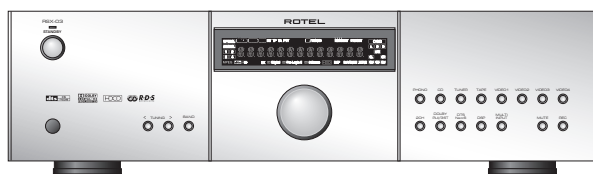


**ROTEL**

## Owner's manual

# RSX-03

Surround Sound Receiver







**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



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



This symbol is to alert the user to the presence of uninsulated dangerous voltages inside the product's enclosure that may constitute a risk of electric shock.



This symbol is to alert the user to important operating and maintenance (service) instructions in this manual and literature accompanying the product.


**APPLICABLE FOR USA, CANADA OR WHERE APPROVED FOR THE USAGE**

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

**ATTENTION:** POUR EVITER LES CHOCES ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

**This Class B digital apparatus complies with Canadian ICES-003.**

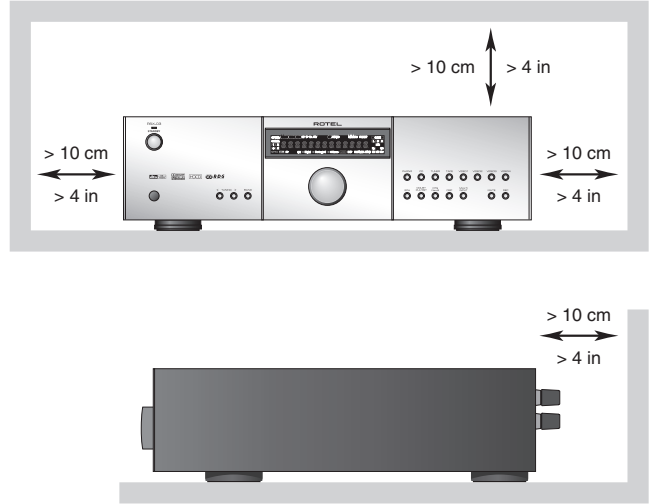
**Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.**



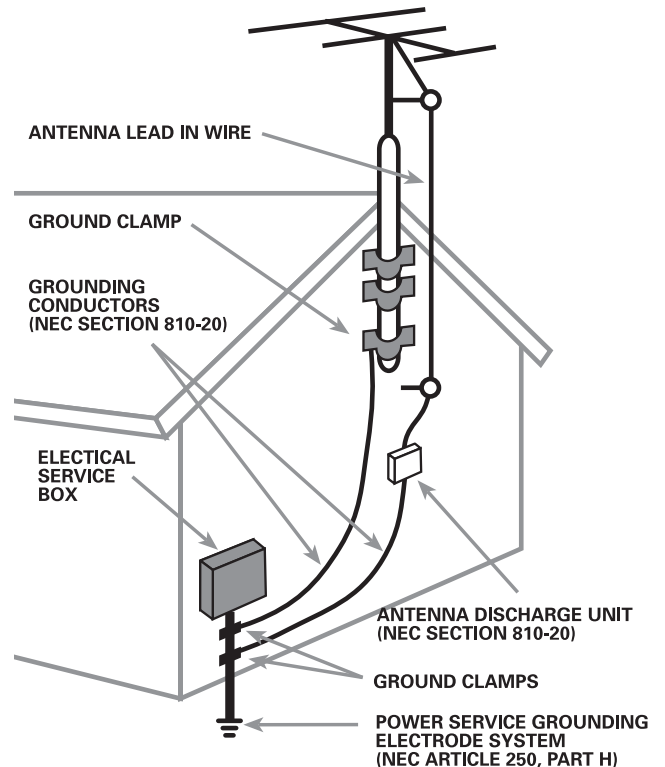
This symbol means that this unit is double insulated. An earth or ground connection is not required.



Rotel products are designed to comply with international directives on the Restriction of Hazardous Substances (RoHS) in electrical and electronic equipment and the disposal of Waste Electrical and Electronic Equipment (WEEE). The crossed wheelie bin symbol indicates compliance and that the products must be appropriately recycled or processed in accordance with these directives.



**ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS ARTICLE 810: "RADIO AND TELEVISION EQUIPMENT"**



# Notice

The **COMPUTER I/O connection** should be handled by authorized person only.

## FCC Information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.(TV, radio, etc.)
- Increase the separation between the equipment and receiver
- Connect the equipment to an outlet on circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for additional help.

## Caution

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

**NOTE TO CATV SYSTEM INSTALLER:** Call the CATV system or antenna installer's attention to Article 820-40 of the NEC. This provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical. See installation diagram.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference in a residential installation. This equipment generates and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause interference to radio or TV communications. There is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the unit and the television tuner.
- Connect the unit to an AC power outlet on a different electrical circuit.
- Consult your authorized Rotel retailer for assistance.

# Important Safety Instructions

**WARNING:** There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

**WARNING:** To reduce the risk of fire or electric shock, do not expose the unit to moisture or water. Do not expose the unit to dripping or splashing. Do not place objects filled with liquids, such as vases, on the unit. Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and necessary repairs.

Read all the instructions before connecting or operating the component.

Keep this manual so you can refer to these safety instructions.

Heed all warnings and safety information in these instructions and on the product itself. Follow all operating instructions.

Clean the enclosure only with a dry cloth or a vacuum cleaner.

Do not use this unit near water.

**You must allow a minimum 10 cm or 4 inches of unobstructed clearance around the unit.** Do not place the unit on a bed, sofa, rug, or similar surface that could block the ventilation openings. If the unit is placed in a bookcase or cabinet, there must be ventilation of the cabinet to allow proper cooling.

Keep the component away from radiators, heat registers, stoves, or any other appliance that produces heat.

The unit must be connected to a power supply only of the type and voltage specified on the rear panel. (USA: 120 V/60Hz, EC: 230V/50Hz)

Connect the component to the power outlet only with the supplied power supply cable or an exact equivalent. Do not modify the supplied cable. A polarized plug has two blades, with one wider than the other. A grounding plug has two blades plus a third grounding prong. These are provided for your safety. Do not defeat grounding and/or polarization safety provisions. If the supplied plug does not fit your outlet, please consult an electrician for replacement of the obsolete outlet. Do not use extension cords.

The main plug of the power cordset is a disconnect device of the apparatus. In order to completely disconnect the apparatus from the supply mains, the main plug of the power cordset should be unplugged from the mains (AC) outlet. The stand-by LED indicator will not be lit up to show the power cord is unplugged.

Do not route the power cord where it will be crushed, pinched, bent, exposed to heat, or damaged in any way. Pay particular attention to the power cord at the plug and where the cord exits the back of the unit.

The power cord should be unplugged from the wall outlet during a lightning storm or if the unit is to be left unused for a long period of time.

Use only accessories specified by the manufacturer.

Use only with a cart, stand, rack, bracket or shelf system recommended by Rotel. Use caution when moving the unit in a stand or rack to avoid injury from a tip-over.

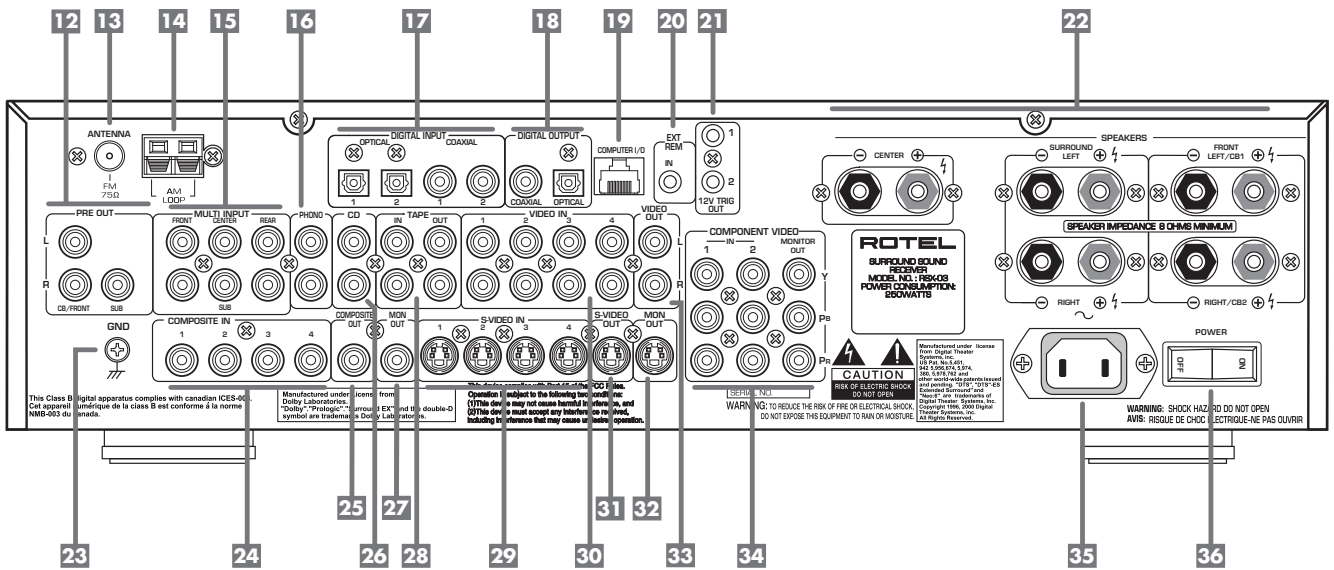
Use Class 2 wiring for speaker connections to ensure proper installation and minimize the risk of electrical shock.

Immediately stop using the component and have it inspected and/or serviced by a qualified service agency if:

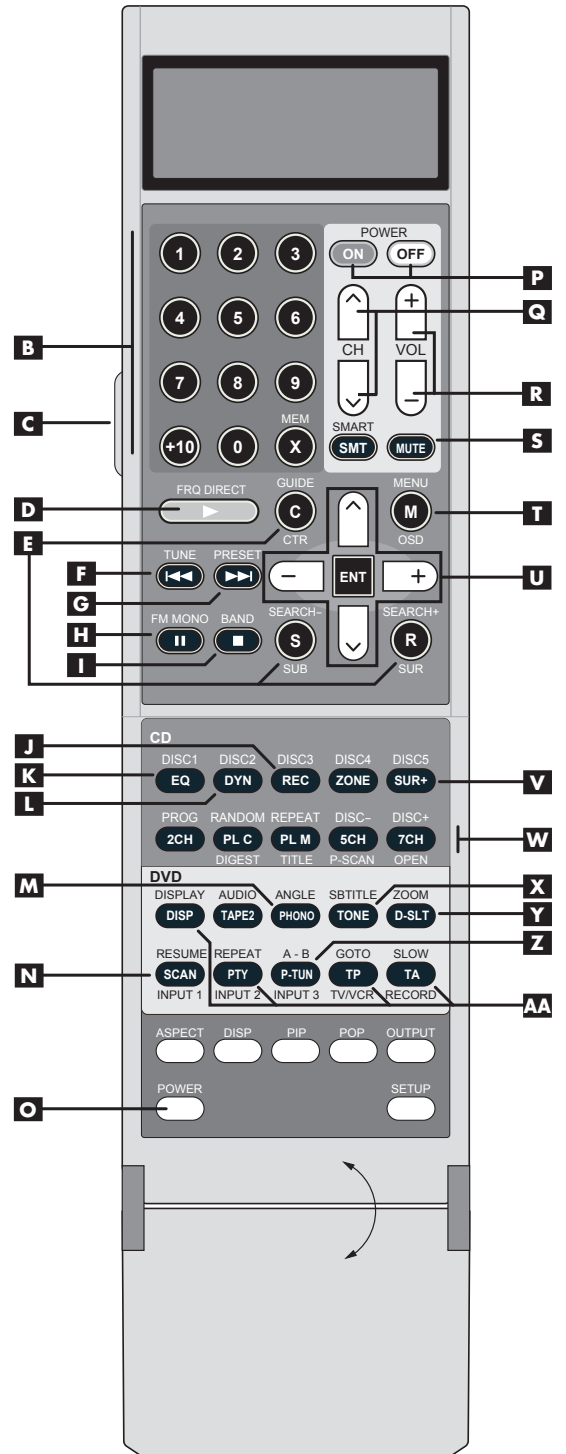
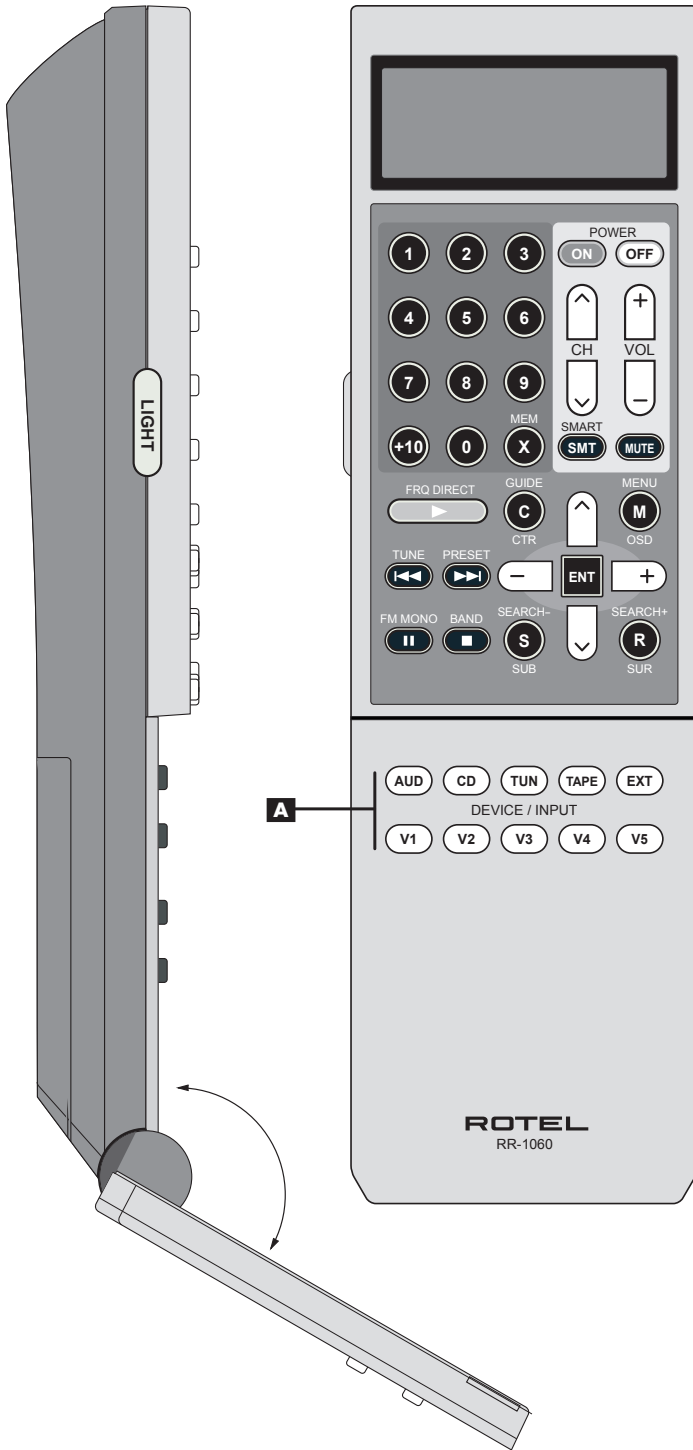
- The power supply cord or plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit has been exposed to rain.
- The unit shows signs of improper operation
- The unit has been dropped or damaged in any way

**WARNING:** The master power switch is located on the rear panel. The unit must be located in the open area allowing unobstructed access to the main power switch.

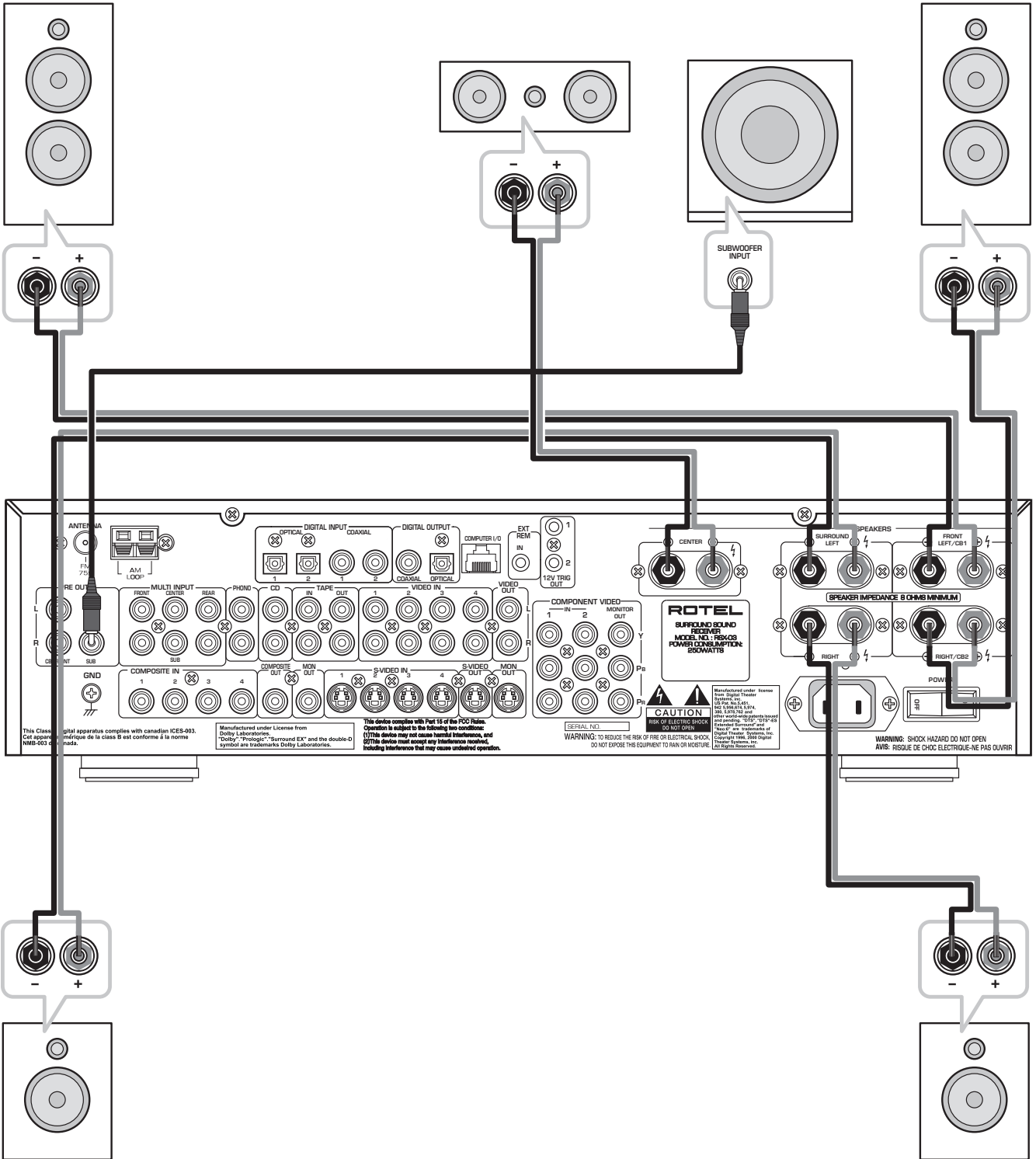
1: Controls and Connections



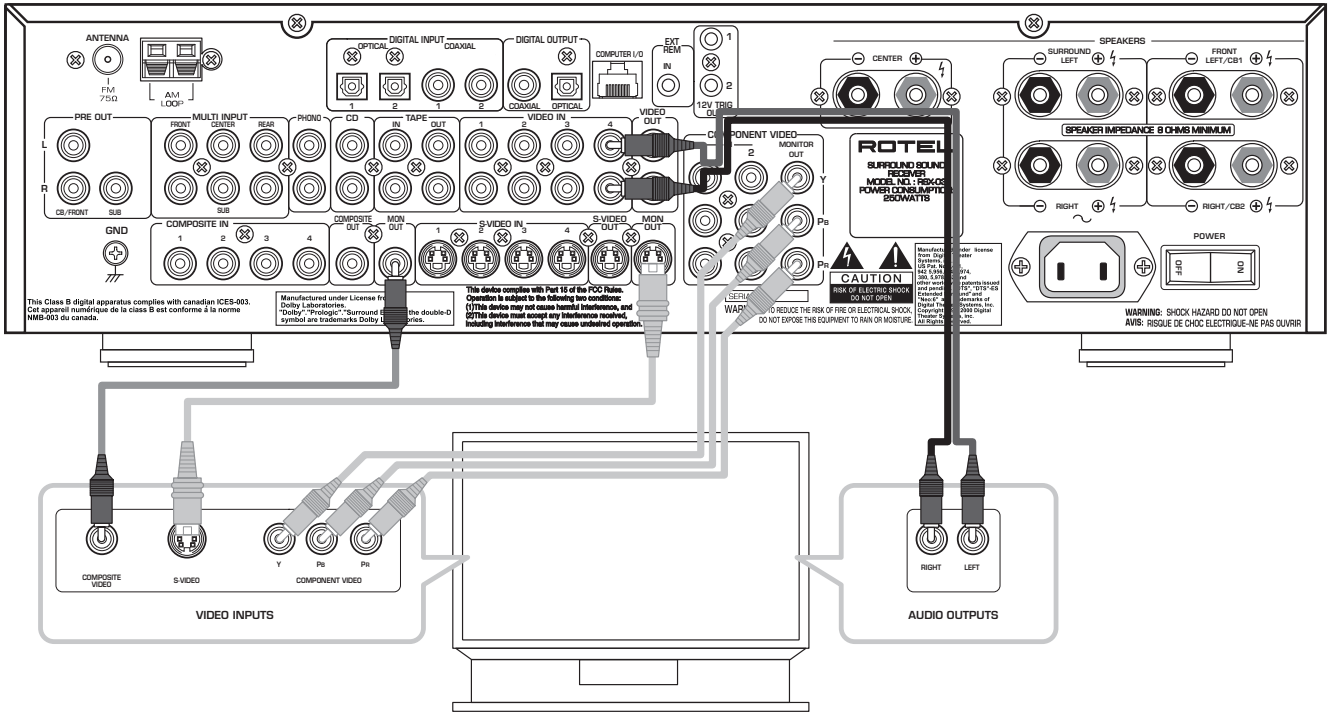
2: RR-1060 Remote



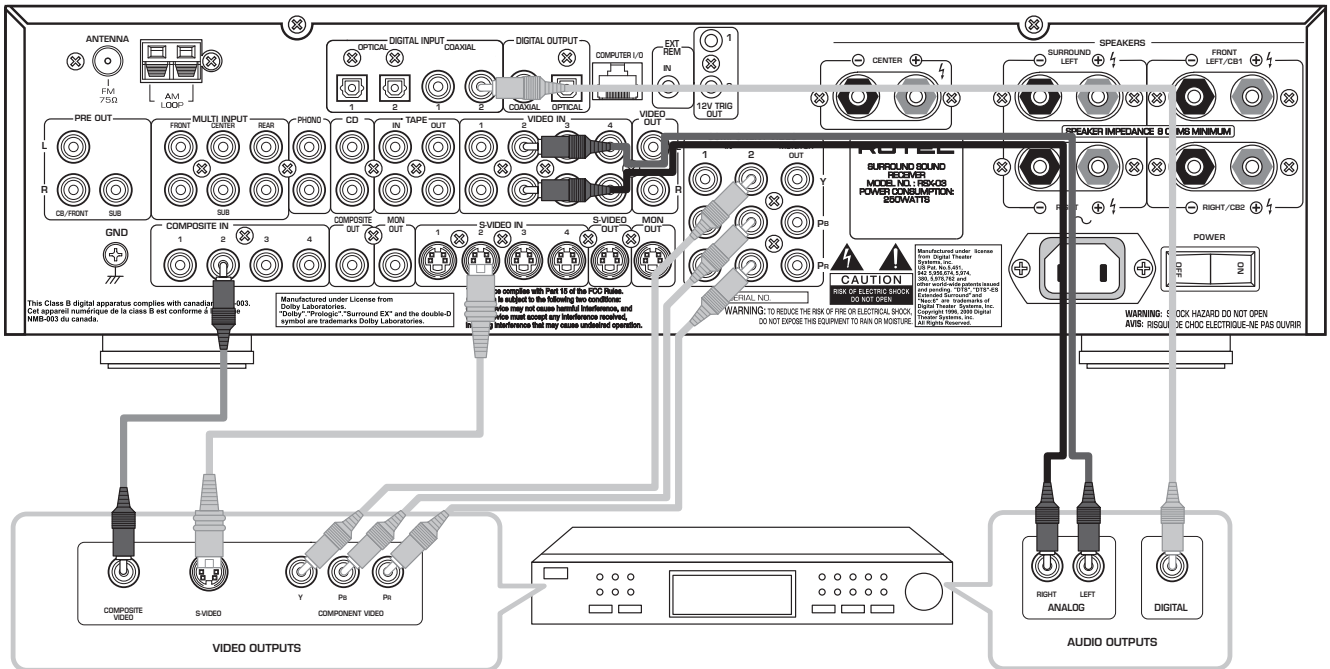
### 3: Connecting the Speakers



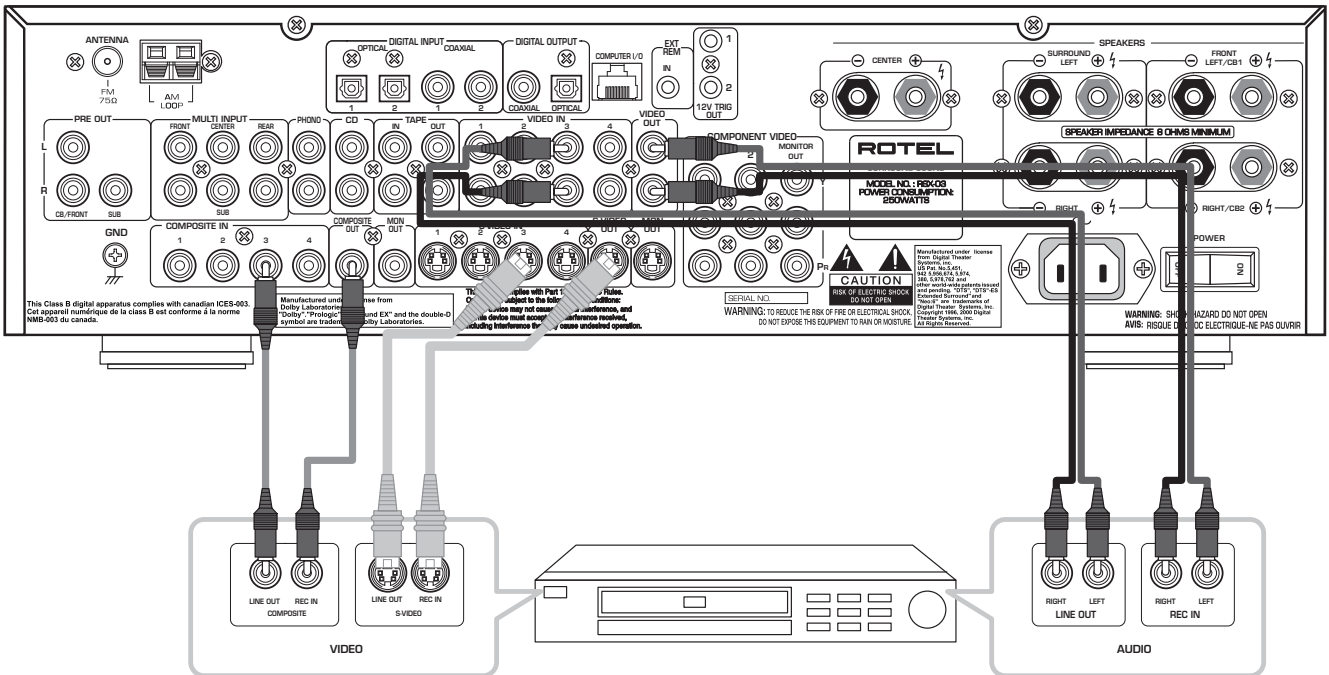
### 4: Connecting the TV



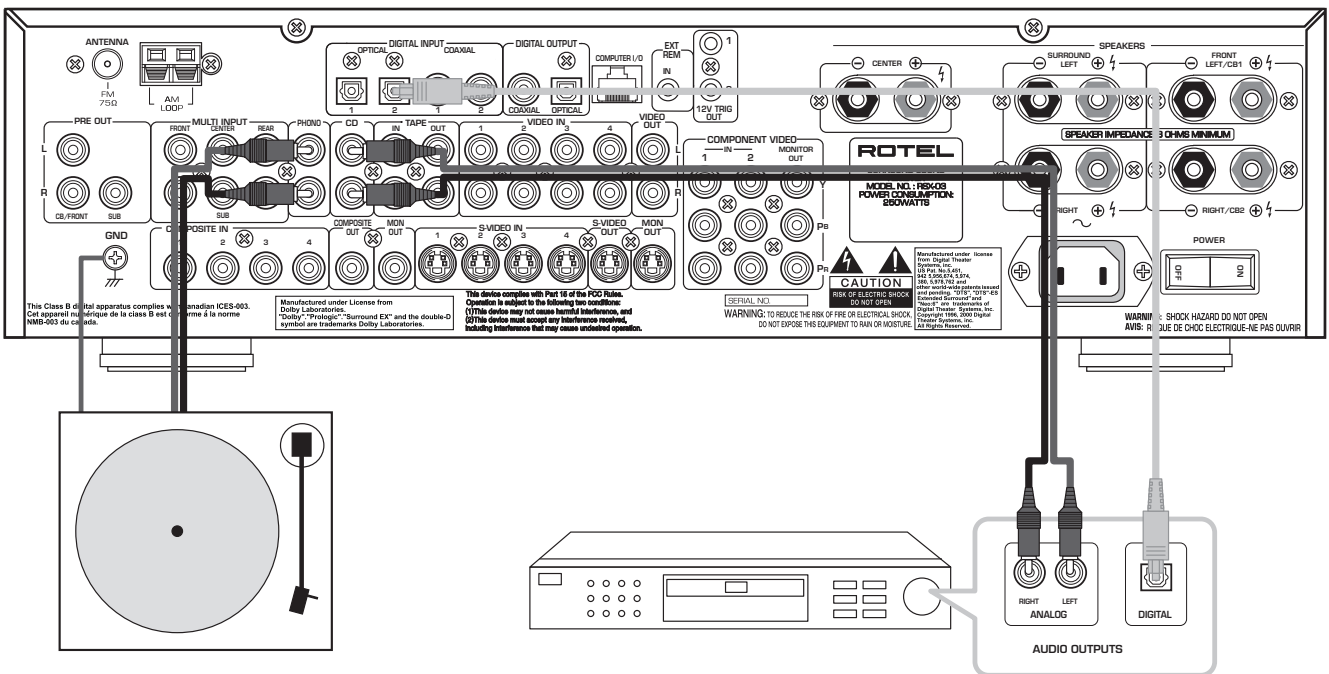
### 5: Connecting Cable, Satellite, or HDTV



### 6: Connecting a VCR

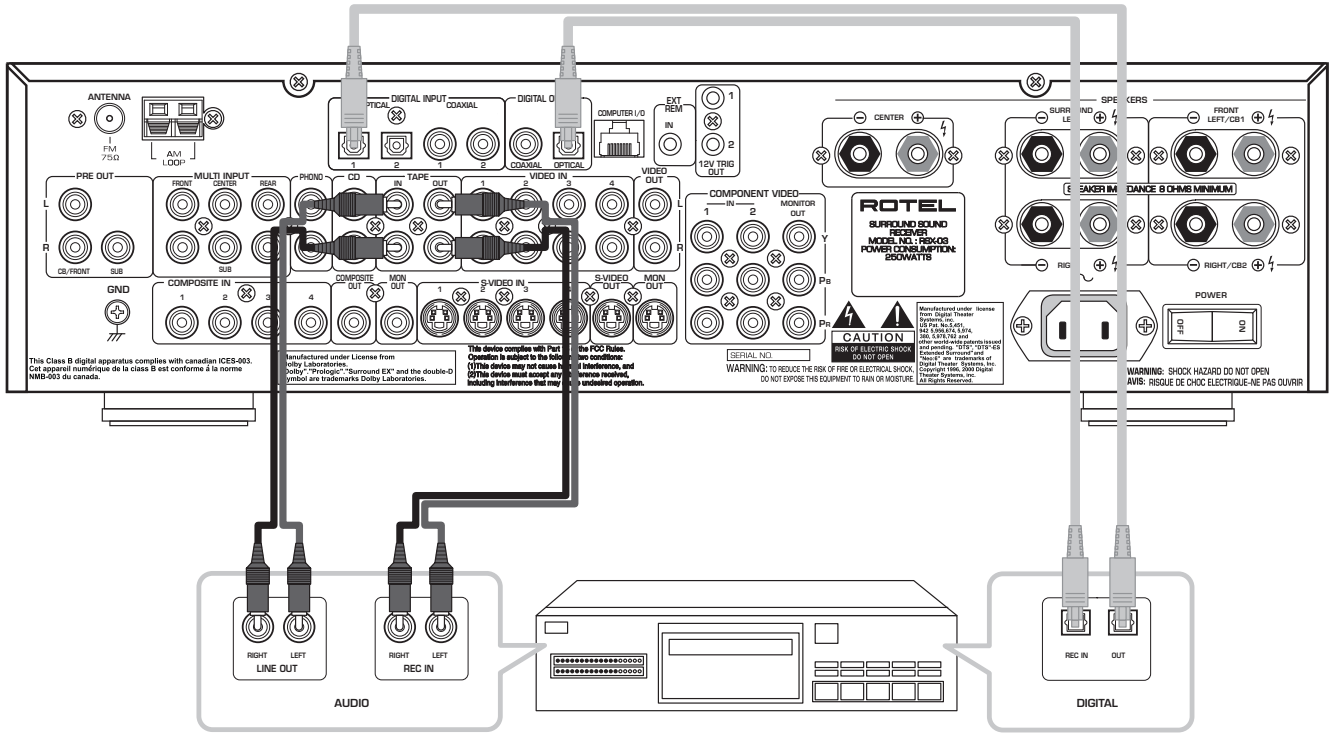


### 7: Connecting a CD Player/CDR Recorder and Turntable

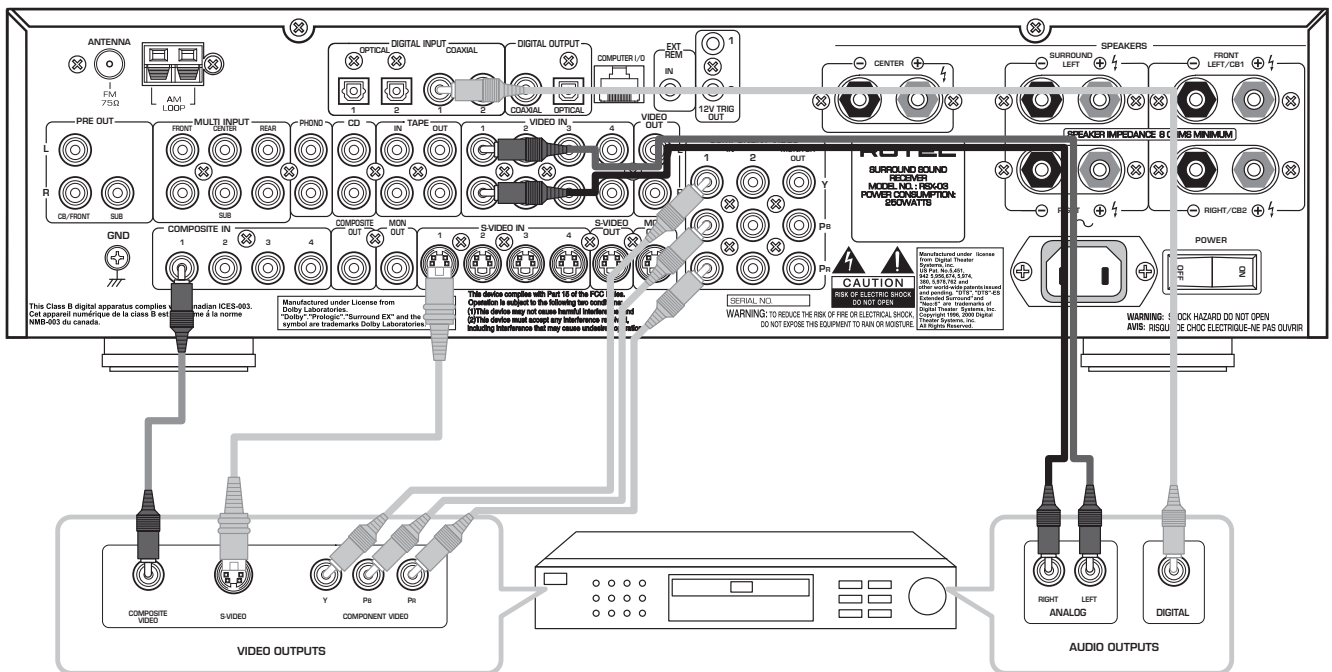




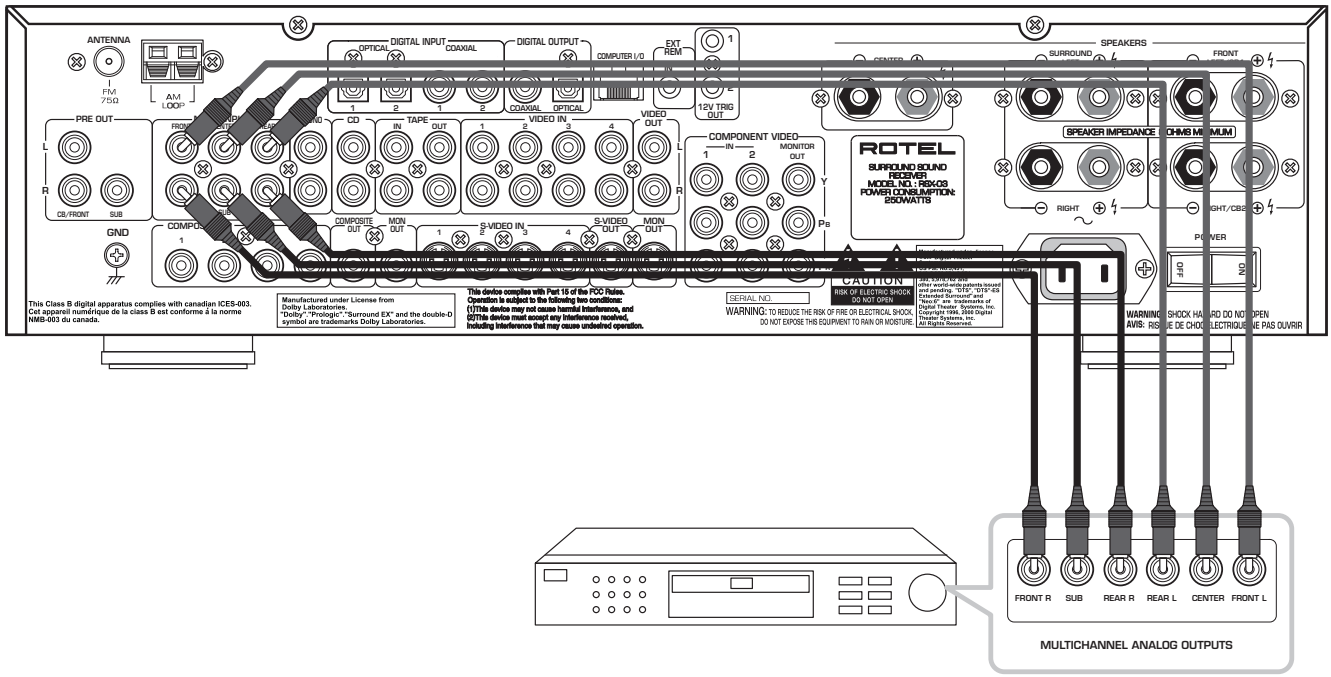
### 8: Connecting an Audio Recorder



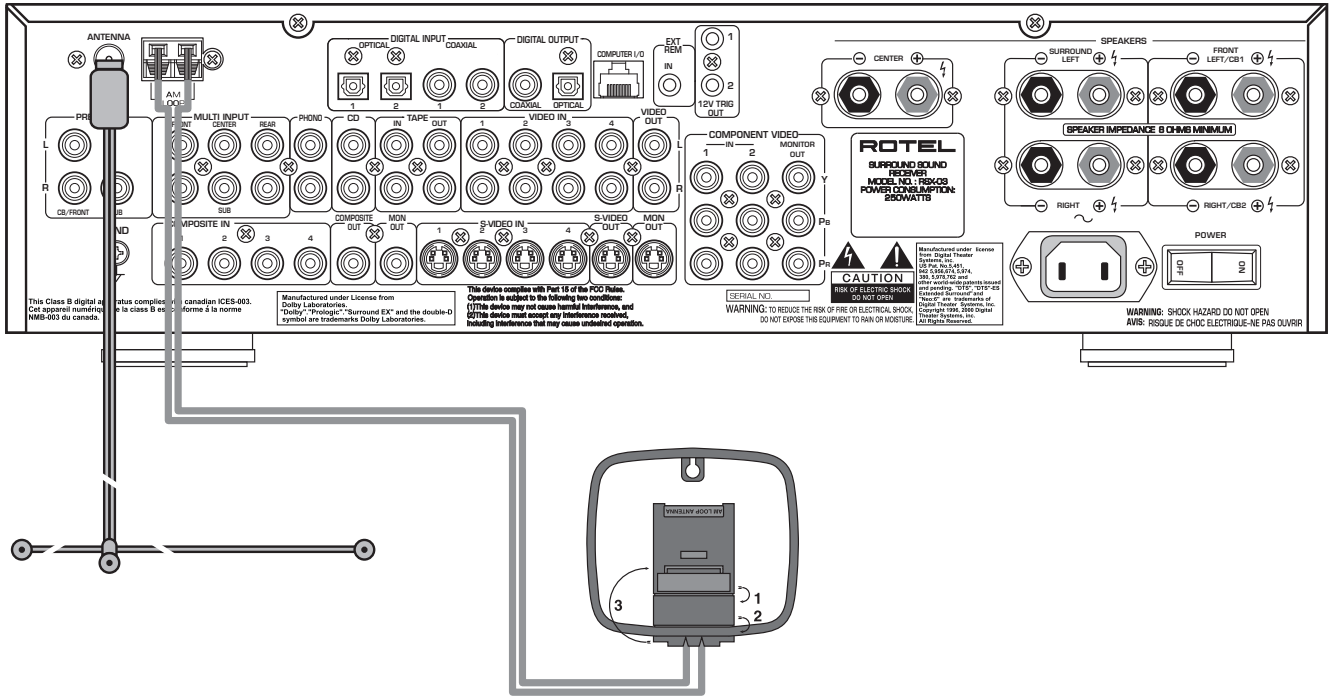
### 9: Connecting a DVD Player



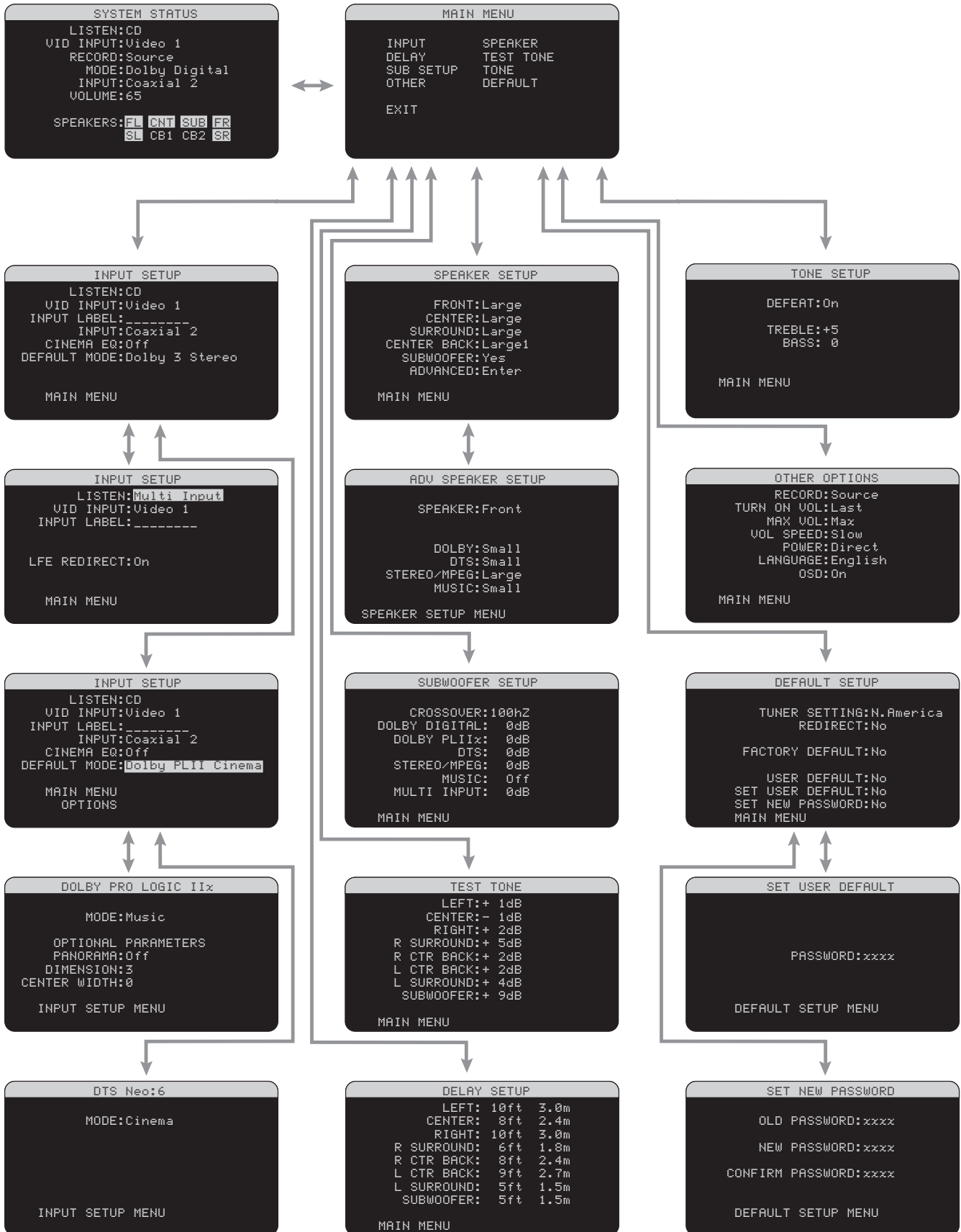
### 10: Connecting a DVD-A or SACD Player



### 11: Connecting AM and FM antennae



## 12: On-Screen Menus



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Boxed numbers refer to RSX-03 illustration. Boxed letters refer to RR-1060 illustration.

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## About Rotel

A family whose passionate interest in music led them to manufacture high fidelity components of uncompromising quality founded Rotel over forty years ago. Through the years that passion has remained undiminished and the family goal of providing exceptional value for audiophiles and music lovers regardless of their budget, is shared by all Rotel employees.

The engineers work as a close team, listening to, and fine tuning each new product until it reaches their exacting musical standards. They are free to choose components from around the world in order to make that product the best they can. You are likely to find capacitors from the United Kingdom and Germany, semi conductors from Japan or the United States, while toroidal power transformers are manufactured in Rotel's own factory.

Rotel's reputation for excellence has been earned through hundreds of good reviews and awards from the most respected reviewers in the industry, who listen to music every day. Their comments keep the company true to its goal - the pursuit of equipment that is musical, reliable and affordable.

All of us at Rotel, thank you for buying this product and hope it will bring you many years of enjoyment.

## Getting Started

Thank you for purchasing the Rotel RSX-03 Surround Sound Receiver. The RSX-03 is four products in one:

1. A digital audio/video processor for a wide range of formats including Dolby Surround®, Dolby Digital®, DTS® and HDCD® source material.

"DTS", "DTS-ES Extended Surround", "DTS ES® Matrix 6.1", and "DTS ES® Discrete 6.1", and "DTS Neo:6™" are trademarks of Digital Theater Systems, Inc.

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories.

HDCD®, HDCD®, High Definition Compatible Digital® and Pacific Microsonics™ are either registered trademarks or trademarks of Pacific Microsonics, Inc. in the United States and/or other countries. HDCD system manufactured under license from Pacific Microsonics, Inc. This product is covered by one or more of the following: In the USA: 5,479,168, 5,638,074, 5,640,161, 5,808,574, 5,838,274, 5,854,600, 5,864,311, 5,872,531, and in Australia: 669114. Other patents pending.

2. A full-featured audio/video control center for analog and digital source components.
3. A high-quality AM/FM tuner with RDS capability.
4. A 5-channel power amplifier to drive two front speakers (or two center back speakers), a center channel speaker, and two rear surround speakers.

### Key Features

- Rotel's Balanced Design Concept combines advanced circuit board layout, comprehensive parts evaluation, and extensive listening tests for superior sound and long term reliability.
  - Dolby® Pro Logic IIx® decoding (for 5.1, 6.1, and 7.1 channel systems) with improved separation and frequency response for Dolby Surround® matrix encoded recordings. Can be optimized for Music or Cinema sources.
  - Automatic Dolby Digital® decoding Dolby Digital® 2.0, Dolby Digital® 5.1, and Dolby Digital Surround EX® recordings.
  - Automatic decoding for DTS® 5.1 channel, DTS-ES® Matrix 6.1 channel, and DTS-ES® Discrete 6.1 channel, digital recordings.
  - Rotel XS (eXtended Surround) automatically ensures proper decoding and optimum performance from any multichannel digital signal on 6.1 and 7.1 channel systems. Always active in any system with center back speaker(s), Rotel XS even works with signals that would not otherwise activate the proper decoding (such as non-flagged Dolby Surround EX discs) or for which there is no extended surround decoder (such as DTS 5.1, Dolby Digital 5.1, and even Dolby Pro Logic II decoded Dolby Digital 2.0 recordings).
  - DTS® Neo:6® Surround modes for deriving surround channels for 5.1, 6.1 or 7.1 channel systems from 2-channel stereo or matrix surround recordings. Can be optimized for Music or Cinema sources.
  - Automatic HDCD® decoding for signals from High Definition Compatible Digital® compact discs.
- Surround modes for playback of surround sound material on 2 channel and 3 channel systems for total compatibility.
  - Automatic decoding of digital signals from MP3 (MPEG-1 Audio Layer 3) players.
  - Digital and analog input and output connections for digital signals, composite video, S-Video, and Component Video.
  - Five built-in amplifier channels, each delivering 40 watts (all channels driven).
  - AM/FM tuner with 30 station presets, direct access tuning, and auto-tuning.
  - RDS (Radio Data Systems) and RBDS (Radio Broadcast Data Service) capability.
  - MULTI Input for outboard adaptor and future upgradeability
  - User friendly ON-SCREEN DISPLAY with programmable labels for video components. Choice of languages.
  - Universal learning remote control to operate the RSX-03 and other components.
  - Upgradeable microprocessor software to accommodate future upgrades.

### Unpacking

Remove the unit carefully from its packing. Find the remote control and other accessories. Save the box as it will protect the RSX-03 if you move or need to return it for maintenance.

### Placement

Place the RSX-03 on a solid, level surface away from sunlight, heat, moisture, or vibration. Make sure that the shelf can support the weight of the unit.

Place the RSX-03 close to the other components in your system and, if possible, on its own shelf. This will make initial hookup, and subsequent system changes easier.

The RSX-03 can generate heat during normal operation. Do not block ventilation openings. **Allow a minimum of 10 cm or 4 inches of unobstructed space around the unit.** If installed in a cabinet, make sure that there is adequate ventilation.

Don't stack other components or objects on top of the RSX-03. Don't let any liquid fall into the unit.

## CONNECTIONS

Connecting the RSX-03 to your system is straightforward. Each of the source components in the system is connected to the RSX-03 inputs with a pair of standard RCA cables for analog audio, a video connection (composite, S-Video, or Component Video), and an optional digital audio cable (coax or optical).

**NOTE:** The RSX-03 can only decode digital surround formats (such as Dolby Digital and DTS) when a digital input signal is available. For this reason, you should always connect your DVD player's digital outputs to the RSX-03, using either an optical or digital coax cable.

The outputs of RSX-03 are sent to up to five speakers with standard two-conductor speaker cable or to optional power amplifier(s) with standard RCA cables from preamp audio outputs. The video signal from the RSX-03 is sent to the TV monitor using composite video, S-Video, or Component Video connections.

In addition, the RSX-03 has MULTI input connections for a source component that does its own surround decoding, remote IR sensor inputs, and 12V trigger connections for remote turn-on of other Rotel components.

**NOTE:** Do **not** plug any system component into an AC source until all connections have been properly made.

Video cables should have a 75 ohm impedance. The S/PDIF digital audio interface standard also specifies a 75 ohm impedance and all good digital cables adhere to this requirement. Do NOT substitute audio interconnect cables for digital or video signals. Audio interconnects will pass these signals, but their limited bandwidth may reduce performance.

When making signal connections, connect LEFT channels to LEFT channel jacks and RIGHT channels to RIGHT channel jacks. All RCA-type connections on the RSX-03 follow these standard color codes:

**Left channel audio:** white RCA jack

**Right channel audio:** red RCA jack

**Composite video:** yellow RCA jack

**NOTE:** Each source input must be properly configured using the INPUT SETUP menu of the OSD menu system. We recommend going to this menu after connecting each source to configure it as desired. See Input Setup of the Setup section for information.

## Analog Audio Inputs & Outputs

Use the following connections for connecting analog audio signals to and from the RSX-03. See the Making Connections topic for specific instructions on connecting each type of component.

**NOTE:** Normally, the RSX-03 converts analog inputs to digital signals for processing. All of the digital processing features are available including bass management, digital cross-overs, speaker level and delay settings, and a number of surround mode options. Alternatively, there is an analog bypass surround mode that routes 2-ch and Multi Input analog signals directly to the Volume control and outputs, bypassing the digital processing entirely for pure analog stereo.

### PHONO Inputs 16

A left/right pair of RCA analog audio inputs for connecting a turntable and phono cartridge.

### CD Inputs 26

A left/right pair of RCA analog audio inputs for connecting a CD player.

### TAPE Inputs 28

A left/right pair of RCA analog audio inputs, labeled TAPE IN, for connecting the outputs from an audio tape deck or recording device.

### TAPE Outputs 28

A left/right pair of RCA outputs, labeled TAPE OUT, for sending analog audio signals for recording to the inputs on a tape deck or recording device.

**NOTE:** These outputs should be connected to the inputs of the same tape deck connected to the TAPE IN inputs.

### VIDEO IN 1–4 Audio Inputs 30

Four pair of RCA inputs, labeled VIDEO IN 1–4, provide connections for left/right analog audio signals from four source components such as VCRs, satellite TV tuners, or DVD players. There are corresponding video inputs.

**NOTE:** The VIDEO IN 1–4 inputs may also be used for audio-only components, omitting the corresponding video connections.

### VIDEO OUT Audio Outputs 33

A pair of RCA jacks, labeled VIDEO OUT, sends line level left/right analog audio signals for recording to the line inputs of a VCR.

**NOTE:** The VIDEO OUT connections can be used for an audio-only tape deck, simply omitting the corresponding video connection.

### MULTI Inputs 15

A set of RCA inputs accept up to 5.1 channels of analog signals from a DVD-A or SACD player. There are inputs for FRONT L & R, REAR L & R, CENTER, and SUB.

These inputs bypass all digital processing in the RSX-03 and are routed directly to the Volume control and outputs.

There are two subwoofer options for the MULTI input. Normally, the .1 channel input is passed through directly to the subwoofer output. An optional bass redirect feature duplicates the 5 main channels, sums them, and sends this mono signal through a 100 Hz analog low pass filter to the subwoofer output. This provides an unaltered analog bypass for the main channels along with a subwoofer signal derived from those channels.

### Speaker Outputs 22

The RSX-03 has five built-in amplifiers, two for the front (right and left), one for the center channel, and two for the rear surround speakers (right and left). There are five pair of binding post connections (one pair for each speaker) which accept bare wire, spade lugs, or banana plug connectors (in some markets).

**NOTE:** The RSX-03 has a speaker redirect feature which allows you to use the front channel amplifiers to drive center back speakers when a separate power amplifier is used for the front speakers. This feature is configured in the Default Setup menu.

## Preamp Outputs 12

A group of three RCA analog audio outputs sends the RSX-03's line level output signals to external amplifiers and powered subwoofers. These outputs are variable level, adjusted by the RSX-03 volume control. These three connectors provide output for CENTER BACK 1 & 2 (or FRONT LEFT & RIGHT) and a SUBWOOFER.

## Video Inputs & Outputs

These connections are used for connecting video signals to and from the RSX-03. See the *Making Connections* section for specific instructions for each type of component.

The RSX-03 provides Composite, S-Video, and Component Video connections. Composite video connections simplify system configuration; however, S-Video connections provide better picture quality. Component Video connections are required for HDTV or progressive scanned DVD video. Consider the following for your system configuration:

**On Screen Display:** The RSX-03 OSD menus are available on the TV only with composite video or S-Video connections from the TV MONITOR outputs to the TV set.

**NOTE:** When using a progressive scan or 1080i video signal, the TV monitor cannot display the OSD menus.

Many digital HDTV monitors adjust scan rates and other video parameters depending on the type of input connection. You may wish to make multiple connections between the RSX-03 and the TV monitor, switching inputs on the TV to take advantage of these features.

### VIDEO 1-4 Composite Video Inputs 24

Four inputs accept standard composite video signals from source components using standard 75 ohm RCA video cables.

### COMPOSITE Video Output 25

An RCA jack, labeled COMPOSITE OUT, sends a composite video signal for recording to a VCR or other recording device.

**NOTE:** The RSX-03 cannot convert S-Video or Component Video to composite video. Therefore, only signals from the composite video inputs are available at these outputs.

### VIDEO 1-4 S-Video Inputs 29

Four inputs, labeled S-VIDEO IN 1-4 accept S-Video input signals from source components.

### S-VIDEO Video Output 31

An S-VIDEO jack, labeled S-VIDEO OUT, sends an S-Video signal for recording to a VCR or other recording device.

**NOTE:** The RSX-03 cannot convert composite video or Component Video signals to S-Video. Only signals received at the S-Video inputs are available at these outputs.

### VIDEO 1-2 Component Video Inputs 34

Component Video connections split the video into three signals – luminance (Y) and chrominance (CbPb and CrPr) signals, allowing delivery of a reference quality picture with high definition signals. Component Video connections should be used for progressive scan DVD players and high-definition television receivers. Each of these signals is carried by a separate 75 ohm video cable with RCA connectors.

Two sets of inputs, labeled COMPONENT VIDEO IN 1-2 accept Component video signals from source components.

### TV Monitor Outputs 27 32 34

The TV MONITOR outputs of the RSX-03 send the video signal to your TV monitor. Three types of video output connections are provided – RCA composite video, S-Video, and Component Video.

The composite video output only sends signals from composite video inputs to the TV monitor. The S-Video output only sends signals from S-Video video inputs to the TV. The Component Video outputs only send signals from Component Video source inputs to the TV.

If you have connected all of your source components with the same type of connection, then you only need to make one connection from the RSX-03 to the TV monitor, using that same type of connection. If you have a mixture of composite video, S-Video, and Component Video components, you will need to make multiple connections from the RSX-03 to the TV monitor.

## Digital Audio Input & Outputs

The RSX-03 provides digital connections which may be used in place of, or in addition to, the analog audio input and output connections described in the previous sections. These connections include four digital inputs and two digital outputs (for recording).

These digital connections can be used with any source component that supplies a digital signal, such as a DVD player, CD player, or satellite TV tuner.

**NOTE:** With a digital connection, the RSX-03 will be used to decode the signal, rather than the source component's internal decoders. In general, you must use digital connections for a DVD player or other component that supplies a Dolby Digital or DTS signal; otherwise the RSX-03 will not be able to decode these formats.

### Digital Inputs 17

The RSX-03 accepts digital inputs from source components such as CD players, satellite TV tuners, and DVD players. The built-in digital processor senses the correct digital sampling rate and decodes the signal.

There are four digital inputs on the rear panel, two coaxial and two optical. These digital inputs can be assigned to any of the input sources using the INPUT SETUP screen during the setup process. For example, you can assign the COAXIAL 1 digital input connector to the VIDEO 1 source and the OPTICAL 2 digital input to the VIDEO 3 source.

**NOTE:** When using digital connections, you should also make the analog audio input connections described previously. The analog connection is necessary to record to an analog recorder in some circumstances.

### Digital Outputs 18

The RSX-03 has two digital outputs (one coaxial and one optical) to send the digital signal from any of the digital inputs to a digital recorder or outboard digital processor. When a digital input source signal is selected for listening, that signal is automatically sent to both digital outputs for recording.



**NOTE:** Only digital signals from source components are available at these outputs. Analog signals cannot be converted and are not available at the digital outputs.

## Other Connections

### AC Input 35

Your RSX-03 is configured at the factory for the proper AC line voltage in the country where you purchased it (USA: 120 volts/60Hz AC or CE: 230 volts /50 Hz AC ). The AC line configuration is noted on a decal on the back of your unit.

Plug the supplied cord into the AC INPUT receptacle on the back of the unit.

**NOTE:** Memorized settings and video labels are preserved indefinitely, even if the RSX-03 is disconnected from AC power.

### Master Power Switch 36

The large rocker switch on the rear panel is a master power switch. When it is in the OFF position, power to the unit is completely off. When it is in the ON position, the front panel STANDBY and remote control ON/OFF buttons can be used to activate the unit or put it into standby mode.

**NOTE:** After all connections are completed, the rear panel master power switch should be put in the ON position and usually left in that position.

### 12V TRIGGER Connections 21

Many Rotel amplifiers offer the option of turning them on and off using a 12 volt trigger. These two connections send a 12 volt trigger signal from the RSX-03. When the RSX-03 is activated, a 12 volt DC signal is sent to the amplifiers to turn them on. When the RSX-03 is put in STANDBY mode, the trigger signal is interrupted and the amplifiers turn off.

To use the remote turn on feature, connect one of the RSX-03's 12V TRIG OUT jacks to the 12 volt trigger input of a Rotel amplifier, using a cable with mono 3.5 mm mini-plugs on both ends. The +12 V DC signal appears at the "tip" connector.

### EXT REM IN Jacks 20

One 3.5 mm mini-jack (labeled EXT REM IN) receives command codes from an industry-standard infrared receivers (Xantech, etc.), used when the IR signals from a hand held remote control cannot reach the front panel IR sensor.

The EXT REM IN jack is used with an outboard IR receiver to duplicate the front panel IR sensor. This feature is useful when the unit is installed in a cabinet and the front panel sensor is blocked.

Consult your authorized Rotel dealer for information on external receivers and the proper wiring of 3.5 mm mini-plugs to fit the EXT REM IN jack.

### Computer I/O 19

The RSX-03 can be operated from a computer with audio system control software from third-party developers. This control is accomplished by sending operating codes from the computer via a hard-wired RS-232 serial connection. In addition, the RSX-03 can be updated using special software from Rotel.

The COMPUTER I/O input provides the necessary network connections on the rear panel. It accepts standard RJ-45 8-pin modular plugs, such as those commonly used in 10-BaseT UTP Ethernet cabling.

For additional information on the connections, cabling, software, and operating codes for computer control or updating of the RSX-03, contact your authorized Rotel dealer.

## Making Connections

### Turntable 23 16

See Figure 7

Connect the left and right analog outputs from the turntable to the PHONO jacks (left and right). Connect the ground wire from the turntable to the ground screw on the back of the RSX-03.

### CD Player 17 26

See Figure 7

Connect the left and right analog outputs from the CD player to the CD jacks (left and right).

**Optional:** Connect the digital output of the CD player to any of the Optical or Coax digital inputs on the RSX-03, using the INPUT SETUP screen to assign that digital input to the CD source.

There are no video connections for a CD Player.

### DVD Player 17 24 29 30 34

See Figure 9

DVD connections can be made to the VIDEO 1, 2, 3, or 4 inputs.

Connect a video cable (Composite Video, S-Video, and/or Component Video) from the output of the DVD player to the appropriate VIDEO IN 1–4 input. If you intend to use the progressive scan feature with an HDTV monitor, you should use Component Video connections.

Connect the digital output of the DVD player to any one of the OPTICAL IN or COAXIAL IN digital inputs on the RSX-03. Use the INPUT SETUP screen to assign that digital input to the same video input source used above. For example, if you use the Video 4 inputs above, assign the digital input to the VIDEO 4 input.

If you want to record the audio signal from the DVD player, connect the left and right analog outputs from the DVD player to the left and right AUDIO IN jacks corresponding to the VIDEO IN input selected above.

### Cable, Satellite, or HDTV Tuner 17 24 29 30 34

See Figure 5

TV tuner connections can be made to the VIDEO 1, 2, 3, or 4 inputs. Connect a video cable (Composite Video, S-Video, and/or Component Video) from the output of the TV tuner to the appropriate VIDEO IN 1–4 input. For HDTV signals, you should use Component Video connections.

Connect the left and right analog outputs from the TV tuner to the left and right AUDIO IN jacks corresponding to the VIDEO IN input selected above.

**Optional:** Connect the digital output of the TV tuner to any one of the OPTICAL IN or COAXIAL IN digital inputs on the RSX-03. Use the INPUT SETUP screen to assign that digital input to the same video input source

used above. For example, if you use the Video 4 inputs above, assign the digital input to the VIDEO 4 input.

### Audio Recorder 17 18 28

See Figure 8

Connect the left and right analog outputs from an audio tape deck to the TAPE IN jacks (left and right).

Connect the left/right TAPE OUT jacks to the inputs on the audio tape deck.

**Optional:** For a digital recording device, connect the digital output of the recorder to one of the OPTICAL IN or COAXIAL IN digital inputs on the RSX-03. Use the INPUT SETUP screen to assign that digital input to the TAPE source. If the recording device accepts a digital recording input, connect one of the OPTICAL OUT or COAXIAL OUT connections to the digital input of the recorder.

No video connections are required for an audio recording device.

### VCR or Digital Video Recorder 17 18 24 25 29 30 31 33 34

See Figure 6

Connect video cables (Composite Video, S-Video, or Component Video) from the output of the VCR to the appropriate VIDEO IN 1–4 input.

Connect video cables (Composite Video or S-Video) from the VIDEO OUT jacks to the VCR video inputs.

Connect the left and right analog outputs from the VCR to one pair of the AUDIO IN jacks labeled VIDEO 1–4.

Connect the left and right VIDEO OUT jacks to the analog audio line inputs on the VCR.

**Optional:** For a digital recording device, connect the digital output of the recorder to one of the OPTICAL IN or COAXIAL IN digital inputs on the RSX-03. Use the INPUT SETUP screen to assign that digital input to the VIDEO source (VIDEO 1, 2, 3, or 4) used for the previous connections. If the recording device accepts a digital recording input, connect one of the OPTICAL OUT or COAXIAL OUT connections to the digital input of the recorder.

### DVD-A or SACD Player 15

See Figure 10

To hook up a DVD-A player, SACD player, or any external surround decoder, use audio RCA cables to connect the outputs of the player to the RCA jacks labeled MULTI INPUT, making sure that you observe proper channel consistency, i.e. connect the right front channel to the R FRONT input, etc. Depending on your system configuration, make up to six connections (FRONT L & R, SURROUND L & R, CENTER, and SUBWOOFER).

The MULTI inputs are analog bypass inputs, passing signals directly through to the Volume Control and preamp outputs, bypassing all of the digital processing. The RSX-03 provides an optional bass redirect feature that duplicates the main channels and passes them through an analog 100 Hz low pass filter, creating a summed mono subwoofer output derived from the main channels. See the *INPUT SETUP* menu in the *Setup* section of this manual for details.

### TV Monitor 27 32 34

See Figure 4

Connect the TV MONITOR *output* to the corresponding *input* on your television monitor, using composite video, S-Video, and/or Component Video cables.

**NOTE:** The RCA composite video output only sends signals from RCA composite video source inputs to the TV monitor. The S-Video output only sends signals from S-Video source inputs to the TV.

### Speakers 22

See Figure 3

The RSX-03 has built-in amplifiers to power up to five speakers. There are five pairs of binding post connections (one pair for each speaker) which accept bare wire, spade lugs, or banana plug connectors (in some markets).

**NOTE:** Speakers should have an impedance of 8 ohms or higher.

Each pair of connectors is color-coded for polarity: red for positive and black for negative. All speakers and all speaker wire is also marked for polarity. For proper performance,

you must maintain this polarity at all speaker connections. Always connect the positive terminal of each speaker to the corresponding red speaker terminal on the RSX-03 and the negative speaker terminal to the corresponding black connector on the RSX-03.

There are connectors for FRONT LEFT/CB1, FRONT RIGHT/CB2, SURROUND LEFT, SURROUND RIGHT, and CENTER. Connect each of the five speakers to the proper terminal on the RSX-03.

Route the wires from the RSX-03 to the speakers. Leave enough slack so you can move the components to allow access to the speaker connectors. If you are using banana plugs, connect them to the wires and then plug into the backs of the binding posts. The collars of the binding posts should be screwed in all the way (clockwise). If you are using terminal lugs, connect them to the wires. If you are attaching bare wires directly to the binding posts, separate the wire conductors and strip back the insulation from the end of each conductor. Be careful not to cut into the wire strands. Unscrew the binding post collars. Place the connector lug or the twisted bare wire around the binding post shaft. Turn the collars clockwise to clamp the connector lug or wire firmly in place.

1. Connect the front right speaker to the binding posts labeled FRONT RIGHT/CB2.
2. Connect the front left speaker to the binding posts labeled FRONT LEFT/CB1.
3. Connect the center channel speaker to binding posts labeled CENTER.
4. Connect the surround right speaker to binding posts labeled SURROUND RIGHT.
5. Connect the surround left speaker to binding posts labeled SURROUND LEFT.

**NOTE:** Be sure that no loose wire strands can touch adjacent wires or connectors.

After you have connected the speakers, you need to configure the RSX-03 for the size and style of speakers in your system and calibrate the relative volume levels of the speakers using the built-in test tones. See the *Setup* section of this manual.

## Optional Amplifier 6.1/7.1 channel systems **22** **12**

In addition to the five built-in amplifiers, the RSX-03 has a pair of preamp output jacks that allow you to connect an additional stereo amplifier. This amplifier can be used to power up to two additional channels in a 6.1 channel or 7.1 channel system. Or, it can be used in place of the built-in front channel amplifiers in a 5.1 channel system.

In a 6.1/7.1 channel system, the additional amplifier can be used to drive one or two center back speakers. Alternatively, the RSX-03 has a Redirect feature that allows the built-in amplifier to drive the center back speakers when an optional amplifier is used to drive the two front speakers.

**To hook up an optional power amplifier to drive the center back speakers,** connect the CB/Front Left and Right Preout jacks to the left and right inputs of the optional power amplifier. Connect the speaker outputs of the amplifier to the center back speakers in a 7.1 channel system. For this configuration, the REDIRECT setting on the DEFAULT SETUP menu must be set to the factory default NO setting.

**NOTE:** In a 6.1 channel system, connect the CB/Front Left Preout jack to a single amplifier channel to drive one center back speaker.

**To hook up an optional power amplifier to drive the front speakers in a 6.1/7.1 channel system** connect the CB/Front Left and Right Preout jacks to the left and right inputs of the optional power amplifier. Connect the speaker outputs of the amplifier to the front channel speakers.

Use the Redirect feature to power center back speakers in a 6.1 or 7.1 channel system:

1. Connect the center back speaker in a 6.1 channel system or the center back left speaker in a 7.1 channel system to the binding posts labeled FRONT LEFT/CB1.
2. Connect the center back right speaker to binding posts labeled FRONT RIGHT/CB2.
3. Go to the DEFAULT SETUP screen of the ON-SCREEN MENU system and change the REDIRECT setting from NO to FRONT>CB. See Setup section for detailed instructions.

## Connecting a Subwoofer **12**

See Figure 3

To hook up a powered subwoofer, connect a standard RCA audio cable from the PRE-OUT jack labeled SUB to the input on the subwoofer's power amp.

After you have connected the subwoofer, you need to configure the RSX-03 to use the subwoofer and calibrate the relative volume level of the subwoofer using the built-in test tones. See the Setup section of this manual.

## AM Antenna **14**

See Figure 11

The RSX-03 includes a plastic loop antenna to receive AM radio signals. Remove this antenna from the box and locate it near the RSX-03. It can be tacked to a wall, using the mounting tab provided. Alternatively, you can fold the center portion of the antenna to form a tabletop stand.

Connect the 300 ohm twin-conductor wire from the loop antenna to the push terminals labeled AM LOOP, attaching one wire to each terminal. It does not matter which wire attaches to which terminal, but make sure that the connections are solid and that the two wires do not touch.

You may need to rotate or otherwise reorient the antenna to find the best position.

**NOTE:** To use an outdoor antenna, connect its 300 ohm twin-conductor wire to the terminals in place of the loop antenna.

## FM Antenna **13**

See Figure 11

The RSX-03 is supplied with a T-shaped indoor FM antenna. Connect the coax F-type plug to the FM antenna connector on the RSX-03. For best reception, unfold the T-shaped antenna. Eyelets at both ends of the T allow tacking the antenna to a wall, if desired. Experiment with positioning for best reception.

**NOTE:** To use an outdoor antenna, connect its 75 ohm coax lead wire to the FM connector instead of the indoor wire antenna, only after a professional contractor has installed the antenna system in accordance with local electrical codes.

# OPERATING THE RSX-03

Considering its large number of features, settings, and options, the RSX-03 is easy to operate from either the front panel or the remote control, which provides more complete control options. Initial setup and configuration of the RSX-03 is done using a comprehensive set of On-Screen Display (OSD) menus.

To guide you through the operation of the RSX-03, this section of the manual starts with explaining the basic layout and function of the front panel and the remote control. Then, we explain the basic operations such as turning the unit on and off, adjusting volume, selecting a source for listening, etc. Following that is a detailed explanation of surround sound modes and how to configure the RSX-03 for various types of recordings. Finally, there are instructions for additional features. The last section of the manual (Configuration) details options that may be selected during initial setup and configuration of the unit, many of which will be set once and left untouched.

Throughout this manual, numbers in gray boxes refer to the RSX-03 illustration at the front of this manual. Letters refer to the RR-1060 remote illustration. When both appear, the function is found on both the RSX-03 and the remote. When only one appears, that function is found only on the RSX-03 or the remote.

## Front Panel Overview

The following is a brief overview of the control and features on the front panel of the RSX-03. Details concerning the use of these controls are provided in subsequent sections of this manual describing various tasks.

### Front-panel Display **2**

The fluorescent (FL) display in the upper portion of the RSX-03 provides information about the status of the unit, tuner reception, and activation of special features. The main portion of the display typically shows major information such as the current input source (or radio station frequency) and the current volume setting.

Icons along the left side of the display show the currently selected digital input. Icons at the right of the display show individual surround channels and are used in configuring the sys-

tem. Icons across the bottom of the display show the current surround mode and other special features. Icons at the top of display assist in tuning radio stations and operation of RDS/RBDS features.

The FL display can be turned off, if desired. See the MENU button section for instructions.

### Remote Sensor **4**

This sensor receives IR signals from the remote control. Do not block this sensor.

**NOTE:** The remainder of the buttons and controls on the front panel are described in the Overview of Buttons and Controls section.

## Remote Control Overview

The RSX-03 includes a full-function learning remote control that can operate the RSX-03 plus eight other audio/video components.

A separate manual gives detailed instructions on programming and using the RR-1060 to replace all of the remote controls in your system. The RR-1060 manual covers many extra features (such as custom labeling of remote buttons that appear in its LCD display). To avoid duplication, we provide only basic information about using the RR-1060 to operate the RSX-03 in this manual.

Many of the RR-1060 functions duplicate the front panel controls. For that reason, we cover the controls on the remote under appropriate topics throughout this manual. Letters in gray boxes next to the name of a function refers to the labeled illustration of the remote at the front of this manual.

### Using the RR-1060 AUDIO Button **A**

To operate the RSX-03 with the remote, make sure that the AUDIO mode is active by pressing the AUD button on the remote before you start. If one of the other buttons (CD, TAPE, etc.) is pressed, the remote will control another component, not the RSX-03. The AUDIO mode will stay active until another DEVICE/INPUT button is pressed.

## Overview of Buttons and Controls

This section provides a basic overview of the buttons and controls on the front panel and the remote control. Detailed instructions on the use of these buttons are provided in the more complete operating instructions in the following sections. Buttons or controls identified with a number appear on the front panel. Those identified with a letter appear on the remote control. When both a number and a letter appear, the control is duplicated on both the front panel and the remote control.

### STANDBY Button **1** POWER Button **Q**

The front panel STANDBY button and the remote control POWER button activate or deactivate the unit. The rear panel master POWER switch must be in the ON position for the remote standby function to operate.

### ON/OFF Buttons **P**

The power ON and OFF buttons on the remote provide discrete ON and OFF commands to activate the unit or put it in standby mode. The rear panel master POWER switch must be in the ON position for the remote standby function to operate.

### VOLUME Knob **Z** VOLUME Buttons **R**

The buttons on the remote and the large rotary control on the front panel provide the master VOLUME control, adjusting the output level of all channels simultaneously.

### MUTE Buttons **10 S**

Push the MUTE button once to turn the sound off. An indication appears in the front panel and on-screen displays. Press the button again to restore previous volume levels.

**NOTE:** Pressing the volume buttons on the remote also cancels the muting function.

### LIGHT Button **C**

Press this button on the side of the remote to turn the backlighting on for using the remote in a dark room.

### DEVICE/INPUT Buttons **3 9 A**

The top row of buttons on the front panel plus the MULTI INPUT button are used to select source inputs for listening/viewing.

These buttons are duplicated on the remote, except that the MULTI INPUT button is labeled EXT and the remote buttons have two functions:

**Short press:** A short press of any button changes the device that the remote operates, but does not change the RSX-03's input selection.

**Long press:** A longer press changes the remote control device and changes the source input for listening/viewing.

The V5 button on the remote is not used with the RSX-03.

**NOTE:** A long press of the EXT button changes the input to the 5.1 channel analog MULTI INPUT. Pressing the AUD button only changes the remote device; there is no input source associated with this button.

### D-SLT Button **Y**

Press this button to change the digital input associated with the current source input.

### REC Buttons **11 J**

Press either of these buttons before pressing (long press on the remote) any DEVICE/INPUT button to select a source for recording. The signal from the selected source appears at the TAPE OUT and VIDEO OUT connectors.

### UP/DOWN Cursor Buttons **U**

These two cursor buttons on the remote are used to move the cursor up or down to select lines in the OSD menus. These buttons are also used in conjunction with the TONE button to make TONE adjustments.

### +/- Buttons **U**

These two buttons on the remote are used to change settings on a selected line in the OSD menus. Also used for selecting options in some surround modes.

### Speaker Selection Buttons **E**

These three buttons on the remote are used to select a speaker or group of speakers for temporary level adjustments.

### EQ Button **K**

This button on the remote is used to turn on and off the Cinema EQ feature, a high-cut filter useful for older movie soundtracks.

### TONE Button **X**

This button on the remote is used for temporary bass and treble adjustments to the front channels. Pressing the TONE button toggles between Treble and Bass modes. Once a mode is selected, the UP/DOWN buttons are used to make the adjustments to the front channel speakers.

**NOTE:** *Permanent tone adjustments can be made using the Tone Setup menu.*

### Surround Mode Buttons **8 W**

Five buttons on the remote (2CH, PLC, PLM, 5CH, 7CH) and four buttons on the front panel (2CH, DOLBY PLII/3ST, DTS/Neo 6, DSP) allow direct selection of certain surround modes. The function of these buttons varies depending on the type of recording being played. See the *Manually Selecting Surround Modes* section for detailed information.

### SUR+ Button **V**

This button on the remote is used in conjunction with the +/- buttons for manual selection of surround modes and features. See the *Manually Selecting Surround Modes* section for information.

### DYN Button **L**

Used the DYN button on the remote to select the dynamic range control setting in Dolby Digital surround mode.

### MENU/OSD Button **T**

Push this button on the remote to turn on the OSD menu system. If the menu system is already visible, push this button to cancel the display. Press and hold the button to turn off the front panel display.

### ENTER Button **U**

The ENTER button is used to confirm and memorize various settings in the setup and operation of the RSX-03. Its use is described in detail in the relevant sections.

### BAND Buttons **6 I**

Press either of the BAND buttons to toggle between AM and FM reception.

### TUNING Buttons **5 Q**

The TUNING buttons (labeled CH UP/DOWN on the remote control) provide three different tuning functions, depending on the mode of operation: frequency tuning, preset tuning, or selection of an RDS/RBDS program type.

### MEM Button **B**

The remote control MEMORY button (labeled MEM/X) is used with the NUMERIC buttons to store station presets.

### NUMERIC Buttons **B**

The NUMERIC buttons on the remote are used to enter the number of a memorized station preset or for direct entry of a station frequency.

### FRQ DIRECT Button **D**

The remote control FRQ DIRECT button is used in conjunction with the NUMERIC buttons for direct entry of a station frequency in AM/FM tuning.

### FM MONO Button **H**

The remote control FM MONO button changes the FM mode from stereo reception to mono reception.

### TUNE Button **F**

### PRESET Button **G**

### P-TUN Button **Z**

The TUNE, PRESET, and P-TUN buttons on the remote are used to select FREQUENCY tuning or PRESET tuning modes. The TUNE and PRESET buttons select the modes directly. The P-TUN button toggles between the two modes.

### SCAN Button **N**

Preset scan tuning automatically scans through the memorized station presets, playing each for 5 seconds. Press the SCAN button on the remote to begin preset scanning. Press the button again to stop the scanning and listen to the desired preset.

### RDS/RBDS Buttons **AA**

Four remote control buttons (DISP, PTY, TP, TA) are used to activate various RDS/RBDS tuning features. See the *RDS/RBDS Tuning* section of the manual for detailed information.

## Basic Controls

This section covers the basic operating controls of the RSX-03 and the remote including power on/off, volume, and muting.

### Power and Standby On/Off

#### **1 35 O P**

The rear panel POWER switch on the RSX-03 is a master power switch. The button must be in the ON position for the unit to operate. When it is in the OFF position, the unit is fully off and cannot be activated from the front panel or remote control.

In normal operation, the rear panel POWER switch is always left in the ON position. The RSX-03 is activated and deactivated using the front panel STANDBY button, the remote control POWER button, or the remote ON/OFF buttons. When activated, the RSX-03 is fully functional and the front panel display illuminated. When deactivated, the unit goes into a standby mode, with minimal power applied to the microprocessor.

**NOTE:** *When the unit has AC power applied and the rear panel POWER switch is on, the front panel STANDBY LED lights, regardless of whether the unit is in standby mode or activated.*

The front panel STANDBY button and the remote control POWER button function as toggle switches. Press either button to activate the unit. Press either button again to put the unit in standby mode.

The ON/OFF buttons on the remote serve the same function, but provide discrete ON (active) or OFF (standby) commands.

There are three available power mode options, which may be useful in configuring the RSX-03 for special system configurations. See the *Other Options* menu in the *Setup* section of this manual for additional details on changing the default standby behavior.

## Volume Adjustments **Z R**

The listening volume of the RSX-03 can be adjusted from the front panel or the remote.

**Front Panel:** Rotate the front panel VOLUME knob clockwise to increase the volume, counterclockwise to decrease.

**Remote:** Press the VOL UP button to increase the volume; press the VOL DOWN button to decrease.

When you adjust the volume, the setting is shown on the TV monitor and/or the front panel display. The current volume setting is also shown on the SYSTEM STATUS OSD screen.

## Muting the Sound **IO S**

The volume of the RSX-03 can be turned off or muted. Push the MUTE button on the front panel or the remote once to turn the sound off. A MUTE indication appears in the OSD and the front panel displays. Press the MUTE button again or adjust the volume settings to restore output levels.

# Selecting Inputs

## Input Buttons **3 9 A M**

You can select any of nine source inputs for listening and/or watching: PHONO, CD, TUNER, TAPE, VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4, or MULTI INPUT.

The front-panel display and the ON-SCREEN DISPLAY show the name of the current listening source selection. The labels for VIDEO sources can be customized to match your components.

**NOTE:** When the TUNER input source button is pressed, the frequency of the currently tuned station is displayed. Pressing the button again toggles the display to show the word TUNER instead of the frequency display.

All of the source inputs can be customized using the ON-SCREEN DISPLAY configuration menus to accept either analog signals or digital signals from one of the five assignable digital inputs. When a digital input is assigned, the RSX-03 checks for the presence of a digital signal at that input. If a digital signal is present when the source is selected, it is automatically activated and the proper surround mode enabled. If no digital signal

is present, the analog inputs for that source are selected. This auto-sensing is the preferred configuration for digital source inputs such as DVD players. When an ANALOG input is assigned, the unit will not access a digital signal, even though one may be available at the digital input.

By default, the source input buttons are factory configured to select the following inputs:

Phono:	Analog input
CD:	Analog input
Tuner:	Analog (built-in)
Tape:	Analog input
Video 1:	Digital Coaxial 1
Video 2:	Digital Coaxial 2
Video 3:	Digital Optical 1
Video 4:	Digital Optical 2

Each source input should be configured using the ON-SCREEN DISPLAY menu system to use the desired input type (analog or digital auto-sensing). See the INPUT MENU section for configuration instructions.

**NOTE:** In addition to selecting analog or digital signals, the configuration options also permit custom labeling and selection of a default surround mode for each of the nine inputs.

The input source buttons can also be used (with the REC button described in the next section) to select an analog input source signal to be available at the outputs for recording.

## Selecting a Source Input from the Front Panel **3 9 11**

**To select a source for LISTENING:** Press one of the eight INPUT buttons or the MULTI INPUT button.

**To select a source for RECORDING:** Press the REC button and then press one of the eight INPUT buttons within 10 seconds.

## Selecting a Source from the Remote **A J M U**

**To select a source for LISTENING in the main room:** press and hold one of the DEVICE/INPUT buttons for more than one second. To select the MULTI INPUT, press and hold the EXT button. To select the turntable input, press the PHONO button.

**NOTE:** A short press of any DEVICE/INPUT button (except PHONO) changes the remote control device only, but does not change the source input.

## To select a source for RECORDING:

Press the REC button. Then, press and hold one of the DEVICE/INPUT buttons within 10 seconds.

Alternatively, you can press the REC button and then use the +/- buttons to scroll through the available source options. Select any input (PHONO, CD, TUNER, TAPE, or VIDEO 1–4). Selecting the SOURCE option links the recording source to the input selected for main room listening. Whatever input is selected for listening is also sent to the record outputs.

## Selecting Digital Inputs **Y**

A default digital audio input can be specified for each source input using the *Input Setup* menu. However, you can override the default digital input for the currently selected source by pressing the D-SLT button on the remote. Each press of the button steps to the next digital input in order: OPTICAL 1, OPTICAL 2, COAXIAL 1, and COAXIAL 2. The actual choices you see will be limited to those inputs with an active digital signal connected, so you may not see all of the inputs listed.

# Overview of Surround Formats

To get the best performance from your RSX-03, it helps to understand the many surround sound formats available today, to know which decoding process to use for a particular recording, and how to select it. This section provides basic background information about surround sound formats. The following sections provide detailed operating instructions for automatic and manual selection of surround modes.

**NOTE:** The RSX-03 has built-in amplifiers to drive five speakers in a 5.1 channel system. To use surround modes for 6.1 or 7.1 channel systems, you will need a separate power amplifier to drive one or two speakers.

## Dolby Surround Dolby Pro Logic II

The most widely available surround sound format for consumer audio/video is Dolby Surround®, available on nearly all commercial VHS tapes, many television broadcasts, and most DVDs. Dolby Surround is the consumer version of the analog Dolby Stereo system first introduced in the film industry in 1972. It is a matrix-encoding system that records front left, front center, front right, and a mono surround channel into a 2-channel stereo recording. During playback, a Dolby Pro Logic® or Pro Logic II decoder extracts each channel and distributes it to the appropriate speakers.

The original Dolby Pro Logic decoder delivered a mono signal with reduced high-frequency content to the surround speakers. A more advanced decoder in the RSX-03, Dolby Pro Logic II, increases the separation and frequency response of the surround channels for significantly improved performance with Dolby Surround encoded recordings.

Dolby Pro Logic II decoding should be used for any analog recording labeled "Dolby Surround" or any Dolby Digital 2.0 soundtrack. Dolby Pro Logic II does a superb job deriving surround sound from conventional 2-channel stereo recordings, using phase relationships to extract front, right, center, and surround channels. A "music mode" makes Pro Logic II an excellent choice for audio CDs.

## Dolby Digital

In 1992, a digital recording system, called Dolby Digital, was first used in the film industry. Dolby Digital is a recording/playback system that uses compression techniques to store large amounts of audio data efficiently, much like the JPEG format stores large photographs in small files on a computer. Because it is capable of performance beyond that of audio CDs and can tailor its output for a wide ranges of system configurations, Dolby Digital is the standard audio format for DVDs and for digital television broadcasting in the United States.

The Dolby Digital system can be used to record up to six discrete audio channels, but can also be used for fewer. For example, a Dolby Digital 2.0 soundtrack is a digital 2-channel recording of a matrix encoded Dolby Surround soundtrack. To play a Dolby Digital 2.0 recording, use Dolby Pro Logic II decoding as previously described.

The most common use of Dolby Digital in newer films, in both the film industry and in home theater, is Dolby Digital 5.1. Instead of encoding multiple surround channels on a two-channel recording, Dolby Digital 5.1 records six discrete channels: front left, front center, front right, surround left, surround right, and a Low Frequency Effects (LFE) channel containing ultra-low bass signals intended for a subwoofer. A Dolby Digital decoder extracts the channels from the digital bitstream, converts them to analog signals and routes them to the appropriate amplifiers and speakers. All channels provide full frequency response with total separation between all channels and large dynamic range capability. A Dolby Digital 5.1 soundtrack can provide more impressive surround sound than matrix Dolby Surround.

Decoding of Dolby Digital 5.1 soundtracks is automatic. When the RSX-03 detects a Dolby 5.1 signal on one of its digital inputs, it activates the proper processing. Keep in mind that Dolby Digital is only available from digital sources (a DVD, a LaserDisc, or a Digital TV/Cable/SAT tuner). Also, you must connect the source with a digital cable (coax or optical) to an active digital input on the RSX-03.

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**NOTE:** Many DVDs have a Dolby Digital 2.0 matrix soundtrack as the default, which should be decoded with Pro Logic II. The Dolby Digital 5.1 soundtrack may have to be selected as an option from the setup menus at the beginning of the DVD. Look for a Dolby Digital 5.1 selection under "Audio" or "Languages" or "Setup Options" when you insert the disc.

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## DTS 5.1

DTS® (Digital Theater Systems) is an alternative digital format competing with Dolby Digital in both movie theaters and home theater markets. The basic functions of the DTS system are similar to those of Dolby Digital (for example, 5.1 discrete channels), however the technical details of the compression and decoding processes differ somewhat and a DTS decoder is required.

Like Dolby Digital, DTS can only be used on a digital recording and, therefore, is only available for home use on LaserDiscs, DVDs, or other digital formats. To use the RSX-03's DTS decoder, you must connect your DVD player to the RSX-03's digital inputs.

As with Dolby Digital 5.1, detection and proper decoding of DTS 5.1 signals is automatic.

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**NOTE:** DVDs with a DTS soundtrack almost always have it configured as an option to the standard matrix Dolby Surround format. To use DTS, you may have to go to the setup menus at the beginning of the DVD and select "DTS 5.1" instead of "Dolby Surround" or "Dolby Digital 5.1". In addition, many DVD players have the DTS digital bitstream turned off by default and cannot output a DTS soundtrack (even if selected on the disc's menu) until you activate the player's DTS output. If you hear no sound the first time you attempt to play a DTS disc, go to the DVD player's configuration menus and turn on the DTS bitstream. This is a one-time setting and need only be done once.

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## DTS Neo:6

The RSX-03 features a second type of DTS surround sound decoding: DTS Neo:6. This decoding system is similar to Dolby Pro Logic II and is designed for playback of any 2-channel stereo recording, either matrix-encoded or not. The Neo:6 decoder can be used with any conventional 2-channel source such as a stereo TV or FM broadcast or a CD. It can also be used as an alternative method of decoding matrix-encoded Dolby Surround recordings or TV broadcasts. Activate the DTS Neo:6 decoding with the DTS Neo:6 button as detailed later in this section. DTS Neo:6 is not used with DTS 5.1 digital sources and the button need not be pressed for those recordings.

## Dolby Digital Surround EX DTS-ES

### 6.1 and 7.1 Channel Surround

In 1999, the first Dolby Digital soundtrack was released to theaters with an additional center back surround channel, intended to increase the directional effects from behind the audience. This additional surround channel is encoded into the two existing surround channels in Dolby Digital 5.1, using a matrix encoding process similar to that used previously in Dolby Surround. This new extended surround capability is called Dolby Digital Surround EX.

DTS has added a similar capability for recording this extended surround information called DTS-ES® 6.1 Matrix. They have also

taken it one step further and developed the capability to record this extended surround information as a discrete channel in a system called DTS-ES® 6.1 Discrete.

All of these systems are extensions of the existing Dolby Digital 5.1 and DTS 5.1 digital surround sound formats. Users with one center back speaker (a 6.1 configuration) or two center back speakers (a 7.1 configuration) can take advantage of this extended surround information. On traditional 5.1 channel systems, Dolby Digital Surround EX or DTS-ES 6.1 discs sound exactly the same as 5.1 channel discs in each respective format.

If you have configured your system with one or two center back speakers, decoding of DTS-ES discs is automatic, just as it is with standard DTS soundtracks. Likewise, decoding of Dolby Digital Surround EX discs is automatic with one exception. Some Surround EX titles do not have the detection “flag” encoded on the disc. To activate the Dolby Digital Surround EX features for these discs (or for standard 5.1 channel Dolby Digital discs), you must manually activate Dolby Surround EX processing.

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**NOTE:** 6.1 and 7.1 channel systems require the use of an additional stereo amplifier with the RSX-03.

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## Dolby Pro Logic IIx 6.1 and 7.1 Channel Surround

The latest technology from Dolby uses advanced matrix decoding for the surround channels in a 6.1 channel or 7.1 channel system. Working with any 2.0 channel or 5.1 channel recording, Dolby Pro Logic IIx processing distributes the surround channel information among three or four surround channels, with a Music mode optimized for musical recordings, a Cinema mode optimized for film soundtracks, and a Game mode optimized for video games.

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**NOTE:** 6.1 and 7.1 channel systems require the use of an additional stereo amplifier with the RSX-03.

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## Rotel XS 6.1 and 7.1 Channel Surround

The RSX-03 also features Rotel XS (eXtra Surround) processing provides extended surround performance on 6.1 and 7.1 channel systems. The key benefit of Rotel XS is that it works at all times with multichannel digital signals, that might not otherwise activate Dolby Digital EX or DTS-ES surround decoding for the center back channel(s). Rotel XS decodes the surround channels and distributes the extended surround channels to the center back speaker(s) in a way that tends to create a diffuse surround effect. Rotel XS works with matrix-encoded surround signals (such as Dolby Surround EX discs) as well as digital source material that is not Dolby Surround EX encoded (such as MPEG5.1, Dolby Digital 5.1, and even Dolby Pro Logic II decoded Dolby Digital 2.0 recordings).

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**NOTE:** 6.1 and 7.1 channel systems require the use of an additional stereo amplifier with the RSX-03.

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## DSP Music Modes

Unlike all of the formats mentioned above, the RSX-03 offers four surround modes that are not part of a specific recording/playback system. These modes (MUSIC 1–4) use digital signal processing that adds special acoustic effects to any signal. DSP processing can be used with Dolby Surround recordings, Dolby Digital recordings, CDs, radio broadcasts, or any other source material; however, typically DSP settings would be used with source material for which there is no specific surround decoder.

The four MUSIC MODES in the RSX-03 use digital delay and reverberation effects to simulate progressively larger acoustic environments with MUSIC 1 being the smallest type of venue (such as a jazz club) and MUSIC 4 being a large venue (such as a stadium). Typically used to add ambience and a sense of space when listening to music sources or other sources that lack surround sound encoding.

## 2Ch/5Ch/7Ch Stereo Formats

The RSX-03 also provides four modes that disable all surround processing and deliver stereo signals to amplifiers and speakers. There are three options:

**2CH Stereo:** Turns off the center channel and all surround channels in the system and delivers a conventional 2-channel signal to the front speakers. If the system is configured to route bass signals from the front speakers to the subwoofer, this capability remains in effect.

**Analog Bypass:** For 2-channel analog inputs, there is a special stereo mode that bypasses ALL of the RSX-03's digital processing. The two front speakers receive pure analog stereo full-range signals with no subwoofer crossover, no delay, no level adjustments, and no tone adjustment.

**5CH Stereo:** Distributes a stereo signal to 5.1 channel systems. The left channel signal is sent, unchanged, to the front left and surround left speakers. The right channel is sent to the front right and surround right speakers. A mono sum of the two channels is sent to the center channel speaker.

**7CH Stereo:** This mode is the same as 5CH Stereo described above except that it also distributes stereo signals to center back speaker(s) installed in the system.

## Other Digital Formats

Several other digital formats are not surround sound formats at all, but rather systems for digital 2-channel recordings.

**PCM 2-channel:** This is an uncompressed 2-channel digital signal such as that used for standard CD recordings and some DVD recordings, particularly of older films.

**HDCD®:** This system uses higher bit rates and a variety of enhancements to improve the sonic performance compared to standard audio CDs. These discs, labeled HDCD, can be played on standard CD players. However, when the digital signal is decoded using an HDCD decoder like that in the RSX-03, they will provide exceptional musical reproduction.



**DTS Music 5.1 Discs:** These discs are a variation of audio CDs that include a DTS 5.1 channel recording. The RSX-03 decodes these discs just like a DTS movie soundtrack when played on a CD player or DVD player with a digital output connection.

**DVD-A music discs:** Taking advantage of the increased storage capacity of the DVD disc, new high bit rate multichannel audio recordings are available on DVD-A discs. DVD-A discs may include multiple versions of the recording including standard PCM stereo, Dolby Digital 5.1, DTS 5.1, and 96kHz/24 bit (or higher) multichannel recordings using MLP compression. Several of these formats (standard PCM, Dolby Digital, and DTS 5.1) can be decoded by the RSX-03 when the DVD player is connected with a digital cable. However, the existing optical and coax digital connection standard does not provide sufficient bandwidth for multichannel high sampling rate MLP recordings. Therefore, DVD-A discs with these high-resolution audio soundtracks must be decoded by the DVD player and the resulting analog signals sent to the RSX-03's MULTI INPUT.

**SACD®:** This is a proprietary high-resolution audio standard for use on SACD compatible disc players. As with high-resolution DVD-A discs, the bandwidth is too high for today's digital connection. Thus, these discs must be decoded by SACD compatible player, with the output sent to the RSX-03's MULTI INPUTS.

**MP3:** The RSX-03 also features a decoder for the digital MP3 (MPEG1-Audio Layer 3) compression format. MP3 format recordings are available on the Internet and can be played on portable MP3 players or some disc players that can read CD-ROM discs connected to the RSX-03's digital inputs.

**MPEG Multichannel:** The RSX-03 can decode MPEG Multichannel digital recordings. Widely used in Europe, this format uses MPEG data compression to record up to 5.1 channels of discrete digital audio, similar in function to the Dolby Digital and DTS formats.

## Automatic Surround Modes

Decoding of digital sources connected to the digital inputs is generally automatic, with detection triggered by a "flag" embedded in the digital recording telling the RSX-03 what decoding format is required. For example, when Dolby Digital 5.1 or DTS 5.1 channel surround is detected, the RSX-03 activates the proper decoding.

The unit will also detect DTS-ES Matrix 6.1 or DTS-ES Discrete 6.1 discs and activate DTS-ES® Extended Surround decoding. Dolby Digital Surround EX recordings also trigger automatic decoding (although not all Surround EX DVDs have the necessary flag and may require manually activating Surround EX decoding).

Likewise, a digital input from an HDCD® encoded compact disc, a standard CD, or MP3 player will be auto-detected and properly decoded to 2CH stereo operation.

Dolby Pro Logic IIx, DTS Neo:6, or Rotel XS processing can be configured to automatically provide extended surround decoding of selected multichannel digital signals for 6.1 or 7.1 channel systems, even with sources that might not otherwise trigger the proper extended surround mode.

In many cases, the RSX-03 will also recognize a digital signal with Dolby Surround encoding (such as the default soundtrack on many DVDs) and activate Dolby® Pro Logic II® decoding.

**NOTE:** *A digital signal coming into the RSX-03 will be recognized and properly decoded. However, on a DVD with multiple soundtracks, you must tell the DVD player which one to send to the RSX-03. For example, you may need to use the DVD's menu system to select the Dolby Digital 5.1 or DTS 5.1 soundtrack rather than the default Dolby Digital 2.0 Dolby Surround soundtrack.*

Additionally, you can configure a default surround mode for each input using the INPUT SETUP menu (see the Setup section of this manual). Combined with the auto-detection of Dolby Digital 5.1 and DTS, this default surround setting makes operation of the RSX-03 surround modes totally automatic. For example, if you set Dolby Pro Logic II movie mode as the default for all of your video inputs, the RSX-03 will automatically decode Dolby Digital 5.1

and DTS soundtracks when they are played and use Pro Logic II matrix decoding for all other recordings. For stereo inputs such as CD and Tuner, you could select STEREO mode as the default for 2-channel playback or Dolby Pro Logic II music mode if you prefer to hear music sources in surround sound.

## Manually Selecting Surround Modes

As described in the previous section, the combination of auto-detection of Dolby Digital and DTS recordings and setting default surround modes for each input during the setup of the RSX-03 makes operation of surround modes totally automatic. For many users, this automatic surround mode selection will meet all of their listening needs.

For users who prefer a more active role in setting surround modes, buttons on the remote and the front panel provide manual selection of surround mode that are not automatically detected or, in some cases, to override an automatic setting.

Manual settings available from the front panel and/or the remote might be used when you want to play:

- Standard 2-channel stereo (left/right speakers only) with no surround processing.
- Downmixed 2-channel playback of Dolby Digital 5.1 or DTS recordings.
- Dolby 3-channel stereo (left/right/center) of 2-channel recordings.
- 5-channel or 7-channel stereo from 2-channel recordings.
- One of four MUSIC modes for DSP concert hall simulation from 2-channel recordings.
- Dolby Pro Logic II cinema, music, or game mode matrix decoding of 2-channel recordings, plus an original Dolby Pro Logic mode.
- DTS Neo:6 cinema or music mode matrix decoding of 2-channel recordings.
- Dolby Digital Surround EX decoding of Dolby Digital 5.1 channel recordings or Dolby Digital Surround EX discs that do not trigger automatic decoding.

**NOTE:** DTS, DTS-ES Matrix 6.1, DTS-ES Discrete 6.1, Dolby Digital, MP3, MPEG Multichannel, digital signals are auto-detected and cannot be overridden. However, you can choose to use Dolby Digital Surround EX decoding for any Dolby Digital 5.1 source material. You can also downmix Dolby Digital 5.1 or DTS 5.1 recordings for 2-channel playback.

- HDCD (non 96kHz) and PCM 2-channel (non 96kHz) digital signals can be overridden to Dolby Pro Logic II, Dolby 3-Stereo, DTS Neo:6, Music 1 – 4, 5CH Stereo, 7CH Stereo, and Stereo.
- Dolby Digital 2-channel Stereo can be overridden to Dolby Pro Logic II, Dolby 3-Stereo, and Stereo.

The following topics describe in detail the manual surround mode options available for each type of recording:

### Dolby Digital 5.1 discs Dolby Digital Surround EX discs

**8 U V W**

Dolby Digital decoding is auto-detected and cannot be overridden. You may, however, select a 2 channel downmix of 5.1 channel recordings. In a 6.1ch or 7.1 ch system, you can also choose Dolby Surround EX, Dolby Pro Logic IIx Music, Dolby Pro Logic IIx Cinema (7.1ch only), or Rotel XS processing for center back channels.

**NOTE:** In addition to the options that follow, you can press the 2CH button on the front panel or the remote to toggle between 2-channel downmix and multichannel playback.

- **On a 5.1 system.** Press the SUR+ button on the remote, then press the +/- buttons to change between DD 5.1 channel or DD 2.0 channel downmix playback.
- **On a 6.1 system.** Press the SUR+ button on the remote, then use the +/- buttons to step through five options: DD 2.0 channel downmix, DD 5.1 channel, DD Surround EX center back processing, DD with Pro Logic IIx Music center back processing or DD with Rotel XS center back processing. You should typically select Surround EX or discs that are labeled Dolby Digital

Surround EX. For standard 5.1 channel discs, Dolby Pro Logic IIx Music or Rotel XS processing will provide a more diffuse surround effect than the more highly localized Dolby EX decoding and will probably be the better 6.1 channel options for non-Surround EX discs. Selecting DD 5.1 forces the center back channel processing off for conventional 5.1 channel playback. You can also repeatedly press the DOLBY PLII/3ST button on the front panel until the desired center back channel option is selected.

- **On a 7.1 system.** Press the SUR+ button on the remote, then use the +/- buttons to step through six options: DD 2.0 channel downmix, DD 5.1 channel, DD Surround EX center back processing, DD with Pro Logic IIx Music center back processing, DD with Pro Logic IIx Cinema back channel processing, or DD with Rotel XS center back processing. You should typically select Surround EX or discs that are labeled Dolby Digital Surround EX. For standard 5.1 channel discs, Dolby Pro Logic IIx Music or Rotel XS processing will provide a more diffused surround effect than the more highly localized Dolby EX decoding and may be the better 7.1 channel options for non-Surround EX discs. Selecting DD 5.1 forces the center back channel processing off for conventional 5.1 channel playback. You can also repeatedly press the DOLBY PLII/3ST button on the front panel until the desired center back channel option is selected.

**NOTE:** When playing any Dolby Digital source, you can select one of three dynamic range control settings. See the Dynamic Range topic in the Other Settings section of this manual.

### Dolby Digital 2.0 discs

**8 U V W**

Dolby Digital decoding is auto-detected and cannot be overridden. You may, however, select 2-channel playback, 5.1 channel playback with Pro Logic II matrix surround, 6.1/7.1 channel playback with Pro Logic IIx matrix surround, or Dolby 3-Stereo playback.

- **On a 5.1 system.** Press the SUR+ button on the remote, then use the +/- buttons to step through the options: DD 2.0 channel, DD with Pro Logic II Cinema matrix surround, DD with Pro Logic II Music matrix

surround, DD with Pro Logic II Game matrix surround, DD with original Pro Logic, or Dolby Digital 3 channel stereo. You can also repeatedly press the 2CH button on the front panel or the remote to select the same options.

- **On a 6.1/7.1 system.** Press the SUR+ button on the remote, then use the +/- buttons to step through the options: DD 2.0 channel, DD with Pro Logic IIx Cinema matrix surround, DD with Pro Logic IIx Music matrix surround, DD with Pro Logic IIx Game matrix surround, DD with original Pro Logic (5.1ch), or Dolby Digital 3 channel stereo. You can also repeatedly press the 2CH button on the front panel or the remote to select the same options.

**NOTE:** Selecting original Pro Logic mode provides 5.1 channel output, even on a 6.1/7.1 channel system.

- **To select Cinema, Music, Game, or original Pro Logic options in Pro Logic II or Pro Logic IIx modes.** Press the SUR+ button twice while in Pro Logic II or Pro Logic IIx modes. Then, use the +/- buttons to select the Music, Cinema, Game, or original Pro Logic options.

**NOTE:** When playing any Dolby Digital source, you can select one of three dynamic range control settings. See the Dynamic Range topic in the Other Settings section of this manual.

### DTS 5.1 discs DTS-ES 6.1 discs

**8 U V W**

DTS decoding is auto-detected and cannot be overridden. You may, however, select a 2 channel downmix of 5.1 channel recordings or add DTS Neo:6 center back processing for 5.1 channel discs.

**NOTE:** In addition to the options that follow, you can press the 2CH button on the remote to toggle between 2-channel downmix and multichannel playback.

- **On a 5.1 system.** Press the SUR+ button on the remote, then press the +/- buttons to change between DTS 5.1 channel or DTS 2.0 channel downmix playback.

- **On a 6.1/7.1 system with a DTS 5.1 disc.** Press the SUR+ button on the remote, then use the +/- buttons to step through the optional modes: DTS 2.0 channel downmix, DTS 5.1 channel, or DTS with DTS Neo:6 center back processing. Selecting DTS 5.1 forces the center back channel processing off for conventional 5.1 channel playback. You can also repeatedly press the DTS Neo:6 button on the front panel until the desired option is selected.
- **On a 6.1/7.1 system with a DTS-ES disc.** Press the SUR+ button on the remote, then use the +/- buttons to step through three optional modes: DTS 2.0 channel downmix, DTS 5.1, or DTS-ES 6.1 ch/7.1 ch playback. On the front panel, press the DTS Neo:6 button while playing a DTS source to step through the same options.

### MPEG Multichannel discs

**8 U V W**

MPEG decoding is auto-detected and cannot be overridden. You may, however, select a 2 channel downmix of 5.1 channel recordings. If the system is configured with center back speaker(s), you can also force Rotel XS processing on or off.

**NOTE:** In addition to the options that follow, you can press the 2CH button on the remote to toggle between 2-channel downmix and multichannel playback.

- **On a 5.1 system.** Press the SUR+ button on the remote, then press the +/- buttons to change between MPEG 5.1 channel or MPEG 2.0 channel downmix playback.
- **On a 6.1/7.1 system.** Press the SUR+ button on the remote, then use the +/- buttons to step through the optional modes: MPEG 2.0 channel downmix, MPEG 5.1 channel, or MPEG with Rotel XS center back processing. Selecting MPEG 5.1 forces the center back channel processing off for conventional 5.1 channel playback. You can also repeatedly press the DSP button on the front panel until the desired option is selected.

### Digital Stereo discs (PCM, MP3, and HDCD)

**8 U V W**

This group of recordings includes any non-Dolby Digital 2-channel signal from the RSX-03's digital inputs. You can play these recordings in 2-CH Stereo, Dolby 3-Stereo, 5-CH Stereo, 7-CH Stereo modes. You can also use Dolby Pro Logic II matrix surround with Cinema, Music, Game or original Pro Logic options (5.1 ch systems), Dolby Pro Logic IIx Music (6.1/7.1 ch systems), Dolby Pro Logic IIx Cinema (7.1 ch systems), DTS Neo:6 surround, or one of the MUSIC 1-4 DSP modes.

All of the bass management settings (speaker size, subwoofer, and crossover) are in effect with digital stereo inputs.

**NOTE:** In addition to the options that follow, you can select 2-channel, Pro Logic II Cinema, Music, Game, or original Pro Logic (for 5.1 ch systems), Pro Logic II Music (for 5.1 ch systems), Pro Logic IIx Music (for 6.1/7.1 ch systems), Pro Logic IIx Cinema (for 7.1 ch systems), 5-channel stereo, or 7-channel stereo by pressing one of the surround mode buttons on the remote (2CH, PLC, PLM, 5CH, 7CH).

- **To select any mode for 2-channel digital recordings.** Press the SUR+ button on the remote, then use the +/- buttons to step through the optional modes until the desired mode is displayed.
- **To select STEREO mode for 2-channel digital recordings.** Press the 2CH button on the front panel or remote.
- **To select Dolby multichannel modes for 2-channel digital recordings.** You can also step through the Dolby options (Pro Logic II, Pro Logic IIx, or 3-Stereo) by repeatedly pressing the DOLBY PLII/3ST button on the front panel. You can select Pro Logic or Pro Logic IIx Cinema or Music modes by pressing the PLC or PLM buttons on the remote.

To change the Cinema, Music, Game or original Pro Logic option in Pro Logic II mode, press the SUR+ button the remote twice while in Pro Logic II or Pro Logic IIx modes. Then, press the +/- buttons to select the option.

- **To select DTS Neo:6 mode for 2-channel digital recordings.** You can also step through the DTS options (Neo:6 Cinema or Neo:6 Music) by repeatedly pressing the DTS Neo:6 button on the front panel.

To change the Cinema or Music option in Neo:6 mode, press the SUR+ button the remote twice while in Neo:6 mode. Then, press the +/- buttons to select the option.

- **To select DSP multichannel modes for 2-channel digital recordings.** You can also step through the DSP options (MUSIC 1-4, 5CH, 7CH) by repeatedly pressing the DSP button on the front panel. Directly select 5CH mode by pressing the 5CH button on the remote. Directly select 7CH mode by pressing the 7CH button on the remote.

### Analog Stereo **8 U V W**

This type of recording includes any conventional stereo signal from the RSX-03's analog inputs, including analog audio from CD, Phono FM tuners, VCRs, tape, etc.

Analog stereo inputs require a choice about how the signal is routed through the RSX-03. One option is the analog bypass mode. In this mode, the stereo signal is routed directly to the volume control and the outputs. It is pure 2-channel stereo, bypassing all of the digital circuitry. None of the bass management features, speaker level settings, tone settings, or delay settings are active. There is no subwoofer output. A full-range signal is sent directly to two speakers.

The other option converts the analog inputs to digital signals, passing them through the digital processors in the RSX-03. This option allows all of the features to be active including bass management settings, crossovers, subwoofer outputs, tone settings, etc. In this mode, you can select several surround modes including 2-CH Stereo, Dolby 3-Stereo, 5-CH Stereo, 7-CH Stereo modes. You can also use Dolby Pro Logic II or Pro Logic IIx surround, DTS Neo:6 surround, or one of the MUSIC 1-4 DSP modes.

**NOTE:** In addition to the options that follow, you can select Pro Logic II Cinema, Pro Logic II Music, Pro Logic IIx Cinema, Pro Logic IIx Music, 5-channel stereo, or 7-channel stereo by pressing one of the surround mode buttons on the remote (PLC, PLM, 5CH, 7CH).

- **To select Stereo or Analog bypass mode for 2-channel analog recordings.** Press the 2CH button on the remote to toggle between Stereo (with digital processing) or Analog Bypass (no digital processing) modes.
- **To select any mode for 2-channel analog recordings.** Press the SUR+ button on the remote, then use the +/- buttons to step through the optional modes until the desired mode is displayed.
- **To select Dolby multichannel modes for 2-channel analog recordings.** You can also step through the Dolby options (Pro Logic II, Pro Logic IIx, or 3-Stereo) by repeatedly pressing the DOLBY PLIIx/3ST button on the front panel. You can select Pro Logic or Pro Logic IIx Cinema or Music modes by pressing the PLC or PLM buttons on the remote.

To change the Cinema, Music, Game or original Pro Logic option in Pro Logic II mode, press the SUR+ button the remote twice while in Pro Logic II or Pro Logic IIx modes. Then, press the +/- buttons to select the option..

- **To select DTS Neo:6 modes for 2-channel analog recordings.** You can also step through the DTS options (Neo:6 Cinema or Neo:6 Music) by repeatedly pressing the DTS Neo:6 button on the front panel.

To change the Cinema or Music option in Neo:6 mode, press the SUR+ button on the remote twice while in Neo:6 mode. Then, press the +/- buttons to select the option.

- **To select DSP multichannel modes for 2-channel analog recordings.** You can also step through the DSP options (MUSIC 1-4, 5CH, 7CH) by repeatedly pressing the DSP button on the front panel. Directly select 5CH mode by pressing the 5CH button on the remote. Directly select 7CH mode by pressing the 7CH button on the remote.

## Other Settings

### Speaker Level **E U**

The levels of all channels should be calibrated using the TEST TONE procedure during the initial setup of the RSX-03. You can make a temporary change in the relative volume of the center, surround, center back, or subwoofer channels using buttons on the remote control. These temporary adjustments only remain in effect until a different input is selected or until the RSX-03 is turned off.

#### To adjust speaker levels using the remote:

1. Press a selection button on the remote to select a channel (or pair of channels) for adjustment. Press the C button to adjust the CENTER channel. Press the S button to adjust the SUBWOOFER channel. Press the R button to adjust the rear SURROUND or CENTER BACK channels (each press of the R button toggles between the SURROUND channels and the CENTER BACK channels). The selected speaker and its current setting appear briefly in the display.
2. Use the UP or DOWN buttons on the remote to adjust the output level of the selected channel(s).

**NOTE:** If no level adjustment is made for 10 seconds, the levels revert to the default calibrated settings.

### Dynamic Range **L**

Dolby Digital recordings are capable of wide dynamic range (the difference between the softest and loudest sounds). In some cases, this may tax amplifiers and/or speakers. In other cases, you may want to reduce the dynamic range when listening at low volume levels. This is particularly useful in order to keep dialog loud enough to be intelligible while avoiding excessively loud sound effects. Dolby Digital dynamic compensation is a sophisticated feature that allows you to adjust the dynamic range while still preserving fidelity. The actual amount of compression relies on instructions embedded in the Dolby Digital recording and varies to best suit the specific program content.

There are three dynamic range settings available for Dolby Digital recordings:

- **MAX:** full dynamic range.
- **MID:** slightly reduced dynamic range, roughly comparable to the signal from a compact disc.
- **MIN:** more heavily reduced dynamic range, but still comparable to the signal from a typical VHS Hi-Fi recording.

#### To adjust dynamic range:

Press the DYN button on the remote repeatedly until the desired setting appears in the front panel display. This setting remains in effect for all Dolby Digital program material until it is changed.

**NOTE:** The dynamic range compensation feature is only available in Dolby Digital mode. The setting is ignored with all other types of recordings.

### Tone Settings **U X**

The tone controls (available on the remote control) can be used to make a temporary change to the high or low frequency content. Adjustments to the tone settings are temporary; they remain in effect only until a different source input is selected or the unit is turned off. Permanent settings can be made using the Tone Setup menu.

The settings can be adjusted up or down by a maximum of 10dB. The changes affect only the front speakers. The settings are shown on the front panel display as you adjust them.

#### To adjust the tone settings from the remote:

1. Press the TONE button on the remote. Either BASS or TREBLE appears in the OSD and front panel displays, depending on which adjustment is currently active. Press the TONE button again to toggle to the other adjustment.
2. Press the UP/DOWN buttons on the remote to increase or decrease the setting. The display will revert to normal operation following several seconds of inactivity.

**NOTE:** The tone adjustments are available for all surround modes and inputs, except the MULTI input and analog bypass mode.

## Cinema EQ

The EQ button (remote only) activates or deactivates a special CINEMA EQ setting. This equalization may be desirable for playback of movie source material to compensate for the acoustic differences between a commercial cinema and a home theater environment by reducing the high-frequency content.

The EQ setting is independent for each source input. Using the button only changes the setting for the currently active source input.

## Tuner Controls

The RSX-03 features a digital synthesized AM/FM tuner with RDS capability and 30 station presets. The unit offers a wide range of tuning options. Here is an overview of the tuning options (more detailed information is provided in subsequent sections of this manual):

- **Manual frequency tuning** tunes up or down to the next station frequency (when in frequency tuning mode). Press and release a TUNING button (CH UP/DOWN on the remote) to tune.
- **Direct frequency tuning** lets you enter the desired station frequency digits. Press the DIRECT button (or the FRQ DIRECT) button on the remote) and enter the digits using the NUMERIC buttons.
- **Automatic frequency search tuning** searches up or down to find the next receivable broadcast signal. Press and hold a TUNING button (CH UP/DOWN on the remote) for at least one second to search up or down.
- **Station preset tuning** lets you directly enter the number of a memorized station preset. Enter the number of the memorized preset using the NUMERIC buttons.
- **Preset tuning** jumps up/down to the next memorized station preset. When in PRESET mode, press a TUNING button (CH UP/DOWN on the remote) to select the next station preset. Press the PRESET button on the remote to select PRESET tuning mode. Press the TUNE button on the remote to select FREQUENCY tuning mode. Press the P-TUN button on the remote to toggle between preset and frequency tuning modes.

- **Preset scan tuning** automatically scans through the memorized station presets, playing each for 5 seconds. Press the SCAN button on the remote to begin preset scanning. Press the button again to stop the scanning and listen to the desired preset.
- **RDS (Europe) or RBDS (USA) tuning** provides a range of special tuning and search features based on data codes encoded with the broadcast signal. See the RDS section of this manual for detailed information.

**NOTE:** The RSX-03 comes configured for tuning in the market where you purchased it (N. America or Europe). To change this default setting, see the information on the DEFAULT SETUP on-screen menu later in this manual.

### BAND Buttons

Press the BAND button to toggle between AM and FM reception. An indicator in the front-panel display confirms your choice and the currently tuned station frequency is shown.

### TUNING Buttons

The TUNING buttons (labeled CH UP/DOWN on the remote control) provide three different tuning functions, depending on the mode of operation.

**In the normal FREQUENCY tuning mode,** press a TUNING button (CH UP/DOWN on the remote) and release to manually jump to the next station frequency, regardless of whether or not a station is broadcasting on that frequency. For auto frequency search tuning, press and hold the TUNING button for approximately one second. An AUTO indicator will appear in the front-panel display and the tuner will begin scanning up or down through the frequencies until the next available signal is detected. If this is not the desired station, repeat the automatic tuning procedure to find the next station. Weak stations will be skipped during auto tuning.

**NOTE:** Select the FREQUENCY tuning mode by pressing the TUNE button on the remote or toggle between FREQUENCY and PRESET modes by pressing the P-TUN button.

**In the PRESET tuning mode,** press a TUNING button (CH UP/DOWN on the remote) and release to jump to the next memorized station preset.

**NOTE:** Select the PRESET tuning mode by pressing the PRESET button on the remote or toggle between FREQUENCY and PRESET modes by pressing the P-TUN button. A PRESET indicator appears in the display when PRESET TUNING is activated.

**In the RDS PTY search mode,** press a TUNING button (CH UP/DOWN on the remote) to select the desired program type from the scrolling list in the display. See the section on RDS tuning for more details.

**NOTE:** Several indicators in the front-panel display assist tuning. A large display shows the tuned frequency. A TUNED indicator lights when a sufficiently strong signal is received. A ST indicator lights when a stereo FM signal is received.

### MEMORY Button

The MEM button on the remote is used with the NUMERIC buttons to store memorized station presets. See the next section for detailed instructions.

### NUMERIC Buttons: Station Presets

The RSX-03 can store up to 30 station presets for recall at any time using the NUMERIC buttons on the remote. To memorize a station:

1. Tune to the desired station, AM or FM.
2. Press the MEM button on the remote. A MEMORY indicator will flash for five seconds in the front-panel display.
3. While the MEMORY indicator is flashing, press the number of the preset where you wish to store the station frequency. For example, to memorize the station as preset 3, press the 3 button. To memorize preset 15, press the 1 button followed by the 5 button.
4. A previously stored frequency is erased from memory when a new frequency is memorized for the same preset number.

To tune to a previously memorized station, just press the preset number on the NUMERIC buttons. For example, to tune to preset 3, press the 3 button. To tune to preset 15, press the 1 button and then press the 5 button.

**NOTE:** When using the NUMERIC buttons on the remote, first manually select the tuner input, if not already active.

The NUMERIC buttons can also be used for direct access tuning (see next section).

### FRQ DIRECT Button **D**

If you know the frequency of the desired station, you may tune it directly using the FREQUENCY DIRECT button and the NUMERIC buttons.

1. Press the FRQ DIRECT button on the remote to change the NUMERIC buttons from station preset to Direct Access mode. The station frequency in the front-panel display will change to a series of four bars, representing the digits of a station frequency, with the first bar flashing.
2. Enter the first digit of the station frequency using the NUMERIC buttons. The digit will appear in the frequency display and the second bar will flash. Enter the remaining digits of the frequency. When all of the necessary digits have been entered, the receiver will tune to the displayed station frequency. Note that entering a station frequency is slightly different for the USA and Europe:

In the USA:

FM87.50MHz Press: 8>7>5  
 FM101.90MHz Press: 1>1>9  
 AM1410kHz Press: 1>4>1

In Europe:

FM87.50MHz Press: 8>7>5>0  
 FM101.90MHz Press: 1>1>9>0  
 AM1413kHz Press: 1>4>1>3

### FM MONO Button **H**

The FM MONO button on the remote change the FM mode from stereo reception to mono reception. In stereo mode, a stereo signal will be heard if the station is broadcasting a stereo signal and there is sufficient signal strength. An ST indicator will light in the front-panel display. In mono mode, a mono signal will be heard even if the station is broadcasting a stereo signal.

**NOTE:** Switching to mono mode can improve the reception of weak or distant FM signals. Less signal strength is required for clean mono reception than for stereo reception.

### TUNE Button **F** PRESET Button **G** P-TUN Button **Z**

These remote control buttons are used to change between FREQUENCY tuning mode and PRESET tuning mode. In frequency tuning mode, the TUNING buttons (CH UP/DOWN on the remote ) advance to the next station frequency. In preset tuning mode, the TUNING buttons advance to the next memorized station preset.

Select the FREQUENCY tuning mode by pressing the TUNE button on the remote. Select the PRESET tuning mode by pressing the PRESET button on the remote. Toggle between the two modes by pressing the P-TUN button. A PRESET indicator appears in the display when PRESET TUNING is activated.

### SCAN Button **N**

This button activates a preset scanning feature. When you press the button, the tuner begins scanning through all memorized station presets, playing each for 5 seconds before moving to the next. To stop the station scanning when the desired station preset is reached, press the button again.

**NOTE:** If a PRESET station is currently tuned when the PRESET SCAN button is pressed, scanning will start with the next higher preset number and continue through all presets, stopping on the initial preset. If a PRESET station is not currently tuned when the button is pressed, scanning will start from PRESET 1 and continue to PRESET 30.

## RDS and RBDS Tuning

The Rotel RSX-03 is equipped with RDS (Radio Data Systems) reception capabilities for Europe and RBDS (Radio Broadcast Data Service) capabilities for the United States. These broadcast systems provide additional functionality to FM radio reception by transmitting encoded information along with the radio signal. This signal is decoded by an RDS or RBDS receiver and can provide a range of informational features including:

1. a display of the station's identifying name (e.g. BBC1)
2. a display of the station's program content (e.g. ROCK or NEWS)
3. traffic information broadcasts
4. a scrolling text display for announcements or information

In addition, RDS provides several advanced search features including:

1. Search for a station with the desired program content (PTY)
2. Search for traffic information (TP)
3. Search for stations broadcasting special traffic announcements (TA).

RDS broadcasting has been widely available in many European markets for years. There are a large number of RDS stations and most users will be familiar with the features and operation. In the USA, implementation of the RBDS system is more recent. Fewer stations are broadcasting RBDS signals and the features may be less familiar to many users. Consult your authorized Rotel dealer for more information on RDS or RBDS broadcasting in your area.

**NOTE:** The RDS and RBDS features are entirely dependent on the broadcaster sending encoded signals. Thus, they will only be available in markets where RDS or RBDS is implemented and where stations are broadcasting these data signals. If there are no RDS or RBDS stations, the RSX-03 will function as a standard radio receiver.

**NOTE:** RDS and RBDS services are only available on FM broadcasts. The features and buttons described below are only operational in FM mode.

### DISP Button **AA**

There are five display options when the currently tuned station is broadcasting RDS information and the RDS indicator in the front-panel display is lit. Press the DISP button on the remote to step through the five display options:

1. Standard FREQUENCY display.
2. PROGRAM SERVICE name. This is typically the station's call letters, such as BBC1. If the current station is not broadcasting an RDS signal, the display will show "NO NAME DATA".
3. PROGRAM TYPE. This is a description of the station's content from a standardized list of program types in each market. If the current station is not broadcasting an RDS signal, the display will show "NO PTY DATA".
4. CLOCK TIME. A time and date display broadcast by the station. If the current station is not broadcasting an RDS signal, the display will show "NO TIME DATA".
5. RADIO TEXT. Additional scrolling text messages broadcast by the station. If the current station is broadcasting radio text data, an RT indicator lights in the display and the scrolling text appears. If the current station is not broadcasting an RDS signal, the display will show "NO TEXT DATA".

### PTY Button **AA**

The PTY search function permits you to scan available broadcasts for RDS stations broadcasting a particular type of program content.

1. Press the PTY button. The current RDS program type will appear in the display.
2. If desired, change to a different PROGRAM TYPE using the TUNING UP/DOWN buttons to scroll through the list.

3. Press the PTY button a second time within 10 seconds. The tuner will attempt to find an RDS station broadcasting the selected type of program. If the button is not pressed within 10 seconds after selecting a program type, the PTY function will be cancelled.
4. If no station is located for the desired content type, the tuner will return to the last previously tuned station.
5. Cancel the PTY function by pressing any other button.

**NOTE:** If the currently tuned station is broadcasting PTY data, a PTY indicator lights in the front-panel display.

### TP Button **AA**

Searches for an RDS station broadcasting traffic information programming:

1. Press the TP button. The tuner attempts to find an RDS station broadcasting the traffic programming. If a station is found, a TP indicator lights in the front-panel display.
2. If no station is located, the tuner will return to the last previously tuned station.
3. Cancel the TP function by pressing any other button.

### TA Button **AA**

Searches for an RDS station broadcasting special traffic announcements:

1. Press the TA button. The tuner will attempt to find an RDS station broadcasting traffic announcements.
2. If no station is located, the tuner will return to the last previously tuned station.
3. Cancel the TA function by pressing any other button.

## SETUP

The RSX-03 features two types of information displays to help operate the system. The first consists of simple status displays that appear on the TV screen and/or front panel display whenever primary settings (Volume, Input, etc.) are changed. These status displays are self-explanatory.

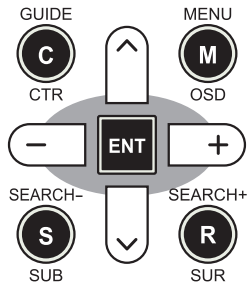
A more comprehensive ON-SCREEN DISPLAY (OSD) menu system is available at any time by pressing the MENU/OSD button on the remote. These OSD menus guide you through the configuration and setup of the RSX-03. In general, the settings made in the configuration process are memorized as default settings and need not be made again for normal operation of the unit.

The OSD menus can be configured to display several different languages. The default English version of all the menus is shown at the front of this manual. If your language is available, those menus will be shown in the following instructions. If you would like to change from the default English language before proceeding, go to the instructions for the OTHER OPTIONS menu later in this manual. From this menu, you can change the language display.

## Menu Basics

### Navigation Buttons T U

The following remote control buttons are used to navigate the OSD menu system:



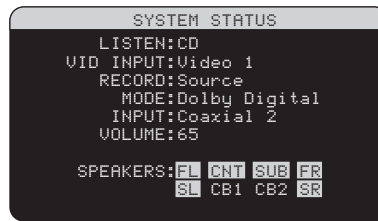
**MENU/OSD button:** Press to display the SYSTEM STATUS screen. From the SYSTEM STATUS screen, press the ENTER button to display the MAIN MENU screen which has links to all other menus. If a menu is already visible, push this button to cancel the display. The MENU button on the front panel provides the same function.

**DOWN/UP Buttons:** Press to move up and down in the lists of menu items that appear on the OSD screens.

**+/- Buttons:** Press to change the current settings for a selected menu item on OSD screens.

**ENTER Button:** From the SYSTEM STATUS screen, press ENTER to display the MAIN MENU screen. From any other OSD screen, press ENTER to confirm a setting and return to the MAIN menu.

### System Status



The SYSTEM STATUS menu provides a snapshot of the current system settings and a starting point for reaching all other screens and menus. This screen appears when you press the remote MENU/OSD and displays the following information:

**LISTEN:** the input source selected for listening.

**VID INPUT:** the video source selected for viewing. Can be VIDEO 1–4 or OFF (no video) as selected on the INPUT SETUP menu. Typically, the video source matches the audio from listening source; however a different video input can be selected.

**RECORD:** the signal selected for recording from the VIDEO OUT and TAPE OUT outputs.

**MODE:** the current surround sound mode.

**INPUT:** the input selected for the current source: Optical Digital, Coaxial Digital, Analog, etc.

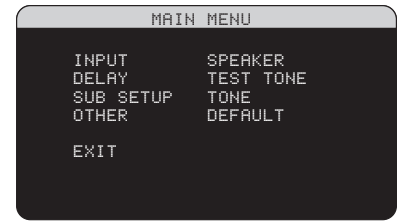
**VOLUME:** the current volume setting.

**SPEAKERS:** highlights the speakers that are currently configured for the system (front right, center, subwoofer, front left, surround left, center back 1, center back 2, and surround right)

No changes can be made using this screen; it only provides information. To go to the rest of the menus, press the ENTER button to go to the MAIN menu. Press the MENU/OSD button on the remote to cancel the display and return to normal operation.

**NOTE:** The SYSTEM STATUS screen appears for five seconds when the unit is turned on and automatically turns off.

### Main Menu

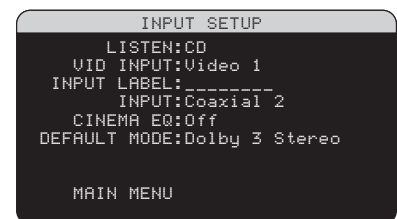


The MAIN MENU provides access to OSD screens for various configuration options. MAIN MENU is reached by pressing the ENTER button from the SYSTEM STATUS menu described above or from most other menus. To go to the desired menu, move the highlight using the UP/DOWN and +/- buttons on the remote and press the ENTER button. Press the MENU/OSD button on the remote to cancel the display and return to normal operation.

## Configuring Inputs

A key step in setting up the RSX-03 is to configure each source input using the INPUT SETUP screens. Configuring the inputs allows you to set defaults for a number of settings including the type of input connector, the desired surround mode, custom labels that appear in the displays when a source is selected, and many more. The following OSD menus are used to configure the inputs.

### Input Setup



The INPUT SETUP menu configures the source inputs and is reached from the MAIN menu. The screen provides the following options, selected by placing the highlight on the desired line using the UP/DOWN buttons:

**LISTEN:** changes the current listening input source (PHONO, CD, TUNER, TAPE, VIDEO 1–4, & MULTI INPUT). Changing this input also allows you to select a specific input for configuring.



**VID INPUT:** select the video source to be displayed on the TV monitor with the listening source specified on the first line. Can be VIDEO 1–4 or OFF (no video). Typically, the video source matches the audio from listening source; however a different video input can be selected. For audio only sources (such as a CD player), you would typically specify OFF so that no video is displayed.

**INPUT LABEL:** The eight character labels for the all eight inputs can be customized. Place the highlight on this line to begin labelling. The first character in the label will be flashing.

1. Press the +/- buttons on the remote to change the first letter, scrolling through the list of available characters.
2. Press the ENT button on the remote to confirm that letter and move to the next position.
3. Repeat steps 1 and 2 until all eight characters (including blank spaces) have been completed. The final press of the ENT button saves the new label.

**INPUT:** assigns a physical input connection to use as the default for the source displayed in the first line of the menu. The options are ANALOG input, two OPTICAL digital inputs (OPTICAL 1–2), and two COAXIAL digital inputs (COAXIAL 1–2).

When a digital input is the default, the unit will check for a digital signal when the INPUT SOURCE is selected. If no digital signal is present, the unit will automatically revert to the analog input.

When an ANALOG input is the default, the unit will not access a digital signal, even though one may be present at the digital input; thus, the ANALOG setting forces the unit to use an analog signal. Assigning a digital input (with its auto-sensing) is generally the preferred configuration for any source with a digital output.

**NOTE:** If a source connected to a digital input is selected, that signal will automatically be sent to both digital outputs for recording.

**CINEMA EQ:** The RSX-03 includes a CINEMA EQ feature which reduces the high-frequency content of movie soundtracks to simulate the frequency response of a large movie theater and/or eliminate sibilance. You can turn the CINEMA EQ on or off as

the default setting for the selected input using this menu choice. In general, this setting should be OFF for most source inputs, unless you are consistently bothered by excessively bright sound from movie soundtracks.

**DEFAULT MODE:** The DEFAULT MODE setting allows you to set a default surround sound mode for each source input. The default setting will be used unless the source material triggers automatic decoding of a particular type or unless the default setting is temporarily overridden by the front panel or remote surround mode buttons.

**NOTE:** Default surround modes are stored independently for the analog and digital inputs for each source.

Options for the default surround modes are: Dolby Pro Logic II, Dolby 3 Stereo, Music 1, Music 2, Music 3, Music 4, 5ch Stereo, 7ch Stereo, PCM 2 Channel, DTS Neo:6, Bypass (for analog input only), and Stereo.

**NOTE:** The following types of digital discs or source material are generally detected automatically and the proper decoding activated with no action or setting required: DTS, DTS-ES Matrix 6.1, DTS-ES Discrete 6.1, Dolby Digital, Dolby Digital Surround EX, Dolby Digital 2-channel, MPEG Multichannel, PCM 2-Channel, MP3, and HDCD.

Since Dolby Digital 5.1 and DTS sources are detected and decoded automatically, the default setting typically tells the RSX-03 how to process a 2-channel stereo signal. For example, you might have your CD input default to 2-channel stereo, DVD and VCR inputs default to Dolby Pro Logic II processing for matrix-encoded Dolby surround material, and TUNER input default to one of the MUSIC modes.

In some cases, the default setting can be manually overridden by the front panel surround mode buttons or the SUR+ button on the remote. See the *Manually Selecting Surround Modes* section of this manual for more information on which settings can be overridden.

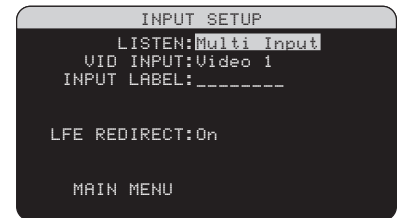
Two of the default surround mode settings available on this menu offer additional choices. Dolby Pro Logic II decoding offers a choice of CINEMA, MUSIC, GAME, or original Pro Logic settings. DTS Neo:6 decoding offers a choice of CINEMA or MUSIC settings. When either Dolby Pro Logic II or DTS Neo:6 is se-

lected with this menu item, the current setting choice will also be displayed. In addition, the function of the ENTER button changes, taking you to a sub-menu where you can change the settings and/or additional parameters for Dolby Pro Logic II or DTS Neo:6 decoding. See the following section for details.

**OPTIONS:** This selection is only visible when Pro Logic II or Neo:6 surround mode is selected. Highlight this line and press ENTER to go to submenus with additional options for these surround modes. See below.

To return to the MAIN menu from the INPUT SETUP menu (except when Dolby Pro Logic II or DTS Neo:6 is selected in the SURR MODE field), press the ENTER button. Press the MENU/OSD button on the remote to cancel the menu display and return to normal operation.

## Multi Input Setup



When the MULTI INPUT source is selected on the INPUT SETUP menu, the available options change to reflect the fact that these inputs are direct analog inputs and bypass the RSX-03's digital processing. The INPUT, CINEMA EQ, and DEFAULT MODE options are not available since these are all digitally implemented features.

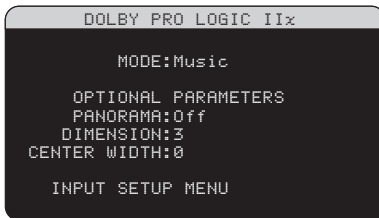
The VID INPUT and INPUT LABEL options are still available and work as described on the previous menu.

One additional option, LFE REDIRECT, provides an alternative bass management configuration. Typically, the six channels of the MULTI INPUT are configured as pure analog bypass signals, going straight from the inputs to the volume control and the preamp outputs, bypassing all of the digital processing. There are no crossovers and no bass management; therefore, whatever signal goes into the subwoofer channel will be sent to the subwoofer preamp output.

This configuration may not be ideal for multichannel systems configured with high-pass speakers, redirecting bass to a powered subwoofer. An option, called LFE REDIRECT, sends the five main channels directly to the outputs as usual. In addition, it takes a duplicate copy of these seven channels, combines them into mono, and routes them through a 100 Hz analog low-pass crossover to the subwoofer preamp output. This creates a summed mono subwoofer signal, derived from the seven main channels of the MULTI INPUT.

Use the LFE REDIRECT off for the pure analog bypass configuration. Use the LFE REDIRECT on setting to derive the mono summed subwoofer output.

## Dolby Pro Logic IIx



When Dolby Pro Logic IIx is selected as the default surround mode on the INPUT SETUP menu, there are additional settings and parameters to optimize the surround decoding for music, movie soundtracks, games, or original Pro Logic. Dolby Pro Logic II uses matrix decoding algorithms to derive a center channel and surround channels from 2-channel source material.

The first line of the Dolby Pro Logic IIx sub-menu selects CINEMA, MUSIC, GAME, or original Pro Logic modes for matrix decoding. Use the +/- buttons on the remote to select a mode.

Select **CINEMA** to optimize for Dolby Surround encoded movie soundtracks including increased surround separation and full-bandwidth surround channel frequency response.

Select **MUSIC** to optimize for musical recordings. When the MUSIC mode is selected, three additional parameters will be available on the OSD screen. Use the UP/DOWN buttons on the remote to select a parameter. Use the +/- buttons to change the selected parameter as follows:

- **PANORAMA:** The Panorama option extends the front stereo image to include the surround speakers for a dramatic “wrap-around” effect. The options are OFF or ON.
- **DIMENSION:** The Dimension option allows you to gradually adjust the soundfield towards the front or towards the rear. There are seven incremental settings from 0 to 6. A setting of 0 shifts the soundfield towards the rear for maximum surround effect. A setting of 6 shifts the soundfield to the front for minimum surround effect. The default setting of 3 provides a “neutral” balance between the two extremes.
- **CENTER WIDTH:** The Center Width option allows you to spread the signal intended for the center speaker to the left and right front speakers, widening the perceived soundfield. There are eight incremental settings from 0 to 7. With the default setting of 0, there is no center width spreading and all of the center channel information is sent to the center speaker. The maximum setting of 7 shifts all of the center channel signal to the left and right speakers, essentially muting the center speaker and maximizing the soundfield width. Other settings provide incremental steps between the two extremes.

Select **GAME** to optimize for Dolby Surround encoded video games.

Select **PRO LOGIC** for original Dolby Pro Logic decoding. Typically, Pro Logic II (Cinema or Music modes) will provide better surround performance, even with older source material. Original Pro Logic mode provides 5.1 channel surround sound, even on 6.1/7.1 channel systems.

When you have completed all the desired adjustments, highlight the INPUT SETUP MENU line at the bottom of the screen and press the ENTER button to return to the INPUT SETUP menu (or just press the ENTER button).

## DTS Neo:6



When DTS Neo:6 is selected as the default surround mode on the INPUT SETUP menu, there are additional option settings and parameters available to optimize the surround decoding for various types of recordings, music or movie soundtracks. DTS Neo:6 uses matrix decoding algorithms to derive a center channel and surround channels from 2-channel source material.

In DTS Neo:6 surround mode, there will only be one choice available on the sub-menu: selecting CINEMA or MUSIC modes. Use the +/- buttons on the remote to change the settings.

- Select CINEMA to optimize the DTS Neo:6 decoding for movie soundtracks.
- Select MUSIC to optimize the DTS Neo:6 decoding for musical recordings.

When you have completed the setting, highlight the INPUT SETUP MENU line at the bottom of the screen and press the ENTER button to return to the INPUT SETUP menu (or just press the ENTER button).

## Configuring Speakers and Audio

This section of the setup process covers items concerning audio reproduction such as the number of speakers, bass management including subwoofer crossovers, establishing equal output levels for all channels, delay settings, and tone settings.

### Understanding Speaker Configuration

Home theater systems vary in the number of speakers and the bass capabilities of those speakers. The RSX-03 offers surround modes tailored to systems with various numbers of speakers and bass management features which send bass information to the speaker(s) best able to handle it – subwoofers and/or

large speakers. For optimum performance, you must tell the RSX-03 the number of speakers in your system and how bass should be distributed among them.

**NOTE:** There are two types of bass in a surround system. The first is bass recorded in each of the main channels (front, center, and surround). This bass is present in all recordings and soundtracks. In addition, Dolby Digital 5.1 and DTS 5.1 recordings may have a Low Frequency Effects (LFE) channel – the .1 channel. This LFE channel, typically played by a subwoofer, is used for effects such as explosions or rumble. The use of the LFE channel will vary from soundtrack to soundtrack. Recordings that are not encoded in Dolby Digital or DTS do not have the LFE channel.

The following configuration instructions refer to LARGE and SMALL speakers, referring more to their desired bass configuration than their physical size. Specifically, use the LARGE setting for speakers that you want to play deep bass signals. Use the SMALL designation for speakers that would benefit from having their bass sent to more capable speakers. The bass management system redirects bass information away from all SMALL speakers and sends it to the LARGE speakers and/or the SUBWOOFER. It may be useful to think of LARGE as “full-range” and SMALL as “high-pass filtered.”

Four typical examples of the many possible system configurations illustrate the principles behind bass management:

- **Five LARGE speakers and subwoofer:** This system requires no bass redirection. All five speakers play the normal bass recorded in their respective channels. The subwoofer plays **only** the LFE channel bass. Depending on the soundtrack, there may be minimal use of the LFE channel, so the subwoofer would be under utilized. Meanwhile the normal bass places higher demands on the capabilities of the other speakers and the amplifiers driving them.
- **LARGE front, center, surround speakers, no subwoofer.** The normal bass from the front, center, and surround channels is played in its respective speakers. With no subwoofer, the LFE bass is redirected to all five LARGE speakers. This places significant demands on these speakers and their amplifiers, as they must

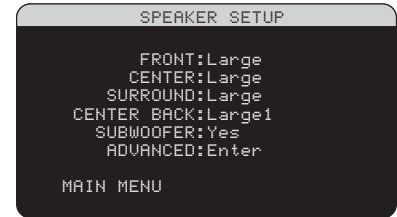
play their own normal bass plus the very demanding LFE bass.

- **All SMALL speakers and subwoofer.** The normal bass from all channels is redirected to the subwoofer, which also plays the LFE channel. The subwoofer handles ALL of the bass in the system. This configuration provides several benefits: deep bass is played by the speaker most suited to do so, the main speakers may play louder with less distortion, and the need for amplifier power is reduced. This configuration should be used with bookshelf-size or smaller main speakers. It should also be considered in some cases with floorstanding front speakers. This configuration is advantageous when driving the system with moderate power amplifiers.
- **LARGE front speakers, SMALL center and surround speakers, and a subwoofer.** The normal bass from the SMALL center and surround speakers is redirected to the LARGE front speakers and the subwoofer. The LARGE front speakers play their own normal bass plus the redirected bass from the SMALL speakers and LFE bass. The subwoofer plays the LFE bass plus the redirected bass from all of the other channels. This might be an appropriate configuration with a pair of very capable front speakers driven by a large power amplifier. A potential disadvantage with mixed LARGE and SMALL configurations is that the bass response may not be as consistent from channel to channel as it might be with the all SMALL configuration.

**NOTE:** As an alternative configuration with a satellite/subwoofer package as the front speakers, follow the speaker manufacturer’s instructions, connecting the high-level inputs of the powered subwoofer directly to the front speaker outputs of the RSX-03 and connecting the satellites to the subwoofer’s own crossover. In this arrangement, the speakers would be classified as LARGE and the subwoofer setting would be OFF for all surround modes. No information is lost during playback because the system redirects bass information to the front LARGE speakers. While this configuration ensures proper satellite speaker operation by using the speaker’s own cross-

overs, it has some disadvantages in terms of system calibration and would generally not be the preferred configuration.

## Speaker Setup



The SPEAKER SETUP menu is used to configure the RSX-03 for use with your specific loudspeakers and to determine the bass management configuration as described in the previous overview. The menu is accessed from the MAIN menu.

The following speaker options are available:

**FRONT SPEAKERS (small/large):** Use the LARGE setting to have the front speakers play low bass (full-range). Use the SMALL setting to redirect normal bass away from these speakers to a subwoofer (high-pass filtered).

**CENTER SPEAKER(S) (large/small/none):** Use the LARGE position (not available with SMALL front speakers) to have the center speaker play low bass (full-range). Use the SMALL position if your center channel speaker has limited low frequency capability, or if you prefer that the bass be sent to the subwoofer (high-pass). Select the NONE setting if your system does not have a center channel speaker (the surround modes will automatically divide all center channel information equally between the two front speakers, creating a phantom center channel).

**SURROUND SPEAKERS (large/small/none):** Select the LARGE setting (not available with SMALL front speakers) to have the surround speakers play low bass (full-range). If your rear speakers have limited bass capability or if you would prefer that the bass go to a subwoofer, use the SMALL setting (high-pass). If your system has no rear surround speakers, select the NONE setting (surround channels are added to the front speakers so none of the recording is lost).

**CENTER BACK SPEAKER(S) (large1/large2/small1/small2/none):** Some systems have one or two additional center back surround speakers. Select the LARGE settings (not available with SMALL front speakers) to have your center back speaker(s) play low bass. Use LARGE 1 if you have one center back speaker (6.1) or LARGE 2 (7.1) if you have two center back speakers (7.1). If your center back speakers have limited bass capability or if you would prefer that the bass go to a subwoofer, use the SMALL setting (SMALL1 for one speaker, SMALL2 for two speakers). If your system has no center back speakers, select the NONE setting. With center back speakers, the Rotel XS eXtra surround, Dolby Digital EX, DTS-ES, Dolby Pro Logic II, DTS Neo:6 or other decoders will provide center back signals for any surround mode.

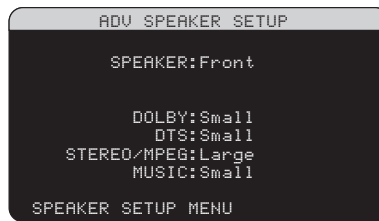
**NOTE:** To use center back speakers with the RSX-03 requires the use of an optional power amplifier to drive the front or center back speakers.

**SUBWOOFER (yes/no/max):** The YES setting is the standard setting if your system has a subwoofer. If your system does not have a subwoofer, select NO. Select the MAX setting for maximum bass output with normal bass being duplicated by both the subwoofer and any LARGE speakers in the system.

**ADVANCED:** Speaker configuration is generally a global setting for all surround modes and need only be done once. However, for special circumstances, the RSX-03 provides the option of setting the speaker configuration independently for each of four surround modes. Select the ADVANCED line on the menu and press ENTER to go to the ADVANCED SPEAKER SETUP menu described in the following section.

To change a setting on the SPEAKER SETUP menu, place the highlight on the desired line using the UP/DOWN buttons and use the +/- buttons to toggle through the available settings. To return to the MAIN menu, press the ENTER button. Press the MENU/OSD button on the remote to cancel the display and return to normal operation.

## Advance Speaker Setup



In most cases, the standard speaker configuration described above is a global setting and can be used for all surround modes. However, the RSX-03 provides the capability to customize these settings for four different surround modes: Dolby, DTS, Stereo, and Music. For example, you could set up the Dolby and DTS modes for 5.1 channel sound, while the Stereo mode changes to a 2-speaker setup with or without a subwoofer.

**NOTE:** In most systems, the default settings on this menu will provide the most predictable results and most users will not need to change any settings. You should fully understand bass management and have a specific reason for needing a custom configuration before changing these settings. Otherwise, skip to the following topic, SUBWOOFER SETUP.

The available settings on the ADVANCED SPEAKER SETUP menu are as follows:

**SPEAKER (front/center/surround/center back/subwoofer):** Select the set of speakers to be configured with custom settings.

**DOLBY (large/small/none):** Sets the current speaker (shown in the first line) to LARGE, SMALL, or NONE, overriding the master setting from the SPEAKER SETUP menu. This setting will ONLY take effect with Dolby Digital or Dolby Pro Logic II decoding.

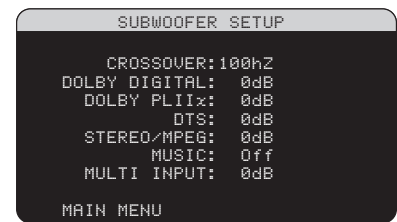
**DTS (large/small/none):** The same options described for Dolby above, except these settings ONLY take effect with DTS and DTS Neo:6 decoding.

**STEREO/MPEG (large/small/none):** The same options described for Dolby above, except these settings ONLY take effect in STEREO surround mode.

**MUSIC (large/small/none):** The same options described for Dolby above, except these settings ONLY take effect with any of the DSP MUSIC surround modes.

**NOTE:** When the front speakers are set to use the master crossover frequency on the ADVANCED SPEAKER SETUP menu, the surround mode specific "large/small/none" settings are not available for the other speakers. These speakers will use the setting determined in the basic SPEAKER SETUP menu.

## Subwoofer Setup



The SUBWOOFER SETUP menu allows selection of the subwoofer crossover frequency and independent adjustment of subwoofer level for each surround mode.

**CROSSOVER (40Hz/60Hz/80Hz/100Hz/120Hz/OFF):** This setting specifies a low-pass filter for the subwoofer and a corresponding high-pass filter for all SMALL speakers in the system at the selected frequency. To adjust the crossover frequency, highlight the CROSSOVER line using the UP/DOWN buttons. Then, use the +/- buttons to choose the crossover point. The 80Hz or 100Hz crossover points are the most common in home theater systems and should be used unless you have a specific reason to choose a different crossover point based on your specific speakers.

The OFF setting sends a full-range signal to your subwoofer so that you can use its built-in low-pass filter. With the OFF setting, a 100 Hz high-pass filter is activated for all SMALL speakers in the system.

**DOLBY DIGITAL:**

**DOLBY PLIIX:**

**DTS:**

**STEREO/MPEG:**

**MUSIC:**

**MULTI INPUT:**

These six lines allow you to override the master subwoofer level setting as determined on the TEST TONE menu (see below) for each specific surround mode. When going to the SUBWOOFER SETUP menu from the MAIN menu, the current surround mode is automatically highlighted. Use the +/- buttons to adjust the subwoofer level for the current surround mode. The options are OFF (which

turns off the subwoofer for that mode) and a range of adjustments from -9dB to +9dB and MAX (+10dB). A setting of 0dB means that the specified surround mode will use the master subwoofer level. Any other setting is an offset to the master setting. For example, an adjustment of -2dB for a particular surround mode means that the subwoofer level will be 2dB quieter than the master subwoofer level when that surround mode is selected. Use these subwoofer level settings to adjust the relative bass output of various surround modes. Changing the master subwoofer level will increase or decrease the level for all surround modes.

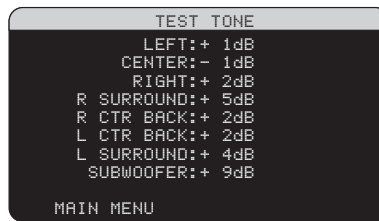
**NOTE:** Only the current surround mode can be adjusted on this menu. You will need to change surround modes using the front panel or remote buttons to adjust a different mode.

We recommend starting with the settings for all surround modes at the default 0dB setting during the test tone calibration of the system and for a period of familiarization after that. As you listen to a variety of source material over time, you may notice that certain surround modes consistently produce too much or too little bass from the subwoofer. If so, then use these menu settings to customize each surround mode. In general, if the master subwoofer level is set properly (i.e. not too loud), individual settings for each surround mode should not be necessary.

**NOTE:** In Dolby Digital and DTS recordings, the LFE channel is used to produce spectacular low bass effects, placing considerable demands on your subwoofer system. If you hear distortion or other signs of distress from your subwoofer at loud listening levels, you may consider reducing the subwoofer level for the Dolby Digital and/or DTS surround modes. In other surround modes, there is no LFE channel and the subwoofer will only reproduce redirected bass from the other channels, which is not as likely to tax the subwoofer.

To return to the MAIN menu, press the ENTER button. Press the MENU/OSD button on the remote to cancel the display and return to normal operation.

## Test Tone



This menu uses filtered pink noise test tones to set equal volume levels for all speakers (left front, center, right front, right surround, center back, left surround, and subwoofer) to ensure proper surround sound reproduction. Setting the output levels using the test procedure provides the most accurate adjustment so that digital surround sound material will be reproduced as it was intended and is a critical step in calibrating the system.

**NOTE:** If you have configured your system to use two center back speakers, there will be an additional line in the menu, giving you the ability to independently adjust the CENTER BACK 1 and CENTER BACK 2 speakers.

To access this menu and perform the test tone calibration, you can be in any surround mode except BYPASS with any input except the MULTI INPUT. Enter the OSD menu system and select TEST TONE from the MAIN MENU to reach this screen.

When you enter the TEST TONE menu, you will hear a test tone coming from the highlighted speaker. Highlight different speakers by moving the cursor to the desired line using the UP/DOWN buttons. The test tone will shift accordingly to the selected speaker.

Seated in the normal listening location, shift the test tone to the various speakers. Using the one speaker as a reference, listen for any speakers that are noticeably louder or quieter. If so, adjust that speaker's levels up or down (in 1dB increments) using the +/- buttons. Continue switching among the speakers and adjusting until all speakers are the same volume.

To return to the MAIN menu, press the ENTER button. Press the MENU/OSD button on the remote to cancel the menu display and return to normal operation.

## Calibration with an SPL meter:

Calibrating the system with an SPL meter, rather than by ear, provides more precise results and improves the system's performance significantly. Inexpensive SPL meters are widely available and the procedure is quick and easy.

Both Dolby and DTS specify a standard calibration level for all theaters to ensure that soundtracks can be played at the volume level intended by the director of the film. This reference level should result in spoken dialog played at a realistic level for normal speech with the loudest peaks in any single channel at about 105dB. The RSX-03's test tones are generated at a precise level (-30dBFs) relative to the loudest possible digitally recorded sound. At the Dolby or DTS reference level, these test tones should produce a 75dB reading on an SPL meter.

Set the meter to its 70dB dial setting with SLOW response and C-weighting, held away from your body at your listening position (mounting the SPL meter on a camera tripod makes this easier). You can point the SPL meter at each speaker as it is being measured; however, positioning the meter in a fixed position pointing at the ceiling is easier and probably produces more consistent results.

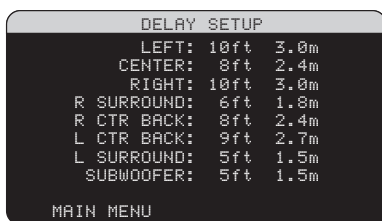
Increase the master volume control on the RSX-03 until the meter reads 75dB (+5dB on the meter scale) when playing the test tone through one of the front speakers. Then, use the individual channel adjustments on the TEST TONE menu to adjust each of the individual speakers, including the subwoofer, to the same 75dB on the SPL meter.

**NOTE:** Due to meter weighting curves and room effects, the actual level of the subwoofer may be slightly higher than you measure. To compensate, Dolby suggests setting the subwoofer several dB lower when calibrating with an SPL meter (i.e. set the subwoofer to read 72dB on the meter instead of 75dB). Ultimately, the proper subwoofer level must be determined by personal taste and some listeners prefer to set it above 75dB for film soundtracks. Exaggerated bass effects come at the expense of proper blending with the main speakers and place stress on the subwoofer and its amplifier. If you can localize

bass from the subwoofer, the subwoofer level may be too high. Music can be useful for fine-tuning the subwoofer level as excessive bass is readily apparent. The proper setting will generally work well for music and movie soundtracks.

Remember the setting of the master volume control used during this calibration. To play a Dolby Digital or DTS soundtrack at the reference volume level, simply return to that volume setting. Note that most home theater listeners find this setting to be excessively loud. Let your own ears be the judge for deciding how loud to playback movie soundtracks and adjust the master volume control accordingly. Regardless of your listening levels, using an SPL meter to calibrate equal levels for all speakers in the system is strongly recommended.

## Delay Setup



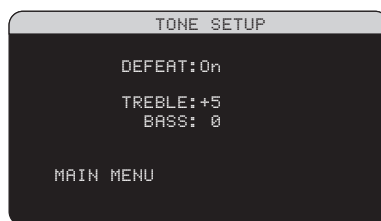
The DELAY SETUP menu, which is reached from the MAIN menu, allows you to set the delay for individual speakers. This ensures that the sound from each speaker arrives simultaneously at the listening position, even when the speakers are not all placed at equal distances from the listener. Increase the delay to speakers located closer to the seating area and decrease the delay to speakers located farther from the seating area.

The RSX-03 makes setting the delay time for each speaker very easy. Simply measure the distance (in feet or meters) from your seating position to each speaker in your system. Set the measured distance in the line for each speaker configured in your system and provides a range of settings up to 50 feet (15meters) in 1 foot (0.3 m) increments with each increment equivalent to an additional delay of 1ms.

**NOTE:** The delay setting for both front speakers should be the same. The delay distance for the center speaker or subwoofer cannot be set more than 5 feet shorter than the front speakers. The difference between the closest and farthest speakers should not exceed 15 feet. The front speakers must always be the longest distance. The menu calculates the required delay and will not allow settings outside these limits.

To change a setting, place the highlight on the desired line using the UP/DOWN buttons and use the +/- buttons to increase or decrease the delay setting. To return to the MAIN menu, press the ENTER button. Press the MENU/OSD button on the remote to cancel the display and return to normal operation.

## Tone Setup



The TONE SETUP menu allows digital adjustment of the bass and treble response of the front speakers in the system. For example, if your system sounds too bright, you could reduce the treble.

**DEFEAT (on/off):** Selecting the ON setting defeats the tone adjustment, bypassing the tone processing entirely for that speaker or group of speakers.

**TREBLE:** Adjusts the extreme high frequency slope over a range of -10dB (MIN) to +10dB (MAX). Negative number settings reduce the high frequency output; positive number settings increase it.

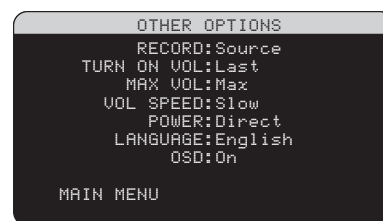
**BASS:** Adjusts the extreme low frequency slope over a range of -10dB (MIN) to +10dB (MAX). Negative number settings reduce the low frequency output; positive number settings increase it.

The tone adjustments are designed to work at the frequency extremes and be relatively subtle so that they do not have a negative impact on midrange sounds. We recommend acclimating to the sound of the system with the tone adjustments defeated and then making adjustments, if necessary, to address specific speaker response issues or personal taste.

**NOTE:** You can also make temporary tone adjustments using the TONE and UP/DOWN buttons on the remote. See the Tone Settings section of this manual for details.

# Miscellaneous Settings

## Other Options



This OTHER OPTIONS menu, accessed from the MAIN menu, provides access to several miscellaneous settings as follows:

**RECORD:** Select which source signal to be sent to the recording outputs by choosing one of the input sources. The options are: PHONO, CD, TAPE, TUNER, VIDEO 1-4, and SOURCE. You can either select a specific component or select SOURCE which will send the signal to the record outputs from whatever source is selected for listening.

**TURN ON VOL:** Specifies a default volume level to be used each time the RSX-03 is activated. You can select LAST to have the RSX-03 power up with the last previously used volume setting. Or, you specify a volume from MIN (full mute) to MAX, in 1 dB increments. Note that this setting cannot exceed the MAX VOL established in the next line of the menu.

**MAX VOL:** Specifies the maximum volume level for the RSX-03. The volume cannot be adjusted above this level. Settings range from MIN to MAX, in 1 dB increments.

**VOL SPEED:** Provides three options for how rapidly the volume control responds to inputs. The SLOW setting adjusts the volume 1dB with each control input. The MID setting adjusts in 2dB increments. The FAST setting adjusts in 3dB increments.

**POWER:** This setting determines how the RSX-03 powers up.

With the default **STANDBY** setting, the unit powers up in standby mode when AC is applied and the rear panel POWER button is ON. The unit must be activated using the

front panel STANDBY button or the remote ON/OFF buttons.

With the **DIRECT** setting, the unit is fully activated when AC power is applied and the rear panel POWER button is ON; however, it may be put in standby mode using the front panel STANDBY button or the remote ON/OFF buttons.

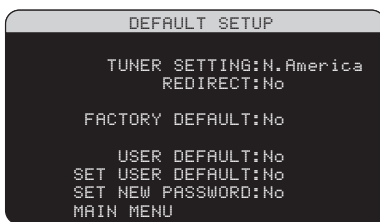
In **ALWAYS-ON** mode, the unit remains fully active whenever AC is present and the rear panel POWER button is ON; the front panel STANDBY button and the remote ON/OFF buttons are disabled and the unit cannot be put in standby mode.

**LANGUAGE:** Selects a language for the On Screen Display.

**OSD ON/OFF:** Select whether or not status information (such as the volume setting) is displayed on the TV monitor.

Change settings on the OTHER OPTIONS menu by highlighting the desired line using the UP/DOWN buttons and using the +/- buttons to step through the available settings. To return to the MAIN menu, press the ENTER button. Press the MENU/OSD button on the remote to cancel the display and return to normal operation.

## Default Setup



The DEFAULT SETUP menu provides access to six functions:

- Set the tuning function for North American or European frequencies.
- Redirect the front channel amplifiers to power front or center back speakers.
- Restore all features and settings to the original FACTORY DEFAULT settings.
- Activate the memorized USER DEFAULT settings.
- Memorize a custom group of settings as a USER DEFAULT.

**To change the TUNER setting:** Place the highlight on the TUNER SETTING line using the UP/DOWN buttons and use the +/- buttons to change the setting to N. AMERICA or EUROPE. Then, move the highlight to the FACTORY DEFAULT line and change the setting to YES as described above. The screen will change to a confirmation screen. Press the ENTER button to proceed with resetting the FACTORY DEFAULT settings and changing the TUNER SETTING. To return to the MAIN menu without resetting the FACTORY DEFAULT and TUNER settings, change the entry to NO and press the ENTER button.

**To change the REDIRECT setting:** Place the highlight on the REDIRECT line using the UP/DOWN buttons and use the +/- buttons to change the setting to NO (for powering front speakers) or FRONT>CB (for powering center back speakers). If you redirect the internal amplifiers, then you will need a separate stereo amplifier to drive your front speakers. The CB/FRONT preamp outputs change according to the REDIRECT setting.

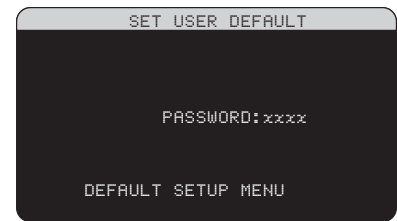
**NOTE:** Changing the default TUNER SETTING or REDIRECT SETTING can only be done at the same time as restoring the FACTORY DEFAULT settings. Therefore, we recommend selecting your default TUNER and REDIRECT settings and resetting to the FACTORY DEFAULT settings as the first step in configuring the unit, before you change or memorize any other configuration settings.

**To restore the FACTORY DEFAULT settings:** Place the highlight on the FACTORY DEFAULT line using the UP/DOWN buttons and use the +/- buttons to change the setting to YES. Press the ENTER button to proceed with resetting the FACTORY DEFAULT settings. The unit will power off and then on, with the factory settings restored. To return to the MAIN menu without resetting the FACTORY DEFAULT settings, change the entry to NO and press the ENTER button.

**NOTE:** Resetting to factory default settings will erase all stored settings including delay settings, speaker settings, balance settings, input settings and more. You will lose ALL system configuration settings. Be certain that you wish to do so before resetting the factory defaults.

**To memorize USER DEFAULT settings:** Many of the current configuration settings can be stored as a USER DEFAULT, which can be activated at any time from this menu screen. To save the current settings as a USER DEFAULT:

1. Place the highlight on the SET USER DEFAULT line using the UP/DOWN buttons and use the +/- buttons to change the setting to YES. Press the ENTER button. An ENTER PASSWORD screen appears.



2. Enter the four-digit password using the numeric buttons on the remote. If the password is entered correctly, the current settings are saved as a new USER DEFAULT.

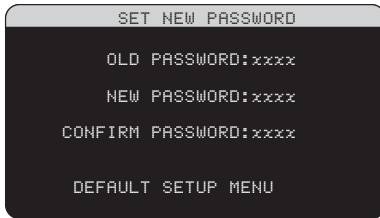
**NOTE:** If you have not changed the password, you can use the initial password "0000".

3. To return to the DEFAULT SETUP menu without saving any changes, use the UP/DOWN buttons to highlight DEFAULT SETUP MENU and press ENTER.

**NOTE:** If there is insufficient memory to store a USER DEFAULT configuration file, the SET USER DEFAULT option will not be available.

**To activate memorized USER DEFAULT settings:** After you have stored a USER DEFAULT configuration file, you can activate those settings at any time by placing the highlight on the USER DEFAULT line using the UP/DOWN buttons. Use the +/- buttons to change the setting to YES. Press the ENTER button to proceed with activating the USER DEFAULT settings. To return to the MAIN menu without activating the USER DEFAULT settings, change the entry to NO and press the ENTER button.

**To change the PASSWORD:** Place the highlight on the SET NEW PASSWORD line using the UP/DOWN buttons and use the +/- buttons to change the setting to YES. Press the ENTER button. The SET NEW PASSWORD screen appears.



1. Enter the old 4-digit password on the first line. If you are changing the password for the first time, enter the initial factory password "0000" here.
2. Enter the new 4-digit password of your choice on the second line.
3. Re-enter the new password on the third line to confirm.
4. To return to the DEFAULT SETUP menu without saving any changes, use the UP/DOWN buttons to highlight DEFAULT SETUP MENU and press ENTER.

**NOTE:** If you forget your password, you can enter the universal password "8888" as the old password, thus allowing you to choose a new password.

## MORE INFORMATION

### Troubleshooting

#### The unit does not turn on.

- Make sure the power cord is plugged into the rear panel and a live AC wall outlet.
- Make sure the rear panel POWER switch is in the ON position.

#### No sound from any input.

- Make sure that MUTING is off and VOLUME is turned up.
- Make sure that speakers are wired correctly.
- Make sure source inputs are connected and configured correctly.

#### No sound from digital sources.

- Make sure that digital input connector is assigned to the proper source input and that the source input is configured to use the digital input rather than an analog input.
- Check the configuration of the DVD player to ensure that the bitstream and/or DTS digital output is activated.

#### No sound from some speakers.

- Check all power amp and speaker connections.
- Check *Speaker Configuration* settings in the *Setup* menus.

#### No video output on TV monitor.

- Make sure that the TV monitor is connected properly. Component video outputs can only send video from Component video sources to the TV. Composite video connections can only send video from composite sources and S-Video connections can only send video from S-Video sources.
- Make sure the NTSC/PAL switch is set properly.

#### OSD menus are not displayed on TV Monitor.

- Go to Setup menus and configure OSD menus to be displayed on the TV monitor.
- In some PAL systems, the menus may not be displayed unless there is an active video signal.
- When using progressive scan video signals, make sure that the progressive mode is selected for that video input in the OTHER OPTIONS setup menu. This allows the display of the main setup OSD menus on the TV monitor by interrupting the progressive scan video signal and restoring it after the OSD menus are cancelled. The temporary information screens (such as volume, etc.) cannot be displayed on the TV monitor when progressive scan signals are being used.

#### Video and Audio do not match.

- Check that the proper video source is selected for each input.

#### Clicking or popping sounds when switching inputs.

- The unit uses relay switching to preserve maximum sound quality. The mechanical clicking of the relays is normal.
- During switching, it may take a split second for digital signals to be recognized and properly decoded. Rapid repeated switching between inputs or settings can result in clicks or pops from the speakers as the unit attempts to lock on to the rapidly changing signals. This causes no harm.

#### Controls do not operate.

- Make sure that fresh batteries are installed in the remote.
- Make sure that the IR sensor on the front panel is not blocked. Aim the remote at the sensor.
- Make sure the sensor is not receiving strong IR light (sunlight, halogen lighting, etc.)
- Unplug the unit from the AC outlet, wait 30 seconds, and plug it back in to reset.



## Hum and Noise

In most installations, the RSX-03 will provide extremely quiet operation. However, in any audio/video system with multiple components, there is the potential for hum and noise to be picked up and amplified by the system. There are two types of hum and noise. The first is a higher pitched "interference", often caused by faulty light dimmer switches or fluorescent fixtures. The second is a low pitched 50 Hz or 60 Hz "hum", usually the result of ground loops. Ground loops occur with multiple electrical paths back to the ground connector on the AC power outlet, for example, when two components are plugged into a wall outlet and connected together with audio or video signal cables. Ground loop problems can be difficult to troubleshoot and/or solve.

### If you hear a higher pitched noise or "buzz":

- Move from room to room turning off and on all fluorescent lighting fixtures. If the noise disappears, you have identified the faulty fixture. Replacing the bulb or ballast may solve the problem.
- Test all lighting dimmers in the house. If turning off a dimmer cures the noise, you have identified the faulty dimmer.

### If you hear a low pitched up, test for ground loops:

- If the noise occurs only with a turntable, make sure the ground wire from the turntable is properly connected to the ground screw on the back of the RSX-03.
- Try removing one component at a time from the system, by removing all audio and video cables to the component. If the noise stops, that component may be introducing a ground loop into the system.
- Contact your authorized Rotel retailer for expert advice on solving ground loop problems. Plugging all of the components into a dedicated AC power strip with line filtering may help. The use of special isolation power supply or transformer may be required.
- Do **not** defeat the ground pin on the power cords from any component with a three-prong AC plug.

## Specifications

### Audio

#### Continuous Amplifier Power (five channels driven)

40 watts/ch (20-20k Hz, <0.05% THD, 8 ohms)

#### Continuous Amplifier Power (two channels driven)

50 watts/ch (1 kHz, <1.0% THD, 8 ohms, DIN)

#### Total Harmonic Distortion

<0.09%

#### Intermodulation Distortion (60 Hz:7 kHz)

<0.05%

#### Frequency Response

10 Hz – 120 kHz,  $\pm 3$ dB (analog bypass)

10 Hz – 95 kHz,  $\pm 3$ dB (digital input)

20 Hz – 15 kHz,  $\pm 3$ dB (phono input)

#### Signal to Noise Ratio (IHF A-weighted)

95dB (line analog bypass)

92dB (Dolby Digital, dts) 0dBFS

70dB (Phono analog bypass)

#### Input Sensitivity/Impedance

Line Level: 200 mV/100K ohms

Phono Level: 2.5 mV/47K ohms

#### Preamp Output Level/Output Impedance

1.0 V / 1K ohms

#### Tone (Bass/Treble)

$\pm 10$ dB at 50 Hz/15 kHz

#### Decodable Digital Input Signals

Dolby Digital, Dolby Digital EX, DTS, DTS-ES, LPCM (up to 96K), HDCD, MP3, MPEG Multichannel

### Video

#### Frequency Response

3 Hz – 10 MHz,  $\pm 3$ dB

#### Signal to Noise Ratio

45dB

#### Input Impedance

75 ohms

#### Output Impedance

75 ohms

#### Output Level

1.0 volt

### FM Tuner

#### Usable Sensitivity

14.2dBf

#### Signal to Noise Ratio (at 65dBf)

70dBf

#### Harmonic Distortion (at 65dBf)

0.03%

#### Stereo Separation (1 kHz)

45dB

#### Output level

1 V

#### Antenna Input

75 ohms unbalanced

### AM Tuner

#### Sensitivity

500  $\mu$ V/m

#### Signal to Noise Ratio

40dBf

#### Output level

250 mV

#### Antenna Input

Loop Antenna

### General

#### Power Consumption

250 watts

78 watts (idle)

37 watts (standby)

#### Power Requirements (AC):

120 volts, 60Hz (USA version)

230 volts, 50Hz (CE version)

#### Weight

11.2 Kg/25.4 lb.

#### Dimensions (W x H x D)

435 x 121 x 410 mm

17.2" x 4.8" x 16.4"

#### Front Panel Height

(feet removed/for rack mount)

109 mm / 4.3"

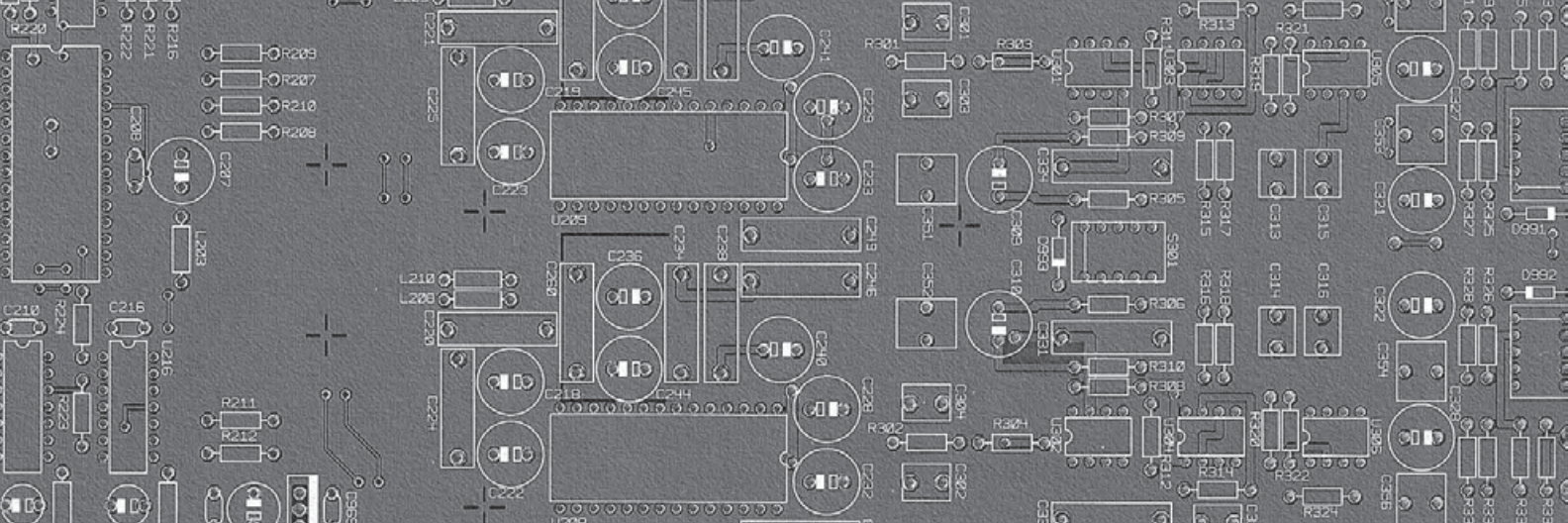
When sizing openings in custom cabinets, measure the unit to be installed and/or allow at least 1 mm clearance on all sides for unit to unit tolerances.

All specifications are accurate at the time of printing. Rotel reserves the right to make improvements without notice.

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**ROTEL**

**The Rotel Co. Ltd.**

10-10 Shinsen-Cho  
Shibuya-Ku  
Tokyo 150-0045  
Japan  
Phone: +81 3-5458-5325  
Fax: +81 3-5458-5310

**Rotel of America**

54 Concord Street  
North Reading, MA 01864-2699  
USA  
Phone: +1 978-664-3820  
Fax: +1 978-664-4109

**Rotel Europe**

Dale Road  
Worthing, West Sussex BN11 2BH  
England  
Phone: +44 (0)1903 221600  
Fax: +44 (0)1903 221525

**Rotel Deutschland**

Kleine Heide 12  
D-33790 Halle/Westf.  
Germany  
Phone: +49 05201-87170  
Fax: +49 05201-73370

[www.rotel.com](http://www.rotel.com)