



SaphIR™ K2 Keypad Instruction Manual





SAFETY PRECAUTIONS

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

- **Read instructions.** Read and understand all the applicable instructions before installing or operating the device.
- **Retain documents.** Keep this manual in a convenient place for reference.
- **Heed warnings.** Be aware of all warnings on the device and in the instructions.
- **Follow instructions.** Install and use this device only as described in the instructions. Don't try to use this device in ways it wasn't designed for.
- **Mount device properly.** Mount the device to a wall only as specified in the instructions.
- **Use indoors only.** Don't expose this device to the weather or harsh environmental conditions such as continuous sunlight, excessive humidity, or rain.
- **Keep device dry.** Do not use the device near water; for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool. Also, don't handle the device when your hands are wet or damp.
- **Avoid heat.** Locate the device away from heat sources such as radiators, heat registers, stoves or other appliances that produce heat.
- **Use the right power.** Don't connect the device directly to electrical line voltage. Use only the power adapter provided with the product, described in the operating instructions, or as marked on the device.
- **Ground device properly.** Make sure the device's means of grounding or polarization is not defeated.
- **Keep device clean.** From time to time, wipe off the device with a clean soft cloth. Don't use abrasive materials, thinners, alcohol or other chemical solvents or materials.
- **Avoid spills and foreign objects.** Make sure liquids and objects don't get into the device enclosure through any openings.
- **Get professional service.** Have the product serviced only by qualified service personnel when:
 - Liquids have spilled or objects have fallen into the device
 - The device has been exposed to rain
 - The device doesn't appear to operate normally
 - The device is damaged

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

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

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USER Introduction

Product Overview

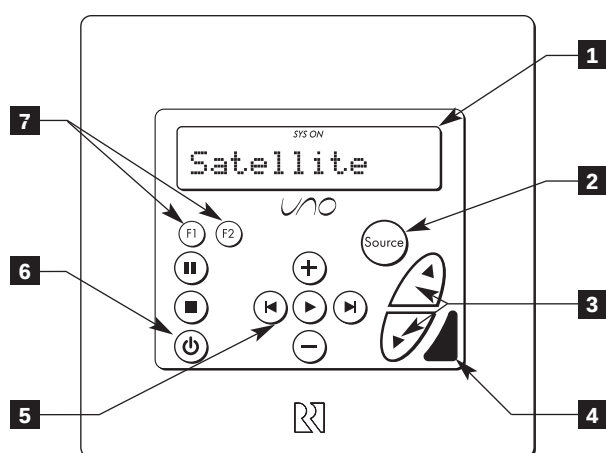
Thank you for choosing the Russound SaphIR™ K2 keypad. The K2 is an in-wall programmable IR keypad that works like a universal remote to provide complete control of your audio and video components. It contains an extensive library of IR codes to select discs, tracks, channels, volume, and other settings for most audio and video components. It can also learn IR commands for components and other devices not in the library. A powerful macro feature allows you to use the K2 for advanced functions such as lowering a screen and dimming the lights in a home theater. A built-in speaker relay allows you to easily mute the speakers in the room by simply turning off the keypad.

Applications

- Control an entertainment system with up to eight sources — The K2 keypad controls up to eight audio-video sources and a stereo or home theater receiver or IR-controlled amplifier.
- Control the second zone of a receiver or processor — If you have a multizone receiver or processor with an IR control port for the second zone, you can use the K2 to remotely control the second zone from that room.
- Control multiple receivers — If you have multiple receivers, you can create a simple multiroom system sharing sources such as a CD/DVD player or cable box. In this scenario, each receiver is dedicated to a single zone and controlled by a separate K2 keypad. This gives each user their own tuner and individual volume controls as well as access to the common sources.

Features

- Simple design and intuitive layout
- Selects and controls up to eight sources
- Backlit LCD display shows selected source
- Selectable green or amber backlight for keys and display
- IR sensor with pass-through for remote control of the K2 and virtually any component in the system
- Preprogrammed IR library with hundreds of command codes
- IR learning capability
- Programmable power management for source components
- 132 10-step macros for multifunction commands
- Easily programmable with Russound's EZpro software
- Programming can be copied to other connected K2 keypads (Rev.3 to Rev.3 keypads; Rev.2 to Rev.2 keypads only)
- Global communication to other connected K2 keypads
- All-on and All-off functions for multiple-keypad systems
- Can be operated by optional SRC1 or SRC2 remote control
- Available in white, almond, bone (ivory), brown, and black

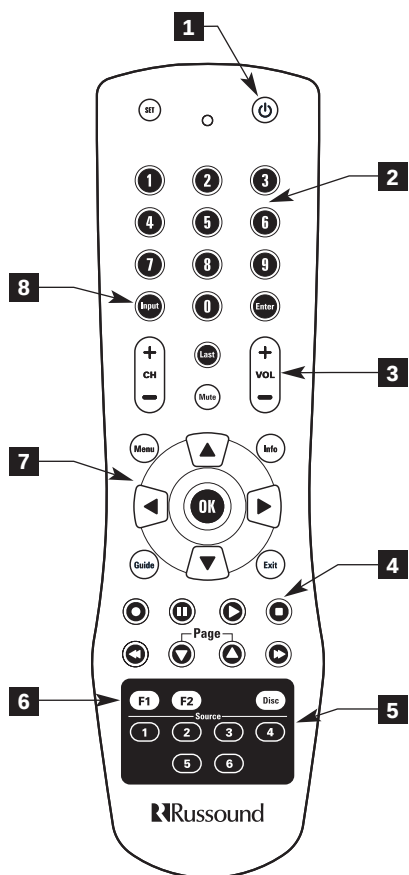


- POWER
- STOP
- PAUSE
- FAVORITE 1
- FAVORITE 2
- SOURCE
- VOLUME UP
- VOLUME DOWN
- DISC, CHANNEL UP
- DISC, CHANNEL DOWN
- FORWARD
- REVERSE
- PLAY

- 1** DISPLAY – 12-character backlit LCD panel shows source name and other information
- 2** SOURCE SELECT KEY – Selects the desired source connected to the amp/receiver
- 3** VOLUME UP/DOWN KEYS – Control the volume of the amp/receiver
- 4** IR SENSOR – Receives IR signals from a remote control for operating the K2 Keypad and the source equipment
- 5** COMMAND KEYS – Control the source equipment
- 6** POWER KEY – Turns keypad on or off when pressed once; turns all keypads on or off when pressed a second time and held
- 7** F1 AND F2 KEYS – Set and select user's Favorite 1 and Favorite 2 source settings for each keypad

USER

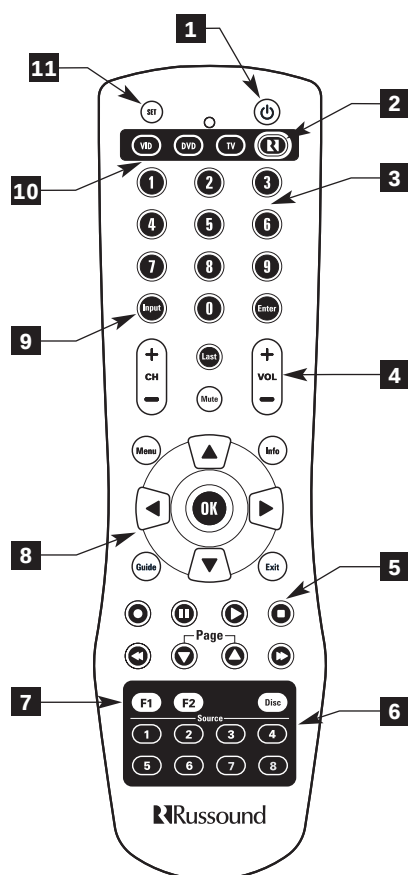
Optional SRC1 Basic Remote Control



- 1** POWER KEY – Turns the keypad on and off. Press and hold for All On or All Off function.
- 2** NUMERIC KEYS – For direct selection of channels or tracks.
- 3** VOLUME UP/DOWN KEY – Raises and lowers the amp/receiver volume.
- 4** COMMAND KEYS – Control the source equipment.
- 5** DIRECT SOURCE SELECT KEYS – Directly select sources 1– 6 controlled by the keypad.
- 6** F1 AND F2 KEYS – Set and select Favorite 1 and Favorite 2 presets.
- 7** CURSOR KEYS – Issue navigation commands for source equipment, allowing movement through menus and program screens.
- 8** INPUT KEY – Scrolls through sources controlled by the keypad. Works the same as the keypad's Source key.

The optional SRC1 Basic System Remote Control will operate the K2 keypad and sources 1–6 through the keypad. The SRC1 has no built-in programming capability and therefore cannot operate source components directly.

Optional SRC2 Advanced Learning Remote Control



- 1** POWER KEY – Turns the keypad on and off while in System mode. Press and hold for All On or All Off function.
- 2** SYSTEM MODE KEY – Selects System mode to control the SaphiR K2 keypad and connected sources. **The remote must be in System mode to work with the SaphiR K2 keypad.**
- 3** NUMERIC KEYS – For direct selection of channels or tracks.
- 4** VOLUME UP/DOWN KEY – Raises and lowers the amp/receiver volume.
- 5** COMMAND KEYS – Control the source equipment.
- 6** DIRECT SOURCE SELECT KEYS – Directly select sources 1– 8 controlled by the keypad while in System mode.
- 7** F1 AND F2 KEYS – Set and select Favorite 1 and Favorite 2 presets.
- 8** CURSOR KEYS – Issue navigation commands for source equipment, allowing movement through menus and program screens.
- 9** INPUT KEY – Scrolls through sources controlled by the keypad while in System mode. Works the same as the keypad's Source key.
- 10** LOCAL DEVICE CONTROL KEYS – Select local device modes for direct control of the devices. These keys change the SRC2's operating layer.
- 11** SETUP KEY – For programming the remote's local device control keys using the built-in library or learning capability.

The optional SRC2 remote control will operate the K2 keypad and all sources the keypad is programmed to control without having to program the remote. The SRC2 may be programmed to control three additional local devices.

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Keypad Operation

On/Off

Press and release  to turn on the K2 keypad. This will also activate any speakers wired through the speaker relay on the back of the K2. If power management is set up on your keypad, turning on the keypad will also turn on your amp/receiver and source components. If you have more than one K2 keypad in your system, this will occur when you turn on the first keypad.

Press and release  to turn off the K2 keypad. This will interrupt any speakers wired through the keypad's speaker relay.

System All On/Off

If you have more than one K2 keypad in your system, you can issue an All On command by turning on one keypad and then pressing  and holding it for 3 seconds. All other K2 keypads will then turn on. You can issue an All Off command by turning off any keypad and then pressing and holding . All K2 keypads will then

turn off. If power management is set up on your keypad, the All Off command will turn off your amp/receiver and source components.

System On Indicator

When a keypad is off but the connected audio system is on,  is illuminated and the "SYS ON" icon remains visible on the display. This feature requires the use of the status power connection on the K2.

Source Select Key

The  key scrolls through up to eight source inputs. To change sources, press and release . Each time, a different source name will appear on the keypad display. You can also press and hold  to enter the User Menu. (See User Menu on next page.)

Volume Up/Down Keys

The audio output volume of the amplifier/receiver is adjusted using .

F1 and F2 Keys

The **F1** and **F2** preset keys are for saving and recalling a source selection and favorite disk or channel.

To save a preset, first select a source. Next, press and hold the **F1** or **F2** key until SAVED appears on the display. This saves the source selection. Within 15 seconds you can also save a favorite disk or channel for that source. To do this, use **+** or **-** to select the disk or channel (Note: This works with **+** and **-** only). Press and hold the same **F1** or **F2** key again until SAVED appears on the display. This saves the selected disk or channel along with the source previously saved.

To recall a preset, press and release the **F1** or **F2** key. The keypad will select your favorite program.

Command Keys **+** **-** **▶** **◀** **▶** **■** **||**

The command keys allow you to control the selected

source at the K2 Keypad. The command keys are activated with a press and release, or with a press and hold to access secondary functions.

User Menu

The User Menu allows you to adjust the keypad background color and System On properties. Press and hold **Source** to enter the User Menu. The options are BG COLOR **▶** SYSON ENABLE **▶**. Press **▶** to choose the selected option.

1. BG COLOR (keypad background light) – Use **+** and **-** to toggle between Amber and Green and **▶** to select. Press **▶** to advance.

2. SYSON ENABLE – Determines whether the K2 keypad will react to “All On” or “All Off” commands. Use **+** and **-** to toggle between Enable or Disable and **▶** to select. Press **Source** to exit the User Menu.

INSTALLER

Getting Started

About this Section

The rest of this manual provides technical information for installing and programming the SaphIR K2 keypad. This section is intended mostly for installers, but users may find the information useful as well.

Installation Overview

Several key steps will lead you to a successful SaphIR K2 installation:

1. Review this section of the manual to get familiar with the instructions, especially programming the keypad.
2. Run the proper cable between the keypad and the components.
3. If you intend to use the keypad's speaker relay, loop the speaker cables through the keypad location.
4. Install a double-gang plastic wall box at the keypad location.
5. Connect the keypad.
6. Connect the 857 connecting block.
7. Attach IR emitters to the connecting block and the components.
8. Plug the power supply into the 857 connecting block.
9. Learn how the amp/receiver and source components work and plan your settings on the Source Information Form on page 55.
10. Turn on the keypad and program it.
11. Test the operation of the keypad and equipment.

There are two ways to program the SaphIR K2 keypad. The easier way is to use Russound's EZpro programming software, which runs on a Windows-based computer. You can download EZpro free from the Russound web site at www.russound.com. To load the programming into the K2, you will need to use a Programming Cable, part number 2500-121036, available from your Russound distributor. **Note:** When using EZpro to program the keypad, if "Write to Device" takes longer than 2 minutes, cover up IR windows on connected keypads, or disconnect keypads to minimize incoming IR signals.

Terms You Need to Know

Amp/Receiver – The central receiver, preamplifier, or amplifier to which the source components in the audio system are connected. This component is operated from the SaphIR K2 keypad to provide the source selection and volume control functions.

Command Keys – The keys on the SaphIR K2 keypad and SRC1 or SRC2 remote that control source functions, such as Play, Stop, and Pause.

Command Type – A set of IR commands for a particular type of component, such as a CD player, TV, or tuner. The command type determines which set of IR functions can be used for that device.

Copy Config – A System Menu procedure that copies programming from one K2 keypad to all other K2s in a system (Rev. 3 to Rev. 3; Rev. 2 to Rev. 2).

Device Code – A number that identifies a command type for a specific component. The SaphIR K2 keypad and SRC2 remote control are preprogrammed with device codes for numerous brands and types of components. In programming the SaphIR K2, usually a device code is selected after selecting a command type. Selecting a device code maps the command keys to specific IR commands appropriate for that device.

Factory Initialization – A procedure in the System Menu that returns the keypad to its original factory settings. Using this procedure erases all programmed settings.

Firmware – Programming built into the SaphIR K2 keypad. From time to time Russound may issue firmware updates, which can be downloaded from the company's

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Getting Started

web site and uploaded into the keypad by using the Firmware Update procedure in the System Menu. This requires connecting a computer to the keypad with a Programming Cable, part number 2500-121036.

Input Order – The order in which the amp/receiver selects its source inputs. By default, the K2 keypad selects Input 1 for Source 1, Input 2 for Source 2, etc. You can change this order through the Amp/Receiver Key Configuration Procedure.

Key Configuration – A procedure in both the Amp/Receiver Setup and Source Setup menus that allows certain keys to be configured with functions other than the default commands. In Amp/Receiver Setup, the Source key and the Volume Up and Volume Down keys can be configured. For example, you can configure the Source key to scroll through the amp/receiver's inputs in any order. In Source Setup, any of the seven command keys can be configured.

Key Function – The IR command sent when a key is pressed, such as Play, Stop, or Channel Up. Normally default key functions are assigned by templates, but other functions can be assigned manually through key configuration.

Key Name – The label that appears in the keypad display when a key is pressed.

Learn IR – A programming procedure that allows the SaphIR K2 keypad to learn IR commands from a remote control. This is useful in cases where there is no valid device code for the device to be controlled.

Learned Source – A label that identifies a storage location for a set of learned IR commands for a particular device.

Macro – A sequence of commands issued by a single key touch or other event. The SaphIR K2 includes a macro editor

that allows the creation of up to 132 macros, each of which can contain up to 10 command steps.

Numeric IR – A procedure in the Source Setup menu that programs the plus and minus keys to scroll through channel or disk numbers. The procedure also allows the programming of prefix and suffix commands that may be needed to initiate a scroll list or enter a selected channel or disk number.

Power Management – Issuing IR commands to control the power state of the amp/receiver, source components, and other devices. Devices being managed are turned on when the keypad (or first keypad in the system) is turned on, and turned off when the All Off command is issued from a keypad.

Status – A feature that allows the SaphIR K2 keypad to indicate the power state of the amp/receiver by using a 12 VDC signal from a trigger output on the amp/receiver or a power supply connected to its switched AC receptacle.

System Menu – A programming menu that provides options to obtain information about the SaphIR K2 keypad or perform various utilities.

Template Type – A parameter that determines which set of key functions is assigned to the command keys, based on the type of device being controlled. Selecting a command type for a specific component automatically assigns a template. Selecting the Learned IR command type and a learned source prompts the programmer to select a template type.

User Menu – A menu available to the user for selecting the backlight color and whether the keypad will respond to All On and All Off commands. The User Menu is accessed by pressing and holding the Source key.

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Getting Started

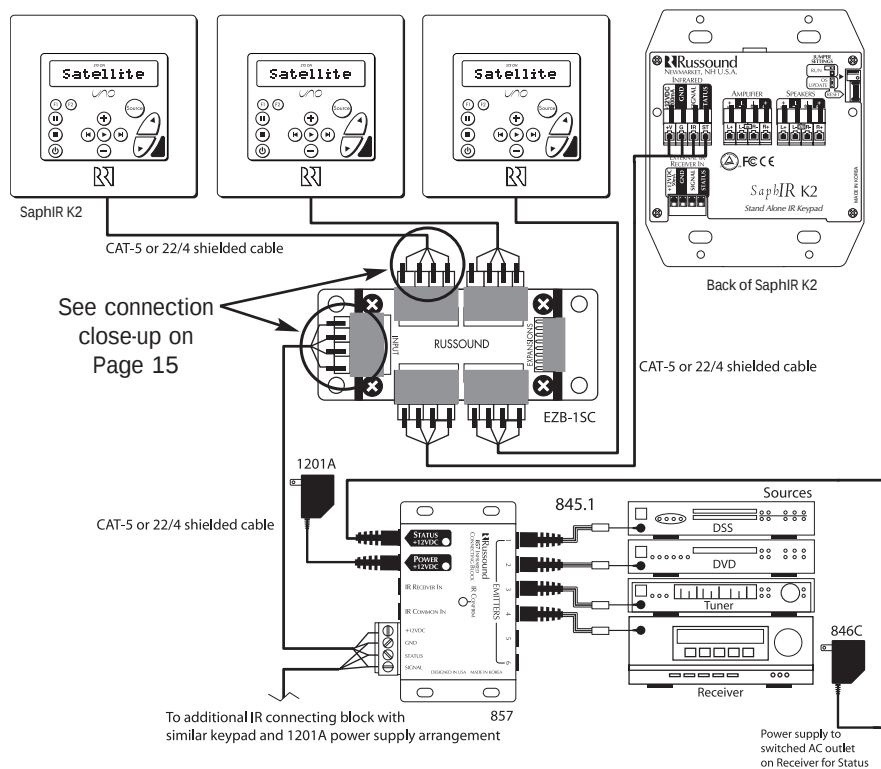
Typical System Configuration

The SaphIR K2 keypad requires an IR connecting block such as the Russound 857 for power and communication with the components and other K2 keypads. The amp/receiver and other devices receive commands from the 857 connecting block through 845.1 or 1584.1 micro emitters or by direct connection to IR input jacks on the components.

The Russound 1201A power supply for the 857 supports a maximum of four K2 keypads.

If the installation includes more than one K2 keypad, you can tie them together with a Russound EZB-1SC connecting block. The EZB-1SC is a parallel wiring device for speakers or IR data and power. This makes it a convenient point for connecting more than one K2 keypad.

Multiple arrangements can be linked together with successive 857s for increased capacity. See pages 16 and 17 for connection details.



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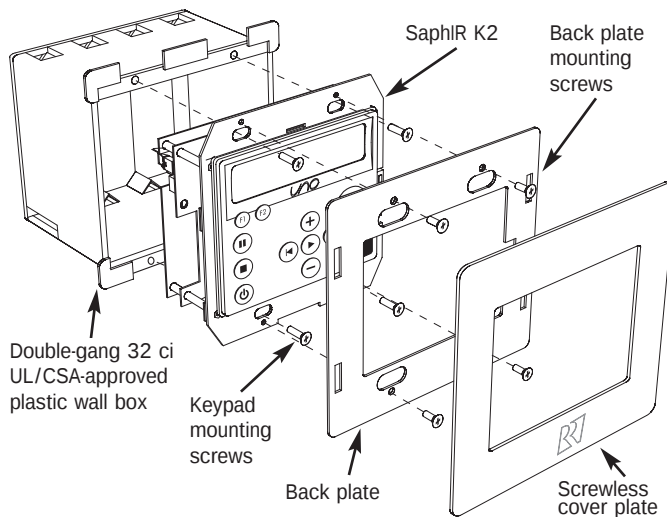
Keypad Installation

Tools Needed for Installation

- Drill with a 1/2-inch drill bit
- Keyhole saw
- Flat-head screwdriver (medium size)
- Phillips screwdriver (cordless recommended)
- Wire cutter-stripper
- Stud finder
- Electrician's fish tape

Considerations

- For best infrared remote performance, locate the keypad away from direct sunlight, plasma TVs, lighting controls, and high- and low-voltage wiring. Also consider convenience when choosing a location.
- When running cables, avoid locations concealing pipes, heating ducts and AC wiring in the general vicinity. Avoid running cables within 12 inches of house electrical wiring for any distance. If you have to run them parallel, make sure to space the cables at least two feet from the AC line.
- To simplify hookup, label cables with keypad and room locations.



Cabling and Keypad Installation

1. Route a shielded 4-conductor, 2-twisted-pair cable or CAT-5 cable to the wall box from the IR connecting block. Connect the wires to the INFRARED connector on the keypad as shown in the detailed views on the next page, being sure to match wire colors at each end for +12V, GND, SIGNAL and STATUS.
2. Route the left and right speaker cables from the amplifier to the wall box. Standard 16-gauge, 4-conductor stranded speaker cable can be run up to 125 feet; 14-gauge cable can be run up to 250 feet. Connect the wires to the AMPLIFIER connector on the K2.
3. Route speaker cables from the room's speakers to the wall box and connect the wires to the SPEAKER connector on the K2.
4. Mount the keypad in the wall box and program it.
5. Attach the back plate and cover plate only after programming the keypad and checking its operation.

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Keypad Connections

IR and Power Connections

The K2 keypad can be connected using either CAT-5 or shielded 4-conductor, 22-gauge 2-twisted-pair cable. The maximum recommended cable length is 250 feet for either type of cable. See page 15 for the wiring color codes for both cables.

- When using shielded 22/4 cable, use one twisted pair for power and ground, and the other twisted pair for status and IR signal. *Always leave the shield open at the keypad end.*
- When using CAT-5 cable, *do not* connect the Orange/White and Green/White to GND (ground) at the K2 keypad.

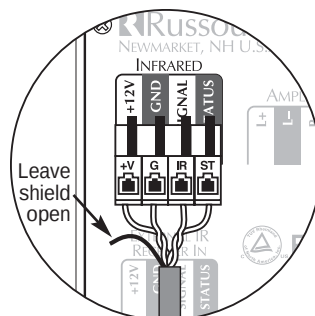
Recommended Russound Cables

AW2260AB – shielded 4-conductor, 22 gauge 2-twisted-pair cable

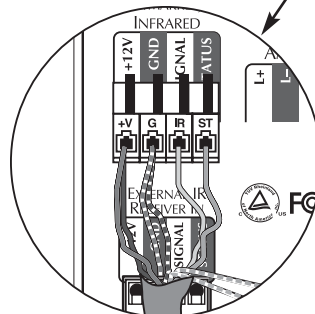
AWCAT5 – 8-conductor, 24 gauge CAT-5 cable

Speaker Connections

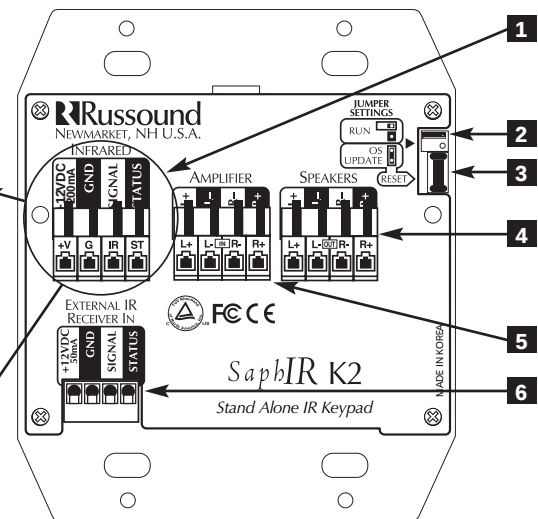
The amplifier and speaker terminals connect to the K2's internal relay for muting a pair of speakers with the Power key only. There is no speaker volume control in the keypad.



Shielded 22/4 Connection at K2



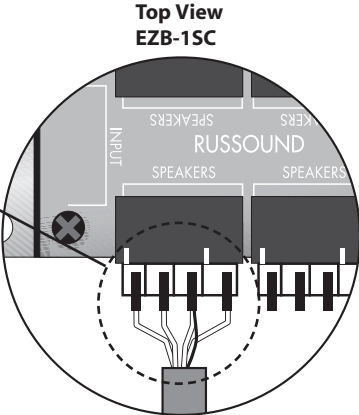
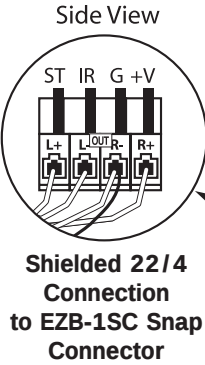
CAT-5 Connection at K2



- 1** INFRARED CONNECTOR – For connecting the K2 to a required connecting block (e.g., 857)
- 2** OS UPDATE JUMPER – Selects RUN or OS UPDATE mode
- 3** RESET BUTTON – For resetting keypad when changing between RUN and OS UPDATE modes
- 4** SPEAKER OUTPUT CONNECTOR – For connecting a pair of room speakers to the internal relay
- 5** AMPLIFIER INPUT CONNECTOR – For connecting an amplifier's speaker output to the internal relay
- 6** EXTERNAL IR RECEIVER IN – For connecting an external IR receiver

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EZB-1SC Connections

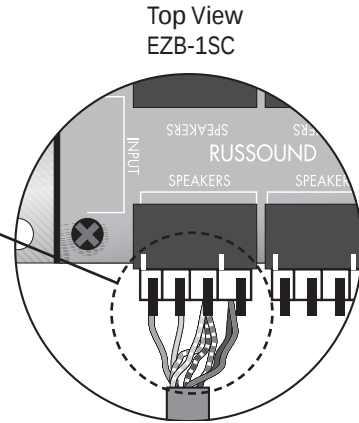
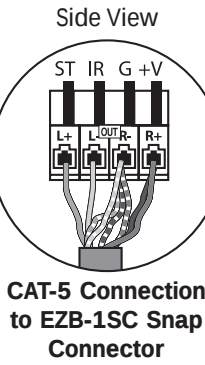


Shielded 22/4 Cable	
Wire Color	Function
Red	+12V
Black	Ground
Green	IR Signal
White	Status
Bare	Drain (Gnd)

EZB-1SC Connection Details

When using shielded 22/4 two-twisted-pair cable, use one twisted pair for power and ground, and the other twisted pair for status and IR signal. Always drain the shield by connecting it or the drain wire to the GND terminal on the EZB connecting block.

Note: To ensure proper operation, it's important to maintain similar wiring schemes at all termination points of the EZB-1SC.

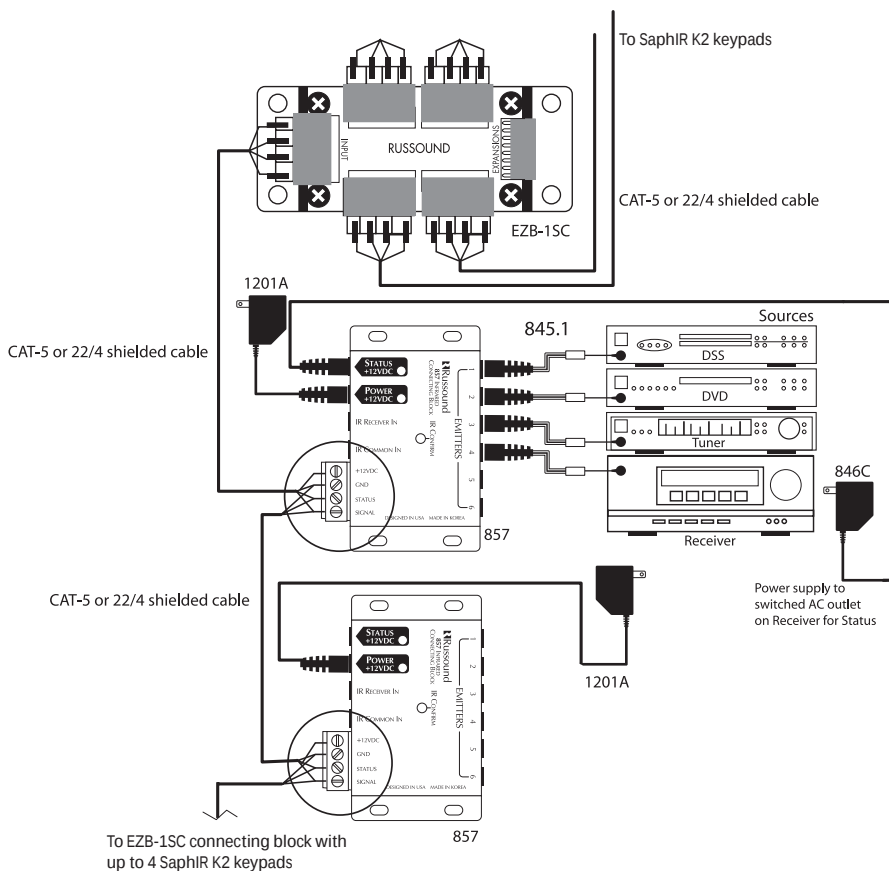


CAT-5 CABLE	
Wire Color	Function
Brown	+12V
Blue	+12V
Orange	IR Signal
Green	Status
Orange/White	Drain (Gnd)
Green/White	Drain (Gnd)
Brown/White	Ground
Blue/White	Ground

When connecting CAT-5 cable to the EZB-1SC, use the wiring chart to the left.

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Multiple 857 Connections



Multiple 857 Connections

Multiple groups of up to four K2 keypads can be linked together by using successive Russound 857 IR connecting blocks as shown in the diagram to the left. Each IR connecting block must have its own 1201A power supply.

Each Russound 1201A power supply supports a maximum of four K2 keypads.

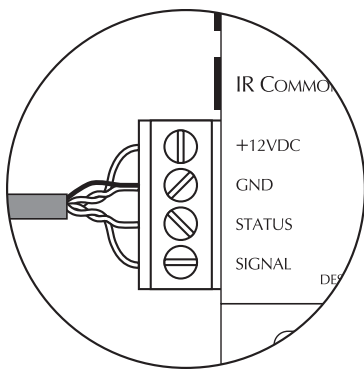
When using shielded 22/4 cable, use one twisted pair for power and ground, and the other twisted pair for status and IR signal. Always drain the shield by connecting it or the drain wire to the ground terminal on the IR connecting block as shown in the top diagram on the next page.

When using CAT-5 cable, drain the orange/white and green/white wires by connecting them to the ground terminal on the IR connecting block as shown in the bottom diagram on the next page.

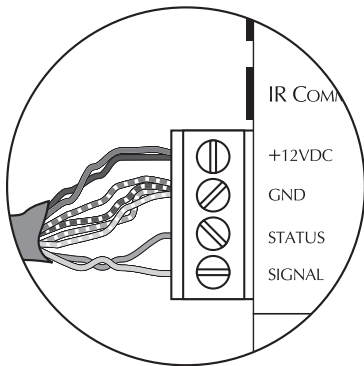
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Multiple 857 Connections

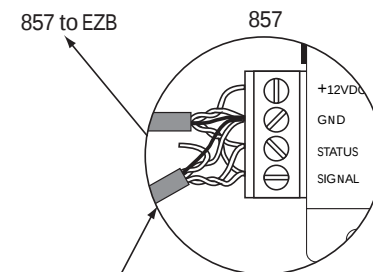
Note: Do not connect the +12VDC wire between the 857 connecting blocks. Each 857 requires its own 1201A power supply. Only GND, SIGNAL and STATUS need to be connected between multiple connecting blocks. Source IR emitters can be connected to any connecting block in this arrangement.



Shielded 22/4 Connection to 857 Screw Terminals



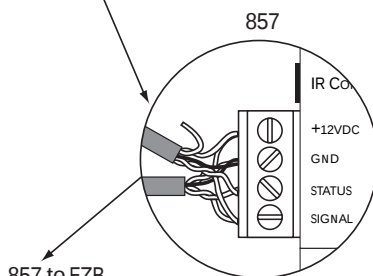
CAT-5 Connection to 857 Screw Terminals



857 to EZB

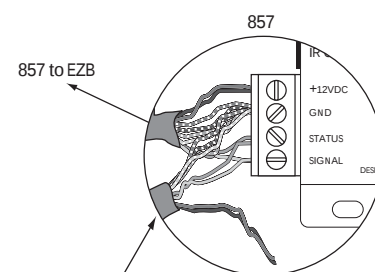
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From 857 to next 857 connecting block



857 to EZB

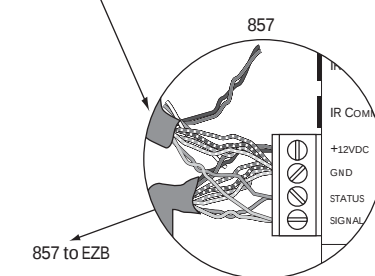
Shielded 22/4 Connection Between 857 Connecting Blocks



857 to EZB

857

From 857 to next 857 connecting block

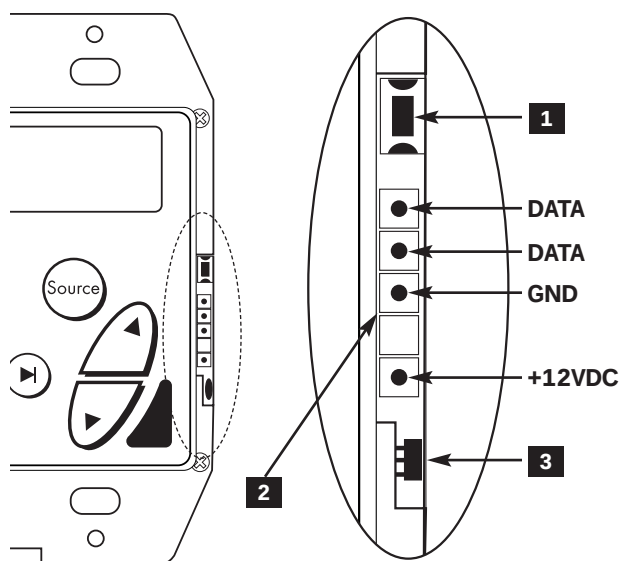


857 to EZB

CAT-5 Connection Between 857 Connecting Blocks

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Programming Port



- 1** SETUP BUTTON – Accesses and clears the programming menu for manually programming the keypad and getting information
- 2** PROGRAMMING PORT – Connects to a computer for keypad programming, configuration backup, and firmware updates
- 3** IR LEARNING RECEIVER DIODE – Receives signals from a remote control when the keypad is learning IR commands

Programming Port

The Programming Port is used for programming the SaphIR K2, backing up the keypad configuration, and updating the keypad firmware with a Windows-based computer. These procedures require a Programming Cable, Russound part number 2500-121036.

Keypad Programming

The SaphIR K2 can be programmed by using Russound's free EZpro software on a computer. You can download EZpro from the Infrared Products page in the Document Center at www.russound.com. **Note:** When using EZpro to program the keypad, if "Write to Device" takes longer than 2 minutes, cover up IR windows on connected keypads, or disconnect keypads to minimize incoming IR signals.

Configuration Backups

The K2 keypad configuration can be backed up to a computer using either EZpro or Russound's RNET Backup Utility. The Backup Utility is available on the RNET Systems page in the Document Center at www.russound.com.

Firmware Updates

From time to time Russound may issue updated firmware for the SaphIR K2 keypad, which you can load into it from a computer. Any firmware update files and associated instructions are available on the Infrared Products page in the Document Center at www.russound.com.

Programming Methods

There are two ways to program the SaphIR K2 keypad. The easier method is to use EZpro software on a connected Windows-based computer, but you can also program the keypad manually using the programming menu described in this section. The menu is organized in a file tree structure similar to that found on a computer. At each subsequent level, options become more specific. The menu procedures provide intuitive options and navigation, allowing you to maximize source control and ease of use.

Once the keypad is programmed, you can copy the configuration to other K2 keypads in the system (up to 16) individually or all at once by using the Copy Config procedure. Keypad hardware revisions must be the same for Copy Configuration (e.g., Rev. 3 to Rev. 3 keypads, Rev. 2 to Rev. 2 keypads, etc.).

Tools and References

This manual includes the following items to help you in the programming process:

Source Information Form (page 55) – A blank reproducible form is provided for planning sources and settings. We recommend that you complete the form before you begin programming and refer to it during the programming process. This will speed up your programming time and reduce missed or incorrect entries, as well as provide you with a record of the settings. A sample completed form on page 54 shows you how to use the form.

Source Names (page 56) – A list of assignable source names is provided for you to select in advance and record on the Source Information Form before programming. These are the names that will appear in the keypad display when the user selects sources.

IR Device Codes (pages 57–61) – This list includes all the IR device codes built into the K2 keypad, grouped by component type. Normally you will select a device code for the amp/receiver and each source during Basic Setup. If you cannot find a working device code for a component, you can use the Learn IR procedure to teach the keypad that component's IR commands.

Key Function List (pages 62–67) – This list identifies which key functions are supported by the built-in IR commands for each type of component. "Learned Only" indicates functions that are not supported and whose IR commands must be learned into the K2. The key functions listed for each component are the ones that appear on the keypad display during the Key Configuration procedure in the Programming Menu.

Programming Menu Instructions (pages 22–42) – Detailed step-by-step instructions walk you through the programming procedures.

Programming Flow Charts (pages 43–53) – Flow charts graphically represent the Programming Menu structure to guide you visually through the programming procedures.

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Programming Overview

Recommended Process

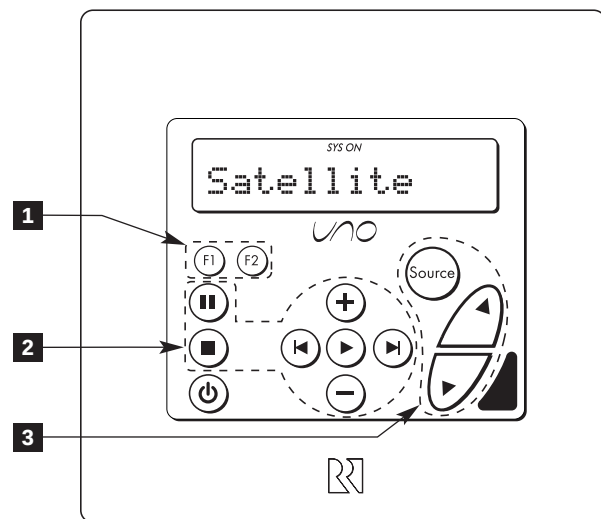
It will be much easier to program the SaphIR K2 if you follow the steps in a particular order, especially if you're programming it manually. Here's the order we recommend for initial setup:

- 1. Component Control** – First learn how the amp/receiver and source components work with their remote controls, especially how source inputs are numbered on the amp/receiver. This is important for configuring the inputs for selection by the Source key. List the sources on the Source Information Form (page 55).
- 2. IR Device Codes** – Look up the amp/receiver's and source components' device codes in the IR Device Codes list (pages 57–61). Record component information and settings on the Source Information Form (page 55).
- 3. Keypad ID (page 40)** – If the system you're installing has more than one SaphIR K2 keypad, assign a unique ID number to each keypad. This procedure is necessary before you can copy the configuration from one keypad to the others. This doesn't apply if you're installing only one SaphIR K2.
- 4. Amp/Receiver Basic Setup (page 23)** – Set up the amp/receiver first to lay the foundation for source setup. The amp/receiver selects sources and controls functions common to all sources, such as volume, tone, and surround mode. Also, it's important to understand the order in which the amp/receiver selects source inputs when you assign source numbers to the sources.
- 5. Learn IR (page 25)** – In most cases you will be able to find an IR device code for the amp/receiver. If not, you can use the Learn IR procedure to teach the keypad the commands from the remote control. The commands are centrally stored in the keypad as a learned IR command type.
- 6. Number of Sources (page 27)** – If the system has fewer than eight sources, specify the total number of sources to prevent unused source numbers from appearing in the keypad display. Don't forget to count the tuner in the receiver if it will be used as a source.
- 7. Source Basic Setup (page 28)** – Follow the Source Basic Setup procedure for each source, including the receiver's tuner if it is used, for the keypad to be able to control the sources. As with the amp/receiver, you may need to use the Learn IR procedure for some sources if their IR device codes aren't in the built-in library.
- 8. Numeric IR (page 32)** – The Numeric IR procedure lets you program numeric functions so the user can pick station, channel, or disk numbers from scroll lists on the keypad.
- 9. Power Management (page 35)** – If you program the power management feature, the keypad can issue discrete commands and/or macros to control the power state of the amp/receiver and source components. When you turn on the keypad (or first keypad in a multiple-keypad system), the components turn on; when you issue an All Off command, they turn off.
- 10. Macro Editor (page 38)** – The Macro Editor allows you to build command sequences that run with a single key touch. This is useful for issuing power commands to multiple components for power management. It's also useful for controlling other devices like home theater screens and projectors in conjunction with source equipment.

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Programming Overview

- 11. Amp/Receiver Key Configuration (page 24)** – By default, the Source key selects sources and the Volume keys adjust the output volume of the amp/receiver. You may wish to reconfigure these keys to perform alternate functions. The Amp/Receiver Key Configuration procedure allows you to do this.
- 12. Source Command Key Configuration (page 30)** – This procedure allows you to assign additional or alternate functions to the seven command keys on the SaphiR K2 keypad for any source. Each command key can be programmed to perform separate “press” and “press and hold” functions.
- 13. Copy Configuration (page 40)** – In a multiple-keypad system, this procedure allows you to copy all the programming from the first keypad to all the others in the system. To do this, each keypad must have a unique keypad ID (step 3). Keypad hardware revisions must be the same for Copy Configuration (e.g., Rev. 3 to Rev. 3 keypads, Rev. 2 to Rev. 2 keypads, etc.)



Configurable Keys

- 1** FAVORITE PRESET KEYS – User-programmable keys for favorite source programs (page 9)
- 2** SOURCE COMMAND KEYS – Configured during “Source Setup”; can also be installer configured through Source Command Key Configuration (page 30)
- 3** AMP/RECEIVER COMMAND KEYS – Configured during “Amp/Receiver Setup”; can also be installer configured through Amp/Receiver Key Configuration (page 24)

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Programming Menu Instructions

PROGRAMMING MENU

The Programming Menu has various levels and consists of submenus, procedures, and features. A *procedure* is a guided sequence of steps to set feature parameters, such as selecting source names. Once you begin a procedure, the system prompts for the information needed at each step. A *feature* is a setting for which you must choose a parameter. Together, the feature parameters make up the system configuration.

In the following pages, procedures are identified as either *Required*, *Conditional*, or *Optional*. You must perform all Required procedures to program the basic functions of the SaphIR K2 keypad. You may also need to perform Conditional procedures, depending on the requirements of the installation. Optional procedures are available for programming special functions.

Navigation

The following keys are used to navigate the Programming Menu and set parameters:

-  **SETUP BUTTON** – To enter the Programming Menu while the keypad is in normal operating mode, press and release the Setup button (located on the right edge of the keypad). **To avoid accidental damage, use a nonmetallic object to press the button.** Also use the Setup button to back out of the Programming Menu one level at a time. If you are performing a procedure, the Setup button brings you back to the beginning of the procedure. Once you have reached the top level of the Programming Menu, pressing the Setup button brings you back to normal operating mode.
-  **NEXT KEY** – Go to next menu/procedure/feature on the same menu level. Not available while performing a procedure.
-  **PREVIOUS KEY** – Go to previous menu/procedure/feature on the same menu level. Not available while performing a procedure.
-  **PLUS KEY** – Select feature parameter (increment).
-  **MINUS KEY** – Select feature parameter (decrement).
-  **PLAY KEY** – Enter menu/begin procedure/show current feature setting. While performing a procedure, it is also used to advance to the next feature setting once the current feature setting has been viewed or selected.

The following sections describe the menus, procedures, and features. They are presented in the order we recommend for manually programming the keypad (when not using SaphIR EZpro software). The flow charts on pages 43–53 are shown in the same order.

Programming Menu Top Level

Press the Setup  button to enter the Programming Menu. The following items are available at the top level of the menu:

SOURCE SETUP  **AMP/RCVR SET**  **POWER MGT**  **LEARN IR**  **MACRO EDITOR**  **SYSTEM** 

Press either the Previous  or Next  key to select an item and press the Play  key to enter the item.

AMP/RECEIVER SETUP MENU

The Amplifier/Receiver Setup Menu enables you to program the keypad with the IR commands the amplifier or receiver needs for source selection and volume control. This programming is necessary for the keypad's Source and Volume keys to work. Also, the amplifier or receiver must be IR controllable to perform these functions from the keypad.

The keypad's IR device code library contains codes for most IR-controllable amplifiers and receivers. If you don't find a device code for the amp/receiver, you will need to use the Learn IR procedure to teach the keypad the commands from the amp/receiver's remote control. Typically, the commands to be learned are Power (or On and Off), Volume Up, Volume Down, and Input 1 through Input 8.

To enter the Amp/Receiver Setup Menu, select **AMP/RCVR SET** from the top level of the Programming Menu and press Play . The Amplifier/Receiver Setup Menu offers the following procedures:

BASIC SETUP  **KEY CONFIG** 

Amp/Receiver Basic Setup Procedure (Required)

This procedure selects a command template for basic operation of the amplifier or receiver. This is necessary for the keypad to control the amp/receiver. Before you perform this procedure, connect an IR emitter or link cable between the 857 connecting block

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Programming Menu Instructions

Amp/Receiver Basic Setup Procedure (continued)

and the amp/receiver and turn it and all sources on. Also make sure you can control the amp/receiver with its remote control aimed at the SaphIR K2 keypad in normal operating mode. **See Amp/Receiver Basic Setup Procedure flow chart on page 43.**

To begin the Amp/Receiver Basic Setup Procedure, select **BASIC SETUP** from the Amp/Receiver Setup Menu and press Play .

1. COMMAND TYPE – Select and enter a command type for the amp/receiver. Choose one of the following options:

- a. Select and enter a specific device (e.g., **Tuner/Amp**) to use an IR device code from the built-in library.
 - i. **DEVICE CODE** – Select and enter the amp/receiver's IR device code number from the Reference section of this manual.
 - ii. **TEST IR?** – Select and enter **Yes** to send a power command to the amp/receiver to test IR operation. Select and enter **No** to skip the test. **Note:** Sources that use Discrete On/Off will not respond to Test IR even if the correct Device Code is selected.
 - A. **SUCCESS?** – If the power command turned off the amp/receiver, select and enter **Yes**; otherwise select and enter **No**. Entering **No** returns the procedure to **DEVICE CODE** to allow selection of another code number.
- b. Select and enter **Learned IR** if the IR device code library doesn't support the amp/receiver. (See Learn IR Procedure on page 25.)
- c. Select and enter **Unassigned** to clear the amp/receiver template. All key assignments and other amp/receiver settings will be erased.

2. SAVE CHANGES? – Select and enter **Yes** to save changes. Procedure returns to **BASIC SETUP**.

Amp/Receiver Key Configuration Procedure (Optional)

This procedure allows you to custom configure the Source key and the Volume Up and Volume Down keys. By default the Source key selects the amp/receiver's input 1 for source 1, input 2 for source 2, etc. To have the Source key select the inputs in a different order, you will need to use this procedure. **See Amp/Receiver Key Configuration flow chart on page 44.**

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Programming Menu Instructions

To begin the Amp/Receiver Key Configuration Procedure, select **KEY CONFIG** from the Amp/Receiver Setup Menu and press .

1. **SELECT A KEY** – Press  or  to select a key to be configured. Press  to enter your selection.
2. **COMMAND TYPE** – Select and enter the type of command. Choose one of the following options:
 - a. Select and enter **Default** to use the same command type previously selected in **BASIC SETUP**.
 - i. **KEY FUNCTION** – Select and enter the function you want the key to perform.
 - b. Select and enter **Learned IR** to use a learned IR command not included in the command type previously selected in **BASIC SETUP**. (See Learn IR Procedure on page 25.)
 - i. **KEY FUNCTION** – Select and enter the function you want the key to perform.
 - c. Select and enter a specific device (e.g., **Tuner/Amp**) to use an IR device code from the built-in library.
 - i. **DEVICE CODE** – Select and enter the amp/receiver's IR device code from the Reference section of this manual.
 - ii. **KEY FUNCTION** – Select and enter the function you want the key to perform.
 - d. Select and enter **Macro** to configure the key with a macro. (To build macros, see Macro Editor Procedure on page 38.)
 - i. **MACRO ID** – Select and enter the macro ID number.
 - e. Select and enter **Unassigned** to clear the key configuration. Any custom settings for that key will be erased.
3. **SAVE CHANGES?** – Select and enter **Yes** to save changes. Procedure returns to **SELECT A KEY** (step 1).

Learn IR Procedure (Conditional)

This procedure allows you to teach the keypad IR commands from a remote control. It's typically used when there is no IR device code in the keypad's built-in library for a particular device or when you want to program a special command for key configuration or a macro. It's important to understand the Learn IR procedure doesn't automatically assign the learned commands; rather, it only stores the commands in the library. The commands must be assigned separately in other programming procedures.

There are nine locations in the library to store learned IR commands: one for the amp/receiver and one for each of eight sources.

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Programming Menu Instructions

Learn IR Procedure (continued)

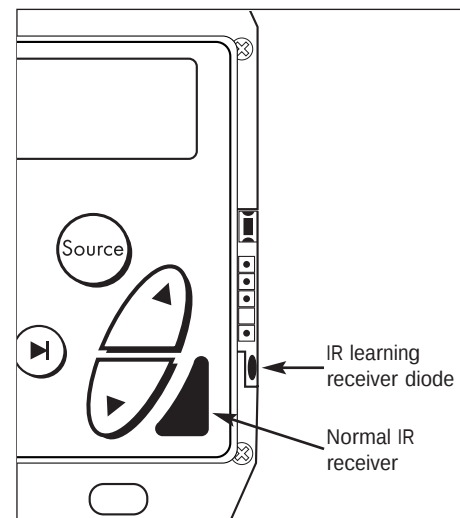
These locations are called Learned Sources. Learned commands can be assigned in other procedures by selecting **Learned IR** as a command type and then selecting the corresponding Learned Source location.

See **Learn IR Procedure flow chart on page 45**.

To begin the Learn IR Procedure, select **LEARN IR** from the top level of the Programming Menu and press Play .

Note: When teaching commands, you must aim the remote at the keypad's IR learning receiver diode. The keypad cannot learn commands through its normal IR receiver. See the diagram at right.

1. **LEARNED SRC** – Select and enter the Learned Source location where you want to store the commands. Usually the Learned Source label should match the source number or amp/receiver to avoid confusion. To store commands for a separate device such as a lighting system or a motorized screen, choose any unused Learned Source location.
2. **KEY FUNCTION** – Select and enter a function to be learned or deleted.
3. **LEARN/DELETE** – Select **Learn IR Now** or **Delete IR**.
 - a. Select and enter **Learn IR Now** to teach the keypad an IR command. A **USE REMOTE** prompt appears and a red LED on the keypad's side flashes when ready to receive the IR signal. Hold the remote control 1 to 6 inches from the keypad. Aim the remote at the IR learning receiver diode on the right front edge of the keypad and quickly press and release the key for the function you want the keypad to learn.
 - b. Select and enter **Delete IR** to delete any existing command for that function. Procedure returns to **LEARNED SRC** (step 1).



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Programming Menu Instructions

4. **TEST IR?** – Select and enter **Yes** or **No**. Entering **Yes** sends the learned command to the device to test the IR. If the device responds, the IR learning was a success. If the device does not respond, either the keypad did not properly learn the command or the command is inappropriate for the device. Entering **No** returns the procedure to **LEARNED SRC** (step 1).
5. **SUCCESS?** – Select and enter **Yes** if the IR learning was successful. The procedure returns to **KEY FUNCTION** (step 2) to allow learning another command. Select and enter **No** if the IR learning failed. The procedure returns to **LEARN/DELETE** to allow relearning the same command for the key function.

Press the Setup  button to back out of the procedure.

SOURCE SETUP MENU

Note: The amp/receiver is configured for source selection and volume control under the Amp/Receiver Setup Menu on page 23. However, if the receiver's tuner is used as a source, it must also be configured under this menu.

The Source Setup Menu enables you to program the keypad with the IR commands needed to control the source equipment. Each source must be IR controllable to be operated by the keypad.

The keypad's IR device code library contains codes for most IR-controllable sources. If you don't find a device code for a source, you will need to use the Learn IR procedure to teach the keypad the commands from the source's remote control.

To enter the Source Setup Menu, select **SOURCE SETUP** from the top level of the Programming Menu and press Play . The Source Setup Menu offers the following procedures and features:

BASIC SETUP  **KEY CONFIG**  **SOURCE NAMES**  **NUMERIC IR**  **SRC SEL CMD**  **# OF SOURCES** 

Number of Sources Feature

This feature allows you to enter the number of sources used in the system (1 to 8). This limits the sources displayed on the keypad when the source key is pressed in the normal running mode and also limits source selections in the programming procedures. **See Source Select Command and # Of Sources Procedures flow chart on page 50.**

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Number of Sources Feature (continued)

To enter the Number of Sources Feature, select **SOURCE SETUP** from the top level of the Programming Menu and press Play .

At **BASIC SETUP**, press Previous  once. At **# OF SOURCES**, press Play .

Using the Plus  or Minus  key, scroll through the numbers (1–8) to select the number of sources and then press Play .

Press the Setup  button to return to the top level of the Programming Menu.

Source Basic Setup Procedure (Required)

Note: *The Basic Setup Procedure should be performed for each source before proceeding to other source setting changes, as IR control will be needed.*

This procedure selects command templates for basic operation of the source equipment. You can further customize source control with the Key Configuration, Numeric IR, and Source Select Command procedures. Before you perform this procedure, connect IR emitters or link cables between the 857 connecting block and the source components and turn the sources on. Also make sure you can control the sources with their remote controls aimed at the SaphIR K2 keypad in normal operating mode. **See Source Basic Setup flow chart on page 46.**

For best results while using this procedure, refer to your completed Source Information Form on page 55.

To begin the Source Basic Setup Procedure, select **SOURCE SETUP** from the Programming Menu top level and press Play .

At **BASIC SETUP**, press Play  again.

1. **SOURCE NUM** – Select and enter the source you want to configure.
2. **SOURCE NAME** – Select and enter a name for the source (e.g., **DVD, Aux 2, Jazz**). This name will appear on the keypad display when the source is selected.
3. **COMMAND TYPE** – Select and enter a command type for the source. Choose one of the following options:

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Programming Menu Instructions

- a. Select and enter a specific device (e.g., **DVD, Video Acc, Tuner/Amp**) to use an IR device code from the built-in library.
 - i. **DEVICE CODE** – Select and enter the source's IR device code number from the Reference section of this manual.
 - ii. **TEST IR?** – Select and enter **Yes** to send a power command to the source to test IR operation. Select and enter **No** to skip the test.
 - A. **SUCCESS?** – If the power command turned off the source, select and enter **Yes**; otherwise select and enter **No**. Entering **No** returns the procedure to **DEVICE CODE** to allow selection of another code number.
 - b. Select and enter **Learned IR** if the IR device code library doesn't support the source. (See Learn IR Procedure on page 25.)
 - i. **LEARNED SRC** – Select and enter the Learned Source location assigned to the source component.
 - ii. **TEMPLATE TYP** – Select and enter a template type for the source (e.g., **DVD, Video Acc, Tuner/Amp**). This maps learned commands and text to specific keys.
 - c. Select and enter **Unassigned** to clear the source template. All key assignments and other settings for the source will be erased. Procedure advances to **SAVE CHANGES** (step 6).
4. **USE NUM IR?** – Select and enter **Yes** if the source has numeric IR functions, such as selecting a disc, channel, or preset (See Source Numeric IR Procedure on page 32 for advanced settings and more information). Otherwise select and enter **No**.
- a. **HIGHEST NUM** – Select and enter the highest possible number for the numeric IR function; for example, a 100-disc CD player would have a highest number of 100.
5. **AUTO PLAY?** – Select and enter **Yes** to have the keypad issue a Play command whenever the source is selected. This option is skipped if the selected command type doesn't have a Play command.
6. **SAVE CHANGES?** – Select and enter **Yes** to save changes. Procedure returns to **SOURCE NUM** to allow configuration of another source.

Press the Setup  button to back out of the procedure.

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Programming Menu Instructions

Source Command Key Configuration Procedure (Optional)

This procedure allows you to redefine command key functions for each source. Each of the seven command keys can be customized for two functions: a "press" function and a "press-and-hold" function. For example, since there is no Eject key on the keypad, you can assign an eject function to a press-and-hold operation of the Stop key for a CD player. Or you can assign a function for dimming the room lights to a press-and-hold operation of the Play key for a DVD player. **See Source Key Configuration Procedure flow chart on page 47.**

To begin the Source Key Configuration Procedure, select **SOURCE SETUP** from the Programming Menu top level and press . At **BASIC SETUP**, press Next  once. At **KEY CONFIG**, press Play .

1. **SOURCE NUM** – Select and enter the source the key will be configured for.
2. **SELECT A KEY** – Press  or  to select a key to be configured. Press  to enter your selection.
3. **KEY TYPE** – Select and enter **Key Press**, **Key Hold** or **Both** for the operation that will activate the function.
4. **KEY NAME** – Select and enter a label to appear on the keypad display when the function is activated.
5. **COMMAND TYPE** – Select and enter a command type for the device. Choose one of the following options:
 - a. Select and enter **Default** to use the same command type previously selected for the source in **BASIC SETUP**.
 - i. **KEY FUNCTION** – Select and enter the function you want the key to perform.
 - b. Select and enter **Learned IR** if the IR device code library doesn't support the device. (See Learn IR Procedure on page 25.)
 - i. **LEARNED SRC** – Select and enter the Learned Source location assigned to the device.
 - ii. **KEY FUNCTION** – Select and enter the function you want the key to perform.
 - c. Select and enter a specific device (e.g., **CD**, **TV**) to use an IR device code from the built-in library.
 - i. **DEVICE CODE** – Select and enter the source's IR device code number from the Reference section of this manual.
 - ii. **KEY FUNCTION** – Select and enter the function you want the key to perform.

- c. Select and enter **Macro** to configure the key with a macro. (To build macros, see Macro Editor Procedure on page 38.)
 - i. **MACRO ID** – Select and enter the macro ID number.
 - d. Select and enter **Unassigned** to clear the key configuration. Any custom settings for that key will be erased.
6. **SAVE CHANGES?** – Select and enter **Yes** to save changes. Procedure returns to **SOURCE NUM** (step 1).

Press the Setup  button to back out of the procedure.

Source Names Procedure (Optional)

This procedure allows you to assign the names of the sources to be controlled. This is a separate optional procedure, as source names are normally assigned in the Source Basic Setup Procedure. **See Source Names Procedure flow chart on page 48.**

To begin the Source Names Procedure, select **SOURCE SETUP** from the Programming Menu top level and press Play . At **BASIC SETUP**, press Next  twice. At **SOURCE NAMES**, press Play .

- 1. **SOURCE NUM** – Select and enter the number of the source you want to name.
- 2. **SOURCE NAME** – Select and enter a name for the source (e.g., **DVD, Aux 2, Jazz**). This name will appear on the keypad display when the source is selected.

Press the Setup  button to back out of the procedure.

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Programming Menu Instructions

Numeric IR Procedure (Optional)

This procedure allows you to program source-specific numeric control functions (e.g., Channel 12, Disk 89) by enabling the Plus and Minus keys to scroll through channel or disk numbers. The procedure also allows the programming of prefix and suffix commands. Some source numeric commands require a prefix command such as Channel for a tuner or Disc for a CD changer, or a suffix command such as Enter or Play. For this reason, it's important to understand how the source component handles numeric commands from its remote control before you follow this procedure. **See Numeric IR Procedure flow chart on page 49.**

To begin the Numeric IR Procedure, select **SOURCE SETUP** from the top level of the Programming Menu and press Play (▶). At **BASIC SETUP**, press Next (▶) or Previous (◀) three times. At **NUMERIC IR**, press Play (▶).

1. **SOURCE NUM** – Select and enter the number of the source for which you want to configure numeric IR.
2. **USE NUM IR?** – Select and enter **Yes** to program numeric IR for the source. Select and enter **No** to disable numeric IR for the source and advance to **SAVE CHANGES** (step 7).
3. **HIGHEST NUM** – Select and enter the highest possible number for the numeric IR function; for example, a 100-disc CD player would have a highest number of 100.
4. **NUMERIC TEXT** – Select and enter a label to appear in the scroll list on the keypad display (e.g., **Disc, Channel, Preset**).
5. **PREFIX CMD** – Select and enter **Yes** if the source component needs a prefix command before receiving a numeric command. Select and enter **No** to skip the prefix command and advance to **SUFFIX CMD** (step 6).
 - a. **COMMAND TYPE** – Select and enter a command type for the source. Choose one of the following options:
 - i. Select and enter **Default** to use the same command type previously selected for the source in **BASIC SETUP**.
 - A. **KEY FUNCTION** – Select and enter the function you want the prefix command to perform (e.g., **Disc, Channel, Preset**).
 - ii. Select and enter **Learned IR** to use a learned prefix command not included in the default command type. (See Learn IR Procedure on page 25.)
 - A. **LEARNED SRC** – Select and enter the Learned Source location assigned to the source.

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Programming Menu Instructions

Numeric IR Procedure (continued)

- A. **DEVICE CODE** – Select and enter the IR device code number from the Reference section of this manual.
- B. **KEY FUNCTION** – Select and enter the function you want the suffix command to perform (e.g., **Enter**, **Play**).
- iv. Select and enter **Macro** to configure the suffix command with a macro. (To build macros, see Macro Editor Procedure on page 38.) Procedure advances to **MACRO ID**.
 - A. **MACRO ID** – Select and enter the macro ID number.
 - v. Select and enter **Unassigned** to clear the suffix command.
- 7. **SAVE CHANGES?** – Select and enter **Yes** to save the changes. Procedure returns to **SOURCE NUM** (step 1).

Press the Setup  button to back out of the procedure.

Source Select Command Procedure (Optional)

This procedure allows you to program the keypad to send a command (e.g., Play, Enter) to a source component whenever that source is selected. **See Source Select Command and # Of Sources Procedures flow chart on page 50.**

Note: Normally you don't need to use a source select command to start a source playing, since you can use the Auto Play feature in the Source Basic Setup procedure to do this. If you do program a Play command, don't use a Play/Pause toggle function as this will alternate whenever the source is selected.

To begin the Source Select Command Procedure, select **SOURCE SETUP** from the Programming Menu top level and press .

At **BASIC SETUP**, press Previous  twice. At **SRC SEL CMD**, press Play .

- 1. **SOURCE NUM** – Select and enter the source you want to configure.
- 2. **COMMAND TYPE** – Select and enter a command type for the source. Choose one of the following options:

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Programming Menu Instructions

- a. Select and enter **Default** to use the same command type previously selected for the source in **BASIC SETUP**.
 - b. Select and enter **Learned IR** to use a particular learned IR command not included in the default command type. (See Learn IR Procedure on page 25.)
 - i. **LEARNED SRC** – Select and enter the Learned Source location assigned to the device.
 - ii. **KEY FUNCTION** – Select and enter the function you want the source select command to perform (e.g., **Play**, **Enter**).
 - c. Select and enter a specific device (e.g., **CD**, **DVD**) to use an IR device code from the built-in library.
 - i. **DEVICE CODE** – Select and enter the IR device code number from the Reference section of this manual.
 - ii. **KEY FUNCTION** – Select and enter the function you want the source select command to perform (e.g., **Play**, **Enter**).
 - d. Select and enter **Macro** to configure the source select command with a macro. (To build macros, see Macro Editor Procedure on page 38.)
 - i. **MACRO ID** – Select and enter the macro ID number.
 - e. Select and enter **Unassigned** to clear the source select command.
3. **SAVE CHANGES?** – Select and enter **Yes** to save changes. Procedure returns to **SOURCE NUM** (step 1).

Power Management Procedure (Optional)

This procedure allows you to configure the keypad to manage the power state of the amplifier/receiver and sources with IR commands. To control multiple devices, you can use macros to issue several power commands in succession. Each device receives a Power On command when the keypad is turned on and a Power Off command when the Power key is pressed and held after the keypad is turned off (All Off).

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Programming Menu Instructions

Power Management Procedure (continued)

You can also verify the power state of the amp/receiver by obtaining a status voltage from a 12 VDC trigger output on the device or from a 12 VDC power supply plugged into its switched AC receptacle (see system diagram on page 12). This is useful when the amp/receiver doesn't use discrete On and Off commands but toggles on and off with the same Power command.

See **Power Management Procedure flow chart on page 51**

To begin the Power Management Procedure, select **POWER MGT** from the top level of the Programming Menu and press Play .

1. **USE STATUS?** – Select and enter **Yes** if you are using a status voltage to determine the power state of the amp/receiver.
2. **POWER ON CMD** – Select and enter **Yes** to program a Power On command or macro. Select and enter **No** to disable the Power On command or macro and skip to **POWER OFF CMD** (step 3).
 - a. **COMMAND TYPE** – Select and enter a command type for the amp/receiver or other device you want to power manage. Choose one of the following options:
 - i. Select and enter **Default** to power manage only the amp/receiver using the same command type previously selected for the device in **BASIC SETUP**.
 - A. **KEY FUNCTION** – Select and enter the **Power On** function.
 - ii. Select and enter **Learned IR** to power manage only the amp/receiver using a command stored in the amp/receiver learned source location. (See Learn IR Procedure on page 25.)
 - A. **KEY FUNCTION** – Select and enter the **Power On** function.
 - iii. Select and enter a specific device to power manage only that device (e.g., **CD, TV**).
 - A. **DEVICE CODE** – Select and enter the IR device code number from the Reference section of this manual.
 - B. **KEY FUNCTION** – Select and enter the **Power On** function.
 - iv. Select and enter **Macro** to power manage multiple devices with a macro. (To build macros, see Macro Editor Procedure on page 38.)

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Programming Menu Instructions

Macro Editor Procedure (Optional)

This procedure allows you to create a sequence of commands that are launched with one key touch or other event. For example, you can create a macro to lower a motorized screen and set the receiver in surround mode when you press the Play key when a DVD player is selected as the source. Also, you can use macros to send multiple power commands to the amp/receiver and sources for power management (see Power Management Procedure on page 35).

Up to 132 macros can be created for the system, and each macro can contain up to 10 commands including other macros. **See Macro Editor Procedure flow chart on page 52.**

To begin the Macro Editor Procedure, select **MACRO EDITOR** from the top level of the Programming Menu and press Play .

1. **MACRO ID** – Select and enter the ID for the macro you want to create or edit. Initially the list includes numbers 1 through 132. As macros are named, the macro names replace the numbers in the list.
2. **MACRO NAME** (optional) – Select and enter a name for the macro. The name you enter will become the macro ID.
3. **COMMAND NUM** – Select and enter a command number from 1 to 10. When the macro runs, commands are sent in numeric order.
4. **COMMAND TYPE** – Select and enter a command type for the device. Choose one of the following options:
 - a. **DEFAULT** – Defaults to Source 1 configuration and does not allow a choice of any other source.
 - i. **KEY FUNCTION** – Select and enter the function you want the command to perform (e.g., **Play**). Procedure returns to **COMMAND NUM** (step 3).
 - b. Select and enter **Learned IR** to use a particular learned IR command not included in the default command type. (See Learn IR Procedure on page 25.)
 - i. **LEARNED SRC** – Select and enter the Learned Source location assigned to the device.
 - ii. **KEY FUNCTION** – Select and enter the function you want the command to perform (e.g., **Play**). Procedure returns to **COMMAND NUM** (step 3).
 - c. Select and enter a specific device (e.g., **CD, TV**) to use an IR device code from the built-in library.

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Programming Menu Instructions

- i. **DEVICE CODE** – Select and enter the IR device code number from the Reference section of this manual.
- ii. **KEY FUNCTION** – Select and enter the function you want the command to perform (e.g., **Play**). Procedure returns to **COMMAND NUM** (step 3).
- d. Select and enter **Macro** if you want this command to run a separate macro.
 - i. **MACRO ID** – Select and enter the macro ID number. Procedure returns to **COMMAND NUM** (step 3).
- e. Select and enter **Delay** to postpone delivery of the next command in the macro.
 - i. **DELAY TIME** – Select and enter a 1- to 60-second delay time. Procedure returns to **COMMAND NUM** (step 3).
- f. Select and enter **Unassigned** to clear the current command. Procedure returns to **COMMAND NUM** (step 3).

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Programming Menu Instructions

SYSTEM MENU

The System Menu contains items that allow you to obtain information about the keypad and perform various utilities.

To enter the System Menu, select **SYSTEM** from the top level of the Programming Menu and press Play (▶). The menu offers the following procedures:

KEYPAD ID (▶) COPY CONFIG (▶) SYS INFO (▶) UPDATE FIRMW (▶) FACTORY INIT (▶) DIAGNOSTICS (▶)

Keypad ID Procedure (Conditional)

This procedure allows you to assign a unique ID number to each keypad (up to 16) in a multiple-keypad system. This is necessary for copying the programming from one keypad to the others using the Copy Configuration Procedure. **See System Menu flow chart on page 53.**

To begin the Keypad ID Procedure, select **KEYPAD ID** from the System Menu and press Play (▶).

1. Select and enter a unique number for the keypad.

Copy Configuration Procedure (Optional)

This procedure allows you to copy the configuration from a programmed keypad to other keypads, either all at once or one by one. **Note:** Keypad hardware revisions must be the same for the copy configuration procedure, e.g., Revision 3 keypad copied to Revision 3 keypads, Revision 2 keypad copied to Revision 2 keypads.

Note: You must complete the Keypad ID Procedure for all keypads before you perform the Copy Configuration Procedure. The keypads have to be installed and wired, and the IR signal line must be common before performing this procedure. **See System Menu flow chart on page 53.**

To begin the Copy Configuration Procedure, select **COPY CONFIG** from the System Menu and press Play (▶).

1. **COPY TO...** – Select and enter **ALL KEYPADS** or a single keypad ID.

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Programming Menu Instructions

2. **ARE YOU SURE?** – Select and enter **Yes** to start copying or **No** to cancel the procedure.
3. **LOOKING FOR...** – The sending keypad looks for the keypad(s) to copy to. When the sending keypad locates the receiving keypad(s), **RDY TO RECEIVE** appears on the receiving keypad(s). If a receiving keypad is not located, **NOT FOUND** appears on the sending keypad.
4. **SENDING DATA** – Once the sending keypad has located the receiving keypad(s), **SENDING DATA** appears on its display along with a receiving keypad's ID. That keypad will display **RECEIVING DATA** until the configuration is complete. A green light on the right side of each keypad flashes to show traffic. Once the copy procedure for a receiving keypad is complete, **DATA RECEIVED** appears on its display.

System Information Procedure (Optional)

This procedure allows you to view the keypad's manufacturing build properties. **See System Menu flow chart on page 53.**

To begin the System Information Procedure, select **SYSTEM INFO** from the System Menu and press Play . The procedure offers the following options:

BUILD TIME  **BUILD DATE**  **VERSION**

1. **BUILD TIME** – Press Play  to display the build time of the keypad firmware.
2. **BUILD DATE** – Press Play  to display the build date of the keypad firmware.
3. **VERSION** – Press Play  to display the version of the keypad firmware.

INSTALLER **Programming Menu Instructions**

Update Firmware Procedure (Optional)

This procedure allows you to update the SaphiR K2's firmware from a computer using a Russound Programming Cable (part number 2500-121036) connected to the programming port on the side of the keypad (see diagram on page 18). Updates and instructions are made available in the Document Center at www.russound.com. **See System Menu flow chart on page 53.**

Note: Before updating firmware, make a backup copy of the current keypad programming. Use the Backup/Restore Utility available in the Document Center at www.russound.com.

To begin the Update Firmware Procedure, select **UPDATE FIRMWARE** from the System Menu and press Play .

1. **HOLD PLAY** – Press and hold the Play key. The keypad displays **Update firmw - after update cycle power**.
2. **START UPDATE** – Begin the firmware update procedure. Once the procedure is complete, cycle power to the keypad or press the reset button on the rear of the keypad.

Factory Initialization Procedure (Optional)

WARNING: This procedure erases all programming and returns the keypad to its original settings. Use with discretion.

This procedure erases all programmed settings and returns the keypad to the factory default settings. Once this procedure is used, the keypad will have to be completely reprogrammed and any learned IR commands will have to be relearned.

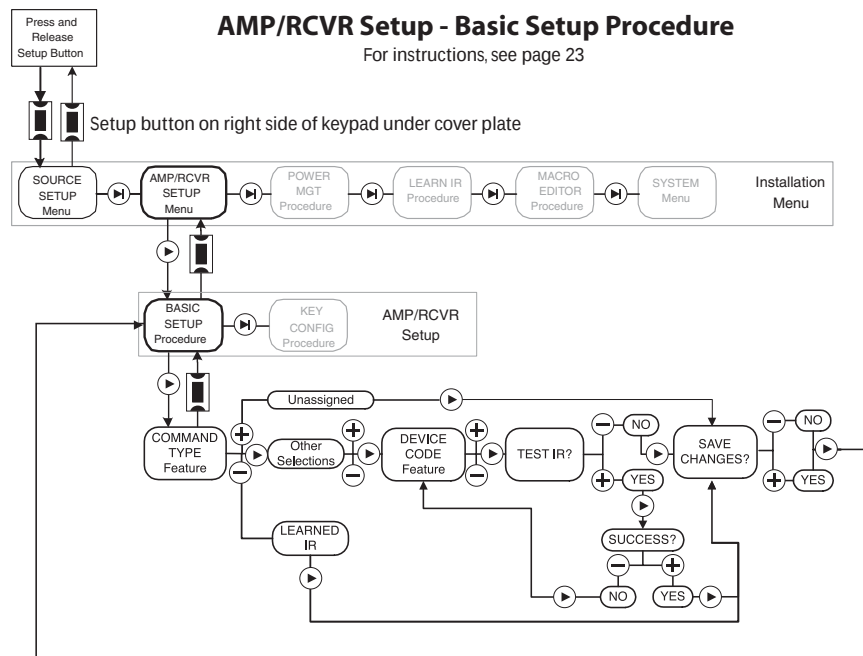
When the procedure begins, the keypad displays an **Are you sure?** prompt. Selecting **No** cancels the procedure. Selecting **Yes** loads the factory default settings. The keypad displays **Please wait** during this process and **Done** upon completion. Once the procedure is completed, cycle power to the keypad. **See System Menu flow chart on page 53.**

Diagnostics Procedure (Factory Only)

The Diagnostics procedure is for manufacturing tests only. **See System Menu flow chart on page 53.**

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Programming Flow Charts



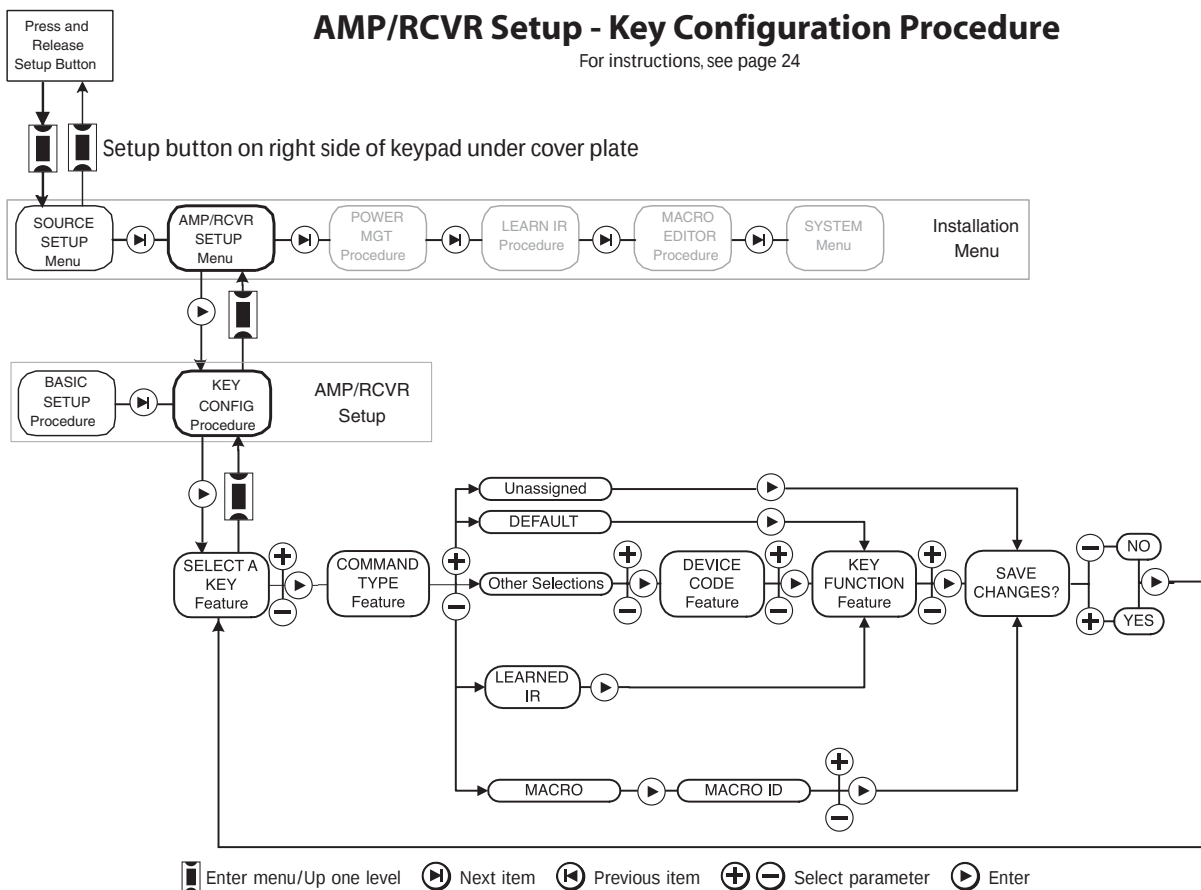
[Enter menu/Up one level] [Next item] [Previous item] [+ -] Select parameter [Enter]

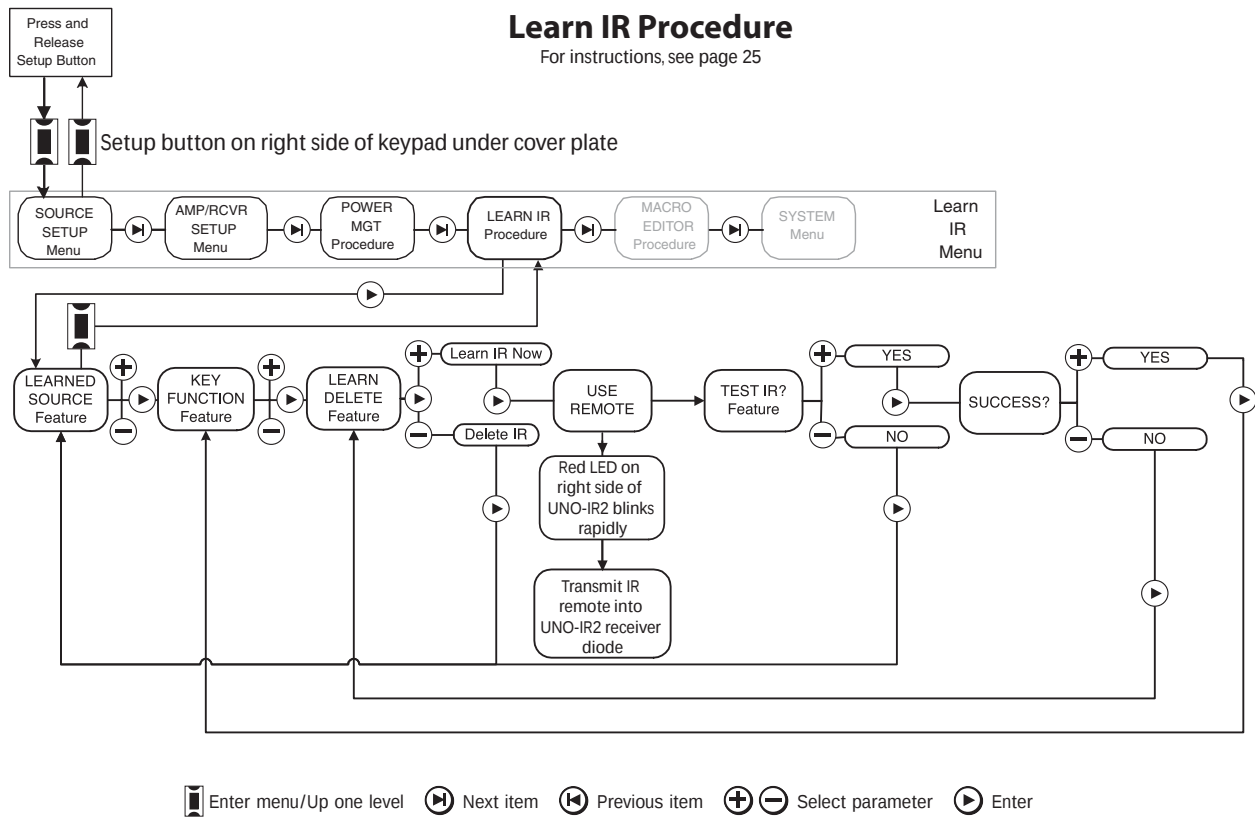
INSTALLER

Programming Flow Charts

AMP/RCVR Setup - Key Configuration Procedure

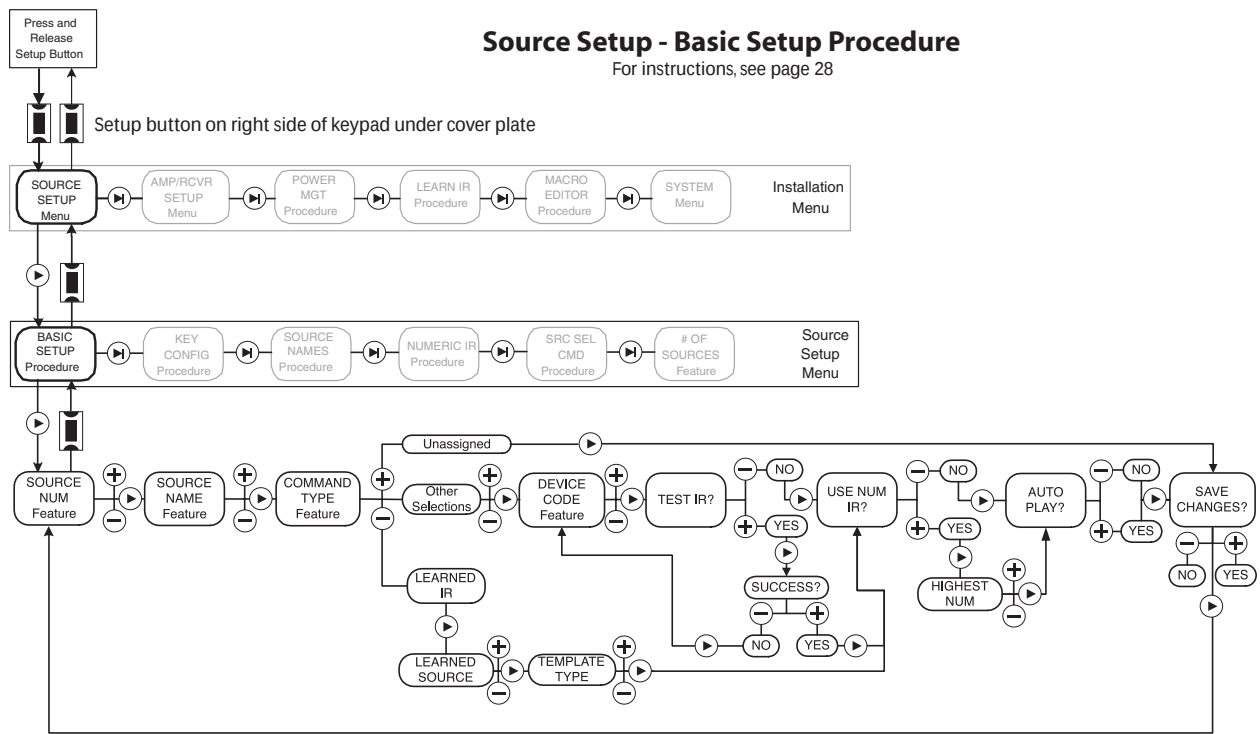
For instructions, see page 24





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Programming Flow Charts



Enter menu/Up one level
 Next item
 Previous item
 Select parameter
 Enter

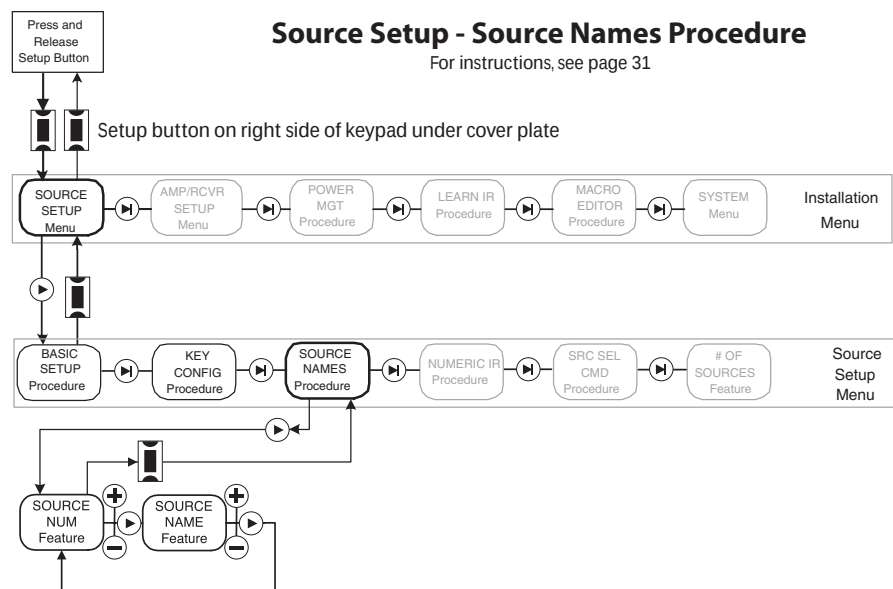
For instructions, see page 30

For instructions, see page 30



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Programming Flow Charts



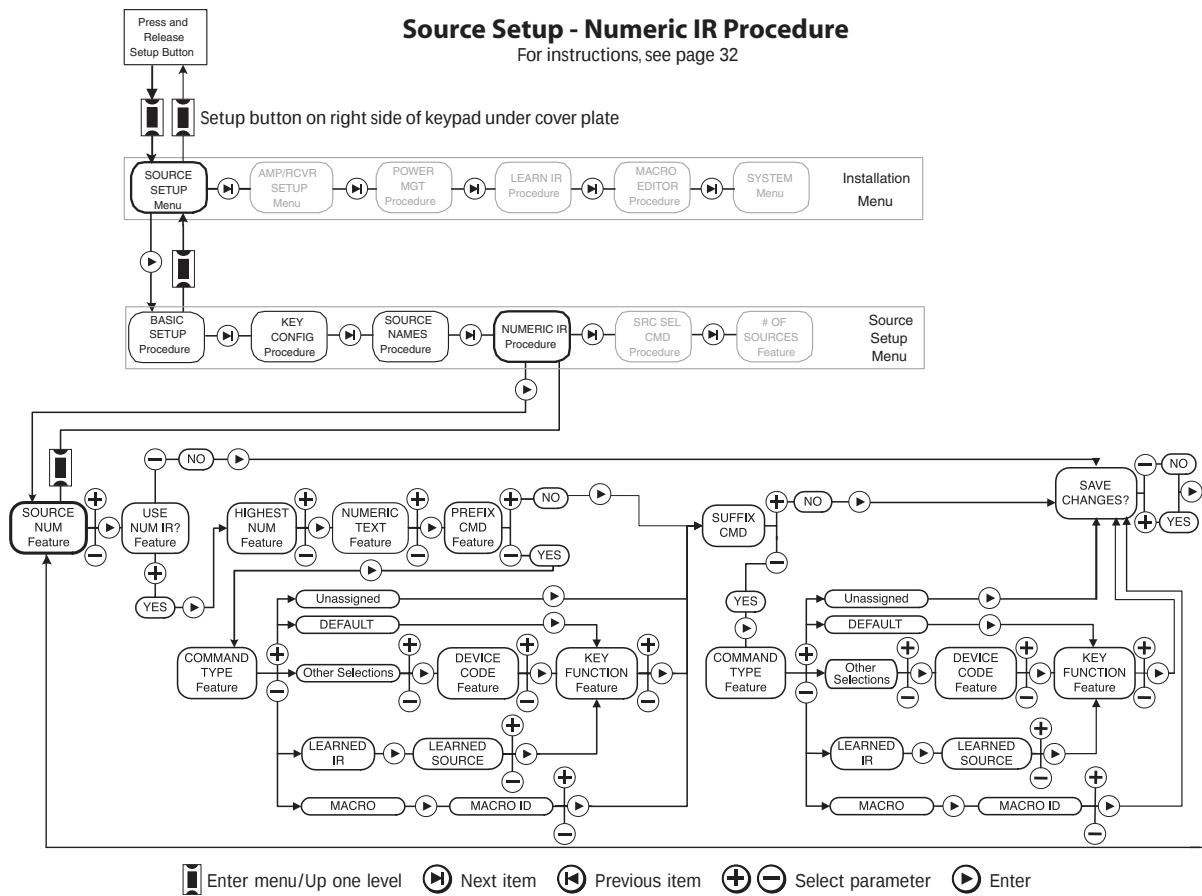
Enter menu/Up one level
 Next item
 Previous item
 Select parameter
 Enter

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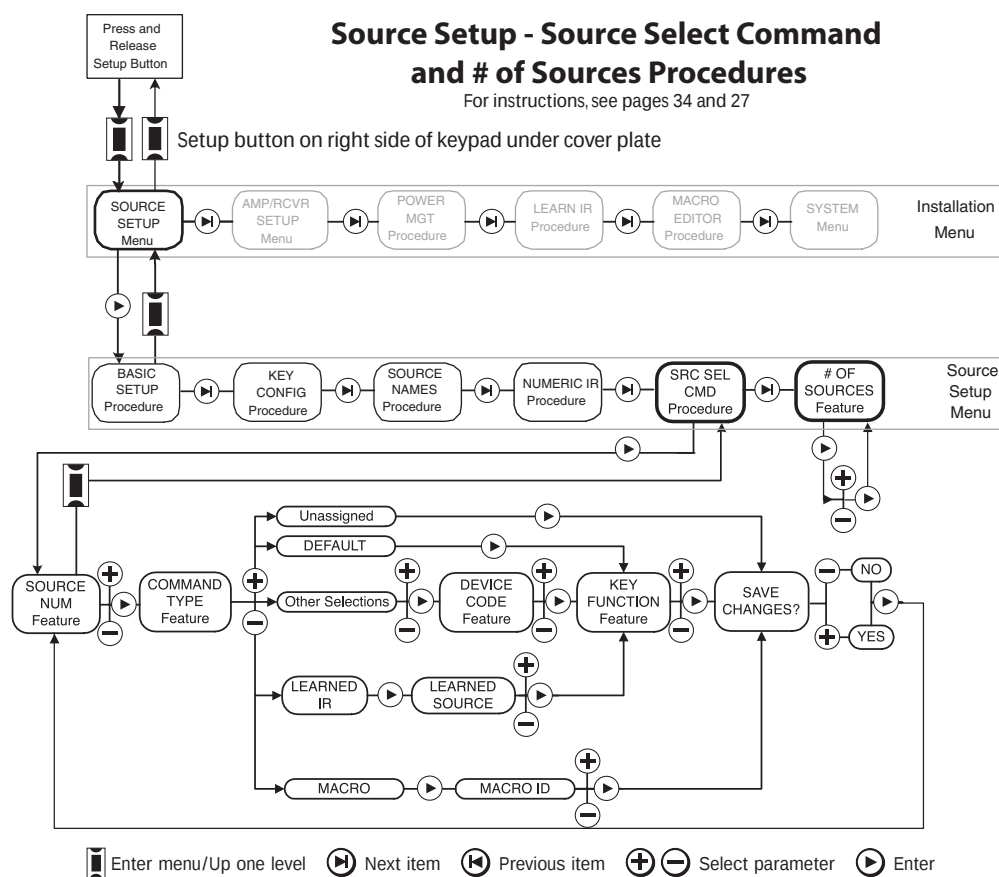
Programming Flow Charts

Source Setup - Numeric IR Procedure

For instructions, see page 32



Programming Flow Charts

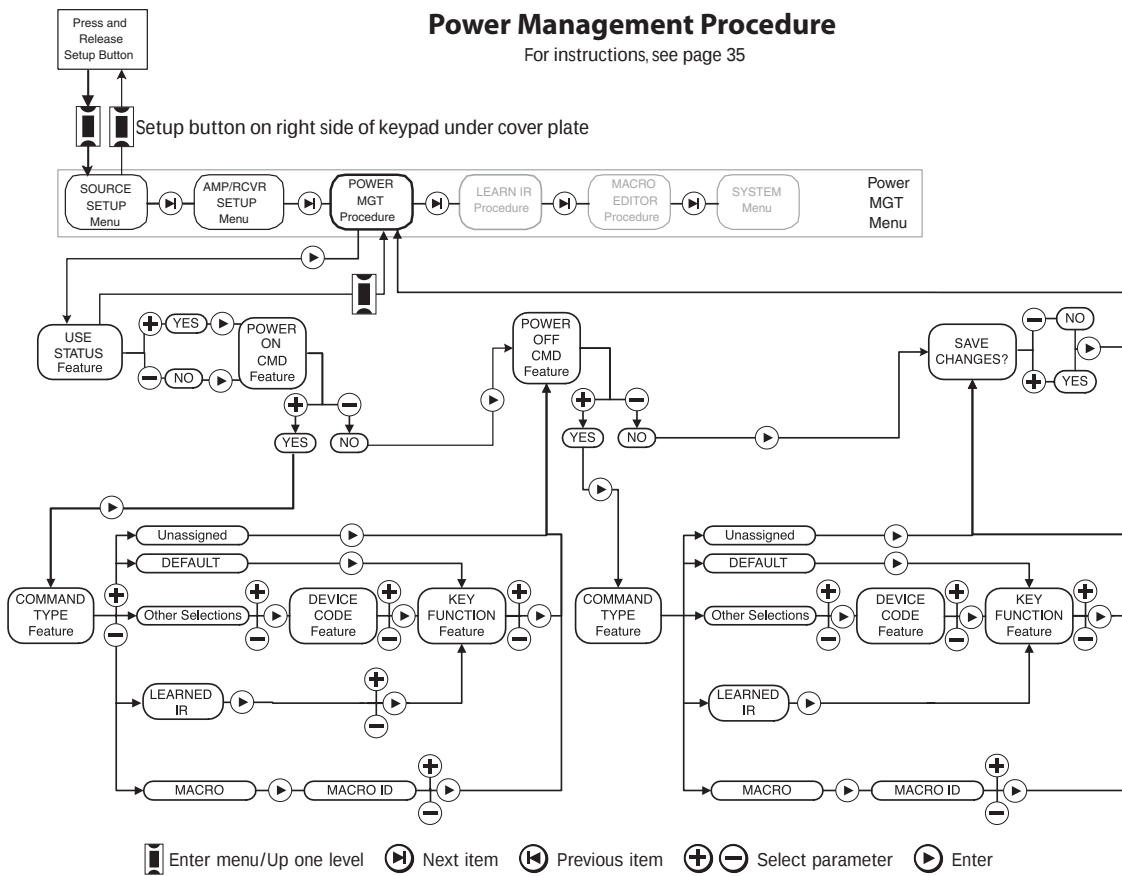


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Programming Flow Charts

Power Management Procedure

For instructions, see page 35

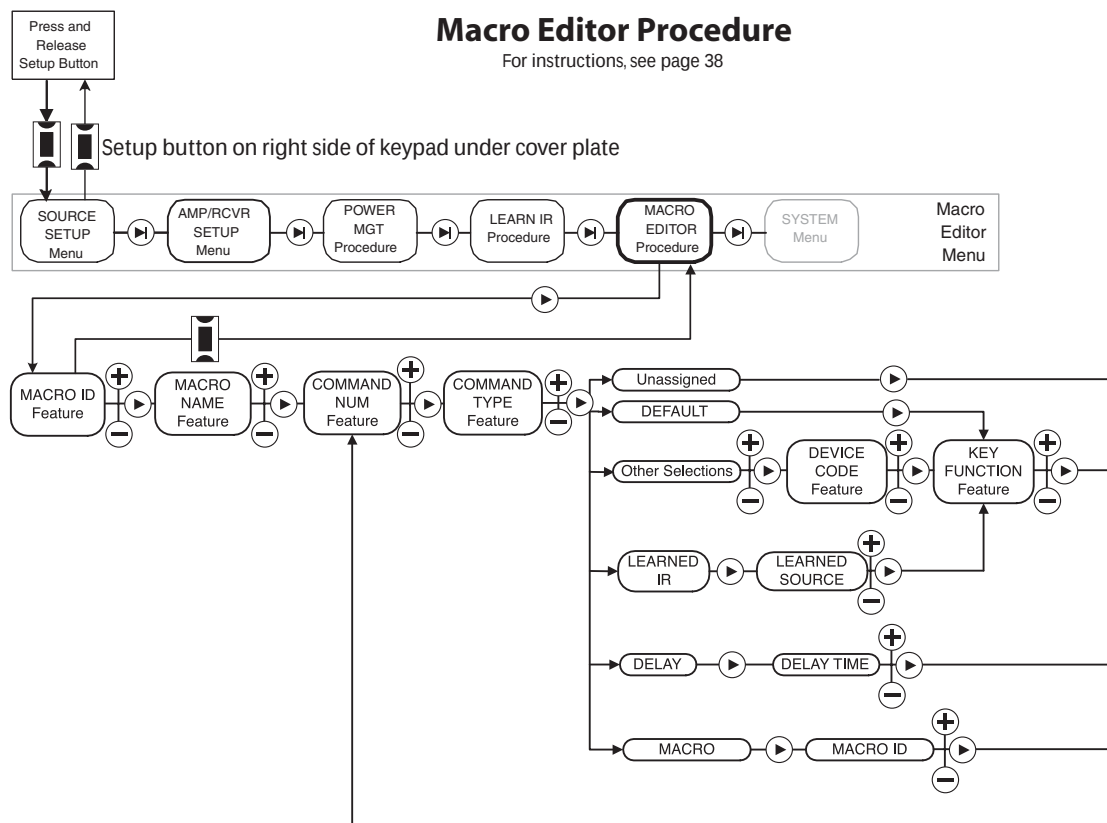


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Programming Flow Charts

Macro Editor Procedure

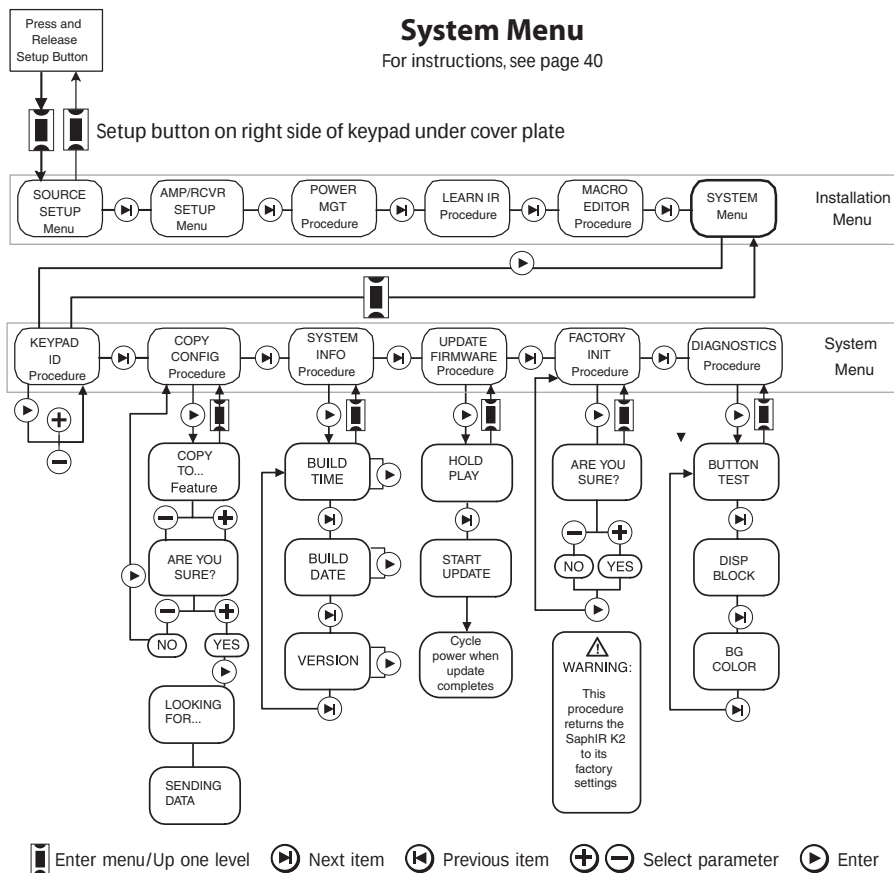
For instructions, see page 38



Enter menu/Up one level
 Next item
 Previous item
 Select parameter
 Enter

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Programming Flow Charts



REFERENCE

Source Information Form

Sample Source Information Form

K2	Source 1	Source 2	AMP/RCVR	
Amp/Rcvr Source Input #	2	1	N/A	Enter which Amp/Rcvr input connection the source is plugged into. This info is used when performing the Amp/Rcvr Setup procedure.
Source Name	CD Player 1	Tuner	N/A	Select the name for the Source from the Source Names List Page 48.
Manufacturer	Pioneer	Sony	Sony	Enter the source component brand.
Model #	PD-F908	STR-DE985	STR-DE985	Enter the model # of the source component here.
IR Command Type	CD Player	Tuner/Amp	Tuner/Amp	The IR Command Type is found on Pages 49-53. This associates the IR Device Code with the specific type of source and determines the template type used for source control on the K2.
IR Device Code (4-digit or Learned Source #)	1063 0032 0305	Learned Source #1	Learned Source #1	The IR Device Code is selected from the list starting on Page 49. Enter all available codes and circle the code that successfully controlled the source when tested.
Numeric IR	Y or N	Y or N	N/A	"Yes" allows the source to be sent IR commands with a numeric value.
Highest #	100	6	N/A	The highest numeric value permitted for the source (e.g., 100 for 100-disc CD changer, 6 for a tuner with 6 presets).
Auto Play (Y or N)	Y or N	Y or N	N/A	Choose "Yes" for the source to automatically play when selected. Choose "No" for sources with a Play/Pause button or with no Play function (e.g., tuner).

The sample Source Information Form above shows the types of information that would be helpful to record in planning the keypad programming. Use or copy the blank form on the next page to record your source information. Refer to the completed form during the programming process.

REFERENCE
Source Information Form

Source Information Form

K2	Source 1	Source 2	Source 3	Source 4	Source 5	Source 6	Source 7	Source 8	AMP/RCVR
Amp/Rcvr Source Input #									N/A
Source Name									N/A
Manufacturer									
Model #									
IR Command Type									
IR Device Code (4-digit or Learned Source #)									
Numeric IR	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	N/A
Highest #									N/A
Auto Play	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	N/A

REFERENCE

Source Names

Aux 1	Dance Music	Mini Disk	Tuner 1	CustomName4
Aux 2	Digtl Cable	Mood Music	Tuner 2	CustomName5
Aux	DSS Receiver	MorningMusic	Tuner 3	CustomName6
Blues	DSS 1	MP3	Tuner	CustomName7
Cable 1	DSS 2	Oldies	TV	CustomName8
Cable 2	DSS 3	Pop	VCR	CustomName9
Cable 3	DVD Changer	Rear Door	VCR 1	CustomName10
Cable	DVD Changr 1	Religious	VCR 2	Sat Radio
CD Changer	DVD Changr 2	ReplayTV	Source 1	((<XM>))
CD Changer 1	DVD Changr 3	Rock	Source 2	XM Radio
CD Changer 2	DVD Player	Satellite	Source 3	XM 1
CD Changer 3	DVD Player 1	Satellite 1	Source 4	XM 2
CD Player	DVD Player 2	Satellite 2	Source 5	XM 3
CD Player 1	DVD Player 3	Satellite 3	Source 6	Media Svr 1
CD Player 2	Front Door	Special	Source 7	Media Svr 2
CD Player 3	IntrnetRadio	Tape	Source 8	Media Svr 3
Classical	Jazz	Tape 1	CustomName1	Her Music
Computer	Laser Disk	Tape 2	CustomName2	His Music
Country	Media Server	TIVO	CustomName3	Kids Music

REFERENCE

IR Device Codes

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

(continued next page)

REFERENCE

IR Device Codes

Device Codes for TVs: (cont'd)

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

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
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
Escent	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
Toshiba	1272
Touch	1272
Viewsonic	1272, 1329
ZT Group	1272

REFERENCE

IR Device Codes

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
GOL	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
Electrophonic	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

(continued next page)

REFERENCE

IR Device Codes

Device Codes for VCRs: (cont'd)

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

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IR Device Codes

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
Shinonic	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, 0189
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

REFERENCE

IR Device Codes

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
QED	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:

Accuthek	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

REFERENCE

Key Functions

KEY FUNCTION	TV	CABLE	VIDEO ACCESSORY	SAT/DSS
POWER	Power On/Off	Power On/Off	Power On/Off	Power On/Off
ON	On, Power On/Off	On, Power On/Off	On, Power On/Off	On, Power On/Off
OFF	Off, Power On/Off	Off, Power On/Off	Off, Power On/Off	Off, Power On/Off
CHANNEL UP	Channel Up	Channel Up	Channel Up	Channel Up
CHANNEL DOWN	Channel Down	Channel Down	Channel Down	Channel Down
VOLUME UP	Volume Up	Volume Up	Volume Up	Volume Up
VOLUME DOWN	Volume Down	Volume Down	Volume Down	Volume Down
MUTE	Mute	Mute	Mute	Mute
1	Digit 1	Digit 1	Digit 1	Digit 1
2	Digit 2	Digit 2	Digit 2	Digit 2
3	Digit 3	Digit 3	Digit 3	Digit 3
4	Digit 4	Digit 4	Digit 4	Digit 4
5	Digit 5	Digit 5	Digit 5	Digit 5
6	Digit 6	Digit 6	Digit 6	Digit 6
7	Digit 7	Digit 7	Digit 7	Digit 7
8	Digit 8	Digit 8	Digit 8	Digit 8
9	Digit 9	Digit 9	Digit 9	Digit 9
0	Digit 0	Digit 0	Digit 0	Digit 0
ENTER	Channel Enter	Channel Enter	Channel Enter	Channel Enter
+10/100	+100	+100	+100, +10	+100
PREVIOUS CHANNEL	Last Channel	Last Channel	Last Channel	Last Channel
INPUT	TV/Video	Bypass, A/B	TV/Video, DTV	TV/DSS/SAT
EXTERNAL SOURCE	External Antenna	External AV Source	External Antenna, Web	External AV Source
PLAY	Learned Only	Play	Play	Play
STOP	Learned Only	Stop	Stop	Stop
PAUSE	Learned Only	Pause	Pause	Pause
SEARCH REVERSE	Learned Only	Rewind	Rewind	Rewind
SEARCH FORWARD	Learned Only	Fast Forward	Fast Forward	Fast Forward
RECORD	Learned Only	Record	Record	Record
TRACK FWD	Learned Only	Quick Skip, Advance	Skip Up, Next	Quick Skip, Advance
TRACK REVERSE	Learned Only	Instant Replay	Skip Down, Previous	Instant Replay
LIVE/INTRO	Learned Only	Return to Live	Learned Only	Return to Live
MENU	Menu (Picture)	Menu, Settings	Menu, Home	Menu (PVR,Tivo)
SETUP MENU	Menu (Audio)	PPV (Wink)	Setup, Program, Options	Menu (DTV)
GUIDE	Guide	Guide	Guide, View	Guide
EXIT	Exit, Cancel	Exit, Cancel	Exit, Cancel, Go	Exit, Cancel

All columns continued on next page

REFERENCE

Key Functions

KEY FUNCTION

BACK
MENU UP
MENU DOWN
MENU LEFT
MENU RIGHT
SELECT
DISK UP
DISK DOWN
FAVORITE CHANNEL
DISPLAY
DISPLAY FORMAT
SAP
SURROUND ON/OFF
SLOW
OPEN/CLOSE
RANDOM
PIP ON
PIP OFF
PIP FREEZE
PIP SWAP
PIP MOVE
PIP INPUT
PIP CHANNEL UP
PIP CHANNEL DOWN
PIP MULTI
INPUT 1
INPUT 2
INPUT 3
INPUT 4
INPUT 5
INPUT 6
INPUT 7
INPUT 8
INPUT 9
INPUT 10
SLEEP

TV

Back
Menu Up, Adjust Up
Menu Down, Adjust Dn
Menu Left
Menu Right
Menu Select
Adjust Up
Adjust Down
Favorite
Display, OSD, Info
Format, Wide, 16:9,Aspect
SAP, CC
Surround On/Off
Learned Only
Delimiter
Learned Only
PIP ON
PIP OFF
PIP Freeze
PIP Swap
PIP Move
PIP Input
PIP Channel Up
PIP Channel Down
PIP Multi
VID1, Video, TVp1
VID2, TVp2
VID3, TVp3
VID4, TVp4
VID5, AV1, VCR, BNC
VID6, AV2, VDP, DVD,DVI
TV, COMPONENT
CAB, SAT, S-VIDEO
AV, TUNER
AUX, RGB
Learned Only

End of TV Selections

CABLE

Back
Menu Up
Menu Down
Menu Left
Menu Right
Menu Select
Page Up
Page Down
Favorite
Info, Display, OSD
Help
Day Up
Day Down
Learned Only
Delimiter
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
A, VID 1, VIDEO, TVp1
B, VID2, TVp2
C, VID3, TVp3
VID4, TVp4
VID5, AV1, VCR, BNC
VID6, AV2, VDP, DVD,DVI
TV, COMPONENT
CAB, SAT, S-VIDEO
AV, TUNER
AUX, RGB
Learned Only

End of Cable Selections

VIDEO ACCESSORY

Back
Menu Up
Menu Down
Menu Left
Menu Right
Menu Select
Page Up, Scroll Up
Page Dn, Scroll Dn
Favorites
Info, Display, OSD
Format, Wide, 16:9, Aspect
Language, MTS
Learned Only
Learned Only
Learned Only
Learned Only
PIP ON
PIP OFF
PIP FREEZE
PIP SWAP
PIP MOVE
PIP INPUT
PIP CHANNEL UP
PIP CHANNEL DOWN
PIP MULTI
VID1, VIDEO, TVp1
VID2, TVp2
VID3, TVp3
VID4, TVp4
VID5, AV1, VCR, BNC
VID6, AV2, VDP, DVD,DVI
TV, COMPONENT
CAB, SAT, S-VIDEO
AV, TUNER
AUX, RGB
Learned Only

End of Vid Acc Selections

SAT/DSS

Back
Menu Up
Menu Down
Menu Left
Menu Right
Menu Select
Page Up, Thumbs Up
Page Down, Thumbs Down
Favorite
Info, Display, OSD
Format, Wide, 16:9,Aspect
Alt Audio, Audio,Language, CC
Learned Only
Slow
Delimiter
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
VID1, Video, TVp1
VID2, TVp2
VID3, TVp3
VID4, TVp4
VID5, AV1, VCR, BNC
VID6, AV2, VDP, DVD,DVI
TV, COMPONENT
CAB, SAT, S-VIDEO
AV, TUNER
AUX, RGB
Learned Only

End of SAT/DSS Selections

REFERENCE

Key Functions

KEY FUNCTION	VCR	LASER DISK	DVD	TUNER / AMP
POWER	Power On/Off	Power On/Off	Power On/Off	Power On/Off
ON	On, Power On/Off	On, Power On/Off	On, Power On/Off	On, Power On/Off
OFF	Off, Power On/Off	Off, Power On/Off	Off, Power On/Off	Off, Power On/Off
CHANNEL UP	Channel Up	Learned Only	Channel Up	Preset Up
CHANNEL DOWN	Channel Down	Learned Only	Channel Down	Preset Down
VOLUME UP	Volume Up	Volume Up	Volume Up	Volume Up
VOLUME DOWN	Volume Down	Volume Down	Volume Down	Volume Down
MUTE	Mute	Mute	Mute	Mute
1	Digit 1	Digit 1	Digit 1, Track 1	Digit 1
2	Digit 2	Digit 2	Digit 2, Track 2	Digit 2
3	Digit 3	Digit 3	Digit 3, Track 3	Digit 3
4	Digit 4	Digit 4	Digit 4, Track 4	Digit 4
5	Digit 5	Digit 5	Digit 5, Track 5	Digit 5
6	Digit 6	Digit 6	Digit 6, Track 6	Digit 6
7	Digit 7	Digit 7	Digit 7, Track 7	Digit 7
8	Digit 8	Digit 8	Digit 8, Track 8	Digit 8
9	Digit 9	Digit 9	Digit 9, Track 9	Digit 9
0	Digit 0	Digit 0	Digit 0, Track 10	Digit 0
ENTER	Channel Enter	Learned Only	Channel Enter	5.1, Prologic
+10/100	+100	+10	+100, +10	Band, FM/AM
PREVIOUS CHANNEL	Last Channel	Repeat	Last Channel, Repeat	Repeat
INPUT	TV/VCR	TV/LD, Input Select	TV/DVD, Input Select	DVD/Tuner, Input Sel.
EXTERNAL SOURCE	Input Select	External AV Src, CDV, VCD, Karaoke	External AV Source	External AV Source
PLAY	Play	Play	Play	Play
STOP	Stop	Stop	Stop	Stop
PAUSE	Pause	Pause	Pause	Pause
SEARCH REVERSE	Rewind	Rewind	Rewind	Rewind
SEARCH FORWARD	Fast Forward	Fast Forward	Fast Forward	Fast Forward
RECORD	Record	Learned Only	Record	Record
TRACK FWD	Quick Skip, Adv, Index/Tracking Up	Chapter/Skip Up	Chapter/Skip Up	Skip Up
TRACK REVERSE	Instant Replay, Index/Tracking Dn	Chapter/Skip Down	Chapter/Skip Down	Skip Down
LIVE/INTRO	Return to Live, Auto Tracking	Intro, Search, Scan	Intro, Search, Scan	Intro, Search, Scan
MENU	Menu (PVR,Tivo)	Menu, Program	Disk Menu	Disk Menu, Menu
SETUP MENU	Menu	Learned Only	Setup Menu	Menu
GUIDE	Guide, VCR+, Program	Learned Only	Title	Title
EXIT	Exit, Cancel	Exit, Cancel	Exit, Cancel, Return	Exit, Cancel, Return

All columns continued on next page

REFERENCE

Key Functions

KEY FUNCTION	VCR	LASER DISK	DVD	TUNER/AMP
BACK	Clear	Learned Only	Clear	Clear
MENU UP	Menu Up	Menu Up	Menu Up	Menu Up, Adjust Up
MENU DOWN	Menu Down	Menu Down	Menu Down	Menu Down, Adjust Down
MENU LEFT	Menu Left	Menu Left	Menu Left	Menu Left
MENU RIGHT	Menu Right	Menu Right	Menu Right	Menu Right
SELECT	Menu Select	Menu Select	Menu Select	Menu Select, Continue
DISK UP	Thumbs Up	Disk Skip, Disk Up	Disk Skip, Disk Up	Adjust Up
DISK DOWN	Thumbs Down	Disk Down	Disk Down	Adjust Down
FAVORITE CHANNEL	Replay Zones, Index Mark	Mark	Mark	Mark
DISPLAY	Display, OSD, Info	Display, OSD, Info	Display, OSD, Info	Display, OSD, Info
DISPLAY FORMAT	Record Speed	Learned Only	Format, Wide, Zoom, Aspect	Format, Wide, Zoom, Aspect
SAP	SAP, CC	Subtitle, CC	Subtitle, CC	Subtitle, CC
SURROUND ON/OFF	Learned Only	Audio	Audio, Language	Surround On/Off, Audio, Language
SLOW	Slow	Slow	Slow	Slow
OPEN/CLOSE	Open/Close, Eject	Open/Close, Eject	Open/Close, Eject	Open/Close, Eject
RANDOM	Learned Only	Learned Only	Learned Only	RANDOM
PIP ON	Learned Only	Learned Only	Learned Only	Learned Only
PIP OFF	Learned Only	Learned Only	Learned Only	Learned Only
PIP FREEZE	Learned Only	Learned Only	Learned Only	Learned Only
PIP SWAP	Learned Only	Learned Only	Learned Only	Learned Only
PIP MOVE	Learned Only	Learned Only	Learned Only	Learned Only
PIP INPUT	Learned Only	Learned Only	Learned Only	Learned Only
PIP CHANNEL UP	Learned Only	Learned Only	Learned Only	Learned Only
PIP CHANNEL DOWN	Learned Only	Learned Only	Learned Only	Learned Only
PIP MULTI	Learned Only	Learned Only	Learned Only	Learned Only
INPUT 1	VID1, Video ,TVp1	VID1, Video TVp1	VID1, Video, TVp1	CD
INPUT 2	VID2, TVp2	VID2, TVp2	VID2, TVp2	TUNER
INPUT 3	VID3, TVp3	VID3, TVp3	VID3, TVp3	DVD, LD
INPUT 4	VID4, TVp4	VID4, TVp4	VID4, TVp4	TAPE, MD
INPUT 5	VID5, AV1, VCR, BNC	VID5, AV1, VCR, BNC	VID5, AV1, VCR, BNC	VCR, VID1
INPUT 6	VID6, AV2, VDP, DVD,DVI	VID6, AV2, VDP, DVD,DVI	VID6, AV2, VDP, DVD,DVI	TV, VID2
INPUT 7	TV, COMPONENT	TV, COMPONENT	TV, COMPONENT	LD, VID3
INPUT 8	CAB, SAT, S-VIDEO	CAB, SAT, S-VIDEO	CAB, SAT, S-VIDEO	AUX, VID4
INPUT 9	AV, TUNER	AV, TUNER	AV, TUNER	DAT, CABLE
INPUT 10	AUX, RGB	AUX, RGB	AUX, RGB	PHONO,SAT
SLEEP	Learned Only	Learned Only	Learned Only	Learned Only
	End of VCR Selections	End of LD Selections	End of DVD Selections	End Tuner/Amp Selections

REFERENCE

Key Functions

KEY FUNCTION

POWER
ON
OFF
CHANNEL UP
CHANNEL DOWN
VOLUME UP
VOLUME DOWN
MUTE
1
2
3
4
5
6
7
8
9
0
ENTER
+10/100
PREVIOUS CHANNEL
INPUT
EXTERNAL SOURCE
PLAY
STOP
PAUSE
SEARCH REVERSE
SEARCH FORWARD
RECORD
TRACK FWD
TRACK REVERSE
LIVE/INTRO
MENU
SETUP MENU
GUIDE
EXIT

AMP/MISC. AUDIO

Power On/Off
On, Power On/Off
Off, Power On/Off
Preset Up
Preset Down
Volume Up
Volume Down
Mute
Digit 1
Digit 2
Digit 3
Digit 4
Digit 5
Digit 6
Digit 7
Digit 8
Digit 9
Digit 0
5.1, Prologic
Band, FM/AM
Repeat
Bypass, Input Select
External AV Source
Play
Stop
Pause
Rewind
Fast Forward
Record
Skip Up
Skip Down
Intro, Search, Scan
Menu, Program
Learned Only
Learned Only
Exit, Cancel

CD

Power On/Off
On, Power On/Off
Off, Power On/Off
Learned Only
Learned Only
Volume Up
Volume Down
Mute
Digit 1, Track 1, Disc 1
Digit 2, Track 2, Disc 2
Digit 3, Track 3, Disc 3
Digit 4, Track 4, Disc 4
Digit 5, Track 5, Disc 5
Digit 6, Track 6, Disc 6
Digit 7, Track 7, Disc 7
Digit 8, Track 8, Disc 8
Digit 9, Track 9, Disc 9
Digit 0, Track 10, Disc 10
Set
+10, +100
Repeat
CD/CDR/MD, Input Select
External AV Source
Play
Stop
Pause
Rewind
Fast Forward
Record
Skip Up
Skip Down
Intro, Search, Scan
Disk, Edit
Menu, Program
Group, Magazine
Exit, Cancel

HOME CONTROL

Power On/Off
On, Power On/Off
Off, Power On/Off
Bright, Raise, Up
Dim, Lower, Down
Volume Up
Volume Down
Mute
Digit 1
Digit 2
Digit 3
Digit 4
Digit 5
Digit 6
Digit 7
Digit 8
Digit 9
Digit 0
Learned Only
Learned Only
Learned Only
Home, Source
External Source
Play
Stop
Pause
Rewind, Close
Fast Forward, Open
Record
Learned Only
Learned Only
Learned Only
Menu
Learned Only
Learned Only
Exit, Cancel

All columns continued on next page

REFERENCE

Key Functions

KEY FUNCTION

BACK
MENU UP
MENU DOWN
MENU LEFT
MENU RIGHT
SELECT
DISK UP
DISK DOWN
FAVORITE CHANNEL
DISPLAY
DISPLAY FORMAT
SAP
SURROUND ON/OFF
SLOW
OPEN/CLOSE
RANDOM
PIP ON
PIP OFF
PIP FREEZE
PIP SWAP
PIP MOVE
PIP INPUT
PIP CHANNEL UP
PIP CHANNEL DOWN
PIP MULTI
INPUT 1
INPUT 2
INPUT 3
INPUT 4
INPUT 5
INPUT 6
INPUT 7
INPUT 8
INPUT 9
INPUT 10
SLEEP

AMP/MISC. AUDIO

Clear
Menu Up, Adjust Up
Menu Down, Adjust Down
Menu Left
Menu Right
Menu Select, Continue
Adjust Up
Adjust Down
Learned Only
Display, OSD, Info
Learned Only
Learned Only
Surround Mode/On/Off, Audio, Language
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
CD
TUNER
DVD, LD
TAPE, MD
VCR, VID1
TV, VID2
LD, VID3
AUX, VID4
DAT, CABLE
PHONO,SAT
Learned Only

End of Amp/Misc. Audio Selections

CD

Track, Clear
Menu Up
Menu Down
Menu Left
Menu Right
Menu Select, Continue
Disk Skip, Disk Up
Disk Down
Finalize, Index
Display, OSD, Info
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Open/Close, Eject
Random
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
CD
TUNER
DVD, LD
TAPE, MD
VCR, VID1
TV, VID2
LD, VID3
AUX, VID4
DAT, CABLE
PHONO,SAT
Learned Only

End of CD Selections

HOME CONTROL

Learned Only
Menu Up, Mode
Menu Down, Timer
Menu Left, Oscillate
Menu Right, Speed
Menu Select, Light
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
All On
All Off
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Learned Only
Source/Scene 1
Source/Scene 2
Source/Scene 3
Source/Scene 4
Source/Scene 5
Source/Scene 6
Source/Scene 7
Source/Scene 8
Source/Scene 9
Source/Scene10
Learned Only

End of Home Control Selections

REFERENCE

Technical Specifications and Certifications

Technical Specifications

Display:	12-character LCD
Backlight:	Selectable amber or green
A-V device control:	8 sources plus receiver or amplifier
IR control:	Preprogrammed library of device codes Built-in IR sensor with pass-through
Macro capability:	Up to 132 10-step macros
Speaker relay capacity:	30 watts per channel RMS continuous, 100 watts per channel peak
Power requirement:	12 VDC 200 mA (from connecting block)
System cabling:	Shielded 22-gauge, 2-twisted-pair cable (recommended) or CAT-5 cable
Maximum cable run:	250 feet (76 m)
Wall plate dimensions:	4.75" W x 4.75" H x 0.34" D (12.1 x 12.1 x 0.86 cm)
In-wall dimensions:	3.56" W x 2.81" H x 1" D (9 x 7.1 x 2.5 cm) Fits 2-gang UL/CSA-approved 32 ci plastic wall box
Weight:	9 oz (255 g)



REFERENCE **Warranty**

Warranty

The Russound SaphiR K2 is fully guaranteed against all defects in materials and workmanship for two (2) years from the date of purchase. During this period, Russound will replace any defective parts and correct any defect in workmanship without charge for either parts or labor.

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

This warranty does not cover:

- Damage caused by abuse, accident, misuse, negligence, or improper installation or operation
- Power surges and lightning strikes
- Normal wear and maintenance
- Products that have been altered or modified
- Any product whose identifying number, decal, serial number, etc. has been altered, defaced or removed

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

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

Before returning a unit for repair, call Russound at (603) 659-5170 for a return authorization number. Write this number on the shipping label and ship to: Russound, 5 Forbes Road, Newmarket, NH 03857

Due to continual efforts to improve product quality as new technology and techniques become available, Russound/FMP, Inc. reserves the right to revise system specifications without notice.

NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



SaphIR™ K2 Keypad

Programmable Infrared Control

Instruction Manual

Russound
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www.russound.com
Technical Support: tech@russound.com

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For SaphIR K2 Keypad Hardware Revision 3
28-1151 Rev. 3 05/18/06