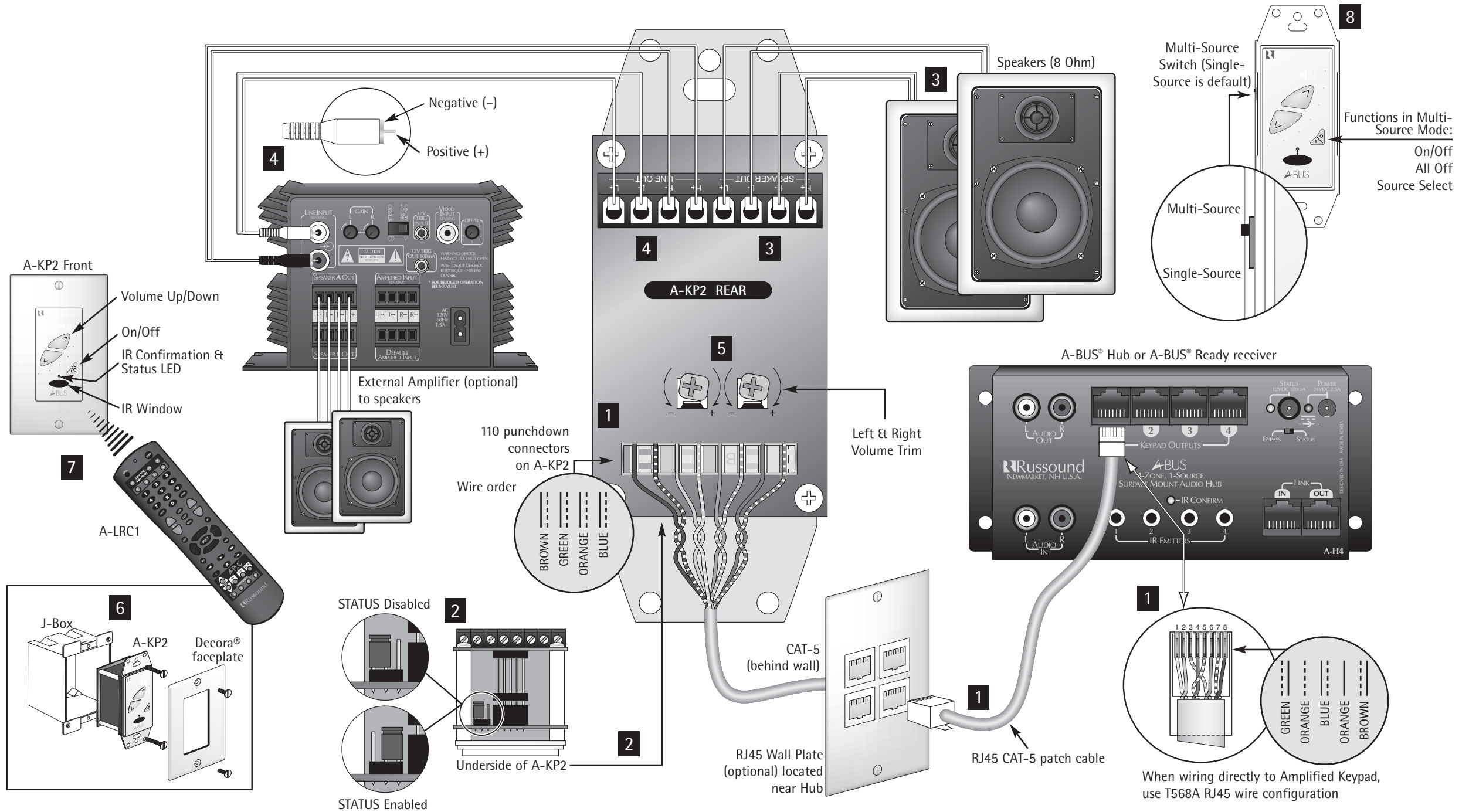


A-KP2

SERVICE MANUAL





INSTALLATION NOTES

- Before connecting the A-KP2:
 - Make sure that the A-PS power supply is not connected to the A-BUS® Hub or, if you are using an A-BUS® Ready receiver, that the receiver is off.
 - Make sure that the STATUS input on the A-BUS® Hub is not connected.
- The recommended maximum length for use with standard CAT-5 cable is 250 feet.
- Once all of the connections have been made, the A-PS power supply can be connected to the A-BUS® Hub or, if you are using an A-BUS® Ready receiver, the receiver may be turned on.
- Make any Volume Trim adjustments on the A-KP2 before installing it into the wall.

1 CAT-5 CONNECTIONS

A CAT-5 cable is used to connect the A-KP2 to a keypad output on an A-BUS® Hub or A-BUS® Ready receiver. For clean installations, use RJ45 CAT-5 patch cables to connect from the Hub to an RJ45 Wall Plate (optional), and then wire from the Wall Plate to the Amplified Control Module (see diagram). The Amplified Control Modules have 110 punchdown connectors for the 8 individual conductors of the CAT-5 cable (use a punchdown tool with a 110 blade to insert conductors).

NOTE: When wiring directly to an Amplified Control Module (i.e., not using an RJ45 Wall Plate) use T568A RJ45 wire configuration for connection to the hub.

2 STATUS

The STATUS jumper is located on the underside of the A-KP2. All A-BUS® components are shipped with the STATUS feature disabled. If you intend to use the STATUS feature with your A-BUS® system, you must enable the STATUS jumper on every Amplified Control Module as well as on the A-BUS® Hub.

3 SPEAKER CONNECTIONS

Connect speaker wires to the speaker output terminals on the A-KP2 as shown in the diagram. The A-KP2 is designed for one pair of 8 Ohm speakers.

4 EXTERNAL AMPLIFIER (OPTIONAL)

An external amplifier can be connected to the LINE OUT of the A-KP2 to provide more power in a large listening area, such as an outdoor patio. The LINE OUT can also be used to feed a powered subwoofer for extended bass response. This output is variably controlled by A-KP2 volume.

5 VOLUME TRIM

Two rotary trim potentiometers are located on the back of the A-KP2. These can be used to set the maximum allowable volume level and to adjust left/right balance. Use a Phillips-head screwdriver.

6 MOUNTING

Check all connections and test the system's operation before installing the A-KP2 into the wall. Using the included hardware, install the A-KP2 into a standard UL/CSA approved electrical J-Box as shown.

7 OPERATION

- Power On/Off source select and volume level can be controlled using the buttons on the A-KP2 or by using the optional A-LRC1 remote control. The A-KP2 will always reset to a low volume level when turned on.
- If you have installed IR Emitters in your A-BUS® system, then sources can be operated with their own remote (or a "universal" remote) by aiming it at the IR window on the A-KP2.
- When the A-KP2 receives infrared signals from a remote control, the LED indicator will flash red.
- If your are using the STATUS feature in your A-BUS® system, the LED indicator on the A-KP2 will illuminate green when your source equipment is on, even when the A-KP2 is off.

8 MULTI-SOURCE MODE SWITCH

The Multi-Source Mode Switch should be set to Single-Source when using the A-KP2 with Single-Source A-BUS® hubs. The Switch should be set to Multi-Source when using the A-KP2 with Multi-Source A-BUS® hubs.

9 MULTI-SOURCE OPERATION

Source Selection:

- Tapping the power button will allow you to toggle between multiple sources once the initial press for power "on" is performed. The top 4 LEDs of the volume indicator will show the source that is selected.

Zone (Keypad) Off:

- Press and hold the power button until the keypad turns off.

System (Hub) Off:

- When the keypad is off, press and hold the power button until the Green LED blinks Red and turns off.

Other Functions:

- Source selection and all other functions of the A-KP2 can be made using the A-LRC1 hand-held remote.

English

A-BUS® Model A-KP2 with Multi-Source Select Capability Amplified Keypad Module for A-BUS® System Instruction Manual

A-BUS® SYSTEM OVERVIEW

The product you have just purchased is an integral part of the Russound® A-BUS® Multi-Room Audio System. It is a component which, when combined with other essential components and your source equipment (receiver, CD player, etc.), creates a versatile whole-house audio system that will fill your rooms with high-quality sound for years to come.

A-BUS® technology is a new, innovative method of providing high quality audio to remote locations with a single 8-conductor cable such as CAT-5. A-BUS® technology provides many advantages over other methods of audio distribution, including: simple, single CAT-5 wiring scheme; infrared control of system components; infrared control of the optional A-KP2 amplified keypad module; and system power status.

Every A-BUS® System is comprised of components from each of the following three areas.

1. **A-BUS® Amplified Control Modules:** The Module contains both the amplifier for the room's speakers as well as the control for those speakers. One Module should be used for each room you choose to control. The Russound® A-KP2 Amplified Keypad (with built-in IR receiver) and A-VC Amplified Volume Control are examples of A-BUS® Amplified Control Modules.
2. **A-BUS® Hubs:** All components of the A-BUS® system must be wired centrally to a Hub located near your source equipment. The Hub provides the connection for source equipment, volume controls, infrared emitters and power supply. The A-H484, A-H4, A-H4D, and A-H2 are examples of A-BUS® Hubs. The A-H484, A-H4, and A-H2 are surface-mount units. The A-H4D is an in-wall Decora® style unit.
3. **Power Supply:** The power supply plugs into the Hub. The Russound® A-PS 24VDC/2.5A unit is an example.

A-KP2 03/03

A-BUS® is a registered trademark of LeisureTech Electronics Pty Ltd Australia
Decora® is a trademark of Leviton Corporation

Russound®
A-V DISTRIBUTION & CONTROL SYSTEMS
5 Forbes Rd. Newmarket, NH 03857, USA
☎ 603.659.5170 • Fax 603.659.5388
e-mail: tech@russound.com

the right
connection

Come visit us at:

www.russound.com

A-KP2 OVERVIEW

The A-KP2 is an in-wall, A-BUS® Amplified Keypad with push-buttons for speaker volume level and power On/Off source select as well as an IR window for receiving remote control signals. The A-KP2 connects to A-BUS® Hubs or A-BUS® Ready receivers using CAT-5 wiring, and to loudspeakers using conventional speaker wire.

IMPORTANT – Before installation, review the manuals included with each component in your system. If you are unsure of any of the installation procedures described herein or elsewhere, consult a professional electronics installer.

A-KP2 FEATURES

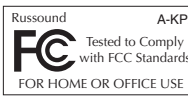
- 1) Power On/Off source select button
- 2) Volume Up/Down buttons
- 3) Built-in IR receiver
- 4) IR control of volume and On/Off source select via optional A-LRC1 remote
- 5) IR control of source components in an A-BUS® system that uses IR Emitters
- 6) LED indicator for IR confirmation and source component on/off status
- 7) Volume Trims for setting max. allowable level and L/R balance
- 8) Line Out for connecting to external amp or powered subwoofer
- 9) Decora® faceplate

A-KP2 SPECIFICATIONS

Output Impedance: 8 Ohm per channel (1 pair of speakers)
Input Impedance: 28k Ohm min., line input
Power Requirements: +24VDC, 750mA
Status Input Reqs.: +12VDC, 20mA
CAT-5 Connection: 110 Punchdown
Dimensions (in-wall): 1.75"W x 2.875"H x 1.75"D (45x73x45mm)
Weight: 6 oz. (170g)

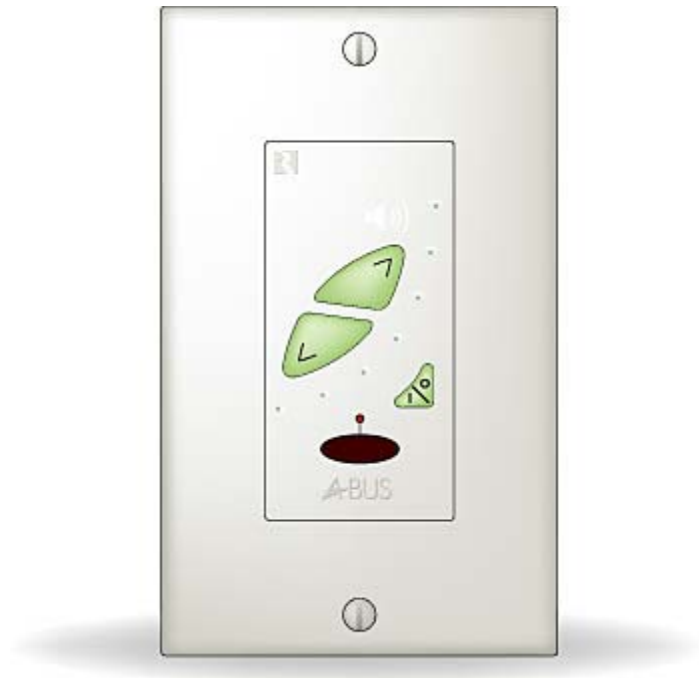


Conforms to
UL 6500
Certified to
CAN/CSA
E65-94



LIMITED WARRANTY

The Russound® A-KP2 is fully guaranteed for Two (2) years from the date of purchase against all defects in materials and workmanship. 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 under the terms of the warranty. Russound® assumes no responsibility for defects resulting from abuse or servicing performed by an agency or person not specifically authorized in writing by Russound®. Damage to or destruction of components due to improper use voids the warranty. In these cases the repair will be made at the owner's expense. To return for repairs, the unit must be shipped to Russound® at the owner's expense, along with a note explaining the nature of the service required. Be sure to pack in a corrugated container with at least 3 inches of resilient material to protect the unit from damage in transit. Russound® products are sold 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.



A-KP2 TEST PROCEDURE

The purpose of this Test Procedure is to instruct both the Russound Test Department and any outside Service Technician.

Equipment Needed: CD Player
A-H484
A-H484 Instruction Manual
A-KP2 Instruction Manual
A-PS
Speakers
845.1
A-LRC1
DPA 1.2
Audio Line Level Cable (This is a cable with wires on one end and RCA jacks on the other)

Inspection: Inspect plate for scratches.
Inspect screening on plate and connectors on rear for correct labeling.

NOTE: REFER TO DIAGRAMS FOR ASSISTANCE WITH SET UP.

1. Connect a CD player to Source Audio Input 1 on the A-H484.
2. Connect an A-KP2 MS (V- V+ ST IR L+ L- R- R+) using CAT 5 to an MOD-RJ45CAT5 female connector. Use standard T568A configuration to the RJ45 female connector.
3. Then attach the Patch Cable from the RJ45 female connector to the A-H484 Keypad Output 1A.
4. Ensure the A-KP2 MS “SINGLE/MULTI” switch is in the “Single” position.
5. Connect an A-PS power supply to the A-H484 at Power For “A” Keypads.
6. Connect the 845.1 to Source IR 1 port on the A-H484 and to the CD player.
7. Ensure the A-KP2 MS is in the Status Enabled position.
8. Connect the speakers to the Speaker Out (L+ L- R- R+) of the A-KP2 MS.
9. Plug in the A-PS power supply to an AC outlet.
10. Use the A-LRC1 to turn the system on by pressing the “On” button on the remote in the ABUS section, while aiming the remote at the A-KP2. The “System On” LED on the A-H484 should illuminate blue. The Keypad Status/IR LED should illuminate green and the Keypad should turn on.
11. By moving the jumper put the Keypad in Status Override position. The Status LED on the Keypad should no longer be lit. Move the jumper back into the Status Enabled position.
12. Using the A-LRC1 press the “All Off” button while pointing it at the Keypad. The “System On” LED on the A-H484 should turn off as well as the Keypad and the Status/IR LED should no longer be lit.
13. ON – Turn on the Keypad by pressing the ON/OFF button on the front of the Keypad at the bottom right. The Keypad has a green backlight and this should turn on when the Keypad is turned on.
14. OFF – Turn off the Keypad by pressing the ON/OFF button on the front of the Keypad at the bottom right. The Keypads backlight should turn off.

15. Turn the Keypad back on by pressing on in the A-BUS section of the A-LRC1. The Keypad and A-H484 should turn on.
16. Using the A-LRC1 select Source 1. The music should be heard.
17. VOLUME UP LED – Press the VOLUME UP button the green LEDs on the Keypad should scroll upwards toward the top of the Keypad as the volume is increased. Ensure the volume from both speakers goes up together.
18. VOLUME DOWN LED – Press the VOLUME DOWN button the green LEDs on the Keypad should scroll downwards toward the bottom of the Keypad as the volume is decreased. Ensure volume from both speakers goes down together.
19. Control the volume using the A-LRC1 again the volume LEDs on the A-KP2 should go up and down as the volume changes.
20. GAIN CONTROLS – Adjust the Left and Right gain controls on the back of the A-KP to ensure proper function. Use a screwdriver to adjust these volume control pots. The volume control pots should be adjusted so that both output volumes are the same and the pots are to set to approximately mid-way.
21. Control the CD player, using the CD remote and pointing it at the IR receiver on the Keypad. Note: When using the remote the Status/IR indicator will flash red (only when in Status Override mode). When using the remote in Status Enabled mode the Status/IR indicator will flash amber.
22. Turn the Keypad off.

Multi-Source Switch Position Test

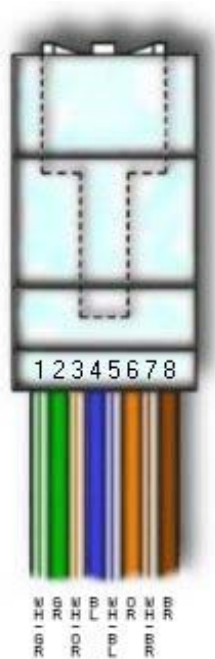
1. Move the Multi/Single switch on the left side of the A-KP2 to the Multi position.
2. Turn the Keypad on using the on/off button. The Keypad should illuminate and the blue power LED on the A-H484 should illuminate.
3. Press and hold the on/off button on the Keypad. The Keypad should turn off. The A-H484 should still have the blue power LED illuminated.
4. Press and hold the on/off button on the Keypad a second time. The blue power LED on the A-H484 should no longer be illuminated.
5. Use the A-LRC1 to turn the Keypad on. The Keypad should illuminate and the blue LED on the A-H484 should also be illuminated.
6. Use the A-LRC1 to turn the Keypad off. The Keypad should turn off. The A-H484 should still have the blue power LED illuminated.
7. Press the all off on the A-LRC1. The blue power LED on the A-H484 should no longer be illuminated.
8. Turn the Keypad on. Both the Keypad and the A-H484 should turn on.
9. Tap the on/off button. This allows the selection of the Source inputs on the A-H484. The top four volume LEDs show the selection of the sources. The top volume LED is source 1. The LED underneath that is source 2 and then 3 and 4.
10. Scroll through the sources using the Keypad and then the A-LRC1. The audio should only be heard when source 1 is selected. Control the CD player using its remote. The CD player should only be controlled when source 1 is selected.
11. Move the audio cables and emitter to source 2 and repeat the last step. Then for source inputs 3 and 4 ensuring the sources can be selected by using either the Keypad or A-LRC1.

Line Out Test

1. Turn off Keypad.
2. Connect the Line Out (L+ L- R- R+) of the A-KP2 to the Line Input of the DPA 1.2. Use the Audio Line Level Cable to do this. This is a cable with RCA jacks on one end and wires on the other end.
3. Turn down the Gain Controls on the DPA 1.2.
4. Turn the DPA 1.2 on.
5. Connect a pair of speaker to the Speaker A Out of the DPA 1.2.
6. Select an audio source.
7. Slowly turn the Gain Controls up on the DPA 1.2 so that the CD can be heard at a comfortable level.

THE TEST PROCEDURE IS COMPLETE.

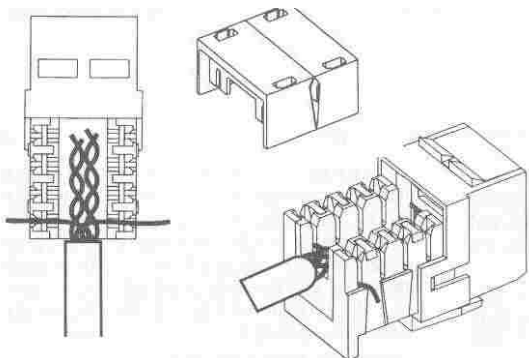
Poe
06/24/00



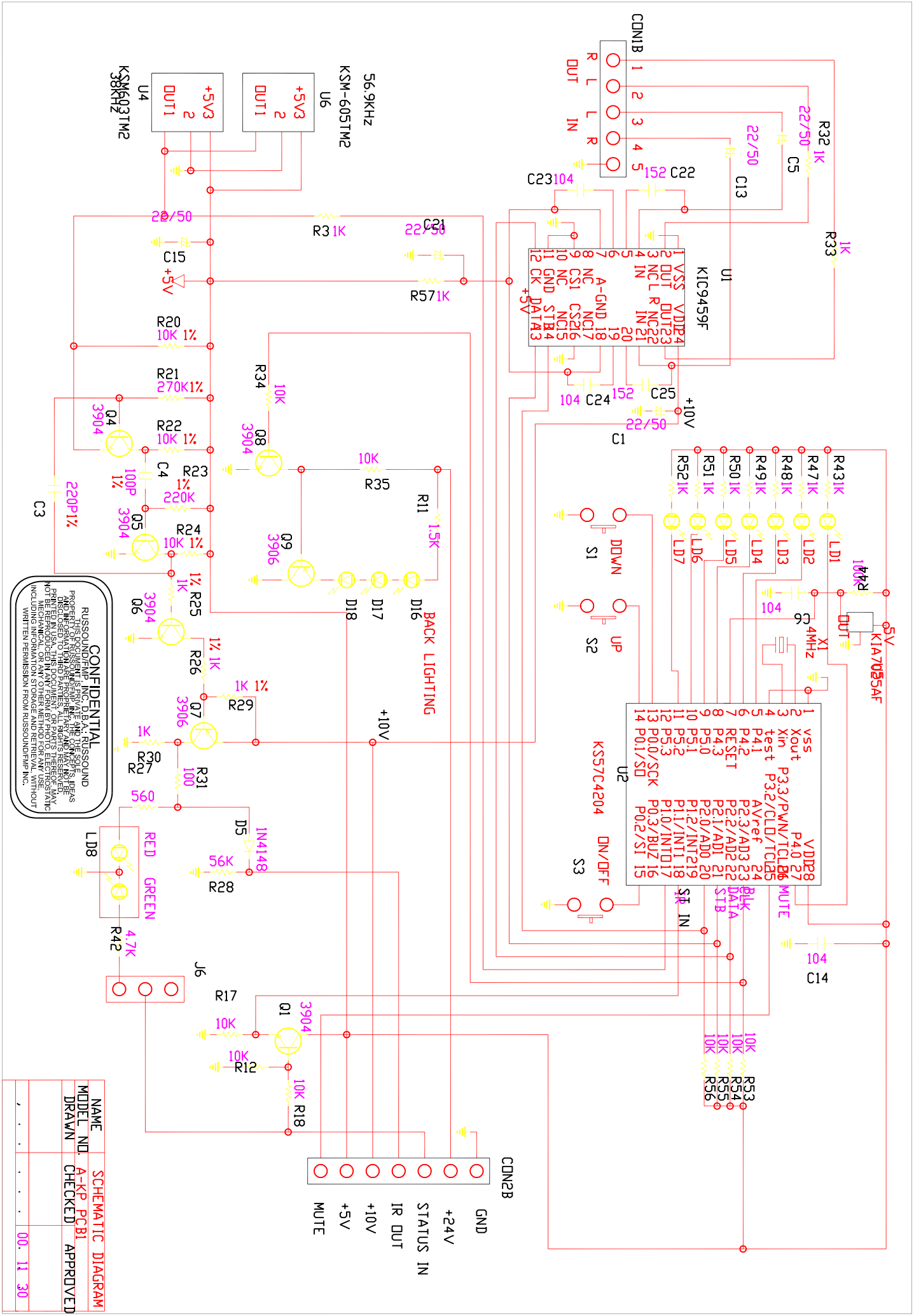
PICTURE OF THE END OF PATCH CORD. WILL NEED TO BE PLUGGED INTO MOD-RJ45CAT5 PLATEMATE CONNECTOR WHICH IS WIRED TO TEST KEYPAD AND A-BUS HUB.

WIRING DIAGRAM ALSO WRITTEN ON SIDE OF MOD-RJ45CAT5 PLATEMATE CONNECTOR.

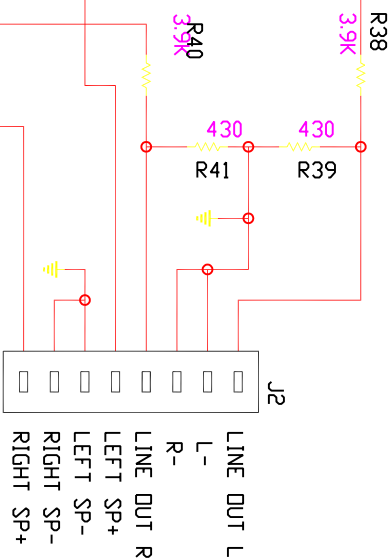
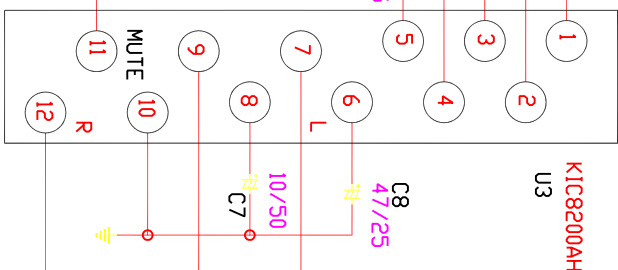
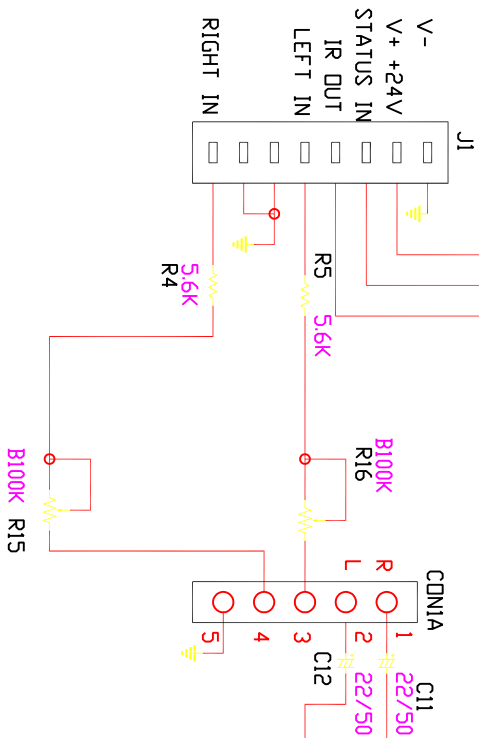
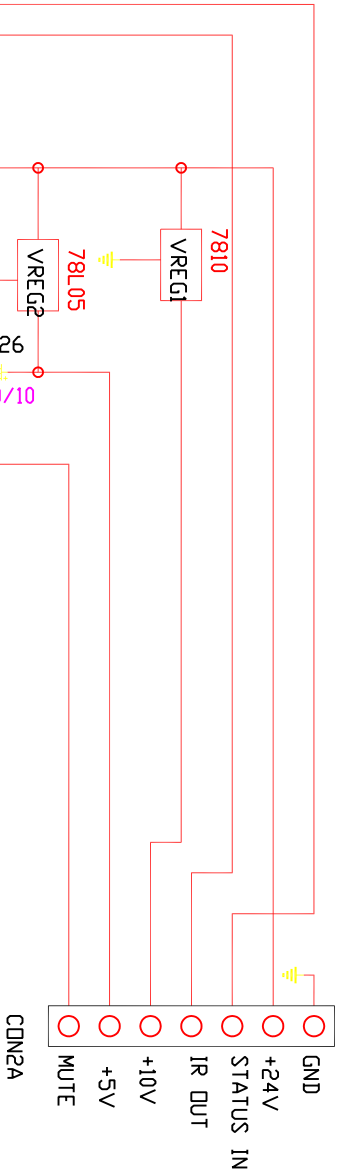
T568A Wiring Chart		
Pin	Color	Signal
1	White-Green	T3
2	Green	R3
3	White-Orange	T2
4	Blue	R1
5	White-Blue	T1
6	Orange	R2
7	White-Brown	T4
8	Brown	R3



MOD-RJ45CAT5 PLATEMATE CONNECTOR. ATTACH KEYPAD TO THIS CONNECTOR FOLLOWING DIAGRAMS AT RIGHT USING WIRING CONFIGURATION T568A. WHEN LOOKING ON THE SIDES OF THIS CONNECTOR FOLLOW COLOR WIRING "A" PATTERN.



NAME				SCHEMATIC DIAGRAM	
MODEL	ND	A-VP	PCBI	CHECKED	APPROVED
DRAWN					
.				00. 11	30

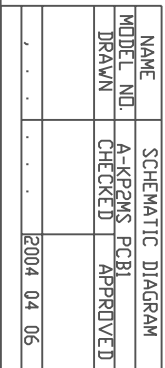


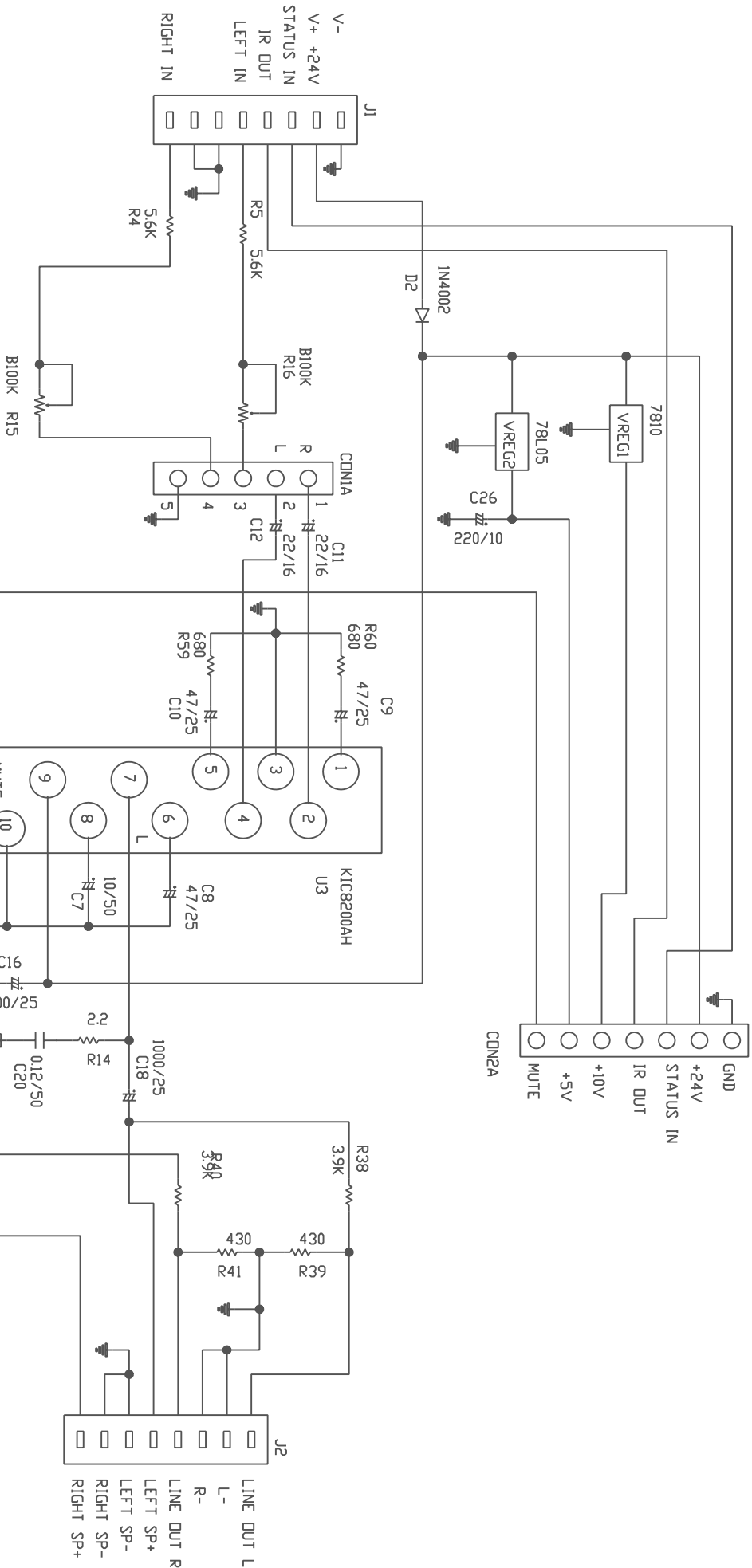
CONFIDENTIAL

RUSSOUND/FMP INC. D.B.A.: RUSSOUND

THIS DOCUMENT IS PRIVATE AND THE SOLE PROPERTY OF RUSSOUND/FMP INC. THE CONCEPTS, IDEAS AND INFORMATION ARE PROPRIETARY AND MAY NOT BE DISCLOSED TO THIRD PARTIES. ALL RIGHTS RESERVED. PRINTED IN USA. THIS DOCUMENT, OR PARTS THEREOF, MAY NOT BE REPRODUCED IN ANY FORM BY PHOTO, ELECTROSTATIC MECHANICAL, OR ANY OTHER METHOD FOR ANY USE INCLUDING INFORMATION STORAGE AND RETRIEVAL, WITHOUT WRITTEN PERMISSION FROM RUSSOUND/FMP INC.

NAME	SCHMATIC DIAGRAM
MODEL NO.	A-KP PCB2
DRAWN	CHECKED
APPROVED	
DATE	00. 11 30





CONFIDENTIAL

RUSSOUND/FMP, INC. D.B.A.: RUSSOUND

THIS DOCUMENT IS PRIVATE AND THE SOLE PROPERTY OF RUSSOUND/FMP, INC. THE CONCEPTS, IDEAS AND INFORMATION ARE PROPRIETARY AND MAY NOT BE DISCLOSED TO THIRD PARTIES. ALL RIGHTS RESERVED. PRINTED PRODUCTION DOCUMENT, OR PHOTO ELECTROSTATIC NOT BE PRODUCE, OR ANY OTHER METHOD FOR ANY USE, INCLUDING INFORMATION STORAGE AND RETRIEVAL, WITHOUT WRITTEN PERMISSION FROM RUSSOUND/FMP, INC.

A-KP2REV.2

NAME	SCHEMATIC DIAGRAM
MODEL NO.	A-KP2 MS PCB2
DRAWN	CHECKED APPROVED

DATE	2004 04 06
------	------------

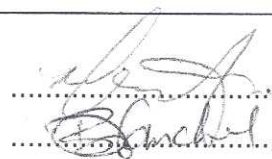
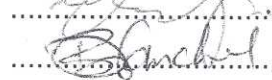
Doc. Num:
R1100065.000
Rev: 1

Effective
2/97

TEST REPORT
IEC 65



Safety requirements for mains operated electronic and related apparatus for household and similar general use

Report reference No.....	E 2071555.01	
Compiled by (+ signature).....	Mario Espinal	
Approved by (+ signature).....	Dharmesh Panchal	
Date of issue.....	11 January 2001	
Testing laboratory	TUV Rheinland of North America, Inc.	
Address.....	12 Commerce Road, Newtown, CT 06470, U.S.A.	
Testing location.....	As above	
Applicant.....	Russound	
Address.....	5 Forbes Road, Newmarket, NH 03857, USA	
Standard	EN 60065:1993 + A11	
Test Report Form No.....	I0065__A	
TRF originator.	KEMA	
Master TRF	Dated 94-06	
Copyright blank test report	The bodies participating in the Committee of Certification Bodies (CCB). This report is based on a blank test report that was prepared by KEMA using information obtained from the TRF originator.	
Test procedure	CE Investigation	
Procedure deviation	CH, DK, FI, GB, HU, IT, NO, SE	
Non-standard test method.....	N.A.	
Type of test object.....	Keypads	
Trademark.....	Russound	
Model/type reference	A-KP, A-VC, A-CB4 and A-CB4IR	
Manufacturer.....	Duck Jean Enterprise Co., Ltd, 97B-7L, #664-6, Gojan-Dong, Namdong, Namdong-Ku, Inchon, Korea	
Rating.....	24VDC, <100mA	

Copy of marking plate

Possible test case verdicts:

- test case does not apply to the test object..... : N(.A.)
- test object does meet the requirement : P(ass)
- test object does not meet the requirement : F(ail)

General remarks: All units are made for recessed wall mounting to be provided by a 24VDC source. Tested in an electrical junction box with insulation around junction box.

"(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a period is used as the decimal separator. The test results presented in this report relate only to the object tested. This report shall not be reproduced except in full without the written approval of the testing laboratory.

Attachments:

**Test Report Number: 30362541.001****Test Report Summary**

Prübericht Nr.:

Applicant: Russound / FMP, Inc.
Auftraggeber: 5 Forbes Road
 Newmarket, NH 03857

Tel: (603) 659-5170
Fax: (603) 659-5388

Mr. John Cronk

Type of Equipment: A-BUS home audio system
Gegenstand der Prüfung

Model Number:
Bezeichnung: A-MSS, A-H1, A-H4P

Trademark:
Ursprungszeichen:



Standards: See Below
Prüfgrundlage:

Date Of Testing: OCT 24th 2003 to NOV 14th, 2003

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%, 200 Hz P.M.	A A	Complies
EN 61000-4-4:1995	Electrical Fast Transient Immunity	±1 kV, 5/50 ns, 5kHz, AC Mains and Control lines	B	Complies
EN 61000-4-6:1996	Conducted RF Immunity	3 Vrms 150 kHz to 150 MHz 80% 1kHz modulated. Applied to AC, DC, 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 +A1:2000	Voltage Fluctuations	Per Section 5	NA	Complies

This report may contain some data that is not covered by the NVLAP accreditation.

The NVLAP Accreditation scope includes all test listed except for EN 61000-3-2; Harmonic Current, and EN 61000-3-3; Voltage Fluctuation

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



NVLAP LAB CODE 200111-0

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

Prüfergebnis:

Tested By: Andrew Gaudette
Der Sachverständige:

Checked By: Bruce Fagley
Gepprüft:

09.Jan 2004,

Date, Signature
 Datum, Unterschrift

09 Jan 2004,

Date, Signature
 Datum, Unterschrift

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TUV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TUV Rheinland, NVLAP or any agency of the U.S. Government.

TUV Rheinland of North America, Inc., North American Headquarters, 12 Commerce Road, Newtown, CT 06470 - Tel (203) 426-0888 - Fax (203) 426-4009

TUV Rheinland of North America, Inc.

North American Headquarters



TUV Rheinland
of North America

Date : 03/29/2004

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

Attn: John Cronk

Re. : CU US+Canada NRTL-Certificate

Type of Equipment : Audio Equipment
Model Designation : See Certificate
Certificate No. : CU 72040314 0001
File No. : 30480296 001
Engineer/Contact : Joseph Pomata
Standard(s) : UL 6500:1999 R8.01b
CAN/CSA E60065-00

Dear Sir or Madame,

The above referenced technical equipment has been tested and found to be in accordance with the listed test requirement(s). Enclosed, please find TUV Rheinland cTUVus Certificate of Approval No. CU 72040314 0001.

This authorizes you to place the "cTUVus Mark" on your equipment. This "cTUVus Mark" does not represent an authorization for the issuance of the TUV Rheinland GS or Bauart Mark and other TUV Rheinland Marks. This Mark must be on the approved unit, the packaging or the enclosed documentation for compliance.

Your product is subject to annual factory follow-up inspections as well as annual certificate (\$70 per point) and factory registration fees (\$190 per factory).

If we can be of any further assistance to you, please do not hesitate to contact us.

Sincerely yours,
Certification Body

Christoph Raap
Dipl.-Ing. M. Raap
QA Certification Officer

TUV Rheinland
of North America, Inc.
North American Headquarters

12 Commerce Road
Newtown, CT 06470

Tel 203-426-0888
Fax 203-426-4009
Toll Free TUV-RHEINLAND
Mail info@tuv.com
Web www.tuv.com

Member of TÜV Rheinland
Berlin Brandenburg Group

Enclosure

Certificate



Certificate no.

CU 72040314 01

License Holder:

Rusound/FMP, Inc.
5 Forbes Road
Newmarket NH 03857
USA

Manufacturing Plant:

KPPO, Duck Jean Enterprise Co. Ltd.
Namdong-ku
97B-7L, #664-6, Gojan-dong
Inchon
South Korea

Test report no.: USA-JP 30480296 001

Client Reference: John Cronk

Tested to: UL 6500:1999 R8.01b
CAN/CSA E60065-00

Certified Product: Audio Equipment

License Fee - Units

Model Designation: 1) A-H4P, A-KP2; A-MSS; 2) A-H1

7

Rated Voltage: 1) DC 24V; 2) DC 12V

Rated Current: 1) 2.5A; 2) 100mA

Protection Class: III

7

Appendix: 1

Licensed Test mark:



Signatures

Stephan Schmitt
President

Dipl.-Ing. M. Raap
QA Certification Officer

Date of Issue
(day/mo/yr)

29/03/2004

Certificate



Certificate no.

CU 72040314 02

License Holder:

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

Manufacturing Plant:

Salom Electric (Thailand) CO., LTD.
39/19 Moo 5 Soi Bangplao-Srisatien
73210 Raikeing, -Sampran, Nakornpathom
Thailand

Test report no.: USA-JP 30480296 001

Client Reference: John Cronk

Tested to: UL 6500:1999 R8.01b
CAN/CSA E60065-00

Certified Product: Audio Equipment

License Fee - Units

Additional Manufacturing Plant: see above (K751306)

Licensed Test mark:



Signatures

Stephan Schmitt
President

Dipl.-Ing. M. Raap
QA Certification Officer

Date of Issue

(day/mo/yr)
29/03/2004

(Stamp and signature of applicant)