäviä esineitä, kuten maljakoita.
19. Laitteen virtakytkin ei katkaise ensiövirran molempia puolia. Laitteen sisällä voi olla vaarallinen jännite, kun virtakytkin on pois-asennossa. Virtajohto toimii pääkytkimenä, ja sen pitää olla aina käytettävissä.
20. Altistus erittäin korkeille äänitasoille voi aiheuttaa pysyvän kuulovaurion. Henkilöiden altitus melun aiheuttamille kuulovaurioille vaihtelee, mutta lähes kaikkien kuulo vaurioituu altistuttaessa riittävän kovalle melulle riittävän kauan. Yhdysvaltain hallituksen työturvallisuus- ja terveyshallinto (OSHA) on määrittänyt seuraavat hyväksyttävät melutasoaltistukset:

Kesto päivää kohti tunteina	Äänitaso dBA, hidas vaste
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 tai alle	115

OSHA:n mukaan altistus yo. tasoja korkeammalle määrälle voi aiheuttaa osittaisen kuulon menetyksen. Käytettäessä vahvistinjärjestelmää tulee kuulovaurioiden estämiseksi käyttää korvatulppia tai kuulosuojaimia, mikäli altistus ylittää yllä asetetut rajat. Jotta vältetään mahdollisesti vaarallinen altistus korkeille äänenpaineen tasoille, suositellaan, että kaikki korkea äänenpainetta tuottavien laitteiden, kuten tämän vahvistimen, lähistöllä olevat henkilöt suojaavat kuulonsa, kun laite on käytössä.

**SÄILYTÄ NÄMÄ OHJEET!**



## VIKTIGA SÄKERHETSINSTRUKTIONER

**VARNING:** När du använder elektriska produkter ska grundläggande försiktighetsåtgärder iakttas, inklusive följande:

1. Läs dessa instruktioner.
2. Behåll dessa instruktioner.
3. Iakttag alla varningar.
4. Följ alla instruktioner.
5. Använd inte apparaten i närheten av vatten.
6. Rengör endast med en torr trasa.
7. Blockera inte ventilationsöppningarna. Installera i enlighet med tillverkarens instruktioner.
8. Installera inte i närheten av värmekällor som radiatorer, varmluftsventiler, spisar eller andra apparater (inklusive förstärkare) som ger ifrån sig värme.
9. Motverka inte säkerhetsfunktionen hos en jordad stickkontakt. En jordad stickkontakt har två stift och metallbleck på sidorna. Metallblecket finns där för din säkerhet. Kontakta en elektriker för utbyte av det föråldrade vägguttaget om den medföljande stickkontakten inte passar i ditt vägguttag.
10. Skydda strömsladden från att klivas på eller klämmas, särskilt vid kontakten, grenuttag och platsen där den lämnar apparaten.
11. Använd enbart tillsatser/tillbehör som tillhandahålls av tillverkaren.
12.  Använd endast med en kärra, ställ, trefot, fäste eller bord i enlighet med tillverkarens specifikationer, eller som säljs tillsammans med apparaten. Var försiktig när du använder en kärra så att inga personskador uppstår på grund av att kombinationen kärra-apparat välter när den flyttas.
13. Koppla ur apparaten vid åskväder eller när den inte används under en längre tid.
14. Låt kvalificerad servicepersonal sköta all service. Service krävs om apparaten har skadats på något vis, till exempel om strömsladden eller stickkontakten har skadats, vätska har spillts eller föremål har fallit ner i apparaten, apparaten har utsatts för regn eller fukt, inte fungerar normalt eller har tappats.
15. Anslut aldrig till ojordade uttag. Skriv till oss för vårt gratishäfte "Stötrisk och jordning". Anslut endast till en strömkälla av samma typ som enhetens märkning anger (bredvid strömsladden).
16. Om produkten ska monteras i ett utrustningsrack bör bakre stöd användas.
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. Denna elektriska apparat bör inte utsättas för dropp eller stänk och försiktighet bör iakttas så att inte föremål som innehåller vätskor, såsom vaser, placeras ovanpå apparaten.
19. Enhetens strömbrytare bryter inte båda sidor av strömkretsen. Farlig energi kan förekomma inuti höljet när strömbrytaren är i av-läget. Stickkontakten eller apparatkontakten fungerar som bortkopplingsenhet, bortkopplingsenheten ska hållas lättillgänglig.
20. Extremt höga ljudnivåer kan orsaka permanent hörselskada. Olika personer skiljer sig åt i benägenhet att få hörselskador av ljud, men i princip alla får hörselskador om de utsätts för tillräckligt höga ljud under tillräcklig tid. Den amerikanska regeringens arbetskydds- och hälsöförvaltning (OSHA) har angivit följande maxnivåer för tillåten exponering för ljud:




Längd per dag i timmar	Ljudnivå dBA, långsam svarstid
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 eller mindre	115

Enligt OSHA kan exponering utöver ovanstående tillåtna gränser orsaka hörselskador. Öronproppar eller skydd för hörselgången eller över öronen måste bäras när detta förstärkarsystem används för att förebygga permanenta hörselskador, om exponeringen överskrider gränsvärdena enligt ovan. För att skydda mot potentiellt farlig exponering för höga ljudtrycksnivåer rekommenderas det att personer som exponeras för utrustning som kan producera höga ljudtrycksnivåer såsom detta förstärkarsystem skyddas med hörselskydd när enheten är i drift.

**SPARA DESSA INSTRUKTIONER!**

# VIKTIGE SIKKERHETSINSTRUKSJONER

**ADVARSEL:** Ved bruk av et elektrisk apparat må grunnleggende forsiktighetsregler følges, inklusive de følgende:

1. Les disse instruksjonene.
2. Ta vare på disse instruksjonene.
3. Følg alle advarslene.
4. Følg alle instruksjoner.
5. Ikke bruk apparatet i nærheten av vann.
6. Rengjør bare med en tørr klut.
7. Ikke blokker noen av ventilasjonsåpningene. Installer i henhold til produsentens instruksjoner.
8. Ikke installer i nærheten av en varmekilde som radiatorer, varmekanaler, ovn er eller andre apparater (inklusive forsterkere) som utvikler varme.
9. Ikke reduserer sikkerhetshensiktene med polariserte eller jordede støpsler. Et polarisert støpsel har to blader, der det ene er bredere enn det andre. Et støpsel med jording har to blader og en tredje jordingsplugg. Det brede bladet eller den tredje pluggen er der for å gi deg beskyttelse. Hvis det medfølgende støpslet ikke passer inn i den elektriske kontakten der du bor, kontakt en elektriker for å få støpslet skiftet.
10. Beskytt den elektriske ledningen mot å bli trådt på eller klemt, spesielt ved støpslet, stikkkontakten og punktet der den kommer ut av apparatet.
11. Bruk bare tilkoblinger/tilbehør som er levert av produsenten.
12.  Bruk bare med vogn, stativ, tripod, brakett eller bord spesifisert av produsenten eller solgt sammen med apparatet. Når det benyttes en vogn, vis forsiktighet når vogn/apparat flyttes for å unngå skade som følge av et felt.
13. Trekk ut ledningen til apparatet under tordenvær eller når det skal stå ubrukt over en lengre periode.
14. Overlat servicearbeidet til kvalifisert servicepersonell. Service er påkrevet når apparatet har vært utsatt for skade, som at den elektriske ledningen eller støpslet er skadet, væske er blitt sølt over apparatet eller en gjenstand har falt ned i apparatet, apparatet har vært utsatt for regn eller fuktighet, at det ikke virker normalt eller har falt i gulvet.
15. Bryt aldri av jordingspinnen. Skriv etter gratis hefte "Shock Hazard and Grounding" (Fare for elektrisk støt og jording). Tilkoble bare elektriske anlegg av den typen som er angitt på enheten ved siden av den elektriske ledningen.
16. Hvis dette produktet skal plasseres i en utstyrsreol må det etableres støtte på baksiden.
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. Dette elektriske apparatet må ikke utsettes for drypp eller sprut fra væske, og det må utvises forsiktighet slik at det ikke plasseres gjenstander fylt med vann - som en vase - på apparatet.
19. På/av-bryteren på denne enheten bryter ikke begge sider av den primære strømkretsen. Farlig strøm kan finnes på innsiden av chassiset også når På/Av-bryteren er i posisjon Av. Det elektriske støpslet eller utstyrskoblingen brukes som frakoblingsutstyr, frakoblingsutstyret skal være lett å komme til og bruke.
20. Eksponering mot ekstremt høyt støynivå kan føre til permanent tap av hørsel. Det er betydelige individuelle forskjeller hva gjelder den enkeltes ømfintlighet hva gjelder støypåført tap av hørsel, men nesten alle vil tape noe hørsel dersom de utsettes for tilstrekkelig intens støy over en tilstrekkelig lang periode. U.S. Governments Occupational Safety and Health Administration (OSHA) har spesifisert følgende tillatte støynivåeksponeringer:



Varighet pr. dag i timer	Lydnivå dBA, sakte respons
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 eller mindre	115

I henhold til OSHA vil enhver eksponering ut over de ovenstående tillatte grensene kunne føre til noe tap av hørsel. Ørepropper eller beskyttelse av ørekanalene eller over ørene må anvendes når dette forsterkersystemet brukes for å hindre permanent tap av hørsel dersom eksponeringen overskrider grensene som vises ovenfor. For å beskytte mot potensielt farlig eksponering til høyt lydtryknivåer anbefales det at alle personer som eksponeres mot utstyr som er i stand til å produsere høye lydtryknivåer som dette forsterkersystemet må beskyttes av hørselsvern mens denne enheten er i bruk.

**OPPBEVAR DISSE INSTRUKSJONENE**

# BELANGRIJKE VEILIGHEIDSINSTRUCTIES

**WAARSCHUWING:** Bij gebruik van elektrische producten, moeten elementaire voorzorgsmaatregelen altijd worden opgevolgd, waaronder het volgende:

1. Lees deze gebruiksaanwijzing.
2. Bewaar deze gebruiksaanwijzing.
3. Besteed aandacht aan alle waarschuwingen.
4. Volg alle instructies op.
5. Gebruik dit apparaat niet in de buurt van water.
6. Reinig het alleen met een droge doek.
7. Blokkeer geen ventilatieopeningen. Installeer volgens de instructies van de fabrikant.
8. Installeer niet in de buurt van warmtebronnen zoals radiatoren, kachels, ovens of andere apparaten (inclusief versterkers) die warmte produceren.
9. Omzeil nooit de veiligheidsvoorziening van de gepolariseerde of geaarde stekker. Een gepolariseerde stekker heeft twee bladen, waarvan er één breder is dan de andere. Een geaarde stekker heeft twee bladen en een derde aardingspen. Het bredere blad of de derde pen is bedoeld voor uw veiligheid. Mocht de geleverde stekker niet in uw stopcontact passen, raadpleeg dan een elektricien voor het vervangen van het verouderde stopcontact.
10. Bescherm het netsnoer zodat er niet over gelopen kan worden of bekneld kan raken, vooral bij stekkers, stopcontacten en het punt waar ze het apparaat verlaten.
11. Gebruik alleen aansluitstukken/accessoires geleverd door de fabrikant.
12.  Gebruik uitsluitend een wagentje, standaard, statief, beugel of tafel die door de fabrikant wordt aanbevolen of bij het apparaat wordt verkocht. Wanneer u een wagentje gebruikt, wees dan voorzichtig bij het verplaatsen van de combinatie wagen/apparaat en voorkom letsel door omvallen.
13. Haal de stekker van dit apparaat uit het stopcontact tijdens bliksem of wanneer het apparaat gedurende lange perioden niet gebruikt wordt.
14. Laat al het onderhoud uitvoeren door gekwalificeerd onderhoudspersoneel. Onderhoud is nodig wanneer het apparaat op enige wijze beschadigd is, zoals het netsnoer of de stekker is beschadigd, er vloeistof in het apparaat is gemorst of voorwerpen in zijn terechtgekomen, het apparaat aan regen of vocht is blootgesteld, niet normaal werkt, of is gevallen.
15. Breek nooit de aardingspen af. Raadpleeg ons gratis boekje "Schokgevaar en aarding". Sluit alleen op een voedingsspanning aan van het type aangegeven op het apparaat naast het netsnoer.
16. Als dit product in een apparatuurrek gemonteerd moet worden, moet voor achterondersteuning worden verzorgd.
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. Dit elektrisch apparaat mag niet aan drui- of spatwater worden blootgesteld en er moet op gelet worden dat geen voorwerpen gevuld met vloeistoffen, zoals vazen, op het apparaat worden geplaatst.
19. De aan/uit-schakelaar van dit apparaat onderbreekt niet beide contacten van het lichtnet. Gevaarlijke spanning kan binnenin het chassis aanwezig zijn ondanks dat de aan/uit-schakelaar op uit staat. De stekker van het apparaat wordt gebruikt als onderbrekingsmechanisme, het onderbrekingsmechanisme dient eenvoudig bedienbaar te blijven.
20. Blootstelling aan extreem hoge geluidsniveaus kan permanent gehoorverlies veroorzaken. Individuen verschillen in gevoeligheid voor gehoorverlies door lawaai geïnduceerd, maar bijna iedereen zal enig gehoor verliezen indien voor een bepaalde duur aan voldoende intens lawaai blootgesteld. De Occupational Safety and Health Administration (OSHA) van de Amerikaanse regering heeft de volgende blootstellingen aan toelaatbaar lawaainiveau gespecificeerd:




Duur per dag in uren	Geluidsniveau dBA, trage reactie
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 of minder	115

Volgens OSHA, kan elke blootstelling boven de bovengenoemde toelaatbare grenswaarden tot enige gehoorverlies leiden. Oordoppen of -beschermers in de oorkanalen of over de oren moeten bij het bedienen van dit versterkersysteem worden gedragen om een permanent gehoorverlies te voorkomen, indien blootstelling boven de grenzen zoals hierboven zijn vermeld. Om potentieel gevaarlijke blootstelling aan hoge geluidsdruk te voorkomen, is het raadzaam om alle personen die aan apparatuur worden blootgesteld die in staat is om hoge geluidsdruk te produceren, zoals dit versterkersysteem, met gehoorbeschermers te beschermen wanneer dit apparaat in bedrijf is.

**BEWAAR DEZE INSTRUCTIES!**

## IMPORTANTI NORME DI SICUREZZA:

**ATTENZIONE:** Durante uso di apparecchiature elettriche vanno osservate alcune precauzioni basilari, tra cui le seguenti:

1. Leggete queste istruzioni.
2. Conservate le istruzioni.
3. Rispettate tutte le avvertenze.
4. Seguite le istruzioni.
5. Non usate questo prodotto vicino all'acqua.
6. Pulite esclusivamente con un panno asciutto.
7. Non ostruite le fessure di ventilazione. Installate il dispositivo seguendo le istruzioni del produttore.
8. Il prodotto va collocato lontano da sorgenti di calore quali radiatori, pompe di calore, stufe o altri dispositivi che generano calore (compresi gli amplificatori).
9. Non eliminate i dispositivi di sicurezza come spine polarizzate o con messa a terra. La spina polarizzata ha due lame, una più grande dell'altra. La spina con messa a terra ha due contatti più un terzo per la terra. Il contatto più largo o terzo polo è indispensabile per la vostra sicurezza. Se la spina fornita non adatta alla vostra presa, mettetevi in contatto con un elettricista per la sostituzione della presa obsoleta.
10. Fate attenzione a non camminare o incastrare il cavo di alimentazione, soprattutto in prossimità della spina o del punto in cui si collega all'apparecchiatura.
11. Usate solo accessori originali forniti dal costruttore.
12.  L'apparato va usato esclusivamente con il supporto indicato dal produttore o venduto con l'apparato. Se intendete adoperare un carrello su ruote, fate attenzione quando spostate apparecchio e supporto per evitare che la loro caduta possa causare danni a cose o persone.
13. Scollegatelo l'apparecchio dalla presa di corrente durante un temporale con fulmini o quando non s'intende usare per un lungo periodo.
14. L'assistenza va eseguita esclusivamente da personale autorizzato. È necessario ricorrere all'assistenza se il dispositivo ha subito danni, per esempio si sono rovinati il cavo di alimentazione o la spina, all'interno è caduto del liquido o un oggetto, il dispositivo è rimasto esposto alla pioggia o all'umidità, non funziona normalmente o è caduto a terra.
15. Non rimuovete lo spinotto della terra. Collegare il dispositivo esclusivamente a una presa di corrente del tipo indicato accanto alla targhetta posta vicino al cavo di alimentazione.
16. Se questo prodotto deve essere montato a rack, è necessario sostenerlo anche nella parte posteriore.
17. Nota per UK: Se i colori dei fili nel cavo di alimentazione per questa unità non corrispondono con i terminali della vostra spina, procedere come segue: a) Il filo di colore verde/giallo deve essere collegato al terminale che marcato con lettera E, o simbolo di terra, o colore verde o verde/giallo. b) Il filo di colore blu deve essere collegato al terminale marcato con la lettera N o di colore Nero. c) Il filo di colore marrone deve essere collegato al terminale marcato con la lettera L o di colore Rosso.
18. Questo apparato elettrico non deve essere esposto a gocce o schizzi, va in ogni caso evitato di appoggiare oggetti contenenti liquidi, come bicchieri, sull'apparecchio.
19. L'interruttore on/off in questa unità non interrompe entrambi i lati della rete di alimentazione. All'interno dell'apparecchio può essere presente elettricità anche con interruttore on/off in posizione off. La spina o il cavo di alimentazione è utilizzato come sezionatore, il dispositivo di sezionamento deve restare sempre operativo.
20. L'esposizione a livelli di volume molto elevati può causare la perdita permanente dell'udito. La predisposizione alla perdita dell'udito causata da livelli elevati di volume varia notevolmente da persona a persona, ma quasi tutti subiscono una perdita di udito almeno parziale se soggetti a volume di livello elevato per un tempo sufficientemente lungo. L'ufficio Lavoro e Salute del governo degli USA (OSHA) ha elaborato la seguente tabella di tolleranza ai rumori:




Esposizione giornaliera in ore	Livello sonoro dBA, Slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	110
1/4 o minore	115

Secondo l'OSHA, l'esposizione a livelli di volume al di sopra dei limiti stabiliti può causare una perdita almeno parziale dell'udito. Quando si adopera questo sistema di amplificazione, è necessario indossare auricolari o apposite protezioni per il condotto auditivo, per evitare la perdita permanente dell'udito se l'esposizione supera i limiti sopra riportati. Per evitare di esporvi al rischio di danni derivanti da elevati livelli di pressione sonora, si raccomanda di adoperare delle protezioni per gli orecchi quando si usano attrezzature in grado di produrre elevati livelli sonori, come quest'amplificatore.

**CONSERVATE QUESTE ISTRUZIONI!!**

## INSTRUÇÕES IMPORTANTES DE SEGURANÇA

**ADVERTÊNCIA:** Ao usar eletrodomésticos, precauções básicas devem sempre ser seguidas, incluindo as seguintes:

1. Leia estas instruções.
2. Mantenha estas instruções.
3. Preste atenção a todas as advertências.
4. Siga todas as instruções.
5. Não use este aparelho perto d'água.
6. Limpe somente com um pano seco.
7. Não obstrua nenhuma das aberturas de ventilação. Instale de acordo com as instruções do fabricante.
8. Não instale perto de nenhuma fonte de calor tais como radiadores, registros de calor, fogões ou outros aparelhos (incluindo amplificadores) que produzam calor.
9. Não desafie o propósito de segurança do plugue polarizado ou do tipo aterrado. Um plugue polarizado tem duas lâminas com uma mais larga que a outra. Um plugue do tipo aterrado tem duas lâminas e um terceiro plugue terra. A lâmina larga ou o terceiro pino são fornecidos para sua segurança. Se o plugue disponibilizado não couber em sua tomada, consulte um eletricitista para troca da tomada obsoleta.
10. Proteja o cabo de energia para não ser pisado ou espremido principalmente em plugues, recipientes e o ponto de onde sai do aparelho.
11. Use apenas conexões/acessórios fornecidos pelo fabricante.
12.  Use apenas um carrinho, banquetas, tripé, suporte, ou mesa especificado pelo fabricante, ou vendido com o aparelho. Quando um carrinho for usado, tome cuidado ao mover a combinação carrinho/aparelho para evitar ferimentos por tombamento.
13. Tire esse aparelho da tomada durante tempestades de raios ou quando for ficar sem usar por longos períodos de tempo.
14. Entregue todos os consertos apenas a pessoal qualificado. O conserto é necessário quando o aparelho tiver sofrido qualquer dano, tais como o cabo de energia ou plugue estiverem danificados, líquidos tenham sido derramados ou objetos tenham caído no aparelho, o aparelho tenha sido submetido à chuva ou umidade, não funcionar normalmente, ou tenha sido deixado cair.
15. Nunca quebre fora o pino terra. Escreva pedindo nosso livreto grátis "Perigos de Choque e Aterramento." Ligue apenas a um suprimento de energia do tipo marcado na unidade adjacente ao fio de fornecimento de energia.
16. Se este produto for ser montado em uma estante para equipamentos, deve ser montado um suporte traseiro.
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. Este aparelho elétrico não deve ser exposto a pingos ou respingos e deve ser tomado cuidado para não colocar objetos contendo líquidos, tais como vasos, sobre o aparelho.
19. O comutador liga/desliga nesta unidade não interrompe ambos os lados da rede elétrica primária. Energia perigosa pode estar presente dentro do chassi quando o comutador liga/desliga estiver na posição desligado. O plugue de alimentação ou um dispositivo de união é usado como dispositivo de desligamento, o dispositivo de desligamento deve permanecer pronto para funcionar.
20. Exposição a níveis de barulho extremamente altos podem causar perda permanente de audição. As pessoas variam consideravelmente em susceptibilidade a perda de audição causada por ruídos, mas quase todo mundo vai perder algo da audição se exposto a ruído suficientemente intenso por tempo suficiente. A Administração de Segurança Ocupacional e Saúde americana (OSHA) especificou os seguintes níveis permissíveis de exposição a ruído:

Duração Por Dia Em Horas	dBA de Nível de Som, Resposta Lenta
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 ou menos	115


De acordo com a OSHA, qualquer exposição excedente aos limites permissíveis acima pode resultar em alguma perda de audição. Tampões de ouvido ou protetores sobre os canais do ouvido ou sobre as orelhas precisam ser usados ao operar este sistema de amplificação para poder evitar uma perda permanente de audição, se a exposição for em excesso aos limites acima estabelecidos. Para assegurar contra exposição perigosa potencial a níveis de alta pressão de ruído, é recomendado que todas as pessoas expostas a equipamento capaz de produzir níveis de alta pressão de ruído tais como este sistema de amplificação estejam protegidas por protetores de ouvido enquanto esta unidade estiver em funcionamento.

**GUARDE ESSAS INSTRUÇÕES!**



## 安全のための重要事項

警告: 電気製品を使用するときは、次の項目を含め、基本的な注意事項を常にお守りください。

1. 本書の指示内容をお読みください。
2. 本書は保管してください。
3. すべての警告に注意してください。
4. すべての指示に従ってください。
5. 本装置を水の近くで使用しないでください。
6. お手入れには乾いた布をお使いください。
7. 開口部をふさがしないでください。メーカーの指示に従って設置してください。
8. ラジエータ、ストーブなど (アンプを含む)、発熱体の近くに設置しないでください。
9. 分極プラグや接地プラグの安全性を損なわないようにしてください。分極プラグの2つのブレードは、一方が他より幅広くなっています。接地式のプラグには2つのブレードと接地プラグがあります。幅広のブレードや接地プラグは安全のために付けられています。所定のプラグがコンセントなどに合わない場合、旧式のコンセントなどの交換について技術者に問い合わせてください。
10. 電源コードを踏んだり挟んだりしないように保護してください。特にプラグ、コンセント、装置から出る部分を保護してください。
11. 備品/付属品はメーカーのものを使用してください。
12.  カート、スタンド、三脚、ブラケット、テーブルなどは、メーカー指定のもの、または装置とともに販売されているものを使用してください。カートを使用するときは、カートと装置を動かしたときに横転などでケガをしないよう注意してください。
13. 落雷の恐れのある嵐のとき、または長期間使用しないときは本装置の電源を外してください。
14. 保守作業はすべて資格のあるサービス担当者に依頼してください。保守作業が必要になるのは、装置が故障した場合、たとえば、電源コードやプラグが破損、装置に液体がかかる。物が落ちる、雨など湿度の影響を受ける、正常に動作しない、落下した場合などです。
15. グランドピン(接地ピン)は決して取り外さないでください。フリーブックレット「感電と接地」を入手してください。装置の電源コードの横に記載されているタイプの電源にのみ接続してください。
16. 本製品をラックに載せる場合は、背面を支持するものがが必要です。
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. 電気機器に水がかかからないようにしてください。花瓶など液体の入ったものを装置に置かないように注意してください。
19. オン/オフスイッチは、主電源のどちらの側も切断しません。オン/オフスイッチがオフ位置のとき、シャシー内部のエネルギー(高電圧)は危険なレベルにあります。主電源プラグまたは機器のカプラが切断装置になっています。切断装置はすぐに動作し使用できる状態にしておく必要があります。
20. 極めて高い騒音レベルは聴覚を永久に損なう原因になることがあります。騒音による聴覚障害の可能性は人によって異なりますが、十分に高い騒音を十分長い時間浴びた場合には、ほぼすべての人が何らかの障害を被ります。米国労働安全衛生庁 (OSHA) は、許容できるノイズレベル(騒音暴露レベル)を次のように定めています。

1日当たりの時間	サウンドレベルdBA、スローレスポンス
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
1/4 以下	115

OSHAによると、上記許容限度を超える場合は聴覚障害の原因になります。騒音が上記限度を超える場合は、永久的な聴覚障害を避けるため、このアンプシステムの操作時に、外耳道または耳全体にイヤプラグやプロテクタを装着する必要があります。高音圧レベルによる危険な状態を避けるため、このアンプシステムのような高音圧レベルを出力する機器に触れる人はすべて、本機を使用中はプロテクタにより聴覚を保護することをおすすめします。

**本書は保管してください!**

CE

## 重要安全事项

**警告：**操作电器产品时，请务必遵守基本安全注意事项，包括：

1. 阅读说明书。
2. 妥善保管说明书。
3. 注意所有安全警告。
4. 按照要求和指示操作。
5. 请勿在靠近水（或其它液体）的地方使用本机。
6. 本机只能用于干燥布料擦拭。
7. 请勿遮盖任何通散热口。确实依照本说明书安装本机。
8. 请勿将本机安装在任何热源附近，例如电暖器、蓄热器件、火炉或其他发热电器（包括功率放大器）。
9. 请勿破坏两脚型插头或接地型插头的安全装置。两脚型插头有两个不同宽度的插头片，一个窄，另一个宽一点。接地型插头有两个相同的插头片和一个接地插脚。两脚型插头中宽的插头片和接地型插头接地插脚起着保障安全的作用。如果所附带的插头规格与您的插座不匹配，请让电工更换插座以保证安全。
10. 请勿踩踏或挤压电源线，尤其是插头、插座、设备电源输入接口或者电源线和机身连接处。
11. 本机只可以使用制造商指定的零件 / 配件。
12.  本机只可以使用与本机搭售或由制造商指定的机柜、支架、三角架、托架或桌子。使用机柜时，请小心移动已安装设备的机柜，以避免机会推翻造成身体伤害。
13. 在雷雨天或长期不使用的情况下，请拔掉电源插头。
14. 所有检查与维修都必须由指定的专业维修人员进行。如本机的任何形式的损伤都须检修，例如电源线或插头受损，有液体或物体落入机身内，曾暴露于雨天或潮湿的地方，不能正常运作，或曾掉落后损坏等。
15. 不得拔出接地插脚。请写信索取免费手册《Shock Hazard and Grounding》。使用前，请仔细检查确认所使用的电源电压是否匹配设备上标注的额定电压。
16. 如果本机装在机柜中，其后部也应给予相应的支撑固定。
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. 本机不得暴露于滴水或溅水中。请勿将诸如花瓶等装有液体的物体放置于本机上。
19. 本机电源开关不能同时断开两端的电源，完全切断外部电源。因此当开关位于“OFF”位置时，本机外壳仍有可能带有触电的危险。电源插头或耦合器能够与设备或者电源容易分开，保证电源的完全切断，从而保证安全。
20. 声压级较高的噪音容易造成听力的永久性损失。因噪声而造成的听力损失程度，个体间的差异较大，但几乎每个人在声压级较高的噪音环境里一定时间，都会有不同程度的听力损失。美国政府职业安全与保健管理局（OSHA）就此规定了下列容许噪声级：

每天持续小时数	声压级 (dBA) 慢反应
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ 或更少	115


据 OSHA, 任何超出以上所允许的范围，都会造成部分听力的损失。使用本功放系统时，必须佩戴如耳塞等保护耳朵的器件，防止长时间处于上述限制级以上的环境而引起永久性听力受损。本机运行时，如果超过上述所规定的最大限制，为了抵御较高的声压对于听受损所造成的潜在危险，建议使用诸如功放系统等引起高声压级噪声的所有人均佩戴保护耳朵的器件。

**请妥善保管本说明书！**



## 중요 안전 지침

**경고:** 전기 제품 사용 시 다음 사항을 포함해 기본적인 주의 사항을 항상 따라야 합니다.

1. 이 지침을 읽어 주십시오.
2. 이 지침을 준수하여 주십시오.
3. 모든 경고 사항에 주의해 주십시오.
4. 모든 지침을 따라 주십시오.
5. 물기가 있는 근처에서 이 기기를 사용하지 마십시오.
6. 마른 헝겊으로만 청소해 주십시오.
7. 통풍구를 막지 마십시오. 제조업체의 지침에 따라 설치해 주십시오.
8. 라디에이터, 가열기, 난로 또는 열을 발산하는 기타 기기(앰프 포함) 근처에 설치하지 마십시오.
9. 극성 플러그나 접지형 플러그의 안전 용도를 무시하지 마십시오. 극성 플러그는 한쪽 날이 다른 쪽보다 더 넓습니다. 접지형 플러그에는 2개의 날과 1개의 접지 플러그가 있습니다. 넓은 날 또는 1개의 접지 플러그는 안전을 위해 제공됩니다. 제공된 플러그가 사용자의 콘센트에 맞지 않으면 구식 콘센트의 교체에 대해 전기 기술자에게 문의하십시오.
10. 전원 코드 특히, 플러그, 소켓 및 기기에서 나오는 지점이 밟히거나 잡히지 않도록 보호하십시오.
11. 제조업체에서 제공하는 부착 장치/액세서리만을 사용하십시오.
12.  제조업체에서 지정하거나 기기와 함께 판매되는 카트, 스탠드, 삼각대, 브래킷 또는 테이블만을 사용하십시오. 카트 사용 시 카트/기기 결합부를 움직일 때 전복으로 인해 부상을 입지 않도록 주의해 주십시오.
13. 번개와 폭풍이 올 때 그리고 장기간 사용하지 않을 때는 이 기기의 플러그를 뽑아 놓으십시오.
14. 자격을 갖춘 서비스 요원에게 모든 서비스를 의뢰하십시오. 전원 공급 코드 또는 플러그가 손상되거나 액체를 었지르거나 기기 안에 이물질이 떨어뜨리거나 비 또는 습기에 기기를 노출하거나 정상적으로 작동하지 않거나 기기를 떨어뜨린 경우와 같이 기기가 손상된 경우에는 서비스를 받아야 합니다.
15. 접지 핀을 제거하지 마십시오. 당사의 무료 소책자인 “감전 위험 및 접지”를 우편으로 주문해 주십시오. 전원 공급 코드의 기기에 표시된 유형의 전원 공급 장치만 연결해 주십시오.
16. 이 제품을 장비 랙에 장착할 경우에는 후면 지지대를 설치해야 합니다.
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. 전기 기기가 비나 물방울에 노출되지 않도록 주의하고 꽃병과 같이 용액이 들어 있는 물체를 기기 위에 놓지 않도록 주의해 주십시오.
19. 본 기기의 ON/OFF 스위치는 양쪽의 주 기기 전원을 차단하지 않습니다. ON/OFF 스위치가 OFF 위치에 있더라도 새시 내부에 위험한 전기가 흐를 수 있습니다. 기본 플러그 또는 기기 커플러는 분리 장치로 사용됩니다. 분리 장치는 바로 사용 가능한 상태로 두어야 합니다.
20. 매우 높은 소음에 노출되면 영구적으로 청각이 손상될 수 있습니다. 소음으로 인한 청각 손상 가능성은 개인별로 매우 다르지만 장시간 매우 강한 소음에 노출되면 거의 모든 사람들에게 어느 정도의 청각 손상이 발생합니다. 미국 정부의 OSHA(작업 안전 및 건강 관리국)은 다음과 같이 용인 가능한 소음 노출을 규정하고 있습니다.

일별 지속 시간	소음 수준 dBA, 저속 반응
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ 이하	115

OSHA에 따르면 용인 가능한 위 제한 수치를 초과하여 노출된 경우 일부 청각이 손상될 수 있습니다. 위에 명시된 제한치를 초과하여 노출되는 경우 영구적인 청각 손상을 예방하려면 이 앰프 시스템 사용 시 귀마개 또는 귀 전체를 덮는 보호구를 착용해야 합니다. 잠재적으로 위험한 높은 음압에 노출되지 않도록 하려면 이 앰프 시스템과 같이 높은 음압을 생성할 수 있는 장비에 노출되는 모든 사람이 기기가 작동하는 동안 청각 보호구를 착용하는 것이 좋습니다.

**이 지침을 잘 보관해 주십시오**



## تعليمات الأمان المهمة

تحذير: عند استخدام المنتجات الكهربائية، يجب اتباع الاحتياطات الأساسية دائماً، والتي تشمل التالي:

CE

1. قراءة هذه التعليمات.
2. الحفاظ على هذه التعليمات.
3. الانتباه لجميع التحذيرات.
4. اتباع هذه التعليمات.
5. عدم استخدام هذا الجهاز على مقربة من الماء.
6. ينظف فقط بقطعة قماش جافة.
7. لا تقم بسد أي فتحات تهوية. يتم التثبيت وفقاً لتعليمات المصنع.
8. لا تضع الجهاز بالقرب من أي مصادر حرارة مثل المبردات، والمدفآت، أو المواقد أو أي أجهزة أخرى (بما فيها مكبرات الصوت) التي يصدر عنها حرارة.
9. لا تتسبب في فشل الغرض من أمان قابس الكهرياء القطبي أو من النوع الأرضي. القابس القطبي به سنان أحدهما معرض من الثاني. القابس من النوع الأرضي به سنان وقابس أرضي ثالث. القابس مزود بسن عريضة أو يتم توفير السن الثالث من أجل سلامتك. إذا لم يناسب القابس الثالث مقبس الحائط الخاص بك، استشر فني كهرياء لاستبدال المقبس القديم.
10. قم بحماية كبل الكهرياء من المشي عليه أو ضغطه، خاصة في القوابس، والمقابس الملائمة، وموضع خروجها من الجهاز.
11. استخدم المرفقات / الملحقات المقدمة من المصنع فقط.
12. استخدمه فقط مع الحامل، والمنضدة، والمحمل، والمسند، أو الطاولة التي حددها المصنع، أو التي تباع مع الجهاز. عند استخدام العربية، خذ حذرك عند تحريك العربية / مجموعة الجهاز لتجنب إصابتك عند الانقلاب.
13. انزع قابس الجهاز أثناء عواصف البرق أو عند عدم استخدامه لفترات طويلة.
14. ارجع في جميع أعمال الصيانة للموظفين المؤهلين. يجب إجراء الصيانة عند تعرض الجهاز للتلف بأي طريقة، مثل تلف كبل مزود الكهرياء أو القابس، أو عند سقوط سائل أو أشياء على الجهاز، أو عند تعرض الجهاز للمطر أو للرطوبة، أو إذا لم يعمل بصورة طبيعية، أو في حالة سقوطه على الأرض.
15. لا تقم أبداً بقطع الموصل الأرضي. راسلنا للحصول على كتيب "خطر الإصابة بالصواعق والأطراف الكهربائية الأرضية" المجاني الخاص بنا. وصل الجهاز فقط بمزود كهرياء من النوع المحدد على الوحدة المجاورة لكبل مزود الطاقة.
16. يجب توفير الدعم الخلفي عند تركيب الجهاز على رف معدات.
17. ملاحظة للمملكة المتحدة فقط: إذا كانت ألوان الأسلاك في الأطراف الرئيسية لهذه الوحدة لا تتوافق مع العلامات الملونة المحددة للأطراف في المقبس الخاص بك، اتبع ما يلي:
  - أ) يجب توصيل السلك الملون بالأخضر والأصفر بالطرف المميز بالحرف E، أو رمز الأرضي أو الملون بالأخضر أو الأصفر.
  - ب) يجب توصيل السلك الملون باللون الأزرق بالطرف المميز بالحرف N، أو ذو اللون الأسود.
  - ج) يجب توصيل السلك الملون بالبنّي بالطرف المميز بالحرف L، أو ذو اللون الأحمر.
18. لا يجب تعريض هذا الجهاز الكهربائي لتفقيط أو رش السوائل، كما يجب العناية به بعدم وضع الأشياء التي تحتوي على سوائل، مثل الزهريات، فوق الجهاز.
19. لا يعطل مفتاح التشغيل/الإيقاف بهذه الوحدة جانبي الأطراف الرئيسية الأولية. قد توجد شحنات كهربية خطيرة داخل هيكل الجهاز عندما يكون مفتاح التشغيل/الإيقاف في وضع الإيقاف. يتم استخدام قابس الأطراف الرئيسية أو وصلة الجهاز كجهاز قطع الاتصال، الذي يجب أن يظل قابل للتشغيل.
20. قد يسبب التعرض لمستويات ضوضاء عالية جداً إلى فقدان سمع دائم. يختلف الأشخاص في مدى حساسيتهم للضوضاء التي تؤدي لفقدان السمع لحد بعيد، لكن تقريباً قد يفقد الشخص بعض من سمعه إذا تعرض لقدر كافي من الضوضاء الشديدة وذلك لوقت كافي. وقد حددت إدارة الصحة والأمان المهني بالحكومة الأمريكية مستوى التعرض المسموح به للضوضاء:

المدة يومياً بالساعات	مستوي الصوت بالديسيبل، الاستجابة التدرجية
8	90
6	92
4	95
3	97
2	100
2/1 1	102
1	105
2/1	110
4/1 أو أقل	115

وفقاً لإدارة الصحة والأمان المهني، فإن أي تعرض أعلى من الحدود المسموح بها يمكن أن يؤدي إلى فقدان جزئي للسمع. يجب ارتداء سدادات الأذن أو واقبات قنوات الأذن أو فوق الأذن عند تشغيل أنظمة تكبير الصوت وذلك لمنع فقدان السمع الدائم، إذا كان التعرض يزيد على الحدود التي تم عرضها في النقطة الرابعة أعلاه. للضمان من التعرض للخطر المحتمل لمستويات ضغط صوتي عالية، ينصح جميع الأشخاص المعرضين لمعدات قادرة على إصدار مستويات ضغط صوتي عالية مثل أنظمة مكبرات الصوت أن يستخدموا واقبات الأذن لحمايتهم أثناء التشغيل.

**احفظ هذه التعليمات!**



## FCC Compliancy Statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, that may cause undesired operation.

**Warning:** Changes or modifications to the equipment not approved by Peavey Electronics Corp. can void the user's authority to use the equipment.

**Note -** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.





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

Correct Disposal of this product. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems, or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.



Logotipo al que se hace referencia en la Directiva 2002/96/EC AnexoIV(OJ(L)37/38,13.02.03 y definido en EN 50419: 2005

La barra es el símbolo para marcar los nuevos desechos y se aplica solamente a equipamiento fabricado después del 13 de agosto de 2005

Forma correcta de deshacerse de este producto. Esta marca indica que este producto no debe arrojarse junto con otros desperdicios domésticos en ningún lugar de la Unión Europea. Para evitar posibles daños al medio ambiente o a la salud humana debidos a desechos no controlados de desperdicios, recíclolo responsablemente para promover la reutilización sostenible de los recursos materiales. Para devolver su dispositivo usado, utilice los sistemas de devolución recolección, o contacte con el vendedor minorista donde compró el producto. Ellos pueden llevar este producto al reciclado seguro para el medio ambiente.



Logo documenté dans l'annexe de la Directive 2002/96/EC IV\_(OJ(L)37/38,13.02.03 et défini par la norme EN 50419:2005

La barre est le symbole de signalisation des nouveaux déchets qui s'applique uniquement aux équipements fabriqués après le 13 août 2005

Recyclez correctement ce produit. Cette signalisation indique que ce produit ne doit pas être jeté avec les autres déchets domestiques dans les pays de l'UE. Pour éviter toute atteinte à l'environnement ou à la santé humaine par des décharges sauvages, recyclez ce produit de manière responsable pour encourager la réutilisation durable des ressources matérielles. Pour retourner votre appareil usé, veuillez utiliser les systèmes de collecte et de retour, ou contactez le revendeur à qui vous avez acheté le produit. Il prendra en charge ce produit de manière à protéger l'environnement.



Logo eingetragen in Richtlinie 2002/96/EC Anhangl IV\_(OJ(L)37/38, 13.02.03 und definiert in EN 50419: 2005

Der Balken ist das Symbol zur Kennzeichnung neuen Abfalls und wird nur auf Geräten angebracht, die nach dem 13. August 2005 gefertigt wurden

Entsorgen Sie dieses Produkt umweltgerecht. Diese Kennzeichnung bedeutet, dass das Produkt innerhalb der EU nicht mit dem Hausmüll entsorgt werden darf. Zur Vermeidung von Umwelt- und Gesundheitsschäden durch unkontrollierte Entsorgung recyceln Sie das Gerät bitte. Geben Sie das Gerät an einer Sammelstelle für Elektroaltgeräte ab oder wenden Sie sich an Ihren Fachhändler.



Logo viitattu direktiivin 2002/96/EY liitteeseen IV(OJ(L)37/38,13.02.03 mukaisesti, määrittely standardissa EN 50419: 2005

Palkki on uuden jätteen merkintäsymboli ja sitä käytetään vain 13. elokuuta 2005 jälkeen valmistetuissa laitteissa

Tuotteen oikea hävittäminen. Tämä merkki ilmaisee, että tuotetta ei saa hävittää muun talousjätteen mukana EU:n alueella. Jotta estetään mahdolliset valvomattoman jätteiden hävittämisen haitat ympäristölle tai ihmisten terveydelle, kierrätä tuote vastuullisesti ja edistä materiaalien kestävä uudelleenkäyttöä. Voit palauttaa käytetyn laitteen käyttämällä keräysjärjestelmiä tai otamalla yhteyttä jälleenmyyjään, jolta laite ostettiin. He voivat toimittaa tuotteen ympäristön kannalta turvalliseen kierrätykseen.



Logotyp som hänvisas till i direktiv 2002/96/EG bilaga IV(OJ(L)37/38,13.02.03 och definieras i EN 50419: 2005

Stapeln är symbolen för märkning av nytt avfall och är endast tillämplig på utrustning som tillverkats efter 13 augusti, 2005

Korrekt bortscaffande av denna produkt. Denna märkning betyder att produkten inte skall bortscaffas tillsammans med annat hushållsavfall i hela EU. För att förhindra eventuella skador för miljön eller människors hälsa från okontrollerat bortscaffande av avfall, återvinn det ansvarsfullt för att främja hållbar återanvändning av materiella resurser. För att returnera din använda enhet, använd återanvändnings- och uppsamlingsystem, eller kontakta den återförsäljare där produkten köptes. De kan ta hand om denna produkt för miljösäker återvinning.



Het logo waarnaar wordt verwezen in de bijlage van Richtlijn 2002/96/EG IV(OJ(L)37/38,13.02.03 en omschreven in EN 50419: 2005

De balk is het symbool voor het markeren van nieuw afval en wordt alleen toegepast op apparatuur dat is vervaardigd na 13 augustus 2005

Juiste verwijdering van dit product. Deze markering geeft aan dat dit product nergens in de Europese Unie met ander huishoudelijk afval mag worden afgevoerd. Om mogelijke schade aan het milieu of gezondheid door ongecontroleerde afvalverwijdering te voorkomen, recycle het op een verantwoorde wijze om het duurzame hergebruik van materiaalgrondstoffen te bevorderen. Om uw gebruikte apparaat in te leveren, kunt u gebruik maken van de inlever- en verzamelingsystemen of contact opnemen met de verkoper waar het product is gekocht. Zij kunnen dit product innemen voor het milieuvriendelijk recycling.



Simbolo presente nell'allegato IV\_(OJ(L)37/38,13.02.03 della direttiva 2002/96/CE e definito nello standard EN 50419: 2005

La barra è il simbolo indicante un nuovo rifiuto ed è applicata esclusivamente ad apparecchiature prodotte successivamente al 13 agosto 2005

Corretto smaltimento di questo prodotto. Questo simbolo indica che questo prodotto non deve essere smaltito insieme ad altri rifiuti domestici in tutta Europa. Per prevenire possibili danni all'ambiente o alla salute umana dovuti allo smaltimento non regolamentato dei rifiuti, è necessario riciclarlo responsabilmente al fine di promuovere il riutilizzo sostenibile delle risorse materiali. Per restituire il dispositivo usato, utilizzare i sistemi di restituzione e raccolta o contattare il rivenditore presso il quale il prodotto è stato acquistato. Quest'ultimo può occuparsi del riciclaggio ambientale sicuro di questo prodotto.



标志参照 2002/96/EC 指令附录 IV(OJ(L)37/38,13.02.03 和 EN 50419: 2005 定义

条码符号标示新废弃物，仅适用于 2005 年 8 月 13 日后生产的设备

正确处理此产品。此标志表明该产品在整个欧盟区内不应该与其他家居生活废弃物一同处置。为防止因无控废弃物处置对环境或人类健康可能造成的危害，请负责地回收并促进可重复使用的物质资源。要返还旧设备，请使用退回收集系统，或联系购买此产品的零售商。他们会为环境安全回收此产品。

## S-24™ Mixing Console

### Description

The S-24 Sanctuary Series is a 21 channel mixing console specifically designed to meet the needs of churches, schools and public venues. The challenge of these applications is to provide high quality sound where the experience of the operator ranges from novice to experienced. In many cases, these sound systems are used without an operator. The S-24 mixing system meets these challenges by incorporating a unique set of features which not only make it easier to achieve outstanding sound quality, but also simplify normal operation. In many applications, the S-24 can simply be pre-set, leaving the mix to the system's automatic circuitry.

One of the S-24's innovations is Automix™, an automatic mixing function provided on the first four channels. Once set up is complete, the automatic mixer watches the incoming levels and automatically turns down unused and low priority inputs to give dominance to the main microphone. This gain-sharing Automix technology makes the S-24 a natural for churches, auditoriums and small conference rooms because it simplifies operation, reduces feedback and improves intelligibility. A compression circuit on these patent-pending channels helps keep things from getting too loud, and 18 dB/octave low-cut filters remove rumble and handling noise.

Another feature unique to Peavey Electronics is a new type of mid-equalization control called the Mid-Morph™ (patent pending). This control is actually two mid controls in one. When cut, it pulls out low-mid frequencies that causes the sound to be thick and muddy; when boosted, it shifts to an upper-mid frequency that brightens the vocal range.

All channels have three band equalization, assignment selection, mute and post-fader sends to Monitor 1 and Monitor 2. The first 18 channels also have sends to the internal effects. LEDs light to show the presence of signal and the status of the channel. The microphone preamps use our highly acclaimed low noise discrete transistor circuitry.

The three stereo channels (19/20, 21/22 and 23/24) have input selection switches rather than group assign switches. The user can use these three-position input selector switches to send the left and right inputs in stereo; the left input only; or the right input only to the main outputs. The two mono input modes make it easy to work with split sound tracks that have the music on one channel and the vocals on the other. Complementing this feature, the Monitor Blend control allows a mix of the vocal and instrument tracks to be sent to the monitors. This allows the vocal track to be mixed with accompaniment in the monitors but still have only the accompaniment track in the main sound system. (This works great for the children's choir.)

High-quality digital reverb is provided internally, with four presets and a mute. The S-24 system also includes the award-winning Feedback Ferret® circuitry that automatically eliminates acoustic feedback on the Main and Monitor 1 outputs. To improve the quality of the audio mix and to make the S-24 system easier to operate, the Choir and Vocal sub groups have adjustable noise reduction and dynamic-range compression controls. The solo group also features a low-cut filter that reduces rumble and microphone handling noise. The choir group is full range to accommodate other microphones and instruments.

To improve the definition of vocals and spoken word, a specially designed high frequency enhancement circuit is provided. This Vocal Enhancement can have a subtle-but-pleasing impact on the overall sound quality. This affects all sub groups (pulpit, solo and choir) but not the two stereo line channels.

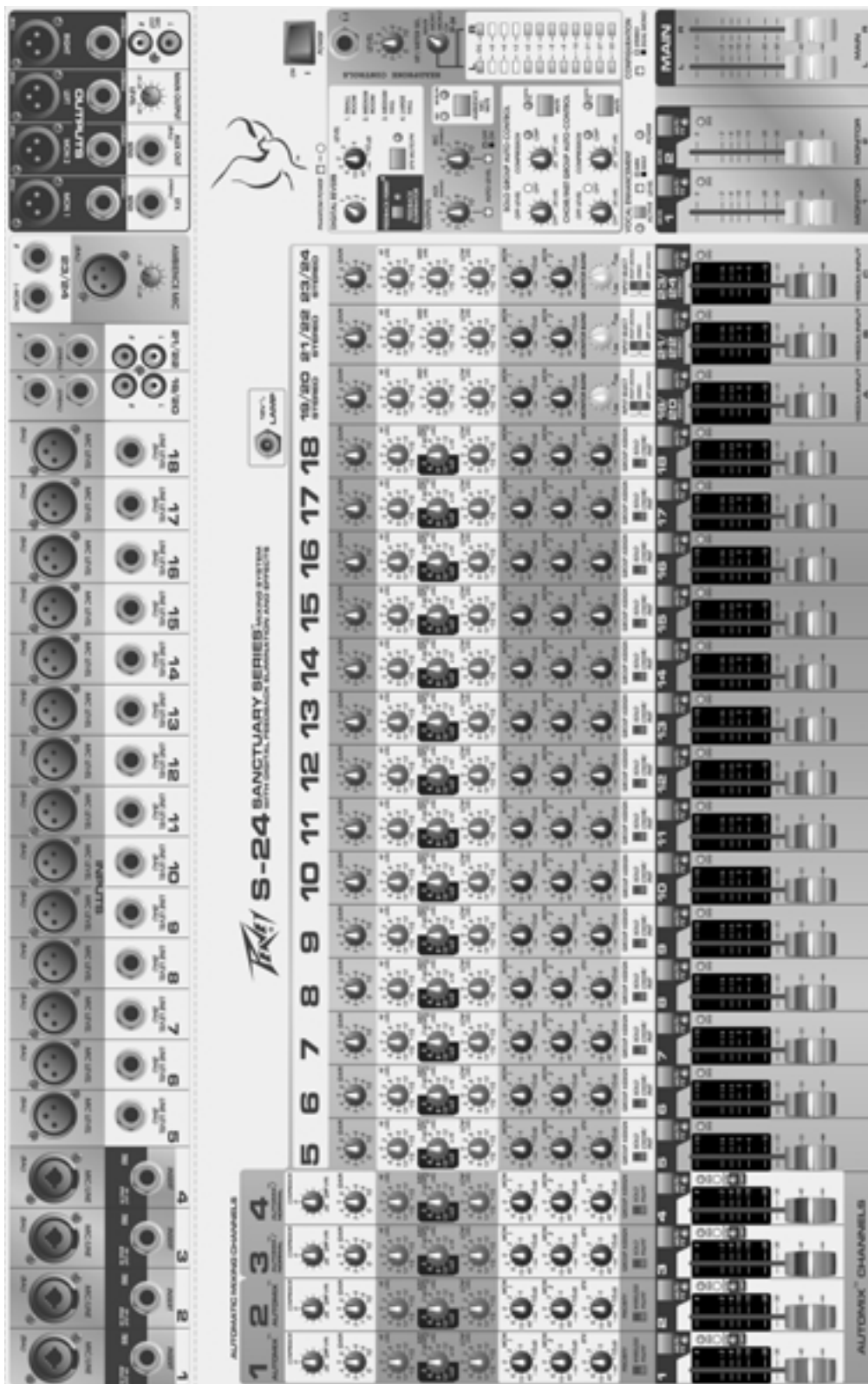
To enhance the flexibility of these products, the output configuration of the S-24 can be set for stereo or dual mono operation. In stereo mode, the left and right master faders and outputs work the same as a conventional stereo mixer. Because many sound systems are monaural, the dual-mono mode allows the left and right outputs to work independently providing an additional output with master control.

In addition to the main and monitor outputs, the S-24 also has a stereo Record and monaural Auxiliary output. These outputs each have their own level controls that can be used for applications such as recording, broadcast, lobby, nursery or cry rooms. These outputs are independent of the master L/R fader signals and feature an AUTO-LEVEL circuit that compresses the dynamic range. Although the reduced dynamic range makes for easier listening at low to mid volumes, the AUTO-LEVEL circuit can be disabled if not needed. To further enhance these outputs, the S-24 has a dedicated Ambient mic input to add congregational singing, the piano or organ and other sound from the room to the recording and remote signals.

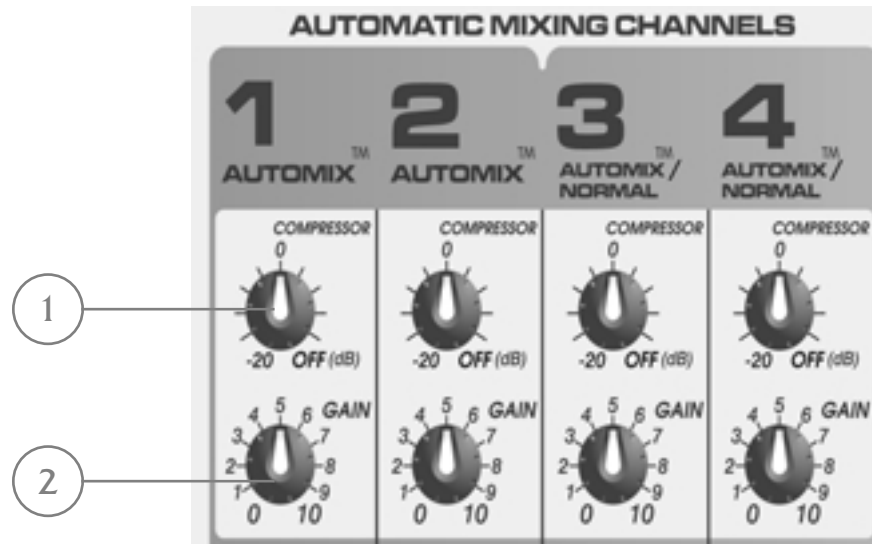
The headphone amplifier with headphone/meter selector switch is another important tool for setting and operating the S-24™. The user can listen to and observe the level of the main L/R output, hear the mix and monitor the level to Monitor outputs 1 and 2 or listen to the stereo channels to cue tapes or CDs without sending the signal to the house or monitor amplifiers.

**Note:** As with all professional audio products, the performance is only as good as the installation allows. Please take the time to read this manual to understand how this product should be installed and adjusted for optimal performance.

## CHANNEL & MASTER FUNCTIONS



1. **COMPRESSOR THRESHOLD:** The first four channels have auto-mixing and compressor capabilities when assigned to the pulpit or wireless group. These soft-knee compressors are designed to keep levels from getting out of hand. The threshold control sets the level at which compression begins. The CMP LED located beside the channel's fader lights indicate that compression is taking place. To set it, start with the control fully clockwise and turn it down to the point that the LED lights only on the occasional peaks. If compression is not required, set this control to maximum. Compression is only available on channels 3 or 4 if they are assigned to the pulpit group.
2. **GAIN:** This control establishes the nominal operating level for the channel. The input gain can be adjusted over a wide range to compensate for soft voices or very loud drums. To maximize the signal-to-noise ratio, the gain should be set for proper level with the channel fader set to 0. If the signal present LED rarely lights or the clip LED comes on, it might be time to redo the system setup.



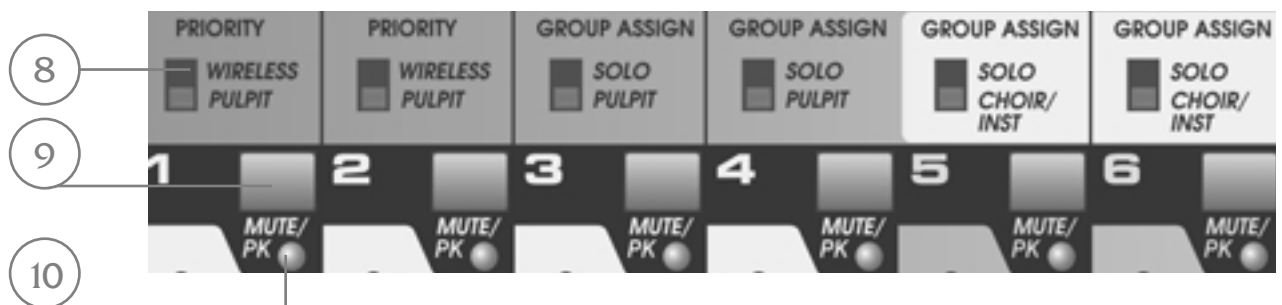
3. **HI EQ:** This is a shelving-type active tone control that adjusts treble frequency levels (+/-15 dB at 10 kHz). It is designed to remove noise or to add brilliance to the signal, depending on the quality of the source.
4. **MID-MORPH EQ:** Where most mid-range controls work at just one frequency, the Mid-Morph works at two. When turned counterclockwise, it cuts at 225 Hz to reduce frequencies that muddy the sound. When turned clockwise, it boosts at 4 kHz to add intelligibility to vocals. Either way, improved vocal or instrument definition can be achieved.
5. **LOW EQ:** This is a shelving-type active tone control that adjusts bass frequency levels (+/-15 dB at 70 Hz). It will add depth to thin signals or clean up overly thick ones.



6. **MONITOR SEND (1–2):** The monitor sends adjust the level of the channel signal added to the monitor mix. For the Automix channels 1-4, the monitor send is post EQ, post fader, post Automix™. On channels 5-24, the monitor sends are post-EQ, pre-fader. The center detent is the unity gain (nominal) position.
7. **EFFECTS SEND:** This adjusts the level of the channel signal (post EQ, post fader) added to the effects mix. The signal is sent to the internal effects processor and to a master effects send output jack on the rear panel. If the internal effects are not needed, this send can be used as an additional output for monitors or external processing. The center detent is the unity gain (nominal) position.

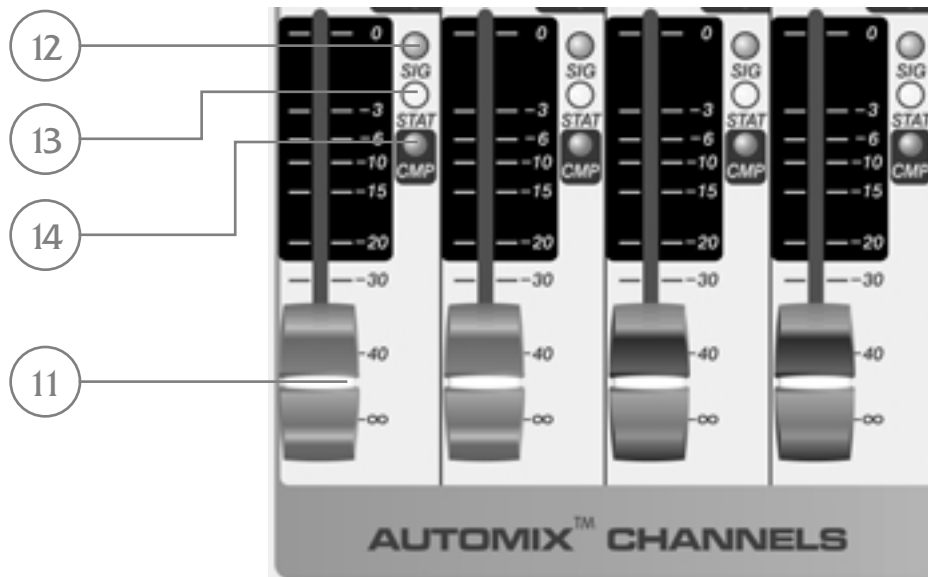


8. **GROUP (PRIORITY) ASSIGNMENT:** This switch determines which group receives the channel signal. The first two channels are always assigned to the Automix group, so this switch sets the priority, with the wireless position being the highest. The dominance of a channel is determined both by the level of the signal through its channel compared to others and by the priority setting of the channel. Setting a microphone to the wireless position, gives it precedence over a fixed microphone set to pulpit. Using this approach reduces the comb-filtering effects that occur when both microphones pick up the same person speaking. Channels 3 and 4 are selectable between the Automix group and the solo group. The solo group has a high-pass filter to remove rumble and low frequency noise. Channels 5 through 18 can be assigned to either the solo group or the choir (normal) group.

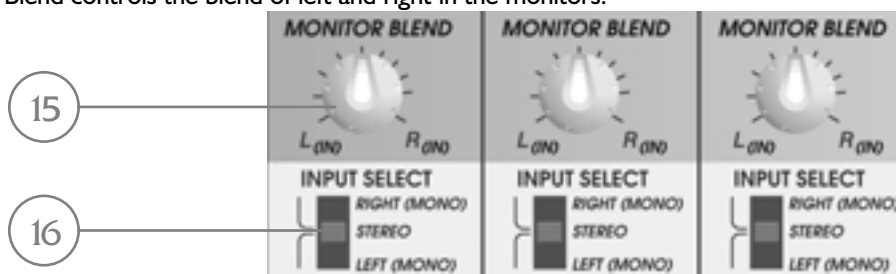


9. **MUTE:** Mutes all channel signals including left-right, monitor, and effects sends. This is an Off switch for the entire channel. The two stereo channels are different in that when they are muted, they can still be monitored (cued up) in the headphones and on the meters using the headphone selector.
10. **MUTE/CLIP LED:** This light normally indicates the channel signal level is nearing the overload point. It monitors three points for overload: the input gain stage, equalization and post-fader gain. It illuminates at +19 dBu and warns that gain or EQ boost should be reduced. There is roughly 2 dB of headroom remaining when it lights. If the mute switch is depressed, it lights continuously to indicate that the channel is off.

11. **FADER:** This is the channel output-level control. This control works somewhat differently on the Automix™ channels 1–4 and the remaining inputs. On channels 1–4, the fader scale is from off to 0 dB. The gain on these channels is best adjusted so that feedback will not occur with the fader set at 0. The fader will then be operated in the black area (0 to -20 dB). On the remaining channels the fader scale is from off to +10 dB of gain. The optimum setting for these channels is the 0 (unity gain) position. Since the monitor and effect sends receive their signal after this control, it also controls their level.
12. **SIGNAL PRESENT:** When the channel signal exceeds -20 dBu, this lights, giving a quick visual indication that audio is present in the channel. This light should blink on during normal use.
13. **CHANNEL STATUS:** On a channel assigned to the Automix group, this light indicates that the channel is active and is a dominant Automix channel. If it is not lit, it does not mean that the channel is dead, but that the level is being attenuated. If channel 3 or 4 are assigned to the solo group, the state of their status LED is meaningless. With no signal on any Automix channel, all four status LEDs may light since all share the same gain.
14. **COMPRESSION ACTIVE:** When the level set by the compressor threshold control is exceeded, compression of the signal begins. When the gain reduction exceeds 3 dB, this light will illuminate. The compressor on these channels is intended to help control the dynamic range if someone speaks loudly. The light should only come on during loud speech. If the light is on much of the time, the dynamic range can be unnaturally compressed and the channel will be more prone to feedback.

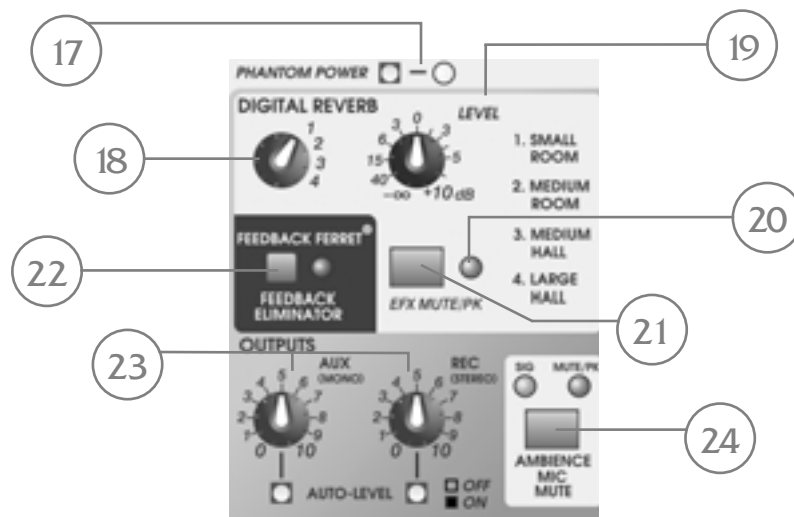


15. **MONITOR BLEND:** The Monitor Blend control adjusts the mix of the left and right inputs sent to both the Monitor 1 and Monitor 2 outputs. Setting this control in the center equally blends the left and right input into the monitors. If a split accompaniment track is played with vocals on one track, the Monitor Blend controls the mix of vocals added to the monitors to assist the singer(s). The headphone monitor can help make this adjustment.
16. **INPUT SELECT:** The inputs to channels 19/20, 22/23 and 23/24 can be selected as left (mono), right (mono) or normal stereo. These channels are always assigned to the mains and cannot be assigned to another sub group. This input select switch is specifically included to help when using soundtracks that are split into vocal and accompaniment tracks. The track with the music can be selected and sent to the house, while the Monitor Blend controls the blend of left and right in the monitors.

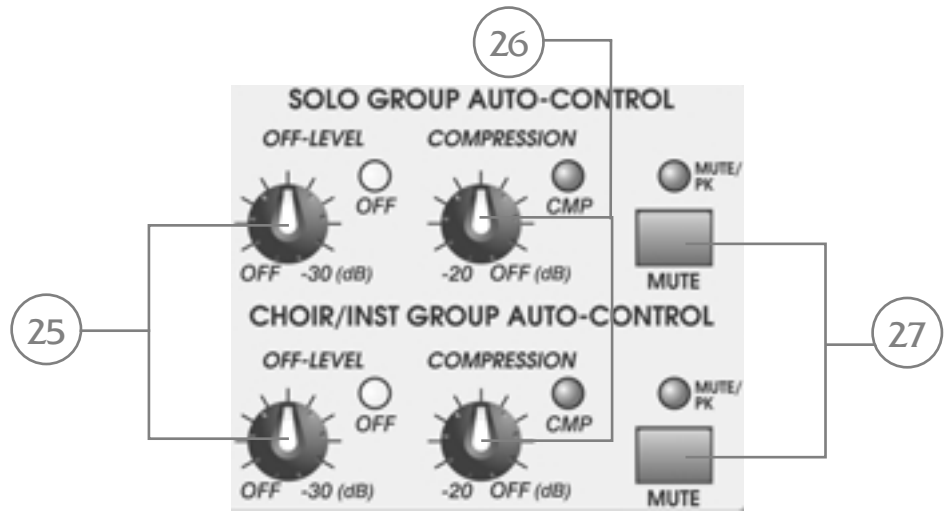


## Master Functions:

17. **PHANTOM POWER:** Applies +48 VDC voltage to the input XLR connectors to power microphones requiring it. If phantom power is used, do not connect unbalanced dynamic microphones or other devices to the XLR inputs that cannot handle this voltage. An LED indicates when phantom power is on.
18. **EFFECTS SELECT:** There are four pre-programmed reverbs built into the console ranging from small to large. Use this switch to select the reverb that best fits the style of music being performed.
19. **EFFECTS LEVEL:** The amount of the effects signal sent to the main outputs is determined by this control. The channel effects send levels must also be turned up for reverb to be present.
20. **EFFECTS MUTE/PK LED:** This LED lights when the effects send level from the channels approaches 6 dB of clipping. Reduce the channel send levels if this blinks often. This light also illuminates when the effects output is muted.
21. **EFFECTS MUTE:** This switch mutes the effects instantly. Although reverb can sound good on music, it can be very distracting on spoken word. This switch allows the operator to quickly mute the reverb output when vocal mics are used for speaking.
22. **FEEDBACK FERRET® SETUP:** The Feedback Ferret has three modes of operation. Normal, when it is scanning for feedback and placing and removing notch filters; Setup, when it is establishing fixed filters that will be stored; or Bypass. When the blue LED is on, it is in the normal mode and is looking for problems to solve. If the switch is pressed and held for three seconds, the LED will flash once and the Ferret will be in the setup, or learn mode. If the switch is pressed and held for six seconds, the LED will flash twice and the Feedback Ferret is in bypass mode. Please read the S-24 setup instructions later in this manual for detail instructions on setting the Ferret.



23. **AUX AND REC OUTPUT LEVELS WITH AUTO-LEVEL:** These are the master output controls for the Aux and Record outputs. The record output is unbalanced stereo and the aux output is balanced mono. The signal can either be unprocessed or automatically leveled with an automatic level control (AUTO-LEVEL) circuit. The AUTO-LEVEL will keep the levels within a narrow dynamic range to maintain higher average levels for tape or hearing assisted feeds. The AUTO-LEVEL circuit is enabled by depressing the concealed switches using a small tool. The circuit is active when the switch is in the depressed position.
24. **AMBIENCE MIC MUTE:** The Ambience mic input is used to add room ambience, such as congregational response, singing and organ, to the Remote and Record outputs. The Gain Control for this input is on the back panel of the S-24 mix console. The Mute Control removes this signal from these outputs.



25. **OFF-LEVEL THRESHOLD:** The solo and the choir groups have adjustable threshold downward expanders that reduce noise by lowering the signal when the level drops beneath a set point. This not only cleans up background noise, but also reduces feedback problems by attenuating mics assigned to this group when there is no activity. An LED indicates that the group is being attenuated. To disable noise reduction, set the control to minimum (off).
26. **COMPRESSION THRESHOLD:** In addition to noise reduction, soft-knee compression is available for both the solo and the choir groups. The threshold is adjustable to set the amount of compression desired. An LED illuminates to indicate the group is being attenuated. The control should be set so that the light only illuminates at peaks and is not consistently on. To disable compression, set the control to maximum (full clockwise).

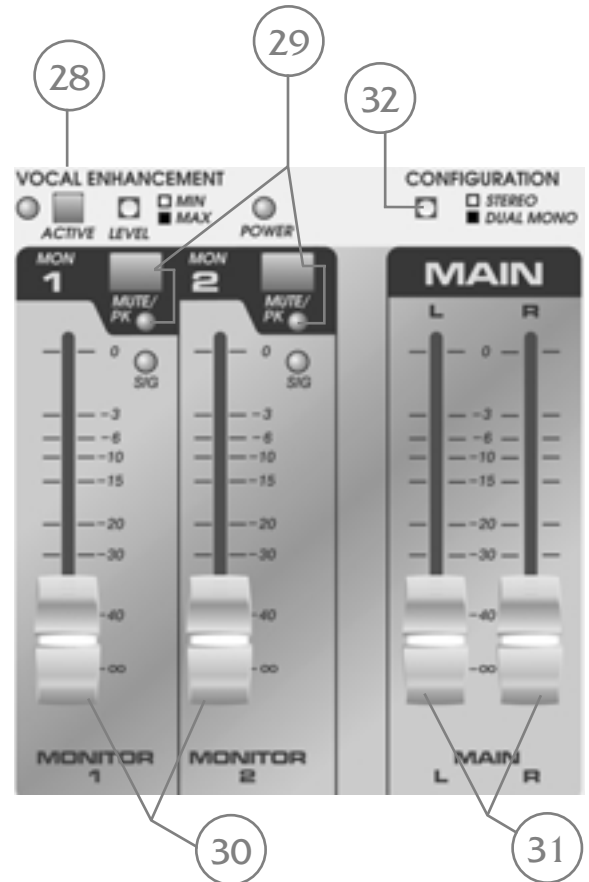
27. **GROUP MUTE:** The Solo and Choir/Inst Group mute controls disable the signal from these input groups going to the main Left/Right outputs. You may also want to mute the Effects at the same time. The Mute LED lights when the group is muted.

28. **VOCAL ENHANCE:** The circuitry of the vocal enhance has been designed to improve clarity and definition. The frequencies have been chosen to work well with speech and singing. The amount is determined by a concealed preset switch (MIN up, MAX down).

29. **MONITOR CLIP/MUTE:** Mutes the monitor output. The indicator will light when it is muted. The light also cautions that the monitor signal is within 2 dB of clipping, and channel send levels or the master monitor fader level should be reduced.

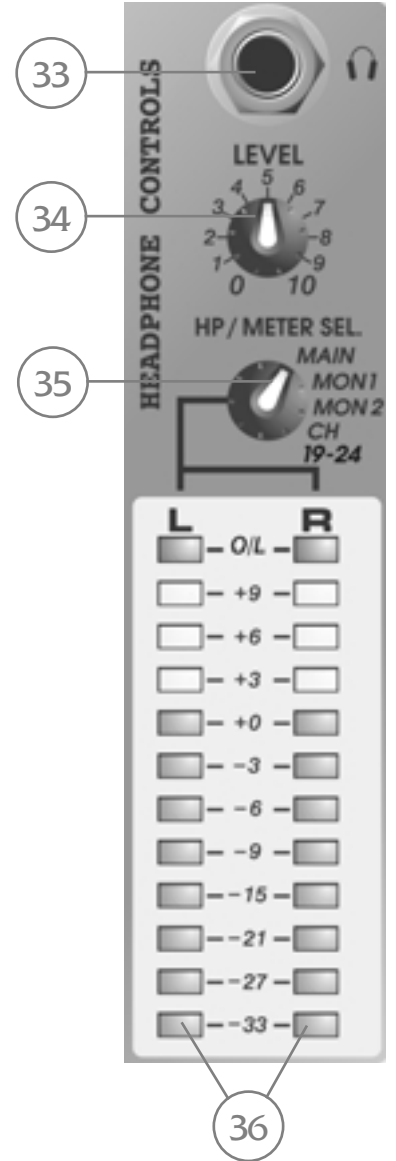
30. **MONITOR MASTER FADER:** Sets the overall level of the signal that is sent to the monitor output jacks. The headphone/meter select switch can be used to check the output level with the meter array.

31. **MAIN LEFT AND RIGHT FADERS:** These are the master left and right faders. If the main outputs are set to dual mono, both have the same signal (sum of left and right) and can be used as zone outputs for house and annex levels etc. These controls are best operated at the 0 (full up) position. It is most important that

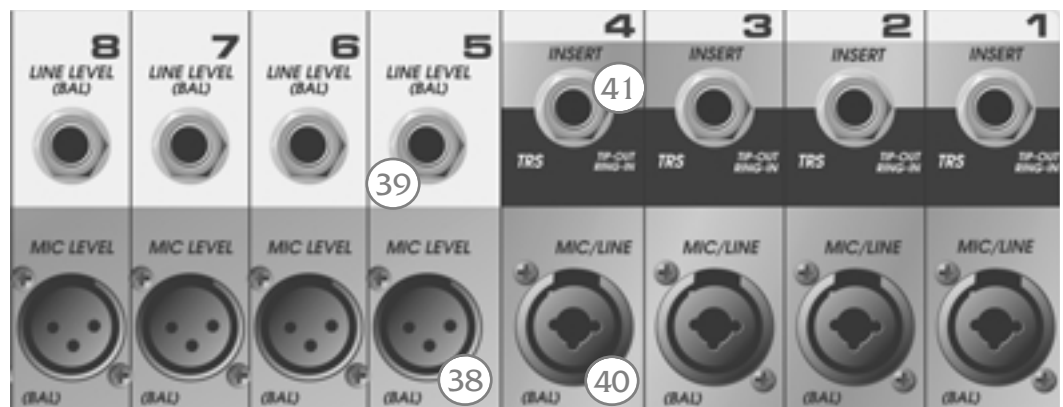


they be at 0 when channel gains are set; however, they can be used to lower the overall sound level if needed.

32. **CONFIGURATION:** The main outputs can be configured as full stereo or as a mono sum of the left and right signals. When in dual-mono mode, the left and right outputs become individual outputs with their levels set independently by their master faders.
33. **HEADPHONE OUTPUT:** This stereo jack (TRS) provides drive for the headphones. The level is set by the headphone level control. Tip = Left, Ring = Right, Shield = Ground.
34. **HEADPHONE LEVEL:** This control sets the volume of the headphones.
35. **HEADPHONE/METER SOURCE:** Selects the signal(s) sent to the headphone amplifier and to the output meter array. Options include the main L/R outputs, monitor 1, monitor 2 or a cue mix of channel 19/20, 21/22 and 23/24 pre-fader signals. This last position is useful for setting up tapes and CDs (on channels 19-24). Muting the stereo channels during cueing does not affect the headphone signal but prevents the audio from being sent to the speaker systems.
36. **LED METER ARRAY:** A 12-segment LED array monitors the level of the signals selected by the Headphone Source switch. When the switch is in the MAIN position, the meters monitor the left and right outputs. The 0 dB reference level corresponds to +4 dBu. In normal operation, the channel gains should be set so that the meters light near 0 dB at loud points in the service. The output trim attenuator on the rear panel should then be adjusted for the desired house volume. This will give the best signal-to-noise ratio. The same procedure should be used on the monitor outputs, but the power amplifier input controls will need to be set for desired volume. Setting the output trim is part of the S-24 setup procedure.
37. **12V $\sim$ :** This output is designed to power mixer lamps such as the Peavey ML-1.

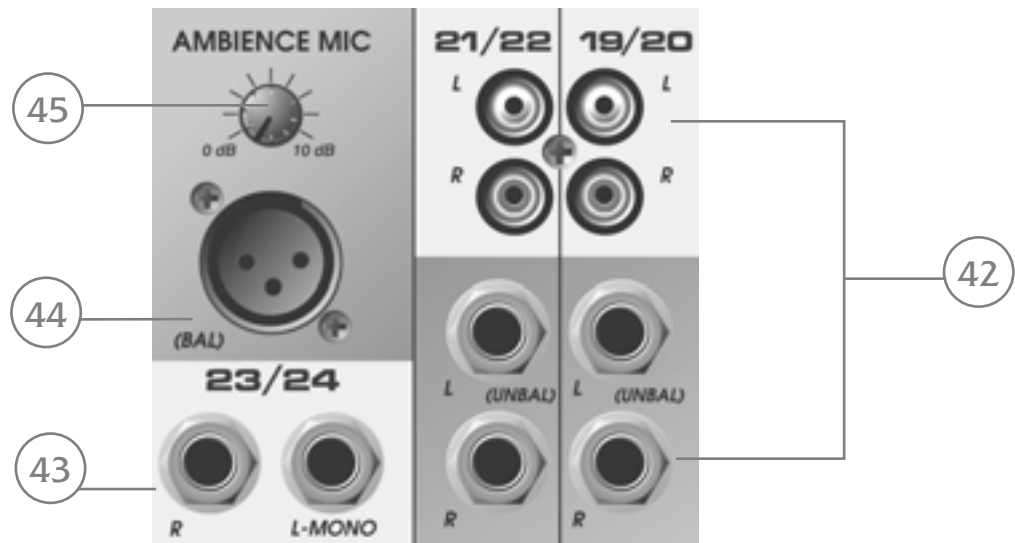


## INPUTS & OUTPUTS



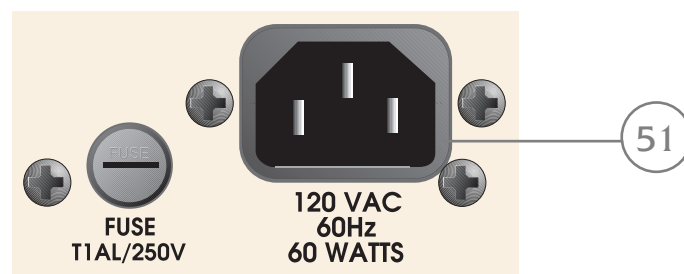
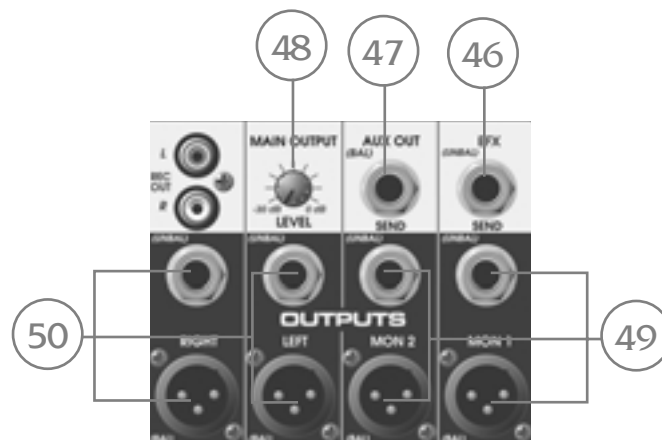
### Input and Output Jacks:

- 38. **MIC INPUT:** XLR balanced input optimized for a microphone or other low impedance source. Pin 2 is the positive input. Because of the wide range of gain adjustment, signal levels up to +22 dBu can be accommodated.
- 39. **LINE INPUT:** 1/4" balanced (TRS) 10 K Ohm impedance input. The tip is the positive input, which should be used for unbalanced inputs. It has 20 dB less gain than the XLR input and does not have phantom power available. The Mic and Line inputs should not be used simultaneously.
- 40. **MIC/LINE:** The Mic/Line input on channels 1-4 combines the Mic and Line input functions (see 38 and 39) into a single combination XLR-1/4" connector.
- 41. **INSERT:** Automix™ channels 1-4 have insert connectors. Inserts allow an external signal processing unit, such as an equalizer, to be connected to an individual Input channel.



- 42. **STEREO INPUTS:** Channel 19/20, 21/22 and 23/24 are stereo channels with both RCA and 1/4" inputs. The RCA and 1/4" jacks in each channel are wired in parallel and can't be used simultaneously. Stereo input 23/24 has 1/4" inputs that are configured as Left/Mono and Right. If this input is used with a monaural source, connect to the Left/Mono input only.
- 43. **STEREO INPUT 23/24:** Stereo input 23/24 has 1/4" inputs. If this input is used with a monaural source, connect to the Left/Mono input only.
- 44. **AMBIENCE MIC INPUT:** This input is used to add room ambience, such as congregational singing and other room sound, to the Record and Remote outputs. This input does not go to the main output. A mute button is provided on the front panel to turn off this input when added ambience is not needed. This XLR balanced input is optimized for a microphone or other low impedance source. Pin 2 is the positive input. Because of the wide range of gain adjustment, signal levels up to +22 dBu can be accommodated.

45. **AMBIENCE MIC GAIN CONTROL:** This control sets the amount of ambient sound from the room that goes to the Record and Remote outputs. It can be set by listening to the headphone output on the recorder.
46. **EFFECTS SEND:** An unbalanced output of the dry signal that is also sent to the internal effects processor. It can be used to drive an external effects unit or as an additional monitor output (Monitor 3). If used as an additional output, be sure to mute the internal effects processor
47. **AUX OUTPUT:** A TRS balanced output from the Aux level control. It has a mono version of the record output signal with an independent level adjustment.
48. **L/R TRIM:** This control is an attenuator on the main L/R outputs. It is provided to match the nominal operating levels of the mixer to the power amplifier inputs. It is a stereo control that adjusts both the left and right together.
49. **MONITOR OUT (XLR and 1/4"):** 1/4" unbalanced and XLR balanced outputs of the monitor mix designed to feed an external monitor amplifier (Pin 2 is positive). The output level (nominal +4 dBu) is set by the individual channel, monitor-send controls and by the master monitor fader.
50. **MAIN OUTPUTS (XLR and 1/4"):** 1/4" unbalanced and XLR balanced outputs of the Left and Right mixes. The output level is set by the master Left and Right faders. The nominal levels are +4 dBu.
51. **AC MAINS INPUT:** Connect the line cord to this connector to provide power to the unit. Damage to the equipment may result if improper line voltage is used. Operate only with the specified AC input voltage applied.



The S-24™ has an extensive and impressive list of features and functions designed to make achieving good sound for worship as easy as possible. To reach this goal, please carefully read and follow the planning and setup procedure described below even if you are experienced with sound system setup. It will take a bit of time to complete the full procedure but you will be rewarded with better sound and easier operation. As you go through this procedure, you will notice that you will be asked to make many of the adjustments more than once. Because many mixer controls affect other settings, the procedure is designed to help you zero in on proper settings. Ultimately, it is virtually impossible to arrive at settings that never change. The goal here is to get things as close as possible and make little adjustments along the way as needed. Periodically, you may need to step back and repeat the setup procedure.

Once you go through the procedure a couple of times, it will actually go quickly, but you will want to allow an hour or two the first time. To help with the setup process, we also include notes explaining the goals and reasons for the procedures.

**NOTE:** *Although the analogy is an old one, it still applies here. A chain is only as strong as its weakest link. Good sound starts with the microphone and ends with the speakers and the room. Each element plays an important role in achieving good sound, and even the best equipment may not achieve the desired result if improperly installed or used.*

### Setup Goal

Our overall goal is to get high quality sound from the mixer while letting it do as much of the work as possible. With a little training, almost anyone should be able to successfully operate the S-24 once it is set up. Good results can be obtained by un-muting mics when needed and making an occasional adjustment of levels. If microphones are moved or added, some additional adjustments will be required.

This is done by:

- ▶ Setting the **Normal** position faders on the Choir and Solo mics to **0**. These faders may need to be adjusted during use, but it is always nice to know **0** is a good starting point.
- ▶ Adjusting the Automix channels so that the faders can generally be pushed to **0** if needed without feedback. These are often channels where it is sometimes difficult to get enough gain and it's nice to know where to stop.
- ▶ Adjusting the Compressors on the Automix™ channels so they compress during loud speech but not at normal speaking levels. This reduces the amount of manual adjustment needed.
- ▶ Setting the master faders at **0** (full up) so the system cannot be easily pushed into feedback.
- ▶ Adjusting the compressors on the Choir and Solo groups (if desired) to help control dynamic range. This can be most useful on solo singers or small groups where mics are hand held. The result can be a better mix that is easier to obtain.
- ▶ Adjusting the Noise Reduction on the Choir and Solo groups so when these microphones are not in use, the gain is automatically reduced to help keep noise from these mics out of the sound system. This will result in better-reinforced sound and better recordings.
- ▶ Setting the Feedback Ferret® so common feedback frequencies are filtered ahead of time for the mics normally used.
- ▶ Having the Feedback Ferret automatically detect and eliminate feedback if it occurs.
- ▶ Marking important settings on the S-24 so the controls can be returned to known good positions.
- ▶ By using AUTO-LEVEL circuitry to reduce dynamic range and by adding ambient room sound to the sound system signal, recordings, broadcast audio and sound to other areas can be improved.

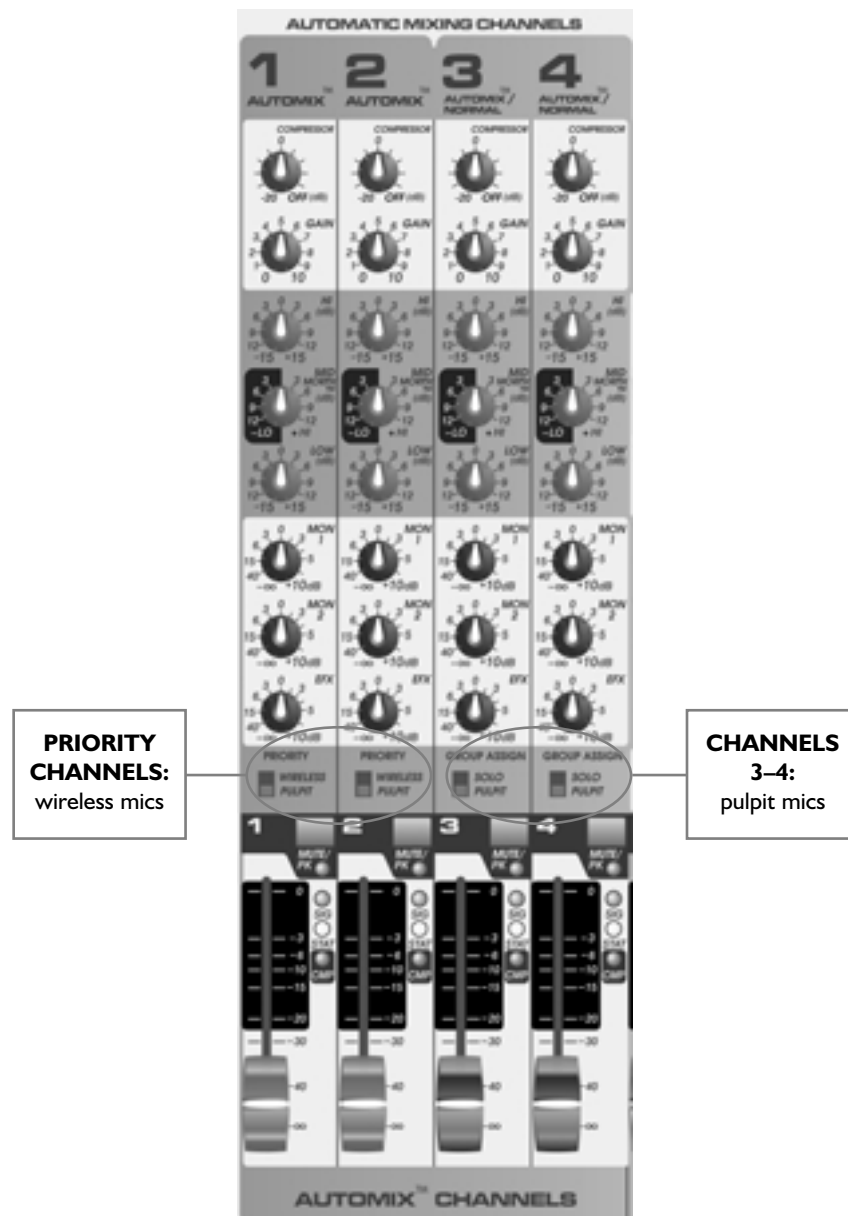
## Planning the installation:

The different inputs on the S-24™ are designed for different functions. Before starting the installation, it is important to plan what will be connected to each input and output.

**NOTE:** Many of the benefits that the S-24 offers require careful initial setup. This can all be quickly undone by curious fingers on a panel full of neat-looking knobs and switches. When you plan and install this product, make sure that it is installed where the operator can hear the sound system but where it is protected from unauthorized "experts." And remember, your job is not complete until these settings have been marked and recorded on paper with copies at the mix console and in a safe location. You may also wish to use adhesive arrows, such as those available from Peavey, on the control surface to indicate preferred settings.

The **Automatic Mix (Automix™) Channels** (1–4) are designed primarily for spoken word. Of those four inputs, two have a priority feature that can be used. The priority feature tells the S-24 to favor this mic in the mix if other automix mics also are receiving sound. This feature is very useful when a speaker wearing a wireless mic walks close to a stationary mic such as at a pulpit. By giving the wireless mic priority, the pulpit mic is automatically turned down minimizing the interference caused by both mics picking up the same source (a swishing or hollow sound). Connect mics needing priority to channels 1 and 2 and other primary speaking or fixed mics to 3 and 4.

### Automatic Mixing Channels: 1–4



**IMPORTANT** ▶

The S-24™ has two additional buses that allow mics to be grouped for noise reduction and compression. Try to group mics together on adjacent inputs that will be used together. Singing mics, particularly hand held mics, should be assigned to the SOLO group since it has a filter to reduce rumble and handling noise. Instruments are best routed to the CHOIR group.

Inputs 19/20, 21/22 and 23/24 are designed for line-level signals only. Use these inputs to connect CD players, tape players, audio from video sources, keyboards or even an auxiliary mixer if necessary. These inputs are not affected by the SOLO or CHOIR group controls.



The Ambience mic input goes to the Record and Auxiliary outputs only. This feature can add sound from the room (congregation singing and response) to the REC (recording) and AUX (auxiliary) outputs. The addition of some ambient sound can enhance the recording, broadcast, or sound to other parts of the building. There are many things to consider in placing this microphone. You will likely want to position the mic so it picks up a minimal amount of the sound from the speaker system. You will also want to maximize the pickup of congregation. It may also need to pick up instruments that do not go through the sound system (piano, organ)

### Stereo or mono Master operation

The S-24 can be used with Stereo or Monaural sound systems. If you plan on stereo operation, be sure that the left and right speaker systems can each cover the entire congregation area. If mono operation is selected, then the Left and Right main outputs can be used as independent output sends.

### Monitor systems: *the good, the bad, and the ugly*

The monitor system can be the best part of the sound system, but it can also be the worst. Great care and discipline is required in the setup and adjustment of the monitor system so that it is an asset. *What does a good monitor system do?* A good monitor system allows musicians and singers to perform together by enabling them to clearly hear themselves and/or others. It may also enable the choir and other service participants to better hear and participate in the worship service.

By contrast, a poorly designed or adjusted monitor system can make it difficult to hear what is needed by including too much information or by emphasizing too much of the wrong thing. In addition, as the volume of the monitor system increases, it can overwhelm the main sound system making the overall sound unintelligible. Because it is another parallel sound system, a monitor system adds to the potential for acoustic feedback.

The S-24 has two monitor sends, enabling it to provide two different mixes for the platform or choir, providing only the material that is needed. Monitor 1 also incorporates the Feedback Ferret® to help eliminate feedback through the monitor system. Because of this feature, Monitor Send 1 is best used for overhead choir foldback or general platform fill speakers. *(Please refer to the Glossary later in this guide for an explanation of unfamiliar terms.)* Monitor 2 can then be used for floor or spot monitors.

**IMPORTANT** ▶

The key things to remember about monitors:

- ▶ Get the sound to the people as directly as possible. (running everything through speakers 30 feet away is difficult and adds more “noise” to the room but this can work for applications like voice foldback to the choir)
- ▶ Try to keep sound from the monitors out of the microphones. Speakers directed into the rear of directional mics can help. (This can be difficult, but do the best you can.)
- ▶ Minimize the need for monitors by careful positioning of people and instruments.

- ▶ Start with a good mix on the main sound system and add only the mics that are needed to the monitors.
- ▶ Try to keep the levels low.

## Other outputs

**Record (REC) output.** This output is a stereo output intended for recording or broadcast. A switch is provided to engage the AUTO-LEVEL circuit to reduce the dynamic range of the recording.

**Auxiliary (AUX) output.** This output can be used for sending audio to other places, such as the narthex, cry room, nursery etc. or it can be used as a broadcast feed. A switch is provided to engage the AUTO-LEVEL circuit to reduce dynamic range.

**NOTE:** AUTO-LEVEL reduces the variation in volume between loud and soft. Although the variation in volume (dynamic range) is an important part of the service, it can make listening in other rooms, the nursery, cry room, narthex, at home or in the car more difficult. The AUTO-LEVEL automatically reduces the dynamic range to make listening in these environments easier.

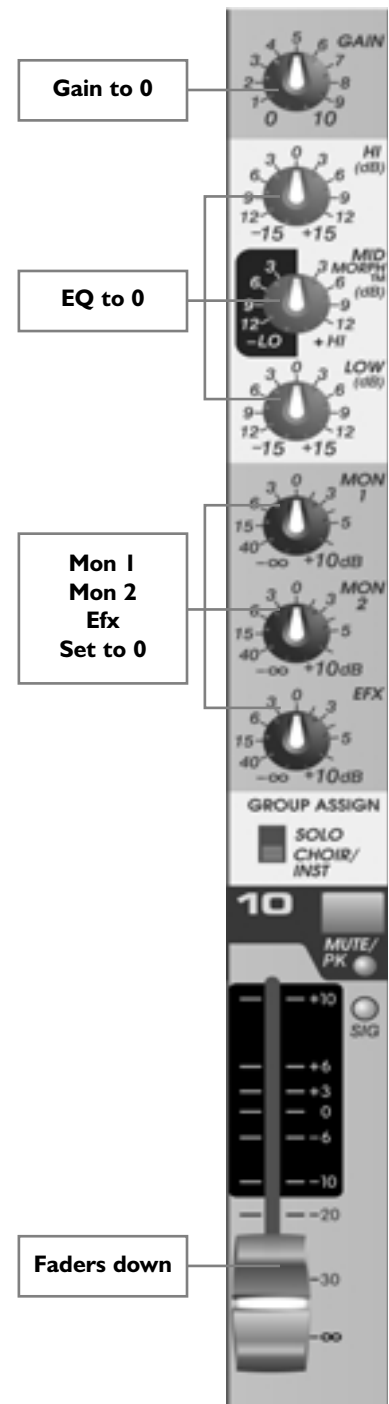
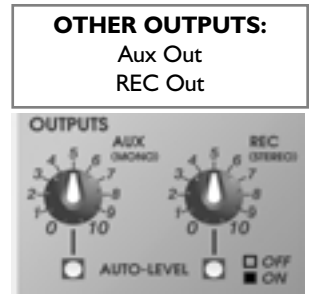
## S-24™ Setup Procedure:

Now that you have read the section on planning your installation and you have connected the mixer to your system, it is time to start adjusting the mixer for proper operation. Again, the written procedure appears to be long, but you will be rewarded with better sound and easier operation. As you go through this procedure, you will notice that many of the steps you will go through twice. Many of the controls on the mixer affect other settings. For example, we need to get the microphone gain set in the ballpark so that we can hear how the mics sound. At that point, we can adjust the equalization and the Feedback Ferret®. Because equalization is nothing more than frequency-selective gain adjustment, we must readjust the gain when the equalization is complete. Ultimately it is virtually impossible to arrive at settings that never change. The goal here to get things as close as possible and make little adjustments along the way as needed. Periodically, you may need to step back and repeat this procedure.

At this point, it is assumed that the mixer is installed and the rest of the sound system has been setup and adjusted. To aid in set up of the mixer, a CD player, tape machine or other music source will be needed.

For first time setup, start by setting the S-24 controls as follows:

- All channel mixer faders full down.
- Monitor master faders full down. (Master Section)
- All channel EQ controls set to **0** (Center)
- Main output trim control set full counter-clockwise. (Back panel)
- Monitor Power amplifier input controls down. (Full counter-clockwise.)
- All channel gain and trim controls set full counter-clockwise.
- All channel monitor (MON) and effects EFX send controls down (full counter-clockwise)
- Solo and Choir Noise reduction controls set full counter-clockwise. (Master Section)



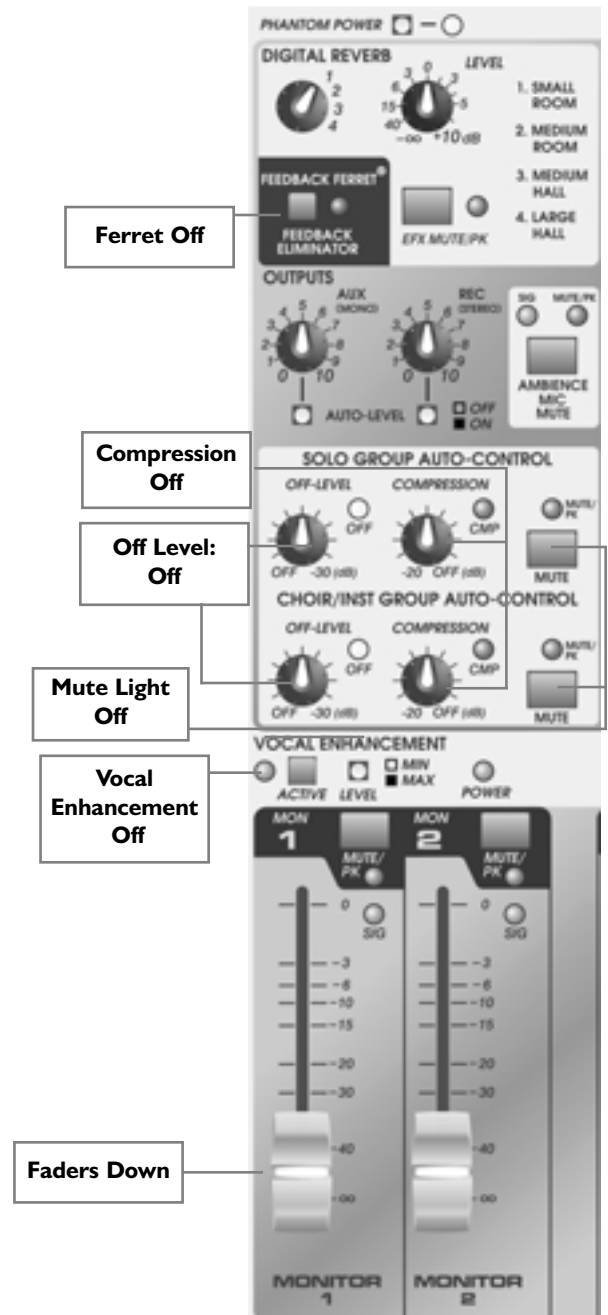
- i. Solo and Choir Compression controls set full clockwise. (Master Section)
- j. Vocal enhance inactive (LED off)
- k. Turn off the Feedback Ferret by pressing and holding the Feedback Ferret button until the Blue LED blinks twice. When you release the button, the LED should be off.
- l. If any of the microphones used with the system will require +48V phantom power, turn it on at this time.

### Setting the mixer to amplifier system gain

This adjustment is an important part of optimizing the performance of the S-24™. This adjustment will help minimize noise and distortion, and ensure that the automatic mixer, compressors and noise reduction expanders will have the proper signal levels to operate.

- a. Connect a CD player, tape machine or other music source to line input 23/24 (Left and Right)
- b. Turn on the sound system by first powering up the mixer and associated equipment such as equalizers and crossovers then turn on the power amplifiers last.
- c. Start playback of your music source.
- d. Set the MAIN, MON 1 and MON 2 master Faders to **0** (full up).
- e. Set the Channel 23/24 fader; Monitor 1 and Monitor 2 Send controls to 0.
- f. Slowly increase the channel 23/24 input gain control until the 0 LED on the S-24 meters blinks.
- g. Set the headphone/meter Source Select switch to Mon 1 and confirm that the meter peaks to **0**.
- h. Repeat (g) for Mon 2.
- i. Now adjust the S-24 main-output trim until the sound in the room is as loud as you normally expect the system to be operated.
- j. Repeat (l) for Monitor 1 and Monitor 2 outputs using the power amplifier input controls instead of the main trim control.

\* The maximum sound level for the system is actually higher because of the headroom of the mixer. The contractor may choose to make this adjustment by setting the trim control to **0** attenuation (full clockwise) and then adjusting amplifier gains, but the trim control makes this job easy.



## Setting Automatic mix inputs 1–4

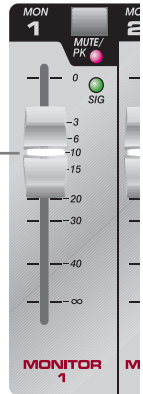
Initial Adjustment of the Automix™ inputs 1–4. Each of these inputs will be adjusted one at a time using the same procedure. Start with all Automix channels muted.

Priority/Group



- Begin by setting the channel Priority or Group Assign switch. (Pulpit: normal automix; Wireless: Priority automix).
- Set the channel Compressor threshold (CMP THRESH) fully clockwise (Off).
- Set the Main Master faders(s) to **-10**.
- Gain control Full counter-clockwise.
- Channel fader **0** (Full up).
- Un-mute the channel and increase the channel gain for a nice level in the room without feedback.
- Adjust the EQ controls for a natural sound quality.
- MUTE the channel and repeat steps **a–g** for the remaining automix channels 2–4.

Main Master  
Faders set to -10



### Initial Adjustment of other “Permanent” microphones.

Each of these inputs will be adjusted individually using the same procedure.

- Set the Solo and Choir Group "Off Level" control to the full Counter-clockwise position (OFF).
- Set the Solo and Choir Group Compression control to the full clock-wise position (OFF).
- Set the channel group assign switch. (Solo or Choir).
- Set the channel gain control full counter-clockwise.
- Set the channel fader to **0**.
- Unmute the channel and increase the channel gain control for a nice level in the room without feedback.
- Adjust the EQ controls for a natural sound quality.
- MUTE the channel and repeat steps **c–g** for the remaining microphone channels.

At this point you should have created a rough mix of all of the mics normally used during a service. The channel faders for these mics should all be set at **0**.

### Initial Adjustment of the Monitor 1 system

- a. Set MON 1 and MON 2 master faders to **-10**.
- b. Set the MAIN master fader off.
- c. Un-mute the microphones in the main system that will be sent to monitor system 1.
- d. Increase the "MAIN" master fader until the microphones are at a desirable level in the room but do not ring. Adjust individual mics if necessary using their channel Gain control.
- e. Now, set the Monitor Send controls for each of these mics to the required level.

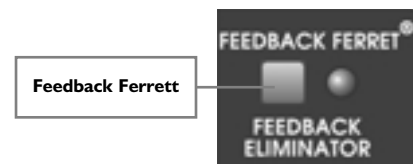
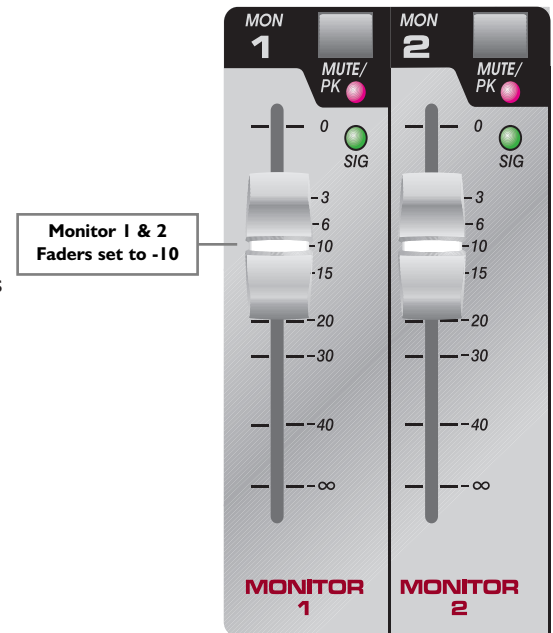
At this point we now have a rough mix of mics in the main and monitor systems.

Now it is time to set up the Feedback Ferret®!

The feedback Ferret has very narrow filters that are automatically set only as deep as necessary to prevent feedback. The filters are set in two different ways. To prevent problems before they happen, the Feedback Ferret setup procedure is used to find basic feedback problems with normally used microphones and then configure filters that are stored in permanent memory. Every time the mixer is turned on, these filters will be recalled. In the normal Feedback Ferret operation mode, additional filters will be set if needed when feedback occurs, but these are not permanent. These dynamic filters are slowly eliminated over time or when the unit is turned off. Because feedback can occur in both the main and monitor systems, we will include both of these systems in the Ferret setup procedure.

### Feedback Ferret setup procedure.

- a. Un-mute the remaining mics. All channel faders with active mics should be still set at **0**
- b. Press the Feedback Ferret button once to return it to normal mode from bypass. The blue LED should now be on.
- c. Enter Feedback Ferret setup mode by pressing the button and holding until it blinks once and release.
- d. Slowly increase the Main and Monitor 1 Master faders equally until feedback just starts. Pause until it goes away, then increase again. You have about 1 minute to perform this procedure. The goal here is to filter the main offending frequencies but not to too get carried away. Knowing how far to go will come with experience. If you start hearing many different frequencies feedback or several at the same time, it is probably time to stop.
- e. If setup has not ended automatically at this time, (LED on solid) press and release the Ferret button to return to normal mode.
- f. Use the mics to hear both how they sound and to confirm that you have sufficient gain before feedback. If everything sounds good, proceed to the next section. If there are one or two mics that are still causing troubles, you may need to reposition the mics or monitor speakers. You may also want to increase their gain and then repeat the above procedure. The Ferret will then give priority to solving feedback problems for these mics. The Feedback Ferret can do a good job of reducing feedback, but it does not replace good placement of the mics and speakers.



## Final setup and adjustment

Most of the setup work is now complete. It is now time to make the final adjustments that will prepare the S-24 for use.

When the following steps are completed, we will have:

- ▶ Set the Channel gain controls so the “Normal” position faders on the Choir and Solo mics is **0**
- ▶ Set the Automix™ channel gain controls so feedback is unlikely if the faders pushed to **0**
- ▶ Adjusted the Compressors on the automix channels so that they compress during loud speech but not at normal speaking levels.
- ▶ Set the master faders at **0** (full up) so that the system cannot be easily pushed into feedback.
- ▶ Adjusted the compressors on the Choir and Solo groups (if desired) to help control dynamic range.
- ▶ Adjusted the Off Level on the Choir and Solo groups so that when these microphones are not in use, the gain is automatically reduced to help keep noise from these mics out of the sound system.
- ▶ Set the Monitor sends as required.

### **Setting the Choir mics (or other permanent wide coverage mics)**

Because of the work you have done previously the next steps should go quickly. Each of these inputs will be adjusted one at a time using the same procedure.

- a. Mute all microphone channels
- b. Set the Main and Monitor master faders at **0** (All the way up)
- c. If you have not done so before, set the Group Assign switch for the channel to be adjusted. (SOLO or CHOIR)
- d. Adjust the channel gain control so that you have the desired level from the mic with the channel fader set to **0**
- e. If necessary, adjust the EQ controls again for a natural sound quality
- f. If this mic needs to be included in the Monitor 1 speaker mix, adjust the monitor 1 send control for necessary volume through those speakers
- g. If this mic needs to be included in the Monitor 2 speaker mix, adjust the monitor 2 send control for necessary volume through those speakers
- h. If this is a mic that will be used together with other microphones (a choir mic for instance), leave this mic on and repeat steps **c-g** for the remaining mics

### **Setting the Solo mics**

The procedure for solo mics is the same as for the choir mics above. If the choir mics will be on when these mics are used, turn them on during setup. Each of these inputs will be adjusted one at a time using the same procedure.

Repeat steps **c-g** above for the remaining mics.

### **Setting the automix inputs 1–4. (You are almost done!)**

- a. Un-mute all the Choir and Solo group microphones that are normally used during the service.
- b. Un-mute one of the Automix channels
- c. If you have not done so before, set the mode switch. (Pulpit: normal Automix; Wireless: Priority Automix)
- d. If necessary, re-adjust the EQ controls for a natural sound quality

- e. Re-adjust the channel gain control so that when the channel fader is at **0** (full up), the level from the mic is loud or until a ringing sound is heard on the end of words. Decrease the gain until ringing is no longer heard.
- f. Adjust the compressor threshold, if desired, so that the red CMP LED lights only during loud speech. It should NOT light at normal speech levels. This feature will help control the volume of loud speech.
- g. If this mic needs to be included in the Monitor 1 speaker mix, adjust the Monitor 1 send control for necessary volume through those speakers.
- h. If this mic needs to be included in the monitor 2 speaker mix, adjust the Monitor 2 send control for necessary volume through those speakers.
- i. MUTE the channel and repeat steps **b–h** for the remaining automix channels 2–4.

The mic channels have now all been set.

### **Setting the stereo line inputs**

- a. While playing a tape, CD or other line source, adjust the channel “GAIN” control for appropriate level with the fader set to **0**.
- b. Set the channel selector switch to the Stereo position for stereo program sources.
- c. Set the monitor blend control to the mid position.
- d. Adjust monitor sends as needed.

*Note: When split track sources are played (recordings with vocals recorded on one track and accompaniment on the other), the input selector switch selects which track goes through the main sound system. While the Monitor Source control is normally left in the center position, for split tracks this control can be used to blend some of the recorded vocals with the accompaniment to aid the singers.*

### **Wrapping it up**

Having spent the time adjusting the S-24™ and optimizing its controls, it is a good time to make note of the settings so that they can be returned to their current positions. Important controls such as Automix™ gain, EQ and monitor send levels can be marked on the front surface using stick-on arrows like those available from Peavey. It is also a good idea to make a copy of the mixer front panel as found on pages 27–28 and mark the knob settings on the copy. Make a copy with the settings marked to keep at the mix console and keep the original somewhere safe.

Although the following controls can be roughly set in advance, the remaining Controls are best set adjusted while the system is in use so they are included in the operation section.

**Group Noise Reduction • Group Compression • Reverb • Vocal Enhancement • Ambience Mic (if used)**

### **Operation Instructions**

**NOTE:** You may want to copy this section and place it at the mix console for operator reference. You may also want to copy the Final setup and Adjustment section.

The most important thing to remember is that a sound system that is well setup and operated will be completely transparent to the listeners. If they never think about the sound system, then you have achieved your goal. Operation and adjustments made on the S-24 should be made in a slow deliberate fashion so they do not attract attention.

Operation mistakes will be made, however, they can be hidden. Fading up a mic late may be less noticeable than turning it on mid word. The S-24 can be used without an operator by presetting the controls and letting it do the work. However, no matter how sophisticated the mixer system, a good operator can make it sound better. In many cases, once the mixer is setup and adjusted, much of the work is simply un-muting, and muting microphone channels when needed.

If someone is going to be operating the mixer during the service, their first job will likely be muting and un-muting wireless mics. This may be obvious, but make sure the channel is on before the person starts speaking, and be sure

to turn it off when they are finished. If more than one speaking mic is in use, turn the mics on and let the Automix™ do the work.

Inputs 1–4 are automatic mix channels intended for spoken word. The S-24™ will take care of most of the mixing for these channels but if someone is difficult to hear or just too loud, you may need to adjust the level of their mic.

If you have different soloists or small groups of singers or instruments, you will likely need to set the mics to meet their unique requirements.

- a. Begin by setting the fader at **0** and adjusting the channel GAIN for proper level.
- b. Adjust the equalization for clear natural sound. Don't boost the equalization if you can make it sound better by cutting. (Turn down the bass or mid-morph first) boosting the mid-morph would be the next step.
- c. Make sure that they can hear what they need in their monitors. Remember, putting too many things in the monitors can actually make it harder to hear.
- d. Use the fader to adjust as needed.
- e. Adjust the Group Compressor so the LED just blinks.

Before the service or performance begins, it is a good idea to know how much adjustment range you have on the choir and solo mics without getting feedback. Beware, if you turn up a mic and it feeds back then stops, the Feedback Ferret® has just added a new filter temporary filter. Don't mute that mic and expect to be able to achieve that same setting later. The Ferret will release temporary filters after a while if they are not needed and the feedback could return.

## Advanced Control Setup

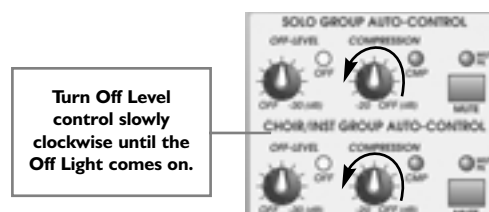
Many of these controls need only be adjusted once, but are best set during actual system operation.

### Adjusting the Group Off-Level Controls

Lets start with an explanation of what the controls do and what we hope to accomplish with them. The Off Level control works to automatically do what a good sound operator would do: turn down or off microphones when they are not in use. If you plan to have an operator do this, then the control can be left off. (Full Counter-clockwise) However, if the Choir or Solo mics will be left on and you want to reduce the pickup of noise or the sound of persons speaking as heard through the monitors, then the Auto-Off circuit can be used.



This circuit does not turn the microphones off, but turns them down. How much it turns them down depends on the sound level through the mics and the setting of the Off Level control. The Off Level control is called a threshold control. The circuit starts working when the volume is below the threshold set by this control. When the sound from the mics in this group is above the threshold volume, the signal is unaffected and the Off Light goes out. If the sound from the mics drops below the threshold, then the circuit starts turning them down and the Off light comes on. The further the signal from the mics is below the threshold, the further they are turned down. The goal in setting this control is to find a point where the threshold is high enough to turn down unwanted sound, but low enough so that desired sound is unaffected. It may take some experimenting to get this set but the circuit is quite forgiving. Once you get this set, mark the setting and leave it.



**To Set:**

We will use choir microphones for an example. With the choir mics on and while someone is speaking into one of the automix mics, turn the threshold control clockwise until the Off LED comes on. Turn it a slightly further and stop. Make sure that the Off LED goes out when the choir mics are used.

Turn Off Level control slowly clockwise until the Off Light comes on.



**Adjusting the Group Compression Controls**

The Group Compressors work on the opposite end of the volume spectrum from the Auto-Off (Expansion) circuitry. The compressor circuit works to control how loud the group signal gets. Like the Off Level control, the compressor control on the S-24™ is also a threshold control. This time the compressor starts to work when the volume goes above the threshold control set by this control. If the volume goes above the threshold, this circuit reduces how much louder the signal gets. The signal will still get a little louder but not as much. This can be a big help with soloists and small groups of singers. If the volume is set for a good balance with the music at low to mid volume, many times it will get too loud when the vocal volume builds. Setting the threshold so the light comes on at mid volume levels can do wonders to help the mix.

Because the compressor works on the opposite end of the volume spectrum from the Auto-Off circuitry, the adjustment of the threshold control is also opposite. Turning the control fully clockwise sets the threshold very high and essentially turns it off. Rotating the control counter-clockwise lowers the threshold and activates the circuit as indicated by the “Active” LED.

**To Set:**

When the mics of a group (Choir or Solo) are in use, turn the compressor threshold control counter-clockwise until the active LED blinks during medium to loud passages.

**WARNING:** If the threshold is set too low, (LED on most of the time) the fader will need to be increased to get sufficient volume from the mic. Although this may sound good while they are singing loud, when the volume drops, the gain goes back up and feedback can result. This is not meant to discourage the use of this processor, but only to warn of the unexpected result if the threshold is set too low.

Turn Compression slowly counter-clockwise until compression light blinks



**Adjusting the Vocal Enhancer**

The Vocal Enhancer circuit can add clarity and presence to both spoken word and singing by adding upper frequency overtones that enhance the understanding of words. There are a great many factors that determine how this will sound in your system. The vocal enhancer is best set by engaging it and listening to how it sounds.

Engage Vocal Enhancement by depressing the switch. LED will illuminate.



**To Set:**

Engage the vocal enhancer by pressing the switch so that the active LED is lit. Use the behind the panel MIN/MAX switch to change the amount of enhancement. You can use a small object like a pencil to change the switch.

**Setting the internal effects.**

The S-24 internal effects unit has four reverb settings that have been carefully selected to augment music for worship. A little bit of reverb mixed with voice can both smooth the sound and help keep an appropriate aural perspective. (If a person sings with a microphone close to their mouth, that intimate sound may not blend well with the rest of the music. Adding reverb can help change the perspective.) But you must be careful, adding too much reverb to music can make the words hard to understand. (Remember, the message is in the words) A good rule of thumb is that if you notice the reverb, it's too much. If your room is naturally reverberant to begin with, adding reverb is probably unnecessary.

Reverb is rarely used on spoken word except as a special effect. Again, reverb tends to make speech harder to understand. The four reverb choices go from fairly short and small to a longer reverb that might be found in a large room. Choosing the appropriate reverb and adding the appropriate amount will take some experimenting, but here are some guidelines.

### Music Style/Tempo

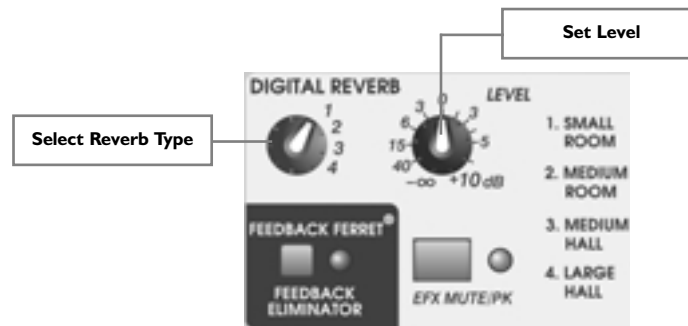
Contemporary/quick tempo  
Contemporary/Traditional/Medium  
Traditional /Slow  
Very Slow/Special Vocal

### Room Size

Small to Medium  
Medium  
Large  
Cathedral

### Reverb

Reverb 1  
Reverb 2  
Reverb 3  
Reverb 4



### Setting the levels:

On the channels that you want to add reverb, turn the EFX knob to the **0** position. This will send a signal from that channel to the reverb unit. In the master section of the S-24 the effects level control mixes the reverberated signal to the outputs. The **0** position on the EFX send is just a starting recommendation. This control can be adjusted to add more or less reverb to a particular microphone. The Red LED in the effects section performs two purposes. If the effects mute is pressed, it will light solid red. This LED also blinks as you start getting close to clipping (overdriving) the effects unit. If the LED stays on or is on for more than an occasional blink, reduce the level of the channel EFX sends. Turn up the master effects level as needed. *Remember that a little bit of reverb goes a long way.*

### Ambience mic

If you chose to use an ambience mic to add congregational singing (or liturgical reading) to the Record or Auxiliary outputs, we will set it at this time. You will need to listen to the record output, (use headphones connected to your recorder) and experiment to see what works for you.

- a. Begin by connecting the ambience microphone to the ambience mic input on the rear of the console.
- b. Set ambience mic gain control to minimum gain position.(full counter clockwise)
- c. Make sure that the ambience mic input is not muted then adjust the ambience gain for the desired balance in the record output.
- d. Under certain circumstances, you may find that you will need to mute this mic to reduce room noise or reverberations. Again, the only way to tell is to listen.



## GLOSSARY

**Gain** † Amplification of an audio signal. A negative gain (in dB) is an attenuation or reduction of level of the signal.

**Ringing** † The resonance (“ringing”) sounds heard (often at the end of words) when the sound system is close to acoustic feedback.

**Gain before feedback** † How much you can increase the gain of a mic (turn it up) before feedback occurs. You have sufficient “gain before feedback” if you can turn up the gain on a mic and get acceptable volume with getting feedback or ringing.

**Directional mic** † A mic that picks up sound better from one direction than other. Cardioid mics are an example. They pick up well from the front, slightly less from the sides and very little from the rear. This can be used to advantage by reducing the pickup of sound from monitor or sound system speakers. (It only works though if the back of the mic (end with the cord in most cases) is pointed at the speaker. When a singer bends down and points the front of the mic at the monitor speaker, only the Ferret or the channel mute can prevent feedback.

**Compressor** † A audio compressor reduces the dynamic range of an signal by reducing (compressing) the gain when the signal gets loud. The threshold control sets the point above which compression takes place.

**Dynamic Range** † Dynamic Range describes the variation from soft to loud speech or music. Too wide a dynamic range can result in sound that is difficult to hear when it is soft or perceived as too loud when loud. Sound with too narrow a dynamic range can be hard to listen to for long periods of time (the “elevator music” sound).

**Expander** † An expander performs the opposite function of a compressor. It expands dynamic range. It is most often used to turn down the sound from microphones when they are not in use.

**Noise Reduction** † In the S-24 mix system, background noise is reduced through use of automatic mix circuitry and circuitry that reduces the gain of mics when not in use.

**AUTO-LEVEL** † Automatic Level Control. This circuit reduces dynamic range so that the volume does not get too loud or too soft. It increases the gain at low levels to reduce noise and compresses it at higher levels to control volume.

**Feedback (Acoustic Feedback)** † Loud howling sound heard from the speaker system. It is caused by sound from the speaker system reentering the microphone louder than the original sound. The sound keeps getting louder and we hear what we know as acoustic feedback.

**Comb Filter** † Although this sounds like a personal hygiene item, it actual refers to the frequency response that results from combining two signals from one source where one is delayed. Although this may sound complicated, it occurs when sound is picked up simultaneously by two mics that are slightly different distances from the sound source. As the source (person) moves, you hear a sort of a swishing phasing sound. The priority feature on the automix helps prevent this problem.

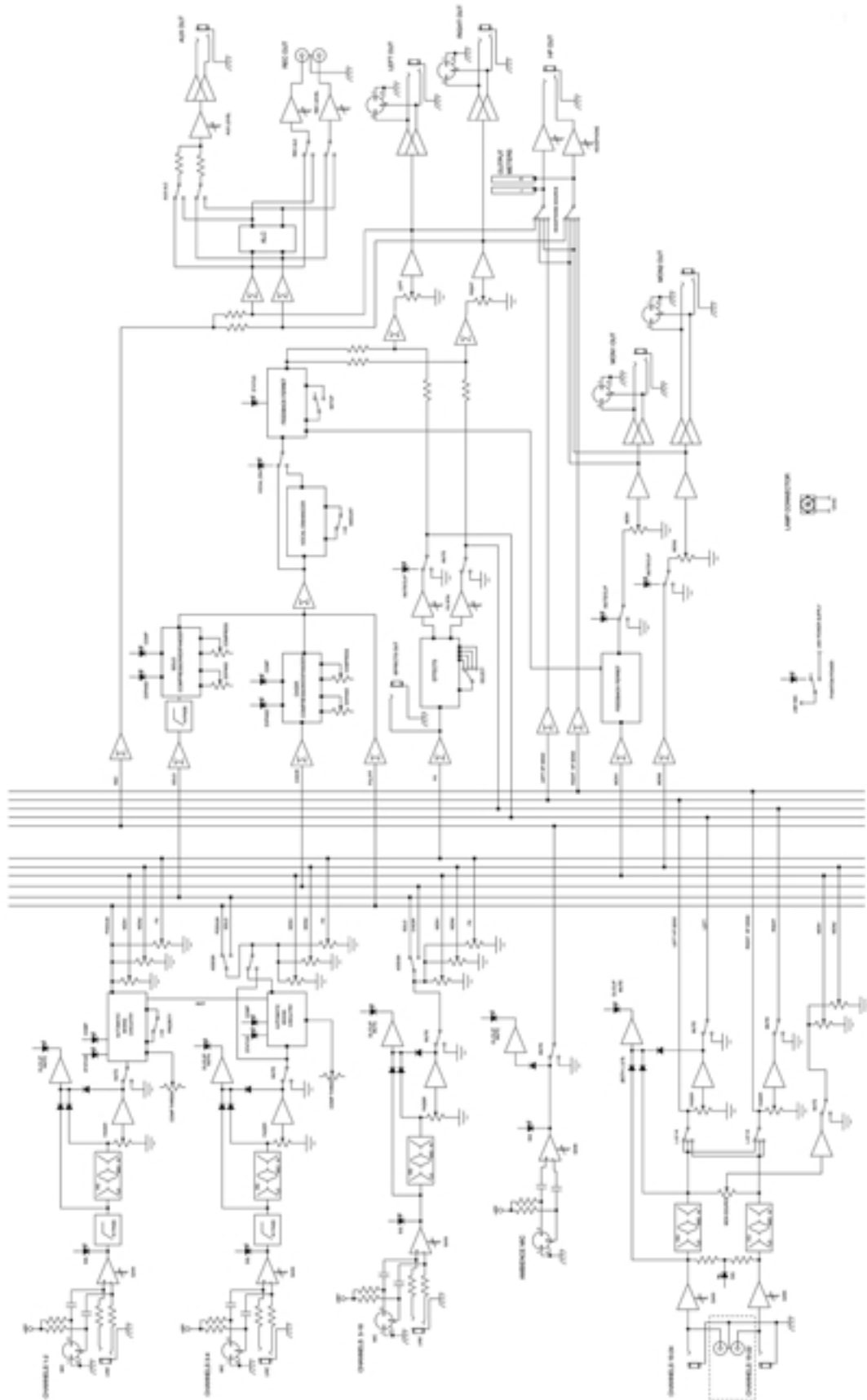
**Foldback** † Sending sound back to the person speaking or performing so they can better hear themselves.

**Fader** † The slide control on the mixer used to adjust the mix of microphone signals.

**EQ (Equalization)** † Equalization is really a fancy word for tone controls that allow the user to equalize or emphasize/de-emphasize the sound at certain frequencies.

**Threshold** † On a compressor or expander, this is the signal level where the circuit starts working.

# S-24™ Block Diagram



# S-24™ Console SPECIFICATIONS

## Input Specifications

Function	Min. Input Z (Ohms)	Input Gain Settings	Input Levels			Bal./Unbal.	Connector
			Min.*	Nominal**	Max.		
XLR (150 Ohms)	2.2 k	Max. 57 dB Min. 0 dB	67 dBu 10 dBu	57 dBu 0 dBu	35 dBu +22 dBu	Bal.	XLR: Pin 1 Gnd. Pin 2 (+) Pin 3 (-)
Line Input (10 k Ohms)	10 k	Max. 37 dB Min. -20 dB	47 dBu 30 dBu	37 dBu 20 dBu	15 dBu +35 dBu	Bal.	¼" TRS: Tip (+) Ring (-) Sleeve Gnd.

\* Minimum input level (sensitivity) is the smallest signal that will produce nominal output (+4 dBu) with sub and master controls set for maximum gain.

\*\*Nominal settings are defined as all controls set at 0 dB (or 50% rotation for rotary pots) except the gain adjustment pot, which is as specified.

## Output Specifications

Function	Min. Load (Ohms)	Output Level		Bal./Unbal.	Connector(s)
		Min.	Max.		
Main L/R, Mon	600	+4 dBu	+22 dBu	Bal./Unbal.	¼" Phone (Unbal.) XLR: Pin 1 Gnd., Pin 2 (+), Pin 3 (-)
Aux	600	+4 dBu	+22 dBu	Bal.	¼", Phone: Tip (+), Ring (-), Shield (Gnd)
EFX	600	+4 dBu	+22 dBu	Unbal.	¼" phone
Record	600	+4 dBu	+22 dBu	Unbal.	RCA
Headphone	8	0 dBu (No Load)	+22 dBu	Unbal.	¼" TRS: Tip Left, Ring Right, Sleeve Gnd.

0 dBu = 0.775 V RMS

## Hum & Noise

Output	Residual Noise	S/N Ratio (Ref. +4 dBu)	Test Conditions
Master L/R Mono	-100 dBu -85 dBu -80 dBu	104 dB 89 dB 84 dBu	All faders down Master fader nominal, All channels muted All controls nominal, mic gain min.
Left/Right	-100 dBu -85 dBu -80 dBu	104 dB 89 dB 84 dBu	All faders down Master Fader Nominal, Ch. Faders Down, Ch. Muted All controls nominal, mic gain min.

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

### Gain

Mic input gain adjustment range: 0 dB to 57 dB  
 Mic input to any output: 74 dB (max. gain)  
 Stereo Channel in to any output: 36 dB (max. gain)

### Dimensions (H x W x D)

S-24: 28.250" (71.8 cm) Wide  
 17.250" (43.8 cm) Deep: on table top  
 6.250" (15.9 cm) High: on table top

### Frequency Response

Mic input to L/R output: 20 Hz to 20 kHz (+0 dB / -1 dB)

### Weight

S-24: 25.7 lbs. (11.7 kg)

### Total Harmonic Distortion (THD)

< 0.05%, 20 Hz to 20 kHz Mic to Left/Right Output (22 Hz to 22 kHz BW)

### Power Requirements

S-24: DOM: 120VAC 60 Hz 55 W Nominal

### Equivalent Input Noise (EIN)

-129 dBu (input terminated with 150 ohms, max gain)

### Crosstalk

> 80 dB adjacent input channels (20 Hz to 20 kHz)  
 > 70 dB Left to Right outputs (20 Hz to 20 kHz)

### Common Mode Rejection Ratio (mic input)

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

### Meters

12-segment peak reading (0 dB = +4 dBu)

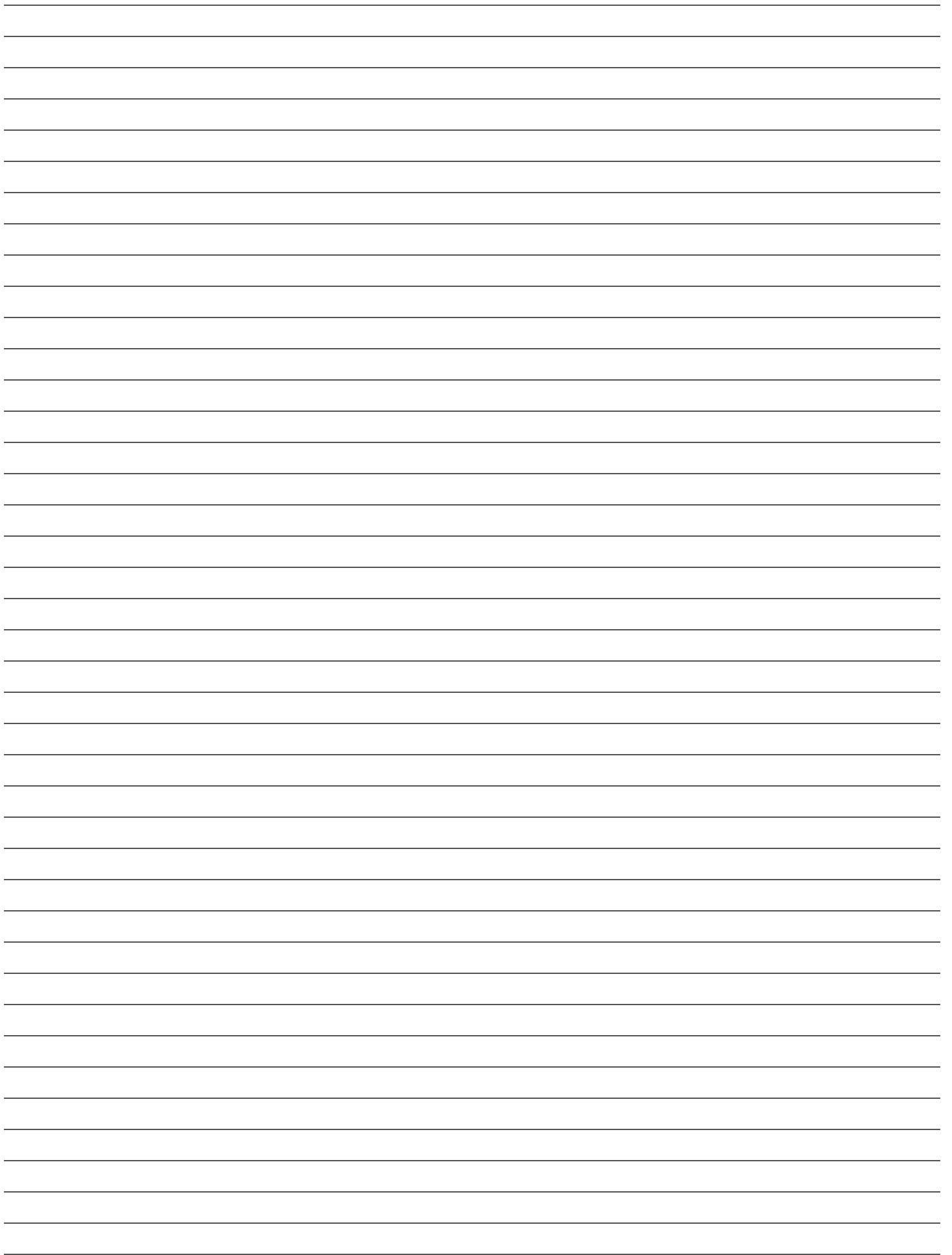
### Signal/Overload Indicators

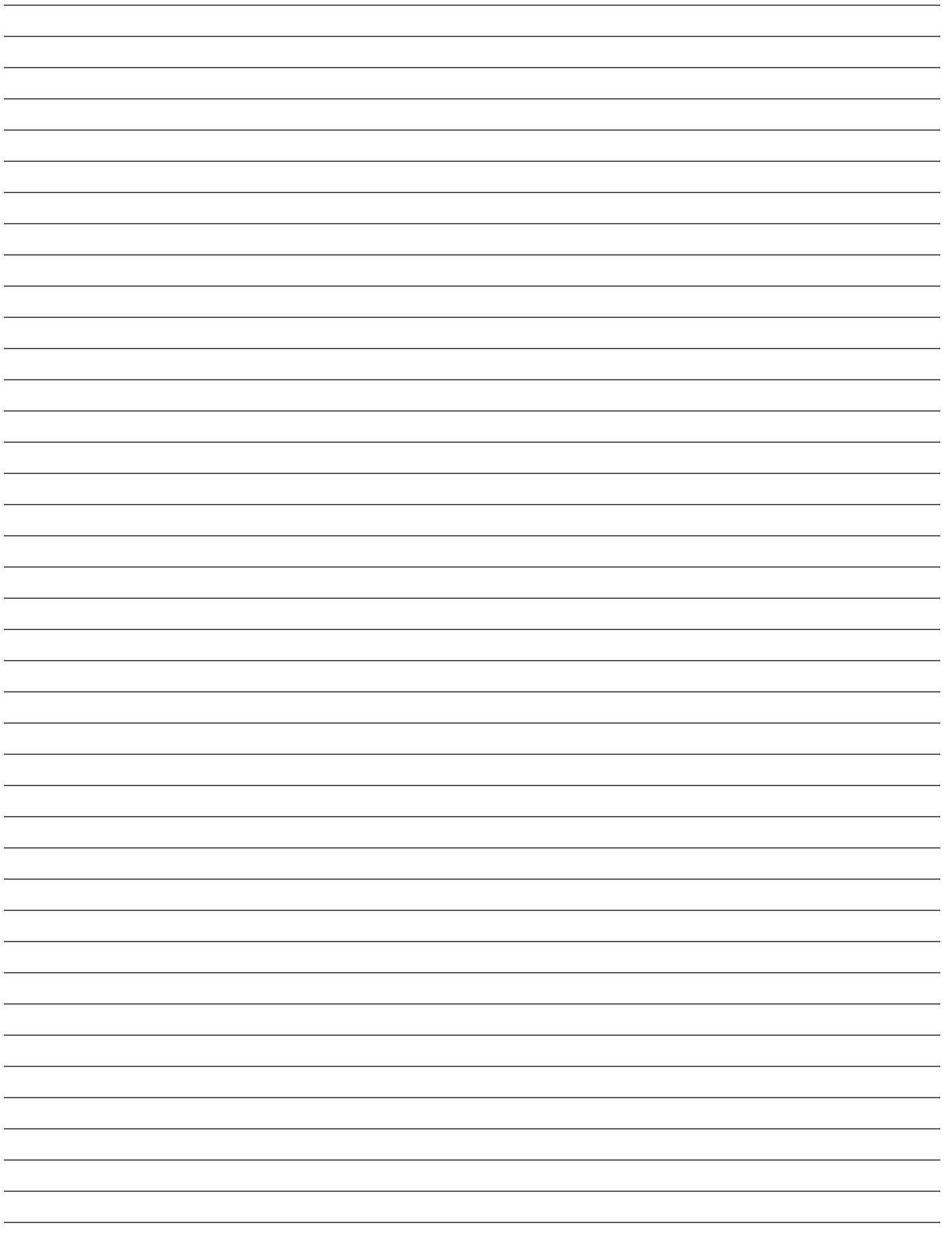
Red LED illuminates 2 dB below clipping

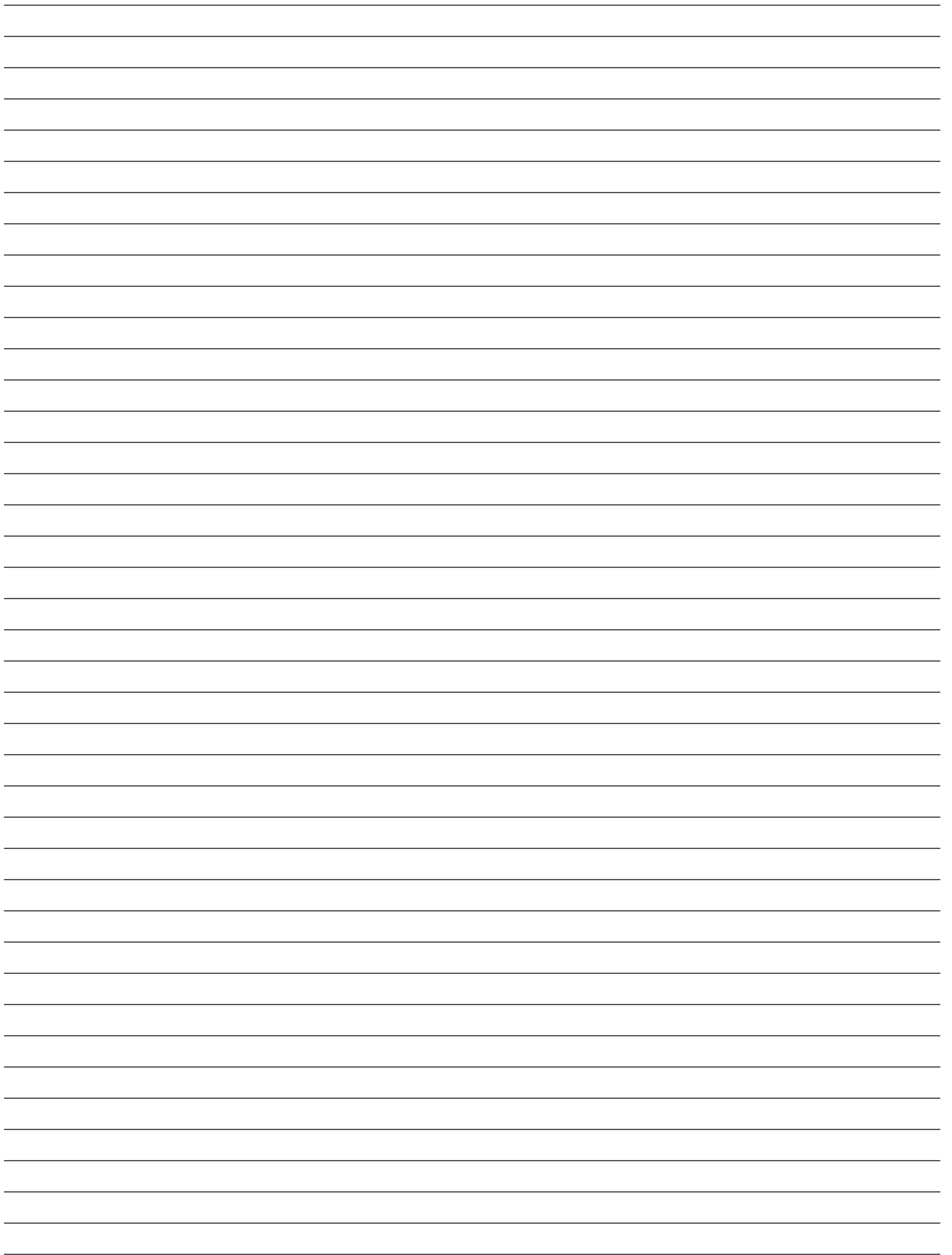
Hum & Noise: -97 dB below rated output

Damping Factor: > 100 @ 1 kHz, 4 Ohms

Input Impedance: 4.7 k Ohms







# PEAVEY ELECTRONICS CORPORATION LIMITED WARRANTY

EFFECTIVE DATE: JULY 1, 1998

## What This Warranty Covers

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

## What This Warranty Does Not Cover

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

## Who This Warranty Protects

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

## How Long This Warranty Lasts

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

Product Category	Duration
Guitars/Basses, Amplifiers, Pre-Amplifiers, Mixers, Electronic Crossovers and Equalizers	2 years *(+ 3 years)
Drums	2 years *(+ 1 year)
Enclosures	3 years *(+ 2 years)
Digital Effect Devices and Keyboard and MIDI Controllers	1 year *(+ 1 year)
Microphones	2 years
Speaker Components (incl. speakers, baskets, drivers, diaphragm replacement kits and passive crossovers) and all Accessories	1 year
Tubes and Meters	90 days

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

## What Peavey Will Do

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

## How To Get Warranty Service

- (1) Take the defective item and your sales receipt or other proof of date of purchase to your Authorized Peavey Dealer or Authorized Peavey Service Center. OR
- (2) Ship the defective item, prepaid, to Peavey Electronics Corporation, International Service Center, 412 Highway 11 & 80 East, Meridian, MS 39301 or Peavey Canada Ltd., 95 Shields Court, Markham, Ontario, Canada L3R 9T5. Include a detailed description of the problem, together with a copy of your sales receipt or other proof of date of purchase as evidence of warranty coverage. Also provide a complete return address.

## Limitation of Implied Warranties

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

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

## Exclusions of Damages

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

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

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

If you have any questions about this warranty or service received or if you need assistance in locating an Authorized Service Center, please contact the Peavey International Service Center at (601) 483-5365 / Peavey Canada Ltd. at (905) 475-2578.

*FEATURES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.*



Features and specifications subject to change without notice.

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