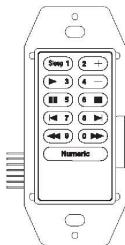


Russound

A / V DISTRIBUTION & CONTROL SYSTEMS

A-KSC SERVICE MANUAL

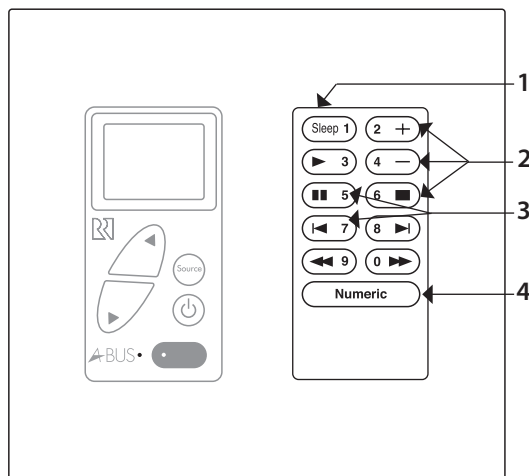


Confidentiality Statement

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A-KSC Front Panel



- 1 **SLEEP** - Sets a sleep timer for the zone. When pressed, shows time in minutes on A-K5L keypad. Press Sleep until desired time is displayed. Press again to see remaining countdown time
- 2 **PRIMARY SOURCE CONTROLS** - Functions on outer edge of buttons are default or normal operation for each selected source. These include play, stop, forward, back, pause, etc.
- 3 **NUMERIC CONTROLS** - Once numeric control is initiated, the primary control buttons now represent the numeric value when pressed (0 - 9).
- 4 **NUMERIC SHIFT** - Press to shift buttons to numeric control or entry. Also issues Prefix command "Disc" and Suffix command "Enter."

Safety Instructions

1. Read Instructions - All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the appliance in the operating instructions should be adhered to.
4. Follow Instructions - All operating and user instructions should be followed.
5. Water and Moisture - The appliance should not be used near water; for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.
6. Wall or Ceiling Mounting - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
7. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
8. Power Sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
9. Grounding or Polarization - Precaution should be taken so that the grounding or polarization means of an appliance is not defeated.
10. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through the openings.
11. Damage Requiring Service - The appliance should be serviced by qualified service personnel when:
 - The power supply cord or the plug has been damaged;
 - Objects have fallen, liquid has been spilled into the appliance
 - The appliance has been exposed to rain
 - The appliance does not appear to operate normally
 - The appliance has been dropped or the enclosure is damaged.
12. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
13. Care - From time to time you should wipe off the front panel with a soft dry cloth.

Limited Warranty

The Russound A-KSC 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. 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. Accidental damage and shipping damage are not considered defects under the terms of the warranty. To return for repairs, the unit must be shipped to Russound at the owner's expense, along with a Return Authorization number and documentation explaining the nature of the service required. Any product returned without prior written permission will be returned to sender. 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.



5 Forbes Road, Newmarket, NH 03857
tel 603.659.5170 • fax 603.659.5388
e-mail: tech@russound.com
www.russound.com

28-1259 10/19/07



A-KSC

Source Control Accessory Keypad to A-K5L for Russound A-C68 System Installation Manual

A-KSC Overview

The Russound A-KSC is an in-wall, Decora® style keypad accessory designed to connect to an A-K5L keypad when used in an A-C68 controller system. The A-KSC keypad adds source control and numeric control capability to the A-K5L keypads. It has soft-touch control buttons and backlights amber or green

A-KSC Key Features

- Designed for use with the A-K5L keypad and A-C68 controller
- Adds transport functions and numeric control of sources from the keypad
- Sleep button for sleep functions
- Takes advantage of the A-C68's built-in IR library
- Dual color illumination

A-KSC Specifications

Dimensions: 1.85"W x 2.7"D x 1"H (4.7 x 6.9 x 2.5 cm)
Weight: 3 oz. (85 g)
Keypad Port: 14-pin connector for A-K5L keypad



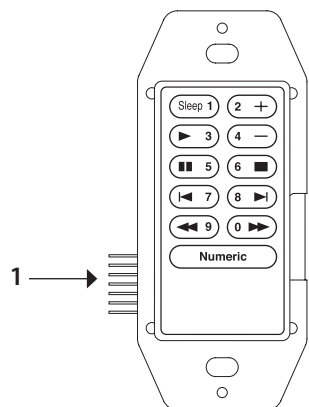
A-BUS is a registered trademark of LeisureTech Electronics Pty Ltd Australia

This product may be covered by one or more of the following patents: US #7,181,023, #6,389,139; EP #1004222, AU #739808, NZ #502982, Mexico #241196, Canada #CA2301062

A-KSC Side Panel

The A-KSC 14-pin connector is located on the left side of the keypad (when facing front). This is covered when a trim plate is installed.

- 1 CONNECTOR - 14-pin connector for connecting to A-K5L keypad.



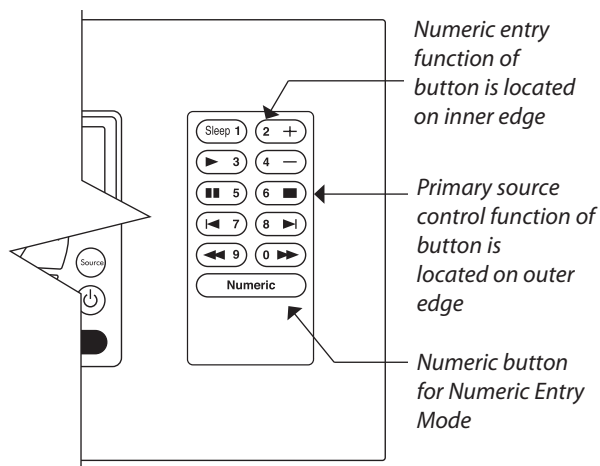
A-KSC Front View

A-KSC Operation

Press Numeric button to enter or exit Numeric Entry Mode

NOTE:

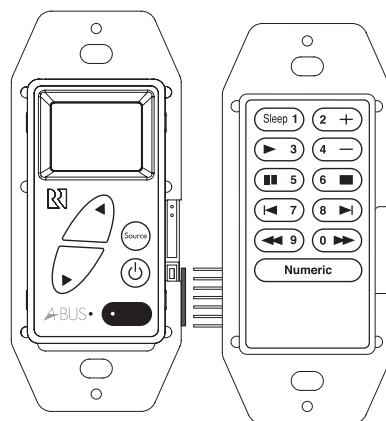
1. Entering Numeric Entry Mode will send Prefix command (Disc)
2. Exiting Numeric Entry Mode will send Suffix command (Enter)



Keypad Installation

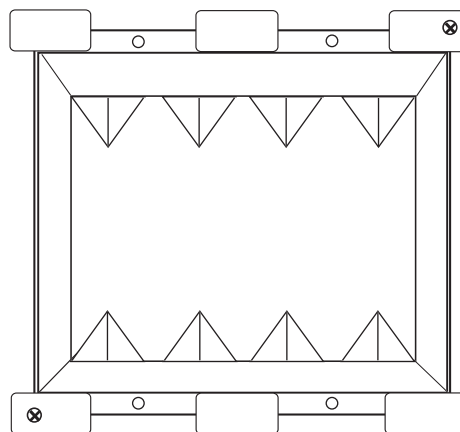
The A-KSC connects to an A-K5L keypad via a 14-pin connector. A double-gang electrical box and faceplate is required for installation.

1. Check whether or not you can route the wire to the location you have chosen.
2. Use a UL/CSA approved plastic two-gang (32 ci) electrical box.
3. Route CAT-5 wire to the electrical box from the A-C68 system controller.
4. Insert the A-KSC 14-pin connector into the 14-pin header on the AK5L keypad.
5. Connect the CAT-5 cable to the A-K5L as shown in the A-K5L installation manual.
6. Mount the joined keypads in the electrical box and attach the trim plate.



A-K5L Keypad

A-KSC Keypad



Double-gang Electrical Box

A-KSC Operation

The A-KSC keypad connects to an A-K5L keypad to add source control and numeric capability. The amber or green backlit buttons (follows color choice of A-K5L) provide primary source controls when pressed such as stop, play, next, etc.

When the Numeric button is pressed, it becomes backlit in the opposite color of the backlight (green to amber and vice versa), and changes the buttons to numeric entry (0 - 9). Pressing the Numeric button also sends a Prefix command of "Disc."

A second press of the Numeric button sends a Suffix command of "Enter" and puts the keypad back into the primary control mode. If the button is not pressed the second time, a three-second timeout will send the Suffix command and exit Numeric mode.

To initiate Sleep mode, press the Sleep button. The display on the A-K5L shows OFF. Each subsequent press add 15 minutes to the timer, up to 60. After a sleep time is selected, the countdown starts (not visible) and the Sleep button stays lit. Press Sleep once to see remaining countdown time. When the timer runs out, the keypad shuts off. Sleep mode is terminated by activating Party Mode or by manually turning off the zone.



Conforms to
UL 6500
Certified to
CAN/CSA

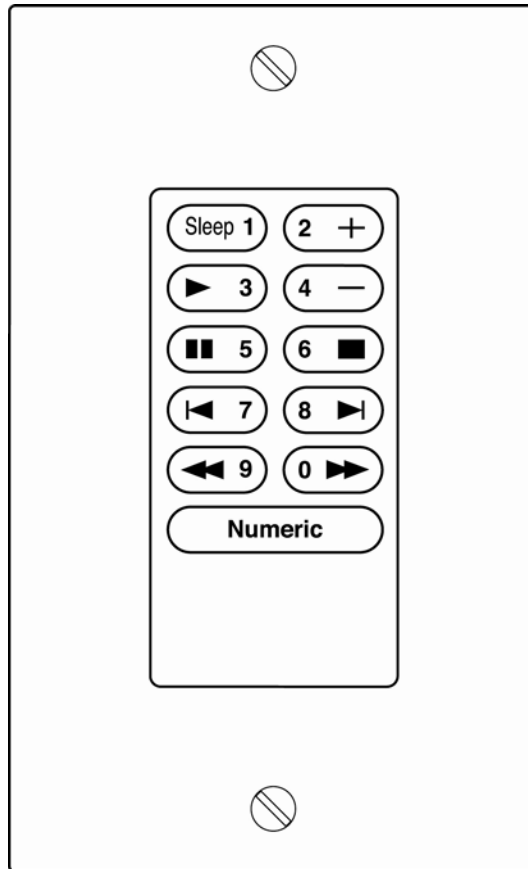
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Russound®

A-KSC

A-Bus® Keypad Test Procedure

Revision 1.5



The A-KSC keypad connects to an A-K5L keypad to add numeric capability and source control.

The purpose of this document is to provide a standardized full functional test process for the Russound® A-KSC Keypad.

The approximate time needed to perform this test is 15 minutes.

Contents

1. Inspection	Page 2
2. Equipment Needed	Page 2
3. Connections	Page 2
4. Setup	Page 3
5. Functional Test	Page 3
6. Revision History	Page 4

Inspection

Russound customers expect the best; defects are unacceptable. Inspect the Unit Under Test (UUT) visually for any blemishes, missing pieces and visual indications that may cause concern. Passing visual inspection is a condition of passing full test. Correct *any* defect before passing the UUT; if the UUT has defects that cannot be corrected, notify your supervisor. Inspect the UUT before and after functional testing.

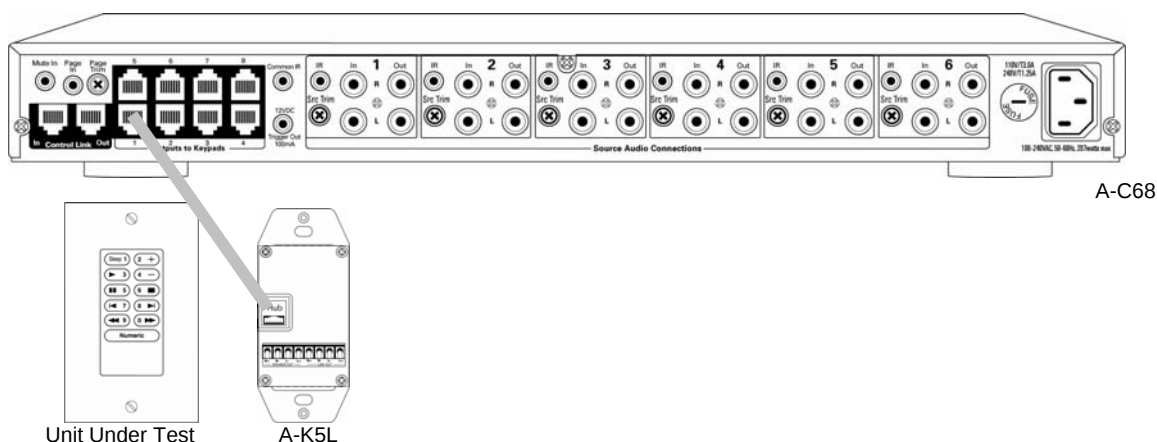
Equipment Needed

1. (1) Russound A-K5L keypad
2. (1) T568A CAT-5 straight-through patch cable (150 feet maximum)
3. (1) Russound A-C68 Hub

Connections

1. Connect A-K5L to port 1 of A-C68 with CAT-5 cable.
2. Connect A-K5L keypad to A-KSC.

Setup



NOTE:

- Keypad Dip Switches on the A-C68 should be set in the DOWN position when testing with A-K5L keypads.
- The update/run switch should be set to run position to begin testing.

Functional Test

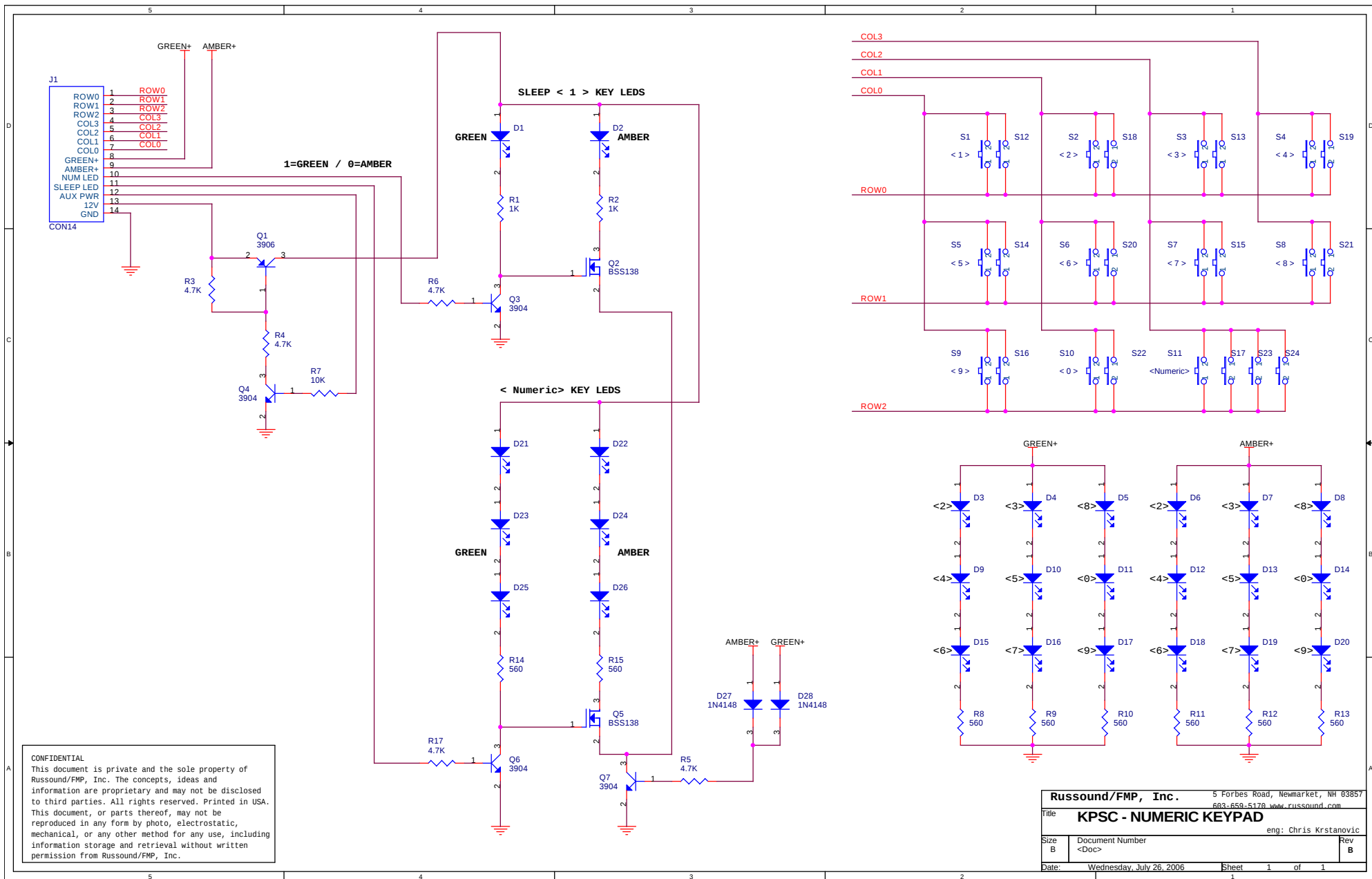
The A-KSC is an accessory keypad that adds source control and numeric capability to an A-K5L keypad. It attaches to the A-K5L with a 14-pin connector. On the A-K5L, the 14-pin header is located on the right side of the keypad when facing front.

Source Control

1. While the system is powered down, connect A-KSC to A-K5L.
2. Power up the A-K5L and verify that the A-KSC lights up.
3. Press and hold source button on A-K5L until "Loud" is displayed.
4. Tap the source button on the A-K5L until "Bk Gnd" is displayed.
5. Press the Volume Up button on the A-K5L to cycle through Green, Amber, and Off. Verify all LEDs on A-KSC change with the A-K5L accordingly.
6. Press the Sleep button on the A-KSC. Verify that the display on the A-K5L says OFF.
7. Press the Sleep button on the A-KSC again and verify that the sleep button changes from green to amber. Verify that the A-K5L display shows 15min.
8. Press buttons 2-9 and, 0 on the A-KSC and verify that activity shows in the A-K5L IR window for each button pressed.
9. Press the Numeric button on the A-KSC. Verify the button changes from green to amber and activity shows in the A-K5L IR window.

Revision History

A-KSC Test Procedure Revision History			
Revision	Date	Revision Summary	Initial
1.1	4/30/07	Initial release	TomS
1.2	10/22/07	Corrections	TomS
1.3	12/12/07	Corrections	TomS
1.4	12/21/07	Corrections	TomS
1.5	3/26/08	Corrections	TomS



Rev C

RUS30013 Sub
Assy

Item	Qty. EA	Reference	Value/Desc.	Tol %	Source 1			Source 2	
					Mfg.	Part Number	Pack	Mfg.	Part Number
1	4	Q3,Q4,Q6,Q7	PNP Transistor	N/A	ON Semi	MMBT3904LT3G	SOT-23	Micro Com	MMBT3904-TP
2	1	Q1	NPN Transistor	N/A	Phillips	PMBT3906 T/R	SOT-23	ON Semi	MMBT3906LT1G
3	2	Q2,Q5	N-Channel MOSFET	N/A	Fairchild	BSS138	SOT-23	Diodes Inc	BSS138-7-F
4	8	R8,R9,R10,R11,R12,R13,R14,R15	560 ohm	5.0%	YAGEO	RC0603JR-07560RL	0603\IPC		
5	2	R1,R2	1K	5.0%	Panasonic	ERJ-3GEYJ102V	0603\IPC	Panasonic	ERJ-3GEYJ102V
6	5	R3,R4,R5,R6,R17	4.7K	5.0%	YAGEO	RC0603JR-074K7L	0603\IPC	Rohm	MCR03EZPJ472
7	1	R7	10K	5.0%	YAGEO	RC0603JR-0710KL	0603\IPC	Panasonic	ERJ-3EKF1002V
8	13	D1,D3,D4,D5,D9,D10,D11,D15,D16,D17,D21,D23,D25	LED-GREEN	N/A	ROHM	SML-310MTT86	0603\LED		
9	13	D2,D6,D7,D8,D12,D13,D14,D18,D19,D20,D22,D24,D26	LED-AMBER	N/A	ROHM	SML-311YTT86	0603\LED		
10	2	D27,D28	Si Diode	N/A	Fairchild	MMBD4148SE	SOT-23	Micro Com	MMBD4148-TP
11	1	J1	Header 2x7 MALE (0.318" pin)	N/A	AMP	1-102975-5			or Off-Shore Equivalent
12	1	N/A	PCB-RAW	N/A	---				

Rev D

A-KSC Final Assembly BOM

Item	Qty. EA	Reference	Value/Desc.	Mfg.	Part Number
1	1	N/A	KPSC PCB ASSY		RUS30013
2	1	N/A	METAL BRACKET		RUS30017
3	1	N/A	Keymat	---	RUS30014
4	1	N/A	PANEL FRONT		RUS30015
5	4	N/A	SCREW M3 X 5 pozi pan -ZN PL	McMaster	92005A114
6	1	N/A	Approvals Sticker		RUS30035
7	1	N/A	Serial Number Sticker		RUS30036



COPY

Ref. Certif. No.

US-TUVR-3759

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 Multizone Multisource Audio Controller

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

INGOT CORPORATION
NO.39, 21ST ROAD,
TAICHUNG INDUSTRIAL PARK
TAICHUNG CITY, TAIWAN R.O.C. (408)

Note: When more than one factory, please report on page 2
Note: Lorsque il y a plus d'une usine, veuillez utiliser la 2^{ème} page

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

AC 100-240V, 50-60Hz, 207W max.

Trademark (if any)
Marque de fabrique (si elle existe)

Russound

Model / Type Ref.
Ref. De type

A-C68

Additional information (if necessary, may also be reported
on page 2)

Les informations complémentaires (si nécessaire, peuvent
être indiqués sur la 2^{ème} page)

Complies with requirements as well as group and national differences
where applicable for AU, CA, DE, DK, MY, NO, GB, US, and SE.

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
IEC 60065 + Amd 1

EDITION
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

30781094.001

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



TUV Rheinland
of North America

July 09, 2007

Page 1 of 1

Date:

Signature:

Marlies Raap

Certificate



Certificate no.

CU 72071703 02

License Holder:

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

Manufacturing Plant:

Hansong (Nanjing) Technology
Co., Ltd
Jiangning Development Zone
8th Kangping Rd.

211100 Nanjing
China

Test report no.: USA-WS 30781094 004

Client Reference: John Cronk

Tested to: UL 60065:2003 R11.06
CSA C22.2.60065:2003+A1:06

Certified Product: A-BUS Multizone Multisource Audio Controller License Fee - Units

Change:

Following Manufacturing Plant no longer valid:

INGOT CORPORATION
21ST ROAD, NO.39
408 TAICHUNG INDUSTRIAL PARK
TAICHUNG CITY, Taiwan - R.O.C.

(K751698)

Addition:

Manufacturing Plant: see above

(K752356)

Appendix: 1, 1-21

Inh. = 740859 / Deb. = 740859 / Fert. = 752356

Licensed Test mark:



Signature

A handwritten signature in black ink, appearing to read "M. Raap".

Dipl.-Ing. M. Raap
QA Certification Officer

Date of Issue
(day/mo/yr)

02/04/2008

Test Report Number:		30760587.001 Russound - A-Bus.doc		Test Report Summary	
Prüferbericht Nr.:					
Applicant:		Russound/FMP, Inc.		Tel: (603) 659-5170	
Auftraggeber:		5 Forbes Road		Fax: (603) 659-5388	
		Amplified Keypad system		John Cronk	
Type of Equipment:		Amplified Keypad system			
Gegenstand der Prüfung:					
Model Numbers:		Trademark:			
Bezeichnung:		A-BUS		Ursprungszeichen: 	
Standards:		See details below		Date Of Testing:	
Prufgrundlage:				April 12 th – 18 th 2007	
Standard Number	Description	Severity Level or Limit	Minimum Acceptable Performance Criteria	Summary Result	
EN 55020:2002 +A1: 2003	Electromagnetic Immunity of broadcast receivers and associated equipment	See Below	See Below	Complies	
EN 55020 Section 5.6	Measurement of electrical fast transients	1.0kV on AC Input Power port	B	Complies	
EN 55020 Section 5.7	Measurement of immunity to induced voltages	0.15-30MHz, 130dBµV (emf) 30-100MHz, 120dBµV (emf) 100-150MHz, 120-110dBµV (emf) 1kHz, 80% AM	A	Complies	
EN 55020 Section 5.8	Measurement of immunity from radiated fields	1kHz 80% AM between 0.15 – 150MHz, 125dBµV/m 900MHz, 3V/m, 1/8 Duty Cycle, 217Hz repetition frequency	A A	Complies	
EN 55020 Section 5.9	Electrostatic Discharge Immunity	±8 kV Air Discharge, ±4 kV Contact Discharge to HCP & VCP	B	Complies	
EN 55013: 2001 +A1: 2003	Limits and methods of measurement of radio disturbances characteristics of broadcast receivers and associated equipment	See Below	See Below	Complies	
EN 55013:2001 +A1: 2003	Disturbance Power	Table 4	NA	Complies	
FCC §15.109(a) and 15.107(a)	Radiated Emissions and Conducted Emissions	Class B	NA	Complies	
EN 61000-3-2: :2000 + A2: 2005	Power Harmonics	Class A	NA	Complies	
EN 61000-3-3:1995 +A1: 2001	Voltage Fluctuation	Per Section 5	NA	Complies	
Tested only for the standards listed above, by the request of the applicant.					
Evaluation to other required standards for EMC compliance is the responsibility of the applicant.					
Place of Test:		TUV Rheinland of North America, 12 Commerce Road, Newtown, CT 06470 USA			
Prüfört:		E-mail: info-new@tuv.com Web: http://www.tuv.com Phone: (203) 426-0888 Fax: (203) 429-4009		FOR THE SCOPE OF ACCREDITATION UNDER 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:		Dieter Baldamus		Checked By:	
Der Sachverständige:				Bruce Fagley	
					
July 23, 2007		July 23, 2007			
Date, Signature		Date, Signature			
Datum, Unterschrift		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 TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the U.S. Government.

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



DECLARATION OF CONFORMITY

Completed date: 12/29/08

Manufacturer's Name: Russound

Manufacturer's Address: 5 Forbes Road, Newmarket N.H. 03857

Telephone Number: 1-603-659-5170

Fax Number: 1-603-659-5388

Equipment Description: CONSUMER ELECTRONICS AUDIO DISTRIBUTION SYSTEM
CONTROLLER WITH KEYPADS.

Equipment Model Designation: A-C68, A-K3, A-K5L, A-KSC and A-LC3.

**Application of Council Directive: 73/23/EEC on the harmonization of the laws related to
Member States relating to electrical equipment designed for use within certain voltage
limits, as amended by: Council Directive 93/68/EEC and**

Council Directive 89/336/EEC on the approximation of the laws related to Member States relating
to electromagnetic compatibility, as amended by: Council Directive 93/68/EEC.

Referenced Safety Standards: Referenced EMC Standards:

CB Certificate Issued: 06/19/08

CSA C22.2.60065 : 2003 + A1 : 06

UL 60065 : 2003 R11. 06

IEC 60065 : 2001 + Amd 1

EN 55020:2002 +A1: 2003

EN 55020 Section 5.6

EN 55020 Section 5.7

EN 55020 Section 5.8

EN 55020 Section 5.9

EN 55013: 2001 +A1: 2003

FCC 15.109(a) and 15.107(a)

EN 61000-3-2: :2000 + A2: 2005

EN 61000-3-3:1995 +A1: 2001

I, the undersigned, hereby declare that the equipment specified above conforms to the above
Directive(s) and Standard(s).

Signature:

A handwritten signature in black ink, appearing to read 'Peter Engel'.

Printed Name: Peter Engel

Title: Engineering Support