

SPHERE™

E-Series

Installation Manual

RF Remote Control

RFR-E5

Premier products for Russound
Sphere™ Certified Professionals

R Russound®

SAFETY INSTRUCTIONS



WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

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

Safety Instructions:

For your safety, please read and follow these precautions before installing or using this product:

1. Read instructions. Read and understand the applicable instructions before installing or operating the product.
2. Retain instructions. Keep this manual in a convenient place for reference.
3. Heed warnings. Be aware and heed all warnings on the product and in the instructions.
4. Follow instructions. Install and use this product only as described in the instructions. Don't try to use this product in ways it wasn't designed for.
5. Use indoors only. Don't expose this product to the weather or harsh environmental conditions such as continuous sunlight, excessive humidity, or rain.
6. Keep product dry. Don't use the product near water; e.g., near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool. Do not handle the product when hands are wet or damp.
7. Avoid heat. Locate the product away from heat sources such as radiators, heat registers, stoves or other appliances (including amplifiers) that produce heat.
8. Use the right power source. Don't connect the product directly to electrical line voltage. Use only the power adapter provided with the product, described in the operating instructions, or as marked on the product.
9. Ground product properly. Make sure the product's means of grounding or polarization is not defeated.
10. 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.
11. Non-use Periods. The power cord of the appliance should be unplugged from the outlet when left unused for a long

period of time. To remove all power (supply mains) from the appliance, remove the plug from the wall outlet and remove batteries from the handset.

12. Keep product clean. From time to time, wipe off the product with a clean soft cloth. Don't use abrasive materials, thinners, alcohol, or chemical solvents.
13. Avoid spills and foreign objects. Make sure liquids and objects don't get into the product enclosure through any openings.
14. Get professional service. Have the product serviced only by qualified service personnel when: a) The power supply cord or the plug has been damaged; b) Liquids have spilled or objects have fallen into the product; c) The product has been exposed to rain; d) The product doesn't operate normally or is damaged

Don't attempt to service the product yourself. Doing so will void the warranty.

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

Compliance Statement (Part 15.19):

This hardware device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Warning (Part 15.21):

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Interference Statement (Part 15.105 (b)):

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) reorient or relocate the receiving antenna; 2) increase the separation between the equipment and the receiver; 3) connect the equipment to an outlet on a circuit different from that to which the receiver is connected;

4) consult the dealer or an experienced radio/TV technician for help.

Section 7.1.5 of RSS-GEN:

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation of the device.

RF Exposure Compliance - Cradle Charger

To comply with FCC and Industry Canada RF exposure limits for general population/uncontrolled exposure, the charging cradle must be installed to provide a separation distance of at least 7.9 in (20 cm) from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

RF Exposure Compliance - RF Handset (Handheld Remote)

To comply with FCC and Industry Canada RF exposure limits for general population/uncontrolled exposure, the handheld remote must be operated only in the hand to provide a separation distance of at least 7.9 in (20 cm) from the body (excluding the hand and the wrist) and must not be co-located or operating in conjunction with any other antenna or transmitter.

Battery Use and Disposal Instructions:

CAUTION: the battery in used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble, expose the to heat above 70 degrees C (158 degrees F), incinerate, or immerse in water or liquid of any kind. Do not use or charge the battery if it appears to be leaking, discolored, deformed, or in any way abnormal. Do not leave your battery discharged or unused for extended periods of time. When the battery is misused, it may explode or leak, causing burns or other personal injury. If the battery leaks, use normal precaution and discard it immediately following the laws and regulations governing battery disposal in your area. Remember that a leaking battery can caused skin burns or other personal injury. Keep this an all batteries out of the reach of children. Risk of explosion if battery is replaced with an incorrect battery type.



Conforms to
UL60065
Certified to
CAN/CSA
IEC60065

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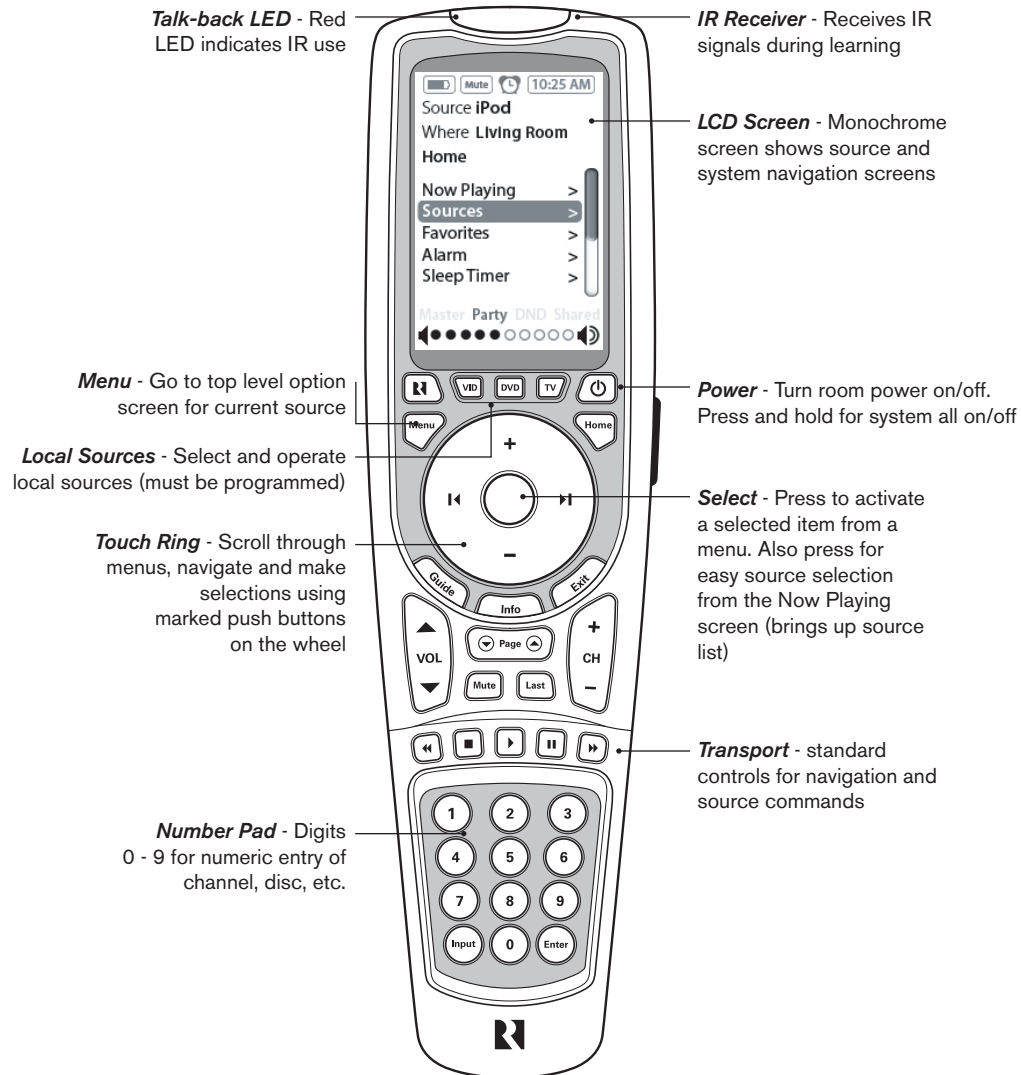
PRODUCT OVERVIEW

The RFR-E5 is an advanced radio frequency remote control that operates E-series controller systems. This sleek hand-held control rests in a charging cradle that serves as the connection between the controller and the remote. The cradle uses a 100 Base-T Ethernet connection to communicate over LAN with the controller.

Besides its wide range wireless operation via RF, one of the RFR-E5's main features is its ability to "roam" to and control other zones. It offers the same level of source selection and control as the KLK-E5 keypad, and enjoys the same touch ring technology to easily scroll through menus and long lists of channels, presets, artist names and song titles.

The RFR-E5 displays music information and more - it's like holding an LCD keypad in your hand. The touch ring makes it easy to scroll through menus and long lists of channels, presets, artist names and song titles. The LCD screen has white backlighting and crisp black characters. The RFR-E5 also has transport buttons, numeric input and cursor/onscreen display controls. It supports Russound RNET components, and legacy IR sources such as TV, DVD, and CD players, and cable or satellite set top boxes. It can also be programmed to control up to three local sources.

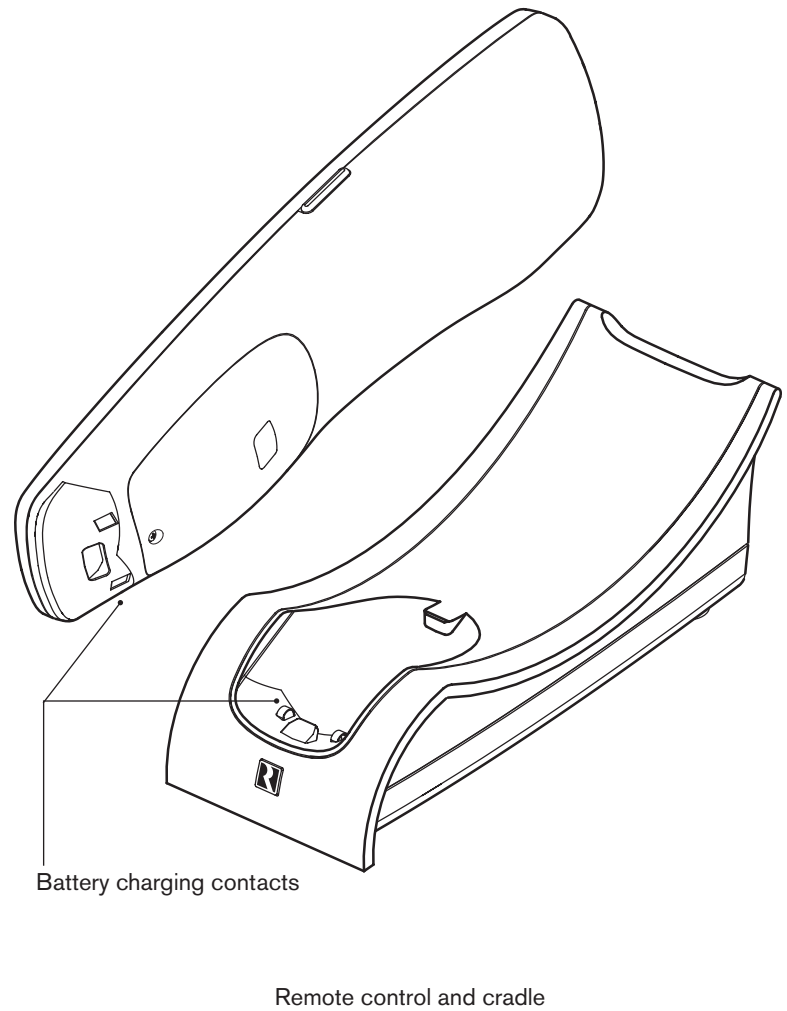
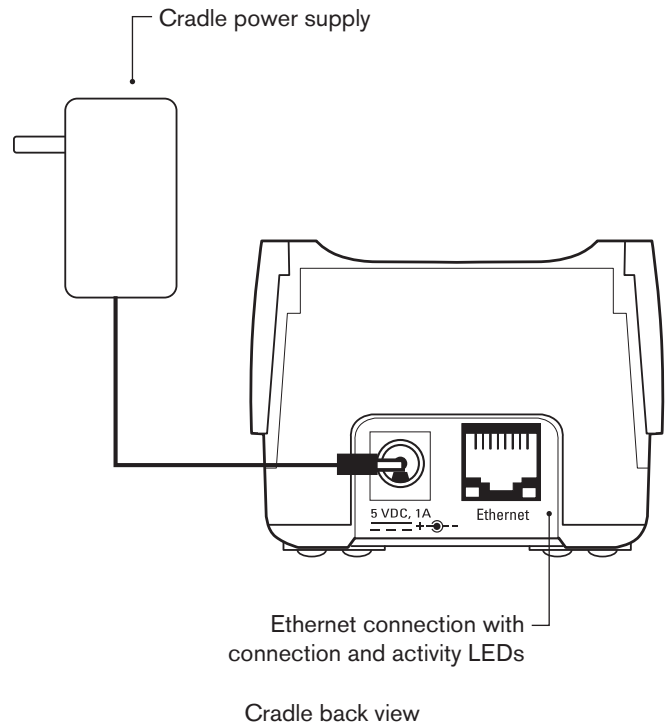
Most controller and source setup functions are performed through SCS-E5 programming software; however, a few installation steps can be completed through the RFR-E5 menus, including local source setup, setting time and date, doorbell chime selection, and adjusting room audio properties. The RFR-E5's installation screen also provides a gateway for a technical support tunnel for the system when needed.



RFR-E5 CHARGING CRADLE

The RFR-E5 and cradle use a two-way RF link which enables the remote to send control commands to the system through the ACA-E5 controller and receive metadata feedback from the system and smart sources. The cradle communicates with the controller over a 10/100/1000 (1Gigabit recommended) Base-T Ethernet network via the CAT-5 RJ45 connector on the rear of the cradle.

The cradle is powered by a detachable power supply that plugs into the rear of the cradle. The cradle provides the remote with the appropriate DC voltage for battery charging through two contacts when docked in the cradle.



The RFR-E5 is powered by two lithium-ion rechargeable batteries. The batteries are accessed by removing the screw on the battery compartment door on the back of the remote control.

NOTE: Before first use, the batteries must be installed in the RFR-E5 and charged for three hours by placing the remote in the cradle.

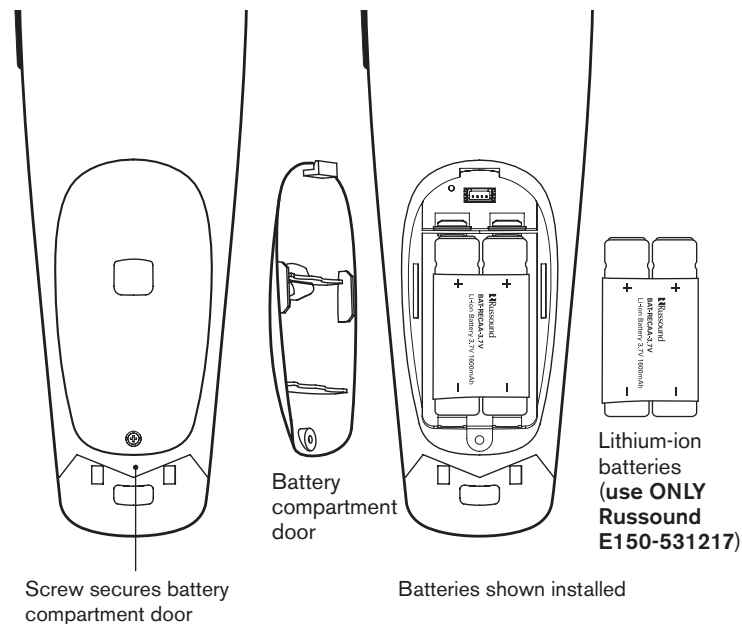
The battery charge level can be checked by reviewing the battery icon at the top of the home screen. A solid dark icon means the batteries are fully charged; a solid white icon means the batteries need to be charged. When the RFR-E5 remote is docked in its cradle, the battery icon scrolls to indicate charging and shows a solid black icon when charging is complete.

If the RFR-E5 is left off the charging cradle for a long period of time, the batteries will eventually go dead. If this happens, dock the remote in the cradle, making sure the charging contacts fit snugly. The RFR-E5 screen will remain blank until it has enough power to display the battery icon.

Battery Use and Disposal Instructions

CAUTION: Danger of explosion if the batteries are improperly replaced. Replace **ONLY** with the same type (Russound P/N E150-531217). Batteries are to be serviced by the installer only.

This device contains a replaceable lithium-ion rechargeable battery. Battery life is dependent upon usage. Heavy daily use will result in shorter battery life. Casual use will extend battery life. If you suspect that the battery may be dead, try charging it. If the battery does not recharge, please contact Russound technical support for repair or replacement information. If you replace the battery, follow the proper disposal procedure. Consult local laws and regulations for proper battery disposal in your area. If there are no local regulations concerning battery disposal, please dispose of the dead battery in a waste bin for electronic devices. Refer to the safety instructions in this manual for more information.



Battery icon shows battery charge level and scrolls when batteries are being charged

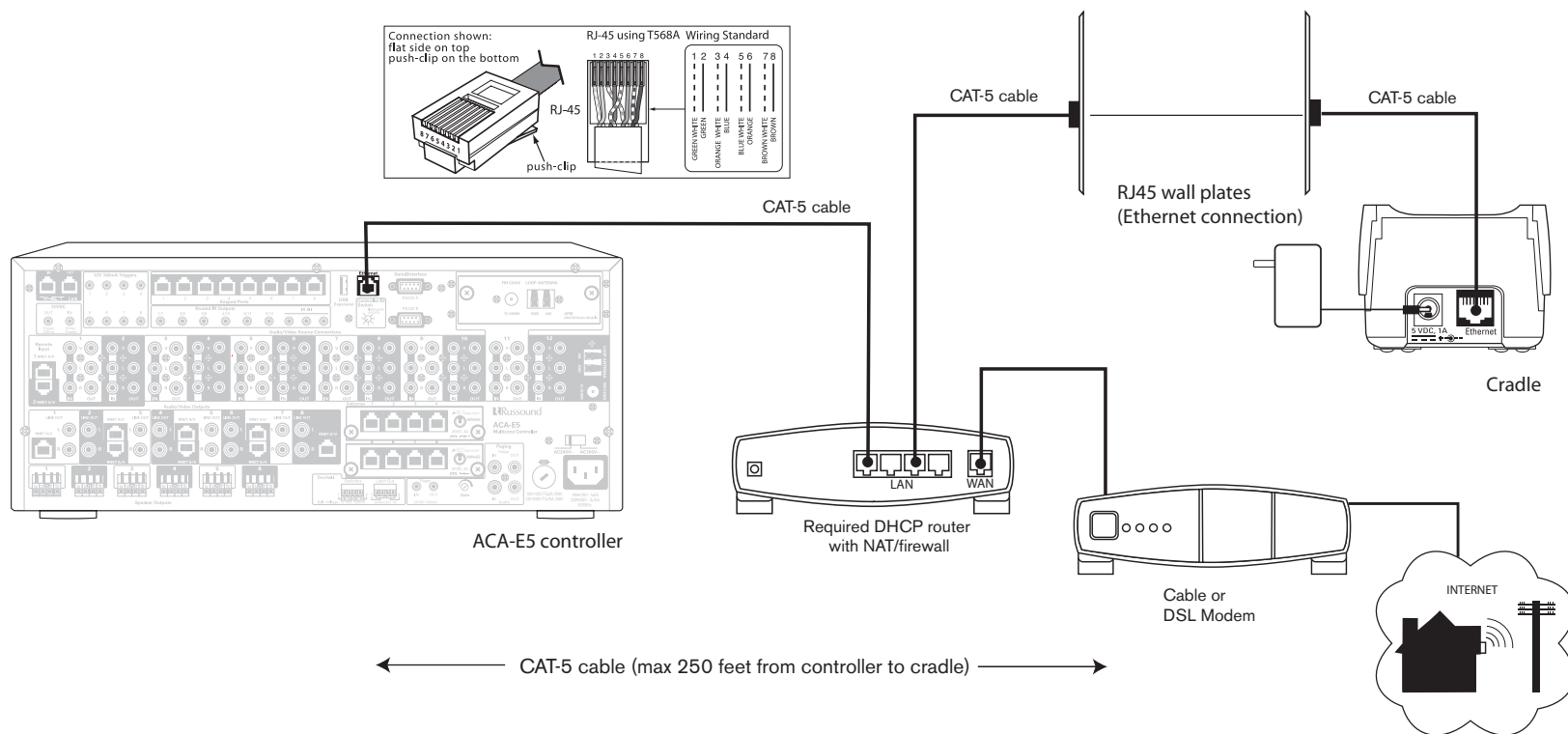


CRADLE / CONTROLLER CONNECTION

The RFR-E5 is connected and configured after the ACA-E5 controller has been successfully installed, and all zones, options and sources have been configured through SCS-E5 system configuration software.

The RFR-E5's charging cradle communicates with the controller via an Ethernet connection. Typical installations feature a LAN port in the room where the RFR-E5 will be located, with CAT-5 run from the cradle to the LAN connection. The ACA-E5 requires a connection to a 100 Base-T (1 Gigabit recommended) or router. The ACA-E5 and RFR-E5(s) must be on the same subnet.

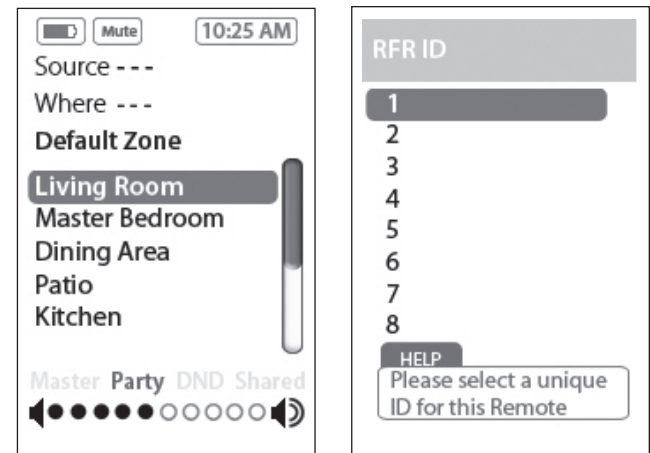
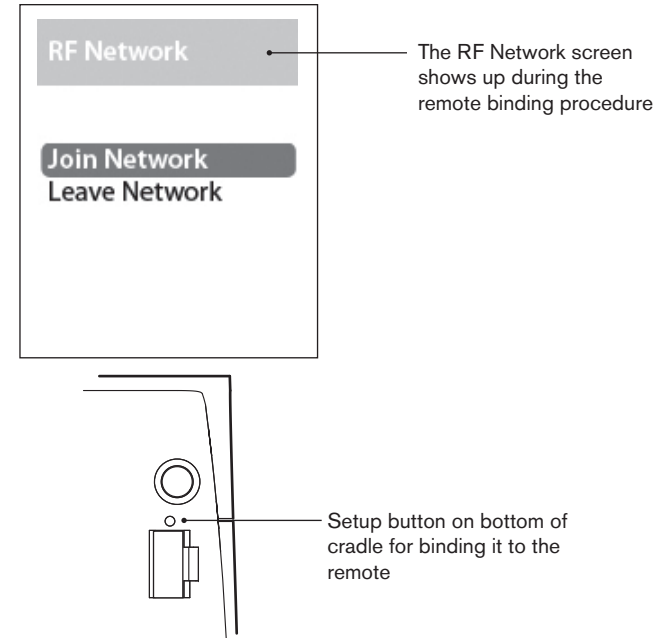
- Connect the power supply to the cradle.
- Connect the cradle to the LAN port in the room using a CAT-5 cable with RJ45 terminations (T568A). Check the Link LED on the cradle to ensure a network connection has been made.
- Charge the batteries in the RFR-E5 by leaving the remote docked in the powered cradle for at least three hours. Be sure the remote's two contacts are properly fitted into the cradle.



The binding procedure establishes a communication relationship between the controller, the charging cradle and the remote control. It also involves choosing the default zone for the RFR-E5.

- The cradle is bound to the ACA-E5 controller when it is powered and connected via Ethernet to the same network.
- The cradle searches the network for the ACA-E5. This will take several minutes. The blue light on the base will become fully lit when a connection has been made. If the base is power cycled, it will try to reconnect to the controller at the same IP address. If it cannot connect it will begin a search of the network.
- Power on the remote by pressing the power button. The RF Network screen shows on the RFR-E5.
- Press the setup button on the bottom of the charging cradle. Immediately scroll to and select "Join Network." This binds the remote to the cradle.
- The RFR ID screen appears (within Installation menu). This screen lets you set the unique ID number for an RFR when multiple RFR-E5s are in a system. The default is ID 1 to make installation of a single RFR-E5 easy. The RFR ID # does not have to match the zone number but each RFR must have a unique number assigned.
- The remote screen moves to the Default Zone menu (within Installation menu) for selection of a "home" zone. This screen shows a list of all available zone names in the system.
- Scroll to and select from the list the desired "home" zone for the remote. The assigned default zone remains even when the user roams to other zones. More than one remote control can have the same default zone assigned if desirable.
- Check default zone operation.

The RFR-E5 now is assigned to a default zone. The user can now select any other zone from a zone list and temporarily control that zone. The current zone in use is indicated at the top of most screens.



HOW TO CHOOSE A SOURCE

The RFR-E5 has buttons and a click touch wheel to find and control music and video.

The remote has backlit buttons to access power on/off, music pause, volume up/down and menu shortcuts. A select button in the center of the click wheel activates a menu choice, and the touch wheel provides the scrolling action through menus and lists. All music/video sources, audio adjustments and system settings are arranged in menus and lists.

Choose music or video source

From the home screen, scroll to and select "Sources." A list of available sources appears. Scroll to and select a source. Also, press Select while on a source's Now Playing screen.

Play music or video

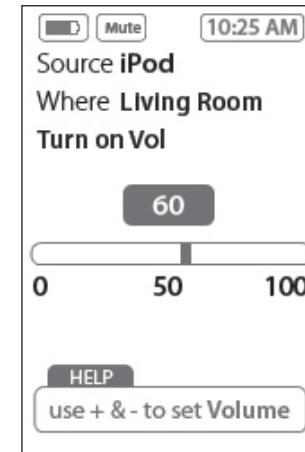
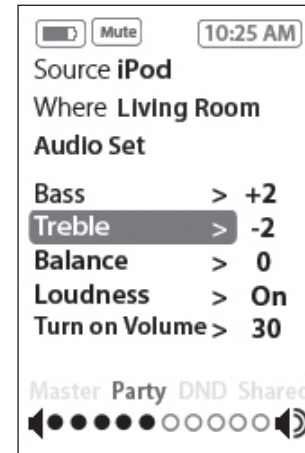
Once you have chosen a source, you can select music or a video to play from that source. Each type of source has its own menu and series of screens. Main menus of music or video sources list what is available to choose from, such as channels, genres, playlists, songs or artists.



From the home screen, scroll to and select “Settings,” and choose “Audio Settings.” You’ll see items to adjust, such as bass, treble and balance. Each selection has its own screen and shows levels for real-time adjustments.

For volume adjustments, press the Volume up/down buttons on the remote.

To mute the room’s audio, press the Mute button.



SET CLOCK

The clock format, time and date for the system can be set with the RFR-E5. From the Home screen, select “Settings” then choose “Clock.”

Set Time

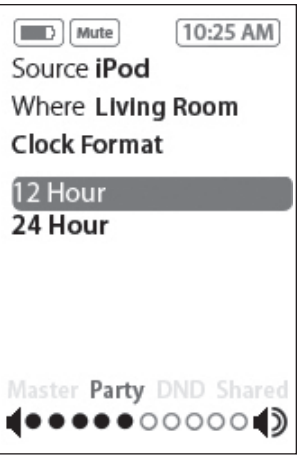
From the Clock menu, select “Set Time.” Scroll with the touch wheel, or press the wheel’s + and -- to move through numbers. Press next and previous on the wheel to move the cursor, and press select to save.

Set Date

From the Clock menu, select “Set Date.” The date format is month/day/year. Scroll with the touch wheel, or press the wheel’s + and -- to move through numbers. Press next and previous on the wheel to move the cursor, and press select to save.

Clock Format

There are two clock formats to choose from. From the home menu, select “Settings,” then “Clock.” Choose “Clock Format,” and select 12 hour (AM/PM) or 24 hour (1200) format.



The RFR-E5 Installation menu gives access to installer-centric system options such as diagnostics, local source setup and support authorization.

From the home screen, scroll to and select “Settings,” and choose “Installation.” You’ll see the following items listed.

Local IR Setup - Procedure to set up local source equipment for IR control by RFR-E5

Diagnostics - Provides the installer with a variety of display and button operation tests to diagnose unplanned behaviors.

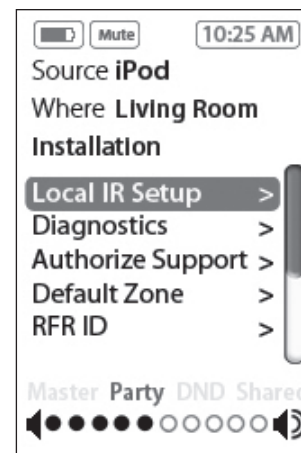
Authorize Support - This option enables the system to be accessed remotely so the dealer or Russound tech support can access the system over Ethernet for diagnostics, update or programming.

Default Zone - Allows the installer to choose from a list of all zones the default zone to which the RFR-E5 is attached.

RFR ID - List of available ID numbers for RFR-E5s in the system.

RF Network - Lists options to join or leave RF network.

Factory Initialize - Resets RFR-E5 to factory default state and clears any settings.



LOCAL SOURCE SETUP AND IR CONTROL

Up to three local sources can be programmed into the RFR-E5. These sources are controlled by IR commands when located in the same room as the RFR-E5.

Three buttons on the remote control correspond with local sources: VID (Video), DVD and TV.

From the main menu, select "Settings," then "Installation." Choose "Local Source Setup."

Press the device button (VID, DVD, TV) on the remote. On the source setup screen, scroll to the appropriate device type and press the Select button. The type selected will populate the "Type" box.

Choose the appropriate 4-digit device code from the list in the back of this manual, and enter it in the code box using the numeric buttons on the RFR-E5. Press the Select button to enter.

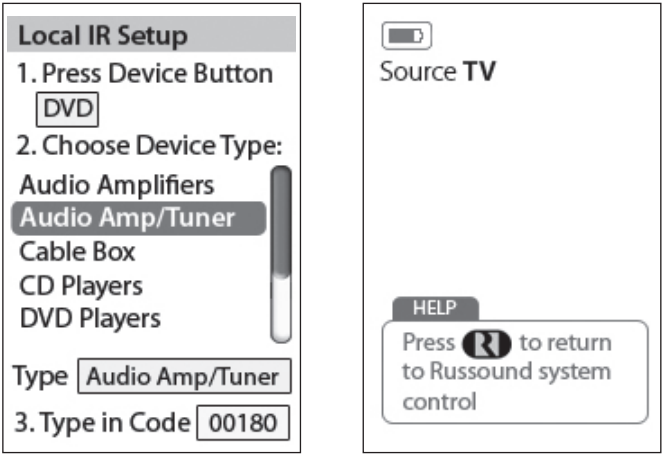
Local Source IR Control

To operate a local source with the RFR-E5, point the RFR-E5 in the direction of the source and press its corresponding device button, then the desired control button (volume, channel, etc.).

To return to control of the ACA-E5 system, press the "R" button on the RFR-E5.



Local source buttons on RFR-E5



The RFR-E5 supports IR learning when programming the three local sources into the remote, if none of the device codes provided work with the sources. The local source's remote control is required for this procedure.

From the main menu, select "Settings," then "Installation." Choose "Local IR Setup."

Press the device button (VID, DVD, TV) on the remote. Under "Choose Device Type," scroll to Learned IR and press the select button. Press key on RFR-E5 where you want to learn the command. The display will show the key name. The red talk back LED at the top of the RFR-E5 will blink when it is ready to accept commands from the donor remote.

Point the source donor remote at IR window at the top of the RFR-E5. Press and hold the key on donor remote to learn command and wait for feedback message: LEARNED or ERROR.

After the learned message appears, the button that was programmed can be tested before repeating the procedure again for the next command.

Local IR Setup

1. Press Device Button

DVD

2. Choose Device Type:

Audio Amplifiers

Audio Amp/Tuner

Cable Box

CD Players

DVD Players

Type

Audio Amp/Tuner

3. Type in Code

00180

Learn IR

1. Press Key once to learn, twice to delete
Key:

PLAY

2. Press and hold Key on donor remote

LEARNED

3. Go to next button or press Exit when done

DIAGNOSTICS

The Diagnostics menu provides a way to test the RFR-E5 display and buttons for proper operation. It also shows what version of firmware is running on the RFR-E5 and its IP address. Note: zone and source controls are disabled during diagnostic testing.

From the main menu, select “Settings,” then “Installation.” Choose “Diagnostics.”

Button Test

This selection tests the RFR-E5’s main navigation buttons. To test their function, press the remote’s navigation buttons one at a time. If the button is functioning properly, the name of the button appears on the screen. Zone controls are deactivated during the button test; no controller response should occur. The backlight remains on during the test so the screen can be read. Press and hold Power to exit the test.

Display Test

This selection tests the RFR-E5’s display window. Choosing “all on” activates all the screen’s pixels (appears dark). Choosing “all off” deactivates all the pixels (appears light). This test reveals any pixel failures. Press Last to return to the Display Test screen, or press and hold Exit to return to the Installation menu.

Versions

This selection shows the firmware version of the RFR-E5.



Display Test screen



Versions Display screen

Authorize Support

The RFR-E5 provides a portal to a Russound network support tunnel when an installer needs Russound's help troubleshooting an ACA-E5 system.

The Authorize Support feature enables the system to be accessed remotely over Ethernet for Russound technical support to diagnose, update or program the system.

From the main menu, select "Settings," then "Installation." Choose "Authorize Support." On the Authorize support screen, select "On." A session number will be provided in the Session Number box.

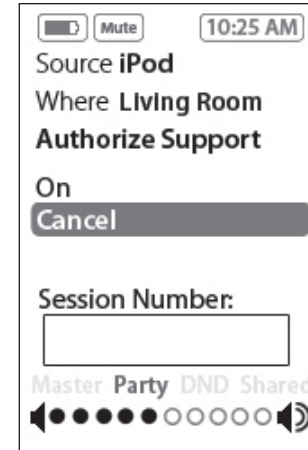
A "Press Menu for Details" message is displayed if there is a problem establishing a tunnel.

During the support tunnel process, the system is unavailable for use.

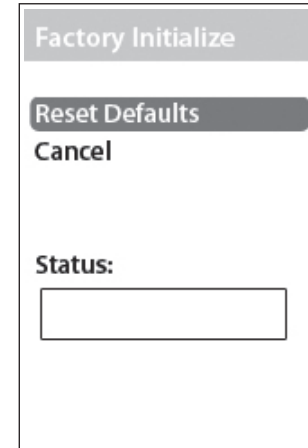
Factory Initialization

If it becomes necessary, the RFR-E5's settings can be returned to factory state through a factory initialization from the RFR-E5. A factory initialization deletes all programmed settings and resets them to the factory defaults.

From the Installation menu, scroll to and select "Factory Initialize." Select "Reset Defaults." Once the initialization is complete, the system binding/zone setup procedure begins when a button is pressed to power on the remote.



Authorize Support screen



Factory Initialize screen

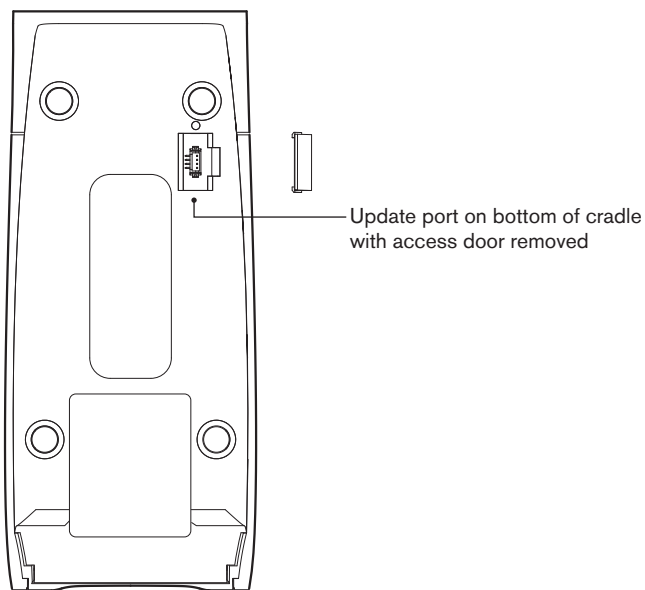
UPDATE FIRMWARE

Both the RFR-E5 remote and its cradle support firmware updates. When firmware updates are issued, the files will be posted under Downloads on the Sphere website, www.russoundsphere.com.

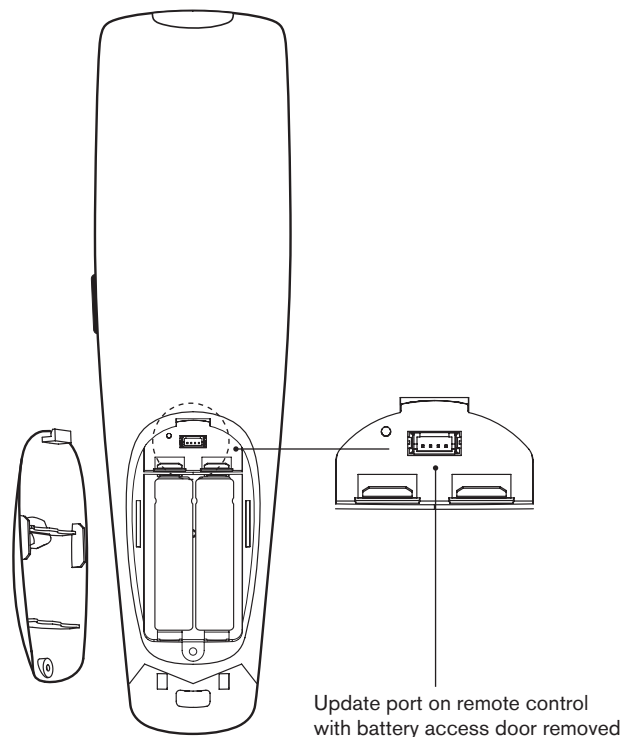
On the RFR-E5 remote, the programming and update port is located on the back of the remote behind the battery access door.

The cradle update port is located on the bottom of the unit behind a small removable panel.

For both pieces, the Russound USB-A4P USB Programming Cable (Russound P/N 8300-531415) is used to connect the port to a PC for the update procedure.



Bottom view of cradle



Back of remote control

Device Codes for TVs:

Admiral	0093, 0463
Advent	0761, 0842
Aiko	0092
Akai	0030, 0672, 0702, 0812
Albatron	0700, 0843
America Action	0180
Anam	0180
AOC	0030
Apex Digital	0748, 0765, 0767, 0879, 1943
Audiovox	0451, 0180, 0092, 0623
Bell & Howell	0154
BenQ	1032
Bradford	0180
Broksonic	0236, 0463, 1935, 1911
Candle	0030
Carnivale	0030
Carver	0054
Celebrity	0000
Celera	0765
Changhong	0765
Citizen	0060, 0030, 0092
Clarion	0180
Comm'l Solutions	1447, 0047
Contec	0180
Craig	0180
Crosley	0054
Crown	0180
Curtis Mathes	0047, 1147, 1347, 0054, 0154, 0451, 0093, 0060, 0030, 0145, 0166, 0702
CXC	0180
Daewoo	0451, 1661, 0672, 0092, 0661, 0623
Dell	1080
Denon	0145
Dumont	0017
Durabrand	0463, 0180, 0178, 0171, 1034
Electroband	0000
Emerson	0154, 0236, 0463, 0180, 0178, 0171, 1911, 0623
Envision	0030
ESA	0812, 0171
Fisher	0154
Fujitsu	0853, 0809, 0683
Funai	0180, 0171, 1904
Futuretech	0180

Gateway	1756, 1755
GE	1447, 0047, 1147, 1347, 0051, 0451, 0178, 1922, 1917
Gibraltar	0017, 0030
Go Video	0886
GoldStar	0030, 0178
Grunpy	0180
Haier	1034
Hallmark	0178
Harley Davidson	1904
Harman/Kardon	0054
Harvard	0180
Havermy	0093
Helios	0865
Hello Kitty	0451
Hisense	0748
Hitachi	1145, 0145, 1960, 1904
Hyundai	0849
Infinity	0054
Inteq	0017
JBL	0054
JCB	0000
Jensen	0761
JVC	0053, 1253, 1923, 0731
KEC	0180
Kenwood	0030
KLH	0765, 0767
KTV	0180, 0030
LG	0178, 0700, 0856
Lloyd's	1904
LXI	0047, 0054, 0154, 0156, 0178
Magnavox	1454, 0054, 0030, 0706, 1904, 1254
Marantz	0054, 0030
Matsushita	0250
Maxent	1755
Megapower	0700
Megatron	0178, 0145
Memorex	0154, 0463, 0150, 0178, 1911
MGA	0150, 0030, 0178
Midland	0047, 0017, 0051
Mitsubishi	0093, 1250, 0150, 0178, 1917
Monivision	0843, 0700
Motorola	0093
MTC	0060, 0030
Multitech	0180
NAD	0156, 0178, 0866
NEC	0030

Nikko	0030, 0178, 0092
Norcent	0748, 0824
NTC	0092
Onwa	0180
Optimus	0154, 0250, 0166
Optonica	0093
Orion	0236, 0463, 1911, 1463
Panasonic	0250, 0051, 1941
Penney	0047, 0156, 0051, 0060, 0030, 0178, 1347
Philco	0054, 0030
Philips	1454, 0054, 1961, 0690
Pilot	0030
Pioneer	0166, 0679, 0866
Portland	0092
Prima	0761
Princeton	0700
Prism	0051
Proscan	1447, 0047, 1347, 1922
Proton	0178
Pulsar	0017
Quasar	0250, 0051
Radio Shack	0047, 0154, 0180, 0030, 0178, 1904
RCA	1447, 0047, 1047, 1347, 1917, 0679, 1247, 1547, 1948, 0090, 1147, 1922
Realistic	0154, 0180, 0030, 0178
Runco	0017, 0030
Sampo	0030, 1755
Samsung	0060, 0812, 0702, 0030, 0178, 0766, 1959, 1060
Sansui	0463, 1935, 1911, 1904
Sanyo	0154, 0088
Scotch	0178
Scott	0236, 0180, 0178
Sears	0047, 0054, 0154, 0156, 0178, 0171, 1904
Sharp	0093, 1917
Sheng Chia	0093
Sony	1100, 0000, 1904
Soundesign	0180, 0178
Squareview	0171
SSS	0180
Starlite	0180
Studio Experience	0843

Supreme	0000
SVA	0748, 0865
Sylvania	0054, 0030, 0171
Symphonic	0180, 0171, 1904
Tandy	0093
Tatung	1756
Technics	0051, 0250
Techwood	0051
Teknika	0054, 0180, 0150, 0060, 0092
Telefunken	0702
Thomas	1904
TMK	0178
TNCi	0017
Toshiba	0154, 0156, 0060, 1256, 1156, 1656, 1356, 1945, 1935
TVS	0463
V Inc.	1756
Vector Research	0030
Victor	0053
Vidikron	0054
Vidtech	0178
Viewsonic	1755
Wards	0054, 0030, 0178, 0866, 1156
Waycon	0156
Westinghouse	0889
WhiteWestinghouse	0463, 0623
Yamaha	0030
Zenith	0017, 0463, 0178, 1911, 0092, 1904

Philips	0317, 1305
Pioneer	0144, 0533, 0877, 1877
Pulsar	0000
Quasar	0000
RadioShack	0883
Regal	0273, 0279
Runco	0000
Samsung	0144
Scientific Atlanta	0008, 0477, 0877, 1877
Sony	1006
Starcom	0003
Supercable	0276
Supermax	0883
Torx	0003
Toshiba	0000
Tristar	0883
V2	0883
Viewmaster	0883
Vision	0883
Vortex View	0883
Zenith	0000, 0525, 0899

Device Codes for Video Acc:

ABS	1272
Alienware	1272
CyberPower	1272
D-Link	1554
Escient	1151, 1371, 1370, 1373, 1372
Gateway	1272
Hewlett Packard	1272, 1267
Howard Computers	1272
iBUYPOWER	1272
LG	1415
Linksys	1365
Media Center PC	1272
Microsoft	1272
Mind	1272
Motorola	1363
Northgate	1272
Panasonic	1120
Pioneer	1010
Samsung	1190, 1490
Sensory Science	1126
Sharp	1010
SMC	1456
Sony	1272, 1324, 1364
Systemax	1272
Tagar Systems	1272

Device Codes for Cable:

ABC	0003, 0008
Americast	0899
Bell South	0899
Clearmaster	0883
ClearMax	0883
Coolmax	0883
Director	0476
General Instrument	0003, 0476, 0810, 0276
GoldStar	0144
Hamlin	0009, 0273
Jerrold	0003, 0276, 0476, 0810
Memorex	0000
Motorola	0476, 0276, 0810, 1254, 1376
Multitech	0883
Pace	0237, 1877
Panasonic	0000, 0107
Paragon	0000

IR DEVICE CODES

Toshiba	1272
Touch	1272
Viewsonic	1272, 1329
ZT Group	1272

Device Codes for SAT/ DSS:

AlphaStar	0772
Century	0856
Chaparral	0216
Crossdigital	1109
DirecTV	0392, 0566, 0639, 1639, 1142, 0247, 0749, 1749, 0724, 0819, 1856, 1076, 1109, 0099, 1640, 1108, 1392, 1442, 1414
Dish Network Sys	1005, 0775, 1775, 1505
Dishpro	1005, 0775, 1505, 1775
Echostar	1005, 0775, 1775, 1505
Expressvu	0775, 1775
GE	0566
General Instrument	0869
GOI	0775, 1775
Hisense	1535
Hitachi	0819, 1250
HTS	0775, 1775
Hughes Net. Sys.	0749, 1142, 1749, 1442
I-Lo	1535
JVC	0775, 1775
LG	1414
Magnavox	0724, 0722
Memorex	0724
Mitsubishi	0749
Motorola	0869
Next Level	0869
Panasonic	0247, 0701
Paysat	0724
Philips	1142, 0749, 1749, 0724, 1076, 0722, 0099, 1442, 0856
Proscan	0392, 0566
Proton	1535
RadioShack	0869
RCA	0392, 0566, 0143, 0855, 1392
Samsung	1276, 1109, 1108
Sony	0639, 1639, 1640
Star Choice	0869

Tivo	1142, 1442
Toshiba	0749, 1749, 0790, 1285
UltimateTV	1392, 1640
Uniden	0724, 0722
US Digital	1535
USDTV	1535
Voom	0869
Zenith	0856, 1856

Device Codes for VCRs:

ABS	1972
Admiral	0048, 0209
Adventura	0000
Aiko	0278
Aiwa	0037, 0000
Akai	0041
Alienware	1972
America Action	0278
American High	0035
Asha	0240
Audiovox	0037, 0278
Beaumarck	0240
Bell & Howell	0104
Broksonic	0184, 0121, 0209, 0002, 0479
Calix	0037
Canon	0035
Carver	0081
CCE	0072, 0278
Citizen	0037, 0278
Colt	0072
Craig	0037, 0047, 0240, 0072
Curtis Mathes	0060, 0035, 0162, 0041
Cybernex	0240
CyberPower	1972
Daewoo	0045, 0278
Dell	1972
Denon	0042
DirecTV	0739
Durabrand	0039, 0038
Dynatech	0000
Electrohome	0037
Electrohome	0037
Emerex	0032
Emerson	0037, 0184, 0000, 0121, 0043, 0209, 0002, 0278, 0479
Fisher	0047, 0104
Fuji	0035, 0033
Funai	0000

Garrard	0000
Gateway	1972
GE	0035, 0060, 0240
Go Video	0432
GoldStar	0037, 0038
Gradiente	0000
Harley Davidson	0000
Harman/Kardon	0081, 0038
Harwood	0072
Hewlett Packard	1972
Hi-Q	0047
Hitachi	0000, 0042, 0041, 0089
Howard Computers	1972
Hughes Net. Sys.	0042, 0739
iBUYPOWER	1972
Jensen	0041
JVC	0067, 0041
KEC	0037, 0278
Kenwood	0067, 0041, 0038
KLH	0072
Kodak	0035, 0037
Lloyd's	0000
Logik	0072
LXI	0037
Magnavox	0035, 0039, 0081, 0000, 0149
Magnin	0240
Marantz	0035, 0081
Marta	0037
Matsushita	0035, 0162
Media Center PC	1972
MEI	0035
Memorex	0035, 0162, 0037, 0048, 0039, 0047, 0240, 0000, 0104, 0209, 0479
MGA	0240, 0043
MGN Technology	0240
Microsoft	1972
Mind	1972
Minolta	0042
Mitsubishi	0067, 0043
Motorola	0035, 0048
MTC	0240, 0000
Multitech	0000, 0072
NEC	0104, 0067, 0041, 0038
Nikko	0037
Noblex	0240
Northgate	1972
Olympus	0035
Optimus	1062, 0162, 0037, 0048, 0104, 0432

Orion	0184, 0209, 0002, 0479
Panasonic	1062, 0035, 0162, 0225, 0616
Penney	0035, 0037, 0240, 0042, 0038
Pentax	0042
Philco	0035
Philips	0035, 0081, 0618, 0739
Pilot	0037
Pioneer	0067
Polk Audio	0081
Profitronic	0240
Proscan	0060
Protec	0072
Pulsar	0039
Quasar	0035, 0162
Radio Shack	0000
Radix	0037
Randex	0037
RCA	0060, 0240, 0042, 0149, 0880
Realistic	0035, 0037, 0048, 0047, 0000, 0104
ReplayTV	0616
Runco	0039
Samsung	0045, 0240
Sanky	0048, 0039
Sansui	0000, 0067, 0209, 0041, 0479
Sanyo	0047, 0240, 0104
Scott	0184, 0045, 0121, 0043
Sears	0035, 0037, 0047, 0000, 0042, 0104
Sharp	0048
Shintom	0072
Shogun	0240
Singer	0072
Sonic Blue	0616
Sony	0035, 0032, 0033, 0000, 0636, 1972
STS	0042
Sylvania	0035, 0081, 0000, 0043
Symphonic	0000
Systemax	1972
Tagar Systems	1972
Tatung	0041
Teac	0000, 0041
Technics	0035, 0162
Teknika	0035, 0037, 0000
Thomas	0000

Tivo	0618, 1503, 0739, 0636
TMK	0240
Toshiba	0045, 0043, 1008, 1972, 1503
Totevision	0037, 0240
Touch	1972
Unitech	0240
Vector	0045
Vector Research	0038
Video Concepts	0045
Videomagic	0037
Videosonic	0240
Viewsonic	1972
Villain	0000
Wards	0035, 0060, 0048, 0047, 0081, 0000, 0042, 0240, 0072, 0149
White Westinghouse	0209, 0072
XR-1000	0035, 0000, 0072
Yamaha	0038
Zenith	0039, 0033, 0000, 0209, 0479
ZT Group	1972

Device Codes for Laser Disc Players:

Denon	0059
Mitsubishi	0059
NAD	0059
Optimus	0059
Panasonic	0204
Pioneer	0059
Quasar	0204
Sony	0201
Technics	0204

Device Codes for DVD Players:

Allegro	0869
Apex Digital	0672, 0717, 0797, 1061, 0796, 1056, 0794, 1020
Aspire Digital	1168
Blaupunkt	0717
Blue Parade	0571
Broksonic	0695
CineVision	0869
Coby	1086
CyberHome	0816, 1129
Daewoo	0784, 0833, 1172, 0869
Denon	0490
DVD2000	0521
Emerson	0591, 0675
Enterprise	0591
Fisher	0670
Funai	0675
Gateway	1073, 1194, 1158, 1077
GE	0522, 0717
Go Video	0744, 0715, 0833, 1099, 0783, 1075, 1730, 0869, 1158
Greenhill	0717
Hitachi	0573, 0664
Hiteker	0672
Initial	0717
JVC	0558, 0623, 0867
Kenwood	0490, 0534
KLH	0717, 1020
Koss	0651
Lasonic	0798
LG	0591, 0869
Lite-On	1158, 1058
Magnavox	0503, 0539, 0675
Marantz	0539
Memorex	0695
Microsoft	0522
Mintek	0839, 0717
Mitsubishi	1521, 0521
Nesa	0717
Onkyo	0503
Oritron	0651
Panasonic	0490, 1762
Philips	0503, 0539, 0646, 0675, 0885
Pioneer	0525, 0571
Polaroid	1086, 1061
Polk Audio	0539

Proscan	0522
Qwestar	0651
RCA	0522, 0571, 0717, 0822
Rio	0869
Rotel	0623
Sampo	0752
Samsung	0490, 0573, 1075, 0820
Sansui	0695
Sanyo	0695, 0670, 0873
Sharp	0630, 0752
Sherwood	1077
Shinsonic	0533, 0839
Sonic Blue	0869, 1099
Sony	0533, 0864, 1033
Sylvania	0675
Symphonic	0675
Technics	0490
Theta Digital	0571
Toshiba	0503, 1154, 0695
Urban Concepts	0503
US Logic	0839
Xbox	0522
Yamaha	0490, 0539, 0545
Zenith	0503, 0591, 0869

Device Codes for Tuner/ Amp:

ADC	0531
Aiwa	0189, 1405, 0158, 0121
Anam	1609, 1074
Audiotronic	1189
Bose	1229
Capetronic	0531
Carver	0189, 1189
Coby	1263
Dell	1383
Denon	1360, 1142
Gateway	1517
Glory Horse	1263
Harman/Kardon	0110, 0189
Hewlett Packard	1181
Integra	0135
JBL	0110
JVC	0074, 1263
Kenwood	1313, 1569, 0027
KLH	1428
Linn	0189
Magnavox	1189, 1269, 0189, 0531
Marantz	1189, 1269, 0039,

MCS	0039
Mitsubishi	1393
Onkyo	0135
Optimus	1023, 0670, 0531, 1074
Panasonic	0039, 0309
Philips	1189, 1269, 0189
Pioneer	1023, 0150, 0014, 0630, 0531
Polk Audio	0189
Proscan	1254
Quasar	0039
RadioShack	1263
RCA	1023, 1609, 1254, 1074, 0531
Rio	1383
Sansui	0189
Sharper Image	1263
Sonic Blue	1383
Sony	1058, 1759, 0158, 1406
Soundesign	0670
Stereophonics	1023
Sunfire	1313
Teac	1074
Technics	1308, 0039, 0309
Thorens	1189
Victor	0074
Wards	0158, 0189, 0014
Yamaha	0176, 1276, 1176

Device Codes for Amp and Misc. Audio:

Aiwa	0159
Altec Lansing	1485
Cambridge Sound.	1530
Creative	0872
Durabrand	1561
GE	0078
Harman/Kardon	0892
JVC	0331
Left Coast	0892
Lenox	1561
Marantz	0892, 1491
Motorola	1464
Omnifi	1605
Optimus	0395
Philips	0892
Polk Audio	0892
Realistic	0395
Russound	1302
Sony	0159

Soundesign	0078
Victor	0331
Wards	0078
Yamaha	0354

Device Codes for CD Players:

Aiwa	0157
Burmester	0420
Calif. Audio Labs	0029
Carver	0157, 0179
Denon	0873, 0003
DKK	0000
DMX Electronics	0157
Emerson	0305
Fisher	0179
Garrard	0420
Genexxa	0032, 0305
Harman/Kardon	0157, 0173
Hitachi	0032
Integra	0101
JVC	0072
Kenwood	0681, 0028, 0037, 0190
KLH	1318
Krell	0157
Linn	0157
LXI	0305
Magnavox	0157, 0305
Marantz	0029, 0157
MCS	0029
Miro	0000
Mission	0157
MTC	0420
NSM	0157
Onkyo	0868, 0101
Optimus	1063, 0000, 0032, 0037, 1075, 0179, 0145, 0420, 0087, 0305
Panasonic	0029
Parasound	0420
Philips	0157
Pioneer	1063, 0032, 0305
Polk Audio	0157
Proton	0157
OED	0157
Quad	0157
Quasar	0029
RadioShack	1075
RCA	0032, 0305, 0179, 0053, 0420
Realistic	0420, 0179
Rotel	0157, 0420

SAE	0157
Sansui	0157, 0305
Sanyo	0087, 0179
Scott	0305
Sears	0305
Sharp	0861, 0037
Sherwood	1067
Sonic Frontiers	0157
Sony	0490, 0000, 0100
Soundesign	0145
Symphonic	0305
TAG McLaren	0157
Tascam	0420
Teac	0420
Technics	0029
Victor	0072
Wards	0157, 0053
Yamaha	0888, 0036

Device Codes for Home Control:

Accutek	1215
Bionaire	1215
Frigidaire	1333
GE	0240
GoldStar	1537
Holmes	1215
Lasko	0846
LG	1537
Lutron	0597
One For All	0167
RadioShack	0240
Russound	1232, 1233
Security System	0167
Sharper Image	0846
Universal X10	0167
Whirlpool	1332
Windmere	1215
X10	0167

TECHNICAL SPECIFICATIONS

RFR-E5 Remote Control

Dimensions: 2.5"W x 1.6"H x 9.25"D
(65 x 40 x 9.25 mm)

Weight: 1 lbs. (0.45 kg)

RF radio module: 2.4 GHz 802.15.4 data transceiver

RF range: 150 feet (indoor), 325 feet (outdoor)
(typically depends on conditions)

Battery: 3.7V 800 mAh Lithium-ion cell (qty 2)

Battery life: 36 hours in standby, 11 hours active
(Actual battery life dependent upon use)

Cradle for Remote Control

Dimensions: 3.0"W x 2.37"H x 7.11"D
(78.5 x 60 x 180 mm)

Weight: 1 lbs. (0.45 kg)

Power: 5 VDC 1A

Power supply: 100-240V 50/60 Hz 300mA

Network connection: RJ45 T568A standard connector

Programming port: 4-pin DF13 header

Russound sells E-Series products through Russound Sphere Certified Integrators to ensure customers obtain quality pre-sale and after-sale support and service. Russound does not authorize internet, telephone or mail order sales of Russound E-Series products to consumers. The sale to consumers of any Russound E-Series product on the Internet or by telephone or mail order shall void the Russound E-Series warranty on the applicable product; and any Russound E-Series product purchased from an unauthorized dealer or source, including any Internet retailer or telephone or mail order seller, will not be honored or serviced under any Russound warranty.

The warranty on Russound E-Series products is NOT VALID if the products have been purchased on the Internet, by telephone or mail order, or from an unauthorized dealer. **PROTECT YOUR WARRANTY.** Buy only from a Russound Sphere Certified integrator. If you have questions about a dealer or reseller, contact Russound Sales at 866.604.5245

The Russound E-Series RFR-E5 product is fully guaranteed against defects in materials and workmanship for three (3) 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 serviced by a Russound Sphere Certified Integrator and used in accordance with written instructions. If service becomes necessary, please contact your local Russound Sphere Certified Integrator to arrange for product return.

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

Products out of warranty will be subject to a minimum repair estimate. All repairs will be made on the basis of the retail value of the parts and labor. All service is to be performed by Russound.

Russound Sphere Certified Integrator Instructions:

Prior to returning a unit for repair, contact Russound at (866) 604.5245 to obtain a Return Authorization Number. Reference this RA# number on all correspondence and outer shipping label.

Ship to:

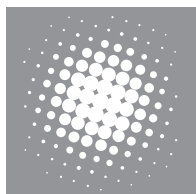
Russound

ATTN: E-Series Priority Service

5 Forbes Road

Newmarket, NH 03857

It is recommended that the product be packaged in a corrugated container with a minimum of three (3) inches of resilient material to protect the unit from damage during transit. Accidental damage and shipping damage are not considered defects.



SPHERE™

E-Series

Installation Manual

Russound, Inc.
5 Forbes Road,
Newmarket, NH 03857
tel 866.604.5245 • fax 603.292.8352
www.russoundsphere.com

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RF Remote Control
RFR-E5

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Sphere™ Certified Professionals

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