Russound

A / V DISTRIBUTION & CONTROL SYSTEMS

A-H484

SERVICE MANUAL

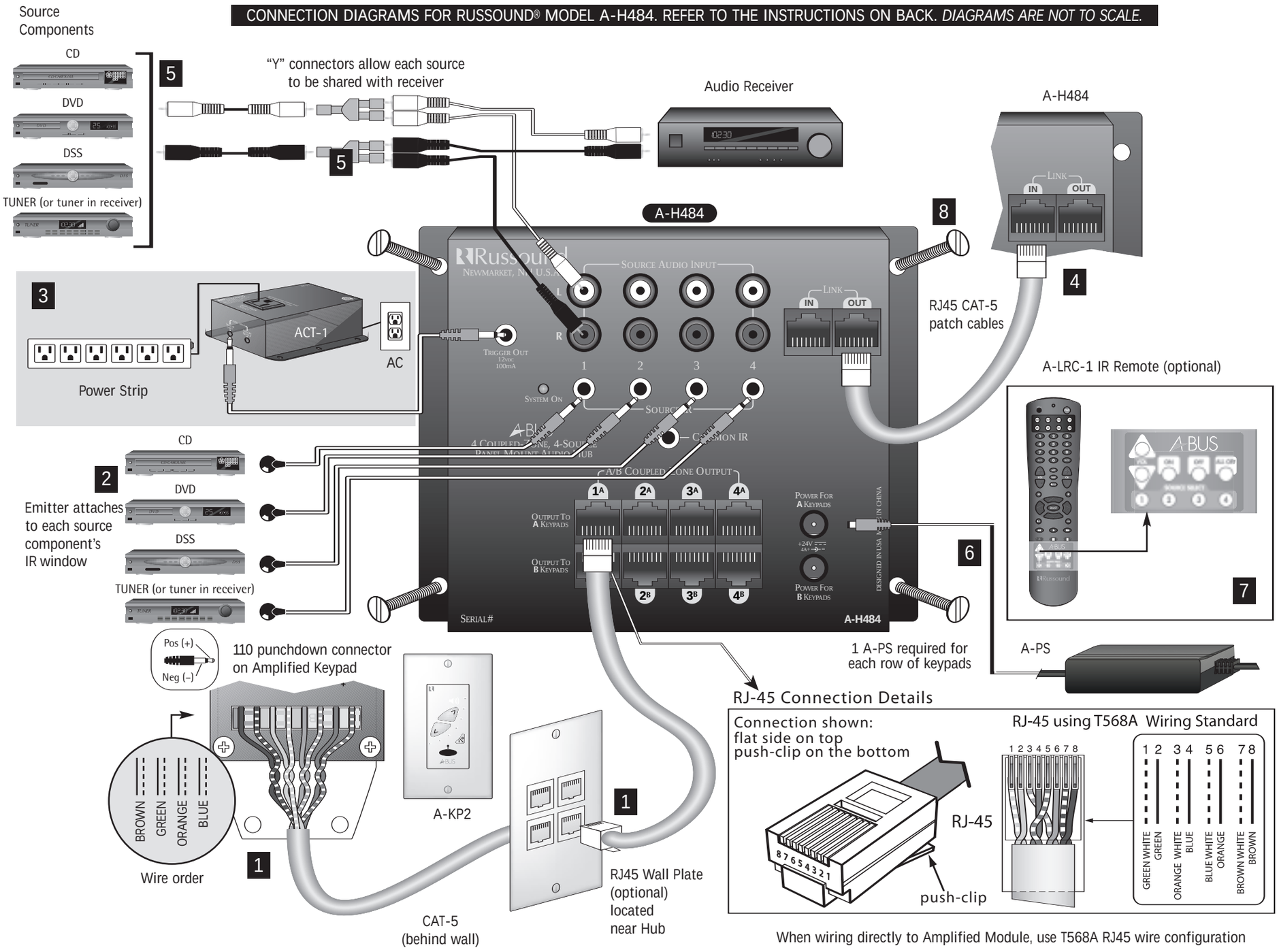
Safety Instructions:

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. Ventilation - The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
8. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
9. 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.
10. Grounding or Polarization - Precaution should be taken so that the grounding or polarization means of an appliance is not defeated.
11. Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, receptacles, and the point where they exit from the appliance.
12. 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.
13. Damage Requiring Service - The appliance should be serviced by qualified service personnel when:
    - A. The power supply cord or the plug has been damaged; or
    - B. Objects have fallen, liquid has been spilled into the appliance; or
    - C. The appliance has been exposed to rain; or
    - D. The appliance does not appear to operate normally; or
    - E. The appliance has been dropped or the enclosure is damaged.
14. 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.

Precautions:

1. Power – WARNING: BEFORE TURNING ON THE POWER FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY. All models are designed for use with either AC120V, 60Hz or AC240, 50Hz voltages. The unit will autoswitch to either of these voltages.
2. Do Not Touch The A-H1 With Wet Hands – Do not handle the AH-1 or power cord when your hands are wet or damp. If water or any other liquid enters the A-H1 cabinet, take the A-H1 to a qualified service person for inspection.
3. Care – From time to time you should wipe off the front and side panels of the cabinet with a soft cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since this may damage the finish or remove the panel lettering.

CONNECTION DIAGRAMS FOR RUSSOUND® MODEL A-H484. REFER TO THE INSTRUCTIONS ON BACK. *DIAGRAMS ARE NOT TO SCALE.*



When wiring directly to Amplified Module, use T568A RJ45 wire configuration

INSTRUCTIONS FOR CONNECTING AND USING RUSSOUND MODEL A-H484. REFER TO THE DIAGRAMS INSIDE.

1 AMPLIFIED KEYPADS

Coupled Zone Outputs. Each of the 4 zone outputs can support 2 Amplified Keypads connected via CAT-5 cable. For example, in Zone 1 you might use an A-KP2 amplified keypad (connector 1A) in the main room and one in a secondary area in the same zone (connector 1B). Source selection is shared by coupled zone outputs. A CAT-5 cable is used to connect each A-KP2 amplified keypad to a keypad output on the A-H484 Hub. 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 Keypad (see diagram). The Amplified Keypads 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 Keypad (i.e., not using an RJ45 Wall Plate) use T568A RJ45 wire configuration.

2 IR EMITTERS

Routed IR Outputs and Common IR Output. When a source is selected from a zone, the IR signal received through the zone's Keypad is routed exclusively to that source via the A-H484's Routed IR outputs. This allows the use of multiple sources of the same brand (for example, two identical DSS units). The Common IR output sends out all IR signals and can be used with an IR flasher that blankets all source components. (Model 845.1 emitters shown are not included.)

3 TRIGGER OUTPUT

12-Volt Trigger Output. The trigger output can be used to control a switched AC outlet, such as the Russound ACT-1, to turn power on and off to source equipment. The trigger voltage is sent when any zone in the system is turned on. When the ALL OFF command is used, the trigger is turned off. Use a 1/8" male 2-conductor jack (i.e., mini phono jack), not included.

4 LINK IN & LINK OUT

The Link In and Out is used to connect multiple A-H484 Hubs together, which allows for use of additional Amplified Keypads. The Link connects the Routed IR, Common IR, and status, but you must split the outputs of your source equipment to share the audio signals among multiple A-H484s. Use an RJ45 CAT-5 patch cable.

NOTE: The A-H484 is not recommended for use with the Russound CAV6.6 controller/amplifier.

5 SOURCES

Connect up to 4 audio sources, such as a CD/DVD player or DSS receiver. If the sources are connected to an existing home theater system, you can share them with the A-H484 by splitting their audio outputs with "Y" connectors (see diagram).

6 POWER SUPPLY

The A-H484 Hub and Amplified Keypads are powered by the A-PS 24 VDC power supply. Connect 1 Russound A-PS power supply to the A-H484 for each row (A and B) of 4 Amplified Keypads. The A-PS should be plugged into an unswitched AC outlet (one that is live all the time). When the A-PS is providing power, the A-H484's SYSTEM ON LED will illuminate, once an Amplified Keypad is turned on.

7 OPERATION

Using the optional A-LRC-1 IR remote control aimed at an A-KP2 keypad, press the ON button to turn on the keypad and the A-H484. Select the source that you would like to listen to using the 1 through 4 SOURCE SELECT buttons. Use the VOL rocker to adjust the volume, the OFF button to turn off the zone, and the ALL OFF button to turn off all zones as well as the A-H484. The A-H484 is designed to be used with A-KP2 Multi-Source capable Amplified Keypads. The A-KP2 power button will select sources when pressed after initial power on. "Press and Hold" turns the A-KP2 off and a subsequent "Press and Hold" turns the System off. If single source Amplified Keypads are used, such as the A-KP, the A-LRC1 remote control will be required to operate the A-H484 Hub.

8 MOUNTING

Mount the A-H484 near the source equipment using screws or hook and loop fastener. The A-H484 will also fit many structured wiring distribution panels.

A-BUS®

Model A-H484

Multi-Source, Multi-Zone Hub 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.

Rev. 1 04/19/04

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A/V DISTRIBUTION & CONTROL SYSTEMS
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A-H484 OVERVIEW

The A-H484 is an A-BUS 4-zone, 8-room, 4-source Audio Distribution Hub. Used with IR-repeating Amplified Keypads (e.g., A-KP2) and the A-LRC-1 remote, the A-H484 allows each of 4 zones to independently select any of 4 sources. Each of the 4 zones can support 2 Keypads, making it possible to create an 8-room system.

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-H484 KEY FEATURES

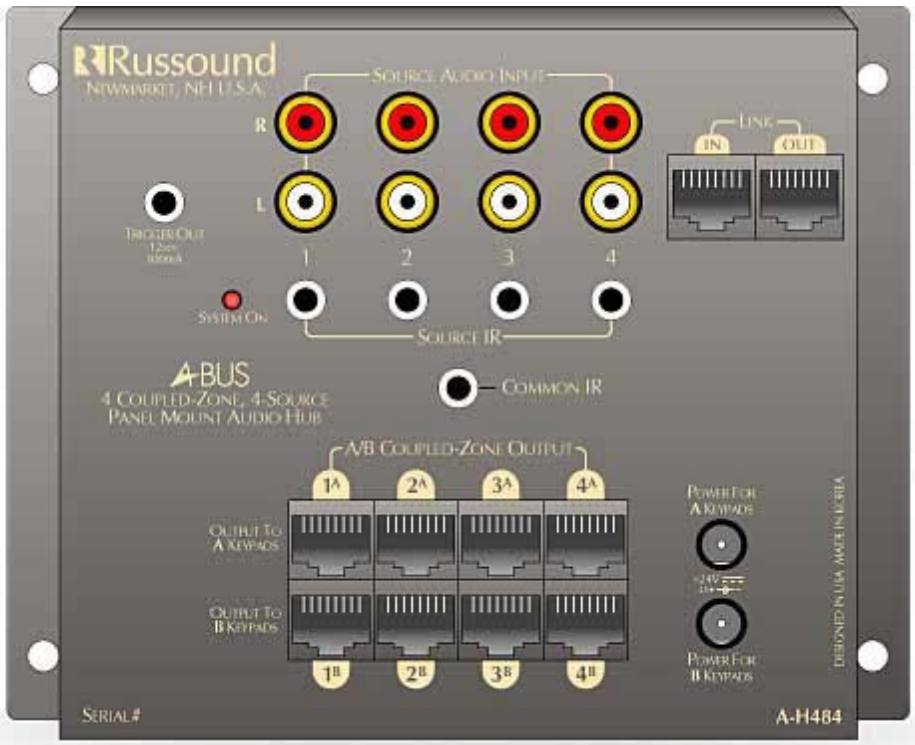
1) Four line-level audio inputs
2) 4 Routed IR outputs (1 for each source); 1 Common IR output
3) 12-volt trigger output
4) Link In and Out
5) 4-zone coupled outputs (for 2 keypads per zone)
6) Dual power supply inputs (use 1 A-PS per 4 Amplified Keypads)
7) IR remote controlled
8) Compact size for mounting near audio equipment

A-H484 SPECIFICATIONS

Power Supply:	A-PS. 24VDC/2.5A. One for each bank A and B.
Trigger Output:	12VDC/100mA. 1/8" Male. Tip (+), sleeve (–)
Keypad Connection:	RJ-45 T568A Standard
Link Connection:	RJ-45 T568A Standard
Emitter Connections:	1/8" Male. Tip (+), sleeve (–)
Dimensions:	6.5"W x 5"H x 1.5"D (165x127x38mm)
Weight:	1lb. 12oz. (795g)

LIMITED WARRANTY

The Russound A-H484 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 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.



A-H484 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
DVD Player
2 A-KP2 MS
A-KP2 Instruction Manual
2 A-PS
Speakers
2 845.1
A-LRC1 Remote
MOD-RJ45CAT5 Connectors female
Patch Cable-Cat 5 (up to 350Mhz)
1 A-H484
A-H484 Instruction Manual

Inspection: Inspect Sheet Metal for scratches.
Inspect screening for correct labeling.

Set Up:
NOTE: REFER TO DIAGRAMS FOR ASSISTANCE WITH CORRECT SETUP.

Keypad Test:

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 "Multi" position.
5. Connect the first 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. Connect a second 845.1 to the Common IR port on the A-H484 and to a DVD player.
8. Ensure the A-KP2 MS is in the Status Enabled position.
9. Connect the speakers to the Speaker Out (L+ L- R- R+) of the A-KP2 MS.
10. Plug in the A-PS power supply to an AC outlet.
11. Use the remote to turn the system on through the Keypad 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 be lit and the Keypad should turn on.
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. Turn on the A-KP. The "System On" LED on the A-H484 should turn on as well as the Keypad and the Status/IR LED on the Keypad. Ensure that there is 12VDC at the Trigger Out on the A-H484. Whenever the "System On" LED is on there should be 12VDC present.

14. Press and hold the Keypad on/off button until the Keypad turns off. Only the Keypad should turn off. The Status/IR LED and the "System On" LED should remain lit.
15. Press and hold the Keypad on/off button until the "System On" LED on the A-H484 turns off, the Keypad should also turn off. The Status/IR LED should turn off as well. Ensure that there is not 12VDC at the Trigger Out on the A-H484. Whenever that "System On" LED is out 12VDC should not be present.
16. Turn on the Keypad. The Keypad and A-H484 should both turn on.
17. Scroll through all four sources using the Keypad to select sources. This is done by a press and release on the on/off button on the Keypad. Select source one.
18. Turn the volume up and down using the Keypad. Ensure the volume from both speakers goes up and down together.
19. Turn off the Keypad by pressing "Off" on the A-LRC 1. Only the Keypad should turn off. The Status/IR LED and the "System On" LED on the A-H484 should still be lit.
20. Turn Keypad on.

Source IR Test:

1. Move CD IR emitter to Source 1 IR port.
2. Select Source 1. Control the CD player.
3. Control the DVD player.
4. Move the CD IR emitter to Source IR port 2.
5. Try controlling the CD player. This should not be possible.
6. Move the emitter to Source IR port 3.
7. Try controlling the CD player. This should not be possible.
8. Move the emitter to Source IR port 4.
9. Try controlling the CD player. This should not be possible.
10. Select Source 2 on the Keypad and repeat IR Test.
11. Repeat steps 2 through 10. The CD player should only be controlled when the emitter is in the selected IR source.
12. Repeat for Source IR ports 2, 3, and 4.

Audio Source Test:

1. Turn on the Keypad.
2. Using the remote select Source 1 through the Keypad. The audio should be heard through the speakers.
3. Scroll through all four sources using the Keypad. The audio should only be heard when Source 1 is selected.
4. Detach left source 1 input. Audio should only be heard through right speaker.
5. Attach left source 1 input.
6. Detach right source 1 input. Audio should only be heard through left speaker.
7. Move the CD player to Source Inputs 2, 3, and 4 on the A-H484. The audio should only be heard in Source 1.

8. Using the A-LRC1 remote select Source 2 through the Keypad. The audio should be heard through the speakers.
9. Repeat Steps 3 through 8 for Source Audio Inputs 2 through 4.
10. Turn System off.

Move A-KP2 to Keypad Output 2A.
Repeat Keypad Test
Repeat Source IR Test
Repeat Keypad/Audio Source Test

Unplug the A-PS power supply from the A-H484.
Plug in the A-PS power supply at Power For "**B"** Keypads.

Test procedure for the "B" Keypads.

For each "B" Keypad perform the following:

1. Control an IR device from any port.
2. Select a Source Input using the Keypad and be able to hear the Audio from the A-KP.
3. Perform All Off using the remote and Keypad.

Link Test

1. Using a Patch Cable connect from Link Out on the first A-H484 to a second A-H484 at Link In.
2. Attach an A-KP2 to the second A-H484.
3. Attach an A-PS to Power for A Keypads on the second A-H484.
4. Attach the CD IR emitter to IR port 2 on the first A-H484. Select Source 2 with the A-KP2 attached to the second A-H484, control the CD player.
5. Move the CD IR emitter to IR port 3 on the second A-H484. Select Source 3 with the A-KP2 attached to the first A-H484, control the CD player.
6. Turn off both systems using the All Off function from the Keypad attached to the second A-H484. Turn on the system using the same Keypad.
7. Turn off both systems using the All Off function from the Keypad attached to the first A-H484. Turn on the system using the same Keypad.
8. TAKE THE A-H484s AND REVERSE THEM. REPEAT LINK TEST. ENSURE THE TEST PROCEDURE IS COMPLETE.

6/5/2002
Poe

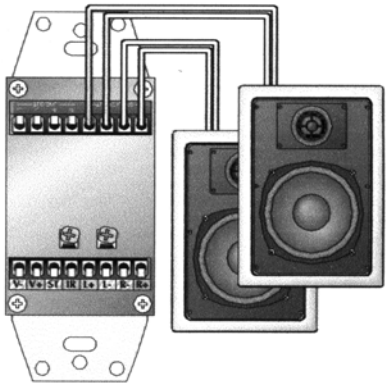
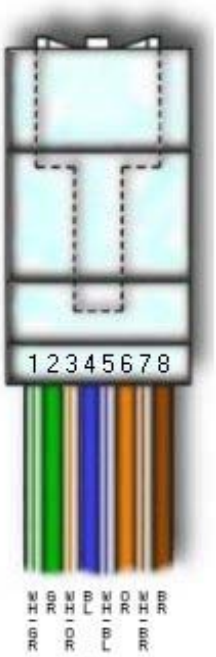


DIAGRAM 5.

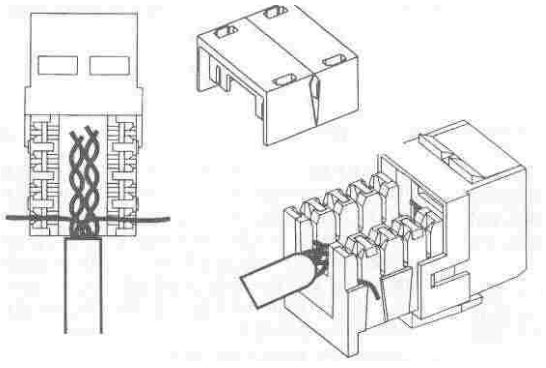
DIAGRAMS 1.

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



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 DIARGRAM ALSO WRITTEN ON SIDE OF MOD-RJ45CAT5 PLATEMATE CONNECTOR.



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

REV.1

NAME	SCHEMATIC DIAGRAM	
MODEL NO	A-H4R4	
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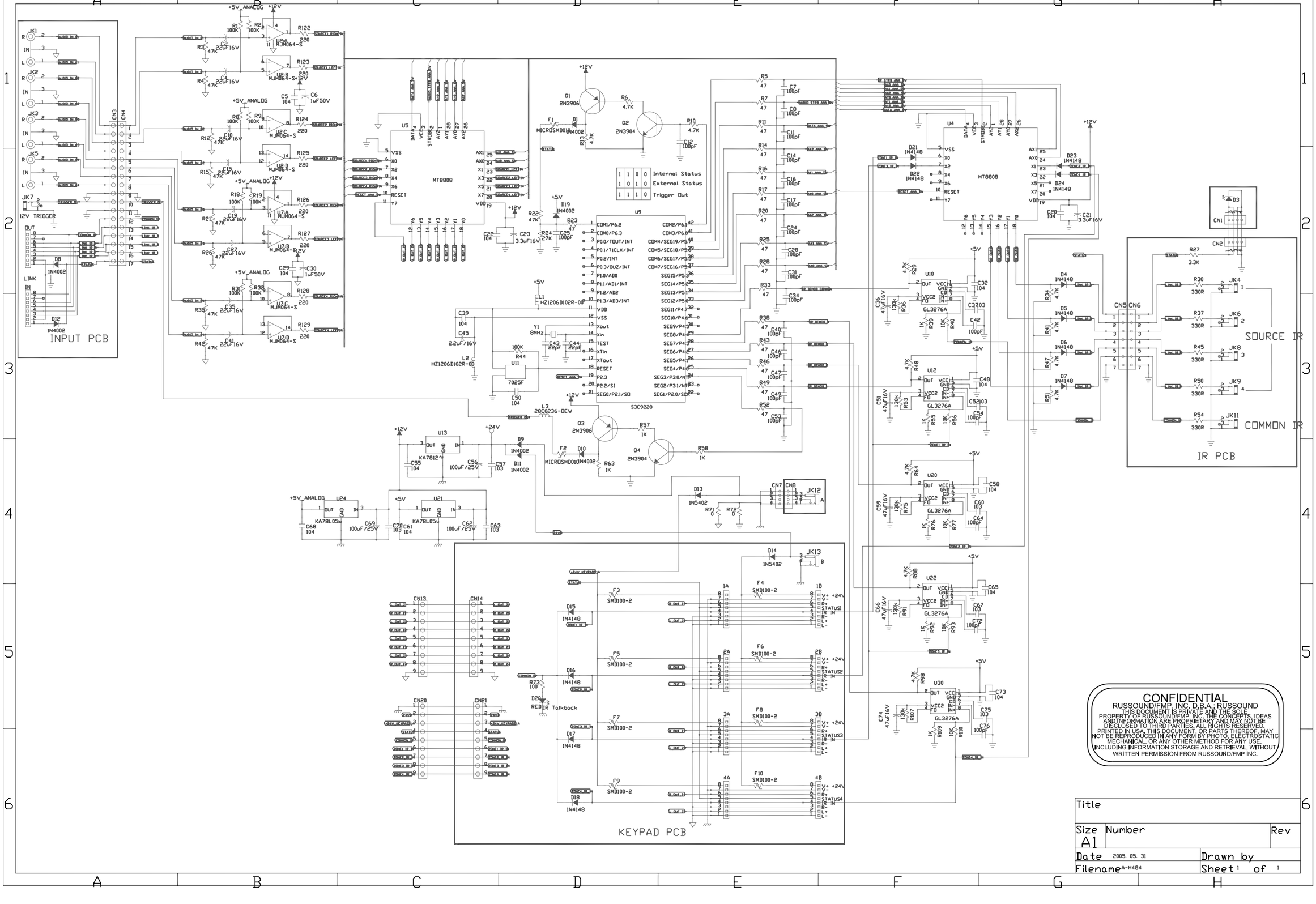
. . . .	. . . .	2004 04 24


INPUT PCB
KEYPAD PCB
IR PCB
SOURCE IR
COMMON IR
MT8808
S3C9228
Internal Status
External Status
Trigger Out
12V TRIGGER
LINK
CONFIDENTIAL
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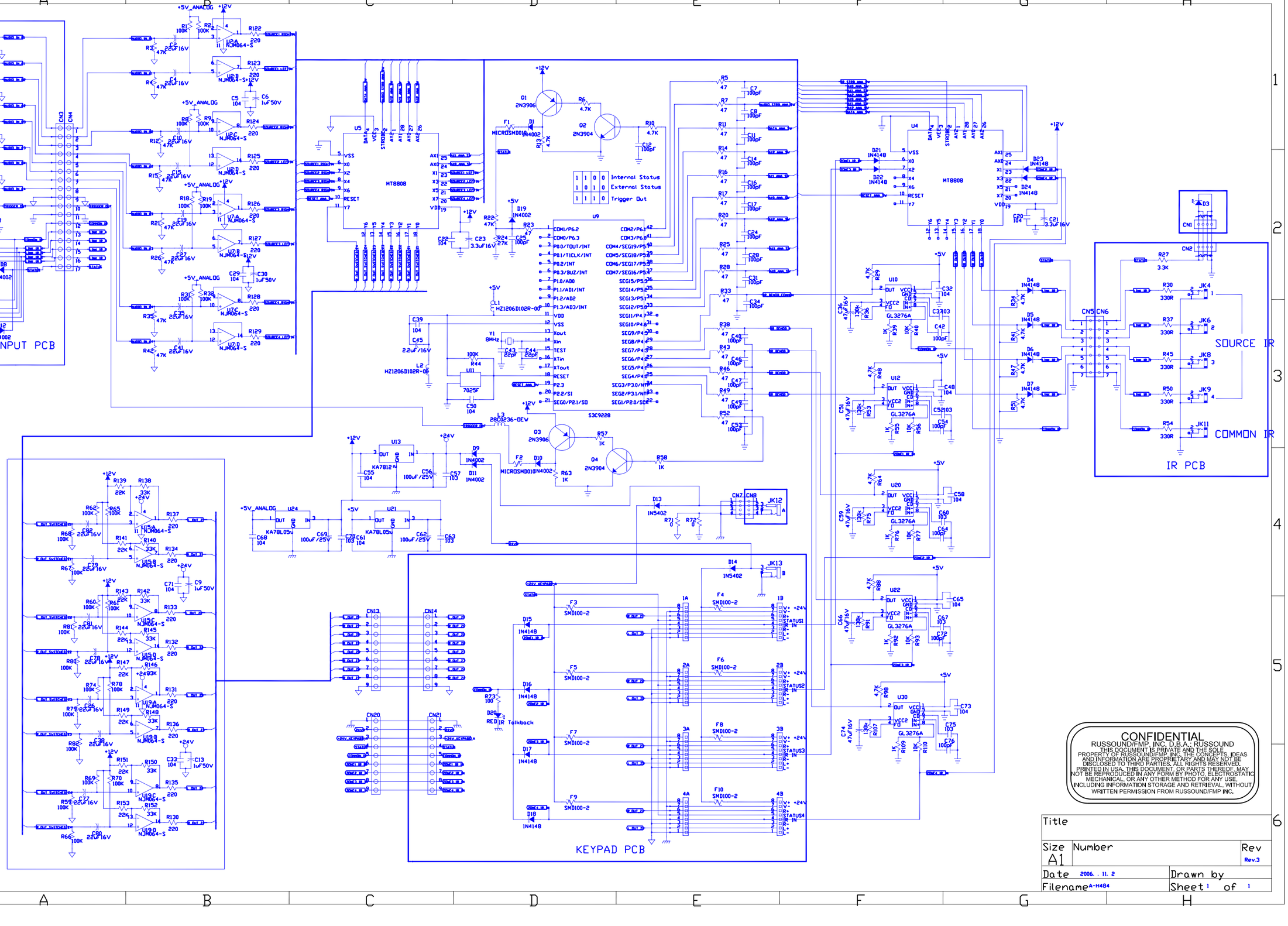
Size A1
Number
Rev
Date 2005. 05. 31
Drawn by
Filename A-H484
Sheet 1 of 1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IR PCB
KEYPAD PCB
SOURCE IR
COMMON IR
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S3C9228
NJM064-S
KA78L05U
KA7812
SMD100-2
Internal Status
External Status
Trigger Out
12V TRIGGER
LINK
RED IR Talkback
CONFIDENTIAL
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Number
Rev Rev.3
Date 2006. 11. 2
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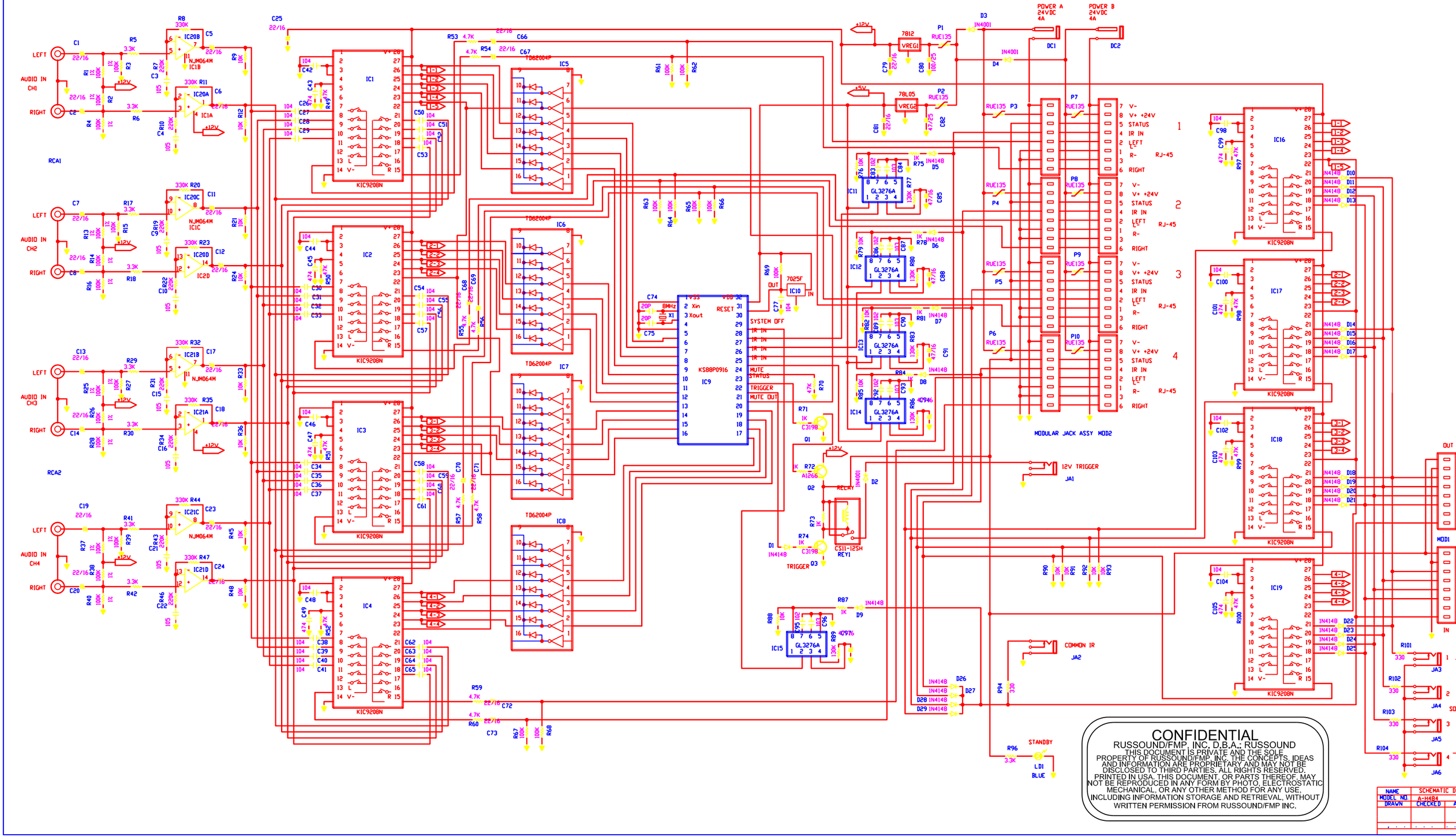
Sheet 1 of 1



NAME	SCHEMATIC DIAGRAM	
MODEL NO.	A-M484	
DRAWN	CHECKED	APPROVE

INPUT PCB

IR PCB

KEYPAD PCB

SOURCE IR

COMMON IR

1	1	0	0	Internal Status
1	0	1	0	External Status
1	1	1	0	Trigger Out

Title		
Size A1	Number	Rev 4
Date 2007.08.29		Drawn by
Filename A-H484N_REV4		Sheet 1 of 1

A-H484N Rev 2

1	A-H484-2AZ	ASS'Y CHASSIS	EA	1
2	KLC7D-AH484	CHASSIS TOP A-H484	EA	1
3	KLC9D-AH484	CHASSIS BOTTOM A-H484	EA	1
4	KQMP3X6BK	SCREW M/S PH 3X6BK NO.31	EA	8
5	KQT2B3X8BK	SCREW T/S BH2 3X8BK NO.66	EA	2
6	KQT2P3X8BK	SCREW T/S PH2 3X8BK NO.101	EA	2
7	A-H484N-3AZ	ASS'Y INSERT(¼ö»ð)	EA	1
8	BEU7D-CAV66-1	FERRITE BEAD 28C0236-OEW	EA	1
9	KBH3D400-2	H-SINK-SUB (¼Ò)PIN CH2000éÄ	EA	1
10	KECE1CA220	CAP ELEC 16V22UF RSM(4X7)	EA	8
11	KECE1EB101	CAP ELEC 25V 100UF RSS	EA	3
12	KECE1HA010	CAP ELEC 50V1UF RSM	EA	2
13	KECE1HA2R2	CAP ELEC 50V2.2UF RSM	EA	1
14	KECE1HA3R3	CAP ELEC 50V 3.3UF RSM	EA	2
15	KED1N5402	DIODE RECTIFIER IN5402	EA	2
16	KEIKA78L05AZ	IC KA78L05AZ	EA	2
17	KEIKA78T12	IC KA78T12	EA	1
18	KEIS3P9228AZZ	IC S3P9228AZZ-AQB8	EA	1
19	KEJD200	JACK DC DHP-200	EA	1
20	KEJE3803502	JACK MONO TC38-035-02	EA	6
21	KEJM3020S	JACK MODULAR 59-2X4-T	EA	1
22	KEJM8811-2P	JACK MODULAR SL011-8811-2	EA	1
23	KEJR0400720-G	JACK RCA JA0400720 GOLD	EA	2
24	KELR342VR3	LED SLR 342VR3 RED	EA	1
25	KEQ8.000M-1	CRYSTAL 8MHZ	EA	1
26	KEW1D0640-42	SOCKET IC 42 PIN	EA	1
27	KEW1D25407-RS	TERMINAL(PINHEADER)SMRH254-S7	EA	1
28	KEW1D25409-RS	TERMINAL(PINHEADER)SMRH254-S9	EA	2
29	KEW1D25417-RS	TERMINAL(PINHEAD)SMRH254-S17G	EA	1
30	KOFI47X12	PLATE INSULATION 47X12X0.1T	EA	1
31	KOFP4020	PLATE ACRYL 40X20X3T	EA	1
32	A-H484N-3DAZ	ASS'Y INSERT(¼ö»ð) DC-JACK PCB	EA	1
33	KEJD221-2.0	JACK DC DS-221-2.0	EA	1
34	KEP6D-AH484N	PCB A-H484N DC JACK	EA	1
35	KEW1D25404-RS	TERMINAL(PINHEADER)SMRH254-S4	EA	1
36	A-H484N-3LAZ	ASS'Y INSERT(¼ö»ð) LED PCB	EA	1
37	BPH1D-AKP1	HOLDER LED A-KP¿ë	EA	1
38	KELB304W-5	LED YLB-304W-5(BLUE)	EA	1
39	KEP11D-AH484N	PCB A-H484N LED	EA	1

40	KEW1D25404-RD	TERMINAL(PINHEADER)SMRH254-D4	EA	1
41	**A-H484N-5AZ**	**ASS'Y PACKING**	**EA**	**1**
42	KFPT50X50	TAPE PACKING	M	1
43	KHP-AH484C	PAD SNOW A-H484 C/T 430X370	EA	0.1
44	KHP-AH484G	PAD SNOW A-H484 G/B 200X170X8	EA	2
45	KKAC30H	ALCOHOL	KG	0.03
46	KMB2D-AH484-1	BOX GIFT A-H484	EA	1
47	KMB5D-AH484-1	BOX CARTON A-H484	EA	0.05
48	KMC2D-AH484	MANUAL A-H484	EA	1
49	KML19D-RUSSOU	LABEL PATENT RUSSOUND	EA	1
50	KML3D-ABUS	LABEL SERIAL A-BUS	EA	1
51	KML9D-ABUS	LABEL SERIAL BARCODE A-BUS	EA	1
52	KML9D-REV.2	LABEL REV.2 GIFT	EA	2
53	KML9D-REV.2-1	LABEL REV.2 C/T	EA	1
54	KMP3D-AH484	PAD SET A-H484	EA	1
55	KVB200X260	POLY BAG 200X260	EA	1
56	**A-H484N-6AZ**	**ASS'Y INSERT(SMD)**	**EA**	**1**
57	BEIMT8808AP	IC MT8808AP (28PIN PLCC)	EA	2
58	BEINJM064M	IC NJM064M	EA	2
59	BEU7D-CAV6.6	FERRITE BEAD HZ1206D102R-00	EA	2
60	KECC1C101K-S	CAP CERAMIC CHIP(2012) 100P	EA	22
61	KECC1C103K-S	CAP CERAMIC CHIP(2012) 103K	EA	8
62	KECC1C104K-S	CAPACITOR CHIP(2012) 0.1UF	EA	14
63	KECC1C220K-S	CAP CERAMIC CHIP 22P(2012)	EA	2
64	KECE1CB470-S	CAP ELEC 16V 47UF CHIP	EA	5
65	KED1N4002MF1	DIODE 1N4002 (MELF)	EA	7
66	KED1N4148-S	DIODE 1N4148(SMD-MELF TYPE)	EA	12
67	KEIGL3276AD	IC GL3276AD	EA	5
68	KEIKIA7025AF	IC KIA7025AF	EA	1
69	KEP8D-AH484N	PCB A-H484N	EA	1
70	KEPSMICRSMDC0	POLY SW MICROSMDC010(PTC)	EA	2
71	KEPSSMD100-2	POLY SW SMD100-2	EA	8
72	KERC10SJ0R0	RES CHIP(2012) 1/10W 0OHM	EA	2
73	KERC10SJ101	RES CHIP(2012) 1/10W 100OHM	EA	1
74	KERC10SJ102	RES CHIP(2012) 1/10W 1K	EA	8
75	KERC10SJ103	RES CHIP(2012) 1/10W 10K	EA	5
76	KERC10SJ104	RES CHIP(2012) 1/10W 100K	EA	9
77	KERC10SJ134	RES CHIP(2012) 1/10W 130K	EA	5
78	KERC10SJ221	RES CHIP(2012) 1/10W 220OHM	EA	8
79	KERC10SJ273	RES CHIP(2012) 1/10W 27K	EA	1
80	KERC10SJ331	RES CHIP(2012) 1/10W 330OHM	EA	5
81	KERC10SJ332	RES CHIP(2012) 1/10W 3.3K	EA	1

82	KERC10SJ470	RES CHIP(2012) 1/10W 47OHM	EA	16
83	KERC10SJ472	RES CHIP(2012) 1/10W 4.7K	EA	12
84	KERC10SJ473	RES CHIP(2012) 1/10W 47K	EA	9
85	KET2N3904Y	TR 2N3904Y SOT-23	EA	2
86	KET2N3906Y	TR 2N3906Y SOT-23	EA	2

A-H484 Rev.3 BOM

No	Part number	Description	Q'ty	Location
2	KLC7D-AH484	CHASSIS TOP A-H484	1	
3	KLC9D-AH484	CHASSIS BOTTOM A-H484	1	
4	KQMP3X6BK	SCREW M/S PH 3X6BK NO.31	4	
5	KQT2B3X6BK	SCREW T/S BH2 3X6BK NO.65	4	
6	KQT2B3X8BK	SCREW T/S BH2 3X8BK NO.66	2	
7	KQT2P3X8BK	SCREW T/S PH2 3X8BK NO.101	2	
9	KCS1D5000	SILICAGEL 5G	1	
10	KFPT50X50	TAPE PACKING	1	
11	KHP-AH484C	PAD SNOW A-H484 C/T 430X370	0.1	
12	KHP-AH484G	PAD SNOW A-H484 G/B 200X170X	2	
13	KKAC30H	ALCOHOL	0.03	
14	KMB2D-AH484-1	BOX GIFT A-H484	1	
15	KMB5D-AH484-1	BOX CARTON A-H484	0.05	
16	KMC2D-AH484	MANUAL A-H484	1	
17	KML19D-RUSSOUN	LABEL PATENT RUSSOUND	1	
18	KML3D-ABUS	LABEL SERIAL A-BUS	1	
19	KML9D-ABUS	LABEL SERIAL BARCODE A-BUS	1	
20	KML9D-REV.3	LABEL REV.3 G,IN/BOX	2	
21	KML9D-REV.3-1	LABEL REV.3 C/T	1	
22	KMP3D-AH484	PAD SET A-H484	1	
23	KVB200X260	POLY BAG 200X260	1	
25	BEU7D-CAV66-1	FERRITE BEAD 28C0236-OEW	1	
26	KBH3D400-2	H-SINK-SUB (소)PIN CH2000用	1	
27	KECE1CA220	CAP ELEC 16V22UF RSM(4X7)	16	
28	KECE1EB101	CAP ELEC 25V 100UF RSS	3	
29	KECE1HA010	CAP ELEC 50V1UF RSM	4	
30	KECE1HA2R2	CAP ELEC 50V2.2UF RSM	1	
31	KECE1HA3R3	CAP ELEC 50V 3.3UF RSM	2	
32	KED1N5402	DIODE RECTIFIER IN5402	2	
33	KEIKA78L05AZ	IC KA78L05AZ	2	
34	KEIKA78T12	IC KA78T12	1	
35	KEIS3P9228AZZ	IC S3P9228AZZ-AQB8	1	
36	KEJD200	JACK DC DHP-200	1	
37	KEJE3803502	JACK MONO TC38-035-02	6	
38	KEJM3020S	JACK MODULAR 59-2X4-T	1	
39	KEJM8811-2P	JACK MODULAR SL011-8811-2	1	

40	KEJR0400720-G	JACK RCA JA0400720 GOLD	2	
41	KELR342VR3	LED SLR 342VR3 RED	1	
42	KEQ8.000M-1	CRYSTAL 8MHZ	1	
43	KEW1D0640-42	SOCKET IC 42 PIN	1	
44	KEW1D25407-RS	TERMINAL(PINHEADER)SMRH254	1	
45	KEW1D25409-RS	TERMINAL(PINHEADER)SMRH254	2	
46	KEW1D25417-RS	TERMINAL(PINHEAD)SMRH254-S1	1	
47	KOFI47X12	PLATE INSULATION 47X12X0.1T	1	
48	KOFP4020	PLATE ACRYL 40X20X3T	1	
49	KQT2P3X6BK	SCREW T/S PH2 3X6BK NO.99	1	
50	A-H484N-3DAZ	ASS'Y INSERT(수삽)DC-JAC	1	
51	KEJD221-2.0	JACK DC DS-221-2.0	1	
52	KEP6D-AH484N	PCB A-H484N DC JACK	1	
53	KEW1D25404-RS	TERMINAL(PINHEADER)SMRH254	1	
54	A-H484N-3LAZ	ASS'Y INSERT(수삽)LED PC	1	
55	BPH1D-AKP1	HOLDER LED A-KP佥	1	
56	KELB304W-5	LED YLB-304W-5(BLUE)	1	
57	KEP11D-AH484N	PCB A-H484N LED	1	
58	KEW1D25404-RD	TERMINAL(PINHEADER)SMRH254	1	
60	BEIMT8808AP	IC MT8808AP (28PIN PLCC)	2	U4,5
61	BEINJM064M	IC NJM064M	4	U15,19,2,7
62	BEU7D-CAV6.6	FERRITE BEAD HZ1206D102R-00	2	L1,2
63	KECC1C101K-S	CAP CERAMIC CHIP(2012) 100P	22	C14,16,17,24,25,28,31,34,40,42,46,47 C49,53,54,64,72,76,7,8,11,12
64	KECC1C103K-S	CAP CERAMIC CHIP(2012) 103K	8	C37,52,57,60,63,67,70,75
65	KECC1C104K-S	CAPACITOR CHIP(2012) 0.1UF	16	29,32,39,33,71,48,50,55,5,20,22 C58,61,65,68,73
66	KECC1C220K-S	CAP CERAMIC CHIP 22P(2012)	2	C43,44
67	KECE1CB470-S	CAP ELEC 16V 47UF CHIP	5	C36,51,59,66,74
68	KED1N4002MF1	DIODE 1N4002 (MELF)	7	D1,8,9,10,11,12,19
69	KED1N4148-S	DIODE 1N4148(SMD-MELF TYPE)	12	D15,16,17,18,21,22,23,24,4,5,6,7
70	KEIGL3276AD	IC GL3276AD	5	U10,12,20,22,30
71	KEIKIA7025AF	IC KIA7025AF	1	U11
72	KEP8D-AH484N	PCB A-H484N	1	PCB1
73	KEPSMICRSMDC01	POLY SW MICROSMDC010(PTC)	2	F1,2
74	KEPSSMD100-2	POLY SW SMD100-2	8	F3,4,5,6,7,8,9,10
75	KERC10SJ0R0	RES CHIP(2012) 1/10W 0OHM	2	R71,72
76	KERC10SJ101	RES CHIP(2012) 1/10W 100OHM	1	R73

77	KERC10SJ102	RES CHIP(2012) 1/10W 1K	8	R39,55,57,58,63,76,92,109
78	KERC10SJ103	RES CHIP(2012) 1/10W 10K	5	R40,56,77,93,110
79	KERC10SJ104	RES CHIP(2012) 1/10W 100K	25	R1,2,8,9,18,19,31,32,44,65,60,61
				R67,68,62,69,70,59,66,78,82,79,80,81,7
80	KERC10SJ134	RES CHIP(2012) 1/10W 130K	5	R35,53,75,91,107
81	KERC10SJ221	RES CHIP(2012) 1/10W 220OHM	16	R122,123,124,125,126,127,128,129
				R1230,135,136,131,132,133,134,137
82	KERC10SJ223	RES CHIP(2012) 1/10W 22K	8	R139,141,R143,144,147,149,151,153
83	KERC10SJ273	RES CHIP(2012) 1/10W 27K	1	R24
84	KERC10SJ331	RES CHIP(2012) 1/10W 330OHM	5	R30,37,45,50,54
85	KERC10SJ332	RES CHIP(2012) 1/10W 3.3K	1	R27
86	KERC10SJ333	RES CHIP(2012) 1/10W 33K	8	R140,138,145,142,148,146,152,150
87	KERC10SJ470	RES CHIP(2012) 1/10W 47OHM	16	R16,17,20,23,25,28,33,38,43
				R46,49,52,5,7,11,14
88	KERC10SJ472	RES CHIP(2012) 1/10W 4.7K	12	R29,34,41,47,48,51,6,10,13,64,88,98
89	KERC10SJ473	RES CHIP(2012) 1/10W 47K	9	R21,22,26,3,4,12,15,35,42
90	KET2N3904Y	TR 2N3904Y SOT-23	2	Q2,4
91	KET2N3906Y	TR 2N3906Y SOT-23	2	Q1,3

IEC IECEE CB SCHEME

COPY

Ref. Certif. No.

US - TUVR - 2864

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	4 Coupled-Zone 4 Source Panel Mount Audio Hub
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*	☒ Additional Information on page 2
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	☒ Additional Information on page 2
Trademark (if any) Marque de fabrique (si elle existe)	A-BUS®
Model / Type Ref. Ref. De type	A-H484
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: AR, AT, AU, BE, CA, CH, CN, CZ, DE, DK, ES, FI, FR, GB, HU, IE, IL, IN, IT, MY, NL, NO, PL, PT, RU, SE, SI, SK, TR, 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, 6th Edition (1998)
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	30581847.001

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: March 02, 2006

Signature: Dipl.-Ing. M. Raap

IEC | IECEE CB SCHEME

COPY

Ref. Certif. No.

US-TUVR-2864

Name of the applicant
Nom du demandeur

Russound / FMP, Inc.

Additional Information:

I. Names and addresses of the factories:

1. Duck Jean
   97B-7L. #664-6
   Go-Jan-Dong,
   Namdong-Ku, Inchon, Korea

2. Wildwood Musical Instrument (Tianjin) Co.,Ltd.
   Jin-nan Economic Development Area
   Jin-nan District, Tianjin, China 300350

II. Ratings and principal characteristics:

DC 24V, 2.5A (Keypads)

Protection Class III

Test Report Ref. No.
which form part of this certificate
Rapport d'essais numéro
de reférence
qui constitue une partie de ce certificat

30581847.001

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:
March 02, 2006

Signature:

Dipl.- Ing. M. Raap

- Zweitschrift (Copy) -

Certificate

TÜV

Certificate no. CU 72060397 01

License Holder:
Russound/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-BB 30581847 002
Client Reference: John Cronk
Tested to: UL 6500:1999 R8.01b
CAN/CSA E60065-00

Certified Product: 4 Coupled-Zone 4 Source Panel Mount Audio Hub **License Fee - Units**

Model Designation: ABUS A-H484 7

Rated Voltage: DC 24V (keypad)
Rated Current: 2.5A (keypad)
Protection Class: III

7

Appendix: 1

Inh. = 740859 / Deb. = 740859 / Fert. = 750306

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)
27/02/2006

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

Test Report Number: 30561429.001 Russound A-H484.doc — Test Report Summary

Prüfbericht 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 System		
Model Number: Bezeichnung:	A-H484 Rev 1 and Rev 2	**Trademark:** Ursprungszeichen :	Russound
Standards: Prufgrundlage:	See Below	**Date Of Testing:**	June 1st – 9th, 2005

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 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	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: Prüfort:
TUV Rheinland of North America
12 Commerce Road
Newtown, CT 06470 USA

E-mail: info-new@tuv.com
Phone: (203) 426-0888
Web: http://www.tuv.com
Fax: (203) 429-4009

NVLAP

NVLAP LAB CODE 200111-0

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**
10JUN2005		10JUN2005	
Date, Signature Datum, Unterschrift		**Date, Signature** Datum, Unterschrift	

Russound®

CE

DECLARATION OF CONFORMITY

Manufacturer's Name: Russound

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

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

Equipment Model Designation: A-H484 (includes the A-PS Power Supply).

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:**
IEC60065: 1998	EN 55020: 2002
EN60065: 1998	EN 61000-4-2: 1995
	EN 61000-4-3: 1995
	ENV 50204: 1995
	EN 61000-4-4: 1995
	EN 61000-4-6: 1996
	EN 55013: 2001
	EN 55022: 1998 + A1: 2000
	FCC Part 15
	EN 61000-3-2: 2001
	EN 61000-3-3: 1995

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

Signature:

Printed Name: John Cronk

Title: Engineering Manager

03/08/06