

User's Manual



BUC 102

Rack-Mountable, Two Channel Balanced and Unbalanced Audio Converter

68-910-01 Rev. B
11 08

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Precautions

Safety Instructions • English



This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.



This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

Caution

Read Instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Produkt de Sécurité • Français



Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).



Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions • Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conservser les instructions • Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

Eviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Sicherheitsanleitungen • Deutsch



Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.



Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits- und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Instrucciones de seguridad • Español



Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.



Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaucion

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean específicamente recomendados por el fabricante, ya que podrían implicar riesgos.

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Lithium battery • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Avertissement

Alimentations • Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité: n'essayez pas de le contourner ni de la désactiver.

Déconnexion de l'alimentation • Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du meme type ou d'un type equivalent recommande par le constructeur. Mettre au reut les batteries useages conformément aux instructions du fabricant.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stromversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

Schutz des Netzkabels • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder andere Gefahren bestehen.

Schlitze und Öffnungen • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Litium-Batterie • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica al equipo, desenchufar todos los cables de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearia ni eliminaria.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Protección del cables de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparaciones/mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/ mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalentamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

Batería de litio • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

Extron's Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America, and Central America:

Extron USA
1001 East Ball Road
Anaheim, CA 92805
U.S.A.

Europe, Africa, and the Middle East:

Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

Asia:

Extron Asia
135 Joo Seng Road #04-01
PM Industrial Bldg.
Singapore 368363
Singapore

Japan:

Extron Japan
Kyodo Building, 16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

China:

Extron China
686 Ronghua Road
Songjiang District
Shanghai 201611
China

Middle East:

Extron Middle East
Dubai Airport Free Zone
F12, PO Box 293666
United Arab Emirates, Dubai

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions or non-Extron authorized modification to the product.

If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 (USA), 31.33.453.4040 (Europe), 65.6383.4400 (Asia), or 81.3.3511.7655 (Japan) to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

安全须知 • 中文



这个符号提示用户该设备用户手册中有重要的操作和维护说明。



这个符号警告用户该设备机壳内有露的危险电压，有触电危险。

注意

阅读说明书 • 用户使用该设备前必须阅读并理解所有安全和使用说明。

保存说明书 • 用户应保存安全说明书以备将来使用。

遵守警告 • 用户应遵守产品和用户指南上的所有安全和操作说明。

避免追加 • 不要使用该产品厂商没有推荐的工具或追加设备，以避免危险。

警告

电源 • 该设备只能使用产品上标明的电源。设备必须使用有地线的供电系统供电。第三条线（地线）是安全设施，不能不用或跳过。

拔掉电源 • 为安全地从设备拔掉电源，请拔掉所有设备后或桌面电源的电源线，或任何接到市电系统的电源线。

电源线保护 • 妥善布线，避免被踩踏，或重物挤压。

维护 • 所有维修必须由认证的维修人员进行。设备内部没有用户可以更换的零件。为避免出现触电危险不要自己试图打开设备盖子维修该设备。

通风孔 • 有些设备机壳上有通风槽或孔，它们是用来防止机内敏感元件过热。不要用任何东西挡住通风孔。

锂电池 • 不正确的更换电池会有爆炸的危险。必须使用与厂家推荐的相同或相近型号的电池。按照生产厂的建议处理废弃电池。

FCC Class A Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

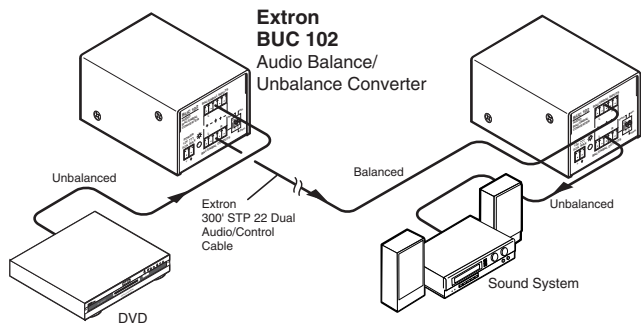
NOTE *This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance.*

Introduction

The BUC 102 is an audio converter capable of balanced-to-unbalanced or unbalanced-to-balanced signal conversions.

BUC 102 key features include the following:

- Compact 1U one-eighth rack VersaTools® metal enclosure
- DIP switch selectable gain
- Active circuit for highest performance
- Captive screw connections for ease of installation
- Recessed trim pots on the front panel for left and right audio gain adjustments (range from mute to +20 dB)
- Power indicator on both front and back panels
- Several mounting options, including rack mounting in an Extron VersaTools or standard 1U rack shelf



Installation and Operation

Mounting the BUC 102

The BUC 102 can be set on a table, mounted on a rack shelf, mounted under a desk or table, or installed on a projector mount.

Tabletop use

The BUC 102 comes with four, self-adhesive rubber feet (not attached). For a tabletop installation:

1. Attach the rubber feet to the underside of the BUC 102 near the corners of the unit.
2. Place the BUC 102 unit in the desired location.

UL rack mounting guidelines

The following Underwriters Laboratories (UL) guidelines pertain to the safe installation of the BUC 102 in a rack.

1. **Elevated operating ambient temperature** — If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, install the BUC 102 in an environment compatible with the maximum ambient temperature ($T_{ma} = +122\text{ }^{\circ}\text{F}$, $+50\text{ }^{\circ}\text{C}$) specified by Extron.
2. **Reduced air flow** — Install the equipment in a rack so that the amount of air flow required for safe operation of the equipment is not compromised.
3. **Mechanical loading** — Mount the equipment in the rack so that a hazardous condition is not achieved due to uneven mechanical loading.
4. **Circuit overloading** — Connect the equipment to the supply circuit and consider the effect that circuit overloading might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
5. **Reliable earthing (grounding)** — Maintain reliable grounding of rack-mounted equipment. Pay particular attention to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

Rack installation

The BUC 102 can be rack mounted using either the RSF 123 VersaTools 19" 1U rack shelf (Extron part #60-190-20), the RSB 123 basic VersaTools rack shelf (Extron part #60-604-20), the RSU 129 standard universal 1U rack shelf (Extron part #60-190-01), or the RSB 129 1U basic rack shelf (Extron part #60-604-01). Figure 1 shows the VersaTools rack shelf, and Figure 2 shows a standard rack shelf. On the standard rack shelf, there are eight mounting locations at the front of the shelf or eight at the rear of the shelf.

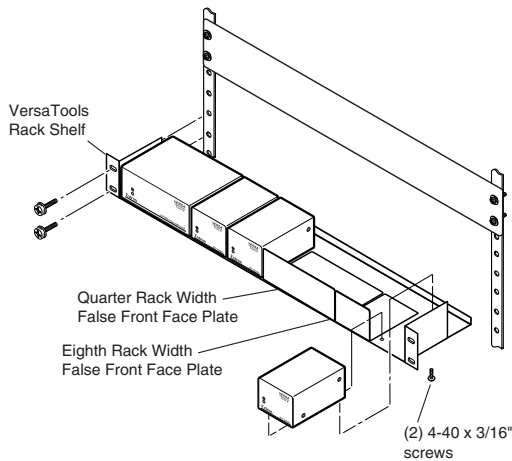


Figure 1 — Mounting the BUC 102 on a VersaTools rack shelf

1. Remove the rubber feet from the unit, if previously installed.
2. Mount the unit on the rack shelf, using two 4-40 x 3/16" screws. These screws go into holes on the underside of the unit near the left-front and right-rear corners.

NOTE Only products in the VersaTools line can be mounted on a VersaTools rack shelf.

3. Install blank panels (included with Extron part #60-190-xx, optional with Extron part #60-604-xx) or other units on the rack shelf.

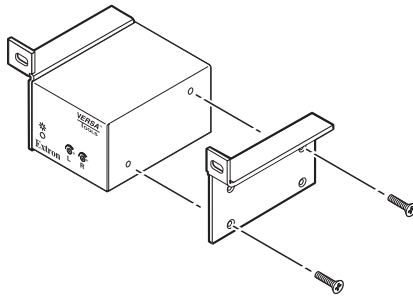
Installation and Operation, cont'd

Back of the rack installation

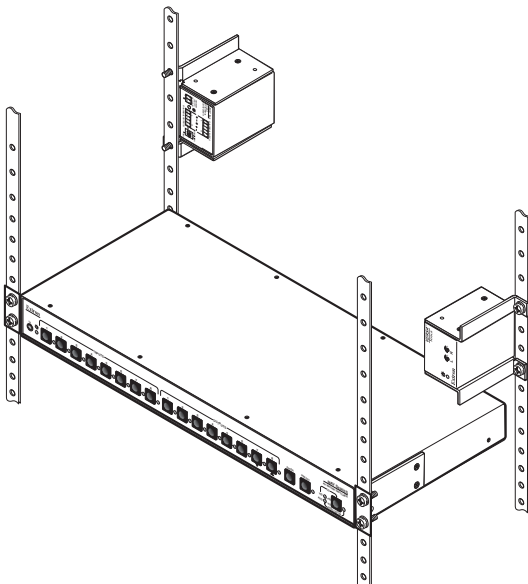
The BUC 102 can be conveniently mounted on the rear of a rack by using the MBB 100 Extron back of the rack mounting kit (Extron part #70-367-01). The back of the rack mounting kit allows the BUC 102 to be vertically positioned.

1. Attach the back of the rack mounting brackets, one bracket at a time (see note below), to the sides of the BUC using the two cover screws on each side of the BUC.

NOTE *The four side cover screws also fasten the top cover, so install the brackets one side at a time.*



2. Mount the unit on the rack using the two included rack screws. The BUC 102 can be vertically mounted facing in either direction, as shown here.



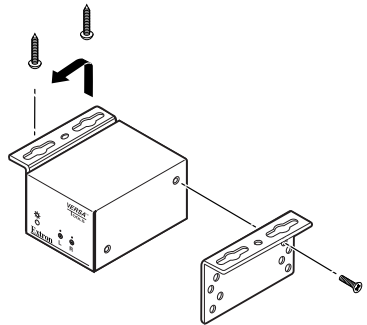
Furniture/Projector mounting

Use the MBU 123 optional mounting kit (furniture, part #70-212-01, or the PMK 100 projector pole mount kit, part #70-217-01) to mount the BUC 102, as follows.

Furniture mounting

1. Remove the rubber feet if they were previously installed.
2. Attach the mounting bracket to the BUC 102, as shown here.

- a. Remove the two machine screws from one side of the unit. Save these screws for future use.

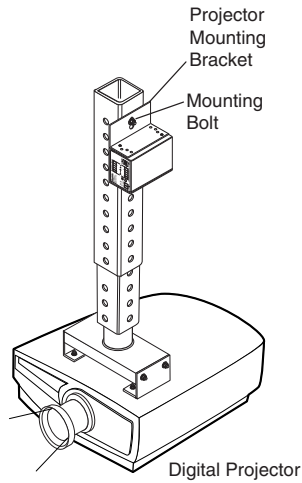


- b. After lining up a bracket with the holes, attach the bracket using the longer machine screws provided.
 - c. Repeat this step to attach the other bracket.
3. Attach the BUC 102 to the furniture.
 - a. Hold the unit against the underside of the table or other furniture, and mark the locations for four screws (two screws per bracket) on the mounting surface.
 - b. At each mark, drill a $3/32$ " (2 mm) diameter pilot hole approximately $1/4$ " (6 mm) deep in the mounting surface.
 - c. Insert #8 wood screws into the four pilot holes. Tighten each screw into the mounting surface until just less than $1/4$ " (6 mm) of the screw protrudes.
 - d. Align the bracket slots with the wood screws and place the unit against the mounting surface.
 - e. Slide the unit either forward or backward until the screws are in contact with the edge of the bracket slots. Then, tighten each screw to secure the unit in place.

Installation and Operation, cont'd

Projector mounting

1. Remove the rubber feet if they were previously installed.
2. Attach the mounting bracket to the BUC 102 with the machine screws provided.
3. Secure the unit to a projector mount or other surface using mounting bolts as shown in the following diagram.



Rear Panel Features and Cabling

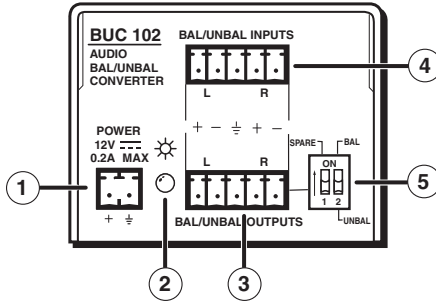
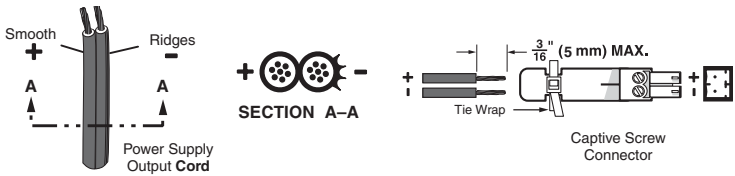


Figure 2 — BUC 102 rear panel

- ① **Captive screw power input connector** — Connect the included 12 VDC external power supply into the 2-pole 3.5 mm captive screw connector. Be careful to observe the correct polarity.



CAUTION

When connecting the power supply, voltage polarity is extremely important. Applying power with incorrect voltage polarity could damage the power supply and the BUC 102. Identify the power cord negative (ground) lead by the ridges on the side of the cord or a black heat shrink wrapping around it.

WARNING

The two power cord wires must be kept separate while the power supply is plugged in. Remove power before wiring.

To verify the polarity before connection, check the no load power supply output with a voltmeter.

NOTE

Your BUC 102 may have shipped with a blue captive screw connector. This blue connector can be plugged into either a blue or an orange power receptacle.

The ideal length of exposed (stripped) copper wire for the blue connector is 3/16" (5 mm).

Installation and Operation, cont'd

The blue connector does not have the extended tail or the included tie-wrap.

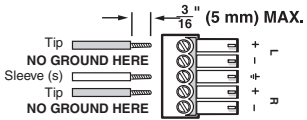
NOTE Do not tin the power supply leads before installing in the direct insertion connector. Tinned wires are not as secure in the connectors and could be pulled out.

NOTE After making any adjustments to the BUC 102, either via the front panel controls, SIS commands, or the Extron Audio Products Control Program, wait at least 10 seconds after making those changes **before** disconnecting power to the BUC 102. Failure to observe the 10-second timeout may result in those adjustments not being saved.

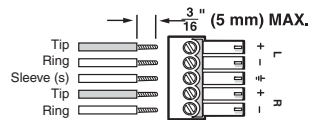
NOTE Your BUC 102 may have shipped with a blue captive screw connector. This blue connector can be plugged into either a blue or an orange power receptacle.

The ideal length of exposed (stripped) copper wire for the blue connector is 3/16" (5 mm).

- ② **Power LED** — Lights green to indicate that the BUC 102 has power.
- ③ **Bal/Unbal output connector** — The balanced/unbalanced stereo output to an amplifier from the 5-pole 3.5 mm captive screw connector is controlled by the front panel gain adjustment screws (see "Front Panel Features" in this chapter). Wire the connector as shown below.



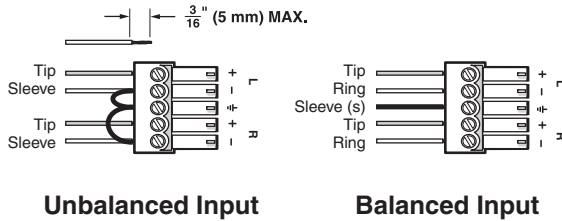
Unbalanced Output



Balanced Output

CAUTION Connect the sleeve to ground (\perp). Connecting the sleeve to a negative (-) terminal will damage the audio output circuits.

- ④ **Bal/Unbal input connector** — The balanced/unbalanced stereo input is wired to a 5-pole 3.5 mm captive screw connector. Wire the connector as shown in the following illustration.



- ⑤ **Bal/Unbal output DIP switch** — In general, match the DIP switch setting to the output wiring to achieve unity gain. The following table shows the gain settings associated with the DIP switch options and the corresponding output wiring configuration when the front panel gain controls are adjusted to the unity gain position. See “Front Panel Features” in this chapter.

DIP Switch Setting	Output Wiring	
	Unbalanced	Balanced
Unbalanced	0dB	+6dB
Balanced	-6dB	0dB

Front Panel Features

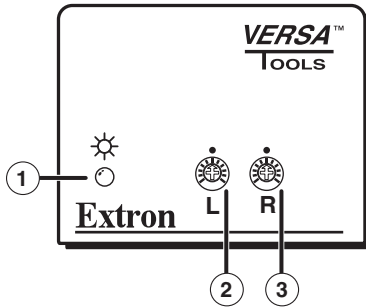


Figure 3 — BUC 102 front panel

- ① **Power LED** — Lights green to indicate that the BUC 102 has power.
- ② **Left input channel audio gain control** — Adjusts the audio input gain of the stereo left channel. The gain is adjusted by rotating the screw and the adjustment range is from mute (fully counterclockwise) to +20 dB (fully clockwise). See ⑤ under “Rear Panel Features and Cabling” in this chapter. See note below.
- ③ **Right input channel audio gain control** — Adjusts the audio input gain of the stereo right channel. The gain is adjusted by rotating the screw and the adjustment range is from mute (fully counterclockwise) to +20 dB (fully clockwise). See ⑤ under “Rear Panel Features and Cabling” in this chapter. See note below.

NOTE

Unity gain (0 dB) for both channels is around the 12 o'clock (vertical) position with the arrow end of the pot adjustment screws vertically aligned with the indicator dots, as shown here.



The pots of the BUC 102 are set precisely to unity gain at the factory. Once a pot adjustment screw is turned, test equipment will be required to accurately reset the pot to unity gain.

Specifications

Audio

Gain Unity (0 dB) when the BUC 102 is set to the default gain adjustment and the DIP switch is set to match the output wiring.

DIP Switch Setting	Output Wiring	
	Unbalanced	Balanced
Unbalanced	0 dB	+6 dB
Balanced	-6 dB	0 dB

Gain adjustment range Mute to +20 dB, when DIP switch is set to match the output wiring

Frequency response 20 Hz to 20 kHz, ± 0.15 dB

THD + Noise 0.05% @ 1 kHz at nominal level

S/N >90 dB, balanced, at maximum output, unweighted

Stereo channel separation >80 dB @ 1 kHz, >60 dB @ 20 kHz

CMRR >72 dB @ 20 Hz to 20 kHz

Audio input

Number/signal type 1 set of stereo, balanced/unbalanced

Connectors (1) 3.5 mm captive screw connector, 5 pole

Impedance >18 k ohms unbalanced/balanced, DC coupled

Nominal level -10 dBV (316 mVrms) or +4 dBu (1.23 Vrms)

Maximum level +20 dBu (7.75 Vrms), balanced or unbalanced, at 1%THD+N, 0 dB gain

NOTE $0 \text{ dBu} = 0.775 \text{ Vrms}$, $0 \text{ dBV} = 1 \text{ Vrms}$, $0 \text{ dBV} \approx 2 \text{ dBu}$.

Audio output

Number/signal type 1 set of stereo, balanced/unbalanced

Connectors (1) 3.5 mm captive screw connector, 5 pole

Impedance 50 ohms unbalanced, 100 ohms balanced

Gain error ± 0.5 dB channel to channel

Nominal level -10 dBV (316 mVrms) or +4dBu (1.23 Vrms)

Maximum level (Hi-Z) >+25 dBu (13.78 Vrms), balanced, at 1%THD+N with 100k ohm load

Reference Information

Maximum level (600 ohm) >+18 dBu (6.16 Vrms), balanced, at 1%THD+N
(The level of an unbalanced signal will be 6 dB lower.)

General

External power supply 100 VAC to 240 VAC, 50/60 Hz, 5 watts, external, autoswitchable; to 12 VDC, 1 A, regulated

Power input requirements 12 VDC, 0.2 A

Temperature/humidity Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing
Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing

Rack mount Yes, with optional rack shelf, part #60-190-01, 60-604-01, 60-190-20, or 60-604-20.
Also furniture-mountable with optional under-desk mounting kit #70-212-01, or it can be attached to a projector mount with optional kit #70-217-01.

Enclosure type Metal

Enclosure dimensions 1.7" H x 2.2" W x 3.0" D (1U high, one-eighth rack wide)
4.3 cm H x 5.6 cm W x 7.6 cm D
(Depth excludes connectors.)

Product weight 0.2 lbs (0.1 kg)

Shipping weight 2 lbs (1 kg)

Vibration ISTA 1A in carton (International Safe Transit Association)

Listings UL, CUL

Compliances CE, FCC Class A, VCCI, AS/NZS, ICES

MTBF 30,000 hours

Warranty 3 years parts and labor

NOTE *All nominal levels are at $\pm 10\%$, and all specifications are tested at unity gain unless otherwise noted.*

NOTE *Specifications are subject to change without notice.*

Parts List

Included parts

Included parts	Part number to reorder
BUC 102	60-651-01
Power supply: universal 12 VDC, 1.0 A	70-055-01
5-pin captive screw mating plugs (x2)	
2-pin captive screw mating plug	
Tweezer (small screwdriver)	
Rubber feet (unattached)	
User's manual	

Optional Accessories

Accessories	Part numbers
MBB 100 back of the rack mounting kit	70-367-01
RSF 123 1U 19" VersaTools rack shelf kit	60-190-20
RSB 123 Basic VersaTools rack shelf	60-604-20
RSU 129 1U 19" rack shelf kit	60-190-01
RSB 129 1U basic rack shelf kit	60-604-01
MBU 123 under desk mounting kit	70-212-01
PMK 100 projector mounting kit	70-217-01
Power supply kit, 12 VDC	70-055-01
CSR 6 captive screw to RCA adapter	26-575-01
