



COREBLADE

Manual 1.1



english

deutsch

français

español

italiano

Hughes & Kettner
TECHNOLOGY OF TONE

Important Safety Instructions!

Read before connecting!

This product has been built by the manufacturer in accordance with IEC 60065 and left the factory in safe working order. To maintain this condition and ensure non-risk operation, the user must follow the advice and warning comments found in the operating instructions. The unit conforms to Protection Class 1 (protectively earthed). If this product shall be used in vehicles, ships or aircraft or at altitudes exceeding 2000 m above sea level, take care of the relevant safety regulations which may exceed the IEC 60065 requirements.

WARNING: To prevent the risk of fire and shock hazard, do not expose this appliance to moisture or rain. Do not open case – no user serviceable parts inside. Refer service to qualified service personnel.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to the presence of externally accessible hazardous voltage. External wiring connected to any terminal marked with this symbol must be a "ready made cable" complying with the manufacturers recommendations, or must be a wiring installed by instructed persons only.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Read the manual.



This symbol, wherever it appears, tells you: Take care! Hot surface! To prevent burns you must not touch.

- Read these instructions.
- Keep these instructions.
- Follow all warnings and instructions marked on the product and in this manual.
- Do not use this product near water. Do not place the product near water, baths, wash basins, kitchen sinks, wet areas, swimming pools or damp rooms.
- Do not place objects containing liquid on the product – vases, glasses, bottles etc.
- Clean only with dry cloth.
- Do not remove any covers or sections of the housing.
- The set operating voltage of the product must match the local mains supply voltage. If you are not sure of the type of power available consult your dealer or local power company.
- To reduce the risk of electrical shock, the grounding of this product must be maintained. Use only the power supply cord provided with this product, and maintain the function of the center (grounding) pin of the mains connection at any time. Do not defeat the safety purpose of the polarized or grounding-type plug.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device! Power supply cords should always be handled carefully. Periodically check cords for cuts or sign of stress, especially at the plug and the point where the cord exits the device.
- Never use a damaged power cord.
- Unplug this product during lightning storms or when unused for long periods of time.
- This product can be fully disconnected from mains only by pulling the mains plug at the unit or the wall socket. The product must be placed in such a way at any time, that disconnecting from mains is easily possible.
- Fuses: Replace with IEC127 (5x20mm) type and rated fuse for best performance only! It is prohibited to use "patched fuses" or to short the fuse-holder. Replacing any kind of fuses must only be carried out by qualified service personnel.
- Refer all servicing to qualified service personnel. Servicing is required when the unit has been damaged in any way, such as:
 - When the power cord or plug is damaged or frayed.
 - If liquid has been spilled or objects have fallen into the product.
 - If the product has been exposed to rain or moisture.
 - If the product does not operate normally when the operating instructions are followed.
 - If the product has been dropped or the cabinet has been damaged.
- Do not connect external speakers to this product with an impedance lower than the rated impedance given on the product or in this manual. Use only cables with sufficient cross section according to the local safety regulations.
- Keep away from direct sunlight.
- Do not install near heat sources such as radiators, heat registers, stoves or other devices that produce heat.
- Do not block any ventilation openings. Install in accordance with manufacturer's instructions. This product must not be placed in a built-in installation such as a rack unless proper ventilation is provided.
- Always allow a cold device to warm up to ambient temperature, when being moved into a room. Condensation can form inside it and damage the product, when being used without warming up.
- Do not place naked flame sources, such as lighted candles on the product.
- The device must be positioned at least 20 cm/8" away from walls with free air space inbetween, and there must be free air space of at least 50 cm / 20" immediately above the unit within which no object(s) may be placed or positioned.
- Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the product. When a cart is used, use caution when moving the cart/product combination to avoid injury from tip-over.
- Use only accessories recommended by the manufacturer, this applies for all kind of accessories, for example protective covers, transport bags, stands, wall or ceiling mounting equipment. In case of attaching any kind of accessories to the product, always follow the instructions for use, provided by the manufacturer. Never use fixing points on the product other than specified by the manufacturer.
- This appliance is NOT suitable to be used by any person or persons (including children) with limited physical, sensorial or mental ability, or by persons with insufficient experience and/or knowledge to operate such an appliance. Children under 4 years of age must be kept away from this appliance at all times.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock.
- This product is capable of delivering sound pressure levels in excess of 90 dB, which may cause permanent hearing damage! Exposure to extremely high noise levels may cause a permanent hearing loss. Wear hearing protection if continuously exposed to such high levels.
- The manufacturer only guarantees the safety, reliability and efficiency of this product if:
 - Assembly, extension, re-adjustment, modifications or repairs are carried out by the manufacturer or by persons authorized to do so.
 - The electrical installation of the relevant area complies with the requirements of IEC (ANSI) specifications.
 - The unit is used in accordance with the operating instructions.
 - The unit is regularly checked and tested for electrical safety by a competent technician.
 - The grounding of the center pin of the mains plug is maintained to reduce the risk of shock.

Wichtige Sicherheitshinweise!

Bitte vor Anschluss lesen!

Dieses Produkt wurde gemäß IEC 60065 hergestellt und hat das Werk in einem sicheren, betriebsfähigen Zustand verlassen. Um diesen Zustand zu erhalten und um einen gefahrlosen Betrieb zu gewährleisten, ist es notwendig, dass der Benutzer die Empfehlungen und Warnhinweise befolgt, die in der Betriebsanleitung zu finden sind. Dieses Gerät entspricht der Schutzklasse 1 (Erdschutz). Bei Einsatz dieses Produktes in Fahrzeugen, Schiffen oder Flugzeugen, oder in Höhen oberhalb 2000 m Meereshöhe müssen die entsprechenden Sicherheitsstandards zusätzlich zur IEC 60065 beachtet werden.

WARNUNG: Um das Risiko von Feuer oder Stromschlag zu verhüten, darf dieses Gerät nicht Feuchtigkeit oder Regen ausgesetzt werden. Öffnen Sie das Gehäuse nicht – im Inneren gibt es keine Bauteile, die vom Benutzer wartbar sind. Die Wartung darf nur von einem qualifiziertem Kundendienst durchgeführt werden.



Dieses Symbol, wo immer es erscheint, warnt Sie vor gefährlicher, nicht isolierter Spannung im Gehäuse – Spannung, die möglicherweise genügt, eine Stromschlaggefahr darzustellen.



Dieses Symbol, wo immer es erscheint, warnt Sie vor außen zugänglicher, gefährlicher Spannung. Eine Verbindung zu jeder Anschlussklemme, die mit diesem Symbol versehen ist, darf nur mit konfektioniertem Kabel hergestellt werden, dass den Empfehlungen des Herstellers genügt, oder mit Kabel, das von qualifiziertem Personal installiert wurde.



Dieses Symbol, wo immer es erscheint, macht Sie auf wichtige Bedienungs- und Wartungsanweisungen aufmerksam, die in beiliegenden Unterlagen zu finden sind. Bitte lesen Sie das Handbuch.



Dieses Symbol, wo immer es erscheint, sagt Ihnen: Vorsicht! Heiße Oberfläche! Um Verbrennungen zu vermeiden, nicht anfassen.

- Bitte lesen Sie diese Anweisungen.
- Bewahren Sie diese Anweisungen auf.
- Befolgen Sie alle Warnhinweise und Anweisungen auf dem Gerät und in dieser Anleitung.
- Benutzen Sie dieses Gerät nicht in der Nähe von Wasser. Stellen Sie das Gerät nicht in der Nähe von Wasser, Badewannen, Waschbecken, Küchenspülen, nassen Stellen, Schwimmbecken oder feuchten Räumen auf.
- Stellen Sie keine Gefäße, wie Vasen, Gläser, Flaschen usw., die Flüssigkeiten enthalten, auf das Gerät.
- Reinigen Sie das Gerät nur mit einem trockenen Tuch.
- Entfernen Sie keine Abdeckungen oder Teile des Gehäuses.
- Die auf dem Gerät eingestellte Betriebsspannung muss mit der örtlichen Spannung der Netzstromversorgung übereinstimmen. Wenn Sie sich nicht sicher sind, welche Spannung in Ihrem Netz zur Verfügung steht, konsultieren Sie bitte Ihren Händler oder den örtlichen Stromversorger.
- Um das Risiko eines Stromschlags zu verringern, muss die Erdung des Gerätes beibehalten werden. Verwenden Sie nur das mitgelieferte Stromführungskabel und behalten Sie die Funktion der seitlichen, geerdeten Schutzkontakte des Netzanschlusses immer aufrecht. Versuchen Sie nicht, die Sicherheitsaufgabe des geerdeten Steckers zu umgehen.
- Schützen Sie das Stromführungskabel vor Betreten und Quetschen, besonders in der Nähe der Stecker, Gerätesteckdosen – und dort, wo sie am Gerät austreten! Stromführungskabel sollten immer vorsichtig behandelt werden. Kontrollieren Sie die Stromführungskabel in regelmäßigen Abständen auf Einschnitte und Anzeichen von Abnutzung, besonders in der Nähe des Steckers und an der Verbindung zum Gerät.
- Benutzen Sie niemals ein beschädigtes Stromführungskabel.
- Ziehen Sie bei Gewittern den Stecker des Gerätes und wenn das Gerät über einen längeren Zeitraum nicht benutzt wird.
- Dieses Gerät wird nur vollständig von Stromnetz getrennt, wenn der Stecker vom Gerät oder aus der Steckdose gezogen wird. Das Gerät sollte so aufgestellt werden, dass das Trennen vom Stromnetz leicht möglich ist.
- Sicherungen: Ersetzen Sie Sicherungen nur mit dem Typ IEC127 (5x20mm) und dem korrekten Nennwert, um die optimale Leistung zu gewährleisten! Es ist untersagt, kurzgeschlossene Sicherungen zu verwenden oder den Sicherungshalter zu überbrücken. Sicherungen dürfen nur von qualifiziertem Personal gewechselt werden.
- Alle Wartungsarbeiten sollten nur von qualifiziertem Personal ausgeführt werden. Wartung ist notwendig, wenn das Gerät auf irgendeine Weise beschädigt wurde, wie zum Beispiel:
 - Wenn das Stromführungskabel oder der Stecker beschädigt oder abgenutzt ist.
 - Wenn Flüssigkeit oder Gegenstände in das Gerät gelangt sind.
 - Wenn das Gerät Regen oder Feuchtigkeit ausgesetzt war.
 - Wenn das Gerät nicht ordnungsgemäß funktioniert, obwohl die Bedienungsanleitung beachtet wurde.
 - Wenn das Gerät hingefallen ist oder das Gehäuse beschädigt wurde.
- Beim Anschluss von Lautsprechern an dieses Gerät darf die auf dem Gerät oder in dieser Anleitung angegebene Mindestimpedanz nicht unterschritten werden. Die verwendeten Kabel müssen entsprechend den lokalen Regelungen über einen ausreichenden Querschnitt verfügen.
- Halten Sie das Gerät vom Sonnenlicht fern.
- Installieren Sie das Gerät nicht in der Nähe von Wärmequellen, wie zum Beispiel Heizkörper, Heizregister, Öfen oder anderen Geräten, die Hitze erzeugen.
- Verstopfen Sie nicht die Lüftungsöffnungen. Installieren Sie das Gerät entsprechend der Anleitung des Herstellers. Das Gerät darf nicht eingebaut werden – wie zum Beispiel in einen Gestellrahmen, es sei denn, dass für angemessene Belüftung gesorgt wird.
- Ein kaltes Gerät sollte immer auf die Umgebungstemperatur erwärmt werden, wenn es in einen Raum transportiert wird. Es könnte sich Kondensation im Inneren bilden, die das Gerät beschädigt, wenn es ohne vorherige Erwärmung benutzt wird.
- Stellen Sie keine offenen Flammen, wie brennende Kerzen, auf das Gerät.
- Das Gerät sollte mindestens 20 cm von Wänden aufgestellt werden, das Gerät darf nicht bedeckt werden, es muss ein Freiraum von mindestens 50 cm über dem Gerät gewährleistet sein.
- Das Gerät darf nur mit Rollwagen, Ständern, Stativen, Tischen oder Halterungen benutzt werden, die vom Hersteller spezifiziert sind oder zusammen mit dem Gerät verkauft wurden. Wenn ein Rollwagen benutzt wird, seien Sie vorsichtig, wenn Sie die Rollwagen/Geräte-Kombination transportieren, um Verletzungen durch Umkippen zu vermeiden.
- Verwenden Sie nur Zubehör, das vom Hersteller empfohlen ist. Das gilt für alle Arten von Zubehör, wie zum Beispiel Schutzabdeckungen, Transporttaschen, Ständer sowie Wand- und Deckenhalterungen. Wenn Sie irgendein Zubehör am Gerät anbringen, befolgen Sie immer die Anleitungen des Herstellers. Benutzen Sie nur die Befestigungspunkte des Geräts, die vom Hersteller vorgesehen sind.
- Dieses Gerät ist NICHT geeignet für eine Person oder Personen (einschließlich Kindern) mit eingeschränkter physischen, sensorischen und geistigen Fähigkeiten, oder für Personen mit unzulänglicher Erfahrung und/oder Fachkenntnis, um solch ein Gerät zu bedienen. Kinder unter 4 Jahren sollten stets von diesem Gerät fern gehalten werden.
- Es sollten keinerlei Gegenstände durch die Gehäuseschlitze eingeführt werden, da dadurch gefährliche, spannungsführende Bauteile berührt oder kurzgeschlossen werden können. Dies könnte zu einer Feuer- oder Stromschlaggefahr führen.
- Dieses Gerät ist instand, Schalldruckpegel von mehr als 90 dB zu produzieren. Dies könnte zu einem dauerhaften Hörschaden führen! Eine Belastung durch extrem hohe Geräuschpegel kann zu einem

- dauerhaften Gehörverlust führen. Bei einer anhaltenden Belastung durch solch hohe Pegel sollte ein Gehörschutz getragen werden.
- Der Hersteller gewährleistet die Sicherheit, Zuverlässigkeit und Leistung des Gerätes nur unter folgenden Voraussetzungen:
 - Einbau, Erweiterung, Neueinstellung, Modifikationen oder Reparaturen werden vom Hersteller oder autorisiertem Personal ausgeführt.
 - Die elektrische Installation des betreffenden Bereiches entspricht den Anforderungen der IEC (ANSI) Maßgaben.
 - Das Gerät wird entsprechend der Bedienungsanleitung benutzt.
 - Das Gerät wird regelmäßig von einem fachkundigen Techniker auf elektrische Sicherheit geprüft und getestet.

Consignes de sécurité importantes !

A lire avant de se connecter !

Ce produit a été construit conformément à la norme IEC 60065 par le fabricant et a quitté l'usine en bon état de marche. Pour garantir son intégrité et un fonctionnement sans risque, l'utilisateur se doit de suivre les conseils et les avertissements préconisés dans cette notice d'utilisation. Les unités sont conformes à la classe de protection 1 (protection par mise à la terre). En cas d'utilisation de ce produit dans un véhicule terrestre, un navire ou un avion, ou encore à une altitude supérieure à 2 000 mètres, il convient de prendre en considération les normes de sécurité suivantes, en plus de la norme IEC 60065.

ATTENTION : Afin d'éviter tout risque d'incendie et d'électrocution, n'exposez pas cet appareil à l'humidité ou à la pluie. N'ouvrez pas le boîtier ; les pièces se trouvant à l'intérieur ne nécessitent pas d'entretien de la part des utilisateurs. Adressez-vous à un spécialiste qualifié pour procéder à l'entretien de l'appareil.



Ce symbole, quel que soit l'endroit où il apparaît, vous signale des pièces sous tension non isolées dans le boîtier. Une tension suffisante pour présenter un risque d'électrocution.



Ce symbole, quel que soit l'endroit où il apparaît, vous signale des pièces sous tension accessibles depuis l'extérieur du boîtier. Tous les câbles extérieurs raccordés à un composant marqué de ce symbole doivent être de type préfabriqués et conformes aux spécifications du fabricant ou doivent avoir été installés par des spécialistes qualifiés.



Ce symbole, quel que soit l'endroit où il apparaît, vous signale des instructions importantes relatives à l'utilisation ou l'entretien de l'appareil à lire dans les documents l'accompagnant. Lisez la notice d'utilisation.



Ce symbole, quel que soit l'endroit où il apparaît, vous signale un risque de brûlure dû à une surface chaude. Ne touchez pas cette surface afin d'éviter de vous brûler.

- Lisez ces instructions.
- Conserved ces instructions.
- Prenez en compte tous les avertissements et toutes les instructions mentionnés sur le produit ou dans cette notice d'utilisation.
- N'utilisez pas ce produit à proximité de l'eau. Ne le placez pas près de l'eau, d'une baignoire, d'un bassin, d'un évier, d'une surface humide, d'une piscine ou d'une pièce humide.
- Ne mettez pas d'objet contenant du liquide sur l'appareil, par exemple, un vase, un verre ou une bouteille, etc.
- Nettoyez-le exclusivement avec un chiffon sec.
- N'enlevez pas le boîtier, ne serait-ce que partiellement.
- La tension de fonctionnement de l'appareil doit être réglée de manière à correspondre à la tension d'alimentation de l'endroit où vous vous trouvez. Si vous n'êtes pas sûr de connaître la tension d'alimentation, demandez à votre revendeur ou à la compagnie d'électricité locale.
- Afin de réduire le risque d'électrocution, vous ne devez jamais supprimer la mise à la terre de l'appareil. Utilisez uniquement le câble d'alimentation fourni avec le produit et maintenez la broche centrale de la prise (mise à la terre) en état de fonctionnement. Ne négligez pas la sécurité offerte par les prises polarisées ou avec mise à la terre.
- Protégez le câble d'alimentation afin d'éviter que quelqu'un marche dessus ou qu'il soit pincé, notamment près de la prise, de la prise murale ou à la sortie de l'appareil même ! Les câbles d'alimentation doivent être tout le temps maniés avec précaution. Vérifiez régulièrement que le câble n'est pas fendu ou qu'il ne présente pas de signe d'usure, en particulier près de la prise et à la sortie de l'appareil.
- N'utilisez jamais de câble d'alimentation usé.
- Débranchez l'appareil en cas d'orage ou si vous ne l'utilisez pas pendant une longue période.
- Débranchez l'appareil uniquement en le tenant par la prise au niveau de la prise murale ou de la rallonge. L'appareil doit être placé de telle manière à ce qu'il puisse être débranché facilement à tout moment.
- Fusibles : si nécessaire, remplacez-les uniquement par des fusibles de type IEC127 (5x20 mm) afin de garantir une meilleure performance. Il est interdit d'utiliser des fusibles bicônes ou de raccourcir le porte-fusible. Seul un personnel qualifié est habilité à remplacer les fusibles.
- Confiez tous les travaux d'entretien à des spécialistes qualifiés. Il est nécessaire d'effectuer de tels travaux lorsque l'unité a été endommagée, comme par exemple dans les cas suivants :
 - Lorsque le câble d'alimentation est endommagé ou effiloché.
 - Si du liquide a pénétré ou un objet est tombé dans le boîtier.
 - Si l'appareil a été exposé à la pluie ou à l'humidité.
 - Si l'appareil ne fonctionne pas correctement alors que vous avez suivi toutes les instructions à la lettre.
 - Si l'appareil est tombé ou que le boîtier est endommagé.
- En cas de raccordement de haut-parleurs à cet appareil, il faut veiller à ne pas descendre sous l'impédance minimale indiquée sur ledit appareil ou dans la présente notice. Les câbles employés doivent présenter une section suffisante, qui soit conforme aux réglementations locales en vigueur.
- Ne l'exposez pas directement aux rayons du soleil.
- Ne l'installez pas à proximité d'une source de chaleur, telle qu'un radiateur, une grille de chauffage, un four ou tout autre appareil susceptible de produire de la chaleur.
- Ne masquez pas les bouches d'aération. Installez l'appareil conformément aux instructions du fabricant. Il ne doit pas être placé dans un emplacement confiné, comme un rack ou une console, sauf si une ventilation suffisante est garantie.
- Si vous déplacez l'appareil, attendez qu'il soit à température ambiante avant de le démarrer, sinon de la condensation peut se former à l'intérieur et endommager l'appareil.
- Ne posez pas de l'objet à flamme ouverte sur l'appareil, comme par exemple une bougie allumée.
- L'appareil doit être placé à au moins 20 cm/8" pouces du premier mur.
- Utilisez l'appareil uniquement avec un chariot, un support, un trépied, des fixations ou une table recommandés par le fabricant ou vendus avec le produit. Si vous utilisez un chariot, maniez-le avec précaution afin d'éviter tout risque de blessure s'il se renverse.
- Utilisez uniquement les accessoires recommandés par le fabricant. Cette consigne concerne toute sorte d'accessoires, qu'il s'agisse de couvercles de protection, de sacs de transport, de supports ou de dispositifs de fixation au mur ou au plafond. Si vous fixez un accessoire à l'appareil, suivez toujours les instructions d'utilisation du fabricant. N'utilisez pas d'autres points de fixation que ceux préconisés par le fabricant.
- Cet appareil NE convient PAS aux personnes dont les capacités motrices, sensorielles ou mentales sont

déficiences (y compris les enfants) ou aux personnes ne disposant pas de l'expérience ou des connaissances nécessaires pour faire fonctionner le présent appareil. Cet appareil doit dans tous les cas et être tenu constamment hors de portée des enfants de moins de quatre ans.

- N'insérez jamais d'objets à travers les grilles du boîtier, car ils pourraient toucher des pièces sous tension dangereuses ou provoquer un court-circuit pouvant causer un risque d'incendie ou d'électrocution.
- Cet appareil est capable de délivrer un niveau de pression acoustique de 90 dB, pouvant ainsi causer des troubles irréversibles de l'audition ! L'exposition continue à une nuisance sonore peut provoquer une perte d'audition permanente. Portez des protections auditives adéquates si vous vous exposez de manière continue à un tel niveau de pression acoustique.
- Le fabricant garantit la sécurité, la fiabilité et l'efficacité de fonctionnement de son produit uniquement si :
 - l'assemblage, l'extension, le réajustement, la modification ou la réparation de l'appareil ont été effectués par le fabricant ou par des personnes agréées pour ce genre de travaux.
 - l'installation électrique concernée est conforme aux normes IEC (ANSI).
 - l'unité est utilisée conformément aux instructions d'utilisation.
 - l'unité est régulièrement contrôlée et testée quant à la sécurité électrique par un technicien compétent.

Istruzioni di sicurezza importanti.

Leggere prima di effettuare il collegamento!

Il presente prodotto è stato fabbricato dal produttore in conformità alla norma IEC 60065 ed è uscito dallo stabilimento in perfette condizioni di funzionamento. Per preservare tali condizioni e garantirne l'uso sicuro, l'utente deve attenersi alle indicazioni e alle avvertenze riportate nelle istruzioni per l'uso. L'unità è conforme alla Classe di protezione 1 (apparecchio con messa a terra di protezione). Se volete usare questo prodotto su veicoli, a bordo di navi o di aerei oppure ad altitudini superiori a 2000 m dovete badare alle rispettive norme di sicurezza suppletive alla norma IEC 60065.

AVVISO: Per evitare il rischio di incendio o folgorazione, non esporre l'apparecchio ad umidità o pioggia. Non aprire l'involucro poiché al suo interno non vi sono parti riparabili dall'utente. Per la riparazione rivolgersi a personale tecnico qualificato.



Questo simbolo segnala la presenza all'interno dell'involucro di tensione pericolosa priva di isolamento sufficientemente alta da costituire un pericolo di folgorazione.



Questo simbolo segnala la presenza di tensione pericolosa accessibile dall'esterno. Il cablaggio esterno collegato ad un qualunque morsetto contrassegnato da questo simbolo deve essere un cavo preconfezionato conforme ai requisiti indicati dal produttore o un cablaggio installato da personale qualificato.



Questo simbolo segnala importanti istruzioni per l'uso e la manutenzione nella documentazione allegata. Leggere il manuale.



Questo simbolo ha il seguente significato: Attenzione! Superficie calda! Non toccare per evitare scottature.

- Leggere queste istruzioni.
- Conservare queste istruzioni.
- Attenersi a tutti gli avvisi e istruzioni riportati sul prodotto e nel manuale.
- Non utilizzare il prodotto vicino all'acqua. Non collocare il prodotto vicino ad acqua, vasche, lavandini, zone umide, piscine o stanze con presenza di vapore.
- Non collocare sul prodotto oggetti contenenti liquidi, quali vasi, bicchieri, bottiglie ecc.
- Pulire solo con un panno asciutto.
- Non togliere alcun coperchio o parti dell'involucro.
- La tensione di esercizio prescritta per il prodotto deve corrispondere alla tensione di alimentazione della rete locale. In caso di dubbi sul tipo di alimentazione disponibile, rivolgersi al proprio rivenditore o all'azienda di fornitura elettrica locale.
- Per ridurre il rischio di folgorazione, la messa a terra del prodotto deve essere mantenuta. Utilizzare solo il cavo di alimentazione in dotazione al prodotto e mantenere sempre in funzione il connettore centrale (di terra) del collegamento alla rete. Non escludere la funzione di sicurezza del connettore polarizzato o di messa a terra.
- Proteggere il cavo di alimentazione affinché non venga calpestato o pizzicato, in particolare in corrispondenza delle prese e degli innesti e nel punto di uscita dal dispositivo. Maneggiare sempre con cura i cavi di alimentazione. Controllare periodicamente la presenza di tagli o usura sui cavi, soprattutto all'altezza della presa e nel punto di uscita dal dispositivo.
- Non utilizzare mai il cavo di alimentazione se danneggiato.
- Scollegare il prodotto in caso di temporale o di lunghi periodi di inutilizzo.
- Il prodotto si scollega completamente dall'alimentazione di rete solo staccando la spina di alimentazione dall'unità o dalla presa a muro. Il prodotto va collocato sempre in modo che sia possibile scollegarlo dall'alimentazione con facilità.
- Fusibili: per garantire prestazioni ottimali, i fusibili utilizzati come ricambio devono essere di tipo IEC127 (5x20 mm) e dell'ampereaggio nominale richiesto. È vietato utilizzare fusibili riparati o cortocircuitare il portafusibili. Fate sostituire i fusibili soltanto da un tecnico qualificato.
- Per tutte le operazioni di riparazione, rivolgersi a personale qualificato. L'unità va riparata nel caso abbia subito danni, come nei seguenti casi:
 - Il cavo o la presa di alimentazione sono danneggiati o usurati.
 - È penetrato del liquido o degli oggetti all'interno del prodotto.
 - Il prodotto è stato esposto a pioggia o umidità.
 - Il prodotto non funziona correttamente seguendo le istruzioni.
 - Il prodotto ha subito una caduta o l'armadio è stato danneggiato.
- Quando collegate altoparlanti badate di non scendere sotto l'impedenza minima dichiarata sull'apparecchio oppure in questo manuale. Usate sempre cavi dello spessore adatto e corrispondenti alle vigenti norme locali.
- Non esporre ai raggi solari diretti.
- Non installare accanto a fonti di calore quali radiatori, bocchette di diffusione d'aria calda, fornelli o altri dispositivi che generano calore.
- Non chiudere le aperture di ventilazione. Installare l'unità seguendo le istruzioni fornite dal produttore. Il prodotto non è adatto all'installazione ad incasso, ad esempio in un rack, a meno di non garantire un'adeguata ventilazione.
- Quando viene spostato all'interno di un locale, attendere sempre che il dispositivo, se freddo, raggiunga la temperatura ambiente. Qualora venga utilizzato senza che si sia riscaldato, sussiste il rischio di formazione di condensa al suo interno e di conseguenti danni.
- Non collocare sul prodotto fiamme libere, come ad esempio candele accese.
- Il dispositivo va collocato ad almeno 20 cm/8" di distanza dalle pareti.
- Utilizzare solo in abbinamento al carrello, supporto, piedistallo, staffa o tavola specificati dal produttore o venduti insieme al prodotto. Qualora si utilizzi un carrello, prestare attenzione nello spostare il carrello/la combinazione di prodotto per evitare lesioni causate dall'inciampamento.
- Utilizzare solo accessori consigliati dal produttore. Tale prescrizione si applica a tutti i tipi di accessori, ad esempio coperchi di protezione, borse per il trasporto, supporti, dispositivi per il montaggio a parete

o a soffitto, ecc. In caso di applicazione di qualsiasi tipo di accessorio al prodotto, osservare sempre le istruzioni per l'uso fornite dal produttore. Non utilizzare mai punti di fissaggio sul prodotto diversi da quelli indicati dal produttore.

- Questo apparecchio NON è adatto all'uso da parte di persone (compresi i bambini) con capacità fisiche, mentali o sensoriali limitate o da persone prive della necessaria esperienza e/o conoscenza. Tenere sempre l'apparecchio al di fuori della portata dei bambini di età inferiore ai 4 anni.
- Non inserire mai oggetti di alcun tipo all'interno del prodotto attraverso le fessure dell'armadio, poiché potrebbero toccare punti con presenza di tensione pericolosa o causare il cortocircuito dei componenti, con il conseguente rischio di incendio o folgorazione.
- Questo prodotto genera livelli di pressione sonora superiori a 90 dB in grado di causare danni permanenti all'udito. L'esposizione a livelli di rumore estremamente elevati può causare la perdita permanente dell'udito. In caso di esposizione continua, indossare protezioni per l'udito.
- Il produttore garantisce la sicurezza, l'affidabilità e l'efficienza del prodotto solo se:
 - l'assemblaggio, l'ampliamento, la reimpostazione, le modifiche o le riparazioni sono eseguiti dal produttore o da personale autorizzato.
 - l'impianto elettrico dell'area interessata è conforme ai requisiti specificati nelle norme IEC (ANSI).
 - l'unità è utilizzata secondo le istruzioni per l'uso.
 - la sicurezza elettrica dell'unità è controllata e testata da un tecnico competente.

Importantes instrucciones de seguridad.

¡Leer antes de encender!

Este producto ha sido elaborado por el fabricante de conformidad con IEC 60065 y ha salido de fábrica en perfecto estado. Para que se mantenga en perfectas condiciones y asegurar que no exista riesgo alguno, el usuario deberá observar los avisos y advertencias que se encuentran en el manual de instrucciones. La unidad es conforme a la Clase de Protección 1 (puesta a tierra de protección). En caso de utilizar este producto en vehículos, embarcaciones o aviones, así como a altitudes superiores a los 2.000 m sobre el nivel del mar, además de la norma IEC 60065 también se deberán cumplir las demás normas de seguridad aplicables.

ADVERTENCIA: Para prevenir el riesgo de incendio y el peligro de electrocución, evite la exposición del equipo a humedad o lluvia. No abra la cubierta: en el interior no hay elementos que deba manipular el usuario. El mantenimiento deberá quedar a cargo de personal cualificado.



La presencia de este símbolo advierte de la existencia de tensión peligrosa sin aislar en el interior que podría ser suficiente para provocar una electrocución.



La presencia de este símbolo advierte de la existencia de tensión peligrosa accesible desde el exterior. Todo cableado externo conectado con algún terminal marcado con este símbolo deberá ser un cableado preelaborado que satisfaga las recomendaciones del fabricante o deberá ser instalado por personal cualificado.



La presencia de este símbolo advierte de importantes instrucciones de uso y mantenimiento en la bibliografía adjunta. Lea el manual.



La presencia de este símbolo indica: ¡Precaución! ¡Superficie caliente! No tocar para evitar quemaduras.

- Lea las presentes instrucciones.
- Conserve las presentes instrucciones.
- Observe todas las advertencias e indicaciones señaladas en el producto y en las instrucciones.
- No utilice el producto cerca del agua. No coloque el producto cerca de agua, baños, bañeras, fregaderos, zonas húmedas, piscinas o saunas.
- No coloque objetos que contengan líquidos sobre el producto, como jarrones, vasos, botellas, etcétera.
- Limpie exclusivamente con paños secos.
- No retire ninguna cubierta ni elementos del armazón.
- La tensión operativa del producto deberá ajustarse a la tensión del suministro eléctrico local. Si no está seguro del tipo de electricidad disponible, consulte con su distribuidor o con la compañía eléctrica local.
- Para reducir el riesgo de electrocución, deberá mantenerse la puesta a tierra del producto. Utilice solamente el cable de alimentación suministrado con el producto y mantenga siempre activo de la patilla central (puesta a tierra) del cuadro de conexiones. No desactive la función de seguridad del enchufe polarizado o con puesta a tierra.
- Proteja el cable de alimentación de pisadas o pinzamientos, especialmente junto a enchufes, soportes de dispositivos y el punto de salida desde el equipo. Los cables de alimentación deberán manipularse siempre con precaución. Compruebe periódicamente que los cables no tengan cortes ni signos de desgaste, especialmente en el enchufe y en el punto de salida desde el equipo.
- No utilice nunca un cable dañado.
- Desenchufe el producto durante las tormentas con aparato eléctrico o cuando vaya a estar en desuso durante periodos prolongados.
- El producto solamente se puede desconectar por completo de la red extrayendo el enchufe de red de la unidad o de la toma de la pared. El producto deberá colocarse en todo momento de tal modo que su desconexión de la red sea sencilla.
- Fusibles: Reemplace solamente con fusibles de tipo (5x20 mm) y amperaje según IEC 127. Está prohibido usar "fusibles parcheados" o cortocircuitar los portafusibles. La sustitución de los fusibles debe ser realizada únicamente por personal cualificado.
- El mantenimiento deberá quedar a cargo de personal cualificado. Será necesaria una revisión si la unidad resulta dañada de cualquier forma, por ejemplo:
 - si el cable de alimentación o el enchufe están dañados o deshilachados;
 - si se han derramado líquidos sobre el producto o han caído objetos en él;
 - si el producto se ha visto expuesto a lluvia u humedad;
 - si el producto no funciona con normalidad pese a seguirse las instrucciones de uso;
 - si el producto ha sido salpicado o el cajetín ha sido dañado.
- Cuando se conecten altavoces a este aparato no se podrá sobrepasar el límite de impedancia mínima especificado en el aparato o en las presentes instrucciones. La sección de los cables empleados debe ser suficiente en conformidad con la reglamentación local.
- Proteja de la luz solar directa.
- No instale cerca de fuentes de calor como radiadores, difusores de calor, estufas u otros dispositivos que produzcan calor.
- No bloquee ninguna abertura de ventilación. Instale de conformidad con las instrucciones del fabricante. No deberá situarse el producto en una instalación integrada, como una rejilla, a no ser que exista la ventilación necesaria.
- Permita siempre que un dispositivo frío se caliente a temperatura ambiente cuando se traslade a alguna sala. Pueden formarse condensaciones en el interior del producto y dañarlo cuando se usa sin precalentamiento.
- No sirva fuentes de llama abierta, como velas encendidas, sobre el producto.
- El dispositivo deberá situarse al menos a 20 cm/8" de distancia de las paredes.

- Utilice solamente con el carro, soporte, trípode, abrazadera o tablero especificado por el fabricante o vendido junto con el producto. Cuando se use un carro, deberá tenerse precaución al mover la combinación de carro/producto para evitar daños por vuelcos.
- Utilice solamente accesorios recomendados por el fabricante; esto será de aplicación para todo tipo de accesorios, por ejemplo, cubiertas protectoras, bolsas de transporte, pies, soportes murales o de techo. En caso de instalación de cualquier tipo de accesorio en el producto, siga siempre las instrucciones de uso suministradas por el fabricante. Nunca utilice puntos de fijación distintos de los especificados por el fabricante.
- El dispositivo NO es apropiado para su uso por parte de cualquier persona o personas (niños incluidos) con las capacidades físicas, sensoriales o mentales limitadas o sin la experiencia o el conocimiento suficientes con productos de este tipo. El dispositivo deberá mantenerse siempre fuera del alcance de los niños menores de 4 años.
- Nunca introduzca objetos de ninguna clase en el producto a través de las ranuras del cajetín, ya que podrían tocar puntos de tensión peligrosa, ni cortocircuite elementos que pudieran causar riesgo de incendio o electrocución.
- El producto puede emitir niveles de presión sonora por encima de 90 dB, lo que puede causar daños auditivos permanentes. La exposición a niveles sonoros extremadamente altos puede causar pérdidas auditivas permanentes. Lleve protección auditiva si va a estar expuesto de forma continua a dicho tipo de elevados niveles.
- El fabricante solamente garantiza la seguridad, la fiabilidad y la eficiencia del producto si:
 - el montaje, la extensión, el reajuste, las modificaciones o las reparaciones son realizados por el fabricante o por personal autorizado;
 - la instalación eléctrica del área interesada es conforme con los requisitos de las especificaciones de IEC (ANSI);
 - la unidad se utiliza conforme a las instrucciones de uso;
 - la unidad es sometida periódicamente a revisión e inspección de la seguridad eléctrica por parte de un técnico cualificado.

Version 2.2 01/2011

安全上の御注意！

この書は Hughes & Kettner 製品を初回上りいただくお祈りです。

使用開始前に、安全のため下記の説明を必ずお読み下さい。

お読みになった後は、必ず保存しておいて下さい。

この示した注意事項は、安全に関する重要な内容を記載していますので、下記の指示を必ず守って下さい。

本書では危険や損害の程度を次の区分で表示し、説明しています。

	警告	この表示を無視して、誤った取り扱いをすると、使用者が死亡または重傷を負う可能性が想定される内容を表示しています。
	注意	この表示を無視して、誤った取り扱いをすると、使用者が怪傷を負う可能性、および物的損害のみの発生が想定される内容を表示しています。

本書で使用する絵表示は、次のような意味です。

	警告・注意を促す内容があることをお知らせするものです。図の中に具体的な注意内容が描かれています。
	禁止の行為であることを告げるものです。図の中に具体的な禁止内容が描かれています。
	行為を強制したり指示したりする内容を告げるものです。図の中に具体的な指示内容が描かれています。

! 製品に記載されているすべての注意事項に守って下さい。
雷が鳴っている時や雷雨警報が出ている時は必ず電源を抜いて下さい。
延長コードを使用になる場合は必ず容量に合ったものを使用下さい。
電源コードや電源アダプターは手荒に扱わないで下さい。定期的に断線していないか、あるいはその断線がないかチェックして下さい。特に両端のモールの部分に断線がないか注意して下さい。
電源コードや電源アダプターの上には何も置かないで下さい。通路にはコードがつかないように設置して下さい。

! キャビネット内の空間、裏面や底面の穴は通気のために設けられています。穴をふさいでしまったらしないで下さい。十分な空間がないとオーバーヒートの原因になります。本製品をビルドインで設置する場合は、適切な冷却装置を必ずご使用下さい。
長時間大量で消費すると、耳に負担がかかり難聴になる危険があります。やむをえず必要な場合には、耳栓を使用するなどして、自衛手段を講じて下さい。

! この製品は水気のあるところでは使用にならないで下さい。
この製品を不安定な台車、スタンド、またはテーブルなどの上に置かないで下さい。製品が落下して故障の原因となることがあります。
付属の電源コードや電源アダプター以外で使用するしないで下さい。また、製品の裏面に表示している電圧以外での使用は避けて下さい。

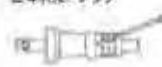
! 製品の上にドリンクなど置かないで下さい。こぼれて故障や感電の原因になります。
絶対に自分や他人を介して修理、改造等しないで下さい。製品の内部には高電圧の部分があり大変危険です。必ずお買上げになった販売店までお問い合わせ下さい。
下記の場合ただちに電源を抜き必ず修理または点検に出して下さい。
* 電源コード、電源アダプターまたはプラグが破損した場合。
* 製品の上に液体がこぼれた場合。
* 製品に水や油がかかった場合。
* 故障音通り作動していないにもかかわらず正常に作動しない場合。
* 製品が落下した場合やキャビネットが破損した場合。
* 音質や性能が著しく低下した場合。

! ケーブルを交換する際は、必ず同じ規格の物を使用して下さい。異なる規格の物を使用すると、発火や故障の原因となります。
電源線や電話線、ストロー等の熱を発生する機器（ポンプを含む）の近くで使わないで下さい。

発火や感電を防ぐため、温度の高いところや雨のあたる場所では使用にならないで下さい。キャビネットの前面などから異音を入れたら入らないで下さい。内部には専門家以外の方で修理できる箇所はございませんので、異常が発生した場合はお買上げになった販売店にご連絡下さい。

! 必ずアース接続を行って下さい。
アース接続は必ず、コンセントプラグを差し込む前に行って下さい。また、アース接続をする場合は、必ずコンセントからプラグを抜いてから行って下さい。

日本用2Pプラグ



アース接続のやり方



Foreword

Congratulations on your choice, the Hughes & Kettner® **COREBLADE**. Drawing on a rich heritage reaching back over a quarter of a century to the world's first fully-programmable amp, the AS 64, **COREBLADE** sets today's standards for both technology and tone.

COREBLADE is a thoroughbred tube amp with four independent channels, none of which share even a single knob. Every channel has a unique sonic character, and power amp feedback has a tremendous impact on shaping response. So, we devised a variable power amp feedback circuit that is reconfigured when you switch channels to bring out even more of the selected channel's distinctive flavor.

Three integrated effects modules and innovative IPM™ (Inversed Parallel Modulation) technology let you shape and refine your tone with surgical precision by blending in the wet signal. Best of all, you can enjoy the advantages of this parallel circuit not only with reverb and delay, but also with chorus, phaser, flanger, and even tremolo effects. This means the signal path runs uninterrupted from the input jack to the speaker out, ensuring your source signal's freshness, dynamic range, and sonic glory remain intact.

COREBLADE delivers to-die-for tone, and much more. Its professional features make the touring musician's life on stage so much easier:

Unrivalled switching convenience for live performances:

All of **COREBLADE**'s knobs apart from the MASTER are fully programmable, to include the integrated effect modules. 128 presets are available, ready for actuation by tapping a toe on the factory-included MIDI board's buttons.

Professional SmartLoop™ FX routing:

The FX loop is also fully programmable so you can integrate outboard effect devices into your **COREBLADE** presets. The SmartLoop™ can be configured as a parallel or serial circuit for each preset. And switching MIDI-enabled signal processors is a piece of cake courtesy of **COREBLADE**'s MIDI Thru port.

Handy memory backup to a USB stick:

COREBLADE boasts a feature you won't find on any other tube amp: You can dump your presets direct to a USB stick without going to a computer first, either to archive your sounds or take them with you from amp and stage to stage.

Ultra precise IDB™ noise gate:

The Intelligent Dual Breakpoint noise gate gauges levels simultaneously at two key points - the INPUT jack and the preamp's output - in the signal chain. This allows the noise gate to adapt its response to suit every application. And that means you can use it as a stylistic device for cutting signals hard on stage and as a sensitive noise suppressor in the studio.

TSC™ for reliable power amp tube management:

The Tube Safety Control constantly adjusts the amp's bias to the optimum value, ensuring your choice of power amp tubes - EL34s or 6L6s - delivers the best possible tone everywhere, all the time. If a tube fails, you can still finish the gig. And in a fix, you can even swap tubes in a matter of minutes without having to take the amp to a shop.

Maintenance-free PRN™ knobs:

Sited behind every programmable knob is a zero-maintenance Programmable Resistor Network. For one, it renders programmed settings with exacting

precision. For the other, it doesn't wear. Look forward to tweaking knobs that never scratch, crackle, or fail throughout the amp's lifetime.

Made in Germany

The Custom Shop in the ISO 9001-certified Hughes & Kettner® plant in Germany built your **COREBLADE** from the bottom up. Our seasoned craftspeople apply the most stringent standards to bring you the benefits of a tough, rugged amp you can count on throughout its extraordinarily long life. Please register your new **COREBLADE** within 30 days of purchase to get a fee three-year warranty. Simply fill out and send in the included warranty card or – to make things even simpler – register online at www.Hughes-and-Kettner.com.

Enjoy your **COREBLADE**. Best wishes,

Your Hughes & Kettner® team

Things to Do Before Operating the Amp

Please read the safety instructions on page 62 before operating the amp. The manufacturer disclaims any liability or responsibility whatsoever for any damage or defect to this and other devices resulting from misuse.

Powering Up

Before you plug in the amp, ensure **COREBLADE**'s MAINS and STANDBY switches are off with the toggle switches in the down position, and the voltage rating shown next to the MAINS INPUT matches your local mains current. The arrow in the picture on the right points to this voltage setting. If the rating next to the arrow does not match the local mains voltage, do not plug in your amp! See section 8 for more on this.

Connecting a Speaker Cabinet

Always remember to never operate your **COREBLADE** without a connected speaker cabinet. Also ensure the cabinet's impedance value measured in ohms matches that of the selected. Never use outputs for different impedances at the same time! See section 5.1.

Input

Plug your guitar in here. Please use quality cords designed for guitars only.

FSM 432 MIDI Board

Connect the included FSM 432 MIDI board to this port so you can select presets. You need the FSM 432 or another MIDI board to operate all of **COREBLADE**'s functions. See section 1.2.3 for more about this. You'll find more info on the FSM 432 in sections 5.5.1 and 7.1.

Do This before Hitting the On Switch

A word of warning before you fire up your **COREBLADE**: It's loud! High volume levels can cause hearing damage. Spare yourself nasty surprises and make a habit of twisting the MASTER knob to the far left before turning on the amp.

Mains

This switch enables mains current to flow. When you engage it, the blue pilot lamp illuminates and the tubes begin heating up. Ensure the STANDBY switch is set to the down position, and give the tubes at least 30 seconds to get toasty. They'll thank you for your patience by lasting longer.

Standby

The STANDBY switch gets the tube's anode current flowing and brings the amp online. Please use the STANDBY rather than the MAINS switch when taking short breaks so tubes remain at their operating temperature.

COREBLADE ships with 18 banks, each offering four sample presets accessible via the FSM 432. These presets will help you discover the many sound design options **COREBLADE** has to offer. Feel free to edit and overwrite these factory sounds as you see fit. But more on this later; now it's time for some fun! If you can't wait to get to it, go ahead and play your **COREBLADE**. But before you take it to the stage, please read these instructions carefully and completely. Chapters 1 and 5 are mandatory reading even for seasoned players.

[illegible]

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 - 6.4 Matching Tubes with TSC™
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 - 7.1 Setting up the FSM 432
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1 The Fundamentals of Handling COREBLADE

COREBLADE is a tube amp, and it works much like other tube amps. But its handling concept is more advanced, so time spent getting to know how it operates is time well spent.

1.1 How the Knobs Work

One set of knobs controls all four channels. Your choice of channel determines the knob's assignment, for example, which of the CLEAN, DRIVE, or ULTRA channels the GAIN knob addresses at the given moment. The great advantage of this design is that the channels are truly independent and do not share GAIN, VOLUME, or tone controls. You can even adjust PRESENCE and REVERB settings separately for every channel!

NOTE: The knobs look and feel like standard-issue pots with a 300-degree control range and left and right stops. But there's a difference that may take some getting used to: The knob setting programmed in a preset is independent of the knob's physical position. In other words, when you switch from one preset another, the knob's actual position may not reflect the setting programmed in the preset, and you may well hear something other than what you're seeing would suggest. The knob will respond like any other conventional pot as soon as you move it. The STORE LED in the MASTER section tells you the knob setting stored in the preset. It lights up when the physical position of the knob corresponds to the preset setting. More on this in section 4.3.

HEADS UP: You may hear soft background noise when twisting knobs. This sound is made the Programmable Resistor Matrix, or PRN™ for short, as it switches.

1.2 Selecting Presets Using the Included FSM 432 MIDI Board

The FSM 432 serves to select the 128 memory slots arranged in 32 banks of four presets each. You can easily configure setups any way you wish, say by assigning the four presets of a bank to a song.



1.2.1 PRESET A B C D

Presets within a bank activate directly, that is, you can switch straight from A to B within the same bank. The LED above the A, B, C, and D buttons indicates the select preset.

1.2.2 BANK UP/DOWN

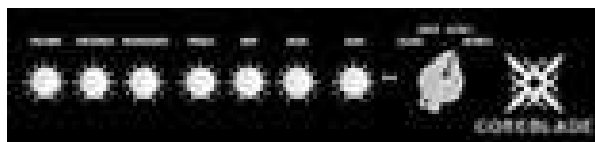
To access a preset in another bank, select the target bank using the UP and DOWN buttons. You can continue playing with the current preset while you're navigating. The display shows the bank's number; it flashes until you select a preset by pressing A, B, C, or D. The FSM 32 switch will not switch over to the new preset until you do this.

1.2.3 TAP

TAP offers you a quick, convenient way of adjusting delay time. It's particularly handy on stage: Simply tap your foot on the TAP button in time with the beat to match delay time to the tempo. See section 3.2 for more info.

2 The Channel Section

COREBLADE sports four channels, each voiced very differently and accessible via a chicken-head selector switch. The power amp feedback circuit, which has a formative hand in shaping your tone, is also reconfigured during channel switching. The programmable knobs afford you full access to all sound parameters in every channel. We even painstakingly fine-tuned knobs' control ranges and characteristics to match the selected channel's voicing.



2.1 CLEAN Channel

COREBLADE's CLEAN channel certainly merits its name. It delivers sparkling fresh sounds, offers oodles of headroom, and remains undistorted even when driven by high-output pick-ups. It's worth your while to experiment with different GAIN settings in combination with the switchable BOOST.

2.2 DRIVE Channel

Your first stop for classic overdrive at its finest. This channel sweeps the sonic spectrum from clean to mean, and countless tones in between. Engage BOOST to conjure a rude rock roar.

2.3 ULTRA I Channel

Look no further for modern high-gain sound with all the articulate response of a Teutonic tone-generator. This channel's masterfully musical compression sends those riffs and licks flying off your fingertips. Hit BOOST for an extra helping of in-your-face sound pressure.

2.4 ULTRA II Channel

Get your high-gain tone right here. The ULTRA II channel's top end slices, dices, but never sacrifices its thunderous low end for raging metal riffs and larger-than-life lead tune. Dropped tuning conjures a quasi religious experience.

2.5 GAIN

The GAIN knob determines input sensitivity and therefore the preamp's saturation level. Paired with BOOST, it is your most important sound-sculpting tool.

2.6 BOOST

BOOST targets specific frequency ranges and kicks them up a notch. This yields even more assertive, creamier, or punchier tone, depending on the channel.

2.7 BASS, MID, TREBLE

The three-band voicing section's sound-shaping action is fine-tuned for each channel, and specifically addresses the frequency ranges that define each channel's characteristic tone.

HEADS UP: These are classic passive tone controls that influence one another. For example, if you crank the MID knob, the BASS knob will be less effective than when you back the MID knob down. PRESENCE and RESONANCE are independent of the three-band voicing controls; that is, their action remains unaffected by other knobs' settings.

2.8 RESONANCE

Set the RESONANCE knob to 12 o'clock and you will hear the normal resonance created by the amp-and-cabinet combination. Twisting it to the counterclockwise dampens the speakers and the cabinet's resonance for a looser,

softer sound that sweetens up clean tone. Turning the knob clockwise intensifies resonance for a tighter, punchier low-end that works well with distorted sounds.

2.9 PRESENCE

This knob control the amount of harmonic overtones generated by the amp - the higher the setting, the more intense the effect.

2.10 VOLUME

Use the VOLUME knob to adjust presets' levels and adjust their relative balance.

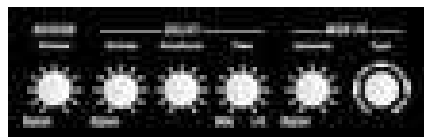
HEADS UP: Unlike a conventional VOLUME control, this knob does not bring the level all the way down; it merely boosts or cuts the given level. The 12 o'clock position is the best starting point for adjusting volume.

CAUTION: Please don't use this knob to control the amps' overall output level – that's the MASTER knob's job.

3 The Effects Section

COREBLADE offers three independent effect modules that you can use simultaneously.

HEADS UP: The far left knob position bypasses the effect. Twisting the REVERB VOLUME, DELAY VOLUME, and INTENSITY knobs counterclockwise to the far left takes the given effect module out of the signal path.



3.1 REVERB

COREBLADE's reverb is modeled to match the warmth and musicality of classic spring reverbs. A genuine improvement over its analog forebears, it automatically adjusts the reverb tail - the higher the REVERB VOLUME setting, the longer the reverb time.

3.2 DELAY

The DELAY module's VOLUME, TIME, and FEEDBACK knobs afford you total control over all parameters.

3.2.1 VOLUME

Adjusts the volume of repetitions, sweeping from all the way off to just as loud as the original signal.

3.2.2 FEEDBACK

Adjusts the number of repetitions from one to infinite.

3.2.3 TIME

Adjusts the time to the next repetition from 80 milliseconds to 1.4 seconds.

When you're tapping in delay time on the FSM 432, the effect adopts the new time after your second tap. The TAP LED flashes for about five seconds in sync with the beat to give you a visual indication of delay time. The TAP function works only when the DELAY is active. If the DELAY is off – or more accurately, bypassed - the effect will not adopt your TAP tempo.

HEADS UP: You can also set delay time using MIDI control controller change number 4 and an MSB value between 0 (80 ms) and 127 (1360 ms). The values for the 128 steps of 10 milliseconds each are easily determined by subtracting 80 ms from the target time and dividing the result by 10. Say you're aiming for 500 ms. $(500-80)/10 = 42$, so the MSB value is 42. You can even adjust the time in 5-ms intervals by sending the MSB value along with an LSB value of 1 using controller change number 36, which always adds 5 ms to the total. The combination of MSB 42 and LSB 1, for example, gives you 505 ms.

3.3 MOD FX

This module serves up a smorgasbord of four modulation effects - CHORUS, FLANGER, PHASER, and TREMOLO.

3.3.1 TYPE

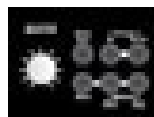
Each effect is assigned to one quarter of this knob's control range. The first quarter addresses CHORUS, the second addresses FLANGER, the third addresses PHASER, and the final quarter addresses TREMOLO. You can adjust the modulation effect's rate within its assigned quarter, and even beyond that. The bars – or more accurately, arches – between CHRS, FLNG, PHAS, and TREM on the knob's label indicate each effect's extended control range. When you select an effect, its assigned quarter of the control range is extended to include the neighboring arch. This gives you greater leeway to shape sounds as you see fit.

3.3.2 INTENSITY

This knob adjusts the volume of the modulation effects.

4 The Master Section

The MASTER section lets you adjust the amp's overall volume, switch the IDB™ Noise Gate, route external effects, store presets, and determine if the amp sources presets from its memory or from the memory stick.



4.1 MASTER

As the name suggests, this knob puts the power amp and its volume level at your thumb and forefinger's command. Handle it carefully and you will enjoy a gratifying rather than an agonizing aural experience.

HEADS UP: Unlike channel and effect controls, the MASTER knob is not programmable! It works like any conventional knob, and its physical position indicates the actual setting. It's always a good idea to back the MASTER knob off, twisting it to the far left position before powering the amp up.

4.2 MEMORY STICK/AMP

The STICK and AMP buttons on **COREBLADE**'s front panel determine the source and target memory for presets – that is, if they are accessed from and stored to the amp's internal memory or a memory stick. **COREBLADE**'s rear panel provides the means to download a backup of the internal memory to the memory stick and upload a complete setup from a memory stick to the internal memory. See section 4.4 for more on this.

HEADS UP: The AMP button is disabled and its light remains off when the USB port is unoccupied. The AMP button is enabled and lights up when you plug in a memory stick containing presets.

4.2.1 Plugging in a USB Stick:

Below the STICK button you'll find a USB port that accepts a memory stick. You can plug it in before powering the amp up or while it's up and running. The light on the STICK button flashes three times to tell you the memory stick is good to

go and usable data has been detected on the memory stick. If this light does not flash, the memory stick is empty, faulty, or unformatted. You can remove it at any time, apart from the few seconds it takes to store or copy presets, in which case data may be lost when you unplug the stick. If the STICK button is enabled and the memory stick is removed while you're playing, the STICK light will extinguish. However, you can continue playing with that preset until you switch over to another preset.

4.2.2 Which Memory Sticks Work

Almost all USB sticks formatted in standard FAT-16 or FAT-32 formats will work, apart from U3-type sticks (see the paragraph below for more on this). Please use your chosen memory stick only to store **COREBLADE** presets. Storing other files such as mp3s, pictures, or videos can lead to data loss. Do not use a mobile phone, digital camera, MP3 player or any storage medium other than a memory stick. We can't guarantee that another storage media will work and keep your data safe.

HEADS UP: The USB port is sited very close to the bottom edge of the housing. Very thick USB sticks may not fit, but this location's benefit outweighs that drawback: Standard flat memory sticks sit securely and snugly right on the panel so they won't break off.

U3 sticks: Some USB sticks are designed to run computer programs without prior installation. They can cause conflicts, which is why we recommend that you do not use U3 sticks.

4.2.3 Accessing Presets on a USB Stick

The AMP button lights up to tell you that **COREBLADE** has detected the memory stick. Rather than automatically switching over to the memory stick, the amp will continue using its internal presets. To access the sounds on the memory stick, all you have to do is press the STICK button. It will light up and wait for you to select a preset using the FSM 432 (A, B, C, or D) or a MIDI program change command. Again, the amp will not call up the preset on the memory stick until you tell it to do this. In the meantime, you can continue playing without interruption using the preset most recently selected from **COREBLADE**'s internal memory.

4.3 STORE

Use the STORE button to save your presets and read out the knob settings stored in the given preset.

4.3.1 Reading out Stored Knob Settings

When you select a preset, the knob's actual position may not represent its stored value. But it's easy enough to read out: Select a preset, grab the knob and twist it to the left or right until the STORE button lights up. The setting at which the LED lights up is the setting stored in the preset. Now the knob's position matches the value stored in the preset.

4.3.2 Storing Settings by Overwriting the Currently Selected Preset

An easy way to store edited settings is to simply overwrite the most recently selected preset. To do this, press and hold the STORE button for about two seconds until its light flashes briefly and then extinguishes. The CHANNEL LED also flashes to confirm the write operation. Release the STORE button, and your settings will be stored.

4.3.3 Storing Settings by Selecting a New Memory Slot

If you do not wish to overwrite the current preset, you can easily select a new memory slot instead. In this case, rather than holding the STORE button down for two seconds, press it briefly and then release it. Its light stays on to signify that **COREBLADE** is primed and ready to receive a memory slot from the FSM 432 or via MIDI:

- Select a MIDI bank from 1 to 32 on the FSM 432. It flashes to signify that the

FSM 432 is waiting for input via one of the four preset buttons A to D.

- Engage preset button A, B, C, or D. The board stops flashing, the light on the STORE button extinguishes, and the preset is stored.

CAUTION: A BANK UP/DOWN command also triggers a store operation when the FSM 432 is in DIRECT MODE (see section 7.1.2). We suggest you deactivate DIRECT MODE when you're programming to ensure you don't accidentally overwrite presets.

When you're using a memory stick and the amp is primed, you can select AMP or STICK to determine if the preset will be stored in the amp's internal memory or on the memory stick. However, this will only work if **COREBLADE** has detected the memory stick; that is, if the memory stick contains a backup file into which **COREBLADE** can dump the preset. This lets you copy individual presets from the amp to the memory stick and vice versa, say to put together your best-of setup. Once the storage process is concluded, **COREBLADE** returns to the initial memory slot.

Here's how to proceed for other manufacturers' MIDI boards and MIDI-enabled devices: Prime **COREBLADE** by engaging the STORE button, and then send a program change command from the MIDI-enabled device. As soon as **COREBLADE** receives a valid program change command, the STORE button extinguishes to indicate the preset has been stored and assigned to the given MIDI-enabled device.

If an error occurs (the amp remains primed), you can cancel the store operation by briefly pressing STORE again.

HEADS UP: Storing presets to a USB stick takes longer than storing them in the internal memory. The light on the STICK button flashes intermittently during the few seconds it takes to store presets. Please do not engage any of **COREBLADE**'s control features during this time, and definitely do not remove the memory stick!

4.4 COPY MEMORY

COPY MEMORY lets you download and upload presets so you can take them with you. Be aware that:

- There is only one file called memory.dat for all presets. Rather than storing 128 sounds individually, **COREBLADE** generates a complete backup copy of its internal memory.
- Only one backup file is permitted per memory stick. **COREBLADE** ignores all files but one – the file named memory.dat!
- If you want to create different preset setups, you'll need a dedicated memory stick for each.

This method is the safest and simplest way of managing setups. And you don't need any other software to copy the memory.dat file from the memory stick to a computer, store it there, and disseminate it, say via e-mail.

4.4.1 Dumping a Backup to a USB Stick

The AMP TO STICK button on **COREBLADE**'s rear panel dumps all internal presets to the memory stick in one go. To create a backup, press and hold the AMP TO STICK button for about three seconds until it lights up. You can release the button when its light flashes intermittently during the dump. It will flash again after a few seconds to confirm what has happened:

- The AMP TO STICK button flashes twice slowly to indicate everything's OK.
- It flashes four times quickly to alert you to an error. The memory stick may be full, unformatted, or locked.

CAUTION: If you are using a memory stick with a hardware lock, please ensure it is unlocked. **COREBLADE** may not be able to detect the hardware lock's status and data could be lost!

4.4.2 Uploading All Presets from a Memory Stick to the Internal Memory

The STICK TO AMP button on **COREBLADE**'s rear panel uploads all presets on the memory stick to **COREBLADE**'s internal memory in one go. To initiate an upload, press and hold the STICK TO AMP button for about three seconds until it lights up. You can release the button when its light flashes intermittently during the dump. It will flash again after a few seconds to tell you what has happened:

- The AMP TO STICK button flashes twice slowly to confirm everything's OK.
- It flashes four times quickly to alert you to an error. Presets were not copied and internal presets were not overwritten.

If the button fails to light up even after you press it for several seconds, the amp is unable to detect presets on the memory stick.

CAUTION: Copying presets from the memory stick is an irreversible process that overwrites all internal presets. We recommend that you first back up all your amp's presets to another memory stick.

4.5 NOISE GATE

The programmable NOISE GATE button switches the IDB™ noise gate on and off for each preset. When activated, the noise gate kicks in to mute the amp as the signal level drops below a certain threshold. The gate remains shut until you hit the guitar strings, when it opens up again.

4.5.1 SENSITIVITY

The SENSITIVITY knob on the amp's rear panel controls the noise gate's response. The knob's far left position is labeled HARD; its far right position is labeled SOFT. The noise gate's IDB™ technology automatically adapts the standard attack and threshold parameters. Outboard noise gates sandwiched between the guitar and amp or plugged into the FX loop can only measure the signal at one point. This technology gauges the signal at two points, directly at the INPUT jack and post preamp, but pre effects. The noise gate uses these two values to calculate the optimum response. What's more, it does not cut off REVERB and DELAY signals.

The further you twist the SENSITIVITY knob to the right, the more sensitive the noise gate's response. Set it to 12 o'clock if you want it to open up at very soft signal levels. The further you twist the knob to the left, the harder the noise gate kicks in and cuts off signals.

HEADS UP: The SENSITIVITY knob's setting applies to all presets that incorporate the noise gate. This is convenient and intentional: If conditions on stage are different in the rehearsal room, you can adjust the noise gate's response for all presets with one simple tweak.

TIP: 12 o'clock is the universal setting. If you wish to use the noise gate as a stylistic device when playing fast staccato riffs at high gain levels, then dial in a setting towards the HARD end of the control range.

4.6 FX LOOP

The programmable SmartLoop™ effects routing circuit offers parallel/ serial effects loop for patching in external effect devices.

Its status - on or off and parallel or serial - is stored with each preset.

4.6.1 SERIAL

Switches the effects loop from parallel (LED does not light up) to serial (LED lights up).

4.6.2 FX ON

Switches the effects loop on (LED lights up) and off (LED does not light up).

TIP: If you have not inserted a signal processor into the FX loop, you can use it for purposes other than effects, and even store the configurations individually in each preset:

- In parallel mode, you can use the RETURN jack to connect a second instrument or any other audio source, and even route the amp's signal to a second power amp.
- In serial mode, the effects loop lets you control the amp's volume remotely by connecting an analog volume pedal to the SEND/RETURN jacks.
- The serial effects loop also lets you patch in an outboard equalizer to serve as a master EQ, say to adapt the amp to another cabinet or a venue's acoustics.

CAUTION: The signal chain is severed if you configure the FX loop serially but do not connect an effect device. SEND is not the best to-mixer routing option because it taps the preamp signal only. You're better off patching the power amp signal to a mixing console from the speaker outputs via a Hughes & Kettner Red Box®.

HEADS UP: FX ON/OFF is footswitchable. Connecting a footswitch disables the front panel button. See section 5.3 for more info.

5 Rear Panel Connections and Control Features



5.1 LOUDSPEAKER OUTPUTS

COREBLADE offers separate outputs for all standard impedances: You can connect either one 4 Ω cabinet, or two 8 Ω cabinets, or two 16 Ω cabinets, or one 16 Ω cabinet. Never connect different cabinets at the same time! If you want to drive two cabinets with different impedances simultaneously, you must configure a parallel circuit and connect it to the appropriate output. Use this formula to figure out the overall impedance (R) of two cabinets with different impedances (R1, R2) connected in parallel:

$$R = (R1 \times R2) / (R1 + R2)$$

Here's an example with one 8Ω cab and one 16Ω cab

$$R = (8 \times 16) / (8 + 16)$$

$$R = 128 / 24$$

$$R = 5.33$$

The golden rule is cabinets' impedance may never be lower than the amp's output impedance. So, you would connect this combination of cabs to the 1 x 4 Ω speaker out.

5.2 AMP TO STICK / STICK TO AMP

These buttons let you download and store the amp's internal presets on a USB stick and upload them any time, even to another **COREBLADE**. Please read section 4.4 for more about this.

5.3 EFFECTS ON/OFF

This port accepts a two-way footswitch such as the Hughes & Kettner® FS-2. Button 1 switches internal effects; button 2 the external effects loop. The FS-2's LED lights up to indicate effects are active and the FX ON button is engaged.

It does not light up if the internal effects are bypassed; that is, the FX ON button is not engaged.

HEADS UP: The footswitch disables the front panel FX ON button. A connected footswitch always has priority. The footswitch's current status is valid when you switch channels. The front panel FX ON button then serves as an LED display indicating the footswitch's status.

5.4 STAGEBOARD CHANNEL SELECT

This fall-back footswitch connector will help get you through the gig if you left your MIDI board behind. It lets you switch remotely between two channels, say CLEAN and ULTRA II, using a standard one-way footswitch such as the Hughes & Kettner® FS-1. A two-way footswitch such as the Hughes & Kettner® FS-2 may also be connected. In this case, button 1 switches channels, and button 2 does nothing. **COREBLADE** even accepts the four-way Hughes & Kettner® FS-4 footswitch that ships with Hughes & Kettner® Trilogy and Matrix amp. It lets you switch all four channels.

HEADS UP: The footswitch changes the channels only, and not presets.

5.5 MIDI

COREBLADE comes with a standard MIDI interface that communicates with other MIDI devices and accepts the included FSM 432.

5.5.1 MIDI IN

Though this is a 7-pin interface, you can connect a standard 5-pin MIDI cable. The two additional terminals serve to supply phantom power to the FSM 432.

HEADS UP: The FSM 432 comes with a 7-pin MIDI cable. You do not need a power source for the FSM 432 because phantom power is provided. If you wish to use a 5-pin MIDI cable, you will however need a wall-wart. It provides an innovative mains port that accepts any AC or DC adapter rated for 9 to 15 volts.

5.5.2 MIDI THRU

This port forwards signals patched into MIDI IN to other devices. You can connect any external MIDI-enabled signal processor that you wish to switch synchronously with **COREBLADE**.

5.6 FX LOOP

If you wish to use an outboard effect device, you can insert it into the FX LOOP.

5.6.1 FX SEND

Connect this jack to your effects processor's input.

5.6.2 FX LEVEL

This button the FX SEND's output level by 10 dB and boosts FX RETURN's input sensitivity by 10 dB to match the FX loop to the effect device's input level. Press this button when using processors designed to handle instrument levels.

5.6.3 FX RETURN

Connect this jack to your effects processor's output.

5.7 SENSIVITY

The SENSIVITY knob controls the noise gate's response. The programmable NOISE GATE button on the front of the amp activates and deactivates the noise gate for each preset. See section 4.5 to learn more about this.

5.8 TUBE SAFETY CONTROL (TSC™)

Chapter 6 is devoted to the Tube Safety Control - read it to get all the details.

5.9 HUM BALANCE

This trim knob adjusts the balance to minimize hum after swapping preamp tubes. See chapter 8.

6 TUBE SAFETY CONTROL (TSC™)

TSC™ adjusts bias to improve **COREBLADE**'s tonal and technical stability and extend power tubes' life. It does this automatically, so there is nothing for you to do.



It also offers some more hip features for dealing with different makes and types of power output tubes (EL34 and/or 6L6GC) that are likely to interest you. If not, simply handle the amp as you would any conventional tube amp. But please read and heed chapter 8, Replacing Tubes, Service and Preventive Maintenance,

and section, 6.4 Matching Tubes with TSC™, to get all the facts straight about replacing and matching tubes. This knowledge will spare you a lot of hassle and effort.

6.1. The Basics Briefly Explained

NOTE: We developed TSC™ exclusively for power output tubes, and this chapter addresses only this type of tube.

What's up with bias, ratings, and matching?

In a tube amp, bias describes the amount of idle current flowing in the tube grid. A technician should adjust or re-bias this idle current regularly, and certainly after replacing output tubes with others bearing different ratings. Biasing is necessary because tubes and their component parts are delicate, their tolerances vary somewhat, and they have different bias points and thus different ratings. Vibrations, temperature variations, and plain old aging can even affect a tube's bias point over its lifetime. If several tubes share the same bias point or rating, we say they are matched. And we always use matched tubes in a guitar amp to ensure they bear the load equally, which reduces wear, extends tube life, and yields better tone. Courtesy of TSC™, all tubes in **COREBLADE** share the same load even if they have different ratings.

TSC™ is a very different breed of auto-biasing solution. For one, it really is automatic, meaning that you don't have to activate it manually. For another, it readjusts bias only when it makes sense to do so – when the amp is in fact idling every time it is powered up and you take a break from playing! And TSC™ takes a break while you play to ensure it doesn't adversely affect your tone!

6.2 The Benefits of TSC™

1) You can swap tubes easily, quickly, and safely:

All the hard work of biasing gets done automatically, so swapping tubes is an exercise in speed and convenience. This is a big help not only in case of a defect, but also when you want to compare different brands, different ratings, and even different types of replacement tubes. **COREBLADE** accepts all type EL34 and 6L6GC tubes, even in mixed combinations! Consider this before replacing tubes: We designed the amp's factory presets specifically for EL 34 tubes. Also, if another type of tube is installed, you will have to modify your presets to achieve the best audio results.

CAUTION: Replacing tubes is a job best left to qualified professionals! TSC™ spares the technician the biasing effort, but the service guidelines in chapter 8 remain valid and must be followed.

2) You can continue playing despite a defect: TSC™ shuts a faulty tube down and an LED indicates the defect. You can continue playing and the amp will get you through the gig.

3) You can easily check tube ratings: You can check a tube's bias point and determine if pairs match any time you wish without taking the amp to a tech. All you need to do this is a pick. See section 6.4.1 for more on this.

4) Tubes last longer: TSC™ always adjusts bias to the optimum operating point, thereby preventing excessive current from overloading tubes.

5) You enjoy optimum sound: TSC™ minimizes undesirable crossover distortion even when tubes' bias points diverge strongly.

6.3 What the Tube Status Control tells you

Each of the LEDs in side-by-side array is assigned to the power amp tube occupying that same position. TSC™ automatically indicates tubes' operating status as soon as you switch STANDBY off to turn the amp on. You can activate the display's readout manually by inserting a pick into the slot to view tubes' bias points and match sets on your own.

6.3.1 All LEDs Off

Power output tubes are operating normally.

6.3.2 All LEDs Light Up and Stay On

All LEDs remain on for as long as the amp is in standby mode to indicate tubes are heating up but no current is flowing to them. Leave the amp on standby for about 30 seconds, and the LEDs will extinguish when you switch from standby to on. If the LEDs continue to light up, the most likely cause is a blown anode fuse that needs to be replaced. It is on the rear panel, readily accessible from outside the amp. The fuse can trip if a tube is already defective when the amp is switched on, and TSC does not have enough time to measure idle current and shut the faulty tube down. This may occur in case of serious tube defects such as a short-circuit caused by the anode and cathode making direct contact, or voltage spikes occurring when using older tubes and fuses. If you experience one of these rare events, have a technician replace the tubes and fuses. See chapter 8 to learn more about this.

6.3.3 One LED Lights Up Continuously

The tube assigned to this LED is producing under-voltage. If the LED fails to extinguish after a few minutes, the power output tube must be replaced. Please read and heed the instructions in chapter 8.

6.3.4 One LED Flashes, Another Lights Up Continuously

The tube assigned to this flashing LED is generating over-voltage. It has been shut down and must be replaced as described in chapter 8. In this type of power amp, it takes a pair of tubes working together to produce the best sound. The defective tube's counterpart is switched off so it doesn't degrade the other pair's tone. This tube's LED lights up continuously to indicate it has also been shut down, but there is no need to replace it. You can continue playing, though output is halved from 100 to 50 watts for as long as the LED remains illuminated. If this occurs in a conventional amp, its fuse usually trips and you can't operate it until you replace the tube and fuse.

6.4 Matching Tubes with TSC™

TSC™ lets you check installed tubes, as well as replacement tubes before and during installation.

6.4.1 Getting a Read-Out

Insert a pick into the slot in the panel labeled Tube Matching Read-Out while the amp is on (rather than in standby mode). All LEDs will flash. How many times the LEDs flash matters, but what matters more is the difference in flash counts.

If the rating deviates upward or downward by six or more flashes, the bias points are too far apart for TSC™ to compensate. The given power output tube must be replaced to achieve optimum sound.

The tables in section 5.3.3 show Hughes & Kettner tube ratings. You can buy tubes with the same ratings from your local dealer. You'll find a sticker with the original Hughes & Kettner rating (S1-S3, 0-9) on the power output tube. Bear in mind that if you're using different types of tubes - that is, EL34s and 6L6GCs - you must consider the flash signals separately for each tube type. The table in section 5.3.3 shows you how the flash count translates to a rating.

6.4.2 Checking for matching ratings after swapping tubes

If all tubes are replaced, ensure they all have the same ratings. The choice of rating is up to you, and TSC™ spares you biasing effort. If just a single tube is swapped, ensure the replacement tube's rating matches the ratings of the other tubes in the amp.

6.4.3 Tube ratings tables

EL34 power output tubes		6L6 power output tubes	
flashes	rating	flashes	rating
1	S3	1	--
2	S2	2	--
3	S1	3	--
4	0	4	--
5	1	5	S4
6	2	6	S3
7	3	7	S2
8	4	8	S1
9	5	9	0
10	6	10	1
11	7	11	2
12	8	12	3
13	9	13	4
14	10	14	5
15	11	15	6
16	12	16	7
17	13	17	8
18	14	18	9
19	--	19	10
20	--	20	11
21	--	21	12
22	--	22	12
23	--	23	13
24	--	24	13
25	--	25	14
26	--	26	14
27	--	27	14

7

MIDI Control and Programming

The MIDI interface serves mainly to control **COREBLADE** using the included FSM 432. But you can also control the amp using other MIDI devices, as well as remote-control other MIDI receivers using the FSM 432.

7.1 Setting Up the FSM 432

7.1.1 Direct Mode

DIRECT MODE lets you trigger a direct program change via BANK UP/DOWN. In this mode, the FSM 432 will not wait for your input by way of the A, B, C, or D buttons, instead switching directly, for example, from preset B

in bank 16 to preset B in bank 17 (UP) or bank 15 (DOWN). Here's how to activate DIRECT MODE:

- Press and hold TAP, and then press PRESET A.
- First release PRESET A, and then TAP. The decimal point in the display lights up.

Follow the same sequence to deactivate DIRECT MODE. Note that it is a volatile rather than a permanent mode. **COREBLADE** automatically reverts to standard mode when you switch the amp off.

7.2.2 Setting the FSM 432's MIDI Send Channel

If you wish to switch devices connected to **COREBLADE** MIDI THRU - say, a MIDI multi-effector – using the FSM 432, ensure it is set to the FSM 432's MIDI channel or to OMNI. Consult the device's manual for more info.

To set the FSM 432's MIDI send channel, proceed as follows:

- Turn **COREBLADE** on while pressing the FSM 432's PRESET A button. The display flashes.
- Release button A. Use UP/DOWN to view and set the MIDI channel to a number between 1 and 16.
- Quit and store by pressing the PRESET A button.

CAUTION: If COREBLADE and the FSM 432 are not set to the same MIDI channel, the amp will not respond to program changes! Activating OMNI solves the problem if all else fails. See section 7.3 for more on this. The factory default is channel 1.

HEADS UP: If an external effect device is connected to MIDI THRU and you want to switch COREBLADE and the effect device simultaneously with the same program change command, you must configure COREBLADE's STORE function and program this device accordingly.

NOTE: The table below should be big help if you wish to switch the presets of a device connected to the MIDI THRU directly via the FSM 432. It shows the program changes sent by the bank/ preset combination. Please bear in mind that some MIDI devices switch program 1 via program change command 0. If this is the case with your outboard gear, simply add a 1 to each value indicated in this table to activate the desired program.

Bank	Preset	Programchange Number	Bank	Preset	Programchange Number	Bank	Preset	Programchange Number	Bank	Preset	Programchange Number
1	A	0	9	A	32	17	A	64	25	A	96
1	B	1	9	B	33	17	B	65	25	B	97
1	C	2	9	C	34	17	C	66	25	C	98
1	D	3	9	D	35	17	D	67	25	D	99
2	A	4	10	A	36	18	A	68	26	A	100
2	B	5	10	B	37	18	B	69	26	B	101
2	C	6	10	C	38	18	C	70	26	C	102
2	D	7	10	D	39	18	D	71	26	D	103
3	A	8	11	A	40	19	A	72	27	A	104
3	B	9	11	B	41	19	B	73	27	B	105
3	C	10	11	C	42	19	C	74	27	C	106
3	D	11	11	D	43	19	D	75	27	D	107
4	A	12	12	A	44	20	A	76	28	A	108
4	B	13	12	B	45	20	B	77	28	B	109
4	C	14	12	C	46	20	C	78	28	C	110
4	D	15	12	D	47	20	D	79	28	D	111
5	A	16	13	A	48	21	A	80	29	A	112
5	B	17	13	B	49	21	B	81	29	B	113

5	C	18	13	C	50	21	C	82	29	C	114
5	D	19	13	D	51	21	D	83	29	D	115
6	A	20	14	A	52	22	A	84	30	A	116
6	B	21	14	B	53	22	B	85	30	B	117
6	C	22	14	C	54	22	C	86	30	C	118
6	D	23	14	D	55	22	D	87	30	D	119
7	A	24	15	A	56	23	A	88	31	A	120
7	B	25	15	B	57	23	B	89	31	B	121
7	C	26	15	C	58	23	C	90	31	C	122
7	D	27	15	D	59	23	D	91	31	D	123
8	A	28	16	A	60	24	A	92	32	A	124
8	B	29	16	B	61	24	B	93	32	B	125
8	C	30	16	C	62	24	C	94	32	C	126
8	D	31	16	D	63	24	D	95	32	D	127

7.2 Setting MIDI Channel and Switching OMNI On/Off

Press the SERIAL button longer than two seconds when **COREBLADE** is in standard operating mode, and the light on the NOISE GATE LED will start flashing. This assigns special programming functions to the amp's LEDs and buttons:

- FX-ON: Now serves as a +1/UP button for setting the MIDI channel
- SERIAL: Now serves as a -1/DOWN button for setting the MIDI channel
- Switches OMNI mode on and off. If the STORE button (OMNI ON) lights up, **COREBLADE** responds to all incoming program changes, irrespective of the MIDI channel over which they are sent. If the light on the button is extinguished (OMNI OFF), it responds only to messages sent via the defined MIDI channel.

HEADS UP: OMNI ON is helpful if you are unsure which channel a connected MIDI device is using to send messages.

During the MIDI setup routine, the LEDs that normally indicate the preamp channel indicate the MIDI channel. The following table shows MIDI channel settings:

MIDI-Channel	Clean	Drive	Ultra I	Ultra II
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Press and hold SERIAL for a few moments to quit the MIDI setup routine and store the settings. The amp returns to its most recent operating status (standard mode).

7.3 Factory Settings and How to Restore Them (Factory Reset)

A factory reset is a seldom needed feature. Even so, be sure to read the explanation carefully to ensure you don't accidentally delete your presets.

7.3.1 Triggering a Factory Reset

Pressing STORE and FX SERIAL simultaneously while powering the amp up resets all settings, including the 128 MIDI-switchable presets and the basic MIDI configuration.

CAUTION: This procedure is a last-resort option! It irrevocably wipes out all stored settings. Before you trigger a factory reset, be sure to first create a backup by copying your amp's internal memory to a stick.

7.3.2 Factory MIDI Defaults

A factory reset also restores the MIDI default settings:

- OMNI ON
- MIDI channel: 1
- FX ON switched off
- SERIAL deactivated

8

Replacing Tubes, Service and Preventive Maintenance

The **COREBLADE** comes factory-equipped with EL34 power output tubes that were subjected to a battery of tests, painstakingly selected, and matched using Hughes & Kettner's Vacuum Tube Inspector. Ditto for its 12AX7 preamp tubes. This unforgiving test regimen ensures optimum tone and utmost reliability.

8.1 When to Replace Tubes

The tubes in **COREBLADE** are exemplary in quality, workmanship, and long life. What's more, the TSC™ module ensures that even veteran power amp tubes run at their optimum bias point, last longer, and sound better.

Telltale signs of wear are increased microphonics, noise and hiss, top-end frequency damping, and poorer performance. These symptoms tell you it's time to replace old tubes because they do take their toll on sound quality and indicate the aging preamp or power tube will soon fail.

8.2 Before you start swapping tubes, ask yourself these questions:

- Was the fault or failure of the tube caused by the tube itself or by a flawed peripheral device or component, perhaps a defective speaker cable? If you don't get to the bottom of the problem and remedy it, it may crop up again even after you replace the tubes.
- Did the mains voltage fluctuate or spike while the amp was on? Spiking voltage in the mains net can cause tube amps to drop out. Generators and faulty high-current power circuits often produce such surges.
- Is the tube really defective or is it just a blown fuse? An old fuse, tube de-ionization, or a flash-over caused by mains voltage power surge may have tripped the fuse

8.3 Replacing Tubes

Replacing tubes is a job best left to qualified professionals! Accordingly, the following guidelines are addressed and apply to qualified service technicians only:

CAUTION: Tubes can remain very hot for quite some time and cause burns even if the amp has been off for several minutes.

Pull the power plug on the back of **COREBLADE** and wait at least two minutes for power to dissipate! Then remove the rear panel. TSC™ adjusts bias for you, and the HUM BALANCE trim knob is readily accessible from the outside, so there's no longer any need to remove the chassis. Now you can carefully pull out the tubes while gently pressing down on the clamps that hold them in place.

8.3.1 Replacing Power Output Tubes

You can use EL34s as well as 6L6GCs, and even mixed combinations. There's no need to re-bias the amp - see chapter 6 for on this. However, we strongly advise using matched tubes that share the same ratings.

CAUTION: Use 6L6GC tubes only! 6L6 tubes have different specifications and may not be used in this amp. Check the label on the tube to make sure because 6L6GC are often referred to as 6L6s.

8.3.2 Replacing Preamp Tubes

Be sure to use the same type of replacement tube! You may have to adjust the balance to reduce hum. To do this, proceed as follows:

- Select the CLEAN channel, turn VOLUME, TREBLE, and MID to the left position, and turn BASS to the far right.
- Adjust the HUM BALANCE trim knob on the **COREBLADE**'s rear panel until you find the setting that minimizes humming.

8.4 How to Prolong the Life of COREBLADE's Tube

- Never operate **COREBLADE** without connecting a load (loudspeaker)!
- Never connect speaker cabinets with too high or low impedance!
- Always use high-quality, heavy-duty speaker cords that won't crimp!
- Use the STANDBY switch for short breaks!
- Avoid exposing the amp to vibrations, especially when it's powered up.
- Switch the amp off well before transporting it to allow tubes to cool off completely.
- Make sure all peripheral devices and connecting cords are in a state of good repair!
- Ensure air can circulate freely around the amp's ventilation slots at all times!
- Never expose **COREBLADE** to extreme heat or cold!
- Prevent dust and moisture intrusion!
- Always check peripheral gear's specs to ensure they are suitable for the amp.
- Never connect devices with high output signal levels to **COREBLADE**'s input.
- Never operate the amp with mains power that is too high or too low. When in doubt ask the venue's sound technician or facility engineer.
- Refrain from DIY repairs! Always have a qualified technician replace internal fuses.

9

Troubleshooting

Mains connection: COREBLADE won't power up when you switch it on.

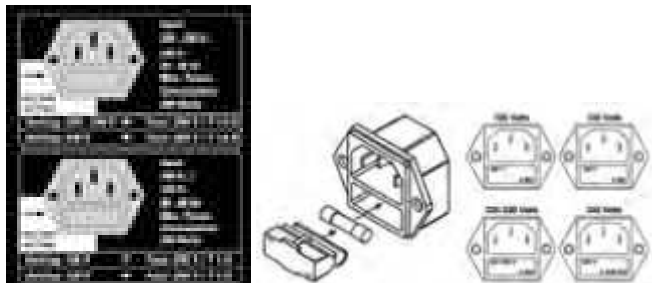
- It's not getting AC power. Check the mains cord to see if it is connected and firmly seated.
- The mains fuse is defective. Ensure it is replaced with another fuse bearing the same rating.
- The local mains voltage does not match **COREBLADE**'s operating voltage.

Available Voltages and How to Adapt Them

COREBLADE ships in two versions rated for 110/120V and 220-240V. You will find the rating indicated on the housing above the mains socket. Both models offer two operating voltages that are selected using the voltage selector integrated in the mains socket. Ensure that the mains voltage matches the voltage rating appearing in the voltage selector window. This value is legible when the amp is in the standard operating position; that is, sitting right side up. The upright number indicates the currently selected voltage, and the inverted number indicates the alternative voltage. Also check the fuse ratings to ensure they match the ratings indicated on the rear panel.

Voltage selection and fuse replacement may be performed by experienced service technicians only. Accordingly, the following instructions are addressed exclusively to service technicians:

- Use a small flat screwdriver to remove the voltage selector from the mains socket.
- If the fuse is defective, replace it with a fuse bearing the specified rating.
- Turn the voltage selector and insert it back into the port so that the desired mains voltage rating is legible and faces towards the top left (next to the Voltage Setting arrow).



COREBLADE is connected properly, but no sound is audible.

- The guitar's volume knob is turned all the way down.
- The amp is set to STANDBY.
- The amp's MASTER and/or VOLUME knob is turned all the way down.
- The effects loop is active and set to SERIAL, but no effect device is connected.
- The anode fuse has blown. Check the TSC™ display (see section 6.3.2) to ensure none of the LEDs is illuminated. Ensure that it is replaced with a fuse of the same rating.
- The fuse for the tube heating tripped (the tubes don't glow). Ensure that it is replaced with a fuse bearing the same rating.

The amp makes ringing noises when played and tends to feedback.

- One or several tubes are microphonic. Have a technician check the tubes and, if necessary, replace the defective tube with another of the same type. Read section 6.4 to learn more.

The amp sounds washed out or muddy when you switch an outboard effect on.

- The signal processor provides a wet signal that is blended with the dry source signal. Depending on the type of effect, the processor may be returning a dry signal back along with the wet signal, which causes phase cancellations when it is mixed to the dry signal in COREBLADE's parallel loop. To prevent this, set the effects loop to SERIAL or turn the dry signal all the way down on the signal processor.

10

Technical Specifications

10.1 Inputs		
INSTRUMENT Input	Jack	6.3 mm (1/4")
	Type	Unbalanced
	Input impedance	1 M Ω
	Sensitivity	-40/ -74/ -93/ -89 dBV (Clean / Drive / Ultra I / Ultra 2)
	Max. input level	+4 dBV
FX Return	Jack	6.3 mm (1/4")
	Type	Unbalanced
	Input impedance	48 k Ω
	Sensitivity	-10 dB button engaged: - 18 dB, disengaged: - 8 dB
	Max. input level	-10 dB button engaged: + 2 dB, disengaged + 12 dB
MIDI IN	Port	DIN 45 329 (7 Pins)
	Power supply	15V DC max. 200mA, pin 6 = positive, pin 7 = negative
10.2 Outputs		
FX Send	Jack	6.3 mm (1/4")
	Type	Unbalanced
	Output impedance	2 k Ω
	Output level	+ 3 dB
	Max. output level	-10 dB button engaged: + 2 dB, disengaged: + 12 dB
MIDI THRU	Ports	DIN 45 328 (5 pins)
Speaker Out	6.3 mm (1/4") jacks	2x 8 Ω / 1x 4 Ω , 2x 16 Ω / 1x 8 Ω , 1x 16 Ω
10.3 General Electrical Data		
Max. current consumption	450 W	
Max. in-rush current	21 A @ 240 V	
	21 A @ 220-230 V	
	25 A @ 117-120 V	
	26 A @ 100 V	
Mains voltage tolerance range	+/- 10 %	
External anode fuse	1 x T 630 mA (Anode)	
Internal tube heater fuse	1 x TT 15 A	
Internal preamp fuse	1 x T 1 A	
External mains fuse	1 x 250 V / T 1,6 A (5x20 mm) @ 220-240 V	
	1 x 250 V / T 4 A (5x20 mm) @ 100-120 V	
Ambient operating temperature range	0 °C bis + 35 °C	
10.4 General Mechanical Data		
Dimensions (incl. corners, handles, feet)		
Width	742 mm	
Height	270 mm	
Depth	254 mm	
Weight	18,2 kg	



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