
Ross Video Limited

AFR-7812C
Audio DA Mounting Frame
User Manual


Live Production Technology

RossGear

AFR-7812C • Audio DA Mounting Frame User Manual

- Ross Part Number: **7812CDR-004-02**
- Release Date: August 2, 2011. Printed in Canada.

The information contained in this manual is subject to change without notice or obligation.

Copyright

© 2011 **Ross Video Limited**. All rights reserved.

Contents of this publication may not be reproduced in any form without the written permission of Ross Video Limited. Reproduction or reverse engineering of copyrighted software is prohibited.


Patents

This product is protected by the following US Patents: 4,205,346; 5,115,314; 5,280,346; 5,561,404; 7,034,886; 7,508,455; 7,602,455; 7,834,886; 7,914,332. This product is protected by the following Canadian Patents: 2039277; 1237518; 1127289. Other patents pending.

Notice

The material in this manual is furnished for informational use only. It is subject to change without notice and should not be construed as commitment by Ross Video Limited. Ross Video Limited assumes no responsibility or liability for errors or inaccuracies that may appear in this manual.

Trademarks

-  is a trademark of Ross Video Limited.
- Ross, ROSS, ROSS® are registered trademarks of Ross Video Limited.
- All other product names and any registered and unregistered trademarks mentioned in this guide are used for identification purposes only and remain the exclusive property of their respective owners.

Important Regulatory and Safety Notices

Before using this product and any associated equipment, refer to the “**Important Safety Instructions**” listed below to avoid personnel injury and to prevent product damage.

Products may require specific equipment, and/or installation procedures to be carried out to satisfy certain regulatory compliance requirements. Notices have been included in this publication to call attention to these specific requirements.

Symbol Meanings



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



Warning — *The symbol with the word “**Warning**” within the equipment manual indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.*



Caution — *The symbol with the word “**Caution**” within the equipment manual indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.*



Notice — *The symbol with the word “**Notice**” within the equipment manual indicates a situation, which if not avoided, may result in major or minor equipment damage or a situation which could place the equipment in a non-compliant operating state.*



Warning Hazardous Voltages — *The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.*



ESD Susceptibility — *This symbol is used to alert the user that an electrical or electronic device or assembly is susceptible to damage from an ESD event.*

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warning.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the card/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.
15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. The mains plug of the power supply cord shall remain readily operable.



Warning — *To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.*

18. To avoid electrical shock, disconnect the A/C power cord before any servicing.



Warning — *The safe operation of this product requires that a protective earth connection be provided. A grounding conductor in the equipment's supply cord provides this protective earth. To reduce the risk of electrical shock to the operator and service personnel, this ground conductor must be connected to an earthed ground.*

EMC Notices

United States of America FCC Part 15

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.



Notice — *Changes or modifications to this equipment not expressly approved by Ross Video Limited could void the user's authority to operate this equipment.*

CANADA

This Class “A” digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe “A” est conforme à la norme NMB-003 du Canada.

EUROPE

This equipment is in compliance with the essential requirements and other relevant provisions of CE Directive 93/68/EEC.

INTERNATIONAL

This equipment has been tested to CISPR 22:1997 along with amendments A1:2000 and A2:2002, and found to comply with the limits for a Class A Digital device.



Notice — *This is a Class A product. In domestic environments, this product may cause radio interference, in which case the user may have to take adequate measures.*

Maintenance/User Serviceable Parts

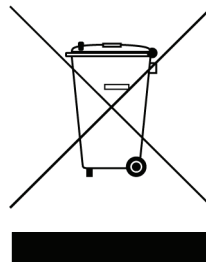
Routine maintenance to this RossGear product is not required. This product contains no user serviceable parts. If the module does not appear to be working properly, please contact Technical Support using the numbers listed under the “Contact Us” section on the last page of this manual. All RossGear products are covered by a generous 5-year warranty and will be repaired without charge for materials or labor within this period. See the “Warranty and Repair Policy” section in this manual for details.

Environmental Information

The equipment that you purchased required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment.

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

The crossed-out wheeled bin symbol invites you to use these systems.



If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration. You can also contact Ross Video for more information on the environmental performances of our products.

Installation

In This Chapter

Congratulations on choosing a RossGear AFR-7812C Audio DA Mounting Frame. Your AFR-7812C is part of a full line of products within the RossGear Terminal Equipment family of products, backed by Ross Video's experience in engineering and design expertise since 1974.

Should you have a question pertaining to the installation or operation of your AFR-7812C, please contact us at the numbers listed on the back cover of this manual. Our technical support staff is always available for consultation, training, or service.

The following topics are discussed:

- Overview
- Installing the AFR-7812C
- Technical Specifications

Overview

The design of the mounting frame will more than satisfy the most demanding network considerations. The frame incorporates efficient ventilation and cooling engineering. The mounting frame holds twelve amplifier modules and two power supplies.

The frame door is completely removable to provide convenient access in any rack installation position.

The terminal connectors are of a small pluggable design which allows for individual wiring of each cable prior to connection to the frame. It is important to refer to the table on the rear of the frame to determine the proper connections for the Mono or Stereo amplifiers.

The following features are included for the AFR-7812C:

- Accommodates 12 amplifiers in a 2 rack units
- Aluminum construction for increased heat dissipation
- Individual pluggable audio connectors
- Removable frame door for accessibility
- Optional module extender for servicing
- Power switch and fuse is accessible from front of the rack frame
- PowerLock cord retainer mechanism guards against accidental power loss
- 5-year transferable warranty
- RossGear frames also accept Leitch¹ analog video products

1. Leitch is a trademark of Leitch Technology International Inc.

Installing the AFR-7812C

This section provides information for installing your AFR-7812C, ensuring proper ventilation, and cabling your audio input and outputs.

Before You Begin

Before proceeding with the installation, ensure that you review the following notes.

Static Discharge

Throughout this chapter, please heed the following cautionary note:



ESD Susceptibility — *Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling circuit boards in high static environments such as carpeted areas and when synthetic fiber clothing is worn. Always exercise proper grounding precautions when working on circuit boards and related equipment.*

Unpacking

Unpack each AFR-7812C you received from the shipping container and ensure that all items are included. If any items are missing or damaged, contact your sales representative or Ross Video.

Mechanical Installation

The AFR-7812C mounts in the rack cabinet by means of four screws through the front mounting flanges. This should normally be sufficient to carry the load, including weight of cables. In some cases, (mobile trucks, etc.) it may be desirable to also support the rear of the frame. Rear support brackets (Ross part #FSB-7110) are available for a nominal cost. The rear support bars can be attached to the AFR-7812C in six possible positions (**Figure 1.1**).

Use the following procedure to install the support brackets:

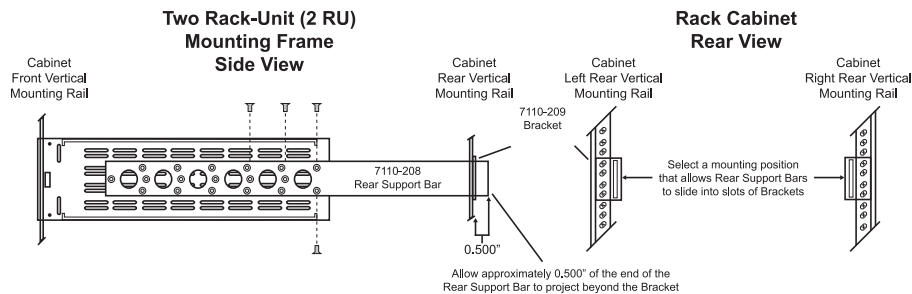


Figure 1.1 Installing the Support Brackets

1. Choose the position that suits the cabinet depth and will give approximately a 0.5” projection beyond the previously mounted bracket.
2. Using four screws per bracket, as shown in **Figure 1.1**, attach both bars.
3. Mount the Ross frame to the front rails of the rack cabinet using rack screws.
4. At the rear of the cabinet, slide the bracket slots over the rear of the support bars and secure to the cabinet rear rails with rack screws.

This completes the procedure for installing the support brackets.

Ventilation

To minimize heat buildup and improve module reliability, maintain a blank rack space both above and below each installed chassis.

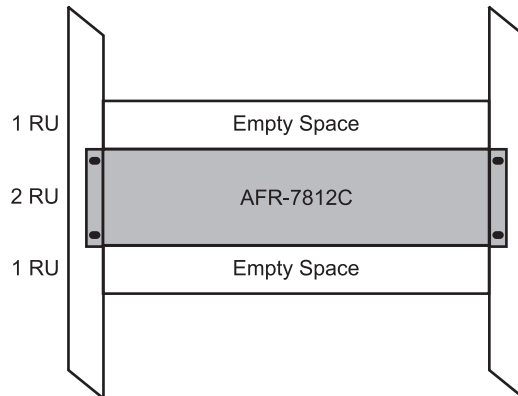


Figure 1.2 Frame Stacking

Power Supply PS-7813

The AFR-7812C frames support two independent 20 volt PS-7813 power supplies for redundancy. Turning the power supply off before inserting or removing it from the frame will ensure longer connector life.

Audio Input and Output Cables

The frame uses a three-pin, pluggable audio connector. This connector allows each individual audio input and output connection to be wired prior to connection to the frame.

Use the following procedure to wire your audio input and output cables:

1. Wire the external cables to the pluggable terminal block connectors as outlined in **Figure 1.3**. Note that standard practice dictates that to avoid ground loop problems, cable grounds should be connected to output plugs only.

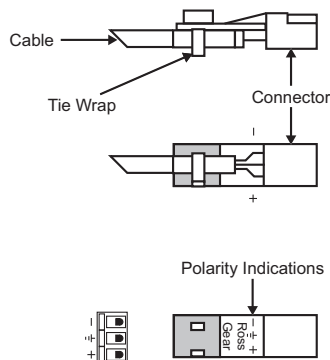


Figure 1.3 Audio Terminal Block Connectors

2. Once the cables are wired, install the connectors according to **Figure 1.4**. The frame's mating terminals are marked for both the 8-output mono and the 4-output stereo amplifiers.

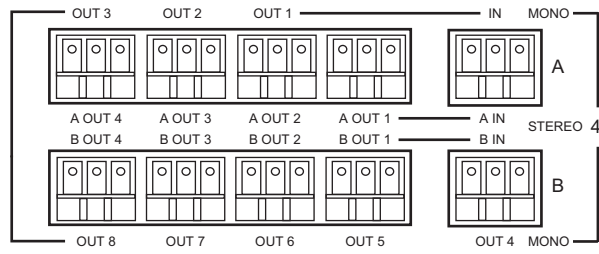


Figure 1.4 Frame Mating Terminals

This completes the procedure for wiring your audio input and output cables.

Technical Specifications

This section provides technical specifications for the AFR-7812C.

Table 1.1 AFR-7812C Technical Specifications

Category	Parameter	Specification
Power Supplies	Rated Supply Voltage	100-240VAC
	Mains Frequency	50-60Hz
	Rated Input Current	1.2A
	Power Consumption	60W
	Output Voltage	+/- 20V
	Output Current	1.0A
	Line Regulation	350mV change over full input range
	Output Ripple	<60mVpp
For safety reasons, Ross power supplies do not fit into the rack frames of other manufacturers.		
Rack Frame Mechanical	Height	3.5" (88mm)
	Width	19" (483mm)
	Depth	15.75" (400mm)
	Weight average for all amplifiers installed	approx. 13lbs (5.9kg)
Environmental	Temperature	Equipment is designed to operate in ambient temperature ranges from 0°C to 35°C
	Humidity	<95% non-condensing

Service Information

In This Chapter

This chapter contains the following sections:

- Warranty and Repair Policy



Note — *All Ross Video Limited terminal equipment frames include one power supply. A redundant power supply may be installed in all two rack unit frames, if required.*

Warranty and Repair Policy

The AFR-7812C is warranted to be free of any defect with respect to performance, quality, reliability, and workmanship for a period of FIVE (5) years from the date of shipment from our factory. In the event that your AFR-7812C proves to be defective in any way during this warranty period, Ross Video Limited reserves the right to repair or replace this piece of equipment with a unit of equal or superior performance characteristics.

Should you find that this AFR-7812C has failed after your warranty period has expired, we will repair your defective product should suitable replacement components be available. You, the owner, will bear any labor and/or part costs incurred in the repair or refurbishment of said equipment beyond the FIVE (5) year warranty period.

If this is a manual for a RossGear product from our Analog Terminal Equipment product line, you will find it provides all pertinent information for the safe installation and operation of your RossGear product.

In no event shall Ross Video Limited be liable for direct, indirect, special, incidental, or consequential damages (including loss of profits) incurred by the use of this product. Implied warranties are expressly limited to the duration of this warranty.

This AFR-7812C User Manual provides all pertinent information for the safe installation and operation of your RossGear Product. Ross Video policy dictates that all repairs to the AFR-7812C are to be conducted only by an authorized Ross Video Limited factory representative. Therefore, any unauthorized attempt to repair this product, by anyone other than an authorized Ross Video Limited factory representative, will automatically void the warranty. Please contact Ross Video Technical Support for more information.

In Case of Problems

Should any problem arise with your AFR-7812C, please contact the Ross Video Technical Support Department. (Contact information is supplied at the end of this publication.)

A Return Material Authorization number (RMA) will be issued to you, as well as specific shipping instructions, should you wish our factory to repair your AFR-7812C. If required, a temporary replacement frame will be made available at a nominal charge. Any shipping costs incurred will be the responsibility of you, the customer. All products shipped to you from Ross Video Limited will be shipped collect.

The Ross Video Technical Support Department will continue to provide advice on any product manufactured by Ross Video Limited, beyond the warranty period without charge, for the life of the equipment.

Notes:



Contact Us

Contact our friendly and professional support representatives for the following:

- Name and address of your local dealer
- Product information and pricing
- Technical support
- Upcoming trade show information

PHONE	General Business Office and Technical Support	613 • 652 • 4886
	After Hours Emergency	613 • 349 • 0006
	Fax	613 • 652 • 4425
E-MAIL	General Information	solutions@rossvideo.com
	Technical Support	techsupport@rossvideo.com
POSTAL SERVICE	Ross Video Limited	8 John Street, Iroquois, Ontario, Canada K0E 1K0
	Ross Video Incorporated	P.O. Box 880, Ogdensburg, New York, USA 13669-0880

Visit Us

Please visit us at our website for:

- Company information
- Related products and full product lines
- On-line catalog
- News
- Testimonials

www.rossvideo.com