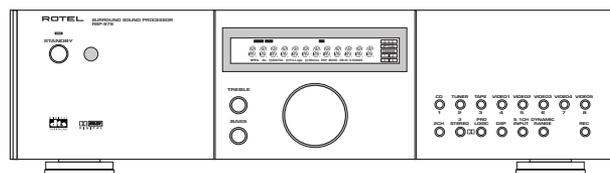


ROTEL

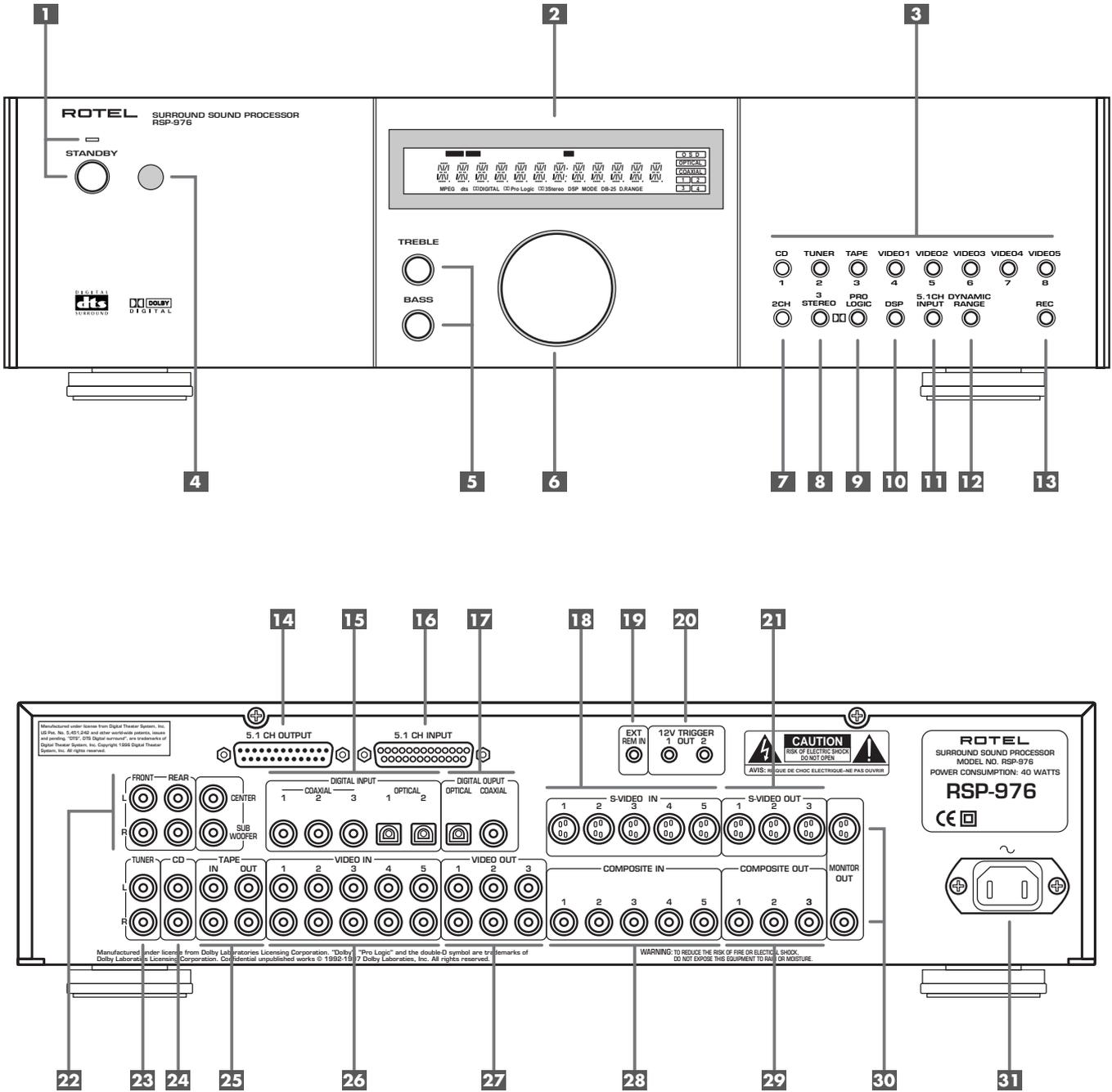
Owner's Manual

RSP-976

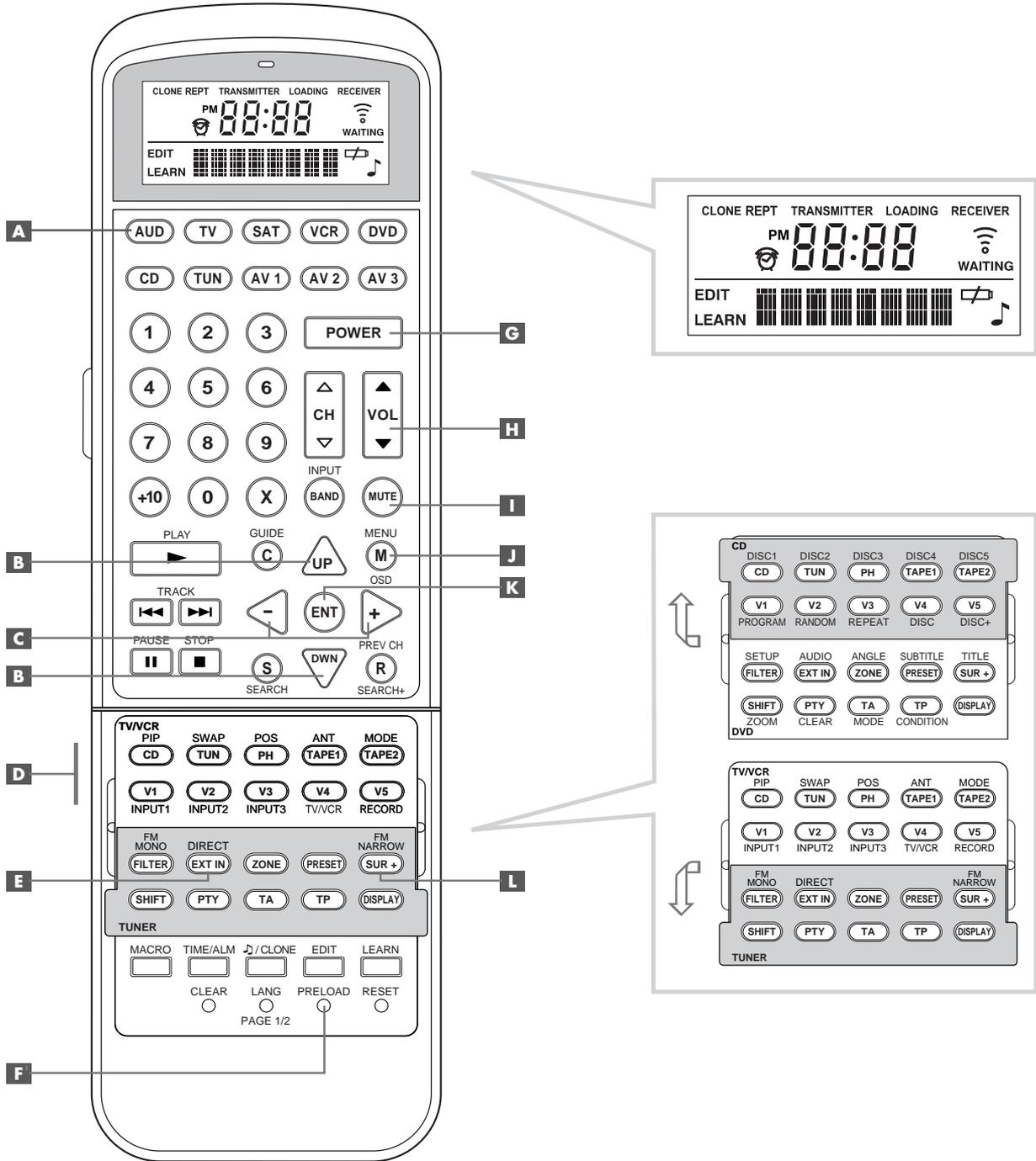
Surround Sound Processor



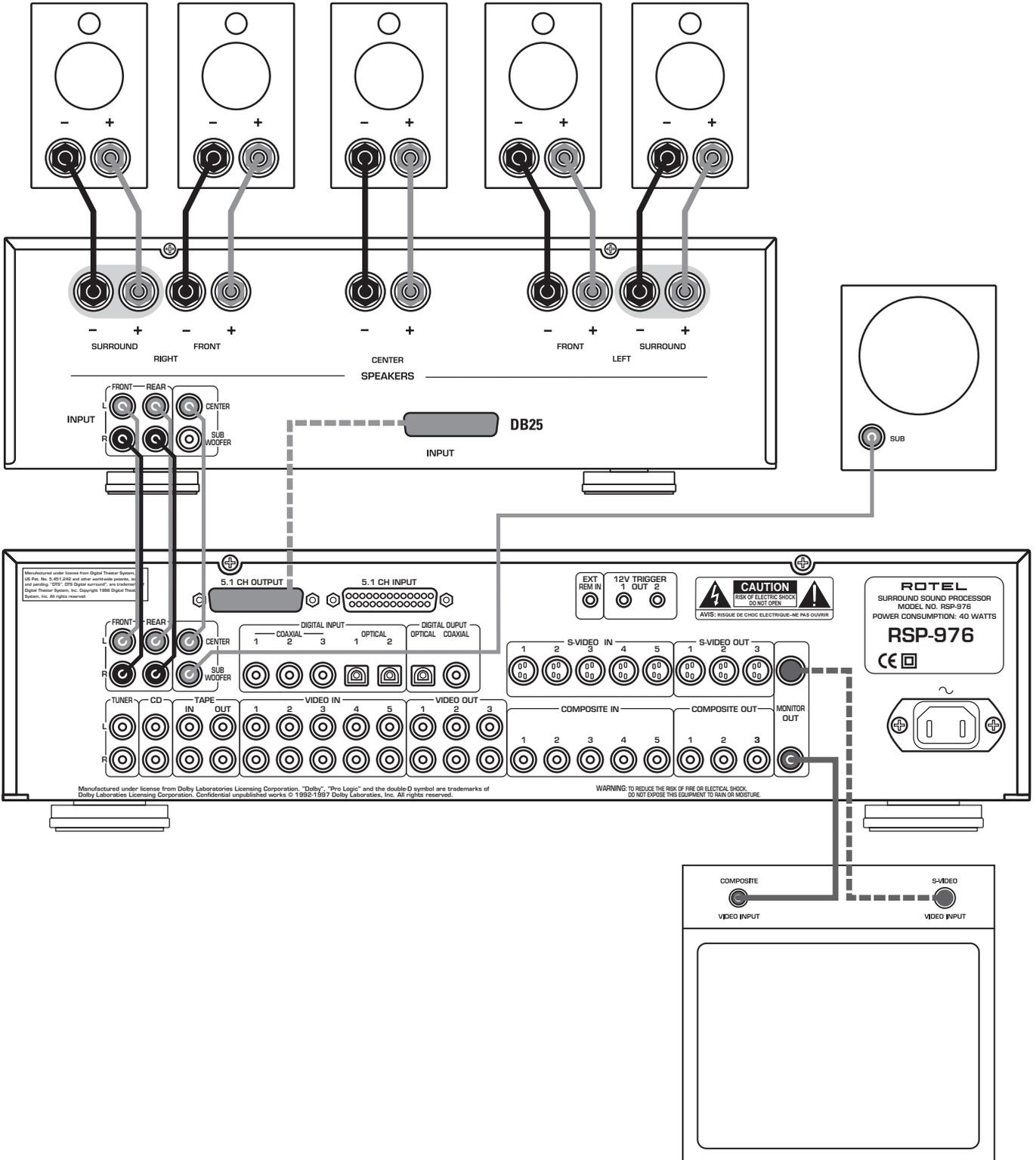
1: Controls and Connections



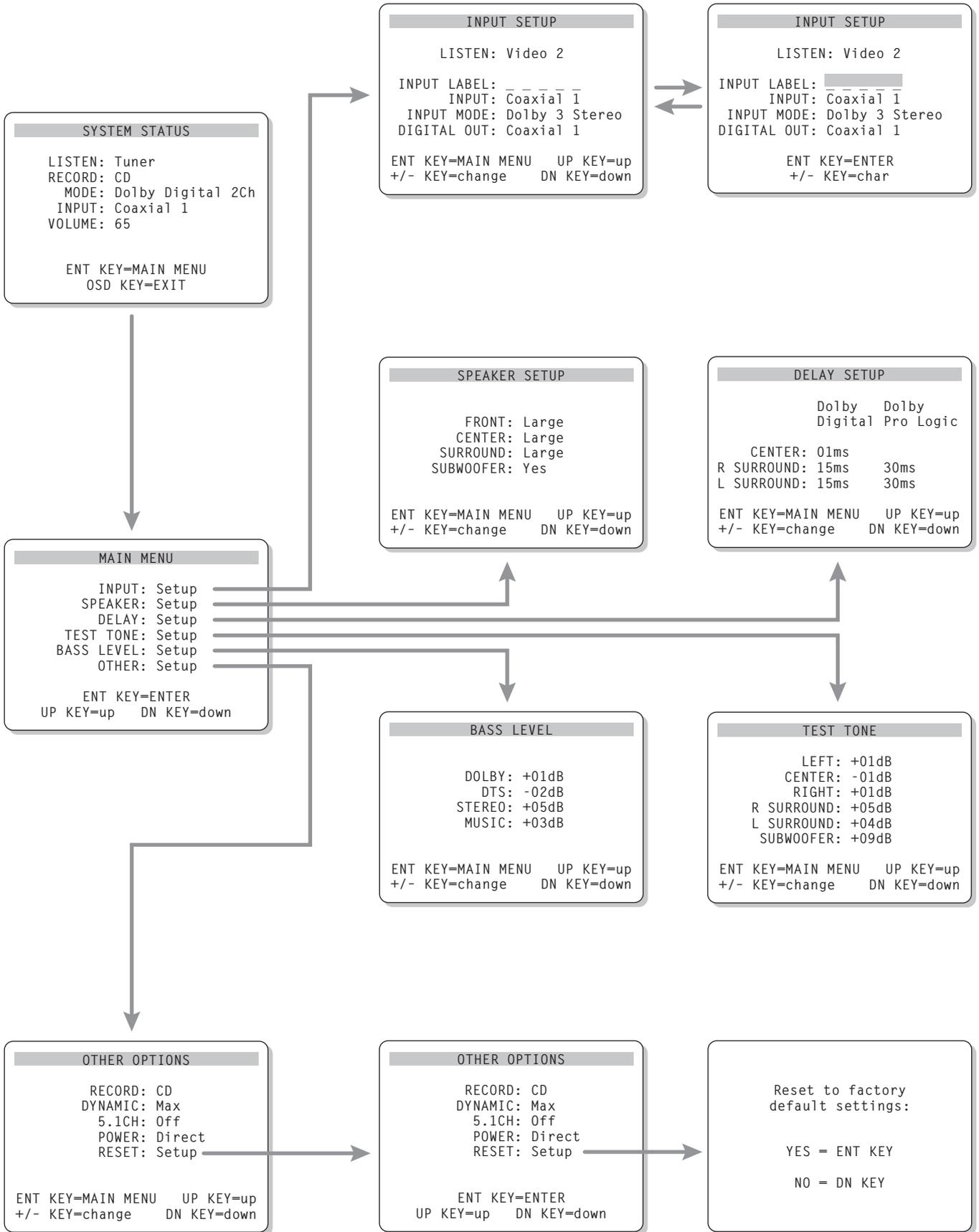
2: RR-969 Remote

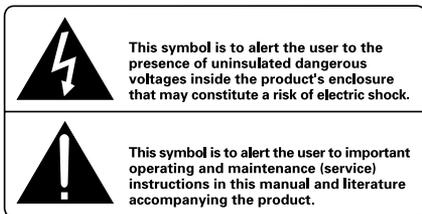
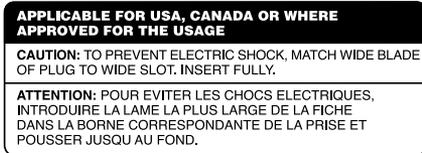


3: Outputs



5: On-Screen Menus





Cautions

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 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.

You must allow 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 of the unit. (USA: 115 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 in any way. Do not attempt to defeat grounding and/or polarization provisions. The cable should be connected to a 2-pin polarized wall outlet, matching the wide blade of the plug to the wide slot of the receptacle. Do not use extension cords.

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

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

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



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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 30 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 hours of enjoyment.

Getting Started

Thank you for purchasing the Rotel RSP-976 Surround Sound Processor. The RSP-976 combines a digital audio/video processor to decode Dolby® Pro Logic® analog and Dolby Digital® and DTS® digital surround sound signals with a full-featured audio/video control center for analog and digital components.

RSP-976 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® decoding for analog sources. Dolby Digital® and DTS® decoding for 5.1 channel digital sources
- 5.1 channel input for outboard adaptor and future upgradeability
- User friendly ON-SCREEN DISPLAY with programmable labels for video components.
- Comprehensive digital and analog input and output connections for audio and video sources, including digital inputs, composite video inputs and S-Video inputs
- Universal learning remote control to operate the RSP-976 and nine other components.

Unpacking

Remove the unit carefully from its packing. Find the remote control and other accessories. Save the box as it will protect the RSP-976 if you move or need to return it for maintenance.

Placement

Place the RSP-976 on a solid, level surface away from direct sunlight, heat, moisture, or vibration.

Place the RSP-976 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 RSP-976 can generate heat during normal operation. Do not block ventilation openings. Allow a minimum of 10 cm (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 RSP-976. Don't let any liquid fall onto into the unit.

RR-969 Remote Control

The RSP-976 includes a full-function learning remote control that can operate the RPS-976 plus 9 other components.

A separate manual, included with the remote, gives detailed instructions on programming and using the RR-969 to replace all of the remote controls in your system. To avoid duplication, we provide only basic information about using the RR-969 to operate the RSP-976 in this manual.

Most of the RR-969 functions duplicate the front panel controls. For that reason, we will cover the operating controls on the remote in the appropriate sections of 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.

Operating the RR-969 **A**

To operate the RSP-976 with the remote, make sure that the AUDIO mode is active by pressing the AUD button **A** on the remote before you start. The AUDIO mode will stay active until another DEVICE button is pressed.

Programming the RR-969 **F**

The RR-969 is preprogrammed to operate the RSP-976. Should the AUDIO command set on your RR-969 not operate the RSP-976, the programming may have been changed. To restore the RSP-976 programming, press the recessed PRELOAD button **F** on the remote with the tip of a ballpoint pen.

NOTE: Pushing the PRELOAD button will erase all custom programming and learned commands, restoring the RR-969 to its factory condition.

Basic Controls

We suggest you look over the RSP-976's front and rear panels before you start connecting other components. The following explanations will help you get familiar with the unit's connections, features, and controls.

Most functions are duplicated on the front panel and on the remote. A few are found only on one or the other. Throughout this manual, numbers in gray boxes refer to the RPS-976 illustration at the front of this manual. Letters refer to the RR-969 remote illustration. When both appear, the function is found on both the RSP-976 and the remote. When only one appears, that function is found only on the RSP-976 or the remote.

STANDBY/POWER Switch **1 G**

The STANDBY switch on the RPS-976 and the POWER switch on the remote turn the unit on or off. When turned off, minimal power is still supplied to memory circuits to preserve settings. When the unit is activated, a front panel STANDBY LED lights.

Remote Sensor **4**

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

Front Panel Display **2**

The fluorescent display in the upper portion of the RSP-976 provides status information used in operating the unit.

Volume Control **6 H**

The VOLUME control adjusts the level of all output channels. Rotate the front panel control clockwise to increase the volume, counterclockwise to decrease. The RR-969 remote has VOLUME UP and DOWN buttons.

When you adjust the volume, a digital readout appears in the front panel display and the new setting appears on your TV monitor.

MUTE Button **I**

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.

Tone Controls **5**

BASS and TREBLE controls increase or decrease the audio signal's low and high frequency content respectively. Rotate clockwise to increase output and counterclockwise to reduce. The center detent removes each control from the audio path for maximum signal integrity. The front panel display and ON-SCREEN DISPLAY show tone control settings as you adjust them.

MENU Button **J**

Push this button on the remote to turn on the ON-SCREEN MENU system. If the menu system is already visible, push this button to cancel the Display.

NOTE: The ON-SCREEN DISPLAY will automatically be turned off following 20 seconds without any control activity.

ENTER Button **K**

The ENTER button is used to confirm and memorize various settings in the setup and operation of the RSP-976. Its use is described in detail in the relevant sections.

Input Controls

Input Source Buttons **3 D**

Ten front panel buttons directly select an audio or video input source (a CD player, a tuner, a VCR, etc.). Push any of these buttons to select the desired source. You will hear this source and, if you have selected a video source, see its picture on your TV monitor.

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

NOTE: The five video inputs accept either analog audio/video signals or digital signals including Dolby Digital and DTS surround material. If a digital signal is present when the source is selected, the digital input is automatically activated and the proper surround choice enabled. If no digital signal is present or if the auto sensing has been disabled, the analog inputs are selected. **[??? - Is this true? Will the RPS-976 revert to analog inputs if no digital signal is present?]**

5.1 CH Input **11** EXT IN **E**

The 5.1 CH button (or the EXT IN button on the remote) overrides all other inputs (both analog and digital) and connects an external digital adaptor to the RSP-976's VOLUME control and outputs. This provides an upgrade path to future software standards. When activated, the RSP-976's digital processing is bypassed. An indicator appears in the front panel display and ON-SCREEN DISPLAY.

REC Button **13**

The RPS-976 can record from any source input to a VCR connected to the VIDEO 1, 2 or 3 outputs – while you are listening to a different input source. To select an input source for recording, press the REC button. You then have 5 seconds to press one of the INPUT SOURCE buttons to select the signal you wish to record. Your selection will appear in the display. After you have made your selection (or if more than five seconds passes), the INPUT SOURCE buttons return to their normal function – selecting a listening source.

Remember, this selection is independent of the listening source. While recording, you may still select a different source (for example, the CD input) for listening.

NOTE: The RECORD function requires analog signals. Thus, if you are using a digital connection from a CD player or DVD for listening, you should also connect an analog signal for recording. See the section on Rear Panel Input Connections.

Surround Sound Controls

The RSP-976 decodes Dolby® Pro Logic®, Dolby Digital®, and DTS® surround sound source material as well as providing several DSP ambience simulations for music.

Dolby Digital and DTS decoding is automatic. When a digital signal encoded with either of these is detected, the RSP-976 activates the proper decoding. In most cases, the RSP-976 will also recognize a digital signal encoded with Dolby Pro Logic for processing.

Four buttons allow manual control of the surround sound/ambience settings. There are no right or wrong settings. Just because a mode is labelled 2 CHANNEL does not mean that you must use this mode every time you play a stereo CD or listen to a stereo FM broadcast. You may prefer one of the other surround modes. We have provided a note with each surround mode description suggesting when the setting may be appropriate along with alternative settings.

As a general rule, we recommend using PRO LOGIC mode for all sources labeled Dolby Pro Logic. Beyond that, use whatever settings sound best to you in your room with your system.

NOTE: You may find the choice of surround modes overwhelming, particularly until you have used the system and experimented for a while. You may simply prefer “set it and leave it” convenience. In either case, we recommend PRO LOGIC mode as a satisfactory choice for virtually any source material.

PRO LOGIC Button 9

This setting decodes any Dolby Pro Logic encoded surround sound material, whether it be a music CD, videotape, videodisc, stereo TV broadcast, or radio broadcast. It also can be used to create additional ambience in 2-channel

musical source material. Front, center, and rear speakers are activated. An indicator lights in the front panel display when the PRO LOGIC button is pressed.

NOTE: Leaving the RSP-976 in PRO LOGIC mode offers the satisfactory performance and convenience for all source materials. It provides automatic decoding of analog surround sound material. It allows automatic selection (unless overridden) of digital processing when a Dolby Digital or DTS source is played. It also provides very satisfying surround-sound ambience with musical sources.

3 STEREO Button 8

This mode provides proper playback of Dolby Pro Logic material on systems that have front and center speakers, but lack rear surround speakers. It adds the rear channel signals to the front speakers for a larger, more ambient sound than conventional stereo. An indicator lights in the front panel display to show that this mode has been activated.

DSP Button 10

This button activates digital synthesis of four ambience modes (MUSIC 1, MUSIC 2, MUSIC 3, and MUSIC 4) which simulate progressively larger acoustic environments and are primarily used to recreate ambience when listening to music sources and/or other sources that lack surround sound encoding.

These four modes vary the amount of delay used for the rear surround signals. Experiment to find a setting which is most pleasing.

Press the button to activate the DSP mode. Each press of the button will step forward to the next mode in the following order: MUSIC 1 > MUSIC 2 > MUSIC 3 > MUSIC 4. An indicator lights in the front panel display when DSP mode has been activated.

NOTE: As a general rule, the DSP modes provide more exaggerated ambience effects than playing the same recording in PRO LOGIC mode. You may prefer PRO LOGIC as your everyday setting, experimenting with the more spectacular DSP modes for particular recordings or effects.

2CH Button 7

This button activates conventional 2-speaker stereo mode with no surround sound or other processing. This is “pure” stereo, using the front left and front right speakers only, with no surround channels and no center channel.

When used with Dolby Digital or DTS source material, the 2CH button engages a downmix feature, combining all of the channels and sending them to the front speakers. The spatial effects of surround sound are lost, but all of the information on the original recording are preserved.

NOTE: 2CH mode is an alternative for those who want to hear the recording in its original form, played over a conventional 2-speaker stereo system. Many listeners prefer the ambience from multi-speaker surround sound processing of 2-channel music. We suggest PRO LOGIC mode for subtle ambience synthesis or the DSP modes for more spectacular effects. Use the setting that sounds best to you.

SUR+ Button 11

The SUR+ button on the remote selects the surround modes described above. Each time you press the button, the surround mode will cycle to the next available setting as indicated by the front-panel display.

DYNAMIC RANGE Button 12 UP Button B

Digital sources are capable of large 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. Pressing the DYNAMIC RANGE button (or the UP button on the remote) steps through the three dynamic range settings:

- MAX (no compression/full dynamic range)
- MID (moderate compression)
- MIN (full compression/minimum dynamic range).

An indicator lights on the front panel display to show the current selection.

NOTE: The DYNAMIC RANGE feature is only available in Dolby Digital mode. It is inactive at all other times.

Connections: Overview

The RSP-976 rear panel connections include standard RCA audio inputs and outputs, composite video inputs and outputs, S-Video inputs and outputs, plus coaxial and optical digital inputs and outputs.

The RSP-976 has RCA preamp outputs for use with external amplifiers and both composite and S-Video video outputs to connect your TV monitor.

The RSP-976 also has 25-pin 5.1 channel input and output connections, a remote IR sensor input, and two 12V trigger connections for remote turn-on of Rotel amplifiers.

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 rating. The S/PDIF digital audio interface standard also specifies a 75 ohm impedance and all good digital cables adhere to this requirement. Because the video and S/PDIF standards are so close, you can use a video cable for digital audio data transmission. We strongly advise that you NOT substitute conventional audio interconnect cables for digital or video signals. Standard audio interconnects will pass these signals, but their limited bandwidth 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 RSP-976 follow these standard color codes:

Left channel audio: white RCA jack

Right channel audio: red RCA jack

Composite video: yellow RCA jack

Audio Source Connections

Connect your audio-only source components to these RCA inputs and outputs:

CD Inputs **24**

Connect the left and right analog outputs from your CD player to the RCA input jacks labeled CD.

TUNER Inputs **23**

Connect the left and right analog outputs from your tuner to the RCA input jacks labeled TUNER.

TAPE Inputs and Outputs **25**

The RSP-976 provides a pair of inputs and a pair of record outputs for connecting an analog audio tape deck.

Connect the left and right analog *outputs* from an audio tape deck to the TAPE IN jacks. Connect the TAPE OUT jacks to the *inputs* on the audio tape deck.

Video Source Connections

There are analog connections for five video source components, each providing a pair of RCA analog audio inputs, a composite video input, and an S-Video input. Three of these (VIDEO 1, 2, and 3) also provide a set of record outputs (in the same formats) for sending audio and video signals to a VCR.

NOTE: These connections can also be used for audio only source components, omitting the video connections.

VIDEO 1–5 Audio Inputs **26**

Connect the left and right channel analog audio *outputs* of VCRs or other source components to the VIDEO 1, 2, 3, 4, or 5 *inputs* using standard RCA audio cables.

VIDEO 1–5 Composite **28** and S-Video **18** Video Inputs

You can use either composite RCA or S-Video connections with the RSP-976. If you are using composite video connections in your system, connect the RCA video *output* of the VCR and other source components to the RSP-976 RCA video *inputs* labeled COMPOSITE IN. If you prefer to use S-Video connections, connect the S-Video *output* of the VCR to the S-VIDEO *input* on the RSP-976.

VIDEO 1–3 Audio Outputs **29**

Three of the five available sources provide outputs for sending a signal from the RSP-976 to a VCR for recording. The other two (VIDEO 4 and 5) are for playback sources only.

Connect left and right channel RCA audio *outputs* from the RPS-976 to the audio *inputs* on your VCR. Make sure that you are consistent. If you hook up a VCR's outputs to the VIDEO 1 inputs, hook up the VIDEO 1 outputs to the same VCR.

VIDEO 1–3 Composite **29** and S-Video **21** Video Outputs

If you are using composite video connections in your system, connect the RPS-976's RCA video *output* (labeled COMPOSITE IN) to the RCA video *input* on your VCR. If you prefer to use S-Video connections, connect the S-VIDEO *output* to the S-Video *input* of your VCR. As with the audio outputs described above, make sure that you are consistent, connecting all inputs and outputs from a source component to the same set of inputs and outputs on the RPS-976.

Digital Inputs **15**

The RSP-976 accepts digital input signals from source components such as CD players, satellite TV receivers, and 5.1 channel Dolby Digital or DTS signals from DVD and Laser Disc players. The built-in D/A converter senses and adjusts to the correct sampling rates.

Five digital inputs are available on the rear panel, three coaxial and two optical. These digital inputs can be assigned to any of the input sources using the INPUT SETUP menu screen described later in this manual. 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.

Connect the appropriate cable (optical or coaxial) from the digital *output* of your source component to any digital *input* on the RSP-976 and then configure that digital input for use with the source component using the INPUT SETUP menu.

NOTE: When using digital connections, you should still make the analog audio input connections described previously. The analog connection is necessary should you wish to record to an audio tape deck or VCR.

5.1 Channel Audio Input **16**

This female DB25 25-pin input connects six discrete channels of analog information from an outboard processor in a single cable.

If your external adaptor does not have a DB25 output, you will need to purchase a multi-RCA to DB25 adaptor cable from your authorized Rotel dealer.

Output Signal Connections

This section of the manual describes the audio and video signal output connections on the RSP-976. These are used for routing the output signals to television monitors, audio amplifiers, and recording devices.

TV Monitor Output 30

The video output of the RSP-976 sends the video signal to your TV monitor. Both RCA composite and S-Video connectors are provided. Connect the TV MONITOR *output*, either RCA composite or S-Video, to an *input* on your television monitor.

RCA Preamp Outputs 22

There are six RCA preamp audio outputs (FRONT LEFT/FRONT RIGHT/CENTER/RIGHT REAR/LEFT REAR/SUB) for sending the RPS-976's output signals to amplifiers or powered speakers.

To hook up a powered subwoofer, connect a standard RCA audio cable from the SUBWOOFER OUTPUT jack to the input on the subwoofer's power amp.

To hook up the RCA main audio outputs, connect an audio cable from each *output* to the *input* of the amplifier channel that will power the corresponding speaker. In a full home theater system, you will need to make six different connections corresponding to the six speakers (left front, center front, right front, left surround, right surround, and subwoofer).

Make sure that you have each output connected to the correct amplifier channel (front right, left rear, etc.).

5.1 CHANNEL Outputs 14

As an alternative to the RCA preamp outputs, the RSP-976 has a male DB25 multi-pin output connector which carries all six output channels in a single cable. The DB25 output connector provides the same signal as the RCA outputs, but is more convenient for use with amplifiers with a DB25 input. Choose whichever is most convenient for your system hookup.

To use the DB25 output connections, connect a female-to-male DB25 audio cable from the *output* of the RSP-976 to the *input* on the multichannel power amplifier.

Digital Outputs 17

The RPS-976 has a digital output (with a choice of coaxial or optical connectors) to send the digital signal from the currently selected input source to a digital recorder or outboard digital processor.

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.

Connect the digital *output* to the digital *input* of your recorder or processor. You can use either a coaxial cable or an optical cable, choosing between the two connectors is using the INPUT SETUP menu described later in this manual.

NOTE: You could hook up two digital recorders, one using the coaxial connection and the other using the optical connection. [???? is this true, or is it an either/or choice using just one?]

Power and Miscellaneous Connections

AC Input 31

Your RSP-976 is configured at the factory for the proper AC line voltage in the country where you purchased it (115 volts/60Hz AC for the USA and 230 volts /50 Hz AC for Europe). 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.

12V TRIGGER Connections 20

Several Rotel amplifiers offer the option of turning them on and off using a 12 volt trigger signal. These two connections provide this 12 volt trigger signal. When the RPS-976 is activated, a 12 volt DC signal appears at these connectors and will turn on amplifiers. When the RPS-976 is put in STANDBY mode, the trigger signal is interrupted and the amplifiers will turn off.

Remote External Sensor In 19

This 3.5 mm mini-jack receives command codes from industry-standard infrared receivers (Xantech, etc.) via hard-wired connections. 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 repeaters and the proper wiring of a jack to fit the mini-jack receptacle.

On-Screen Display / Configuration

The RSP-976 features two on-screen systems to help operate the system. The first consists of simple status displays that appear on the TV screen whenever primary settings (Volume, Input, etc.) are changed. These status displays are self-explanatory.

A more comprehensive ON-SCREEN MENU system is available at any time by pressing the MENU button on the remote control. These menus guide you through the setup and operation of the RSP-976.

Navigation Buttons J B C K

The following remote control buttons are used to navigate the ON-SCREEN MENU system:

MENU Button: To display the MAIN screen. All other menus are reached from this menu. If a menu is already visible, push this button to cancel the Display.

DOWN/UP Buttons: To move up and down in the lists that appear on the ON-SCREEN MENU system.

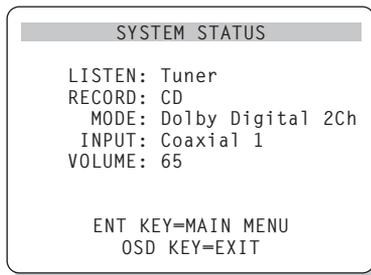
+/- Buttons: To change the current settings for a selected menu choice on some menus in the ON-SCREEN MENU system.

ENTER Button: To confirm a setting and return to the MAIN menu.

NOTE: A help system at the bottom of each ON-SCREEN MENU reminds you which buttons to press. All screens disappear automatically following 20 seconds of inactivity.

Figure 5 at the front of this manual shows the menus in the ON-SCREEN MENU system and how to reach them. Most of the menus are used only to configure the system and not typically during normal operation. Details of each menu follow.

SYSTEM STATUS Menu



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 is appears when you press the MENU button on the remote control and displays the following information:

LISTEN: the source selected for listening.

RECORD: the source selected for the VIDEO outputs.

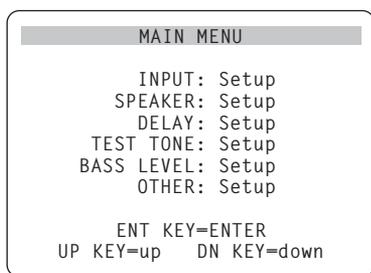
MODE: the current surround sound mode.

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

VOLUME: the current volume setting.

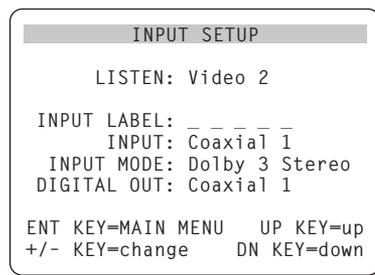
No changes can be made using this screen; it only provides information. To go to the rest of the menus, press the ENTER button to go to the MAIN menu. The screen disappears automatically after 20 seconds of inactivity or by pressing the MENU key on the remote.

MAIN Menu



The MAIN menu provides access to all other screens and menus and is reached by pressing the ENT button from the SYSTEM STATUS menu described above or from most other menus. To go to another menu, move the highlight to the desired line using the UP/DOWN buttons on the remote and press the ENTER button. This screen disappears after 20 seconds or by pressing the MENU button.

INPUT Menu



The INPUT 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 input source

INPUT LABEL: placing the highlight on this line calls up a sub-menu that allows you to change the five-character label for the current source. To change the label:

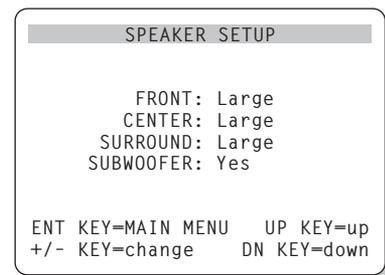
1. Press the +/- keys to begin labeling.
2. Press the +/- keys to change the first letter, scrolling through the list of available characters.
3. Press the ENT key to confirm that letter and move to the next position.
4. Repeat steps 2 and 3 until all five characters have been completed. The final press of the ENT button will save the new label and exit the sub-menu.

INPUT: selects which physical input connection to use for the source displayed in the first line of the menu. The options include five digital inputs (OPTICAL 1& 2 or COAXIAL 1 – 3) or the ANALOG inputs for that source.

INPUT MODE: selects the default surround sound mode for the input shown at the top of the menu. The default setting can be overridden at any time with the front-panel MODE buttons. Options include: dts, Dolby Digital, Dolby Pro Logic, Dolby 3-Stereo, Music 1, Music 2, Music 3, Music 4, PCM 2 Channel, and Dolby Digital 2- ch Stereo. **[???? -- Is this a default setting, overridden by the front panel switches?]**

DIGITAL OUT: selects whether the coaxial or optical connector should be used for the digital output signal. **[???? -- Is this global setting for all digital signals or is it individually selected for each input?]**

SPEAKER SETUP Menu



The SPEAKER SETUP menu is used to configure the RPS-976 for use with your specific loudspeakers. The menu is accessed from the MAIN menu.

Home theater speaker systems vary in their size and performance, particularly in bass output. Surround sound processors feature steering logic which can send bass information to the speaker(s) best able to handle it – subwoofers and/or large speakers. For optimum performance, you must tell the RSP-976 what types of speakers are in your system.

The following configuration instructions refer to LARGE and SMALL speakers, referring more to their bass performance than physical size. A full-range speaker with extended bass response is considered LARGE. A compact speaker with limited bass response or power handling is considered SMALL.

As a general rule, the system will redirect bass information away from SMALL speakers and send it to the LARGE speakers and/or the SUBWOOFER in your system.

Things become more complex with a subwoofer. For example, the system will generally not redirect bass information away from a LARGE speaker to the subwoofer. Thus, you must decide if you want a particular speaker to play the deep bass or whether the deep bass should be sent to the subwoofer. If you have a subwoofer, you might decide to send all of the bass to it, regardless of how capable the other speakers in the system may be. In this case, you would tell the RSP-976 that all of your speakers are SMALL, without regard to how big they may actually be.

An alternative configuration for setting up front SMALL speakers with a subwoofer is to follow the speaker manufacturer's instructions, wiring the SMALL speakers to the subwoofer's crossover and then connecting the subwoofer directly to the front speaker connection terminals. In this arrangement, the speakers would

be classified as LARGE and the subwoofer setting would be OFF for all surround modes. No information will be lost during playback because the system knows to redirect the bass information to the front LARGE speakers. This configuration may improve the way the bass integrates into the listening room and ensure correct satellite speaker operation by using the speaker manufacturer's own crossovers.

The following speaker options are available:

FRONT SPEAKERS (small/large): This menu setting determines what kind of main front left and right speakers you are using. Use the LARGE setting if your main left and right speakers are full range designs with good bass response capability. If you are using minispeakers, use the SMALL setting.

CENTER SPEAKER (small/large/none): Use the LARGE position (not available with SMALL front speakers) if your system's center channel speaker is capable of full-range, extended bass response. Use the SMALL position if your center channel speaker has more limited low frequency capability, or if you prefer that the bass be sent to the subwoofer. Select the NONE setting if your system does not have a center channel speaker.

REAR SPEAKERS (small/large/none): If your rear surround speakers are capable of sustained low frequency output, select the LARGE setting (not available with SMALL front speakers). If your rear speakers have limited bass capability or if you would prefer that the bass go to a subwoofer, use the SMALL setting. If your system has no rear surround speakers, select the NONE setting (surround information will be added to the front speakers).

SUBWOOFER (yes/no): Use the YES setting if your system has a subwoofer. If your system does not have a subwoofer, select NO.

NOTE: *Speaker configuration must be performed for each surround mode. Some options described below will not be available in some surround modes and some system configurations. [???? - Is this still true or is the speaker setup a one-time global setting for all modes?]*

To change a setting, 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. The screen disappears automatically after 20 seconds of inactivity or by pressing the MENU key on the remote.

DELAY SETUP Menu

DELAY SETUP	
	Dolby Digital
	Dolby Pro Logic
CENTER:	01ms
R SURROUND:	15ms
L SURROUND:	15ms
	30ms
	30ms
ENT KEY=MAIN MENU	UP KEY=up
+/- KEY=change	DN KEY=down

This 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 not all placed at equal distances from the listener.

Although personal preference is the ultimate guide, you typically increase the delay to speakers located closer to the seating area and decrease the delay to speakers located farther from the seating area.

Start by measuring the distance from your seating position to each speaker. The speaker farthest away should receive no additional delay. Each of the other speakers will receive one millisecond of delay for each foot (30 cm) closer to you than the farthest speaker. For example, if the left front speaker is farthest away at 13 feet and the left rear speaker is 8 feet away, you should add 5 milliseconds of delay to the left rear speaker. Continue setting delays for each speaker until you have compensated for each speaker that is closer to you than the farthest speaker.

The delay times for the surround speakers are set longer for Dolby Pro Logic mode than in Dolby Digital mode. When you change delay setting for Dolby Digital, the delay time for Dolby Pro Logic will automatically be set 15 ms longer. **[???? - Is this correct?]**

The available settings for the CENTER channel are 0ms, 1ms, 2ms, 3ms, 4ms, and 5ms. For SURROUND (Dolby Digital), the settings are 0ms, 5ms, 10ms, and 15ms. For SURROUND (Dolby Pro Logic), the settings are 15ms, 20ms, 25ms, and 30ms.

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. The screen disappears automatically after 20 seconds of inactivity or by pressing the MENU key on the remote.

BASS LEVEL Menu

BASS LEVEL	
DOLBY:	+01dB
DTS:	-02dB
STEREO:	+05dB
MUSIC:	+03dB
ENT KEY=MAIN MENU	UP KEY=up
+/- KEY=change	DN KEY=down

The BASS LEVEL menu provides independent adjustment of bass level for each surround mode. These settings are memorized and engaged automatically each time a music or theater surround mode is selected. Available settings range from -10db to +10db.

When going to the BASS LEVEL menu from the MAIN menu, the current surround mode is automatically highlighted.

Move the highlight to the desired line using the UP/DOWN buttons and use the +/- buttons to adjust the bass level. To return to the MAIN menu, press the ENTER button. The screen disappears automatically after 20 seconds of inactivity or by pressing the MENU key on the remote.

TEST TONE Menu

TEST TONE	
LEFT:	+01dB
CENTER:	-01dB
RIGHT:	+01dB
R SURROUND:	+05dB
L SURROUND:	+04dB
SUBWOOFER:	+09dB
ENT KEY=MAIN MENU	UP KEY=up
+/- KEY=change	DN KEY=down

This menu sets equal volume levels for all speakers (front, center, rear, and subwoofer) to ensure proper surround sound reproduction. To access this menu and perform the test tone calibration, you must be in one of the surround modes. To do this, press any of the MODE buttons except 2CH. Then, enter the ON-SCREEN 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

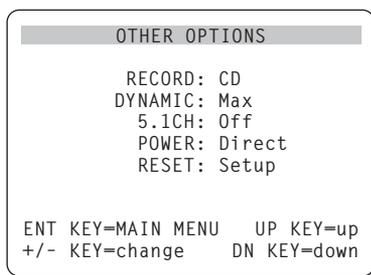
the cursor to the desired line using the UP/DOWN buttons. The test tone will shift accordingly to the selected speaker.

While seated in the normal listening location, switch the test tone to the various speakers. Using the loudest speaker as a fixed reference, listen to hear if any other speakers are noticeably louder or quieter. If so, adjust that speaker's volume levels up or down to match using the +/- buttons. The range of adjustment is -9dB to +9dB. Continue switching among the speakers and adjusting until all speakers are the same volume.

NOTE: This calibration will be more accurate using a sound pressure level (SPL) meter instead of relying on your ear. Set the meter to its SLOW response time with C-weighting and hold it away from your body. Adjust the levels until the meter provides the same reading for each of the speakers in your system.

To return to the MAIN menu, press the ENTER button. The screen disappears automatically after 20 seconds of inactivity or by pressing the MENU key on the remote.

OTHER OPTIONS Menu



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

RECORD: Select a signal for the record outputs by choosing one of the input sources.

DYNAMIC: steps through the three dynamic range settings available in digital modes:

- MAX (no compression/full dynamic range)
- MID (moderate compression)
- MIN (full compression/minimum dynamic range).

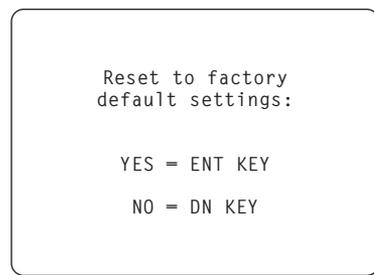
5.1CH: determines whether or 5.1 channel input is turned ON or OFF.

POWER: This setting determines how the RSP-976 powers up. With the default STANDBY setting, the unit powers up in standby mode when AC is applied and must be fully activated from the front-panel or remote control. With the DIRECT setting, the unit is fully activated whenever it is connected to AC. This may be desirable in installations where the RSP-976 is plugged into a switched outlet. In ALWAYS-ON mode, the unit remains fully active whenever AC is present; the front panel and remote STANDBY or POWER buttons are disabled and have no effect.

RESET: Place the highlight on this line and press the ENTER button to call a submenu (described in the next section) to reset all settings to their factory defaults.

Change settings on the OTHER OPTIONS menu 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. The screen disappears automatically after 20 seconds of inactivity or by pressing the MENU key on the remote.

Factory Default Menu



The FACTORY DEFAULT menu resets all system configuration settings to the factory supplied settings. This menu is reached by highlighting the RESET line on the OTHER OPTIONS menu and pressing ENTER.

Press the ENTER button to reset all settings. Press the DOWN button to cancel this menu and return to the OTHER OPTIONS menu without restoring the default settings.

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.

Specifications

Audio

Total Harmonic Distortion:
<0.03%

Intermodulation Distortion (60 Hz: 7 kHz):
<0.03%

Frequency Response (line level):
10 Hz - 70 kHz, ± 3 dB

Signal to Noise Ratio (IHF A-weighted):
92 dB (Stereo)
70 dB (Dolby Digital)

Input Sensitivity/Impedance:
Line Level: 200 mV/47 kohms
Phono Input: 3.5 mV/47 kohms

Tone Controls (Bass/Treble):
 ± 8 dB at 100 Hz/10 kHz

Video

Frequency Response:
3 Hz-10 MHz, ± 3 dB

Signal to Noise Ratio:
45 dB

Input Impedance:
75 ohms

Output Impedance:
75 ohms

Output Level:
1 volt

General

Power Consumption:
40 watts

Power Requirements (AC):
115 volts, 60Hz (USA)
230 volts, 50Hz (Europe)

Weight:
6.9 Kg/15.2 lb.

Dimensions (W x H x D):
450 x 158 x 303 mm
17³/₄" x 6¹/₄" x 12"

All specifications are accurate at the time of printing.

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