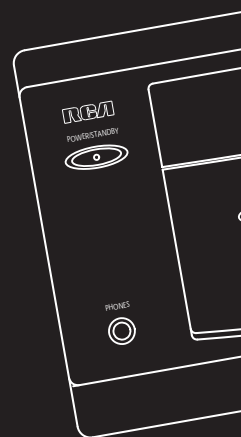
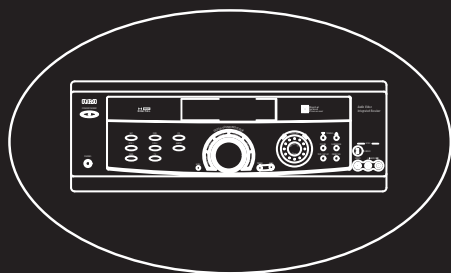


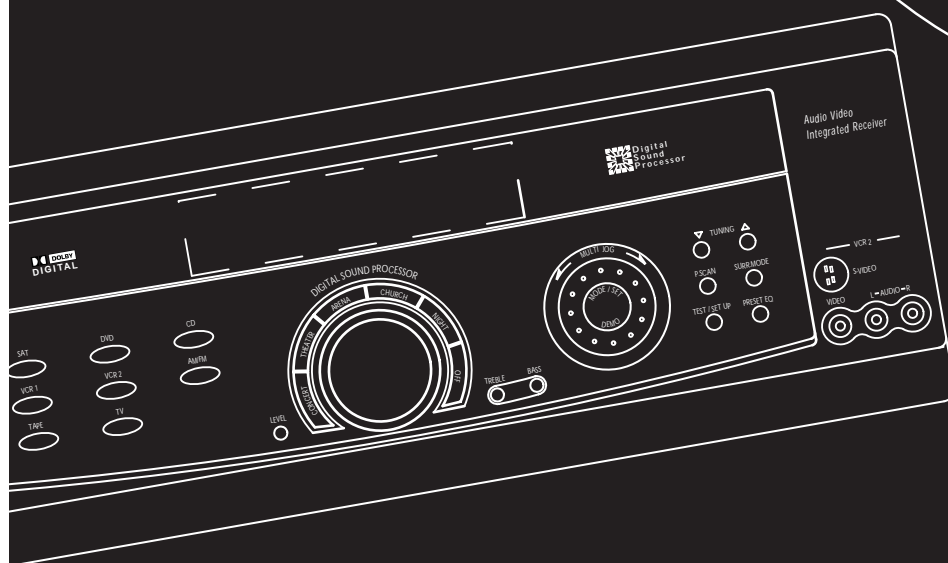
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E/F/S (Rev. 1)
55021630

RCA

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RT2300/RT2300R

RT2400/RT2400R

Audio/Video Receiver

FCC Information

GB

This device generates and uses radio frequency (RF) energy, and if not installed and used properly, this equipment may cause interference to radio and television reception.

This equipment has been type tested and found to comply with the specifications in Subpart J of Part 15 of FCC Rules. These rules are designed to provide reasonable protection against radio and television interference in a residential installation. However, there is no guarantee that interference will not occur in particular installations.

If this equipment does cause interference to radio or television reception (which you can determine by turning the equipment off and on), try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna (that is, the antenna for the radio or television that is "receiving" the interference).
- Move the unit away from the equipment that is receiving interference.
- Plug the unit into a different wall outlet so that the unit and the equipment receiving interference are on different branch circuits.

If these measures do not eliminate the interference, please consult your dealer or an experienced radio/television technician for additional suggestions.

Also, the Federal Communications Commission has prepared a helpful booklet, "How To Identify and Resolve Radio TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. Please specify stock number 004-000-00345-4 when ordering copies.

For Your Safety

The AC power plug is polarized (one blade is wider than the other) and only fits into AC power outlets one way. If the plug won't go into the outlet completely, turn the plug over and try to insert it the other way. If it still won't fit, contact a qualified electrician to change the outlet, or use a different one. **Do not attempt to bypass this safety feature.**

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

For Your Records

In the event that service should be required, you may need both the model number and the serial number. In the space below, record the date and place of purchase, and the serial number:

Model No. RT2300/RT2300R/RT2400/RT2400R

Remote Control No. CRK76AD1

Date of Purchase



Place of Purchase

Serial No.

Service Information

This product should be serviced only by those specially trained in appropriate servicing techniques. For instructions on how to obtain service, refer to the warranty included in this Guide

WARNING : TO PREVENT FIRE
OR ELECTRICAL SHOCK HAZARD,
DO NOT EXPOSE THIS PRODUCT
TO RAIN OR MOISTURE .

 <p>THE LIGHTNING FLASH AND ARROW HEAD WITHIN THE TRIANGLE IS A WARNING SIGN ALERTING YOU OF "DANGEROUS VOLTAGE" INSIDE THE PRODUCT.</p>	<p>CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN</p> <p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>	 <p>THE EXCLAMATION POINT WITHIN THE TRIANGLE IS A WARNING SIGN ALERTING YOU OF IMPORTANT INSTRUCTIONS ACCOMPANYING THE PRODUCT.</p>
SEE MARKING ON BOTTOM/BACK OF PRODUCT		

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GB

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Getting Started

GB *Unpack the Receiver*

Check that you received the following items with the receiver:

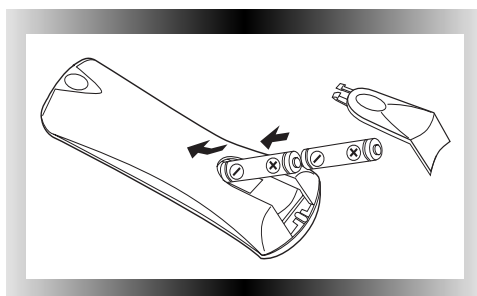
- one receiver unit;
- one RCA Universal Remote Control (CRK76AD1);
- one external FM Dipole antenna;
- one external AM loop antenna;
- one instruction book;
- one owner registration/survey card;
- and one safety leaflet.
- one pair of AA batteries;
- one audio cable (two wires) with red and white RCA connectors;
- one video cable (single wire) with yellow RCA connectors;

The following additional items are especially for RT2300 or RT2400 with speaker set:

- one pair of main speakers;
- one center speaker;
- one pair of surround speakers;
- one powered subwoofer;
- five speaker cable;
- one monoaural audio cord for subwoofer;

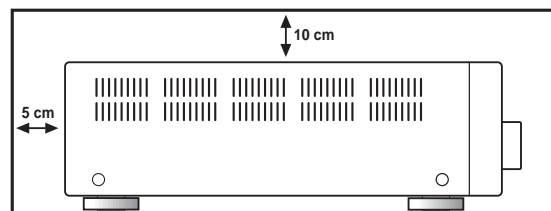
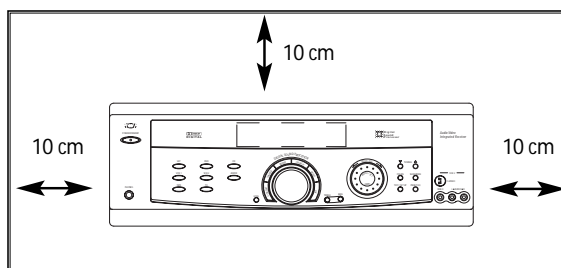
Inserting batteries into remote control

Insert two AA(R6) batteries with the + and - on the battery compartment. To use the remote control, point it directly at your receiver.



Set up and Maintenance of the Receiver

- Provide spaces for sufficient ventilation as indicated:



- Do not connect to the AC power cords until all of the connection are completed.
- Do not use your set immediately after transfer from a cold place to a warm place: risk of condensation.
- Do not expose your set to water projections and excessively high temperatures.
- After having disconnected your set, clean the case with a soft cloth, or with a slightly humid chamois leather. Never use strong solvents.

Getting Started

GB

Connecting to Audio-Visual Components

This receiver allows you to connect to a large variety of audio or video components.

Before you Connect

- Protect components from power surges.
- **Connect all components before plugging any power cords into the wall outlet.**
- Always turn off the receiver and/or components before you connect or disconnect any cables.
- Contact Consumer Relations if you have questions concerning the connections or components.

Note: If you purchase the receiver with speaker set (i.e. RT2300, RT2400), please make sure the color-coded pins match the color of the terminals in which they are inserted. The connection cable plugs and jacks are color-coded as follows:

Speaker Terminals To ease speaker connections the speaker cords and the terminals are color-coded into: Red/Black (Main Speakers), Blue/Black (Center Speakers) and Grey/Black (Rear Speakers). When connecting the speakers, make sure the color of speaker wires and terminals are matched.

RCA Phono Type Terminals Red for the right (R) channel. White for the left (L) channel. Yellow for the video. Black for the subwoofer.

Positioning the Cables

Cables should be positioned correctly to avoid audio hum or interference. A few suggestions below:

- Insert all cable plugs firmly into their jacks.
- Place audio/video cables to the sides of the receiver's back panel instead of straight down the middle after you connect the components.

- Try not to coil any power cables and keep them away from the audio/video cables as much as possible.

- Make sure all antennas and cables are properly grounded.

Protect your Components from Overheating

- Do not block ventilation holes in any component. Arrange the components so that air can circulate freely.

- Do not stack components directly on top of each other.

- Allow adequate ventilation when placing your components in a stand.

- Place an amplifier near the top shelf of the stand so heating air rising from it will not flow around other components. If you have a satellite receiver, you should place it on the top shelf.

(continued on next page ->)

Getting Started

GB

Tips:

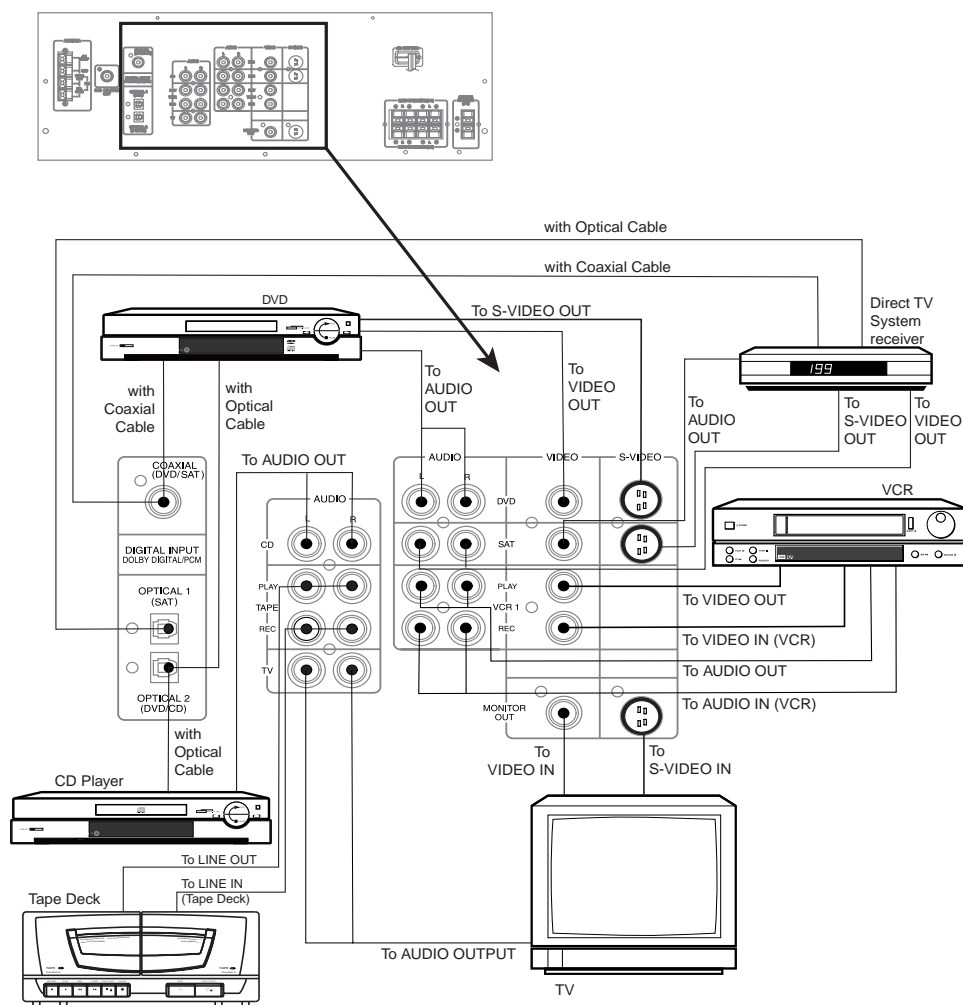
1. If your CD player is equipped with digital optical jacks, using optical cable is preferred. What you need is just one more optical digital connecting cord(not supplied). Plug it in the digital input jack of the receiver and you can enjoy better sound quality brought you by the optical cable. When optical cable is used, no more analog cable is needed.
2. If you have a video camera, video game machine, or an extra VCRs, connect it to VCR 2 jack at the front of the receiver.
3. If you have a Direct TV System receiver or DVD player, you can make use of an optical digital connecting cord (not supplied) or coaxial digital connecting cord (not supplied) to enjoy Dolby Digital sound quality. One optical / coaxial cable is needed for each

SAT receiver / DVD player. When optical cable is used, no more analog cable is needed.

Note: The optical cable jack is for either DVD or CD. If you have plugged in the optical cable for DVD, use the analog cable for CD, or unplug the optical cable from DVD and plug it in CD when use.

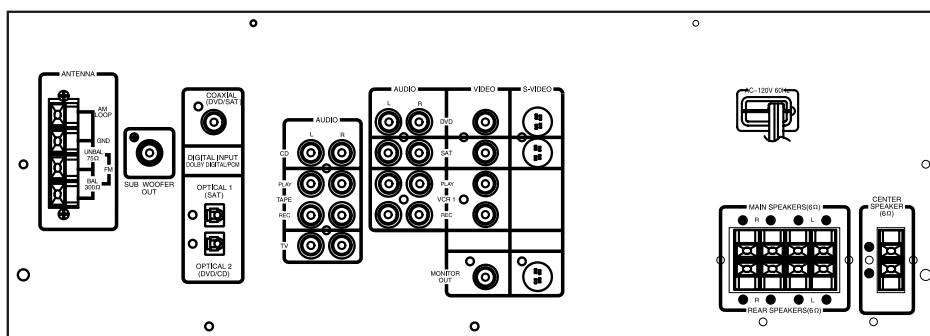
4. If your video component has a S-Video jack included, you can make use of it to enjoy enhanced video quality by connecting it to the relevant S-Video jack at the rear side of the receiver. 1 video cable is needed for each component. When S-Video cable is used, no more analog video cable is needed.

Note: Before plugging in the optical cable or S-Video cable, make sure to match the shape of the plug and jack, or you won't be able to plug in completely.



Getting Started

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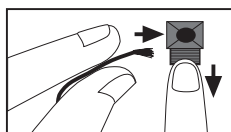


Connecting the Antennas

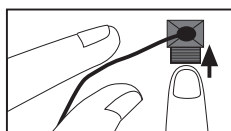
The AM and FM antennas connect to the AM and FM terminals on the system's back panel. They must be hooked up in order to receive clear reception. Uncoil the antenna wires and locate the bare ends. Press down on the tab to open the terminal and

insert the wire. Snap the tab closed. After connecting the antennas, extend them to their full length and adjust their positioning for better reception.

Antenna and Speaker Wire Connection



Push Speaker terminal tab down to insert wire.



Release tab to lock wire in the terminal.

NOTE: Make sure the insulation is completely removed from the ends of the Antenna and speaker wires at all connection points.

Connecting the speakers

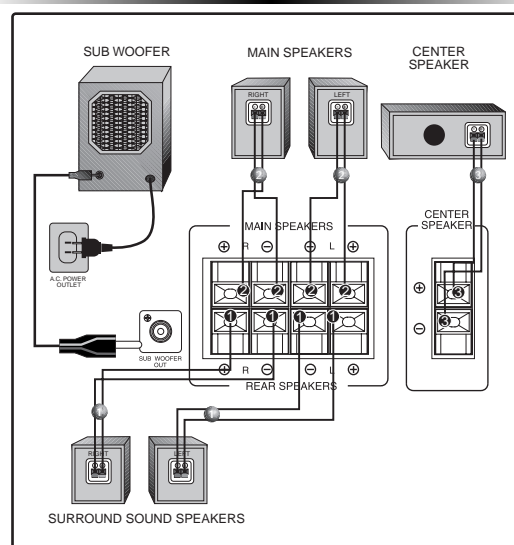
At least two front speakers (left and right) are required. Center speakers, rear speakers and Subwoofers are optional. Adding center and rear speakers will enhance surround effects. Adding a Subwoofer will increase

bass response.

If you want to enjoy full range of sound with small speakers included in the separate speaker set, it is a must to use the subwoofer with the speakers to maintain adequate bass signal for the surround sound effect.

Except for Sub Woofer, Speaker cords are needed. 1 for each speaker. Twist the stripped ends of speaker cord about 2/3 inch (15 mm). Press down on the tab to open the terminal and insert the wire. Snap the tab closed.

If you purchase the receiver with speaker set, the speaker cords and the terminals have been color-coded for you: Red/Black (Main Speakers), Blue/Black (Center Speakers) and Grey/Black (Rear Speakers). When connecting the speakers, make sure the color of speaker wires and terminals are matched. If the cords are reversed, the sound will be



distorted and will lack bass.

Sub Woofer (RT2300/RT2400 only)

A monoaural audio cord (included in a separate speaker set) is needed.

This receiver offers a high flexibility for user to use a large variety of speakers and subwoofers. For more information please refer to section "Setting up the speakers" in "Advanced Sound Control" on page 13.

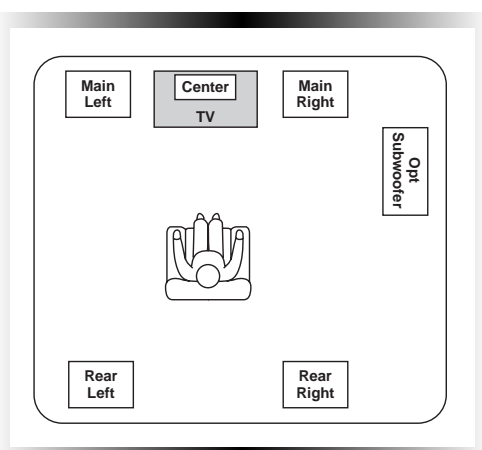
Getting Started

GB *Positioning your Speakers*

Your system is equipped with Dolby Digital, which enables you to reproduce sound effects as they were intended. However, the speakers must be properly positioned and balanced.

In order to enjoy Dolby-enhanced sound quality, five speakers are preferred: One center speaker, left and right main speakers, rear left and right speakers, and an optional subwoofer. However, if your front speakers are small speakers, then a subwoofer is essential or you won't be able to enjoy enhanced bass effects. Below are a few suggestions for the set up:

1. The two main speakers should be set between six and ten feet apart. Putting them any closer or farther apart may result in distorted sound.
2. Try to align center speaker and two main speakers, or set the center speaker slightly behind the left and right main speakers, otherwise the surround effect may be distorted.
3. Aim the rear speakers directly at the two main speakers, matching height to height. If the room is sparsely decorated, slightly tilt the speakers down to increase sound quality. If the room is densely decorated, face the speakers towards the rear wall at the ceiling.



Actually there are many more possible options. Experiment repeatedly to find a right balance for you.

You can balance the speakers by pressing the **Test Tone / Setup button** on the receiver. After pressing

the button the display will toggle between levels of different speakers, and noise will be generated to that particular speaker. You can change the levels of different speakers by rotating the Multi Jog.

(For more information refer to section "The Test Tone / Setup button" in "Advanced Sound Control" on page 13.)



Dolby Digital
Manufactured
under license from
Dolby Laboratories.

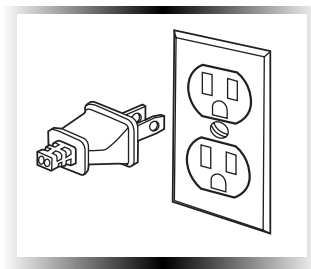
"Dolby", "Pro Logic" and the double-D symbol
are trademarks of Dolby Laboratories.
Copyright 1992-1997 Dolby Laboratories, Inc.
All Rights Reserved.

Getting Started

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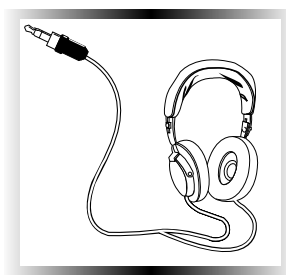
Connecting for power

Make sure you connect all your other electronic components and the speakers before plugging your receiver into the outlet. Plug the power cord in the wall outlet, matching the wide blade of the plug with the wide slot in the outlet. Be sure to insert the plug completely.



Using Headphones

To listen privately through your audio system, use the PHONES jack on the receiver. However, make sure you turn down the volume before you put on the headphones. Increase the volume to the desired level after headphones are in place.



Demo Mode

Right after you plugged in the power, a demo message will be appeared in display. (For more information please refer to section "Demo Mode" in "Advanced Sound Control" on page 14.)

Restore to Factory Settings

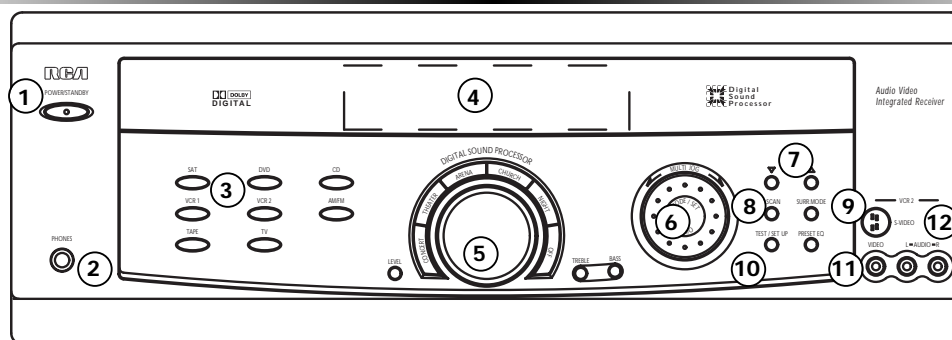
You can always restore all settings back to original state. When the receiver is in Standby mode, press in turn

CONCERT → OFF → NIGHT → CHURCH → ARENA → THEATER

then you can restore everything like preset radio station frequencies, speaker settings, back to the first time you use it.

How to Operate your Receiver

GB



Receiver Controls

1. Power/Standby

To turn on or stand by. When the system is turned on, the unit will go to the mode it was in before power off.

2. Phones

Plug your headphones (not supplied) into it and you can listen to your favorite media privately. Speaker will be off if phones inserted.

3. Function Buttons

To select sound source. For example, if you have a satellite receiver, choose SAT. **(Note: If you press SAT, the display will show DSS.)**

4. Display

To display current status of the receiver.

5. Sound Control

Let you adjust the sound – volume, treble, bass, balance, and Digital Sound Processor (DSP) mode. To change the **volume**, just turn the large central knob. To adjust **treble or bass**, press relevant button and turn the knob. To change the **DSP mode (Concert, Theater, Church, Arena)**, just press the button for the mode you want. To change the **volume of individual speakers**, press **Level** button repeatedly to

select the speaker, then turn the knob to adjust the level. (For more information refer to section “The Test Tone / Setup button” on page 13.)

6. Multi Jog

When pressing the center repeatedly, the display will toggle between **Digital Input**, **Sleep mode**, and **DIM selection**.

In **Digital Input** select, you can rotate to choose Coaxial, Optical (Optical 1 for SAT, Optical 2 for DVD or CD) and Analog. Rotate until your connection appears, then press the center again to confirm.

Note: Be sure you have the appropriate cords well connected before choosing **Digital Input**, or you won't hear any sound.

In **Sleep mode**, you can set the receiver to turn off after 30, 60, 90 or 120 minutes.

In **DIM selection**, you can rotate to set the brightness of the display.

7. Tuning Buttons

In AM/FM mode, press to change the frequency of broadcast. Keep pressing for more than 1 second, receiver will automatically go to the next station.

8. Preset Scan

Press to access directly to up to 30 preset radio stations.

9. Surround Mode

Press to select the surround mode you want. (For more information refer to section “The Test Tone / Setup button” on page 13.)

10. Test Tone / Setup

When pressing it momentarily, a short noise (test tone) will be generated in the speakers one by one, and you can adjust the volume of individual speakers. When keep pressing for two seconds, it will enter setup mode for speakers and subwoofers. Rotate the Multi Jog to choose the options. (For more information refer to section “The Test Tone / Setup button” on page 13.)

11. Preset EQ

Press to select the suitable EQ mode (music style) – CLASSIC, POP, ROCK, JAZZ, VOCAL, FLAT. Press it repeatedly until you got the one you want. Your choice will be saved few seconds after you released the button.

12. VCR –2 Jack

For convenient use of your digital camera, family game machines, second VCR, etc.

Note: If your video component has S-Video output, you can enjoy enhanced video quality by connecting it to the S-Video jack on receiver using a S-Video cable (not included).

How to Operate your Receiver

Your Remote Control

Please be sure you have inserted the batteries into the remote. (See "Inserting batteries into remote control" on page 3.) You can test it by pressing any button. If it works, the red LED will light.

1. ON/OFF

To turn on or off the receiver –
To **turn on**, press **once**; to **turn off**, press **twice**.

2. Function buttons

To choose the sound source.

3. Channel buttons (CH+, CH-)

To select programmed stations (in AM/FM mode).

4. Volume buttons

To change the volume.

5. Mute

To cut the sound.

6. Adjustment buttons

Press **AUDIO** button to activate the control, then, upon pressing **OK**, the display will toggle between **Preset EQ** (Stereo only), **Sleep Mode**, **DIM Mode** and **Night Mode** (Dolby Digital only). When the display shows the setup you want to change, press the left and right arrow buttons beside OK button to adjust, then press OK to finalize your choice.

7. Number buttons

To access directly a pre-set stations (in AM/FM mode).

8. Menu

To store current frequency to memory – set to desired frequency, then Press MENU. The flashing word MEMORY in red will appear in display. While the word MEMORY still flashing, input your desired channel number and the frequency will be stored. (For more information refer to

"Storing and Recalling Stations in Memory" on page 11.)

9. Operation buttons

In AM/FM mode, you can press REVERSE and FORWARD keys to tune down or tune up the radio frequency. The use of buttons PLAY, RECORD, STOP and PAUSE are for easy control of components other than the receiver itself (like CD, TV, DVD, TAPE, etc.). What you need is to program your remote to control them in advance. (For more information refer to "Using the Remote to Control additional components" on page 12.)

10. Digital

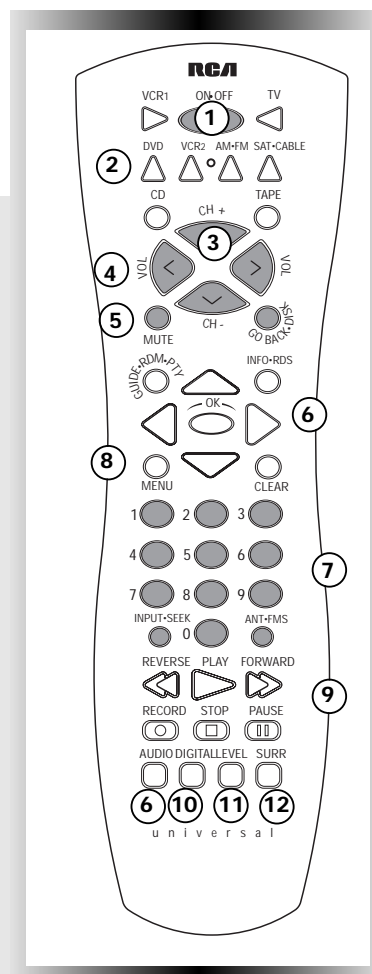
Select the way your audio/video components are connected to the receiver – Analog, Optical, or Coaxial.

11. Level

To change the volume of individual speakers. By pressing the button, the display will toggle between different channels (Left main speaker, Right main speaker, Center speaker, Left surround speaker, right surround speaker, and subwoofer), then you can press the left and right arrow buttons beside OK button to adjust.

12. Surround sound control

To change the surround sound settings. By pressing the button, the display will toggle between Dolby Digital, Dolby Pro Logic, Dolby 3 Stereo, Stereo and DSP modes.



GB

DOLBY DIGITAL

Dolby Digital mode uses all five speakers and an optional subwoofer to play the decoded Dolby Digital program source such as DVD and SAT.

DOLBY PRO LOGIC

The Pro Logic mode uses all five speakers and an optional subwoofer to play decoded Dolby Pro Logic program source, such as TV and VCR.

(continued on next page ->)

How to Operate your Receiver

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DOLBY 3 STEREO

The 3 Stereo mode uses the two main and one center speaker. The sound of the rear channel is output from the front speakers. Use this mode if your rear speakers are not connected.

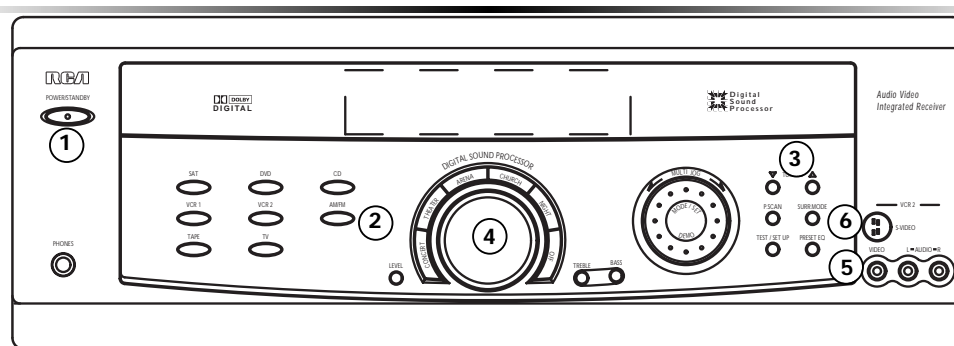
DSP SOUND FIELD MODE

These digital sound effects resembles sounds in a real

environment such as Concert, Church, Arena, Theater. DSP automatically converts analog audio signals to digital, which enables you to adjust the sound without degrading the sound quality. Different modes will give you different feel of size and type of listening environment.

(For more information refer to section "Advanced Sound Control" on page 13.)

Note: The remote buttons CLEAR, GO BACK•DISK, GUIDE•RDM•PTY do not work with the receiver.



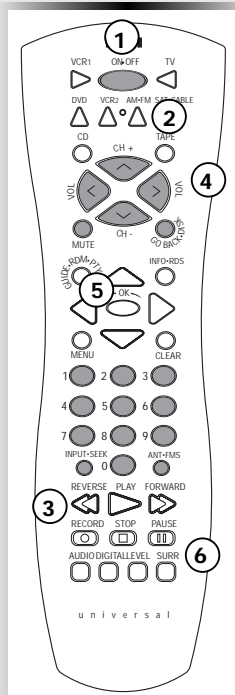
The Built-in Radio

The receiver has built-in AM/FM radio function. You can simply connect it to power and speakers to listen to your favorite radio stations.

1. Turn on the receiver.
2. Select AM/FM.
3. Tune to your favorite station.
4. Change volume.
5. Set preset EQ if needed (For more information refer to item 11 "Preset EQ" on page 9.).
6. Set surround mode if needed (For more information refer to section "The Test Tone / Setup button" on page 13.).

Seek Tuning

You can keep pressing one of the tuning buttons for a second, and the receiver will search for next station for you.



Storing and Recalling Stations in Memory

In remote control, set to desired frequency, then Press MENU. The flashing word **MEMORY** in red will appear in display. While the word **MEMORY** is still flashing, input your desired channel number and the frequency will be stored.

Tip: You can store up to 30 stations.

After you have done so, you can rotate the MultiJog on receiver or press CH+ or CH- buttons on remote to select the preset stations directly.

Note: The CH+ and CH- buttons respond only in AM/FM mode. If you want to change preset channels while in other modes, say DVD, you need to press AM/FM button in receiver or remote before selecting channels.

How to Operate your Receiver

GB

Using the Receiver to Play DVD

After you have connected your DVD player and receiver, you can partly control the DVD play through your receiver:

1. Connect the DVD player with the receiver and other components. (For more details please refer to page 4.)
2. Turn on the receiver.
3. Select DVD.
4. Turn on DVD player and play DVD through your DVD player.
5. Press and rotate Multi Jog to select input signal – Optical or Coaxial. (For more information refer to item 6 “Multi Jog” on page 9.)
6. Set Night Mode if needed. (For more information refer to section “Night Mode” on page 14.)
7. Change Volume.

Using the Receiver to Play CD

After you have connected your CD player and receiver, you can partly control the CD play through your receiver:

1. Connect the CD player with the receiver. (For more details please refer to page 4.)
2. Turn on the receiver.
3. Select CD.
4. Turn on CD Player and play CD through your CD player.
5. Press and rotate Multi-Jog to select input signal – Optical or Analog. (For more information refer to item 6 “Multi Jog” on page 9.)
6. Change Volume.
7. Set Preset EQ if needed. (For more information refer to item 11 “Preset EQ” on page 9.)
8. Set Surround Mode if needed. (For more information refer to section “The Test Tone / Setup button” on page 13.)

Using the Receiver to Play Video Cassette

After you have connected your VCR and receiver, you can partly control the VCR playback through your receiver:

1. Connect the VCR with the receiver. (For more details please refer to page 4.)
2. Turn on the receiver.
3. Select VCR1.
4. Turn on VCR and start play CD on VCR.
5. Press and rotate Multi-Jog to select input signal – Analog only. (For more information refer to item 6 “Multi Jog” on page 9.)
6. Change Volume.
7. Set Preset EQ if needed. (For more information refer to item 11 “Preset EQ” on page 9.)
8. Set Surround Mode if needed. (For more information refer to section “The Test Tone / Setup button” on page 13.)

Using the Remote to Control additional components

You can set your remote to control components other than the receiver itself (like CD, TV, DVD, TAPE, etc.). What you need is to program your remote to control them in advance:

1. Turn on the component to be programmed.
2. Look up the brand and corresponding code number in the code list on page 16.
3. While keeping the component button (like VCR1, VCR2, TV, DVD) on the remote pressed, enter the code from the code list.
4. Release the component button, then press POWER to see if the component responds to the remote commands. If it doesn't work, try pressing the component button, then POWER again.
5. Repeat steps 3 through 4 using the next code listed for the brand of your component until the component responds to the remote commands.

This remote may not operate all models of the brands shown.

If a battery is removed from the battery compartment of the remote control, all control key functions will return to original, and you need to re-enter all previous programmed codes again.

The buttons on the remote operate may not work on all other brands of components. Experiment with the remote and your components to see which buttons work. If only a few functions operate, check to see if another code set will work with more buttons.

Advanced Sound Control

GB

This receiver is equipped with several built-in sound enhancement system to give you the sound quality you have once dreamed of – but now comes true:

Dolby Pro Logic and Dolby 3 Stereo

This surround system reproduces theater-like surround sound from Dolby-encoded software. The Pro Logic mode uses the built-in circuit to steer the Left, Center, Right and Surround channel audio signals. The 3 Stereo mode will redirect the Surround signal to the front left and right speakers when only the front and center speakers are used.

Use this mode to suit your speaker system configuration (such as size and number of speakers) and type of program (such as VCR).

Dolby Digital

The Dolby Digital mode lets you enjoy full digital surround from software processed in the Dolby Digital format. Dolby Digital provides better sound quality and more powerful presence than conventional Dolby Surround.

When the soundtrack of a Dolby Digital movie was made, all the sound effects are mixed down to six separate channels of digital audio, and these six channels of independent digital audio are pressed to a single stream of digital data on your DVD. When you play it by your DVD player, the receiver *decodes* this stream of digital data back to six audio channels for playback.

Dolby Digital is optimal for DVD and SAT.

Setting up the speakers

This receiver supports a wide range of speakers and subwoofers. For optimal surround sound enjoyment, you need to register the **speaker selection settings** of your audio system. If you buy this receiver with accompanied speaker package (i.e. RT2300, RT2400) then this step has been done for you.

Also, to make the surround sound more effective and suit the acoustic conditions in your listening room, you need

to delay the signal from some of the speakers. Such **channel delay** compensates for center or surround speakers that are closer to listening position than the front speakers. Larger the difference in distance, larger the delay time. For example, in Dolby Digital environment, if the distance from your listening point to the center/surround speaker is equal to that to the front speaker, set 0 ms.

The Test Tone / Setup button

You can make use of the Test Tone / Setup button in receiver to tell your receiver about your speakers, like how large they are (**speaker selection**) and in what way you want to balance the speakers (**channel delay**).

After you have connected to the speakers, you can change the setup of the speakers by holding the Test Tone / Setup button for two seconds, then the display will show **FRONT LRG** which enables you to set the size of front speaker. Pressing the button momentarily while display still shows **FRONT LRG**, the display will show in turn: center, surround, subwoofer, and delay time. You can now set the size or delay time of the speakers by rotating the Multi Jog.

<i>Front Speaker selection</i>	<i>Large/ Small</i>
<i>Center Speaker selection</i>	<i>Large/ Small/ None</i>
<i>Surround Speaker selection</i>	<i>Large/ Small/ None</i>
<i>Subwoofer selection</i>	<i>Yes/ No</i>
<i>Center Channel delay</i>	<i>0-5ms</i>
<i>Surround Channel delay</i>	<i>0-15ms</i>
	<i>(Dolby Digital)</i>
	<i>15-30ms</i>
	<i>(Dolby Pro Logic)</i>

Note: Center Channel delay is applicable in Dolby Digital mode only, while Surround Channel Delay is applicable in Dolby Pro Logic and Dolby Digital only.

You can also adjust the relative loudness of the individual speakers by Test Tone / Setup button. In Dolby modes, press Test Tone / Setup button momentarily. A short noise will be produced in the speakers one by one. The speaker having the noise at that moment will be shown in the display. You can listen to that speaker and rotate the Multi-Jog to adjust the level.

Advanced Sound Control

GB

Input IQ

One of the smartest feature of the receiver is the ability to **pre-select the best surround mode for you once you turn on the unit by pressing the Function Button** (like DVD, SAT, CD) directly. **The default surround mode for different components are as table below.** If you decide to change the surround mode, you can press the Surround Button to change the mode you want.

SOURCE / INPUT	Optical / Coaxial Cable inserted	Only Audio / Video Cable inserted
DVD	STEREO* / Dolby Digital*	PRO LOGIC
SAT	PRO LOGIC** / Dolby Digital**	PRO LOGIC
VCR1	N/A	PRO LOGIC
VCR2	N/A	PRO LOGIC
TV	N/A	PRO LOGIC
CD	STEREO	STEREO
TAPE	N/A	STEREO
TUNER	N/A	STEREO

* If, at the time you press DVD button, a Dolby Digital DVD is playing, then the default surround mode will be Dolby Digital, otherwise (like using DVD to play CD) then it will be Stereo.

** The default surround mode of SAT depends on the signal of individual programs.

Auto Detect

When a Dolby Digital component is inserted (like DVD) the receiver will automatically detect the signal and shift to Dolby Digital surround mode, and the display will show **AUTO DET.**

Night Mode

By using Dynamic Range Compression technology, you can enjoy enhanced sound quality by Dolby Digital at night without interrupting your roommates or your neighbors. When you are watching a Dolby Digital enabled component (DVD, SAT), you can activate Night Mode by pressing NIGHT button at the front of receiver, and this mode will compress the difference in volume between normal voices and sounds like explosion. There are two modes (SOFT, SOFTER) for you to choose in terms of the extend of compression.

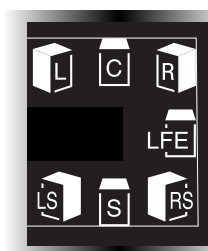
Demo Mode

Once you plugged in the power, a demo message will be displayed. The demo message will also be displayed if you press a function button (like CD) but then leave the unit without pressing any button for 30 seconds. To restore to normal, press the Multi-Jog, Standby / Power button or any function button.

Program Format Display

When a digital source is playing, the receiver will automatically switch to the proper surround mode and indicates on the speaker icons on the right-hand side of display. (See diagram.)

It is important to note, however, that not all Dolby Digital sources are encoded with the full complement of five channels plus LFE*. Speaker icon shows how many and which speaker you have enabled (See "Setting up the speakers" on page 13.) and the letter inside the speaker icon shows which channel is present in the source information. For example, the diagram shown means you have all the five speakers and sub-woofer enabled and the digital sources you played have five channels plus LFE complemented.



* LFE stands for Low Frequency Effect. The indication "LFE" appears if the digital source contains LFE information. In this case, the bass signal will be delivered to the subwoofer, offering more dynamic deep bass sound effects. If the letter is flashing, the signal is either too weak or just gone.

Care and Maintenance

GB Troubleshooting Tips Receiver/Tuner Operation

STEREO indicator is off.

- Adjust the antenna.
- The signal is too weak. Connect an external antenna.
- The signal is Mono. Severe hum or noise.
- The signal is too weak. Connect an external antenna.
- Adjust the antenna.

Remote Control Operation

The remote control does not operate the unit.

- Another function is selected on the remote. Press the correct function button.
- No batteries installed. (Included with your system) Install the batteries before attempting to operate the remote. Be sure to match the + and - ends of each battery to the symbols shown in the remote battery compartment.
- The batteries are exhausted. Replace all batteries.
- The remote is not pointed at the remote control sensor on the main unit or there is an obstacle between the remote and the main unit.
- The remote control is too far from the main unit.
- Move closer.

General

No audio.

- Make sure the MUTE indicator on the front panel is off.
- Make sure the speakers are turned on.
- Check the connections.
- Check the power cord connection. No audio from one channel.
- Adjust the balance control.
- Check the speaker wire connection or connecting cable. Noise when the TV is turned on.
- The TV is too close to the audio system. Specific instruments sound displaced.

- Check the connection between the receiver and the speakers. The sound does not match the video.
- Press the function button for the video source.
- Wrong digital signal input – press the Multi Jog and rotate to choose the signal

Cleaning the Exterior

- Disconnect the system from AC power before cleaning the exterior of the system with a soft dust cloth, or with a slightly humid chamois leather. Never use strong solvents.

EQUIPMENT SPECIFICATIONS:

AMPLIFIER SECTION:

All 5 channels. Each 50W (for RT2300 and RT2300R) or 100W (for RT2400 and RT2400R) at 6 ohm.

0.9% THD @1 kHz

Muting Attenuation: 65dB

Frequency Response: 40Hz to 20kHz +/-3dB

Signal to Noise Ratio: 65dB (Bypass mode)

VIDEO SECTION:

Input (Sensitivity/ Impedance): 1Vp-p/ 75ohm

Output (Level/ Impedance): 1Vp-p/ 75 ohm

Frequency Response: 10Hz to 6MHz at +/- 3dB

Signal to noise ratio: 40dB

Crosstalk @3.58MHz: 40dB

AM TUNER SECTION:

Frequency Response: 80Hz – 2kHz +/-6dB

Usable Sensitivity: 800uV/m @ S/N 20dB

Signal to Noise: 38dB

Image Ratio: 27dB @ 1000kHz

IF Rejection: 35dB

FM TUNER SECTION:

Frequency Response: 40Hz – 15kHz +/-3dB

Quieting: 24dBu

Signal to Noise: 60dB(stereo)/ 65dB(mono)

Image Ratio: 40dB

IF Rejection: 50dB

Remote Codes

GB

CABLE CODES

ABC	5002, 5003, 5004, 5005, 5006, 5009, 5053
ANTRONIX	5008, 5009
ARCHER	5008, 5009, 5010, 5011
CABLETENNA	5008
CABLEVIEW	5008
CENTURY	5011
CITIZEN	5011
COLOUR VOICE	5012, 5013
COMTRONICS	5014, 5015
CONTEC	5016
EASTERN	5017
GARRARD	5011
GC ELECTRONICS	5009
GEMINI	5018, 5019, 5049
GENERAL INSTRUMENT	5003
HAMLIN	5020, 5021, 5022, 5035, 5045
HITACHI	5003
HYTEX	5002
JASCO	5011
JERROLD	5003, 5005, 5007, 5018, 5023, 5024, 5046, 5053
MAGNAVOX	5025
MEMOREX	5026
MOVIE TIME	5002, 5027, 5028
NSC	5002, 5027, 5028
OAK	5002, 5016, 5029
PANASONIC	5048, 5052
PARAGON	5026
PHILIPS	5011, 5012, 5013, 5019, 5025, 5030, 5031, 5032
PIONEER	5033, 5034
PULSAR	5026
RCA	5047, 5049, 5052
REALISTIC	5009, 5049
REGAL	5022, 5035
REGENCY	5017
REMBRANDT	5003
RUNCO	5026
SAMSUNG	5014, 5034
SCIENTIFIC ATLANTA	5006, 5036, 5037, 5038
SIGNAL	5014, 5018
SIGNATURE	5003
SL MARX	5014
SPRUCER	5052
STARCOM	5007, 5018, 5053
STARGATE	5014, 5018
STARQUEST	5018
TANDY	5040
TELEVIEW	5014
TOCOM	5004, 5023, 5041
TOSHIBA	5026
TUSA	5018
TV86	5027
UNIKA	5008, 5009, 5011
UNITED ARTISTS	5002
UNITED CABLE	5053
UNIVERSAL	5008, 5009, 5010, 5011
VIDEOWAY	5044
VIEWSTAR	5015, 5025, 5027, 5040
ZENITH	5026, 5050, 5051

VCR CODES

ADMIRAL	2131
ADVENTURA	2026
AIKO	2027
AIWA	2002, 2026
AKAI	2003, 2004, 2005, 2007, 2008, 2111, 2112, 2113
AMERICAN HIGH	2021
ASHA	2013
AUDIO DYNAMICS	2009, 2010
AUDIOVOX	2014
BELL & HOWELL	2011
BEAUMARK	2013
BROKSONIC	2012, 2025
CALIX	2014
CANDLE	2013, 2014, 2015, 2016, 2017, 2018, 2019
CANON	2021, 2022, 2114
CAPEHART	2020, 2110
CARVER	2062
CCE	2027, 2061
CITIZEN	2013, 2014, 2015, 2016, 2017, 2018, 2019, 2027
COLORTIME	2009
COLT	2061
CRAIG	2013, 2014, 2023, 2061
CURTIS-MATHES	2000, 2002, 2009, 2013, 2016, 2018, 2021, 2022, 2024, 2115
CYBERNEX	2013
DAEWOO	2015, 2017, 2019, 2025, 2026, 2027, 2028, 2110
DAYTRON	2110
DBX	2009, 2010
DIMENSIA	2000
DYNATECH	2002, 2026
ELECTROHOME	2014, 2029
ELECTROPHONIC	2014
EMERSON	2002, 2012, 2014, 2015, 2021, 2024, 2025, 2026, 2029, 2030, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2044, 2045, 2047, 2065, 2105, 2113, 2116, 2117, 2130
FISHER	2011, 2023, 2048, 2049, 2050, 2051, 2052, 2118
FUJI	2021, 2119
FUNAI	2002, 2026
GARRARD	2026
GE	2000, 2001, 2013, 2021, 2022, 2053, 2115, 2120
GOLDSTAR	2009, 2014, 2018, 2054, 2121
GRADIENTE	2026
HARLEY DAVIDSON	2026
HARMAN KARDON	2009
HARWOOD	2061
HEADQUARTER	2011
HITACHI	2002, 2055, 2056, 2057, 2107, 2111, 2120, 2122
HI-Q	2023
INSTANT REPLAY	2021
JCI	2021
JC PENNEY	2009, 2010, 2011, 2013, 2014, 2021, 2022, 2055, 2056, 2058, 2059, 2060, 2107, 2118
JENSEN	2055, 2056, 2111
JVC	2009, 2010, 2011, 2018, 2058, 2111, 2123
KENWOOD	2009, 2010, 2011, 2016, 2018, 2058, 2111, 2123
KLH	2061
KODAK	2014, 2021
LLOYD	2002, 2026
LOGIK	2061
LXI	2014
MAGNAVOX	2021, 2022, 2062, 2063, 2104, 2108, 2124
MAGNIN	2013
MARANTZ	2009, 2010, 2011, 2016, 2018, 2021, 2058, 2062, 2064
MARTA	2014
MASUSHITA	2021
MEI	2021

Remote Codes

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MEMOREX	2002, 2011, 2013, 2014, 2021, 2023, 2026, 2104, 2131
MGA	2029, 2065, 2113
MGN TECHNOLOGY	2013
MIDLAND	2053
MINOLTA	2055, 2056, 2107
MITSUBISHI	2029, 2055, 2056, 2065, 2066, 2067, 2069, 2070, 2071, 2072, 2073, 2074, 2106, 2113, 2123
MONTGOMERY WARD	2075, 2131
MOTOROLA	2021, 2131
MTC	2002, 2013, 2026
MULTITECH	2002, 2013, 2016, 2026, 2053, 2061
NEC	2009, 2010, 2011, 2016, 2018, 2058, 2064, 2076, 2078, 2079, 2111, 2123
NIKKO	2014
NOBLEX	2013
OLYMPUS	2021
OPTIMUS	2014, 2131
OPTONICA	2096
ORION	2035
PANASONIC	2021, 2022, 2109, 2125, 2126, 2127
PENTAX	2016, 2055, 2056, 2107, 2120
PENTEX RESEARCH	2018
PHILCO	2021, 2022, 2062, 2063
PHILIPS	2021, 2062, 2096, 2124
PILOT	2014
PIONEER	2010, 2055, 2080, 2081, 2123
PORTLAND	2016, 2017, 2019, 2110
PROSCAN	2000, 2001
PROTEC	2061
PULSAR	2104
QUARTER	2011
QUARTZ	2011
QUASAR	2021, 2022, 2125
RCA	2000, 2001, 2003, 2013, 2021, 2055, 2056, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2107, 2115, 2120, 2125
RADIOSHACK/REALISTIC	2002, 2011, 2013, 2014, 2021, 2022, 2023, 2026, 2029, 2049, 2050, 2096, 2131
RADIX	2014
RANDEX	2014
RICOH	2128
RUNCO	2104
SAMSUNG	2005, 2013, 2015, 2033, 2053, 2112
SANKY	2104, 2131
SANSUI	2010, 2092, 2111, 2123
SANYO	2011, 2013, 2023
SCOTT	2012, 2015, 2025, 2032, 2035, 2038, 2065, 2093, 2116
SEARS	2011, 2014, 2021, 2023, 2048, 2049, 2050, 2051, 2055, 2056, 2107, 2118
SHARP	2002, 2017, 2029, 2094, 2095, 2096, 2131
SHINTOM	2004, 2056, 2061, 2098
SHOGUN	2013
SIGNATURE	2002, 2131
SINGER	2021, 2061, 2128
SONY	2002, 2004, 2098, 2099, 2119, 2128
STS	2021, 2107
SYLVANIA	2002, 2021, 2022, 2026, 2062, 2063, 2065, 2124
SYMPHONIC	2002, 2026
TANDY	2002, 2011
TASHIKO	2014
TATUNG	2058, 2111
TEAC	2002, 2026, 2058, 2085, 2111
TECHNICS	2021, 2109
TEKNIKA	2002, 2014, 2021, 2026, 2100, 2129
TMK	2013, 2024, 2047
TOSHIBA	2015, 2049, 2051, 2055, 2065, 2093, 2116
TOTEVISION	2013, 2014
UNITECH	2013
VECTOR RESEARCH	2009, 2010, 2015, 2016
VICTOR	2010
VIDEO CONCEPTS	2009, 2010, 2015, 2016, 2113
VIDEOSONIC	2013
WARDS	2002, 2013, 2014, 2015, 2021, 2023, 2026, 2029, 2055, 2056, 2061, 2096, 2101, 2102, 2103, 2107, 2116, 2131

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YAMAHA
ZENITH

 2021, 2026, 2061
2009, 2010, 2011, 2018, 2058, 2111
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ABEX	1172
ADMIRAL	1001, 1173
ADVENTURA	1174
AIKO	1016
AKAI	1002
ALLERON	1046
AMTRON	1038
ANAM NATIONAL	1003, 1038
AOC	1004, 1005, 1006, 1007, 1175, 1176
AUDIOVOX	1038
BELCOR	1004
BELL & HOWELL	1001, 1083, 1162
BRADFORD	1038
BROKWOOD	1004
CANDLE	1004, 1006, 1008, 1174
CAPEHART	1175
CELEBRITY	1002
CENTURION	1009
CITIZEN	1004, 1006, 1008, 1016, 1038, 1105, 1171, 1174, 1177
CLAIRTONE	1176
COLORTYPE	1004, 1006
CONCERTO	1004, 1006
CONTEC/CONY	1012, 1013, 1014, 1038, 1176
CRAIG	1038
CROWN	1038, 1171
CURTIS MATHES	1000, 1004, 1006, 1015, 1105, 1162, 1171
CXC	1038
DAEWOO	1004, 1005, 1006, 1016, 1017, 1018, 1127, 1171
DAYTRON	1004, 1006, 1171
DIMENSIA	1000
DUMONT	1004, 1151
DYNATECH	1178
ELECTROBAND	1002, 1176
ELECTROHOME	1003, 1004, 1006, 1019, 1022
EMERSON	1004, 1006, 1012, 1014, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1041, 1042, 1043, 1044, 1046, 1047, 1123, 1124, 1162, 1171, 1176, 1177, 1179, 1191
ENVISION	1004, 1006
FISHER	1048, 1049, 1050, 1051, 1162, 1180
FUJITSO	1046
FUNAI	1038, 1046
FUTURETEC	1038
GE	1000, 1003, 1004, 1006, 1022, 1052, 1054, 1055, 1087, 1164, 1165, 1166, 1167, 1168, 1181
GIBRALTER	1004, 1151
GOLDSTAR	1004, 1005, 1006, 1012, 1019, 1056, 1057, 1058, 1155, 1156, 1171, 1172
GRUNDY	1038, 1046, 1171
HALLMARK	1004, 1006
HARVARD	1038
HITACHI	1004, 1006, 1012, 1013, 1059, 1060, 1061, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1148, 1150, 1179
IMA	1038
INFINITY	1062
JANEIL	1174
JBL	1062
JCB	1002
JC PENNY	1000, 1004, 1005, 1006, 1008, 1022, 1052, 1054, 1058, 1063, 1064, 1072, 1087, 1105, 1128, 1171, 1172, 1181
JENSEN	1004, 1006
JVC	1012, 1013, 1054, 1060, 1065, 1066, 1067, 1089, 1157, 1158, 1159, 1182

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KAWASHO	1002, 1004, 1006
KAYPANI	1175
KENWOOD	1004, 1006, 1019
KLOSS NOVABEAM	1068, 1069, 1174, 1183
KTV	1038, 1070, 1171, 1176, 1177
LOEWE	1062
LOGIK	1083
LUXMAN	1004, 1006
LXI	1000, 1006, 1049, 1062, 1071, 1072, 1073, 1162, 1181
MAGNAVOX	1004, 1006, 1008, 1019, 1062, 1068, 1069, 1074, 1075, 1076, 1077, 1088, 1089, 1130, 1131, 1132, 1133, 1134, 1183, 1184
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MARANTZ	1004, 1006, 1062, 1078
MEGATRON	1006, 1059
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MEMOREX	1001, 1006, 1082, 1083, 1162
MGA	1004, 1005, 1006, 1019, 1022, 1051, 1079, 1080, 1082
MIDLAND	1054, 1151, 1171, 1172, 1181
MINUTZ	1052
MITSUBISHI	1004, 1005, 1006, 1019, 1022, 1051, 1079, 1080, 1081, 1082, 1082, 1083, 1125
MONTGOMERY WARD	1083
MOTOROLA	1003, 1173
MTC	1004, 1005, 1006, 1105, 1176, 1178
MULTITECH	1038, 1178
MULTIVISION	1084
NAD	1006, 1071, 1072, 1185
NEC	1003, 1004, 1005, 1006, 1089
NIKKO	1006, 1016
NTC	1016
ONWA	1038
OPTIMUS	1185
OPTONICA	1095, 1173
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PANASONIC	1003, 1054, 1062, 1170
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PHILIPS	1003, 1004, 1008, 1012, 1019, 1062, 1068, 1069, 1074, 1075, 1076, 1086, 1087, 1088, 1089
PILOT	1004, 1171
PIONEER	1004, 1006, 1090, 1091, 1092, 1179, 1185
PORTLAND	1004, 1005, 1006, 1016, 1171
PRICE CLUB	1105
PRISM	1054
PROSCAN	1000, 1181
PROTON	1004, 1006, 1012, 1093, 1175
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PULSER	1004
QUASAR	1003, 1054, 1070, 1094
RADIO SHACK/REALISTIC	1000, 1004, 1006, 1012, 1038, 1049, 1095, 1162, 1171, 1172
RCA	1000, 1003, 1004, 1005, 1006, 1007, 1019, 1096, 1098, 1099, 1100, 1101, 1102, 1103, 1129, 1179, 1181, 1187, 1188, 1190
RHAPSODY	1176
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SAMPO	1004, 1006, 1171, 1172, 1175
SAMSUNG	1004, 1005, 1006, 1012, 1015, 1019, 1104, 1105, 1106, 1171, 1172
SAMSUX	1171
SANSUI	1191
SANYO	1004, 1048, 1049, 1050, 1080, 1107, 1108, 1162, 1169, 1180, 1189
SCOTCH	1006
SCOTT	1004, 1006, 1012, 1024, 1035, 1038, 1046
SEARS	1000, 1004, 1006, 1013, 1019, 1046, 1048, 1049, 1050, 1051, 1066, 1071, 1072, 1109, 1110, 1162, 1180, 1181, 1189
SHARP	1004, 1006, 1012, 1029, 1095, 1111, 1112, 1113, 1122, 1171, 1173
SHOGUN	1004
SIGNATURE	1001, 1083, 1115

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SONIC	1176
SONY	1002
SOUNDESIGN	1004, 1006, 1008, 1038, 1046
SQUAREVIEW	1189
SSS	1004, 1038
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SYLVANIA	1004, 1006, 1008, 1019, 1062, 1068, 1069, 1074, 1075, 1076, 1077, 1088, 1116, 1161, 1183, 1184
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TATUNG	1003, 1178
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TEKNIKA	1004, 1005, 1006, 1008, 1012, 1013, 1016, 1038, 1046, 1076, 1082, 1083, 1105, 1170, 1171
TELECAPTION	1117
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TOSHIBA	1049, 1071, 1072, 1089, 1105, 1109, 1117, 1118, 1160, 1162
TOTEVISION	1171
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VICTOR	1066, 1182
VIDTECH	1004, 1005, 1006
VIKING	1174
WARDS	1000, 1001, 1004, 1005, 1006, 1019, 1024, 1033, 1046, 1052, 1062, 1069, 1074, 1075, 1076, 1083, 1087, 1088, 1095, 1119, 1120, 1184
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US Warranty

GB

What your warranty covers:

- Any defect in materials or workmanship.

For how long after your purchase:

- One year.

(The warranty period for rental units begins with the first rental or 45 days from date of shipment to the rental firm, whichever comes first.)

What we will do:

- Provide you with a new, or at our option, a refurbished unit.
- The exchange unit is under warranty for the remainder of the original product's warranty period.

How to make a warranty claim:

- Properly pack your unit. Include any cables, etc., which were originally provided with the product. We recommend using the original carton and packing materials.
- Include in the package evidence of purchase date such as the bill of sale. Also print your name and address and a description of the defect. Send standard UPS or its equivalent to:

Thomson Consumer Electronics, Inc.
Product Exchange Center
11721 B Alameda Ave.
Socorro, TX 79927

- Pay any charges billed to you by the Exchange Center for service not covered by the warranty.
- Insure your shipment in case of loss of damage. Thomson accepts no liability in case of damage or loss.
- A new or refurbished unit will be shipped to you prepaid freight.

What your warranty does not cover:

- Customer instruction. (Your Owner's Manual provides information regarding operating instructions and user controls. For additional information, ask your dealer.)
- Installation and set-up service adjustments.
- Batteries.
- Damage from misuse or neglect.
- Products which have been modified or incorporated into other products.
- Products purchased or serviced outside the USA.
- Acts of God, such as but not limited to lightning damage.

Product Registration:

- Please complete and mail the Product Registration Card packed with your unit. It will make it easier to contact you should it ever be necessary. The return of the card is not required for warranty coverage.

How state law relates to this warranty:

- This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

If you purchased your product outside the USA:

- This warranty does not apply. Contact your dealer for warranty information.

Canadian Warranty

GB: Thomson Consumer Electronics Canada, Inc. warrants to the purchaser or gift recipient that if any manufacturing defect becomes apparent in this product within 1 year from the original date of purchase, it will be replaced free of charge, including return transportation.

This warranty does not include damage to the product resulting from accidents, misuse or leaking batteries.

Should your product not perform properly during the warranty period, either:

1. Return it to the selling dealer with proof of purchase for replacement,

OR

2. Remove the batteries (where applicable), and pack product complete with accessories in the original carton (or equivalent).

— Mail prepaid (with proof of purchase) and insured to:

Thomson Consumer Electronics Canada, Inc.

Distribution Centre

7400 A Bramalea Road

Mississauga, Ontario L5S 1X1

The provisions of this written warranty are in addition to and not a modification of or subtraction from the statutory warranties and other rights and remedies contained in any applicable legislation, and to the extent that any such provisions purport to disclaim, exclude or limit any such statutory warranties and other rights and remedies, such provisions shall be deemed to be amended to the extent necessary to comply therewith.

If you are unable to find a qualified technician for out of warranty service, you may write to:

Thomson Consumer Electronics Canada, Inc.

P.O. Box 0944

Indianapolis, Indiana, U.S.A., 46206-0944

Attach your sales receipt to this booklet for future reference. This information is required if service is needed during the warranty period.

PURCHASE DATE _____

NAME OF STORE _____

Model Number: RT2300/RT2300R/RT2400/RT2400R

55021630

99-28

Printed in Hong Kong

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10330 North Meridian Street

Indianapolis, IN 46290-1024

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