

# **R-765**A/V RECEIVER





#### **READ THIS BEFORE OPERATING YOUR UNIT**



CAUTION

ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO **USER-SERVICEABLE PARTS** INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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

#### Note to CATV System Installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that 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 pracitcal.

#### **FCC INFORMATION**

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFCATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

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

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

Caution: Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FOR YOUR SAFETY					
		Units shipped to the U.S.A and Canada are designed for operation on 120 V AC only.			
		Safety precaution with use of a polarized AC plug. However, some products may be supplied with a nonpolarized plug.			
U.S.A CANADA	120 V	CAUTION: To prevent electric shock, match wide blade of plug to wide slot, fully insert.			
		ATTENTION: Pour éviter chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu' au fond.			

# SAFETY INSTRUCTIONS

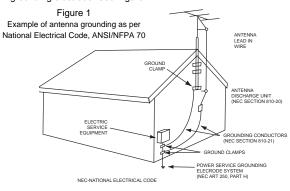
- Read Instructions All the safety and operating instructions should be read before the product is operated.
- Retain instructions The safety and operating instructions should be retained for future reference.
- Heed Warnings All warnings on the product and in the operating instructions should be adhered to.
- Follow Insturctions All operating and use instuctions should be followed
- Cleaning Unplug this product from the wall outlet before cleaning.
   Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Attachments Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- 7. Water and Moisture Do not use this product near water for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement, or near a swimming pool; and the like.
- 8. Accessories Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's insturctions, and should use a mounting accessory recommended by the manufacturer.
- A product and cart combinaion should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.
- 10. Ventilation Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing

should never be blocked by placing PORTABLE CART WARNING the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's intructions have been adhered to.

- 11. Power Sources This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For porducts intended to operate from battery power, or other sources, refer to the operating instructions.
- 12. Grounding or Polarization This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replae your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

  Alternate Warnings This product is equipped with a three-wire grounding-type plug, a plug having a third(grounding) pin. This plug will only fit into a grounding-type power outlet. this is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the gronding-type plug.
- 13. Power-Cord Protection Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particlar attention to cords at plugs, convenience receptacles, and the point where they exit from the product
- 14. Outdoor Antenna Grounding If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit,

connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.



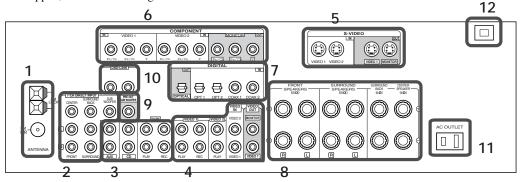
- 15. Lightning For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- 16. Power Lines An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- Overloading Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- 18. Object and Liquid Entry Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
- Servicing Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 20. Damage Requiring Service Unplug this product form the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - a) When the power-supply cord or plug is damaged,
  - b) If liquid has been spilled, or objects have fallen into the product,
  - c) If the product has been exposed to rain or water,
  - d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
  - e) If the product has been dropped or damaged in any way, and
  - f) When the product exhibits a distinct change in performance this indicates a need for service.
- 21. Replacement Parts When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- 22. Safety Check Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- 23. Wall or Ceiling Mounting The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
- 24. Heat The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

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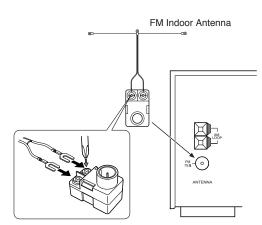
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# System Connections

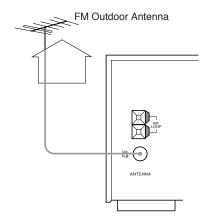
- Do not plug the AC input cord into the wall AC outlet until all connections are completed.
- Be sure to observe the color coding when connecting audio and video cords.
- Make connections firmly and correctly. If not, it can cause loss of sound, noise or damage to the receiver.
- If the electricity fails or the AC input cord is left unplugged for more than 2 weeks, the memorized contents will be cleared. Should this happen, memorize them again.



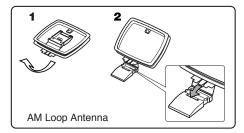
#### 1. CONNECTING ANTENNAS



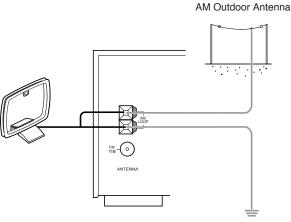
• Change the position of the FM indoor antenna until you get the best reception of your favorite FM stations.



• A  $75\Omega$  outdoor FM antenna may be used to further improve the reception. Disconnect the indoor antenna before replacing it with the outdoor one.

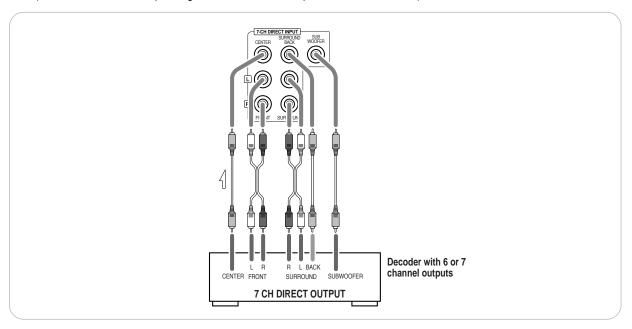


- Place the AM loop antenna as far as possible from the receiver, TV set, speaker cords and the AC input cord and set it to a direction for the best reception.
- If the reception is poor with the AM loop antenna, an AM outdoor antenna can be used in place of the AM loop antenna.



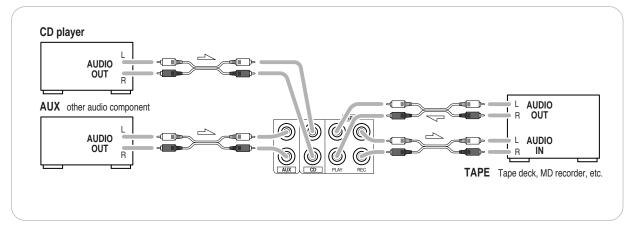
#### 2. CONNECTING 7 CH DIRECT INPUTS

- Use these jacks to connect the corresponding analog outputs of a DVD player or external decoder, etc. that has 6 or 7 channel outputs.
- In case of 6 channel outputs, do not connect this SURROUND BACK input to your audio component. (For details, refer to the operating instructions of the component to be connected.)

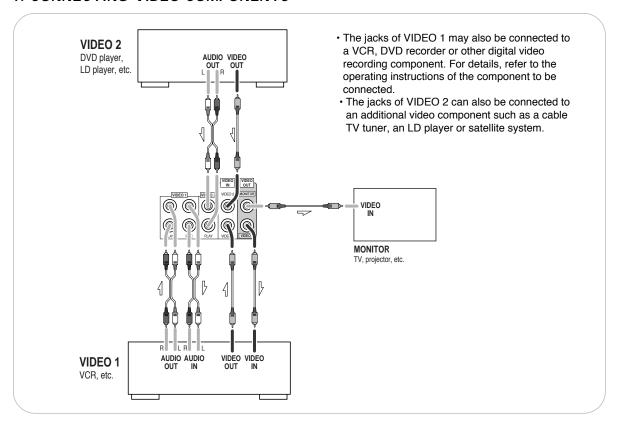


#### 3. CONNECTING AUDIO COMPONENTS

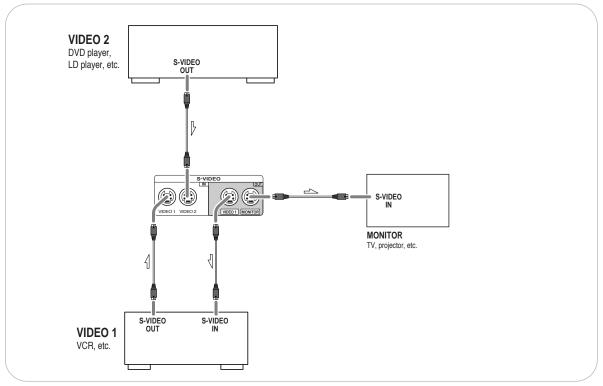
• The AUX jacks may be connected to an additional audio component such as a CD player, a tape deck, etc.



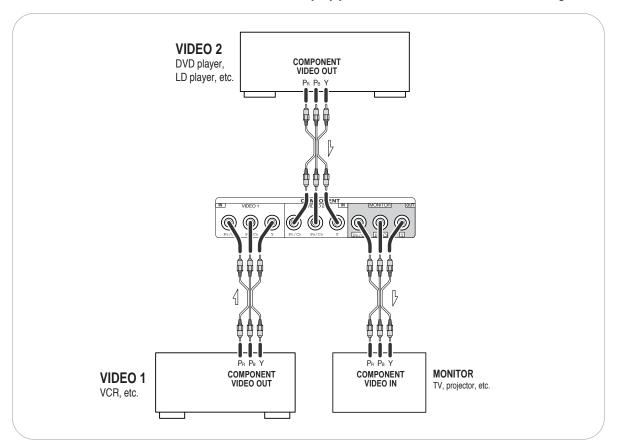
#### 4. CONNECTING VIDEO COMPONENTS



## 5. CONNECTING VIDEO COMPONENTS equipped with S-VIDEO jacks



## 6. CONNECTING VIDEO COMPONENTS equipped with COMPONENT VIDEO jacks



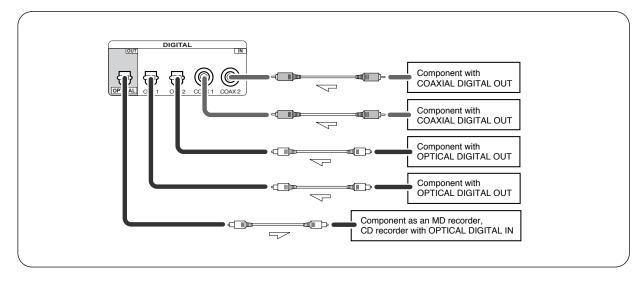
- The excellence in picture quality is as follows:
- "COMPONENT" > "S-VIDEO" > normal(composite) "VIDEO"
- When making COMPONENT VIDEO connections, connect "Y" to "Y", " $P_B/C_B$ " to " $C_B$ " (or "B-Y", " $P_B$ ") and " $P_R/C_R$ " to " $C_B$ " (or "R-Y", " $P_B$ ").
- Signals input into the COMPONENT VIDEO IN jacks will be output in only the MONITOR COMPONENT VIDEO OUT jacks.

#### ■ Notes :

- The on-screen display function and recording the component video signals are not available when using the COMPONENT VIDEO connections.
- When Sherwood DVD player such as V-756, etc. is connected to the DIGI LINK jack for system control, you should connect the DVD player to the "VIDEO 2" jacks of this unit.
- Because, if the PLAY button, etc. is pressed on the DVD player, the VIDEO 2 is automatically selected as an input source on this unit and the playback, etc. starts

#### 7. CONNECTING DIGITAL INs and OUT

- The COAXIAL or the OPTICAL DIGITAL OUTs of the components that are connected to CD and VIDEO 1~3 of this unit can be connected to these DIGITAL INs.
- If a digital recorder or other component with OPTICAL DIGITAL IN/OUT jacks is connected to the corresponding jacks of this unit, you can playback and/or record the high quality sound of CD's, etc. without analog conversion or degradation.
- A digital input should be connected to the components such as a CD player, LD player, DVD player, etc. capable of outputting DTS Digital Surround, Dolby Digital or PCM format digital signals, etc.
- For details, refer to the operating instructions of the component connected.
- $\bullet$  When making the COAXIAL DIGITAL connection, be sure to use a 75 $\Omega$  COAXIAL cord, not a conventional AUDIO cord.
- All of the commercially available optical fiber cords cannot be used for the equipment. If there is an optical fiber cord which cannot be connected to your equipment, consult your dealer or nearest service organization.

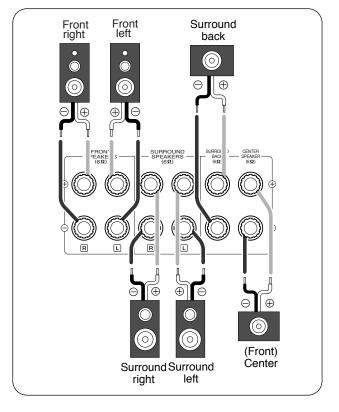


#### 8. CONNECTING SPEAKERS

- Be sure to connect speakers firmly and correctly according to the channel(left and right) and the polarity(+ and -). If the connections are faulty, no sound will be heard from the speakers, and if the polarity of the speaker connection is incorrect, the sound will be unnatural and lack bass.
- For installing the speakers, refer to "Speaker placement" on page 24.
- After installing the speakers, first adjust the speaker settings according to your environment and speaker layout. (For details, refer to "Adjusting the speaker settings" on page 24.)

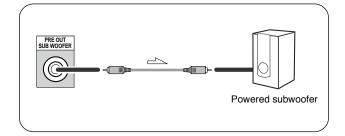
#### Caution:

- Be sure to use the speakers with the impedance of 6 ohms or above.
- Do not let the bare speaker wires touch each other or any metal part of this unit. This could damage this unit and/or the speakers.



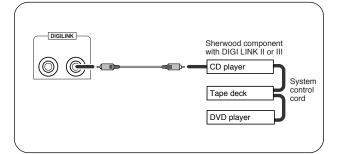
#### 9. SUBWOOFER PRE OUT connection

• To emphasize the deep bass sounds, connect a powered subwoofer.



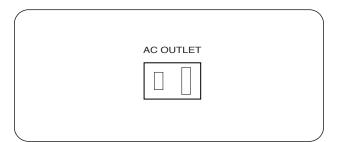
#### 10. CONNECTING SYSTEM CONTROL

 Connect this jack to the DIGI LINK jack of the external Sherwood component that uses the DIGI LINK II or III remote control system.



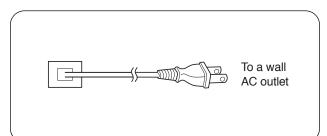
#### 11. SWITCHED AC OUTLET

- This outlet is switched on(power-on mode) and off(standby mode) according to power control as follows(Maximum total capacity is 100 W).
- Standby mode Switched AC outlet off Power-on mode Switched AC outlet on

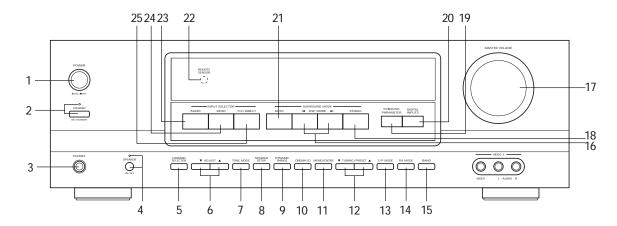


#### 12. AC INPUT CORD

• Plug this cord into a wall AC outlet.



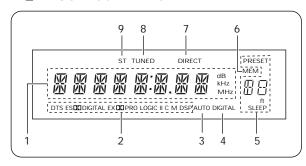
# Front Panel Controls



- 1. POWER switch
- 2. STANDBY button/indicator
- 3. HEADPHONE jack
- 4. SPEAKER button/indicator
- 5. CHANNEL SELECTOR button
- 6. ADJUST UP/DOWN(▲/▼) buttons
- 7. TONE MODE button
- 8. SPEAKER SETUP button
- 9. DYNAMIC RANGE button
- 10. CINEMA EQ button
- 11. MEMORY/ENTER button
- 12. TUNING/PRESET UP/DOWN(▲/▼) buttons
- 13. TUNING/PRESET MODE button

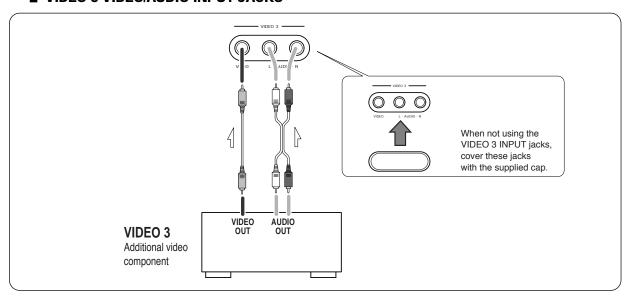
- 14. FM MODE button
- 15. BAND button
- 16. DSP MODE UP/DOWN(▶/◄) buttons
- 17. MASTER VOLUME control knob
- 18. STEREO button
- 19. PL II MUSIC PARAMETER button
- 20. DIGITAL INPUTS button
- 21. AUTO button
- 22. Remote sensor
- 23. AUDIO input selector button
- 24. VIDEO input selector button
- 25. 7 CH DIRECT button

#### **■ FLUORESCENT DISPLAY**



- Input, frequency, volume level, operating information, etc.
- 2. Surround mode indicators
- 3. AUTO indicator
- 4. DIGITAL input signal indicator
- PRESET number, SLEEP time, Speaker distance display
- 6. MEMory indicator
- 7. DIRECT indicator
- 8. TUNED indicator
- 9. STEREO indicator

#### ■ VIDEO 3 VIDEO/AUDIO INPUT JACKS



• The VIDEO 3 jacks may be also connected to an additional video component such as a camcorder, a LD player or a video game player, etc.

# **Universal Remote Controls**

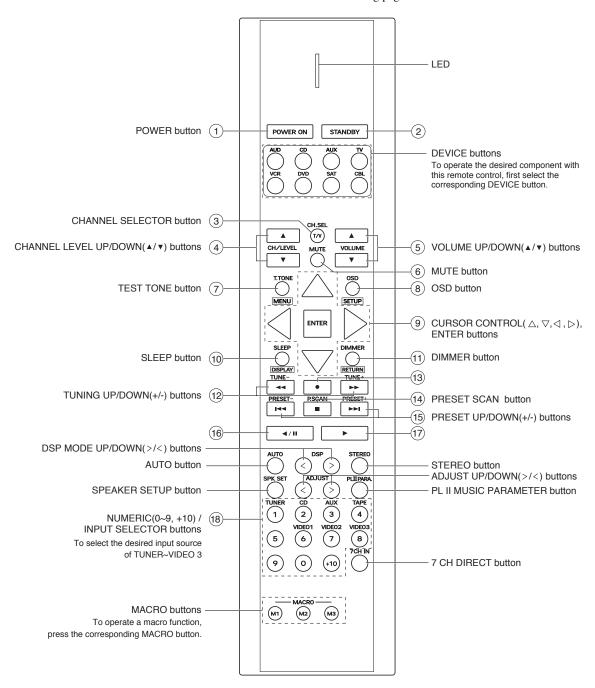
This universal remote control can operate not only this receiver but also most popular brands of audio and video components such as CD players, cassette decks, TVs, cable boxes, VCRs, DVD players, satellite receivers, etc.

• To operate 7 components other than this receiver, you should enter the setup code for each component. (For details, refer to "USING FUNCTIONS OF REMOTE CONTROL" on page 16.)

#### **■**Digi link system remote controls

This remote control can also operate Sherwood compatible components bearing the DIGI LINK (II or III) logo.

- For digi link system remote control operation, first make the DIGI LINK connections between Sherwood components.
- The numbered buttons on the remote control have different functions in different device modes. For details, refer to "FUNCTION TABLE of the NUMBERED BUTTONS" on the following page 14.



#### **■FUNCTION TABLE of the NUMBERED BUTTONS**

	Device to be controlled	CD	AUX	TV	VCR	DVD	SAT	CBL
Buttor	symbol	(for CD player)	(for tape deck)	(for TV)	(for VCR)	(for DVD player)	(for satellite receiver)	(for cable box)
1	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON	POWER ON
2	STANDBY	STANDBY (POWER OFF)	STANDBY (POWER OFF)	STANDBY (POWER OFF)	STANDBY (POWER OFF)	STANDBY (POWER OFF)	STANDBY (POWER OFF)	STANDBY (POWER OFF)
3	CH.SEL (T/V)	_	_	INPUT SELECTOR	INPUT SELECTOR	_	INPUT SELECTOR	INPUT SELECTOR
4	CH/LEVEL	-	_	CHANNEL LEVEL UP/DOWN(▲/▼)	CHANNEL LEVEL UP/DOWN(▲/▼)	_	CHANNEL LEVEL UP/DOWN(▲/▼)	CHANNEL LEVEL UP/DOWN(▲/▼)
5	VOLUME		_	VOLUME UP/DOWN(▲/▼)	VOLUME UP/DOWN(▲/▼)	_	VOLUME UP/DOWN(▲/▼)	VOLUME UP/DOWN(▲/▼)
6	MUTE		_	MUTE	MUTE	_	MUTE	MUTE
7	T.TONE MENU	_	_	_	_	MENU	_	_
8	OSD	١	_	_	_	SETUP	_	١
9		_	_	_	_	CURSOR CONTROL ENTER	_	_
10	SLEEP	_	_	_	_	DISPLAY	_	_
11)	DIMMER	_	_	_	_	RETURN	_	_
12	TUNE- TUNE+	_	REWIND(◄◄) / FAST FORWARD(►►)	_	REWIND(◄◄) / FAST FORWARD(►►)	REVERSE SEARCH(◄◄) / FORWARD SEARCH(►►)	_	_
13	•	_	RECORD	_	RECORD	_	_	_
14)	P.SCAN	STOP	STOP	_	STOP	STOP	_	_
15)	PRESET- PRESET+	REVERSE SKIP(144) / FORWARD SKIP(►►1)	_	_	_	REVERSE SKIP(I←4) / FORWARD SKIP(►►I)		_
16	<b>◄/II</b>	PAUSE	REVERSE PLAY	_	PAUSE	PAUSE	_	
17)	<b>•</b>	PLAY	FORWARD PLAY	_	PLAY	PLAY	_	_
18)	<b>0</b> ~ <b>9</b> , <b>€10</b>	NUMERIC	_	NUMERIC	NUMERIC	NUMERIC	NUMERIC	NUMERIC

#### **Notes:**

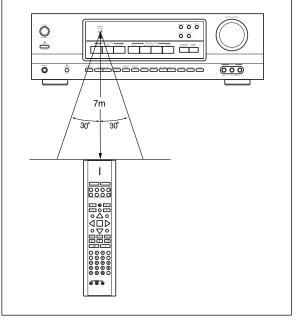
- Some functions for each component may not be available or may work differently.
- Depending on other kinds of components that are available for each DEVICE button, some functions may not be available or may work differently, too.
- For details about functions, refer to the operating instructions of each component.

#### **OPERATING COMPONENTS WITH REMOTE CONTROL**

- Enter the setup code for each component other than this receiver you wish to control. For details, refer to "Entering a setup code" on page 16.
- Turn on the component you want to operate.
- Press the DEVICE button on the remote control corresponding to the component you wish to operate.
- Aim the remote control at the REMOTE SENSOR of the component you wish to control and press the button corresponding to the operation you want.
- When operating a Sherwood CD player or tape deck using digi link system remote control, aim the remote control at the REMOTE SENSOR of this receiver.
   However, to operate a Sherwood DVD player, aim at the REMOTE SENSOR of the corresponding component.

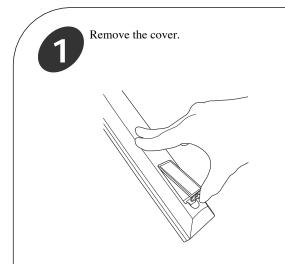
#### REMOTE CONTROL OPERATION RANGE

• Use the remote control unit within a range of about 7 meters (23 feet) and angles of up to 30 degrees aiming at the remote sensor.

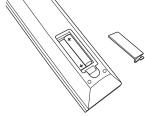


#### **LOADING BATTERIES**

- When the remote control does not operate, the old batteries should be replaced. In this case, load new batteries within several minutes after removing old batteries.
- If the batteries are removed or have been exhausted for a longer period of time, memorized contents will be cleared. Should this happen, you should memorize them again.



Load two batteries("AAA" size) matching the polarity.



- Remove the batteries when they are not used for a long time.
- Do not use the rechargeable batteries(Ni-Cd type).
- Be sure to use alkaline batteries.

#### USING FUNCTIONS OF REMOTE CONTROL

- This remote control can control up to 8 different components.
- Before operating audio and video components other than this receiver with using this remote control, the setup code for each component should be entered.
- For system remote control operation, "000" was stored previously in the memory of the device button "CD" for Sherwood CD player, "DVD" for Sherwood DVD player and "AUX" for Sherwood tape deck respectively as its factory setup code. So, you don't need to enter its code for each Sherwood component except in such a case that its code does not work.

#### Entering a setup code

1

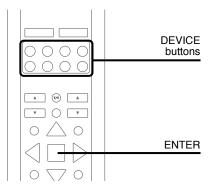
Turn on the component you want to control

2

Find the setup codes according to the type and the brand name of your component, referring to "Setup Code Table" on page 42.

3

Press and hold down both the ENTER button and the DEVICE button you want for more than 1 second.



• The LED will flicker once.

#### Note:

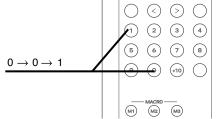
 The AUDIO button is unavailable for the audio components other than this receiver.

5

Repeat the above steps 1 to 4 for each of your components.



Enter a 3 digit code, aiming the remote control at the remote sensor on the component. Example) When entering "001".



- If entering is performed successfully, the LED will flicker twice.
- To be sure that the setup code is correct, press the POWER(or STANDBY) button.

If your component is tuned off, the setup code is correct.

• When your component is not turned off, repeat the above steps 2 to 4, trying each code for your component until you find one that works.

#### Notes:

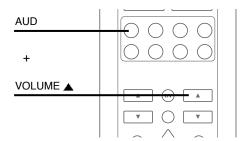
- If the LED did not flicker twice, then repeat the above steps 3 to 4 and try entering the same code again.
- Manufacturers may use different setup codes for the same product category. For that reason, it is important that you check to see if the code you have entered operates as many controls as possible. If only a few functions operate, check to see if another code will work with more buttons.
- When operating a Sherwood CD player or tape deck using the system remote control, aim the remote control at the REMOTE SENSOR on this receiver. However, in case of Sherwood DVD player and MD recorder, aim it at the REMOTE SENSOR on the corresponding component.

#### Using a punch-through function

This remote control may be programmed to operate either the AUDIO volume punch-through or the TV volume and/or TV channel punch-through in conjunction with any of the eight components controlled by this remote control.

For example, since this receiver will likely be used as the sound system while watching TV, you may want to adjust this receiver's volume although this remote control is set to control the TV.

• When programming this remote control for the AUDIO volume punch-through, press and hold down both "AUD" button and "VOLUME ▲" button for more than 1 second.



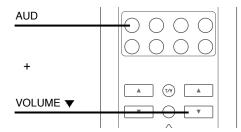
- If programming is performed successfully, the LED will flicker twice.
- When you want either TV volume or TV channel punch-through, press and hold down both "TV" button and either "VOLUME ▲" or "CH/LEVEL ▲" button for more than 1 second.

#### Note:

• If you use one of AUDIO and TV volume punchthrough functions, you cannot use the other.

#### ■Removing a punch-through function

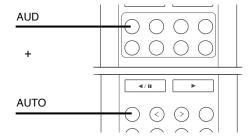
• When removing the AUDIO volume punchthrough, press and hold down both "AUD" button and "VOLUME ▼" button for more than 1 second.



- If removing is performed successfully, the LED will flicker twice.
- When you want to remove either TV volume or TV channel punch-through, press and hold down both "TV" button and either "VOLUME ▼" or "CH/LEVEL ▼" button for more than 1 second.

#### **■**Removing all punch-through functions

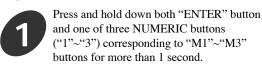
Press and hold down both "AUD" button and "AUTO" button for more than 1 second.



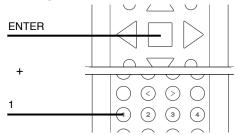
• If removing all punch-through functions is performed successfully, the LED will flicker twice.

#### Programming a macro function

- The macro function enables you to program a series of button operations(up to 10) on this remote control into a single button.
- You can store up to three separate macro command sequences into "M1", "M2" and "M3" buttons.



Example) When programming a series of button operations into "M1" button.



 If the macro mode is entered, the LED will flicker once.



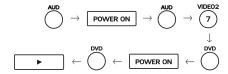
Press the operation buttons you want to program in order.

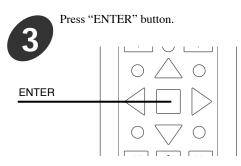
#### Note:

You should press the corresponding DEVICE buttons before pressing each operation button.

Example) When playing a DVD on the DVD player connected to VIDEO 2 jacks of this receiver.

- 1. Press "AUDIO" button to control this receiver.
- 2. Press "POWER" button to turn this receiver on.
- 3. Press "AUDIO" button to control this receiver.
- 4. Press "VIDEO 2(7)" button to select the desired input source.
- 5. Press "DVD" button to control the DVD player.
- 6. Press "POWER" button to turn the DVD player on.
- 7. Press "DVD" button to control the DVD player.
- 8. Press "▶" button to start playback.





 If the programming is performed successfully, the LED will flicker twice.

#### ■To remove a macro program

• When removing a macro program, perform the above steps 1 and 3, but ignore the step 2.

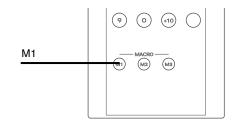
#### ■To change a macro program

 When a new macro program is stored into a MACRO button with performing the above steps 1 to 3, the previous macro program is cleared from the memory of the MACRO button.

#### Operating a macro function

• Aim the remote control at the REMOTE SENSORs of the components to be controlled and press the MACRO button you want.

Example) When pressing "M1" button.



#### ■Notes:

the next code.

- The codes programmed into a MACRO button will be transmitted at an interval of 0.5 seconds.

  However, some components may not be able to complete one operation in 0.5 seconds and may miss
- In this case, the macro function cannot control the corresponding components correctly.
- Be sure to use the remote control within the remote control operation range of the components.
- Depending on the operation status of the components, etc., the macro function cannot control the corresponding components correctly.

# **Operations**

• Note: Before operating this receiver with the supplied remote control, refer to "Universal Remote Controls" on page 13 for details about operation.

#### LISTENING TO A PROGRAM SOURCE

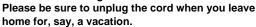
#### Before operation

• Enter the standby mode.

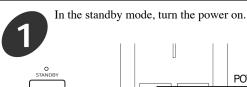


**POWER ON** 

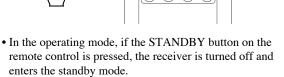
- The STANDBY indicator lights up.
- When the power operation switch is in the OFF or STANDBY state, the apparatus is still connected on some AC line voltages.



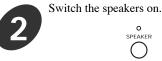
- To switch the power off, push the POWER switch again.
- Then the power is cut off and the STANDBY indicator goes off.



or

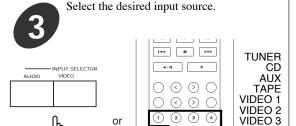


• In the standby mode, if the INPUT SELECTOR button is pressed, the receiver is turned on automatically and the desired input is selected.

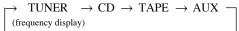




- Then the SPEAKER indicator lights up and the sound can be heard from the speakers connected to the speaker terminals.
- When using the headphone for private listening, press the SPEAKER button again to switch the speakers off.



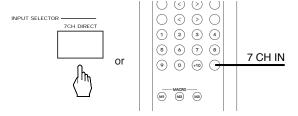
• Each time the "AUDIO" button on the front panel is pressed, the input source changes as follows;



• Each time the "VIDEO" button on the front panel is pressed, the input source changes as follows;

$$\rightarrow$$
 VIDEO 1  $\rightarrow$  VIDEO 2  $\rightarrow$  VIDEO 3  $\rightarrow$ 

■When selecting the 7 CH DIRECT as desired,



- "7-DIRECT" is displayed and the 7 or 6 separate analog signals from the component connected to this input can be controlled only by channel level(s) and volume depending on the surround back speaker setting.
- Press the 7 CH DIRECT button or select the desired input source to cancel the 7 CH direct function.
- These analog signals can be heard only, not recorded.

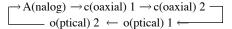
# When CD, VIDEO 1~3 is selected as an input source



Select the digital or analog input connected as desired.



• Each time this button is pressed, the corresponding input is selected as follows;



• To listen to a DTS or Dolby Digital program source in the 2-CH downmix mode, in the stereo mode, the corresponding digital input should be selected. (For details, refer to "Downmixing into 2 front channels" on page 31.)

#### Notes:

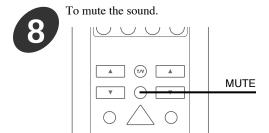
- When the selected optical or coaxial digital input is not connected, the "DIGITAL" indicator flickers, meaning no sound. (Refer to "ENJOYING SURROUND SOUND" on page 27.)
- The sound from the component connected to the selected digital input can be heard regardless of the selected input source.



To compensate for edgy or shrill movie sound tracks.



- Then "C-EQ OFF" is scrolled.
- Press it again to work, the "C-EQ ON" is scrolled.
- When 96 kHz PCM(2 CH stereo) signals are input, the cinema EQ function does not work.



- "MUTE" will flicker.
- To resume the previous sound level, press it again.



Operate the selected component for playback.

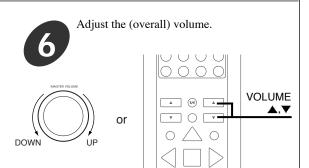
• When playing back the program sources with surround sound, refer to "ENJOYING SURROUND SOUND" on page 27.



To listen with the headphones.



- Ensure that the SPEAKER button is set to off.
- When listening to a DTS or Dolby Digital program source, if the headphones are plugged and the SPEAKER button is set to off, it enters the 2-CH downmix mode automatically. (For details, refer to "Downmixing into 2 front channels" on page 31.)



#### Adjusting the tone(bass and treble)



Enter the tone mode.



 Each time this button is pressed, the corresponding tone mode is selected and shown for several seconds as follows:

$$\rightarrow$$
 BASS  $\rightarrow$  TRBL(treble)  $\rightarrow$  TONE ON

• When the tone mode is off, "TONE OFF" is shown.



At the desired tone mode, adjust the tone as desired.



 At "TONE ON" mode, you can select "TONE OFF" mode and vice versa.

TONE ON: When adjusting the tone for your taste.

↑ ("DIRECT" indicator goes off.)

TONE OFF: When listening to a program source without the tone effect.

("DIRECT" indicator light up.)

• In general, we recommend the bass and the treble to be set to 0(flat) level.

#### Notes:

- If the tone display disappears, start from the step 10 again.
- Extreme settings at high volume may damage your speakers.
- When the digital signals from DTS or Dolby Digital program sources are input in available surround mode or the 7 CH DIRECT is selected as an input source, you cannot adjust the tone and can hear a program source without the tone effect.

#### **SURROUND SOUND**

• This receiver incorporates a sophisticated Digital Signal Processor that allows you to create optimum sound quality and sound atmosphere in your personal Home Theater.

#### Surround modes

#### **■DTS Digital Surround**

DTS Digital Surround(also called simply DTS) is a multichannel digital signal format which can handle higher data rates than Dolby Digital. Although both Dolby Digital and DTS are 5.1 channel formats, discs bearing the

are generally thought to provide better sound quality due to the lower audio compression required.

It also provides wide dynamic range and separation, resulting in magnificent sound.

#### ■DTS - ES Extended Surround™ \ dts ==



This is a new multi channel digital signal format which greatly improves the 360- degree surround impression and space expression thanks to further expanded surround signals, offering high compatibility with the conventional DTS format.

In addition to the 5.1 channels, DTS-ES Extended Surround also offers the surround back (sometimes also referred to as "surround center") channel for surround playback with a total of 6.1 channels. DTS-ES Extended Surround includes two signal formats with different surround signal recording methods as follows:

#### • DTS-ES™ Discrete 6.1

Because the signals for 6.1 channels (including the surround back channel) are fully independent, it is possible to achieve a sense that the acoustic image are moving about freely among the background sounds surrounding the listener from 360 degrees.

Though maximum performance is achieved when sound tracks recorded with this system are played using a DTS -ES decoder, when played with a conventional DTS decoder, the surround back channel signals are automatically downmixed to the surround left and surround right channels so that none of the signal components are lost.

#### . DTS - ES™ Matrix 6.1

With this format, the additional surround back channel signals undergo matrix encoding and are input to the surround left and surround right channels beforehand. During playback, they are decoded to the surround left, surround right and surround back channels.

Because the bit stream format is 100% compatible with conventional DTS signals, the effect of the DTS-ES Matrix 6.1 format can be achieved even with DTS 5.1- channel signal sources. Of course, it is possible to play DTS-ES Matrix 6.1- channel signal sources with a DTS 5.1- channel decoder. When DTS-ES Discrete 6.1 or Matrix 6.1 sources are decoded with a DTS - ES decoder, the format is automatically detected upon decoding and the optimum surround mode is selected. However, some DTS - ES Matrix 6.1 sources may be detected as DTS sources. In this case, the DTS - ES Matrix mode should be selected manually to play these sources.

#### ■DTS Neo: 6<sup>TM</sup> surround

This mode applies conventional 2-channel signals such as digital PCM or analog stereo signals to the high precision digital matrix decoder used for DTS-ES Matrix 6.1 to achieve 6.1-channel surround playback. DTS Neo: 6 surround includes two modes for selecting the optimum decoding for the signal source.

#### DTS Neo : 6 Cinema

This mode is optimum for playing movies. Decoding is performed with emphasis on separation performance to achieve the same atmosphere with 2-channel sources as with 6.1-channel sources.

#### • DTS Neo : 6 Music

This mode is suited mainly for playing music. The front left and front right signals bypass the decoder and are played directly so there is no loss of sound quality, and the effect of the surround signals from the center, surround left, surround right and surround back channels adds a natural sense of expansion to the sound field.

"DTS", "DTS-ES" and "Neo : 6" are trademarks of Digital Theater Systems,Inc.

#### ■ Dolby Digital

Dolby Digital is the multi- channel digital signal format developed by Dolby Laboratories. Discs bearing the " DIGIDALBY " includes the recording of up to 5.1 channels of

digital signals, which can reproduce much better sound quality, spatial expansion and dynamic range characteristics than the previous Dolby Surround effect.

#### **■**Dolby Digital EX

This mode creates the back (sometimes also referred to as "surround center") signals from the surround left and right signals in Dolby Digital 5.1 channel source using a matrix decoder and provides 6.1 channel surround playback. For the best results, this mode should be selected during playback of sources(bearing the " DIDOLBY ") recorded in

Dolby Digital Surround EX. With this additional channel, you can experience more dynamic and realistic moving sound especially.

When Dolby Digital EX sources are decoded with a Dolby Digital EX decoder, the format is automatically detected upon decoding and the Dolby Digital EX mode is selected. However, some Dolby Digital EX sources may be detected as Dolby Digital sources. In this case, the Dolby Digital EX mode should be selected manually to play these sources.

#### ■ Dolby Pro Logic

Dolby Pro Logic is a specially encoded two channel surround format which consists of four channels ( front left, center, front right and surround). Sources bearing the "DD DOLGIS PROVIDED" provide the theater-like surround sound.

The surround channel is monaural, but is played through both surround speakers.

#### ■ Dolby Pro Logic II surround

This mode applies conventional 2- channel signals such as digital PCM or analog stereo signals as well as Dolby Surround signals, etc. to surround processing to offer improvements over conventional Dolby Pro Logic circuits. Dolby Pro Logic II surround includes two modes as follows:

#### Dolby Pro Logic II Movie

When enjoying movies, this mode allows you to further enhance the cinematic quality by adding processing that emphasizes the sounds of the action special effects.

#### Dolby Pro Logic II Music

When listening to music, this mode allows you to further enhance the sound quality by adding processing that emphasizes the musical effects.

#### ■ Dolby Virtual

This mode employs sophisticated digital processing to create the illusion of "phantom" speakers, this mode allows you to experience surround sound effects from Dolby Digital, Dolby Surround or 2-channel (recorded in digital PCM or analog stereo) sources, through just a single pair of front speakers.

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

 When using the 7 CH DIRECT INPUTs to playback the sound from an additional multichannel decoder for surround sound, you can enjoy the corresponding surround sound, too. For details, refer to the operating instructions of the component to be connected.

The following modes apply conventional 2-channel signals such as digital PCM or analog stereo signals to high performance Digital Signal Processor to recreate sound fields artificially. Select one of the three provided surround modes according to the program source you want to play.

#### **■**Theater

This mode provides the effect of being in a movie theater when watching a movie.

#### ■Hall

This mode provides the ambience of a concert hall for classical music sources such as orchestral, chamber music or an instrumental solo.

#### **■**Matrix

This mode reproduces a delayed signals from the surround channels to emphasize the sense of expansion for music sources

For your reference, the sound from each channel can be reproduced according to the surround modes as follows:

Channels	FRONT L/R	(FRONT) CENTER	SURROUND L/R	SURROUND BACK (CENTER)	SUBWOOFER
DTS	0	0	0	0	0
DTS ES DISCRETE/MATRIX	0	0	0	0	0
DTS NEO:6 CINEMA/MUSIC	0	0	0	0	(*)
DOLBY DIGITAL	0	0	0	0	0
DOLBY DIGITAL EX	0	0	0	0	0
DOLBY PRO LOGIC	0	0	0	_	(*)
DOLBY PRO LOGIC II MOVIE/MUSIC	0	0	0	0	(*)
DOLBY VIRTUAL	0	_	_	_	0
MATRIX	0	0	0	0	(*)
Other Surround	0	0	0	_	—(*)
STEREO	0		_	_	(*)
7 CH DIRECT	0	0	0	0	0

<sup>•</sup> Depending on the speaker settings and the number of the encoded channels, the sound from the corresponding channels cannot be reproduced.(For details, refer to "Adjusting the speaker settings" on page 24.)

<sup>(\*):</sup> Depending on the speaker settings, the sound from the subwoofer channel may be reproduced.

#### Speaker placement

Ideal speaker placement varies depending on the size of your room and the wall coverings, etc. The typical example of speaker placement and recommendations are as follows:

#### ■Front left and right speakers and center speaker

- Place the front speakers with their front surfaces as flush with TV or monitor screen as possible.
- Place the center speaker between the front left and right speakers and no further from the listening position than the front speakers.
- Place each speaker so that sound is aimed at the location of the listener's ears when at the main listening position.

#### ■Surround left and right speakers

 Place the surround speakers approximately 1 meter (40 inches) above the ear level of a seated listener on the direct left and right of them or slightly behind.

#### **■**Surround back speaker

- Place the surround back speaker at the rear center facing the front at a slightly higher position (0 to 10 inches) than the surround speakers.
- We recommend installing the surround back speaker at a slightly downward facing angle. This effectively prevents the surround back channel signals from reflecting off the TV or screen at the front center, resulting in interference and making the sense of movement from the front to the back less sharp.

#### **■Subwoofer**

The subwoofer reproduces powerful deep bass sounds.
 Place a powered subwoofer anywhere in the front as desired.

#### ■ Notes :

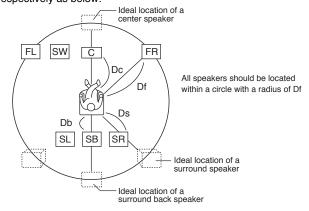
- When using a conventional TV, to avoid interference with the TV picture, use only magnetically shielded front left and right
  and center speakers.
- To obtain the best surround effects, the speakers except the subwoofer should be full range speakers.

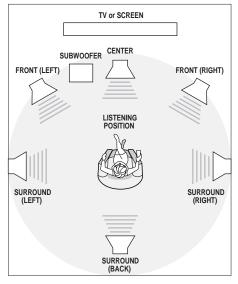
#### Adjusting the speaker settings

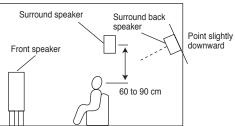
 After you have installed this unit and connected all the components, you should adjust the speaker settings for the optimum sound acoustics according to your environment and speaker layout.

#### **■**Speaker distance settings

When enjoying multi-channel surround playback with Dolby Digital and DTS sources, it is ideal that the center and surround speakers, etc. should be the same distance from the main listening position as the front speakers. By entering the distance between the listening position and each speaker, the delay times of center and surround speakers are automatically adjusted to create an ideal listening environment virtually as if the center and surround speakers were at their ideal locations respectively as below:







- Df: Distance between front speakers and listening position
- Dc : Distance between center speakers and listening position
- Ds : Distance between surround speakers and listening position
- Db: Distance between surround back speaker and listening position

#### ■ Setting the type of speakers

The composition of the signals output from the different channels and the frequency reponse are adjusted automatically according to the combination of speakers actually being used.

Select "Large" or "Small" not according to the actual size
of the speaker but according to the speaker's capacity for
playing low frequency (bass sound below frequency set for
the Crossover Frequency mode and below) signals.

Large: Select this when connecting speakers that can fully reproduce sounds below crossover frequency(\*) of your speaker.

Small: Select this when connecting speakers that cannot fully reproduce sound below crossover frequency. When this setting is selected, sound below crossover frequency is assigned to the subwoofer or speakers which are set to "Large" (when not using a subwoofer).

None: Select this when no speakers are connected. When this is selected, sound is sent to the front speakers.

Yes / None: Select the desired depending on whether a subwoofer is connected or not.

 (\*): Crossover frequency is the frequency (Hz) below which the bass sound of each main speakers is to output from the subwoofer or from speakers which are set to "Large" (when not using a subwoofer).

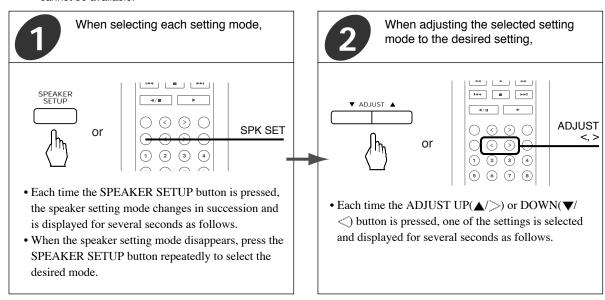
Refer to the operating instructions of the speakers to be connected.
 If the frequency range of your speaker is 100 Hz ~ 12 kHz, the crossover frequency have to set to 120 Hz.

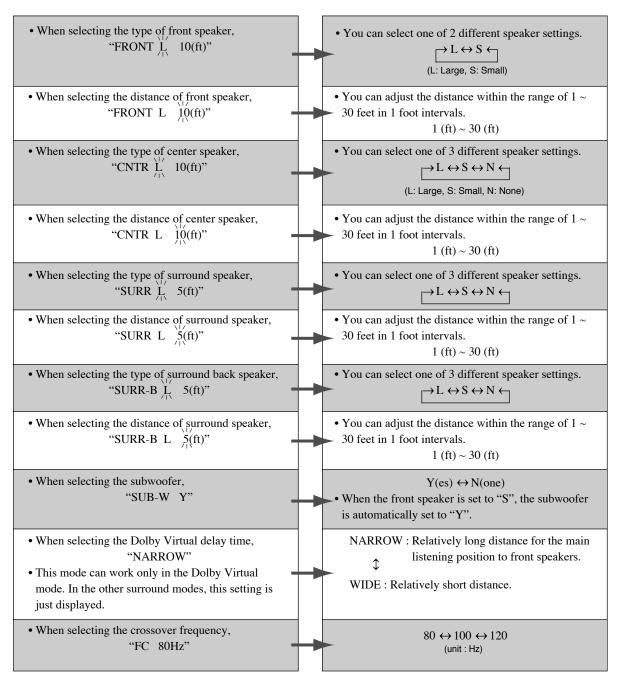
 If you do not know, try comparing the sound at both settings (setting the volume to a level low enough so as not to damage the speakers) to determine the proper setting.  Depending or relationship between speakers, settings possible for each speaker are as follows:

Front L/R	Center	Surr. L/R	Surr. Back	Subwoofer
	Large		Large	
		Large	Small	
			None	
		Small	Large	
		Siliali	Small	
			None	
		None	Х	
			Large	
		Large	Small	Yes
Large	Cmall		None	or
	Small	Small	Large	None
		Jiliali	Small	
			None	
		None	Х	
		Large	Large	
			Small	
			None	
		Small	Large	
		Jiliali	Small	
			None	
		None	Х	
	Small	Small	Small	
		Jiliali	None	
Small		None	Х	Yes
		Small	Small	
	None	Oman	None	
		None	Х	

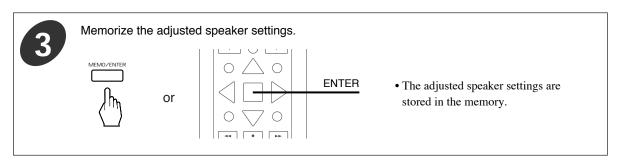
#### Refer to the above and adjust the speaker settings

Note: When the SPEAKER button is set to off or the 7 CH DIRECT is selected as an input source, the speaker setting function cannot be available.





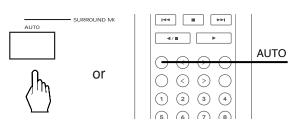
\* When the speaker type is "N", the distance displays "-.-".



#### **ENJOYING SURROUND SOUND**

1

Depending on the input digital signal format, select the desired decoding mode.



• Each time the AUTO button is pressed, the decoding mode changes as follows:

IN-AUTO: The input digital signal format(DTS, Dolby

Digital or PCM(2 channel stereo), etc.) used by the selected digital input source is detected automatically to perform the necessary decoding process for optimum surround mode.

IN-DTS : The DTS signal processing is performed only

when DTS signals are input.

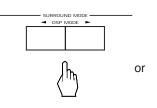
IN-PCM: The PCM signal processing is performed only when PCM signals are input.

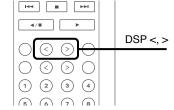
#### ■ Notes:

- Only when the digital input is selected as signal input for the input sources except TUNER, TAPE and AUX, the decoding mode can be selected.
- Noise may be generated at the beginning of playback and while searching during DTS playback in the IN-AUTO mode. In this case, try playing in the IN-DTS mode.



Select the desired surround mode.





• Each time the DSP MODE ◀ (<) or ►(>) button is pressed, the surround mode changes depending on the input signal format and the selected decoding mode as follows:

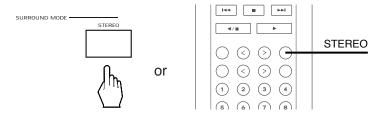
Signal format being input	Selected decoding mode	Selectable surround mode
Dolby Digital EX 6.1 channel sources	IN-AUTO mode	DOLBY DIGITAL EX, DOLBY VIRTUAL
Dolby Digital 5.1 channel sources	IN-AUTO mode	DOLBY DIGITAL, DOLBY VIRTUAL
Dolby Digital 2-channel	IN-AUTO mode	PL II MOVIE, PL II MUSIC,
sources		PRO LOGIC, DOLBY VIRTUAL
PCM(2 channel) sources	IN-AUTO, IN-PCM mode	PL II MOVIE, PL II MUSIC, PRO LOGIC,
Analog stereo sources		DOLBY VIRTUAL, NEO 6 CINEMA, NEO 6
		MUSIC, THEATER, HALL, MATRIX
DTS sources	IN-AUTO, IN-DTS mode	corresponding DTS mode

- When the analog input is selected as signal input and analog stereo signals are input, you can select the desired of these above surround modes, too.
- However, when DTS signals are input in the IN-AUTO or IN-DTS mode, the corresponding DTS mode will be selected regardless of using the DSP MODE ◀ (<) or ▶(>) button.

#### ■ Notes

- When the selected decoding mode is not matched to the input signal format, the "DIGITAL" indicator flickers and no sound is heard. Therefore, be sure to select the required decoding mode and the available surround mode according to the input signal format.
- When the 7 CH DIRECT is selected as an input source, the decoding and surround modes cannot be selected.
- When the digital signals are not inputted, the desired surround mode cannot be selected.

■ To cancel the surround mode for stereo operation



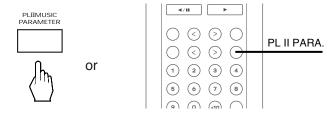
- Then the stereo mode is selected.
- To cancel the stereo mode, select the desired surround mode with using the DSP MODE ◀ (<) or ►(>) button.

#### Adjusting the Dolby Pro Logic II Music parameters

 When selecting the Dolby Pro Logic II Music mode, you can adjust the various surround parameters for optimum surround effect.



Press the PL II MUSIC PARAMETER button to select the desired parameter.



- Each time this button is pressed, the parameter changes and is displayed for several seconds as follows;
  - \*\*Panorama mode("PANO", default value : OFF)

This mode extends the front stereo image to include the surround speakers for an exciting "wraparound" effect with side wall imaging. Select "OFF" or "ON".

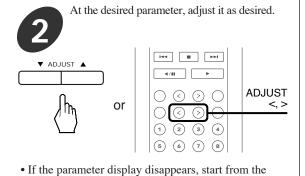
 $\label{eq:control} \protect\ensuremath{\text{\%}} Center\ width\ control(\protect\ensuremath{\text{C-WID''}}, default\ value:0)$ 

This adjusts the center image so it may be heard only from the center speaker, only from the left/right speakers as a phantom image, or from all three front speakers to varying degrees.

The control can be set in 8 steps from 0 to 7.

 $\Delta$ Dimension control("DIMEN", default value : 0)

This gradually adjusts the soundfield either towards the front or towards the rear. The control can be set in 7 steps from -4 to +2.



step 1 again.

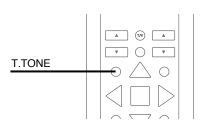
Repeat the above steps 1 and 2 to adjust other parameters.

#### Adjusting each channel level with test tone

- The volume level of each channel can be adjusted easily with the test tone function.
- Note: When the 7 CH DIRECT is selected as an input source, the SPEAKER button is set to off or it is in the stereo mode, the test tone function does not work.



Enter the test tone mode.



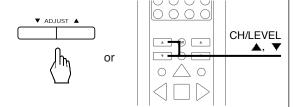
• The test tone will be heard from the speaker of each channel for 2 seconds as follows:

$$\begin{array}{c} FL \longrightarrow C \longrightarrow FR \longrightarrow SR \longrightarrow SB \longrightarrow SL \longrightarrow \\ \text{Front Left} \quad \text{Center} \quad \text{Front Right} \quad \text{Surround} \quad \text{Surround} \quad \text{Surround} \quad \text{Surround} \quad \text{Left} \\ \longrightarrow SW \longleftarrow \quad \text{Subwoofer} \\ \end{array}$$

• When the speaker setting is "N", the test tone of the corresponding channel is not available.



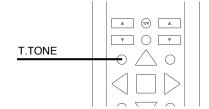
At each channel, adjust the level as desired until the sound level of each speaker is heard to be equally loud.



• You can select the desired channel and adjust its level with repeating the steps 1 and 2 in "Adjusting each channel level" procedure.

3

Cancel the test tone function.

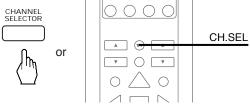


#### Adjusting the current channel level

After adjusting each channel level with test tone, adjust the channel levels either according to the program sources
or to suit your tastes.



Press the CHANNEL SELECTOR button.

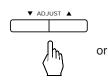


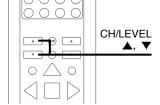
• "REF. 1"(or "USER", etc.) is displayed and each time this button is pressed, the corresponding channel is selected and displayed for several seconds as follows:

- ( ) : impossible when the analog input is selected as signal input.
- You can adjust the LFE level for Dolby Digital or DTS program source that includes LFE signal.
- When it is in the stereo or Dolby Virtual mode or the speaker setting is "N", center, surround L/R, surround back or subwoofer channel will not be selected.
- When the SPEAKER button is set to off, only the front L/R channel can be selected.



Adjust the level of the selected channel as desired.





- The LFE level can be adjusted within the range of -10~0 dB and other channel levels within the range of -15~+15 dB.
- In general, we recommend the LFE level to be adjusted to 0 dB.(However, the recommended LFE level for some early DTS software is -10 dB.) If the recommended levels seem too high, lower the setting as necessary.
- If the channel display disappears, start from the step 1 again.



Repeat the above steps 1 and 2 to adjust each channel level.

#### Memorizing the adjusted channel levels

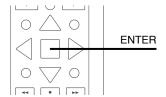
This unit gives two spaces("REF.1" and "REF.2") for memory of the adjusted channel levels. You can call the memorized again whenever you want.



After doing the above steps 1~3 in "Adjusting the current channel level", press the below button.



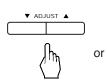
OI



• "REF. 1" is displayed and "1" flickers.



Select the desired space between REF. 1 and REF. 2.



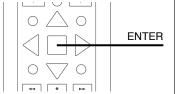
CH/LEVEL ▲, ▼



Press below button.



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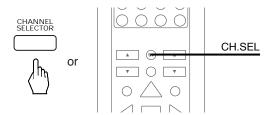


• The adjusted channel levels have now been memorized.

#### Calling the memorized levels



Press the CHANNEL SELECTOR button.



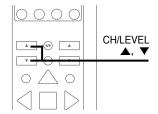
- "REF.1" (or "USER", etc.) is displayed for several seconds.
- If the channel level mode display disappears, press the CHANNEL SELECTOR button again.



Select the desired one between REF.1 and REF.2



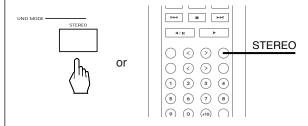
or



 Then the current channel levels are changed to the memorized ones.

#### Downmixing into 2 front channels

- Allows the multi channel DTS or Dolby Digital signal to be reproduced through only two speakers or through headphones.
- When the digital signals from the DTS or Dolby Digital program sources are input in available surround mode, press the STEREO button.



• "ST" indicator lights up and "2 CH DOWNMIX" is scrolled, meaning it enters the 2-CH downmix mode, and then the discrete multi-channels(except LFE) are mixed down into 2 front channels.

- When the playback of the source on the player is stopped, interrupted, etc., the 2 CH downmix mode is not canceled even though "ST" and the DTS or Dolby Digital indicators go off.
- If headphones are plugged in and the SPEAKER button is set to off while the digital signals from the DTS or Dolby Digital program sources are being input, it will enter the 2-CH downmix mode automatically and if the headphones are unplugged and the SPEAKER button is set to on in the 2-CH downmix mode, it will return to the previous mode.

#### LISTENING TO RADIO BROADCASTS

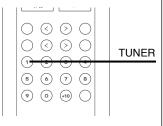
#### **Auto tuning**



Select the tuner.

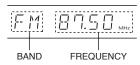


or



Select the desired band.





- Each time this button is pressed, the band is changed to FM or AM.
- When pressing the BAND button without selecting the TUNER, the tuner will be selected automatically.

3

Select the tuning mode.



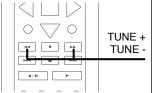
- Each time this button is pressed, the mode changes as follows;
  - Tuning mode: "PRESET" goes off. Preset mode: "PRESET" lights up.



Press the TUNING(/PRESET) UP( $\triangle$ /+) or DOWN( $\nabla$ /-) button for more than 0.5 second.



or



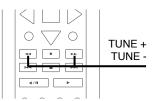
- The tuner will now search until a station of sufficient strength has been found. The display shows the tuned frequency and "TUNED".
- If the station found is not the desired one, simply repeat this operation.
- Weak stations are skipped during auto tuning.
- When pressing the TUNE +/- buttons on the remote control, you need not select the tuning mode on step 3.

#### **Manual tuning**

- Manual tuning is useful when you already know the frequency of the desired station.
- Perform the steps 1 to 3 in "Auto tuning" procedure and press the TUNING(/PRESET) UP(▲/+) or DOWN(▼/-) button repeatedly until the right frequency has been reached.



or



#### Presetting radio stations

• You can store up to 30 preferred stations in the memory.



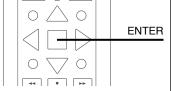
Tune in the desired station with auto or manual tuning.

2

Press the MEMORY/ENTER button.



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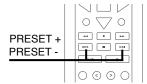
• "MEM" is flickering for 5 seconds.

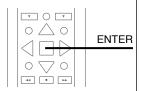


Select the desired preset number  $(1\sim30)$  and press the below button.









- The station has now been stored in the memory.
- A stored frequency is erased from the memory by storing another frequency in its place.
- If "MEM" goes off, start again from the above step 2.



Repeat the above steps 1 to 3 to memorize other stations.

#### **■ MEMORY BACKUP FUNCTION**

The following items, set before the receiver is turned off, are memorized.

- INPUT SELECTOR settings
- Surround mode settings
- · Preset stations, etc.

Note: If the electricity fails or the AC input cord is disconnected for more than 2 weeks, they are all cleared. So you should memorize them again.

#### **Tuning to preset stations**



After selecting the tuner as an input source, select the preset mode.

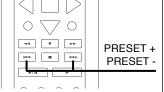


• Then "PRESET" lights up.



Select the desired preset number.





• When pressing the PRESET +/- buttons on the remote control, you need not select the preset mode on step 1.

#### Listening to FM stereo broadcasts

• While listening to FM broadcasts.



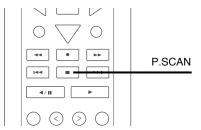
• Each time this button is pressed, the FM mode changes as follows;

Stereo mode: "ST" lights up.

Mono mode: "ST" goes off.

 When FM stereo broadcasts are poor because of weak broadcast signals, select the FM mono mode to reduce the noise, then FM broadcasts are reproduced in monaural sound.

#### Scanning preset stations in sequence



- The receiver will start scanning the stations in the preset sequence and each station is received for 5 seconds.
- At the desired station, press this button again to stop scanning.

#### RECORDING

- The analog signals from the 7 CH DIRECT inputs as well as the digital signals from the coaxial or optical digital input can be heard but cannot be recorded.
- The volume and tone (bass, treble) settings have no effect on the recording signals.

### **Recording with TAPE** Start recording on the TAPE. Select the desired input as a recording source except for TAPE. رت ب ب **TUNER** CD AUX Start play on the desired input. $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ VIDEO 1 VIDEO 2 VIDEO 3 or Start recording on the VIDEO 1. **Dubbing from video components onto** VIDEO 1 Select VIDEO 2 or VIDEO 3 as a recording source. Start play on the VIDEO 2 or the VIDEO 3. 1 2 3 4 VIDEO 2 5 6 7 VIDEO 3 • The audio and video signals from the VIDEO 2 or the VIDEO 3 will be dubbed onto the VIDEO 1 and you can enjoy them on the TV set and from the speakers. Select CD as an audio recording source. Dubbing the audio and video signals separately onto VIDEO 1 Example) When dubbing the VIDEO 2 video signal and the CD audio signal separately onto VIDEO 1. Select VIDEO 2 as a video recording source. or CD NPUT SELECTOR VIDEO or VIDEO 2



Start play on the VIDEO 2 and the CD respectively.

• The audio signal from the CD and the video signal from the VIDEO 2 will be dubbed and you can enjoy them on the TV set and from the speakers.

Note: Be sure to observe the order of the above steps 1 and 2.

#### **DIGITAL AUDIO RECORDING WITH MD RECORDER**

• Only when the OPTICAL DIGITAL OUT of this receiver is connected to the OPTICAL DIGITAL IN of the MD recorder or CD recorder, you can enjoy high-quality sound of digital recording without converting the original signals. Refer to "CONNECTING AUDIO COMPONENTS", "CONNECTING VIDEO COMPONENTS" and "CONNECTING DIGITAL INs and OUT" on pages 6~9 and the operating instructions of the MD recorder or CD recorder.

#### ■ Notes:

- Digital recording is available for the digital audio program sources such as CDs, MDs, some DVDs, etc.
- In most DVDs as well as some CDs, etc., digital recording may not be available depending on the signal format.
- There are some restrictions on recording digital signals. When making digital recordings, refer to the operating instructions of your digital recording equipment to know what restrictions are imposed.



Select a desired input of CD, VIDEO 1~3 as a recording source.



CD VIDEO 1 VIDEO 2 VIDEO 3 0 0 0 0 0 0



For digital recording, select the desired digital input as recording signal input.



• Each time this button is pressed, the corresponding input is selected as follows:

$$\rightarrow$$
 A(nalog)  $\rightarrow$  c(oaxial) 1  $\rightarrow$  c(oaxial) 2  $-$  o(ptical) 2  $\leftarrow$  o(ptical) 1  $\leftarrow$ 

■ Note: When the selected digital input is not connected, "DIGITAL" indicator flickers.

There will be no recording as well as no sound.



Start recording on the component connected to OPTICAL DIGITAL OUT.



Start play on the desired input.

#### **OTHER FUNCTIONS**

#### Compressing the dynamic range (Dolby Digital sources only)

• This function compresses the dynamic range of previously specified parts of the Dolby Digital sound track(with extremely high volume) to minimize the difference in volume between the specified and non-specified parts.

This makes it easy to hear all of the sound track when watching movies at night at low levels.

 When the digital signals from Dolby Digital program source are input in available surround mode.

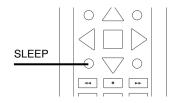


• Each time this button is pressed, the mode changes and the display scrolls.

 In some Dolby Digital softwares, this function may not be available.

#### Operating the sleep timer

- The sleep timer allows the system to continue to operate for a specified period of time before automatically shutting off.
- To set the receiver to automatically turn off after the specified period of time.

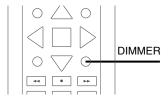


• Each time this button is pressed, the sleep time changes as follows:

$$\longrightarrow 10 \longrightarrow 20 \longrightarrow 30 \longrightarrow 60 \longrightarrow 90 \longrightarrow OFF$$
 Unit: minutes

- While operating the sleep timer, "SLEEP" lights up.
- When the sleep time is selected, all display panels of Sherwood components connected by the DIGI LINK III are dimly lit.

# Adjusting the brightness of the fluorescent displays



 Each time this button is pressed, the brightness of all fluorescent displays of Sherwood components connected by the DIGI LINK III changes together as follows;

$$\rightarrow$$
 ON  $\rightarrow$  dimmer  $\rightarrow$  OFF  $-$ 

• In the display OFF mode, pressing any button will restore the display ON mode.

### Using the OSD

This unit incorporates an OSD(On-screen display) function to provide information about basic operation of this unit and to simplify the setup procedures.

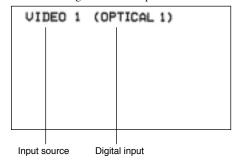
The OSD function uses a monitor TV connected to this unit as a display and has two kinds of display modes such as current status display and menu screen.

■ Notes: Any on-screen display shown on the monitor TV will not be recorded onto VIDEO 1.

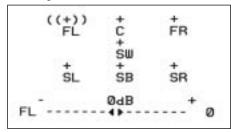
#### **CURRENT STATUS DISPLAY**

When the AUTO OSD mode is set to ON on the menu screen, this mode shows the status corresponding to each operation.

- The on-screen display will automatically disappear in several seconds.
- For examples, there are 2 status displays as follows.
- ■When selecting the desired input source



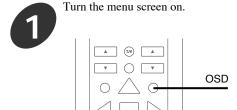
■When selecting the TEST TONE mode



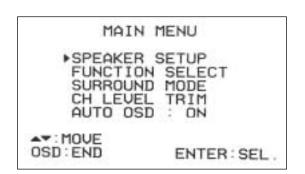
- When the speaker setting is "N", the test tone of the corresponding channel is not shown.
- When adjusting each channel level or overall volume, the volume level display will be shown.
- The test tone display will be shown until the test tone mode is canceled.

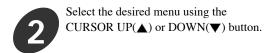
#### **MENU SCREEN**

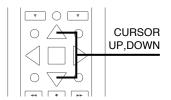
- This function simplifies the setup procedures.
- The menu screen operation is performed easily with the CURSOR control(▲, ▼, ◄, ▶), OSD and ENTER buttons.



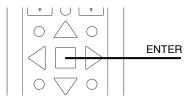
- The main menu will be shown.
- To turn the menu screen off, press this button.



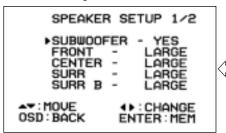


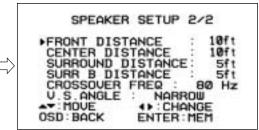


Confirm your selection.

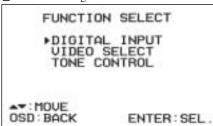


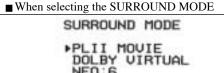
■ When selecting the SPEAKER SETUP





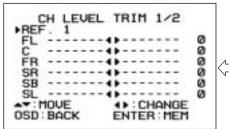
■ When selecting the FUNCTION SELECT

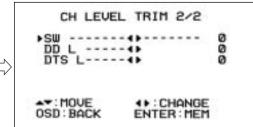




NEO:6 STEREO ◆ CHANGE OSD: BACK AT: MOUE

- Only when one of TUNER, CD, TAPE and AUX is selected, you can select a video input source on the VIDEO SELECT menu and enjoy the audio and video signals separately. (In case of selecting TUNER, you cannot enjoy component video signals)
- When dubbing them onto VIDEO 1, select either VIDEO 2 or VIDEO 3 on the VIDEO SELECT menu.
- When selecting the CH LEVEL TRIM





- According to your selections for the input source, input signal, decoding mode, surround mode, speaker settings, etc., the conditions of each menu may differ.
- When adjusting the distance or channel level, etc., use the CURSOR LEFT(◄) and RIGHT(►) buttons.

- ■When selecting the AUTO OSD
- Each time the ENTER button is pressed, the AUTO OSD mode is set to ON to turn on the current display or OFF to turn it off.
- When the AUTO OSD mode is set to ON, the current status display overlays the program image on the monitor TV and may interference with your movie enjoyment. In such a case, set it to OFF.



Select the desired menu or(and) change the condition with the corresponding buttons.



Repeat the above steps  $2\sim4$  to change the conditions on other menus.

# Troubleshooting Guide

If a fault occurs, run through the table below before taking your receiver for repair.

If the fault persists, attempt to solve it by switching the receiver off and on again. If this fails to resolve the situation, consult your dealer. Under no circumstances should you attempt to repair the receiver yourself. This could void the warranty.

PROBLEM	POSSIBLE CAUSE	REMEDY
No power	The AC input cord is disconnected. Poor connection at AC wall outlet or the outlet is inactive.	Connect the cord securely. Check the outlet using a lamp or another appliance.
No sound	The speaker cords are disconnected. The master volume is adjusted too low. The MUTE button on the remote control is pressed to ON. Speakers are not switched on. Incorrect selection of the input source. Incorrect connections between the components.	Check the speaker connections. Adjust the master volume. Press the MUTE button to cancel the muting effect. Press the SPEAKER button to ON. Select the desired input source correctly. Make connections correctly.
No sound from the surround speakers	Surround mode is switched off(stereo mode).  Master volume and surround level are too low.  A monaural source is used.  Surround speaker setting is "N".	Select a surround mode.     Adjust master volume and surround level.     Select a stereo or surround source.     Select the desired surround speaker setting.
No sound from the center speaker	Dolby Virtual, stereo mode, etc. is selected.     Center speaker setting is "N".     Master volume and center level are too low.	Select the desired surround.     Select the desired center speaker setting.     Adjust master volume and center level.
No sound from the surround back speaker	The input signal format or the current surround mode cannot support the 6.1 surround playback.  Master volume and surround back level are too low.  Surround back speaker setting is "N".	Under the proper situations, perform the 6.1 surround playback. Adjust master volume and surround back level. Select the desired surround back speaker setting.
Stations cannot be received	No antenna is connected. The desired station frequency is not tuned in. The antenna is in wrong position.	Connect an antenna. Tune in the desired station frequency. Move the antenna and retry tuning.
Preset stations cannot be received	An incorrect station frequency has been memorized.     The memorized stations are cleared.	Memorize the correct station frequency.     Memorize the stations again.
Poor FM reception	No antenna is connected. The antenna is not positioned for the best reception.	Connect an antenna. Change the position of the antenna.
Continuous hissing noise during FM reception, especially when a stereo broadcast is received.	Weak signals.	Change the position of the antenna.     Install an outdoor antenna.
Continuous or intermittent hissing noise during AM reception, especially at night.	Noise is caused by motors, fluorescent lamps or lightning, etc.	Keep the receiver away from noise sources.     Install an outdoor AM antenna.
Remote control unit does not operate.	Batteries are not loaded or exhausted.     The remote sensor is obstructed.	Replace the batteries.     Remove the obstacle.
Other Sherwood components do not react to remote control commands.	DIGI LINK connections are not made properly.	Make proper DIGI LINK connections.
OSD function is not available	Video connections between this unit and the TV monitor are not made correctly.	Make proper video connections.

#### **Specifications**

#### ■AMPLIFIER SECTION

- Total harmonic distortion, 6 Ω, 95 W, 1 kHz 🖙 0.09%
- Intermodulation distortion

60 Hz : 7 kHz= 4 : 1 SMPTE, 6  $\Omega$ , 95 W  $\square$  **0.1%** 

 $\bullet$  Input sensitivity, 47  $k\Omega$ 

Line (CD, TAPE, VIDEO) SF 200 mV

• Signal to noise ratio, IHF "A" weighted Line (CD, TAPE, VIDEO) 90 dB

• Frequency response

Line (CD, TAPE, VIDEO), 20 Hz~50 kHz □ +0 dB, -3 dB

• Output level

TAPE REC,  $2.2 \text{ k}\Omega$  se 200 mV

- Bass/Treble control, 100 Hz/10 kHz **±10 dB**
- Surround mode, only channel driven Front power output, 6  $\Omega$ , 1 kHz, THD 0.7 %  $\approx$  110 W+110 W Center power output, 6  $\Omega$ , 1 kHz, THD 0.7 %  $\approx$  110 W Surround power output, 6  $\Omega$ , 1 kHz, THD 0.7 %  $\approx$  110 W+110 W Surround back power output, 6  $\Omega$ , 1 kHz, THD 0.7 %  $\approx$  110 W

#### **■DIGITAL AUDIO SECTION**

- Sampling frequency 32, 44.1, 48, 96 kHz
- Digital input level

Coaxial, 75  $\Omega$   $\bowtie$  0.5 Vp-p Optical, 660 nm  $\bowtie$  -15~-21 dBm

#### **■VIDEO SECTION**

- Video format 🖙 NTSC
- Input sensitivity(=Output level), 75  $\Omega$

Video (Composite(normal))

S-Video (luminance signal)

(chrominance signal)

(chrominance signal)

Component video (R-Y signal)

(B-Y signal)

(Y signal)

(B-V signal)

(T signal)

#### **■FM TUNER SECTION**

- Tuning frequency range 87.5~108 MHz
- Usable sensitivity, THD 3%, S/N 30 dB 🖙 12.8 dBf
- 50 dB quieting sensitivity, mono/stereo 20.2/45.3 dBf
- Signal to noise ratio, 65 dBf, mono/stereo **70/65 dB**
- Total harmonic distortion, 65 dBf,1 kHz, mono/stereo © 0.5 / 0.8 %
- Frequency response, 30 Hz~15 kHz 🖙 ±3 dB
- Stereo separation, 1 kHz 📨 32 dB
- Capture ratio 🖙 4 dB
- IF rejection ratio 🖙 60 dB

#### ■AM TUNER SECTION

- Tuning frequency range 520~1710 kHz
- Usable sensitivity 500 µV/m
- Signal to noise ratio 🖙 40 dB
- Selectivity 🖙 25 dB

#### **■GENERAL**

- Power supply  $\sim$  120 V ~ 60 Hz
- Power consumption 🖙 2.5 A
- Switched AC outlet F TOTAL 100 W max.
- Dimensions (W  $\times$  H  $\times$  D)  $\approx$  17-3/8  $\times$  5-1/2  $\times$  13 inches (440  $\times$  141  $\times$  330 mm)
- Weight (Net) 9.9 kg (21.8 Ibs)

Note: Design and specifications are subject to change without notice for improvements.

# Setup Code Table\_\_\_\_\_

### TV

Admiral								$\overline{}$						
Aiko	AOC	005	003						005		003	011		
Akai	Admiral	041	031					Gradiente	009	011				
Alaron	Aiko	014						Grunpy	027	026				
Ambassador	Akai	005						Hallmark	025					
America Action   027	Alaron	026						Harley Davidson	026					
Ampro	Ambassador	024						Harman/Kardon	010					
Anam	America Action	027						Havard	027					
Audiovox	Ampro	043						Hitachi	016	011	018			
Baysonic   027	Anam	027	047	048	049			Infinity	010					
Belcor	Audiovox	030	027	014	034			Inteq	002					
Bell & Howell   Dig   O01	Baysonic	027						JBL	010					
Bradford   027   Brockwood   003   Broksonic   028   031	Belcor	003						JCB	050					
Brockwood   003   Broksonic   028   031	Bell & Howell	019	001					JVC	009	046				
Broksonic   028   031	Bradford	027						KEC	027					
CXC	Brockwood	003						KTV	027	005	006			
Candle	Broksonic	028	031					Kenwood	005	003				
Carnivale	CXC	027						LG	011	003				
Carver	Candle	005	011					LXI	007	010	019	020	025	
Celebrity	Carnivale	005						Logik	001					
Cineral	Carver	010						Luxman	011					
Citizen         012         005         011         006         014         Magnavox         010         005         026           Concerto         011         Contec         027         Value         Magestic         001         Contec         027         Value         Massishita         042         Value	Celebrity	050						MGA	017	005	025	003		
Concerto	Cineral	030	014					MTC	012	005	003	011		
Contec	Citizen	012	005	011	006	014		Magnavox	010	005	026			
Craig         027         Use of the content of the con	Concerto	011						Magestic	001					
Crosley         010         Magatron         025         016           Crown         027         006         Memorex         019         042         031         017         025         011           Curtis Mathes         007         010         019         008         030         041         002         002         002         002         002         002         002         002         002         002         003         003         001         001         001         001         001         001         001         001 <td>Contec</td> <td>027</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Marantz</td> <td>010</td> <td>005</td> <td></td> <td></td> <td></td> <td></td>	Contec	027						Marantz	010	005				
Crown Curtis Mathes         027 006         Wemorex         019 042 031 017 025 011         025 011           Curtis Mathes         007 010 019 008 030 041         001 006 Midland 007 002 008 006 015         000 005 006 015         000 005 006 015           Daewoo         030 030 030 003 006 014 034 035         035 Mitsubishi 041 017 025 003         025 003 003 006         000 005 005 003 006         000 005 003 006           Denon         016 Dumont 002 003 006 006 006 006 006 006 006 006 006	Craig	027						Matsushita	042					
Curtis Mathes         007         010         019         008         030         041         001         001         002         002         008         006         015           Daewoo         030         003         006         014         034         035         Mitsubishi         041         017         025         003           Daytron         003         006         014         034         035         Mitsubishi         041         017         025         003           Denon         016         003         006         014         034         035         Motorola         041         017         025         003           Dumont         002         003         003         006         014         034         036         027         020         025         022           Dwin         044         036         036         036         036         030         031         030         030         031         031         031         031         031         031         031         031         031         031         031         031         031         031         031         031         031         031         031	Crosley	010						Magatron	025	016				
Daewoo   O30   O	Crown	027	006					Memorex	019	042	031	017	025	011
Daewoo	Curtis Mathes	007	010	019	800	030	041		001					
Daewoo		012	005	016	011	001	006	Midland	007	002	800	006	015	
Daytron   Daytron   Denon   Denon   Denon   Denon   Denon   Denon   Denon   Dumont   Dumont		022	032	038	040			Minutz	004					
Denon	Daewoo	030	003	006	014	034	035	Mitsubishi	041	017	025	003		
Dumont         002         003         NAD         020         025         022           Dwin         044         036         NEC         005         003         011           Electroband         050         NTC         014         NTC         014           Emerson         019         028         031         027         029         025         Nikko         005         025         014           6         003         026         006         024         034         035         Onwa         027         020         022         Optimus         019         042         022         025         025         Optimus         019         042         022         026         027         Optimus         019         042         022         025         026         021         026         027         Optimus         028         031         026         026         027         026         023         026         028         031         026         028         031         026         027         020         008         042         007         020         008         012         005         025         025         026         026         026	Daytron	003						Motorola	041					
Dwin	Denon	016						Multitech	027					
Electroband   050	Dumont	002	003					NAD	020	025	022			
Emerson         019         028         031         027         029         025         Nikko         005         025         014           Envision         005         026         006         024         034         035         Onwa         027           Envision         005         025         Optimus         019         042         022           Fisher         019         026         Optonica         041         021           Fujitsu         026         Orion         028         031         026           Funai         027         026         023         Panasonic         008         042           Futuretech         027         Penney         007         020         008         012         005         025           GE         007         008         030         041         029         025         004         003         011         006         015         040           004         015         038         040         Pilco         010         031         005         016         003	Dwin	044	036					NEC	005	003	011			
Description   Continue	Electroband	050						NTC	014					
Envision       005       Optimus       019 042 022         Fisher       019       Optonica       041 021         Fujitsu       026       Orion       028 031 026         Funai       027 026 023       Panasonic       008 042         Futuretech       027       Penney       007 020 008 012 005 025         GE       007 008 030 041 029 025       004 003 011 006 015 040         004 015 038 040       Pilco       010 031 005 016 003	Emerson	019	028	031	027	029	025	Nikko	005	025	014			
Fisher 019 Optonica 041 021 Fujitsu 026 Orion 028 031 026 Funai 027 026 023 Panasonic 008 042 Futuretech 027 Penney 007 020 008 012 005 025 GE 004 015 038 040 Pilco 010 031 005 016 003		003	026	006	024	034	035	Onwa	027					
Fujitsu       026       Orion       028       031       026         Funai       027       026       023       Panasonic       008       042         Futuretech       027       Penney       007       020       008       012       005       025         GE       007       008       030       041       029       025       004       003       011       006       015       040         004       015       038       040       Pilco       010       031       005       016       003	Envision	005						Optimus	019	042	022			
Funai     027     026     023     Panasonic     008     042       Futuretech     027     Penney     007     020     008     012     005     025       GE     007     008     030     041     029     025     004     003     011     006     015     040       004     015     038     040     Pilco     010     031     005     016     003	Fisher	019						Optonica	041	021				
Futuretech 027 Penney 007 020 008 012 005 025 GE 007 008 030 041 029 025 004 003 011 006 015 040 004 015 038 040 Pilco 010 031 005 016 003	Fujitsu	026						Orion	028	031	026			
GE 007 008 030 041 029 025 004 003 011 006 015 040 004 015 038 040 Pilco 010 031 005 016 003		027	026	023				Panasonic	800	042				
004 015 038 040 Pilco 010 031 005 016 003	Futuretech	027						Penney	007	020	800	012	005	025
	GE	007	800	030	041	029	025		004	003	011	006	015	040
Gibralter 002 005 003 Philips 010		004	015	038	040			Pilco	010	031	005	016	003	
	Gibralter	002	005	003				Philips	010					

Pilot	005	003	006			
Pioneer	022					
Portland	003	006	014			
Prism	800					
Proscan	007					
Proton	025	032				
Pulsar	002	003				
Quasar	800	042	021			
RCA	007	800	041	003	013	015
	037	038	039	040		
Radio Shack	007	019	021	027	005	025
	003	011	006			
Realistic	019	021	027	005	025	003
	011	006				
Runco	002	005	033			
SSS	027	003				
Sampo	005	006				
Samsung	012	005	025	003	011	045
Samsux	006					
Sansei	030					
Sansui	031					
Sanyo	019					
Scimitsu	003					
Scotch	025					
Scott	028	027	025	003	026	
Sears	007	010	019	020	025	026
	011	006				
Semivox	027					
Semp	020					
Sharp	041	021	006			
Sherwood	000					
Shogun	003					
Signature	001					
Sony	050					
Soundesign	027	025	026			
Squareview	023					
Starlite	027					
Supreme	050					
Sylvania	010	005				
Symphonic	023					
TMK	025	011	024			
Tandy	041	0.40				
Technics	800	042				
Technoi Ace	026	044				
Techwood	008	011	047	040	000	000
Teknika	010	027	017	012	003	026
Tolofunkar	011	001	006	014		
Telefunken	011	000	010			
Toshiba	019	020	012			
Totevision	006					
Vector Research	005					
Victor	009					
Vidikron	010					

025	003				
010	021	005	025	004	003
026	011	001			
031	034	035			
005	003				
002	031	001	014		
	010 026 031 005	010 021 026 011 031 034 005 003	010 021 005 026 011 001 031 034 035 005 003	010 021 005 025 026 011 001 031 034 035 005 003	010 021 005 025 004 026 011 001 031 034 035 005 003

### **VCR**

Admiral	027	021				
Adventura	000					
Aiko	025					
Aiwa	005	000				
Akai	026					
America Action	025					
America High	004					
Asha	023					
Audiovox	005					
Beaumark	023					
Bell & Howell	017					
Brocksonic	021					
Broksonic	020	018	021	001		
CCE	015	025				
Calix	005					
Canon	004					
Carver	081					
Cineral	025					
Citizen	005	025				
Colt	015					
Craig	005	012	023	015	024	
Curtis Mathes	013	004	026	028		
Cybernex	023					
Daewoo	010	025				
Denon	800					
Dynatech	000					
Electrohome	005					
Electrophonic	005					
Emerex	002					
Emerson	005	020	000	018	009	021
	001	025				
Fisher	012	017				
Fuji	004	003				
Funai	000					
GE	013	004	027	023		
Garrard	000					
Go Video	052					
GoldStar	005	006				
Gradiente	000					
HI-Q	012					
Harley Davidson	000					
Harman/Kardon	016	006				
Harwood	015					

Hitachi   000   008   026	Lloadquarter	011						Declictio	004	005	007	010	000	017
Hughes Net. Sys	Headquarter	011	000	006				Realistic	004	005	027	012	000	017
JVC 04 014 026  Jensen 026  Jensen 026  KEC 005 025  KLH 015  Kenwood 014 026 066  Kenwood 014 026 066  Jensen 026  Kenwood 014 026 066  Kenwood 014 026 066  Jensen 026  Jensen 027  Jensen			008	026				Dunas						
Jensen			006											
KEC			026							010	000			
KLH			005								033			
Kenwood			025								001	006	004	
Kodak			006	006									024	
LVI				006				•						
Lloyd's			005										000	017
Logik   MEI								Sears		005	012	000	008	017
MEI         004         Sharp         027         Shintom         015         Shintom         016         000         016         016         016         016         016         016         016         017         018         018         010         000	,							Comp						
MGA         023         009         US         Shintom         015         Shogun         023         MGN         Shogun         023         MGN         Shogun         023         MGN         Shogun         023         MGN	-							·						
MGN Technology			000					·						
MTC         023         000         Singer         015         OUNTY OF THE WARD O			009											
Magnasonic         025         Sony         004         002         000         003           Magnavox         004         007         016         000         019         Syvania         004         016         000         009           Marantz         004         016         TMK         023         000         017         021         011         000         TMK         023         000         026         000			000											
Magnavox         004         007         016         000         019         Syvania         004         016         000         009           Magnin         023         Marantz         004         016         00         019         Symphonic         000           Marta         005         00         016         020         TMK         023         028         029         026         Tatung         026         000         026         000         026         000         026         000         026         000         026         000         026         000         026         000         026         000         000         026         000 <td></td> <td></td> <td>000</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td>000</td> <td>000</td> <td>002</td> <td></td> <td></td>			000					-		000	000	002		
Magnin	-		007	016	000	010		•						
Marantz         004         016         TMK         023         Common Section         Coult			007	010	000	019		•		010	000	009		
Marta         005         Tatung         026         Case         000 026         Case         Case         000 026         Case         Ca			016											
Matsushita         004         028         029         Teac         000         026           Memorex         004         005         027         007         012         023         Technics         004         028           Minolta         008         007         014         009         Toshiba         010         005         000           Mitsubishi         027         014         009         Toshiba         010         009         Toshiba         010         009           Multitlech         000         015         Vector         010         005         023         Unitech         023         Vector         010         006         006         Vector         010         006         006         Vector         010         006         006         006         Vector         010         006         006         006         006         006         006         006         006         006         006         006			010											
Memorex			020	020				, and the second		026				
Minolta         000         017         021         011         031         032         Teknika         004         005         000           Mitsubishi         027         014         009         Toshiba         010         009         Toshiba         010         009           Motorola         004         027         014         009         Toshiba         010         000 </td <td></td> <td></td> <td></td> <td></td> <td>007</td> <td>012</td> <td>023</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>					007	012	023							
Minolta         008         Thomas         000           Mitsubishi         027         014         009         Toshiba         010         009           Motorola         004         027         Totevision         005         023           Multitech         000         015         Unitech         023           NEC         017         014         026         006         Vector         010           Nikko         005         023         Vector         010         Vector         010           Noblex         023         004         Vector         010         Vector         010           Olympus         004         027         017         028         029         030         Wards         013         004         027         012         016         023           Orion         020         021         001         White WestingHouse         021         025         023         000         08         015         019         016         023           Panasonic         004         028         022         029         031         XR-100         004         000         015         000         015         000         <	IVIGITIOTEX										000			
Mitsubishi         027         014         009         Toshiba         010         009           Moltitlech         004         027         Totevision         005         023           NEC         017         014         026         006         Vector         010           Nikko         005         023         Vector Research         006         Vector Research         006           Noblex         023         004         Vector Research         006         Videosonic         023           Olympus         004         005         027         017         028         029         030         Wards         013         004         027         012         016         023           Opimus         005         027         017         028         029         030         Wards         013         004         027         012         016         023           Orion         020         021         001         White WestingHouse         021         025         025         029         031         XR-100         004         000         015         019         000         000         015         000         000         000         000 <t< td=""><td>Minolta</td><td></td><td>017</td><td>021</td><td>011</td><td>001</td><td>002</td><td></td><td></td><td>003</td><td>000</td><td></td><td></td><td></td></t<>	Minolta		017	021	011	001	002			003	000			
Motorola         004         027         Totevision         005         023           Multitech         000         015         Vector         010           NEC         017         014         026         006         Vector         010           Nikko         005         023         Vector Research         006         Vector Research         006           Noblex         023         004         Video Concepts         010         010           Olympus         004         005         027         017         028         029         030           Opimus         005         027         017         028         029         030         Wards         013         004         027         012         016         023           Orion         020         021         001         White WestingHouse         021         025         025         023         000         008         015         019         023           Panny         004         028         022         029         031         XR-100         004         000         015         006         220         021         000         000         000         000         000			014	വര						വര				
Multitech   000   015   014   026   006   Vector   010   020   023   020   021   021   023   020   021   023   020   021   023   020   021   023   025   020   021   025   025   020   021   025   026				003										
NEC										020				
Nikko				026	006									
Noblex			014	020	000									
Olympus         004         Videosonic         023           Opimus         005         027         017         028         029         030         Wards         013         004         027         012         016         023           Orion         020         021         001         White WestingHouse         021         025         Varian         Varian         000         008         015         019         Varian         000         008         015         019         016         023         020         020         021         025         Varian         000         004         000         015         Varian         000         004         000         015         Varian         006         Varian         007         007         000         Varian         007         001         007														
Opimus         005         027         017         028         029         030         Wards         013         004         027         012         016         023           Orion         020         021         001         White WestingHouse         021         025         025         028         029         031         XR-100         004         000         015         000         015         000         015         000         015         000         000         015         019         025         028         029         031         XR-100         004         000         015         000         00								· ·						
Orion         020         021         001         White WestingHouse         021         025           Panasonic         004         028         022         029         031         XR-100         004         000         015           Penny         004         005         023         008         006         Yamaha         006           Pentax         008         7amaha         006         004         000         021         003           Philco         004         021         7amaha         006         006         000         000         003           Philco         004         021         7amaha         006         006         000         003         003           Philco         004         021         7amaha         006         000 <td></td> <td></td> <td>027</td> <td>017</td> <td>028</td> <td>029</td> <td>030</td> <td></td> <td></td> <td>004</td> <td>027</td> <td>012</td> <td>016</td> <td>023</td>			027	017	028	029	030			004	027	012	016	023
Orion         020         021         001         White WestingHouse         021         025           Panasonic         004         028         022         029         031         XR-100         004         000         015           Penny         004         005         023         008         006         Yamaha         006           Pentax         008         220         029         031         Ameira High         004 (TV use 008)           Philco         004         016         Brocksonic         001         015           Pilot         005         Cutis Mathes         004 (TV use 008)         004 (TV use 008)           Profitronic         023         Daewoo         025         Emerson         001           Proscan         013         Emerson         001         Funai         000           Pulsar         007         GE         GE         004 (TV use 008)         013 (TV use 012)           Quarter         011         Hitachi         004 (TV use 008)         000           Quasar         004         028         029         031         HQ         000           RCA         013         004         027         023 <td< td=""><td></td><td></td><td></td><td>•</td><td>0_0</td><td>0_0</td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.0</td><td>0_0</td></td<>				•	0_0	0_0							0.0	0_0
Panasonic         004         028         022         029         031         XR-100         004         000         015           Penny         004         005         023         008         006         Yamaha         006           Pentax         008         Zenith         007         000         021         003           Philco         004         021         Zenith         007         000         021         003           Philips         004         016         Zenith         007         000         021         003           Philips         004         016         Zenith         007         000         021         003           Prilips         004         016         Dout to the processor of	Orion			001				White WestingHouse			0.0	0.0		
Penny         004         005         023         008         006         Yamaha         006           Pentax         008         223         008         006         Zenith         007         000         021         003           Philco         004         021         Ameira High         004 (TV use 008)         004         001           Pilot         005         Colt         015         001         001         001         004         004         004         008         008         008         009         004         004         004         004         008         008         008         009         009         000			028		029	031					015			
Pentax   008   Zenith   007 000 021 003														
Philco         004         021         Ameira High         004 (TV use 008)           Philips         004         016         Brocksonic         001           Pilot         005         Colt         015           Pioneer         014         Cutis Mathes         004 (TV use 008)           Profitronic         023         Daewoo         025           Proscan         013         Emerson         001           Protec         015         Funai         000           Pulsar         007         GE         004 (TV use 008)         013 (TV use 012)           Quarter         011         Hitachi         004 (TV use 008)         000           Quasar         004         028         029         031         HQ         000           RCA         013         004         027         023         008         019         Lloyds         000           Radio Shack         000         MGA         023           Radix         005         Megavox         016 (TV use 010)         004 (TV use 008)										000	021	003		
Philips         004         016         Brocksonic         001           Pilot         005         Colt         015           Pioneer         014         Cutis Mathes         004 (TV use 008)           Profitronic         023         Daewoo         025           Proscan         013         Emerson         001           Protec         015         Funai         000           Pulsar         007         GE         004 (TV use 008)         013 (TV use 012)           Quarter         011         027 (TV use 041)         023           Quasar         004         028         029         031         HQ         000           RCA         013         004         027         023         008         019         Lloyds         000           Radio Shack         000         MGA         023           Radix         005         Megavox         016 (TV use 010)         004 (TV use 008)	Philco	004	021					Ameira High						
Pioneer         014         Cutis Mathes         004 (TV use 008)           Profitronic         023         Daewoo         025           Proscan         013         Emerson         001           Protec         015         Funai         000           Pulsar         007         GE         004 (TV use 008) 013 (TV use 012)           Quarter         011         027 (TV use 041) 023           Quartz         011         Hitachi         004 (TV use 008) 000           Quasar         004 028 029 031         HQ         000           RCA         013 004 027 023 008 019         Lloyds         000           Radio Shack         000         MGA         023           Radix         005         Megavox         016 (TV use 010) 004 (TV use 008)	Philips	004	016					-			,			
Profitronic         023         Daewoo         025           Proscan         013         Emerson         001           Protec         015         Funai         000           Pulsar         007         GE         004 (TV use 008) 013 (TV use 012)           Quarter         011         027 (TV use 041) 023           Quartz         011         Hitachi         004 (TV use 008) 000           Quasar         004 028 029 031         HQ         000           RCA         013 004 027 023 008 019         Lloyds         000           Radio Shack         000         MGA         023           Radix         005         Megavox         016 (TV use 010) 004 (TV use 008)	Pilot	005						Colt	015					
Proscan         013         Emerson         001           Protec         015         Funai         000           Pulsar         007         GE         004 (TV use 008) 013 (TV use 012)           Quarter         011         027 (TV use 041) 023           Quartz         011         Hitachi         004 (TV use 008) 000           Quasar         004 028 029 031         HQ         000           RCA         013 004 027 023 008 019         Lloyds         000           Radio Shack         000         MGA         023           Radix         005         Megavox         016 (TV use 010) 004 (TV use 008)	Pioneer	014						Cutis Mathes	004	(TV us	e 008)			
Protec         015         Funai         000           Pulsar         007         GE         004 (TV use 008) 013 (TV use 012)           Quarter         011         027 (TV use 041) 023           Quartz         011         Hitachi         004 (TV use 008) 000           Quasar         004 028 029 031         HQ         000           RCA         013 004 027 023 008 019         Lloyds         000           Radio Shack         000         MGA         023           Radix         005         Megavox         016 (TV use 010) 004 (TV use 008)	Profitronic	023						Daewoo	025					
Pulsar         007         GE         004 (TV use 008) 013 (TV use 012)           Quarter         011         027 (TV use 041) 023           Quartz         011         Hitachi         004 (TV use 008) 000           Quasar         004 028 029 031         HQ         000           RCA         013 004 027 023 008 019         Lloyds         000           Radio Shack         000         MGA         023           Radix         005         Megavox         016 (TV use 010) 004 (TV use 008)	Proscan	013						Emerson	001					
Quarter       011       027 (TV use 041) 023         Quartz       011       Hitachi       004 (TV use 008) 000         Quasar       004 028 029 031       HQ       000         RCA       013 004 027 023 008 019       Lloyds       000         Radio Shack       000       MGA       023         Radix       005       Megavox       016 (TV use 010) 004 (TV use 008)	Protec	015						Funai	000					
Quartz       011       Hitachi       004 (TV use 008) 000         Quasar       004 028 029 031       HQ       000         RCA       013 004 027 023 008 019       Lloyds       000         Radio Shack       000       MGA       023         Radix       005       Megavox       016 (TV use 010) 004 (TV use 008)	Pulsar	007						GE	004	(TV us	e 008)	013	(TV us	e 012)
Quasar       004       028       029       031       HQ       000         RCA       013       004       027       023       008       019       Lloyds       000         Radio Shack       000       MGA       023         Radix       005       Megavox       016 (TV use 010)       004 (TV use 008)	Quarter	011							027	(TV us	e 041)	023		
RCA       013 004 027 023 008 019       Lloyds       000         Radio Shack       000       MGA       023         Radix       005       Megavox       016 (TV use 010) 004 (TV use 008)	Quartz	011						Hitachi	004	(TV us	e 008)	000		
Radio Shack         000         MGA         023           Radix         005         Megavox         016 (TV use 010) 004 (TV use 008)	Quasar	004	028	029	031			HQ	000					
Radix 005 Megavox 016 (TV use 010) 004 (TV use 008)	RCA	013	004	027	023	800	019	Lloyds	000					
	Radio Shack	000						MGA	023					
	Radix	005						Megavox	016	(TV us	e 010)	004	(TV us	e 008)
Handex 005 000	Randex	005							000					

Magnin	023
Memorex	005 028 (TV use 025)
Mitsubishi	027 (TV use 041)
Orion	001
Panasonic	004 (TV use 008) 028 (TV use 042)
Penney	004 (TV use 008) 023
	028 (TV use 042)
Quasar	004 (TV use 008) 028 (TV use 042)
RCA	013 (TV use 012) 004 (TV use 008)
	027 (TV use 041)
Sansui	000
Sanyo	023
Sear	000 005
Sharp	027 (TV use 041)
Sony	002 (TV use 000)
Symphonic	000
Zenith	000

## DVD

п							
	Harman/Kardon	009					
	JVC	800					
	Kenwood	005					
	Megavox	011					
	Mitsubishi	016					
	Onkyo	011					
	Panasonic	013					
	Philips	011	006				
	Pioneer	003	014	026			
	Proscan	002					
	RCA	002					
	Samsung	017					
	Sherwood	001	012	000	018	019	
		020	021	022	023	025	
	Sony	004					
	Technics	013					
	Theta Digital	014					
	Toshiba	011					
	Yamaha	013	007				
ı	Zenith	011	010				

## **CBL**

	J					
ABC	002	003	009	030		
1,50	007	006	008	000		
Allegro	018	021	000			
Archer	018	026				
Bell&Howell	009	0_0				
Century	018					
Citizen	018	021				
Comtronics	014					
Contec	011					
Easten	001					
Emerson	026					
Everquest	010	014				
Focus	022					
Garrard	018					
Gemini	010					
General Instrument	033	276	006	034		
GoldStar	017	040				
Goodmind	026					
Hamlin	012	020	004	013		
Hitachi	006					
Hytex	007					
Jasco	010	018	021			
Jerrold	002	007	033	032	009	010
	006	034				
Memolex	000					
Movie Time	015					
NSC	015					
Oak	011					
Optimus	031					
Panasonic	000	016	031			
Paragon	000					
Philips	018					
Pioneer	017	025				
Popular Mechanics	022					
Pulsar	000					
Quasar	000					
RCA	031					
Radio Shack	010	021	026	028		
Recoton	022					
Regal	012	020				
Regency	001					
Rembrandt	006					
Runco	000					
SL Marx	014	014				
Smasung Scientific Atlanta	017 003	014	030	027		
Signal Signal	010	023 014	030	027		
	006	014				
Signature Sprucer	006					
Starcom	002	010				
Glaicoiii	002	010				

Stargate	010	014	026
Starquest	010		
TV86	015		
Teleview	014		
Tocom	007	800	
Toshiba	000		
Tusa	010		
Unika	018		
United Artists	007		
Universal	153	019	
Viewstar	015		
Zenith	000	024	
Zentek	022		

#### SAT

Chaparral         001           Echostar         009           Expreevu         009           General Instrument         016         015         018           HTS         009           Hitachi         011         011         009           Hughes Net.Sys         007         009         009         009           Jerrold         016         015         005         005           Megavox         006         005         005         005         006         005         006         005         007         001	AlphaStar	800			
Expreevu 009 General Instrument 016 015 018 HTS 009 Hitachi 011 Hughes Net.Sys 007 JVC 009 Jerrold 016 015 Megavox 006 005 Memorex 006 Next Level 006 Panasonic 017 Philips 006 005 Primestar 016 015 RCA 003 000 002 012 Radio Shack 018 Realistic 014 Sony 004 Star Choice 018 Toshiba 010 Uniden 006 005 015	Chaparral	001			
General Instrument         016         015         018           HTS         009         009         009         007         009	Echostar	009			
HTS 009 Hitachi 011 Hughes Net.Sys 007 JVC 009 Jerrold 016 015 Megavox 006 005 Memorex 006 Next Level 006 Panasonic 017 Philips 006 005 Primestar 016 015 RCA 003 000 002 012 Radio Shack 018 Realistic 014 Sony 004 Star Choice 018 Toshiba 010 Uniden 006 005 017	Expreevu	009			
Hitachi Hughes Net.Sys 007 JVC 009 Jerrold 016 015 Megavox 006 Next Level 006 Panasonic Philips 006 005 Primestar 016 015 RCA 003 000 002 012 Radio Shack 018 Realistic 014 Sony Star Choice 018 Toshiba 010 Uniden	General Instrument	016	015	018	
Hughes Net.Sys	HTS	009			
JVC         009           Jerrold         016         015           Megavox         006         005           Memorex         006           Next Level         006           Panasonic         017           Philips         006         005           Primestar         016         015           RCA         003         000         002         012           Radio Shack         018           Realistic         014           Sony         004           Star Choice         018           Toshiba         010           Uniden         006         005         014	Hitachi	011			
Jerrold 016 015 Megavox 006 005 Memorex 006 Next Level 006 Panasonic 017 Philips 006 005 Primestar 016 015 RCA 003 000 002 012 Radio Shack 018 Realistic 014 Sony 004 Star Choice 018 Toshiba 010 Uniden 006 005 014	Hughes Net.Sys	007			
Megavox         006         005           Memorex         006         006           Next Level         006         005           Panasonic         017         006           Philips         006         005           Primestar         016         015           RCA         003         000         002         012           Radio Shack         018         014         Sony         004         Star Choice         018         Toshiba         010           Uniden         006         005         014         006         005         014	JVC	009			
Memorex         006           Next Level         006           Panasonic         017           Philips         006           Primestar         016           RCA         003           Radio Shack         018           Realistic         014           Sony         004           Star Choice         018           Toshiba         010           Uniden         006         005         014	Jerrold	016	015		
Next Level         006           Panasonic         017           Philips         006         005           Primestar         016         015           RCA         003         000         002         012           Radio Shack         018         014           Sony         004         004         004           Star Choice         018         010           Toshiba         010         005         014	Megavox	006	005		
Panasonic         017           Philips         006         005           Primestar         016         015           RCA         003         000         002         012           Radio Shack         018         Realistic         014         50ny         004         5tar Choice         018         010         010         010         006         005         014	Memorex	006			
Philips         006         005           Primestar         016         015           RCA         003         000         002         012           Radio Shack         018         014         004         004         004         004         004         005         010         006         005         014         006         005         014         006         005         014         006         005         004         006         005         004         006         005         004         006         005         004         006         005         006         005         006	Next Level	006			
Primestar         016         015           RCA         003         000         002         012           Radio Shack         018         014         004         004         004         004         004         004         006         005         014         006         005         014         006         005         014         006         005         004         006         005         004         006         005         004         006         005         004         006         005         004         006         005         004         006         005         006         005         004         006         005         006         <	Panasonic	017			
RCA       003       000       002       012         Radio Shack       018         Realistic       014         Sony       004         Star Choice       018         Toshiba       010         Uniden       006       005       014	Philips	006	005		
Radio Shack       018         Realistic       014         Sony       004         Star Choice       018         Toshiba       010         Uniden       006       005       014	Primestar	016	015		
Realistic       014         Sony       004         Star Choice       018         Toshiba       010         Uniden       006       005       014	RCA	003	000	002	012
Sony         004           Star Choice         018           Toshiba         010           Uniden         006         005         014	Radio Shack	018			
Star Choice         018           Toshiba         010           Uniden         006         005         014	Realistic	014			
Toshiba 010 Uniden 006 005 014	Sony	004			
Uniden 006 005 014	Star Choice	018			
	Toshiba	010			
Zenith 013	Uniden	006	005	014	
	Zenith	013			

### AUX-TAPE/MD

Sherwood 000 (for tape deck) 035 (for MD recorder)

### AUX-LD

Denon	007	
Mitsubishi	007	
NAD	007	
Pioneer	007	
Sony	017	018

## AUX-TAPE

Aiwa	004	034	
Carver	004		
Harman/Kardon	016	004	
JVC	022	024	
Kenwood	800		
Megavox	004		
Marantz	004		
Onkyo	012	025	
Opimus	002	020	
Panasonic	038		
Pioneer	002	020	011
Sansui	004		
Sony	021	014	026
Technics	038		
Victor	024		
Wards	002		
Yamaha	010	009	

### AUX-AMP

Awia	029	
Carver	023	
Curtis Mathes	027	
Denon	037	
Harman/Kardon	040	
Linn	023	
Megavox	023	
Marantz	023	
Panasonic	039	
Philips	023	040
Pioneer	003	027
Sony	019	033
Technics	039	
Wards	003	
Yamaha	028	

### **AUX-HOME AUTOMATION**

GE	043
Lutron	044
One For All	042
Radio Shack	043
Security System	042
Universal X10	042
X10	042

## **AUX-DBS**

Awia	045	059	029
Fisher	005		
Harman/Kardon	046		
JBL	046		
JVC	047		
Jerrold	031		
RCA	006		
Scientific Artlanta	032		
Sony	045		
Starcom	031		

### **AUX-ACCESSORY**

Archer	013
GC Electronics	013
Jebsee	013
Rabbit	036
Radio Shack	013

### CD

Awia	010	030	
Burmester	019		
California Audio Lab	002		
Carver	010	012	020
DKK	001		
Denon	028	034	
Emerson	035		
Fisher	012	033	
Garrard	019	018	
Genexxa	004	035	
Harman/Kardon	010	011	
Hitachi	004		
JVC	007		

Kenwood	003	029	016	024	025	
Krell	010					
LXI	035					
Linn	010					
MCS	002					
MTC	019					
Megavox	010	035				
Marantz	002	010	013			
Mission	010					
NSM	010					
Nikko	033					
Onkyo	800	026				
Opimus	001	004	012	035	029	
	019	009	021	020		
Panasonic	002	031				
Parasound	019					
Philips	010	023				
Pioneer	004	035	021	017		
Proton	010					
QED	010					
Quasar	002					
RCA	012	035	006	036		
Realistic	012	019	013			
Rotel	010	019				
SAE	010					
Sansui	010	035				
Sanyo	012					
Scott	035					
Sears	035					
Sharp	029	013	037			
Sherwood	013	027	038	039	040	041
	000					
Sony	001	014	022			
Soundesign	009					
Tascam	019					
Teac	019	018	033	013		
Technics	002	031				
Victor	007	000				
Wards	010	006				
Yamaha	005	015				

032

Yorx

**R-765**A/V RECEIVER



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