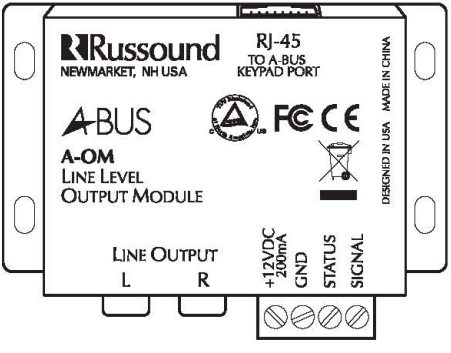
Russound

A/V DISTRIBUTION & CONTROL SYSTEMS

A-OM SERVICE MANUAL



Confidentiality Statement

Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with 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 plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where it exits from the apparatus.
11. Use only attachments or 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 cart-apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, or the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

If you have any questions, call Russound at 1.800.638.8055 or 603.659.5170.

Specifications

Input connector:	RJ-45 8-pole modular jack
Output connectors:	(2) RCA jacks, left and right audio
IR receiver connector:	Removable 4-pole screw terminal
Input power (via CAT-5):	24 VDC 200 mA
IR receiver power:	12 VDC 200 mA maximum
Mounting method:	Surface
Finish:	Black
Dimensions:	3.33" W x 2.38" H x 1.59" D (8.4 x 6.0 x 4.0 cm)
Weight:	5.6 oz (158 g)

Warranty

The Russound A-OM is fully guaranteed against all defects in materials and workmanship for two (2) years from the date of purchase. During this period, Russound will replace any defective parts and correct any defect in workmanship without charge for either parts or labor.

For this warranty to apply, the unit must be installed and used according to its written instructions. If service is necessary, it must be performed by Russound. The unit must be returned to Russound at the owner's expense and with prior written permission. Accidental damage and shipping damage are not considered defects, nor is damage resulting from abuse or from servicing by an agency or person not specifically authorized in writing by Russound.

This warranty does not cover: damage caused by abuse, accident, misuse, negligence, or improper installation or operation; power surges and lightning strikes; normal wear and maintenance; products that have been altered or modified; any product whose identifying number, decal, serial number, etc. has been altered, defaced or removed.

Russound sells products only through authorized dealers and distributors to ensure that customers obtain proper support and service. Any Russound product purchased from an unauthorized dealer or other source, including retailers, mail order sellers and online sellers will not be honored or serviced under existing Russound warranty policy. Any sale of products by an unauthorized source or other manner not authorized by Russound shall void the warranty on the applicable product.

Damage to or destruction of components due to application of excessive power voids the warranty on those parts. In these cases, repairs will be made on the basis or the retail value of the parts and labor. To return for repairs, the unit must be shipped to Russound at the owner's expense, along with a note explaining the nature of service required. Be sure to pack the unit in a corrugated container with at least three (3) inches of resilient material to protect the unit from damage in transit.

Before returning a unit for repair, call Russound at 603.659.5170 for a return authorization number. Write this number on the shipping label and ship to: Russound, 5 Forbes Road, Newmarket, NH 03857.

Russound®
5 Forbes Road, Newmarket NH 03857 USA
Tel 603.659.5170 • Fax 603.659.5388
www.russound.com

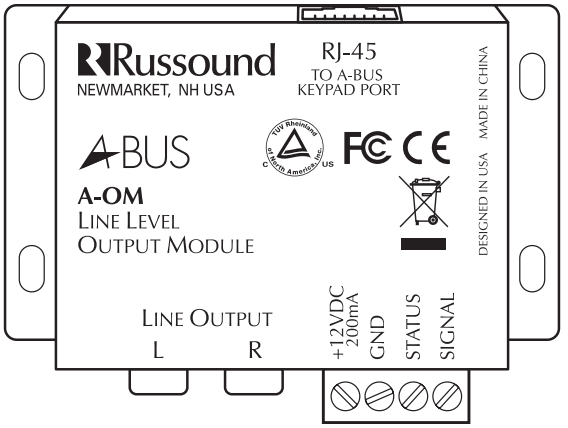
28-1244 04/27/06

Russound®

A-OM

A-BUS® Output Module

Instruction Manual



Product Overview

The Russound A-OM A-BUS Output Module provides a fixed-level stereo line output from an A-BUS keypad port on any A-BUS hub or other A-BUS-ready multi-room system. This is useful for sending fixed-level audio signals to an external amplifier or receiver for amplification.

The module can be located with the system controller or hub, or remotely with the amplifier or receiver. It connects to the A-BUS port with a single CAT-5 cable and provides RCA jacks for the audio output.

The A-OM also provides connections for an infrared receiver so the source equipment can be operated from the zone by an IR remote control.

Features

- Provides fixed-level stereo line output
- Works with any standard A-BUS keypad port
- Includes IR receiver input terminals
- Compact chassis mounts on any surface

Installation

Normally the A-OM should be installed near the A-BUS hub or multiroom system controller. However, if the amplifier or receiver is located remotely from the hub or controller, it's better to locate the A-OM with the amplifier or receiver to simplify the line-level audio connections.

Normal installation

1. Mount the A-OM on a surface near the A-BUS hub or system controller.

2. Connect the RJ-45 jack on the A-OM to an A-BUS keypad port on the hub or controller with a standard 4-pair straight-through RJ-45 patch cable.

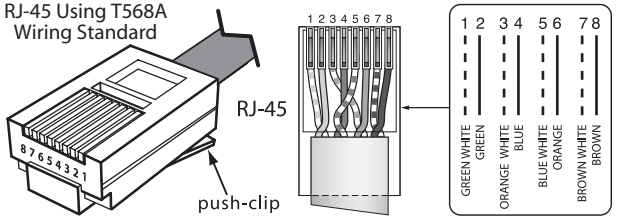
3. Connect the RCA Line Output jacks on the A-OM to a stereo line input on the amplifier or receiver with a stereo RCA interconnect cable.

Remote installation

1. Mount the A-OM near the amplifier or receiver.

2. Run CAT-5 cable between the A-OM and the A-BUS hub or multiroom system controller. If desired, use modular wall plates and RJ-45 patch cables for a neater appearance.

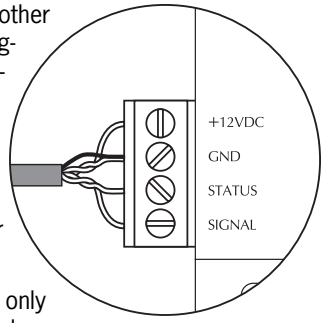
3. Crimp RJ-45 connectors on the ends of the CAT-5 cable, following the T568A wiring standard as shown. Plug the connector on the source end into the A-BUS port on the hub or controller. Plug the connector on the module end into the RJ-45 jack on the A-OM. (If using wall plates, punch down the CAT-5 per the T568A standard and use standard 4-pair straight-through RJ-45 patch cables between the wall plates and the devices.)



4. Connect the RCA Line Output jacks on the A-OM to a stereo line input on the amplifier or receiver with a stereo RCA interconnect cable.

IR receiver connection

1. If using an IR receiver, connect the receiver to the screw terminals on the A-OM as described in the receiver's instruction manual. If the receiver's lead is too short to reach the A-OM, extend it with 2-pair shielded signal cable and connect the cable to the A-OM as shown. Use one twisted pair for power and ground, and the other twisted pair for status and IR signal. Drain the shield by connecting it to the ground terminal on the A-OM.



2. Make sure an A-PS Power Supply is plugged into the power jack on the A-BUS hub or multiroom system controller.

Note: The A-OM requires power only when an IR receiver is connected.

Caution: Do not connect power to the IR receiver terminals. Also, do not use a SaphIR K2 infrared control keypad with this product.

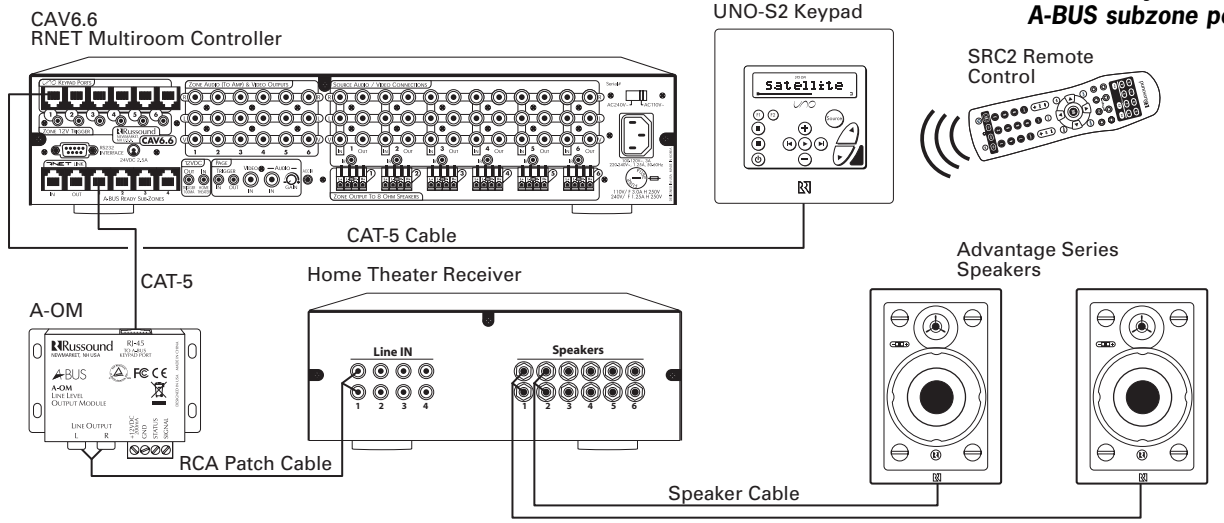
Considerations

Since the A-OM takes the place of an A-BUS keypad, some means of selecting sources for the zone must be provided when the A-OM is used with a multisource hub or controller. This can be done with either a system keypad or touchscreen connected to the same zone, or an IR receiver connected to the A-OM. With a system keypad, a system remote control can be used to select and control the source. With an IR receiver connected to the A-OM, an A-BUS remote control must be used.

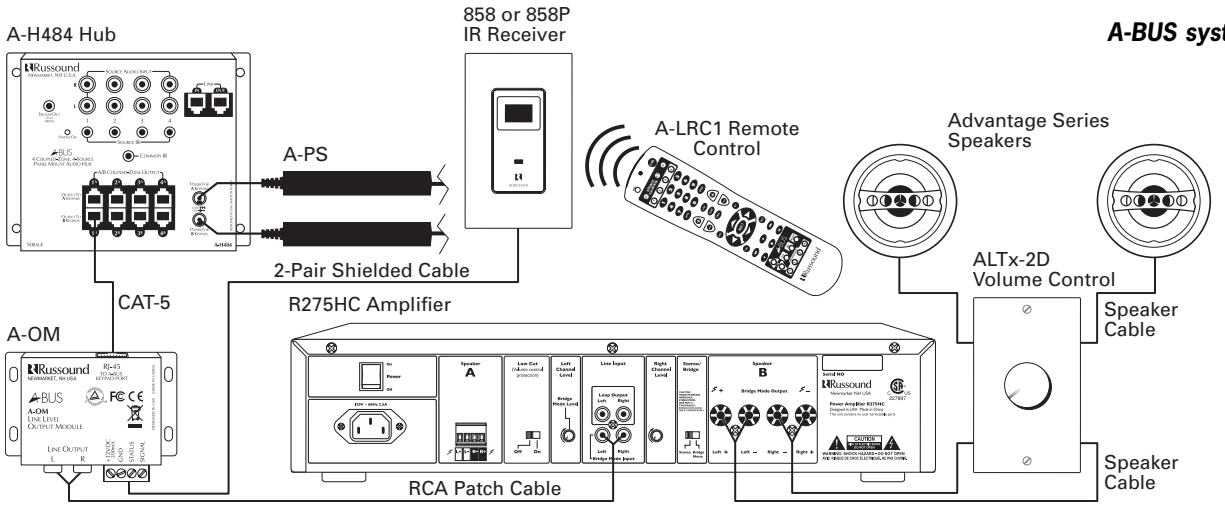
With the A-OM connected to the A-BUS port on an AV receiver, an infrared receiver connected to the A-OM can be used to convey source selection commands from the receiver's remote control through the receiver's A-BUS port.

Typical Applications

Multiroom system with A-BUS subzone ports



A-BUS system



A-OM Test Procedure

7/18/06
Poe

Equipment Needed

CAV6.6
A-PS
858
RCA Patch Cable
RJ45 CAT5 Cable using T568A wiring standard
Amplifier (R275HC)
Speakers
Source equipment (DVD Player)

Inspection

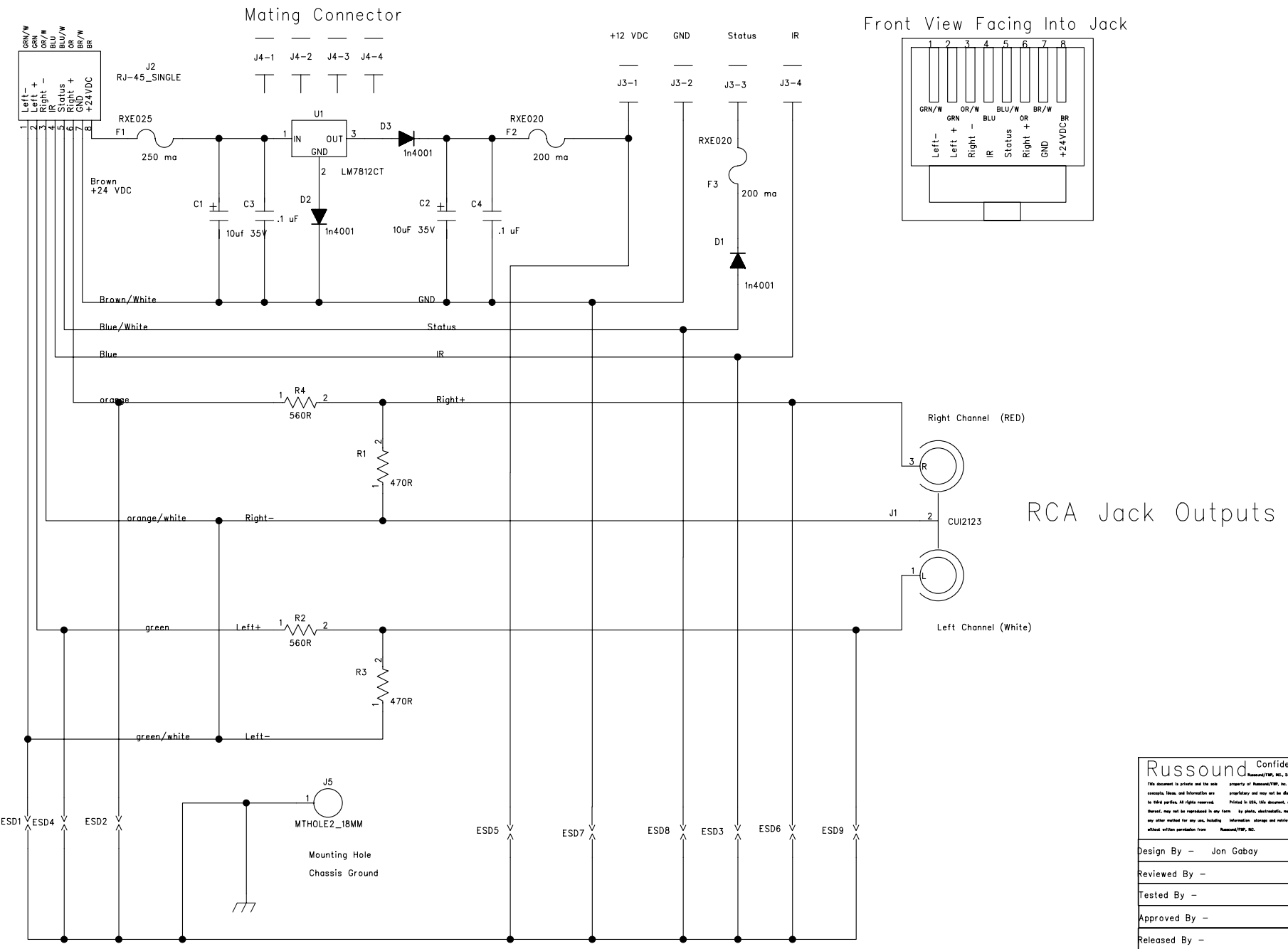
1. Inspect screening on the A-OM.
2. Ensure the serial number is on bottom of unit.
3. Inspect packaging.

Test Procedure

1. Attach the A-OM to the first A-BUS keypad port on the CAV6.6 using the RJ45 CAT5 cable.
2. Attach the 858 to the A-OM IR Receiver Connection (+12VDC, GND, STATUS, SIGNAL) using CAT5.
3. Ensure the jumper on the 858 is in the "Status On" position.
4. Attach the A-PS to the ABUS Power Supply Connection on the CAV6.6.
5. Attach the Line Output of the A-OM to the amplifier (R275HC) line input.
6. Attach speakers to the amplifier (R275HC) output. Ensuring the volume of the amplifier is turned down.
7. Attach a piece of source equipment to the Source 1 of the CAV6.6.
8. Attach an IR emitter from the source equipment to the Source 1 Emitter Jack on the CAV6.6
9. Attach the CAV6.6 and A-PS power supply to an AC outlet.
10. Turn on the UNO-S2.
11. Select Source 1 of the CAV6.6.
12. Turn the amplifier (R275HC).
13. Slowly turn the amplifier (R275HC) volume up until the audio is heard through the speakers.
14. Detach the right line input from Source 1 on the CAV6.6. Ensure the audio from the amplifier (R275HC) is being heard only through the left speaker.
15. Attach the right line input to Source 1 on the CAV6.6.
16. Detach the left line input from Source 1 on the CAV6.6. Ensure the audio from the amplifier (R275HC) is being heard only through the right speaker.

17. Attach the left line input to Source 1 on the CAV6.6. Audio should be heard through both speakers.
18. Control the source component using the components remote and pointing it at the 858. Before activating the remote the LED on the front of the 858 should be GREEN. When controlling the equipment with the remote the LED should blink BLUE on the front of the 858.

A Bus Connect



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	Model Schematic
Design By - Jon Gabay	Part Name 077-AOM
Reviewed By -	
Tested By -	Revision 1.01
Approved By -	
Released By -	Date 1-10-06
Sheet 1 of 1	

Item	QTY	REF-DES	Part Numb	Value	Description	Manufacturer #1	Source
1	2	C3, C4	SR215C104	.1 uF	Ceramic Cap .1uF 50V	AVX	Mouser 581-SR215C104K
2	1	C2, C1	XRL35V10	10uF 35V	ELECTROLYTIC CAP.	Xicon	Mouser 140-XRL35V10
3	1	J3	HD-515R8	mates to HD-515H8	Shrouded Right Angle Male Co	Howder	www.ziontronics.co.il
4	1	J4	HD-515H8	mates to HD-515R8	Mating Female Connector	Howder	www.ziontronics.co.il
5	1	J1	RCJ-2123	Dual Side by Side	Dual RCA Jack	CUI	
6	3	D1-3	1n4001	1A 50V	GENERIC DIODE W ALTERNA	Micro COmercial	Digikey PN 1N4001-TPMSCT-ND
7	2	F2-3	RXE020	200 ma hold, 270 ma trip fuse	Poly FUse	Raychem	digikey pn RXE020-ND
9	1	F1	RXE025	250 ma hold, 270 ma trip fuse	Poly FUse	Raychem	digikey pn RXE025-ND
10	1	U1	MC78M12B	500 ma	12 V, 500 ma, VREG	ON Semi	Digikey PN MC78M12BTOS-ND
11	2	R1 R3	ERD-S2TJ4	470R	1/4 w Carbon Resistor	Panasonic	digikey pn P470BACT-ND
12	2	R2 R4	ERD-S2TJ5	560R	1/4 w Carbon Resistor	Panasonic	digikey pn P560BACT-ND
13	1	J2	1-215877-3	0.87	Single Right Angle RJ-45	Tyco	Future Electronics

AOM Module Rev. 1.01
Jon Gabay 5-18-06 for Russound

* All Resistors can have a tolerance of 5% unless otherwise noted.
* All Ceramic Surface Mount Capacitors can be rated as Y5V unless otherwise noted.

Product Bill of Materials

Item	Qty	Reference Designators	Description	Russound Drawing	Revision	Manufacturer	Manuf. Part Number	Distributor	Distrib. Part Number	Web Site
1	1	1	Chassis Bottom		A					
2	1	2	AOM Cover		C					
3	1	3	AOM PCB		A					
4	2	4	M3x5mm SS Pan Head, Cross Point, Black Anodized							
5	REF	5	AMP 215877							
6	REF	6	CUI Inc RCJ-2123							
7	REF	7	Terminal Connector Male 5-08 Pitch Howder Electric HD-515R8							
8	1	8	M3.5x8mm SS Pan Head, Cross Point, Black Anodized							
9	4	9	M3x6mm SS Pan Head, Cross Point, Black Anodized							
10	1	10	Terminal Connector Male 5-08 Pitch Howder Electric HD-515H8							
11	4	11	Type 316 SS Wood Screw, Pan Head, No. 6 x 1" (mounting screws)							
12	1		Gift Box							
13	1		Manual							
14	1		Plastic Bag 4X6 (to hold AOM)							
15	1		Polyethylene Foam Sheet (to wrap AOM)							
16	1		Plastic Bag 3" X 3" (to hold mounting screws)							
17	1		Serial Number on bottom of AOM (white label black text)							
18										
19										
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25										
26										
27										

IEC | IECEE CB SCHEME

COPY

Ref. Certif. No.

US - TUVR - 3039

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE

Product Produit	A-BUS Output Module
Name and address of the applicant Nom et adresse du demandeur	Russound / FMP, Inc. 5 Forbes Road Newmarket, NH 03857 US
Name and address of the manufacturer Nom et adresse du fabricant	same as applicant
Name and address of the factory Nom et adresse de l'usine Note: *When more than one factory, please report on page 2* Note: *Lorsque il y plus d'une usine, veuillez utiliser la 2ème page*	Wildwood Musical Instrument (Tianjin) Co.,Ltd. Jin-nan Economic Development Area Jin-nan District, Tianjin, China 300350
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	DC 24V, 200mA
Trademark (if any) Marque de fabrique (si elle existe)	A-BUS®
Model / Type Ref. Ref. De type	A-OM
Additional information (if necessary, may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page)	Complies with requirements as well as group and national differences where applicable for: AT, AU, BE, CH, DE, DK, FI, FR, GB, GR, HU, IL, IT, KR, MY, NL, NO, PL, SE, SG, SI, SK, UA and US. ☐ Additional Information on page 2
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	**PUBLICATION** / **EDITION** IEC Publication 60065, / 7th Edition (2001)
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	30680749.001

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**

TÜV TUV Rheinland of North America

Date: May 18, 2006

Signature: Dipl.- Ing. M. Raap

- Zweitschrift (Copy) -

Certificate

TÜV

Certificate no. CU 72061154 01

License Holder:
Russound/FMP, Inc.
5 Forbes Road
Newmarket NH 03857
USA

Manufacturing Plant:
Wildwood Musical Instrument
(Tianjin) Co.
Jin-nan Economic Development Area

300350 Jin-nan District, Tianjin
China

Test report no.: USA-TG 30680749 002
Client Reference: John Cronk

Tested to: UL 60065:2003
CSA C22.2.60065:2003

Certified Product: A-BUS Output Module

License Fee - Units

Model Designation: A-OM 7

Rated Voltage: DC 24V
Rated Current: 200mA
Protection Class: n/a

7

Appendix: 1

Inh. = 740859 / Deb. = 740859 / Fert. = 751514

Licensed Test mark:

TUV Rheinland of North America, Inc. C US

Signatures

Stephan Schmitt
President

Dipl.-Ing. M. Raap
QA Certification Officer

Date of Issue (day/mo/yr)
08/06/2006

TÜV Rheinland of North America

Test Report Number: 30660752.001 Russound — Test Report Summary

Prübericht Nr.:

Applicant: Auftraggeber:	Russound / FMP, Inc. 5 Forbes Road Newmarket, NH 03857	Tel: (603) 659-5170 Fax: (603) 659-5388	Mr. John Cronk
Type of Equipment: Gegenstand der Prüfung	A-BUS ADAPTER		
Model Number: Bezeichnung:	A-OM	**Trademark:** Ursprungszeichen :	Russound
Standards: Prufgrundlage:	See Below	**Date Of Testing:**	

Standard Number	Description	Severity Level or Limit	Minimum Acceptable Performance Criteria	Summary Result
EN 55020:2002	Electromagnetic Immunity of broadcast receivers and associated equipment	See Below	See Below	Complies
EN 61000-4-2:1995	Electrostatic Discharge Immunity	±4 kV Contact ±8 kV Air Discharge	B	Complies
EN 61000-4-3: 1995 ENV 50204:1995	Radiated Electromagnetic Field Immunity	3 V/m, 4 Exposures, Vertical and Horizontal Polarization, 80-1000 MHz, 80%, 1kHz A.M. 3 V/m, 900 MHz, 99%, 217 Hz P.M.	A A	Complies
EN 61000-4-4:1995	Electrical Fast Transient Immunity	±1 kV, 5/50 ns, 5kHz, AC Mains and I/O lines	B	Complies
EN 61000-4-6:1996	Conducted RF Immunity	3 Vrms 150 kHz to 150 MHz 80% 1kHz modulated. Applied to AC, and I/O lines.	A	Complies
EN 55013: 2001	Limits and methods of measurement of radio disturbances characteristics of broadcast receivers and associated equipment	See Below	See Below	See Below
EN 55013: 2001	Disturbance Power	Table 1, and 4	NA	Complies
EN 55022: 1998 +A1: 2000 FCC Part 15	Radiated Emissions	Class B Class B per section 15.109(g)	NA	Complies
EN 55022:1998 +A1: 2000 FCC Part 15	Conducted Emissions	Class B Class B per section 15.107(a)	NA	Complies
EN 61000-3-2:2001	Harmonic Current Emissions	Class A	NA	Complies
EN 61000-3-3:1995	Voltage Fluctuations	Per Section 5	NA	Complies

Place of Test: Prüfort:

TUV Rheinland of North America
12 Commerce Road
Newtown, CT 06470 USA
Phone: (203) 426-0888 E-mail: info-new@tuv.com
Fax: (203) 429-4009 Web: http://www.tuv.com

Test Result: Prüfergebnis: Unit presented for testing complied with criteria shown above. Additional Information is contained in the following pages.

Tested By: Der Sachverständige:	**Dieter Baldamus**	**Checked By:** Geprüft:	**Bruce Fagley**
			
June 13, 2006		June 13, 2006	
Date, Signature Datum, Unterschrift		**Date, Signature** Datum, Unterschrift	