

## User's Manual



### *ASA Series* Audio Summing Amplifiers

68-776-01 **Rev. C**  
Printed in the USA  
12 03



**Extron Electronics, USA**  
1230 South Lewis Street  
Anaheim, CA 92805  
USA  
714.491.1500  
Fax 714.491.1517

**Extron Electronics, Europe**  
Beeldschermweg 6C  
3821 AH Amersfoort  
The Netherlands  
+31.33.453.4040  
Fax +31.33.453.4050

**Extron Electronics, Asia**  
135 Joo Seng Road, #04-01  
PM Industrial Building  
Singapore 368363  
+65.6383.4400  
Fax +65.6383.4664

**Extron Electronics, Japan**  
Daisan DMJ Building 6F  
3-9-1 Kudan Minami  
Chiyoda-ku, Tokyo 102-0074 Japan  
+81.3.3511.7655  
Fax +81.3.3511.7656

# 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.

## Consignes 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.

**Conservier 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.

## Precaución

**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 des 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 même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées 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 indicada en el equipo. La alimentación eléctrica 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 puede ser eliminada.

**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 abrirlo 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.

# FCC Class A Notice

Note: 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.

# 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 Electronics  
1230 South Lewis Street  
Anaheim, CA 92805, USA

## Asia:

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

## Europe, Africa, and the Middle East:

Extron Electronics, Europe  
Beeldschermweg 6C  
3821 AH Amersfoort  
The Netherlands

## Japan:

Extron Electronics, Japan  
Daisan DMJ Bldg. 6F,  
3-9-1 Kudan Minami  
Chiyoda-ku, Tokyo 102-0074  
Japan

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.

# Table of Contents

---

<b>Chapter 1 • Introduction</b> .....	1-1
<b>About the ASA Series</b> .....	1-2
<b>Features</b> .....	1-2
<b>Chapter 2 • Installation and Operation</b> .....	2-1
<b>Mounting the ASA 101</b> .....	2-2
<b>Mounting the ASA 204 and ASA 304</b> .....	2-2
Tabletop use .....	2-2
Rack mounting .....	2-2
Furniture mounting .....	2-4
Projector mounting .....	2-5
<b>ASA 101 Features and Cabling</b> .....	2-6
<b>ASA 204/ASA 304 Front Panel Features</b> .....	2-6
<b>ASA 204/ASA 304 Rear Panel Features     and Cabling</b> .....	2-7
<b>Appendix A • Specifications, Part Numbers, and Accessories</b> .....	A-1
<b>Specifications</b> .....	A-2
<b>Included Parts</b> .....	A-5
ASA 101 part numbers .....	A-5
ASA 204/ASA 304 part numbers .....	A-5
<b>ASA 204/ASA 304 Optional Accessories</b> .....	A-5

*All trademarks mentioned in this manual are the properties of their respective owners.*

68-776-01 **Rev. C**  
Printed in the USA  
12 03



# 1 Chapter One

## **Introduction**

About the ASA Series

Features

# Introduction

## About the ASA Series

The Extron ASA series high-performance audio summing amplifiers convert stereo audio signals into balanced or unbalanced mono signals. The series consists of the following three models:

**ASA 101** — The ASA 101 is a single, ultra-compact passive summing adapter with two male RCA pigtail connectors for one unbalanced stereo audio input. The unit has one 3-pole captive screw connector for one balanced or unbalanced mono output.

**ASA 204** — The ASA 204 has four independent active summing amps with four pairs of RCA connectors for unbalanced line level stereo audio inputs. The unit has captive screw connectors for four balanced or unbalanced mono outputs. Because of its input/output configuration, the ASA 204 can also function as an unbalanced to balanced audio converter.

**ASA 304** — The ASA 304 has four independent active summing amps with four 5-pole captive screw connectors for balanced or unbalanced line level stereo audio inputs. The unit has captive screw connectors for four balanced or unbalanced mono outputs.

The ASA 204 and ASA 304 include an external 12V power supply that accepts 100-240VAC input. The ASA 101 is a passive device that does not need a power supply.

## Features

**Four summing amps in one box** — The ASA 204 and ASA 304 can accommodate up to four stereo source devices, eliminating the need for four separate summing amplifiers.

**Furniture, projector, and rack mountability** — The ASA 204 and ASA 304 can be mounted under a desk, podium, or other furniture, or secured to a projector mount with optional brackets. Alternatively, they can be mounted on an optional VersaTools™ or universal rack shelf. The ASA 101 can be mounted in many convenient spaces using the supplied double-sided Velcro® tape.

**DIP switch selectable audio gain** — Each ASA 204 and ASA 304 has a DIP switch that can be set to achieve unity gain with either balanced or unbalanced output wiring, or  $\pm 6\text{dB}$  for level shifting.

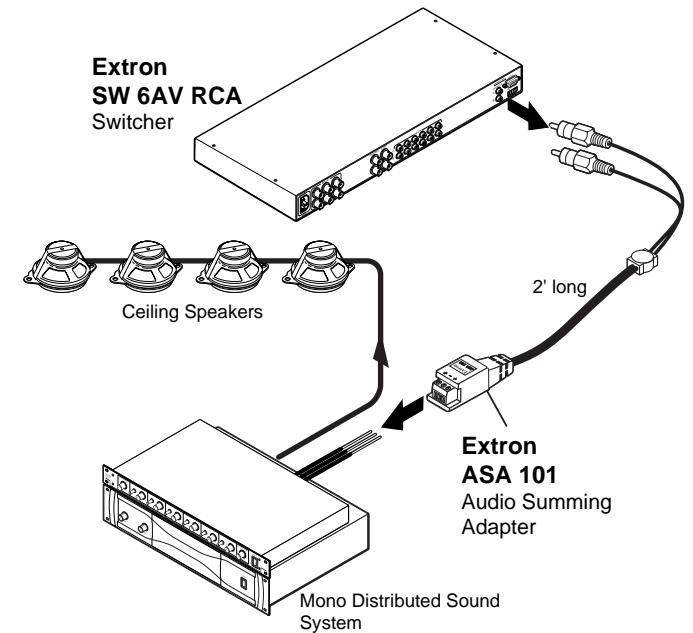


Figure 1-1 — Typical ASA 101 application

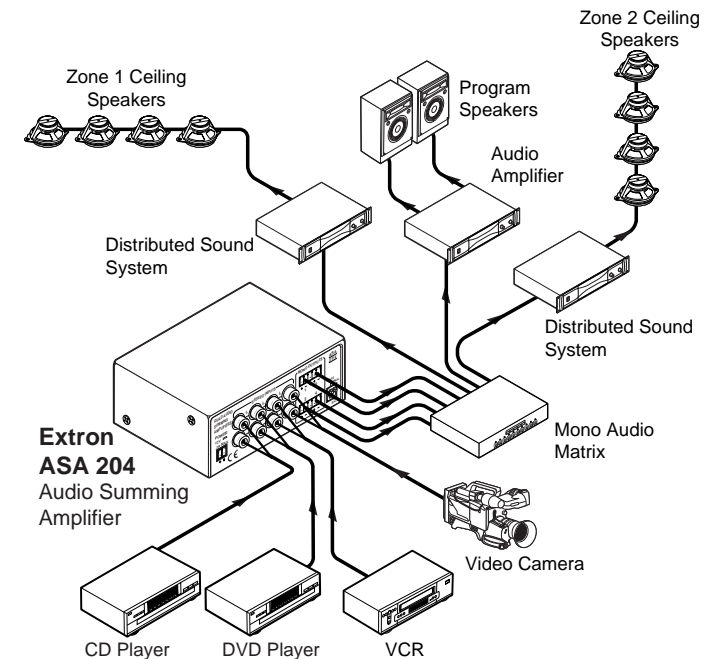


Figure 1-2 — Typical ASA 204 application

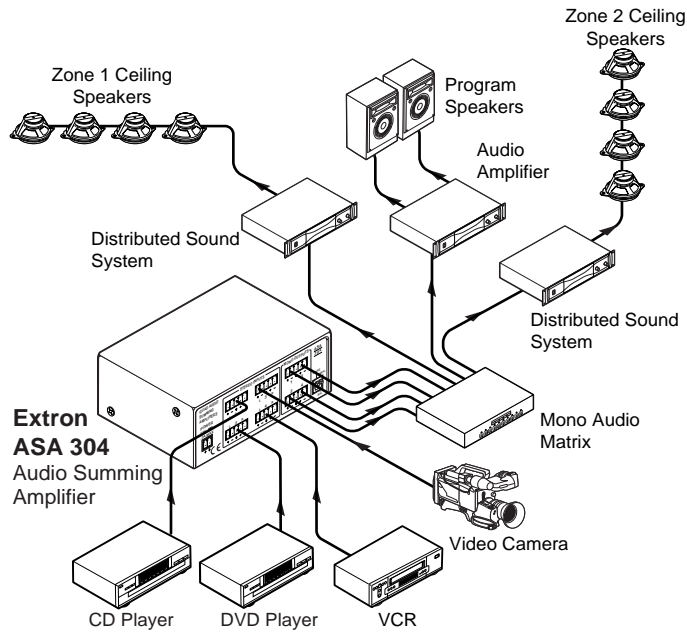


Figure 1-3 — Typical ASA 304 application

# Chapter Two

## Installation and Operation

Mounting the ASA 101

Mounting the ASA 204 and ASA 304

ASA 101 Features and Cabling

ASA 204/ASA 304 Front Panel Features

ASA 204/ASA 304 Rear Panel Features and Cabling

# Installation and Operation

## Mounting the ASA 101

The ASA 101 is ultra-compact, and can fit in many convenient small spaces. Use the supplied double-sided Velcro® tape to mount the unit on a wall or piece of furniture.

## Mounting the ASA 204 and ASA 304

The ASA 204 and ASA 304 can be set on a table, or mounted on a rack shelf, under a desk or tabletop, or on a projector mount.

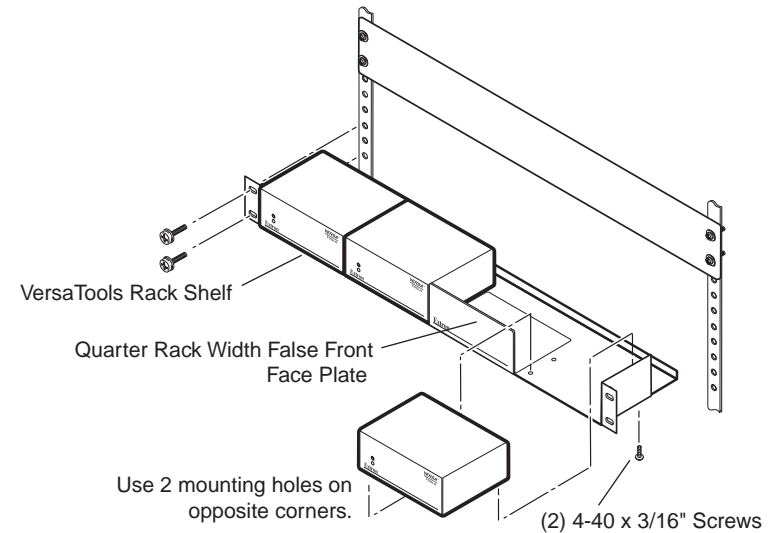
### Tabletop use

Four self-adhesive rubber feet are included with the ASAs. For tabletop use, attach one foot at each corner of the bottom side of the unit and place the unit in the desired location.

### Rack mounting

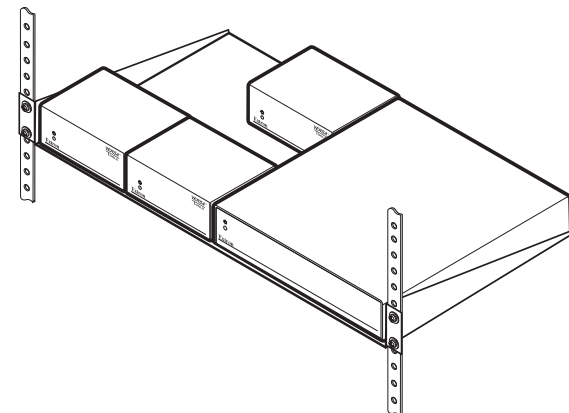
For optional rack mounting, do not install the rubber feet. Mount the ASA on a VersaTools 19" 1U rack shelf (Extron part #60-190-20) or a standard universal 1U rack shelf (Extron part #60-190-01). On the standard rack shelf, the ASA mounts in one of four locations to the rear of the rack or in one of four locations to the front of the rack.

1. Remove rubber feet if they were previously installed on the bottom of the ASA.
2. Mount the ASA on the rack shelf, using two 4-40 x 3/16" screws in opposite (diagonal) corners to secure the amplifier to the shelf.
3. Install blank panel(s) or other unit(s) on the rack shelf.
4. Attach the rack shelf to the rack using the supplied bolts.



**Figure 2-1 — Mounting the ASA 204 or ASA 304 on a VersaTools rack shelf**

**NOTE** Only products in the VersaTools line can be mounted on a VersaTools shelf. Most 1U rack-mountable Extron products can be mounted on the standard shelf.

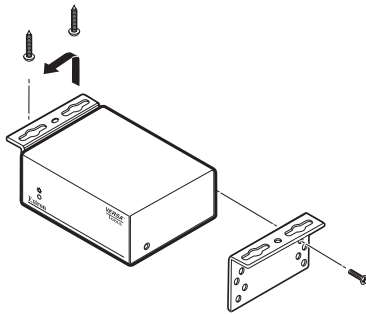


**Figure 2-2 — Mounting the ASA 204 or ASA 304 on a standard 1U rack shelf**

### Furniture mounting

Furniture mount the ASA using the optional mounting kit (part #70-212-01) as follows:

1. Remove rubber feet if they were previously installed on the bottom of the ASA.
2. Attach the furniture mounting brackets to the ASA with the machine screws provided.
3. Hold the ASA with the attached brackets against the underside of the table or other furniture. Mark the location of the screw holes of the bracket on the mounting surface.
4. Drill 3/32" (2 mm) diameter pilot holes, 1/4" (6.3 mm) deep in the mounting surface at the marked screw locations.
5. Insert #8 wood screws into the four pilot holes. Tighten each screw into the mounting surface until just less than 1/4" of the screw protrudes.
6. Align the mounting screws with the slots in the brackets and place the ASA against the surface, with the screws through the bracket slots. See the illustration below.
7. Slide the ASA slightly forward or back, then tighten all four screws to secure the unit in place.

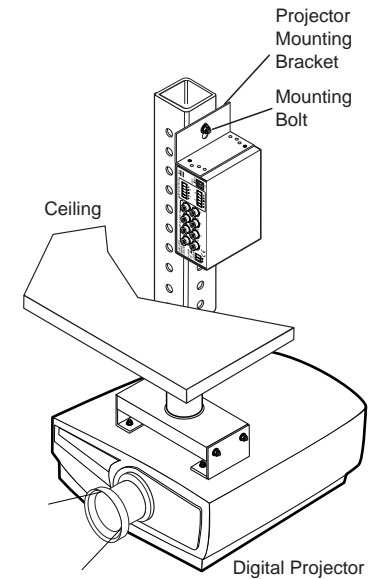


**Figure 2-3 — Mounting the ASA 204 or ASA 304 under furniture**

### Projector mounting

Projector mount the ASA using the optional mounting kit (part #70-217-01) as follows:

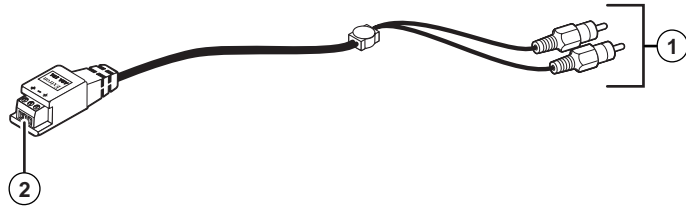
1. Remove rubber feet if they were previously installed on the bottom of the ASA.
2. Attach the projector mounting brackets to the ASA with the machine screws provided.
3. Secure the ASA to a projector mount or other surface by inserting the mounting bolt through the bracket's slotted hole, as shown below.



**Figure 2-4 — Mounting the ASA 204 (shown) or ASA 304 on a projector mount**



## ASA 101 Features and Cabling



- Input plugs** — Plug the white RCA connector into the left output of the stereo source device. Plug the red RCA connector into the right output of the stereo source device.
- Output connector** — Strip the wires from the mono destination device, insert them into this 3-pole captive screw connector, and secure them by turning the screws (see the illustration below).



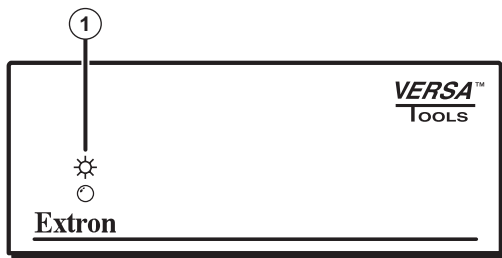
**Unbalanced Output**



**Balanced Output**

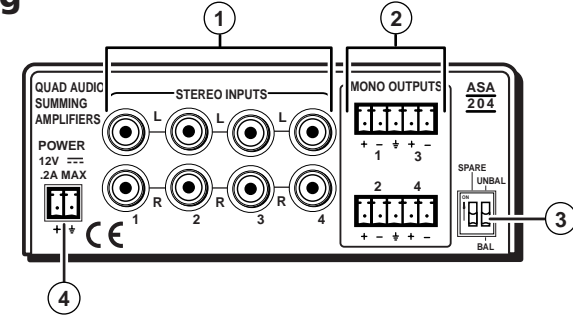
**CAUTION** Connect the sleeve to ground (Gnd). Connecting the sleeve to a negative (-) terminal will damage the audio output circuits.

## ASA 204/ASA 304 Front Panel Features

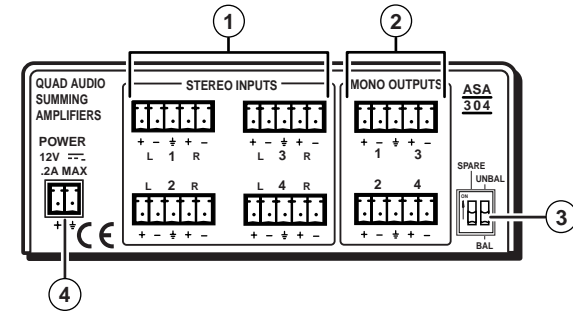


- Power LED** — Lights to indicate that the ASA is on.

## ASA 204/ASA 304 Rear Panel Features and Cabling

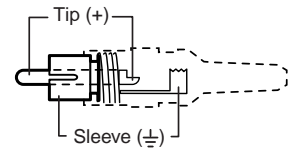


**ASA 204**

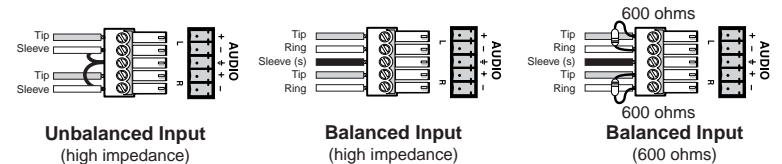


**ASA 304**

- ASA 204 input connectors** — Plug up to four stereo audio sources into these female RCA connectors. If you do not have pre-terminated audio cable, wire the male RCA connectors for unbalanced input as shown at right.



**ASA 304 input connectors** — Plug up to four stereo audio sources into these 5-pole captive screw connectors. Connectors are included with each ASA, but you must supply the audio cable. Wire the connectors for the appropriate input type and impedance level as shown below. High impedance is generally over 800 ohms.





- ② **Output connectors** — Plug the mono audio output devices into these 5-pole captive screw connectors. Two devices can be connected to each connector. Wire the connectors as shown below.

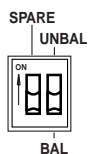


Unbalanced Output

Balanced Output

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

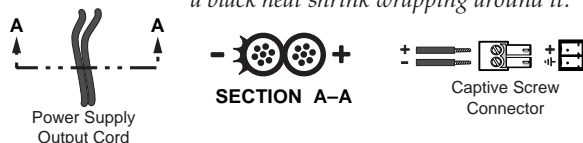
- ③ **Output gain DIP switch** — Use this switch to set the audio output gain level. Gain levels available via the switch vary depending on whether both inputs are receiving signals, and on the output wiring, as shown in the table below. (The switch marked SPARE has no function.)



Input Channel		Output wiring	Output DIP Switch Settings	
Left	Right		Unbalanced	Balanced
signal	signal	balanced	+9dB	+3dB
signal	—	balanced	+3dB	-3dB
—	signal	balanced	+3dB	-3dB
signal	signal	unbalanced	+3dB	-3dB
signal	—	unbalanced	-3dB	-9dB
—	signal	unbalanced	-3dB	-9dB

- ④ **Power connector** — An external 12V power supply is included with the unit. Plug it into this 2-pole captive screw connector.

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



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

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

# Appendix A

## Specifications, Part Numbers, and Accessories

Specifications

Included Parts

ASA 204/ASA 304 Optional Accessories

# Specifications, Part Numbers, and Accessories

## Audio

### Gain

ASA 101 ..... +6dB (with balanced output), 0dB (with unbalanced output)

Input Channel		Output Wiring	
Left	Right	Unbalanced	Balanced
signal	signal	0dB	+6dB
signal	—*	0dB	+6dB
—*	signal	0dB	+6dB

\*Tested with this input unplugged

ASA 204, ASA 304 ..... Generally unity. Actual gain depends on whether or not both inputs have signals and also on the output wiring and DIP switch settings. See the table below.

Input Channel		Output wiring	Output DIP Switch Settings	
Left	Right		Unbalanced	Balanced
signal	signal	balanced	+9dB	+3dB
signal	—	balanced	+3dB	-3dB
—	signal	balanced	+3dB	-3dB
signal	signal	unbalanced	+3dB	-3dB
signal	—	unbalanced	-3dB	-9dB
—	signal	unbalanced	-3dB	-9dB

### Frequency response

ASA 101 ..... 70 Hz to 20 kHz, -3dB (with a 600 ohm load)

ASA 204, ASA 304 ..... 20 Hz to 20 kHz, ±0.05dB

### THD + Noise

ASA 101 ..... 0.07% (typical) @ 1 kHz at nominal level

ASA 204, ASA 304 ..... 0.03% @ 1 kHz at nominal level

S/N ..... >90dB (balanced) at rated maximum output

CMRR ..... >75dB @ 20 Hz to 20 kHz

## Audio input

### Number/signal type

ASA 101 ..... 1 stereo, unbalanced

ASA 204 ..... 4 stereo, unbalanced

ASA 304 ..... 4 stereo, balanced/unbalanced

### Connectors

ASA 101 ..... 1 pair of male RCA (tip-ring)

ASA 204 ..... 4 pairs of female RCA (tip-ring)

ASA 304 ..... (4) 3.5 mm captive screw connectors, 5 pole

### Impedance

ASA 101 ..... >10 kohms unbalanced (with a 20 kohm load)

ASA 204 ..... >10 kohms unbalanced, DC coupled

ASA 304 ..... >17 kohms unbalanced, 23 kohms balanced, DC coupled

Nominal level ..... -10dBV (316mV) or +4dBu (1.23V)

### Maximum level

ASA 101 ..... +15dBu (4.4V), (balanced or unbalanced) at 1% THD+N

ASA 204, ASA 304 ..... +20dBu (7.75V), (balanced or unbalanced) at 1% THD+N

## Audio output

### Number/signal type

ASA 101 ..... 1 mono, balanced/unbalanced

ASA 204, ASA 304 ..... 4 mono, balanced/unbalanced

### Connectors

ASA 101 ..... (1) 3.5 mm direct insertion captive screw connector, 3 pole

ASA 204, ASA 304 ..... (2) 3.5 mm captive screw connectors, 5 pole (double stacked)

### Impedance

ASA 101 ..... <100 ohms unbalanced (with 50 ohm input impedance)

ASA 204, ASA 304 ..... <50 ohms unbalanced, 100 ohms balanced

Nominal level ..... -10dBV (316mV) or +4dBu (1.23V)

Maximum level (Hi-Z) (ASA 204, ASA 304 only)

>+23dBu, balanced; or >+17dBu, unbalanced at 1% THD+N

Maximum level (600 ohm) (all models)

>+21dBm, balanced; or >+15dBu, unbalanced at 1% THD+N

**NOTE** 0dBu = 0.775V, 0dBV = 1V, 0dBV ≈ 2dBu.

## Specifications, Part Numbers, Accessories, cont'd

### General

Power — ASA 204, ASA 304 .....	100VAC to 240VAC, 50/60 Hz, 3 watts, external, autoswitchable; to 12VDC, 1 A power supply. Product requires 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	
ASA 101 .....	Can be attached to any flat surface with supplied Velcro®
ASA 204, ASA 304 .....	Yes, with optional rack shelf, part #60-190-01 or 60-190-20. Also furniture mountable with optional under desk mounting brackets, #70-212-01, or projector mountable with bracket kit #70-217-01.
Enclosure type	
ASA 101 .....	Molded plastic
ASA 204, ASA 304 .....	Metal
Enclosure dimensions	
ASA 101 .....	0.7" H x 1.0" W x 1.5" D 1.8 cm H x 2.5 cm W x 3.8 cm D (Depth excludes 24 inch long pigtails.)
ASA 204, ASA 304 .....	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack width) 4.3 cm H x 10.9 cm W x 7.6 cm D (Depth excludes connectors.)
Product weight	
ASA 101 .....	0.2 lbs (0.1 kg)
ASA 204, ASA 304 .....	0.5 lbs (0.3 kg)
Shipping weight	
ASA 101 .....	1 lb (1 kg)
ASA 204, ASA 304 .....	3 lbs (2 kg)
Vibration .....	ISTA/NSTA 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** Specifications are subject to change without notice.

### Included Parts

#### ASA 101 part numbers

These items are included in each order for an ASA 101:

Included parts	Replacement part number
ASA 101	60-551-01
Double-sided Velcro® tape	
ASA 101 instruction card	

#### ASA 204/ASA 304 part numbers

These items are included in each order for an ASA 204 or 304:

Included parts	Replacement part number
ASA 204	60-552-30
or ASA 304	60-552-20
Desktop power supply (12V, 0.1A)	70-055-01
IEC power cord	27-044-01
3.5 mm, 5-pole captive screw connectors (2 for ASA 204, 6 for ASA 304)	10-319-10
3.5 mm, 2-pole captive screw connector	10-319-05
Tweezer (small screwdriver)	
ASA Series User's Manual	

#### ASA 204/ASA 304 Optional Accessories

These items may be ordered separately:

Accessories	Part number
VersaTools 1U rack shelf	60-190-20
Standard 1U rack shelf	60-190-01
Mini under-desk mounting bracket	70-212-01
Mini projector mounting bracket	70-217-01

## **Specifications, Part Numbers, Accessories, cont'd**