Pioneer

**AUDIO/VIDEO
MULTI-CHANNEL RECEIVER**

VSX-D409
VSX-D509S

Operating Instructions

Congratulations on buying this fine Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

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

THE POWER SWITCH IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN STANDBY POSITION.

IMPORTANT

The lightning flash with arrowhead symbol, within an equilateral triangle, 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.

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

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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.

IMPORTANT NOTICE
The serial number for this equipment is located on the base. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

[For Canadian model]
This Class B digital apparatus complies with Canadian ICES-003.
[Pour le modèle Canadien]
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

[For Canadian model]

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.
ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSERESS A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

Information to User
Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

IMPORTANT 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 INSTRUCTIONS — All operating and use instructions should be followed.

CLEANING — Unplug this product from the wall outlet before cleaning. The product should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

ATTACHMENTS — Do not use attachments not recommended by the product manufacturer as they may cause hazards.

WATER AND MOISTURE — Do not use this product near water — for example, near a bathtub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

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 instructions, and should use a mounting accessory recommended by the manufacturer.

CART — A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

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 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 instructions have been adhered to.

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.

**LOCATION** – The appliance should be installed in a stable location.

NONUSE PERIODS – The power cord of the appliance should be unplugged from the outlet when left un-used for a long period of time.

GROUNDING OR POLARIZATION

● If this product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other), it will fit into the 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 replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

● If this product is equipped with a three-wire grounding type plug, a plug having a third (grounding) pin, it 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 grounding type plug.

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 particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

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 A.

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.

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.

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.

DAMAGE REQUIRING SERVICE — Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

● When the power-supply cord or plug is damaged.

● If liquid has been spilled, or objects have fallen into the product.

● If the product has been exposed to rain or water.

● 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.

● If the product has been dropped or damaged in any way.

● When the product exhibits a distinct change in performance — this indicates a need for service.

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.

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.

WALL OR CEILING MOUNTING — The product should not be mounted to a wall or ceiling.

HEAT — The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

ANTENNA LEAD IN WIRE

GROUND CLAMP

ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)

GROUNDING CONDUCTORS (NEC SECTION 810-21)

ELECTRIC SERVICE EQUIPMENT

GROUND CLAMPS

POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
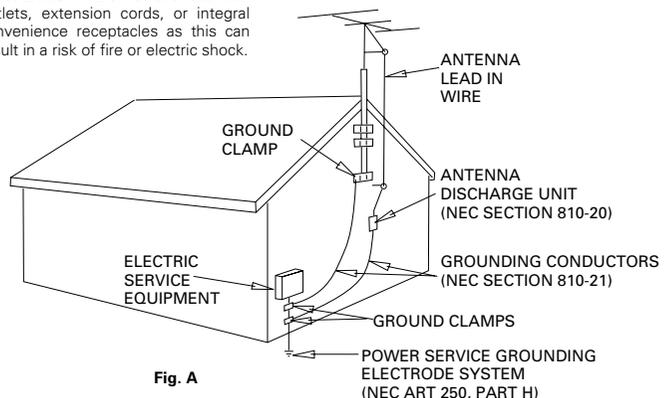
Fig. A

NEC — NATIONAL ELECTRICAL CODE

Features

DTS* (Digital Theater Systems) decoder equipped

DTS is a digital sound system introduced in theaters. Playback of DVD, LD, and CD recorded in DTS audio creates the environment of a theater or the sensation of a concert hall in your home.

Dolby** Digital and Dolby Pro Logic

No need to worry about program formats! When playing Dolby Digital or Dolby Surround software in the □□ (Dolby) Surround mode, decoding switches automatically according to the input signal. All you have to do is sit back and enjoy! (When connecting a DVD/LD player or LD player using the □□ RF output, a commercially available RF demodulator (RFD-1) is required.)

ADVANCED THEATER modes

Four sound modes that enhance DTS and Dolby Surround performance by simulating the environment of a movie theater (DRAMA, ACTION), or the ambience of a concert hall (MUSICAL). With EXPANDED THEATER, you can enjoy Dolby Surround encoded software in simulated Dolby Digital.

Various Surround Effects (DSP)

The DSP (Digital Signal Processing) surround mode allows you to transform your living room into six different sonic environments when listening to music or watching movies.

Midnight Listening Mode

When late night hours or other factors require that the volume be kept low, the surround effects may tend to become less than satisfactory. When the midnight listening mode is on, you can enjoy the effects of quality surround sound even at low volumes.

DVD 5.1 channel input

A special 5.1 Channel input makes the VSX–D409/D509S fully compatible with Dolby Digital decoders and DVD players with 5.1 channel outputs.

The Energy-saving Design

This unit is designed to use minimal electricity when power is switched OFF (in Standby mode). Regarding the value of the power consumption in standby mode, refer to "Specifications" on page 58.

Remote Control of Other Components

The supplied remote control can be used to operate a variety of other components simply by recalling the appropriate preset code. In addition, the multi-operation functions allow you to perform a variety of operations automatically.

4

Table of Contents

Set up

Operation

5

Checking the Supplied Accessories

Please check that you've received the following supplied accessories:

FM wire antenna

AM loop antenna
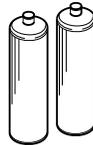
VSX-D409:
AA size IEC R6P batteries (x2)
VSX-D509S:
AA size IEC LR6 batteries (x2)
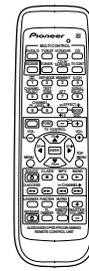
VSX-D409

VSX-D509S

Remote control units

Using this Manual

This manual is for the VSX-D409/ VSX-D509S audio/video multi-channel receivers.
It is divided into two main sections:

Set up

This section covers installing your receiver and connecting up all the other components in your home theater system to it. It also describes how to set up a multi-channel speaker system to take full advantage of the great surround sound features of your receiver.

Operation

This section shows you how to use every feature of the receiver and its remote control unit. It also covers using the supplied remote control to operate your other home theater components. To find out more about a specific button, control or indicator, see Displays & Controls starting on page 30. This will point you to the relevant chapter in the manual. In the Additional Information section (p.51-58) you'll find a troubleshooting section and specifications.

Installing the Receiver

Please note:
· Do not place objects directly on top of this unit. This would prevent proper heat dispersal.
· When installing in a rack, shelf, etc., be sure to leave more than 8 inches of space above the receiver.

8 inches (20 cm.)

Receiver

The following symbols are used throughout this manual:

memo   Provides detailed precautions and advice on operations, etc.

Indicates that display is blinking.
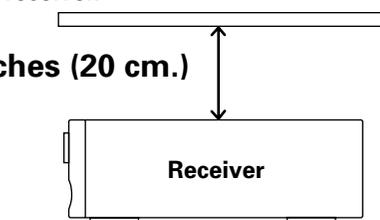
When Making Cable Connections

Be careful not to arrange cables in a manner that bends the cables over the top of this unit as shown in the illustration. If the cables are brought over this unit, the magnetic field produced by the transformers in this unit may cause a humming noise to come from the speakers.
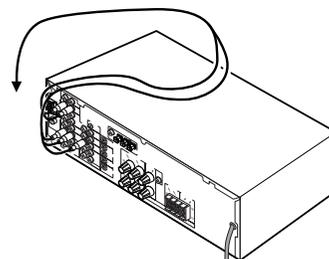
Preparing the Remote Control

Loading the batteries

VSX-D409
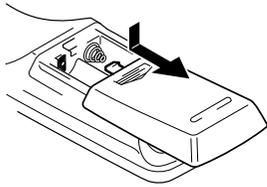
Dry cell batteries
(AA size IEC R6P × 2)
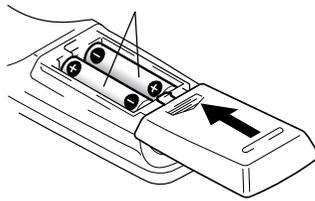
CAUTION!
Incorrect use of batteries may result in such hazards as leakage and bursting. Observe the following precautions:
● Never use new and old batteries together.
● Insert the plus and minus sides of the batteries properly according to the marks in the battery case.
● Batteries with the same shape may have different voltages. Do not use different batteries together.

VSX-D509S
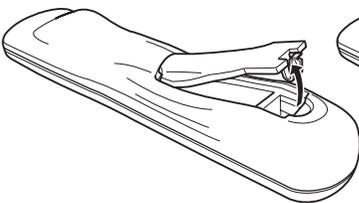
Dry cell batteries
(AA size IEC LR6 × 2)
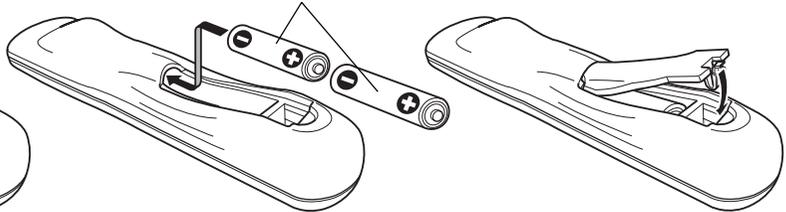
Operating range of remote control unit

memo The remote control may not work properly if:

● There are obstacles between the remote control and the receiver's remote sensor.
● Direct sunlight or fluorescent light is shining onto the remote sensor.
● The receiver is located near a device that is emitting infrared rays.
● The receiver is operated simultaneously with another infrared remote control unit.

30°
30°
23ft (7m)
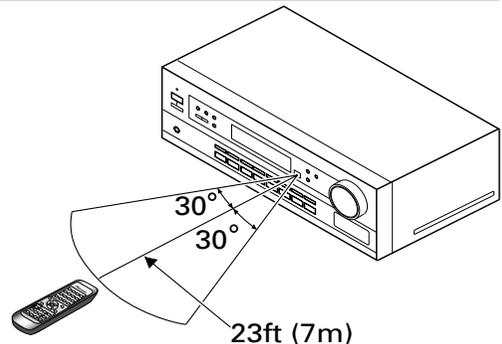
Operating other Pioneer components

By connecting a control cord (optional), you can control other Pioneer equipment using this remote control unit. Point the remote control unit towards the remote sensor of this unit, even when operating other equipment.

The remote control signals are received by the remote sensor of this unit, and sent to the other devices via the **CONTROL OUT** terminal.

CONTROL OUT

CONTROL IN
OUT

VSX-D409/
VSX-D509S

Other Pioneer products
with 🔠 mark

memo You can also control Pioneer components by pointing the receiver's remote control directly at the component. This type of operation does not require control cords.
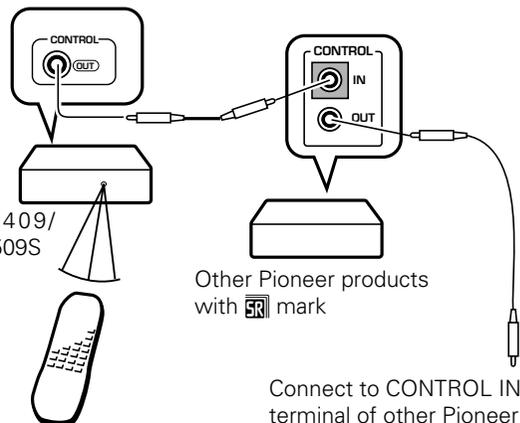
Remote control unit

Connect to CONTROL IN terminal of other Pioneer products with 🔠 mark.

7

Connecting Your Equipment

Connecting Audio Components

To begin set up, connect your audio components to the jacks as shown below. These are all analog connections and your analog audio components (cassette deck) use these jacks. Remember that for components you want to record with you need to hook up four plugs (a set of stereo ins and a set of stereo outs), but for components that only play you only need to hook up one set of stereo plugs (two plugs). To use Digital source features you must hook up your digital components to the digital inputs but it is also a good idea to hook up your digital components to analog audio jacks. If you want to record to/from digital components (like an MD) to/from analog components, you must hook up your digital equipment with these analog connections. See p.11-12 for more on digital connections.

When connecting your equipment, always make sure the power is turned off and the power cord is disconnected from the wall outlet.

NOTE

• **Only the VSX-D509S has S-video jacks and optical digital out jack.**
• **The arrows indicate the direction of the audio signal.**

VSX-D509S

CD player

CD recorder
or Cassette deck
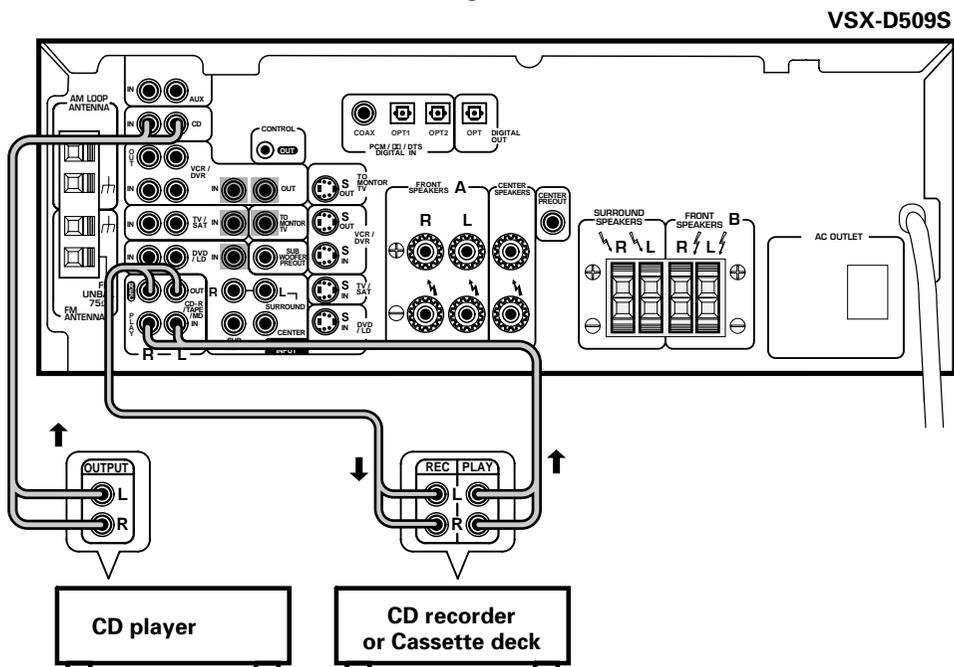
■ Audio cords

Use audio cords (not supplied) to connect the audio components.
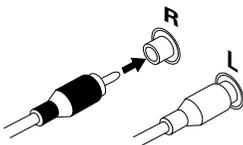
Connect red plugs to R (right) and white plugs to L (left).
Be sure to insert completely.

Cassette deck placement

Depending on where the cassette deck is placed, noise may occur during playback of your cassette deck which is caused by leakage flux from the transformer in the receiver. If you experience noise, move the cassette deck farther away from the receiver.

Connecting DVD 5.1 Channel Components

DVD and LD discs are compatible with both 2 channel and 5.1 channel audio output formats. Connections can be made from a DVD player, multi-channel decoder equipped with 5.1 analog outputs to the 5.1 analog inputs on this unit. Always make sure that the receiver is switched off and unplugged from the wall outlet before making or changing any connections.

Set up

VSX-D509S

Components equipped with 5.1 channel analog output jacks
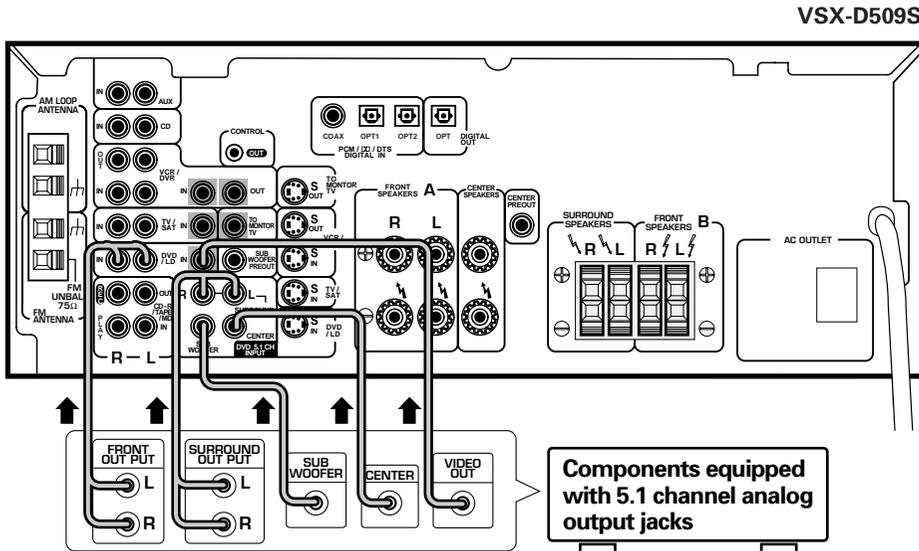
| memo | The 5.1 channel input can only be used when DVD 5.1 CH is selected. |

AC outlet [switched 100 W (0.8 A) max]

Power supplied through this outlet is turned on and off by the receiver's POWER switch.
Total electrical power consumption of connected equipment should not exceed 100 W (0.8 A).
Do not connect a heater, TV, etc.

AC OUTLET

SWITCHED
100 W MAX
0.8 A MAX

| memo | • This unit should be disconnnected by removing the power plug from the wall socket when not in regular use, e.g., on vacation.
• Do not connect appliances with high power consumption such as heaters, irons, or television sets to this AC OUTLET in order to avoid overheating and fire risk. This can also cause the receiver to malfunction. |
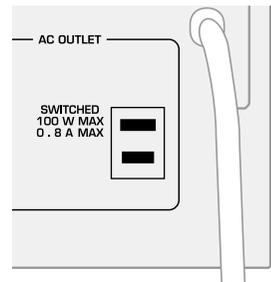
CAUTION:
DO NOT CONNECT A MONITOR OR TV SET TO THIS UNIT'S AC OUTLET.

9

Connecting Video Components

Connect your video components to the jacks as shown below. Regarding digital video components (like a DVD player), you must use the analog connections pictured on this page for the video signal but in order to use Digital source you should hook up their audio to a digital input (see the next page). It is also a good idea to hook up your digital components with analog audio connections as well (see the previous page). To cover all possible laser discs a DVD/LD player or LD player requires an analog connection (as shown here) and two digital connections (see the next page).

When connecting your equipment always make sure the power is turned off and the power cord is disconnected from the wall outlet.

Front video connections are accessed via the front panel input selector as "VIDEO."

memo   **VSX-D509S only**

If your video components have S-video jacks, you could use S-video cords (not supplied) to connect them on the back of the receiver.
However, if you use S-video cords for your video hook ups you must also hook up your TV with S-video connections. Conversely, if you use regular composite video cords for video hook ups, you should use them for your TV as well.
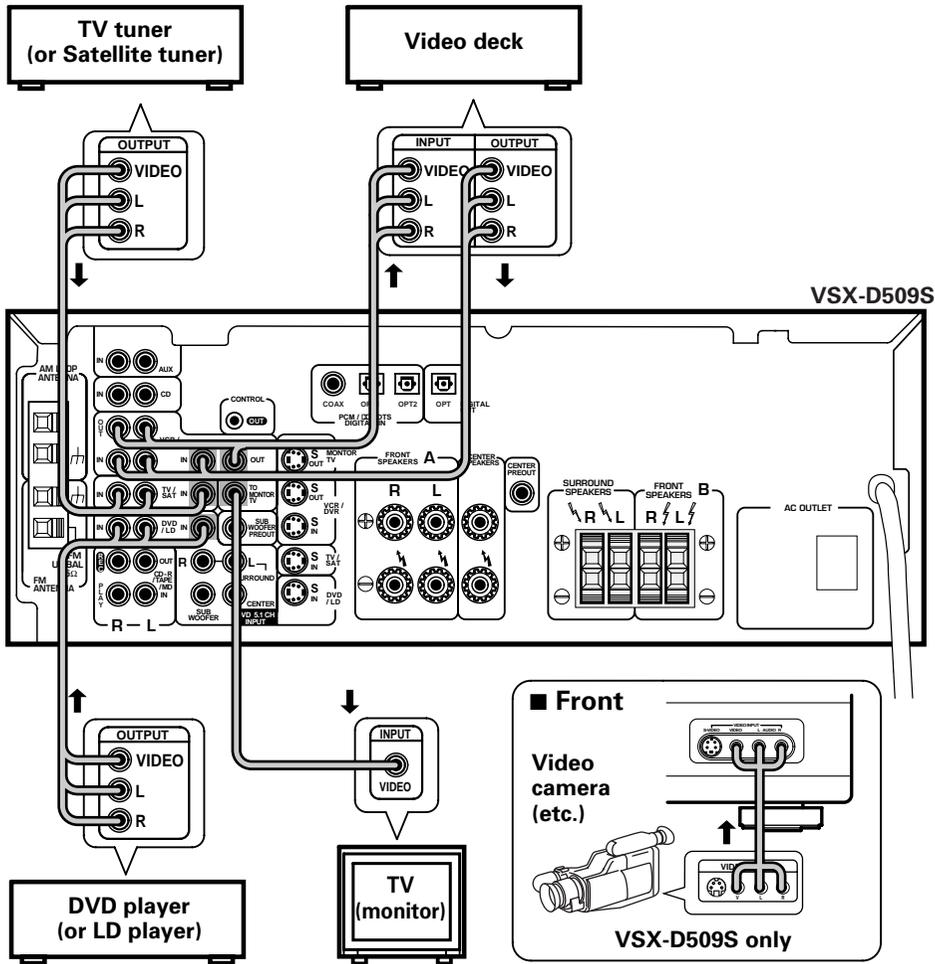
■ Audio/Video cords

Use audio/video cords (not supplied) to connect the video components and a video cord to connect the monitor TV.
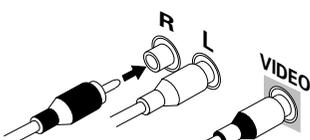
Connect red plugs to R (right), white plugs to L (left), and the yellow plugs to VIDEO.
Be sure to insert completely.

Connecting Digital Components

In order to use PCM/◻◻ Digital/DTS soundtracks, you need to make digital audio connections. You can do this by either coaxial or optical connections (you do not need to do both). The quality of these two types of connections is the same but since some digital components only have one type of digital terminal, it is a matter of matching like with like (for example, the coaxial out from the component to coaxial in on the receiver). The VSX-D409/D509S has coaxial and two optical inputs for a total of three digital inputs. Connect your digital components as shown below. There is one digital out jack which is marked PCM/◻◻/DTS (VSX-D509S only) OUT. If you connect this to the optical input on a digital recorder (currently these include MD, DAT and CD-R) you can make direct digital recordings with this unit.

When connecting your equipment, always make sure the power is turned off and the power cord is disconnected from the wall outlet.

Set up

VSX-D509S

VSX-D509S only

| DVD player | CD player | CD recorder |
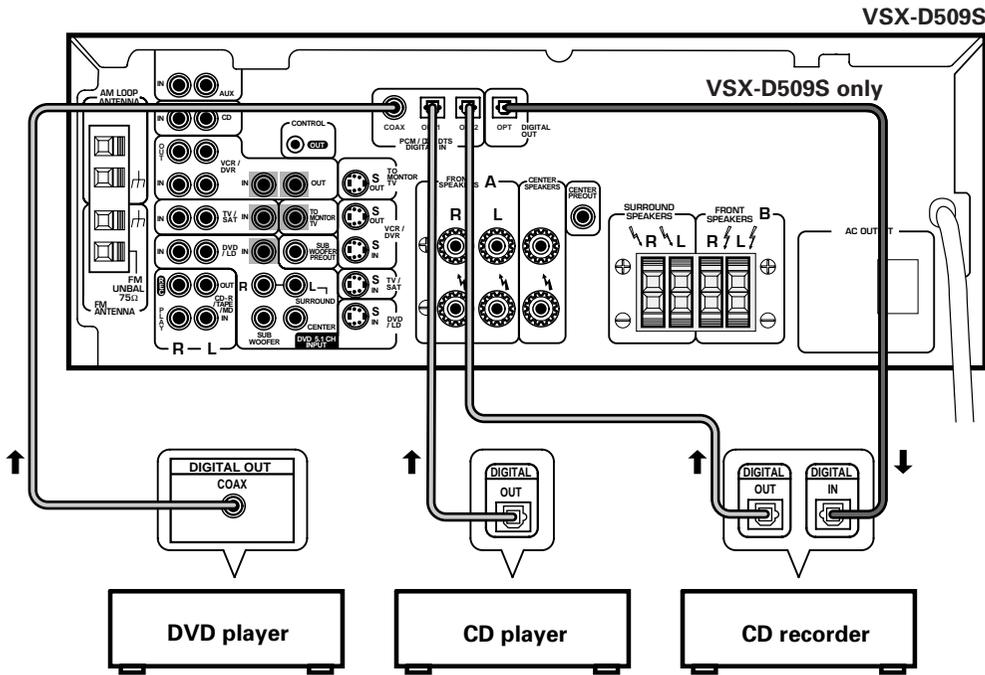
■ Digital audio cords/Optical cables

Commercially available digital audio coaxial cords (standard video cords can also be used) or optical cables (not supplied) are used to connect digital components to this receiver.

When you use optical digital input or output terminals, pull off the caps and insert the plugs. Be sure to insert completely.

Digital audio cord
(or standard video cord)

Optical cable

11
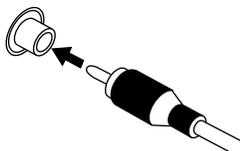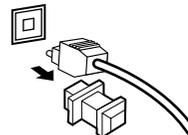
Example of connection using a DVD/LD or LD player

When playing LD recorded in Dolby Digital
To connect a DVD/LD or LD player with its ⬛⬛ RF output, a commercially available RF demodulator (RFD-1) is required. The RF demodulator changes the RF signal to a digital signal which is then processed by the VSX-D409/D509S models through their digital input jacks. For more details, refer to the instruction manual supplied with the RFD-1.

VSX-D509S

RF demodulator RFD-1

DVD/LD player or LD player
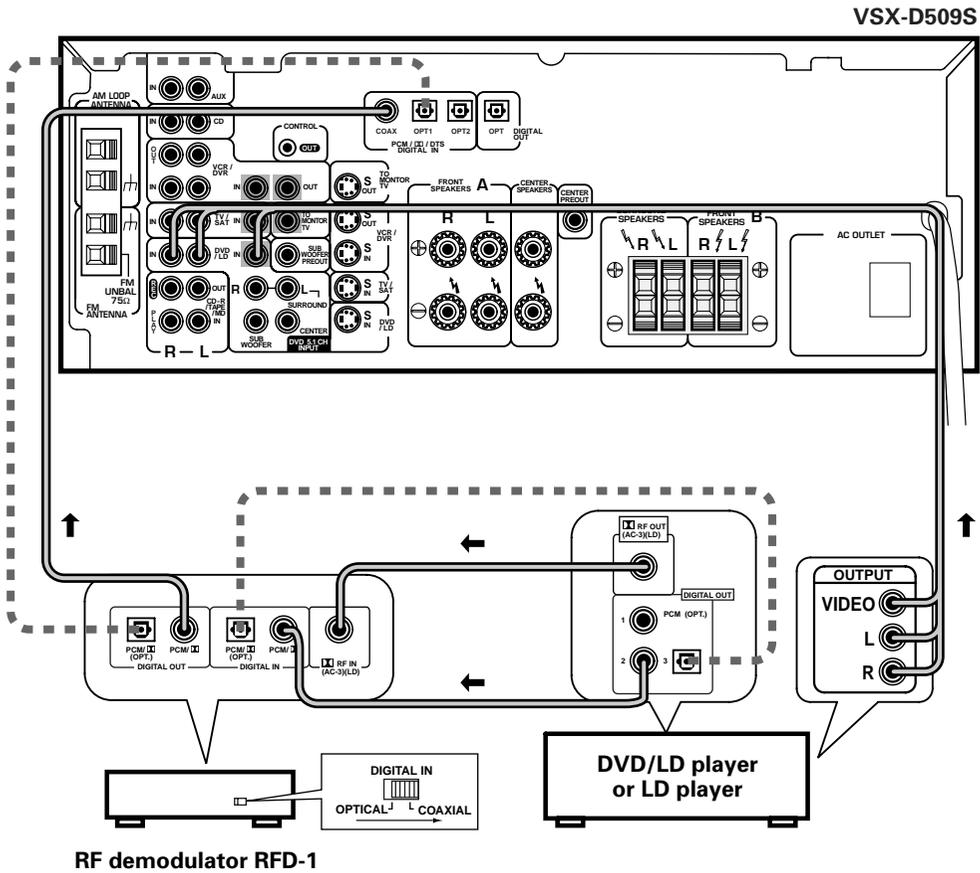
memo — Make sure the RF demodulator digital in switch is set correctly (optical or coaxial depending on the connection).

Connecting Antennas

Connect the AM loop antenna and the FM wire antenna as shown below. To improve reception and sound quality, connect external antennas (see Using external antennas, below). Always make sure that the receiver is switched off and unplugged from the wall outlet before making or changing any connections.

AM loop antenna

Assemble the antenna and connect to the receiver. Attach to a wall, etc. (if desired) and face in the direction that gives the best reception.

Set up

VSX-D509S
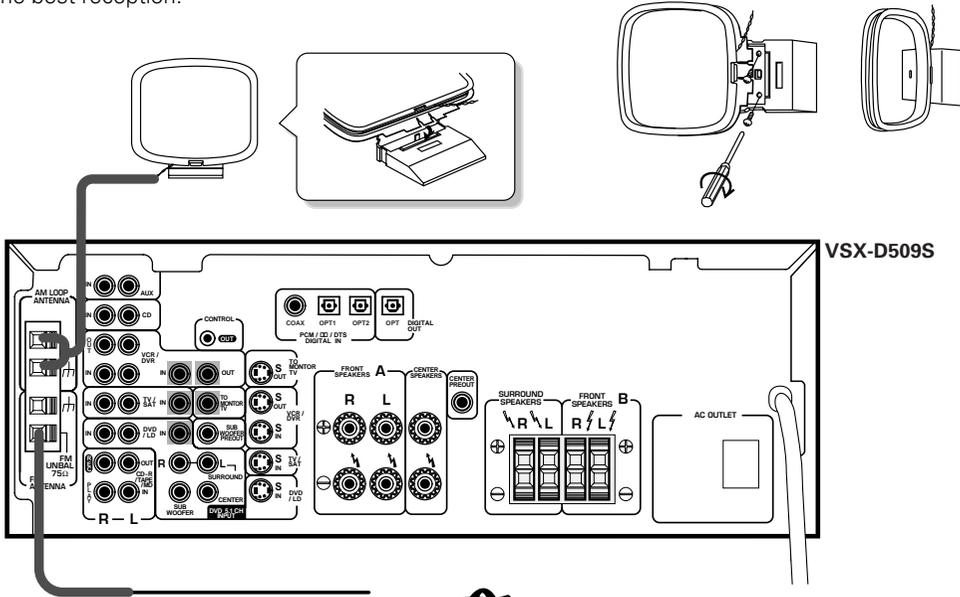
FM wire antenna

Connect the FM wire antenna and fully extend vertically along a window frame or other suitable area, etc.

3/8 in. (10mm)
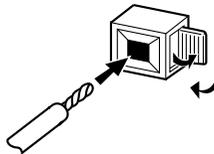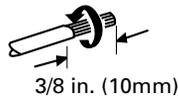
Antenna snap connectors

Twist the exposed wire strands together and insert into the hole, then snap the connector shut.

Using external antennas

■ To improve FM reception

Connect an external FM antenna.

75 Ω coaxial cable

FM UNBAL 75Ω
FM ANTENNA
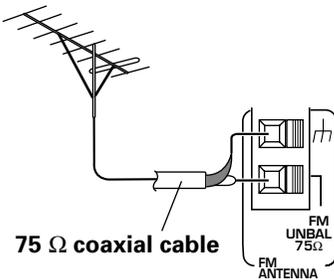
■ To improve AM reception

Connect a 15-18 feet length of vinyl-coated wire to the AM antenna terminal without disconnecting the supplied AM loop antenna. For the best possible reception, suspend horizontally outdoors.

Outdoor antenna

Indoor antenna (Vinyl-coated wire)

AM LOOP ANTENNA

15-18 ft. (5–6m)

13
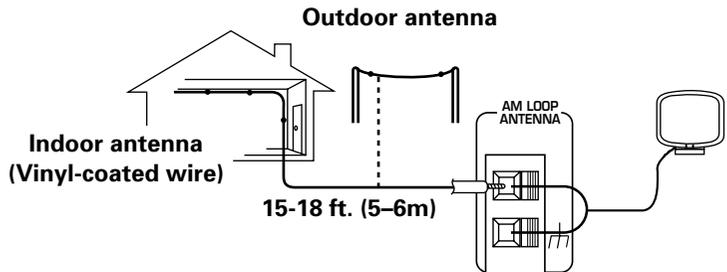
Connecting Speakers

A full complement of six speakers is shown here but, naturally, everyone's home setup will vary. Simply connect the speakers you have in the manner described below. The receiver will work with just two stereo speakers (called "front" speakers in the diagram) but it is recommended to be used with at least three speakers. Make sure you connect the speaker on the right to the right terminal and the speaker on the left to the left terminal. Also make sure the positive and negative (+/–) terminals on the receiver match those on the speakers.

> memo   The receiver has two speaker systems, A & B. A is the main system supporting the full complement of surround sound speakers. If you switch on both A & B speaker systems, only front speakers and the sub-woofer will be audible. No sound will come from the center or surround speakers but multi channel sources will be down-mixed to the active speakers so no sound will be lost. Similarly, if you choose just the B system you'll only hear the front speakers connected to the B system and multi channel sources will be down-mixed to these two speakers.

• Use speakers with a nominal impedance of 8 Ω to 16 Ω.

Front Speakers (A) **Center Speaker** **SURROUND Speakers**

L R C SL SR

VSX-D509S

Powered sub woofer

Be sure to complete all other connections before connecting this unit to the AC power source.
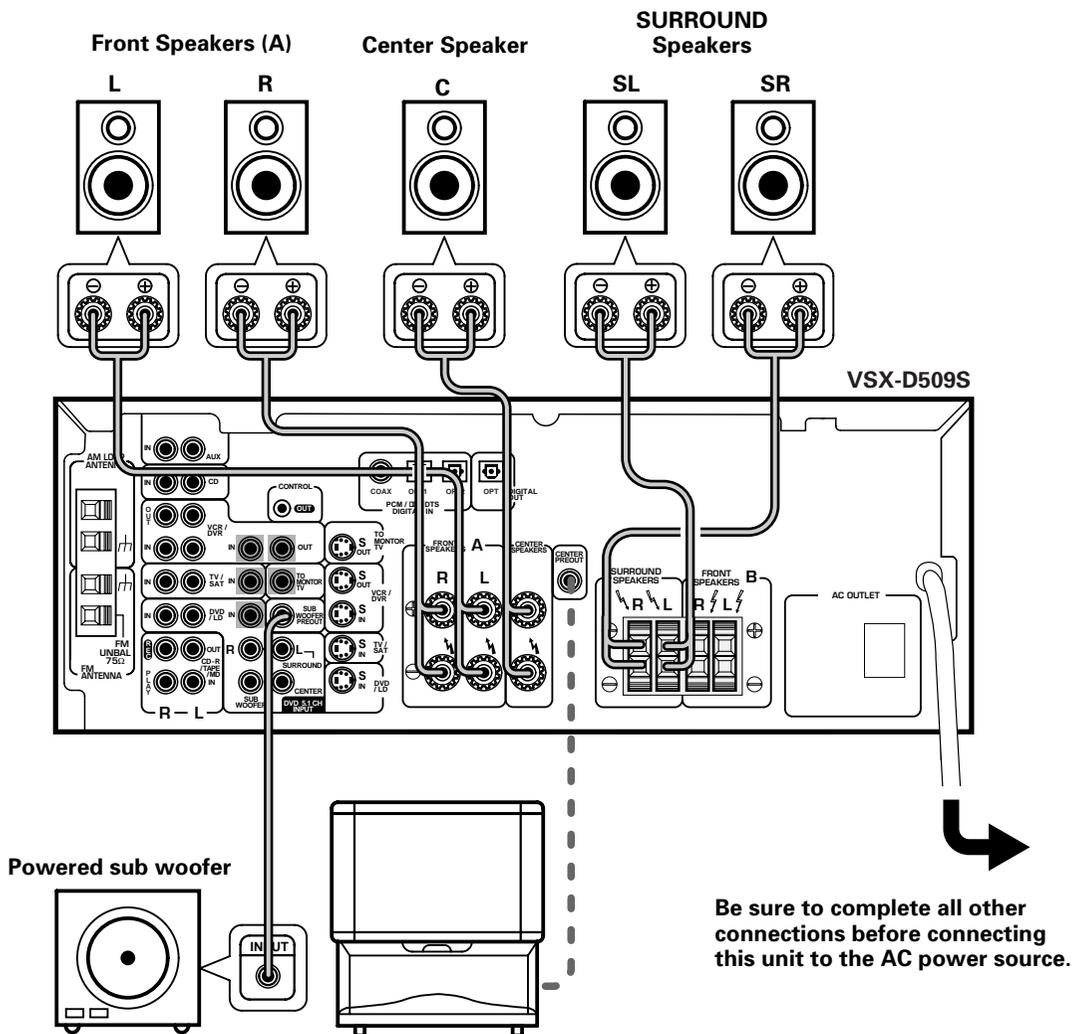
When using the speaker on your TV as the center speaker, connect the CENTER PREOUT jack on this unit to the audio input jack on your TV. In this case, the center speaker shown is unnecessary.

14

Set up

■ Speaker terminals

① Twist exposed wire strands together.

② Loosen speaker terminal and insert exposed wire.
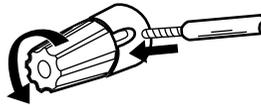
③ Tighten terminal.
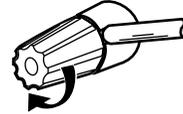
1/2 inches

Use good quality speaker wire to connect the speakers to the receiver.
① Twist around 1/2 inch of bare wire strands together.
② Unclip the speaker terminal and insert the wire.
③ Snap shut the speaker terminal to secure.

⊕
⊖
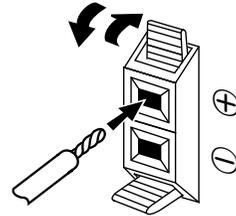
Hints on speaker placement

Speakers are usually designed with a particular placement in mind. Some are designed to be floorstanding, while others should be placed on stands to sound their best. Some should be placed near a wall; others should be placed away from walls. Follow the guidelines on placement that the speaker manufacturer provided with your particular speakers to get the most out of them.

• Place the front left and right speakers at equal distances from the TV.
• When placing speakers near the TV, we recommend using magnetically shielded speakers to prevent possible interference, such as discoloration of the picture when the TV is switched on. If you do not have magnetically shielded speakers and notice discoloration of the TV picture, move the speakers farther away from the TV.
• Install the center speaker above or below the TV so that the sound of the center channel is localized at the TV screen.

CAUTION!
If you choose to install the center speaker on top of the TV, be sure to secure it with putty, or by other suitable means, to reduce the risk of damage or injury resulting from the speaker falling from the TV in the event of external shocks such as earthquakes.

• If possible, install the surround speakers slightly above ear level.
• Try not to install the surround speakers farther away from the listening position than the front and center speakers. Doing so can weaken the surround sound effect.

To achieve the best possible surround sound, install your speakers as shown below. Be sure all speakers are installed securely to prevent accidents and improve sound quality.

Overhead view of speaker set up

Front Left

Center

Front Right

Sub Woofer

Surround Left

Surround Right

Listening Position
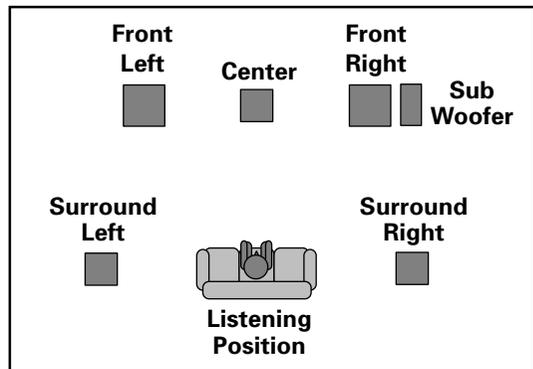
3-D view of speaker set up

15
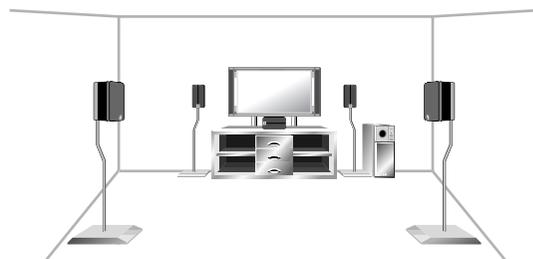
Setting Up for Surround Sound

Be sure to switch the power of this unit on (The STANDBY indicator goes out).
To ensure the best possible surround sound, be sure to complete the following set up operations. This is particularly important when using the 🔲 (Dolby) surround mode. You only need to make these settings once (unless you change the placement of your current speaker system or add new speakers, etc.). Refer to the following pages for detailed descriptions of the settings available for each mode.

VSX-D509S
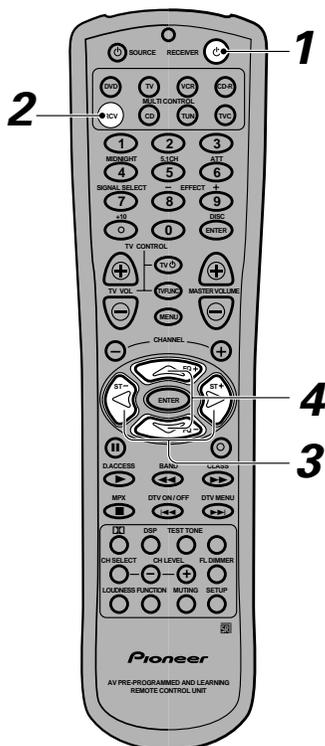
VSX-D409

1 Press RECEIVER to turn the power on.

The STANDBY indicator goes out.

2 Press RCV.

This switches the remote to the surround setup mode. (On the VSX-D409 the button is called RECEIVER.)

3 Press ◁ or ▷ to select the mode you want to set.

For best results, start with "SPEAKERS setting mode" and make your initial adjustments in the order described below.
The current settings are displayed automatically.

SPEAKERS (Front, Center, Surround) setting mode (page 17)
Use to specify the type of speakers you have connected.

SUB WOOFER ON/PLUS/OFF setting mode (page 18)
Use to specify the sub woofer as on or off.

Crossover frequency setting mode (page 18)
Use to determine which frequencies will be sent to the sub woofer (or "Large" speakers if you don't have a sub woofer).

LFE attenuator setting mode (page 18)
Use to specify the peak level for the LFE channel and the crossover network for rerouted bass frequencies.

Low cut filter ON/OFF setting mode (page 19)
Use to cut the distorted sound from the sub woofer.

FRONT speakers distance setting mode (page 19)
Use to specify the distance from your listening position to your front speaker.

CENTER speakers distance setting mode (page 19)
Use to specify the distance from your listening position to your center speaker.

SURROUND speakers distance setting mode (page 19)
Use to specify the distance from your listening position to your surround speakers.

Dynamic range control setting mode (page 20)
Use to compress the dynamic range of the sound track.
Dual mono setting mode (page 20)
Use with 🔲 Digital software that has dual mono encoding if you want to isolate one channel or listen in this specialized mono mode.

Coaxial digital input setting (page 20)
Use to specify the input to be assigned to the coaxial digital input.

Optical digital input setting (page 21)
Use to specify the input to be assigned to the optical digital input.

4 Press △ or ▽ to select the setting you want.

The setting is entered automatically.

5 Repeat steps 3 and 4 to set other surround modes.

memo
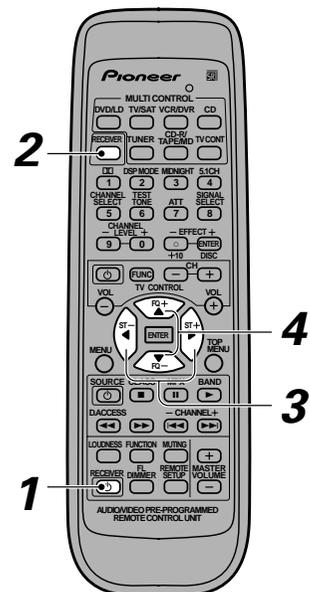
Press ENTER to exit the setting mode.
The setting mode is automatically exited if no operation is performed for 10 seconds.

16

SPEAKERS (Front, Center, Surround) setting mode

This setting establishes the size and configuration of the speaker system you have connected. So, for example, here you set whether you have connected surround speakers or not, and how big they are. Selecting "Large" or "Small" will determine how much bass is sent by the receiver to the speakers being set. This setup system has certain constraints. For example, all your speakers cannot be set to "Large," you need to decide which speakers should receive the most bass and set them to "Large."

In the display, "F", "C", and "S" refer to front, center, and surround speakers respectively. Speaker size is denoted as "L" for large speakers, "S" for small speakers, and " ✳ " (asterisk) if no speaker is connected.

memo   If the cone size (diameter) of the speaker is larger than 5 inches, please set to Large.

Set up

Switch the speaker setting mode according to the speakers you hooked up. Use the △ or ▽ buttons.

The configurations shown on the right will appear in the display on the front of the receiver. One of them should match your speaker set up. Cycle through the different possibilities until you find the one that matches your set up.

FQ+ ▲

➡

FQ- ▼
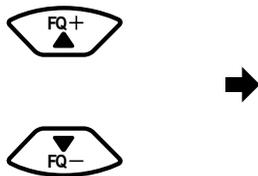
* Press ▷ to advance to the next receiver setting, and press ◁ to return to a previous receiver setting.

FL - CL - SL

↓↑

FL - CL - SS

↓↑

FL - CL - S✳

↓↑

FL - CS - SL

↓↑

FL - CS - SS

↓↑

FL - CS - S✳

↓↑

FL - C✳ - SL

↓↑

FL - C✳ - SS

↓↑

FS - CS - SS

↓↑

FS - CS - S✳

↓↑

FS - C✳ - SS

17
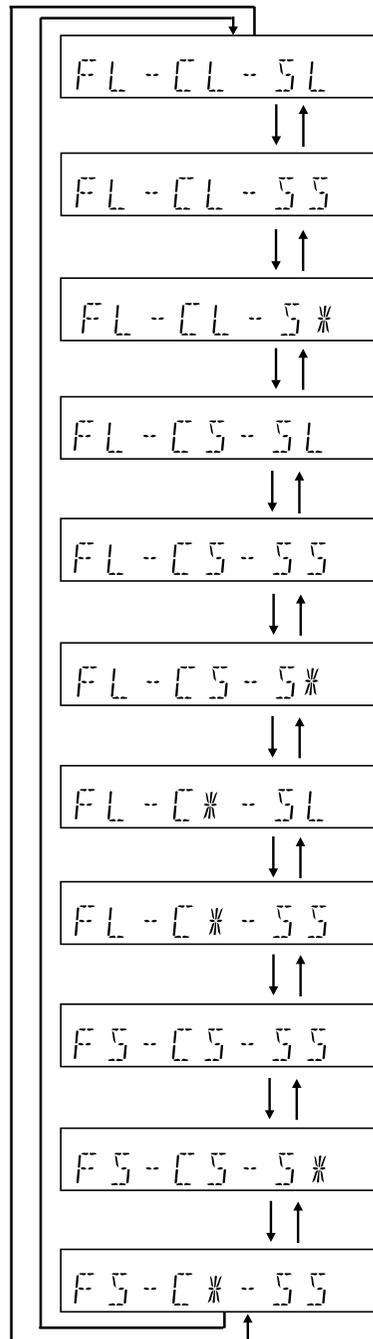
SUB WOOFER ON/PLUS/OFF setting mode

Sets whether the SUB WOOFER is used or not. Also, when used you have the option to use the "PLUS" setting.

memo
- Initial setting is "ON".
- Setting the front speaker size to "Small" in the SPEAKERS setting mode automatically locks the sub woofer in the "ON" position.
- Use the PLUS for extra bass. When you use PLUS you will get the bass sounds from the sub woofer even if the front speakers are set to "Large".

```
SUBWF ON -8!
               dB
```
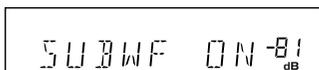
Press △ or ▽ to select sub woofer ON, PLUS or OFF.

Crossover frequency setting mode

Crossover frequency is the point where the receiver divides the high and low sounds (the frequencies) between the speakers. Since most smaller speakers can't handle deep bass tones, this setting allows you to send those sounds to the sub woofer (or speakers set to "Large" if you don't have a sub woofer) instead of the speakers set to "Small" in your system. Choose the point at which you want the frequency routed to the sub woofer (or "Large" speakers).
We recommend setting this to 200 Hz if smaller bookshelf-type speakers are used for your "Small" speakers.

memo
- Initial setting is "100 Hz".
- If all speakers (front, center, and surround) are set to "Large" in SPEAKERS setting mode, crossover frequency cannot be set because there are no "Small" speakers (*** appears in the display).

```
X.OVER 100 -8!
               dB
```
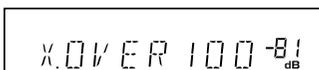
Press △ or ▽ to specify the crossover frequency for your small speakers (100 Hz, 150 Hz or 200 Hz).

→ 100Hz ←→ 150Hz ←
→ 200Hz ←
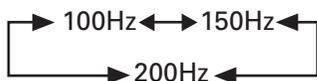
100 Hz
Sends bass frequencies below 100 Hz to the sub woofer (or "Large" speakers).
150 Hz
Sends bass frequencies below 150 Hz to the sub woofer (or "Large" speakers).
200 Hz
Sends bass frequencies below 200 Hz to the sub woofer (or "Large" speakers).

LFE attenuator setting mode

Dolby Digital and DTS audio sources include ultra-low bass tones. Set the LFE attenuator as needed to prevent the ultra-low bass tones from distorting the sound from the speakers.

memo
- Initial setting is "0 dB".
- When ∞ is selected (✳✳ appears in the display), LFE is not available.

```
LFEATT 10 -8!
               dB
```
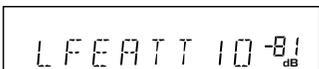
Press △ or ▽ to set the attenuation level (0 dB, 10 dB or ✳✳ dB(∞)).

→ 0 dB ←→ 10 dB ←
→ ∞ (display "✳✳") ←

18

Low cut filter ON/OFF setting mode

Turn the low cut filter ON when distorted sound is output through the sub woofer.

memo
- Initial setting is "OFF".
- If the SUB WOOFER is set to "OFF" in the SUB WOOFER ON/OFF setting mode, the low cut filter cannot be set.

$$L\ C\ F \quad\quad O\ N\ {}^{-8!}_{dB}$$

Press △ or ▽ to select low cut filter ON or OFF.

FRONT speakers distance setting mode

Sets the distance from the FRONT speakers to the listening position.

memo
- Initial setting is 10 ft.
- One step equals about 1ft.

$$F\ R\ T \quad\quad 10\ f\ t.\ {}^{-8!}_{dB}$$

Press △ or ▽ to set the distance of the FRONT speakers from the main listening position (up to 30 steps).

CENTER speaker distance setting mode

Normally as the Center speaker is placed directly in front in the listening room, it is closer to the listening position than the Front speakers. This means that the sound from the Center speaker will be heard before the Front speakers. To prevent this, set the Center speaker distance setting to delay the sound from the Center speaker so that the sound from the Front and Center speakers will be heard at the same time.

memo
- Initial setting is 10 ft.
- When "C∗" is selected in SPEAKERS setting mode, the Center distance cannot be set.
- One step equals about 1 ft.

$$C\ N\ T \quad\quad 10\ f\ t.\ {}^{-8!}_{dB}$$

Press △ or ▽ to set the distance of the CENTER speaker from the main listening position (up to 30 steps).

SURROUND speakers distance setting mode

Use to set the SURROUND speakers distance. Like the CENTER speaker position, the SURROUND speakers may be set in a location closer or farther than the FRONT speakers. Set the distance of the SURROUND speakers accurately to hear sounds coming from both FRONT and SURROUND speakers at the same time.

memo
- Initial setting is 10 ft.
- When "S∗" is selected in SPEAKERS setting mode, the SURROUND distance cannot be set.
- One step equals about 1 ft.

$$S\ U\ R \quad\quad 10\ f\ t.\ {}^{-8!}_{dB}$$

Press △ or ▽ to set the distance of the SURROUND speakers from the main listening position (up to 30 steps).

19

Dynamic range control setting mode

Dynamic range is the difference between the loudest and softest sounds in any given signal. The dynamic range control helps you play back sounds so the quieter sounds are audible yet the louder sounds don't get distorted. It does this by compressing the dynamic range. When watching a movie at low volume, setting this function enables low level sounds to be heard more easily but you won't be jolted by lounder sounds.

memo
- Initial setting is "OFF".
- When the volume level is increased, set to OFF.
- For listening enjoyment at low volumes, set to "MAX" for maximum dynamic range compression.
- Dynamic range control is effective only when a Dolby Digital signal is being played back.

```
DRC   OFF -8!
              dB
```
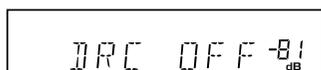
Press △ or ▽ to set the dynamic range control (OFF, MAX, or MID).

Dual mono setting

The dual mono setting can only be used when listening to Dolby Digital discs that have dual mono software encoded in them. With this setting you can choose which channel in the dual mono setting you want to listen to. Thus, it is useful for soundtracks that have one language on one channel and a different language on the other. Remember you can only use this setting if you have Dolbly Digital software with this feature and want to isolate one of the channels therein. Otherwise, just ignore this function.

There are two different ways to route the sound in the dual mono setting, one is with Dolby Digital mode on, the other with Dolby Digital mode off. If Dolby Digital mode is switched on, the ch1 setting will play channel 1 through your center speaker. The ch2 setting will play channel 2 though your center speaker and the MIX setting will play both channels through the center speaker. With Dolby Digital mode off, the dual mono sound routing is as follows: In the ch1 setting your will hear channel 1 out of both front speakers. In the ch2 setting you will hear channel 2 out of both speakers. In the L. c1 R. c2 setting the speakers will play the soundtrack independently of each other. The left front speker will play channel 1 and the right front speaker will play channel 2. The last setting, MIX, mixes both channels and plays them out of both speakers .

memo
- The default setting of this feature is L C 1 R C 2.

```
  ┌──────► L. c 1 R. c 2 ◄──────┐
  │                             │
  └─► MIX ◄──► ch2 ◄──► ch1 ◄──┘
```
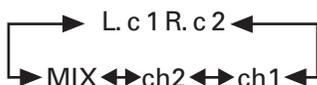
Press △ or ▽ to cycle through the possible DUAL MONO settings.

Coaxial digital input setting

Sets the input component to be assigned to the coaxial digital input jack.

memo
- Initial setting is "DVD".

```
COAX.  DVD -8!
              dB
```
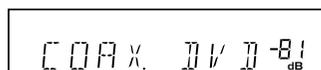
Press △ or ▽ to select the coaxial digital input (DVD, TV, CD, CD-R, VCR, DV-R or OFF).

After you assign the component to a digital jack, like coaxial one, whenever you select that component, for example CD, the receiver will automatically change to the digital input setting. You can see this in the DIGITAL/ANALOG indicator on the front of the receiver.

Optical digital input setting 1

Sets the input component to be assigned to the optical input jack 1.

memo   • Initial setting is "CD".

```
OPT 1  CD    -81dB
```

Press △ or ▽ to select the optical digital input 1 (DVD, TV, CD, CD-R, VCR, or OFF).

After you assign the component to a digital jack, like optical one, whenever you select that component, for example CD, the receiver will automatically change to the digital input setting. You can see this in the DIGITAL/ANALOG indicator on the front of the receiver.

Optical digital input setting 2

Sets the input component to be assigned to optical input jack 2.

memo   • Initial setting is "CD-R".

```
OPT2. CDR-81dB
```
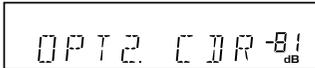
Press △ or ▽ to select the optical digital input 2 (DVD, TV, CD, CD-R, VCR, or OFF).

After you assign the component to a digital jack, like optical one, whenever you select that component, for example CD, the receiver will automatically change to the digital input setting. You can see this in the DIGITAL/ANALOG indicator on the front of the receiver.

Set up

21

Setting the Volume Level of Each Channel (adjusting the speaker volume balance)

memo
- Since the SUB WOOFER transmits an ultra-low frequency its sound may seem quieter than it actually is.
- The speaker volume can be adjusted without outputting the test tone by pressing CHANNEL LEVEL or CHANNEL SELECT .
- Initial setting is 0 dB.

VSX-D509S
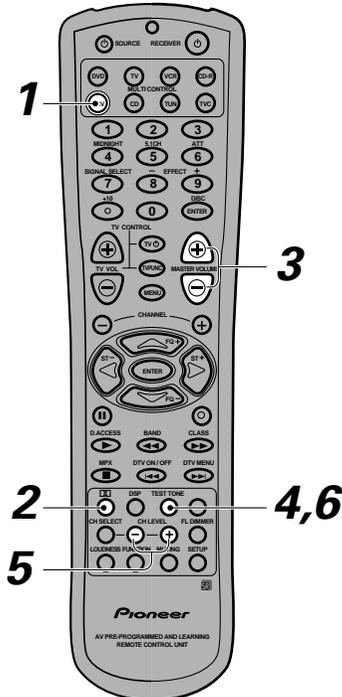
1 Press RCV.
This switches the remote to the surround setup mode. (On the VSX-D409 the button is called RECEIVER.)

2 Press ▯▯.

3 Press VOL + or – to adjust the volume to an appropriate level.

4 Press TEST TONE to output the test tone.
The test tone is output in the following order.

$$FL \longrightarrow CT \longrightarrow FR$$
$$SW \longleftarrow SL \longleftarrow SR$$
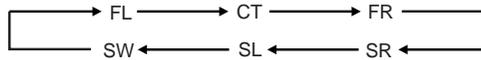
memo
- Test tone is only output in Dolby/DTS modes.

5 Adjust speaker levels so that you hear the test tone at the same volume from each speaker when seated in the main listening position.
The channel level range is ± 10 dB.

memo
- Levels can be set for each surround mode.

6 Press TEST TONE to turn off the test tone.

VSX-D409

22
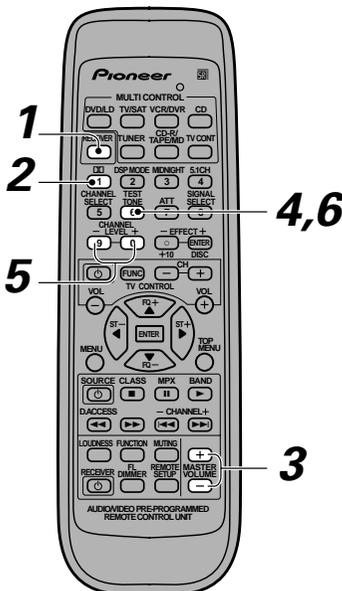
Setting Up the Remote Control

In addition to controlling the receiver, the supplied remote control can operate your other components (DVD, MD, VCR, TV, LD, CD, etc.). If your component(s) are listed in the "Preset Code List", simply recall the corresponding preset code.

Recalling preset codes (VSX-D509S)

The following steps show you how to recall preset codes for each MULTI CONTROL button. Once the preset code is assigned, pressing the button will automatically set the remote to operate the respective component.

memo
- Refer to "Preset Code List" on pages 53 to 56 for the components and manufacturers available.
- Refer to "Controlling the Rest of Your System" on pages 46 to 50 for detailed explanations on how to operate your other components.
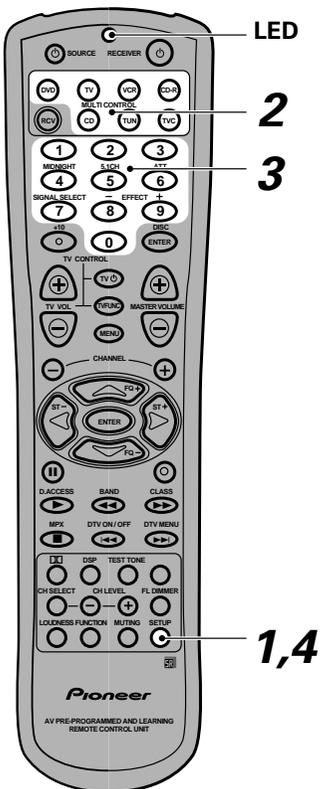
1 Press SETUP and hold for three seconds to select the preset mode.

The LED will blink twice.

(**To cancel the preset mode**
Press SETUP.)

2 Press the MULTI CONTROL button for the component you want to control.

Each button can be set to control one of the following components

- **DVD** : DVD/LD player or DVD Recorder
- **TV** : TV , Satellite tuner or Cable TV tuner
- **CD** : CD player, CD-R, Tape deck or MD recorder
- **CD-R** : CD player, CD-R, Tape deck or MD recorder
- **VCR** : VCR or Digital Video Recorder
- **TVC** : TV , Satellite tuner or Cable TV tuner
- **TUN** : FM/ AM tuner

3 Use the number buttons to enter the 4 digit setup code.

The LED will blink after each digit is input and will blink twice to confirm a valid code has been input.
If the LED shows one long blink it means an invalid code has been input. Check the preset code list and try again. If you are not able to input a preset code you can refer to page 26 to teach the remote control individual commands.
Repeat steps 1 through 3 to assign preset codes for as many components as necessary.

4 Press SETUP to exit the preset mode.

The remote control returns to the previous operation mode. It will also return to the previous mode after ten seconds of inactivify.

memo
- The RCV (Receiver) button cannot be preset.
- You can only input a code for the component type written on each MULTI CONTROL button. See page 29 for information on how to program a different type of component than specified on the button.
- If you recall a preset code for the tuner (TUN MULTI COTROL), you will not be able to control the built-in tuner of this receiver using the remote. To reset the remote to the built-in tuner, input the preset code 0080.

Set up

23

Recalling preset codes (VSX-D409)

The following steps show you how to recall preset codes for each MULTI CONTROL button. Once the preset code is assigned, pressing the button will automatically set the remote to operate the respective component.

memo
- Refer to "Preset Code List" on page 57 for the components and manufacturers available.
- Refer to "Controlling the Rest of Your System" on pages 46 to 50 for detailed explanations on how to operate your other components.
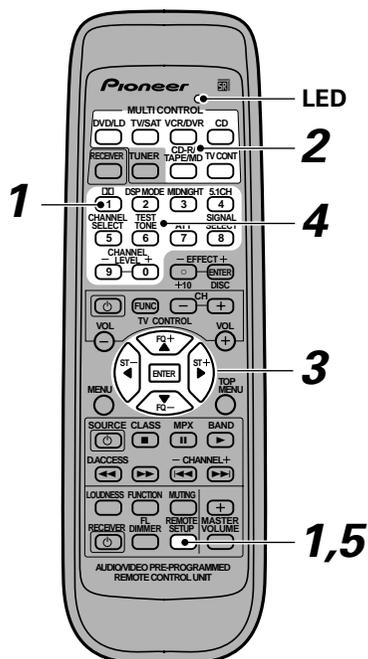
1 Press REMOTE SET UP and 1 at the same time to select the preset mode.

$$PRESET \quad {}^{-8I}_{dB} \longrightarrow PUSHFUNC {}^{-8I}_{dB}$$
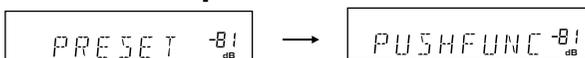
The LED on the remote control starts to blink.
To cancel the preset mode at any time
Press REMOTE SET UP.

2 Press the MULTI CONTROL button for the component you want to control.

Each button can be set to control one of the following components

DVD/LD	:	DVD or LD player
TV/SAT	:	TV or Satellite tuner
VCR/DVR	:	VCR or Digital Video Recorder
CD	:	CD player
CD-R/TAPE/MD	:	CD Recorder or Tape deck or MD player
TV CONT	:	TV or Cable TV tuner

The LED lights steadily and the first manufacturer (and preset code(s)) appear in the display.

If no commands are entered the receiver automatically exits the preset code mode after 20 seconds.

3 Press △ or ▽ repeatedly to display the name of the component's manufacturer.

$$VCR/DVR \quad {}^{-8I}_{dB} \longrightarrow VCR \quad {}^{-8I}_{dB} \longrightarrow PANASONI {}^{-8I}_{dB}$$

$$PUSH \ 4** \ {}^{-8I}_{dB} \qquad\qquad PUSH \ 408 \ {}^{-8I}_{dB}$$
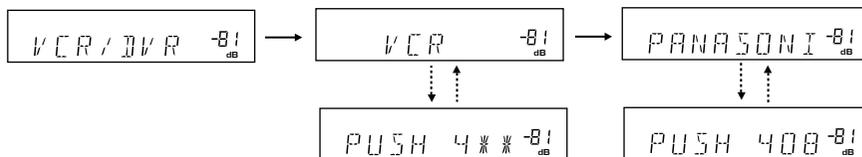
If necessary, press ◁ or ▷ to see if an alternative code from the same manufacturer is available.

A list of all available preset codes is provided on page 57.

If no commands are entered the receiver automatically exits the preset code mode after 20 seconds.

24

Set up

4 **Point the remote toward the component to be controlled, enter the 3 digit setup code.**

When you enter the setup code, the remote emits a power ON/ OFF signal. If the component turns ON or OFF, you have entered the proper code.

If the component does not turn ON or OFF and there is more than one setup code, press ◁ or ▷ to select another code in step 3 or try inputting another code (starting again from step 2).

Some manufacturers use several sets of remote control signals and the first code may not correspond to your component.

```
┌─────────────────┐        ┌─────────────────┐
│  T O S H I B A -dB│        │  T O S H I B A -dB│
└─────────────────┘        └─────────────────┘
         ┊                           ┊  ↑
         ↓                           ┊  ┊
┌─────────────────┐        ┌─────────────────┐
│  P U S H  4 0 5 -dB│ ⟷    │  P U S H  4 0 9 -dB│
└─────────────────┘        └─────────────────┘
```
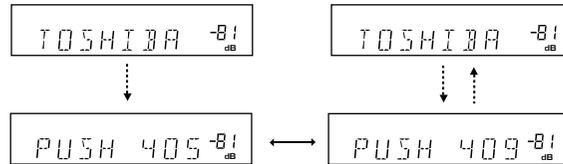
Repeat steps 2 through 4 to assign preset codes for as many components as necessary.

5 **Press REMOTE SET UP to exit the preset mode.**

The remote control returns to the previous operation mode.

- When operating a PIONEER DVD/LD player, set the manufacturer code to "111" in the preset mode.
- All codes enrolled in the manufacturer code list can be set even if a code is not displayed.
- TUNER cannot be preset.
- If no commands are entered the receiver automatically exits the preset code mode after 20 seconds.

25

Learning mode: Programming signals from other remote controls (VSX-D509S only)

If preset codes are not available for your component(s), or the available preset codes do not operate correctly, you can use this function to program in signals from the remote control(s) of your other component(s). This operation can also be used after recalling a preset code to program additional operations not covered in the preset codes.

LED

2
2
2
2
2

1,5

memo : The highlighted keys can learn new functions.
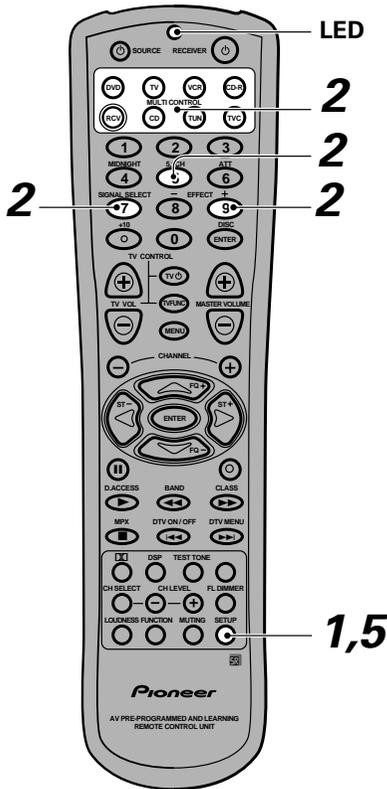
1 **Press SETUP and hold for 3 seconds.**
The visible LED will blink twice.

2 **Press the MULTI CONTROL button for the component you want to control and then press 9, 7, then 5 to select the LEARNING setup mode. The remote is ready to learn new commands from other remote controls.**
The LED flashes rapidly.

(**To cancel LEARNING setup mode**
Press SETUP button.
After ten seconds if no commands are entered the remote will revert to its previous mode.)

3 **Press the button to be programmed (for example the ► [play] button).**

4 **Point the remote controls at each other, about 1-2 inches apart, and press the button on the other remote control for the operation you want to program .**

① Point the remote controls toward each other.
② Press the button on the other remote control corresponding to the operation you wish to program. The LED on this receiver's remote will go out and then blink twice when the operation is learned. Press the teaching key repeatedly, varying the distances between the remotes, until you see this receiver's remote blink twice, indicating the operation has been learned.

1 - 2 inches
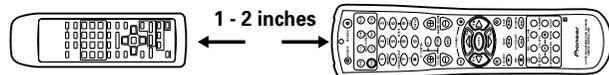
To program additional operations for the current component
Repeat steps 3 and 4.
To program operations for another component
Repeat steps 2 through 4.

5 **Press SETUP to exit the LEARNING setup mode**
After ten seconds of inactivity the remote control will automatically leave the LEARNING mode and revert to its previous mode.

memo : Some commands from other remote controls cannot be learned, but in most cases the remotes just need to be moved closer together a farther apant.

26

Clearing One of the Remote Control Settings (VSX-D509S)
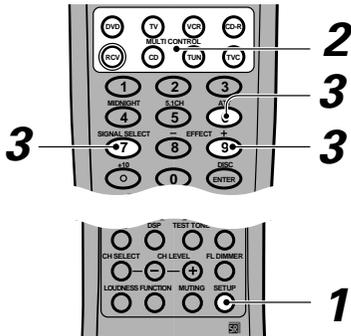
This method clears one of the buttons you have programmed and restores the factory installed preset to that button.

1 Press SETUP and hold for three seconds.
The LED will blink twice.

2 Press the MULTI CONTROL button relating to the button to be cleared.

3 Press 9, 7, then 6.

4 Press the button to be cleared.

5 Press the button to be cleared once more.
The LED blinks twice to indicate the button has been cleared.

Clearing All the Remote Control Settings
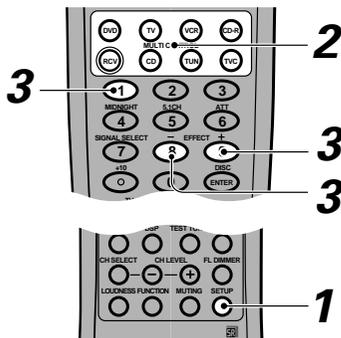
VSX-D509S

Clears all presets, all learnt functions and restores the factory presets.

1 Press SETUP and hold for three seconds.
The LED will blink twice.

2 Press any MULTI CONTROL button.

3 Press 9, 8, then 1.
The LED blinks in sets of twos twice (thus four times) to indicate the button has been cleared.

VSX-D409

Clears all presets and restores factory default settings.
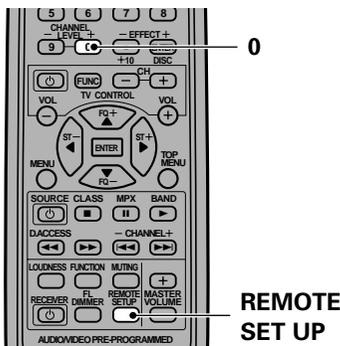
Press and hold REMOTE SETUP and 0 at the same time for more 3 seconds.
The LED display at the top of the remote control will blink. After blinking three times, all the settings will be canceled.

REMOTE SET UP

27

Direct Function

The direct function is a useful feature which allows you keep the receiver in one function (for example, CD) while putting the remote control in a different function. This could let you, for example, use the remote control to set up and listen to a CD on the receiver and then use the remote control to rewind a tape in your VCR while you continue to listen to your CD player.

When the DIRECT function is ON any MULTI CONTROL button you press will change the function of both the receiver and the remote control. When you turn the DIRECT function OFF, you can operate the remote control without affecting the receiver. Thus you could switch the remote control the VCR and operate that component while the receiver plays a different component.

MULTI CONTROL
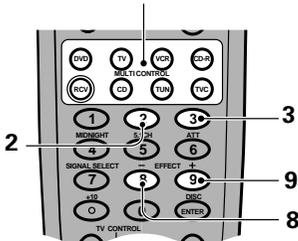
SET UP

VSX-D509S

To set a multi-function button to DIRECT OFF:

1 **Press SETUP and hold for three seconds.**
The LED will blink twice.

2 **Press the MULTI CONTROL button which you want to set to OFF.**

3 **Press 9, 8, then 3.**
The LED blinks twice to indicate the button has been cleared.

To set a multi-function button to DIRECT ON:

1 **Press SETUP and hold for three seconds.**
The LED will blink twice.

2 **Press the MULTI CONTROL button which you want to set to ON.**

3 **Press 9, 8, then 2.**
The LED blinks twice to indicate the button has been cleared.

| memo | TV CONT doesn't have this feature and thus can't use the DIRECT FUNCTION. |

VSX-D409

1 **To turn the DIRECT function OFF (the default setting is ON), press REMOTE SET UP and number button 3 at the same time.**

2 **To turn the the DIRECT function ON (if you have turned it off), press REMOTE SET UP and number button 2 at the same time.**

REMOTE SET UP
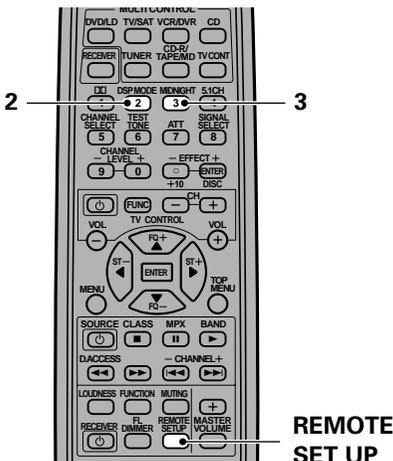
| memo | TV CONT doesn't have this feature and thus can't use the DIRECT FUNCTION. |

Programming a Different Component into a MULTI CONTROL button (VSX-D509S)

This feature changes a selected Multi Control button to a different component. For example, if you don't have a second TV, but you do have a second VCR, you could reassign the TV Multi Control to VCR so that VCR control buttons are available when you select TV.
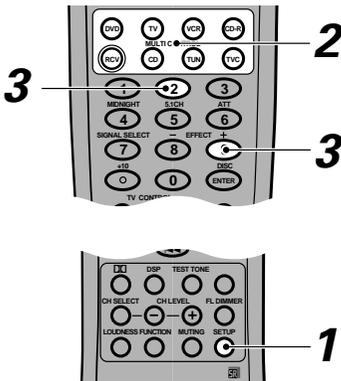
1 Press SETUP and hold for three seconds.
The LED will blink twice.

2 Press the MULTI CONTROL button which you want to change.
For the example above, press VCR.

3 Press 9, 9, then 2.

4 Press the MULTI CONTROL button which you want to be duplicated.
In the above example, press TV. The LED will blinks twice. The TV button will now make the remote function as a VCR controller. Remember to assign the correct preset code for your equipment (the default is for Pioneer equipment).

Checking Preset Codes (VSX-D509S)

To check which preset code is associated with a Multi Control button:
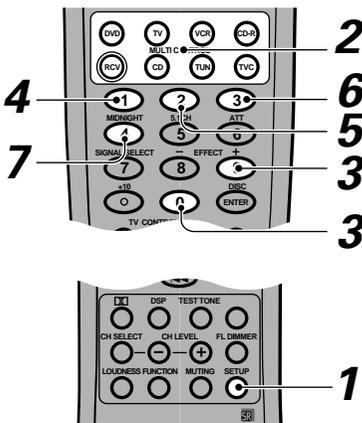
1 Press SETUP and hold for three seconds.
The LED on the remote will blink twice.

2 Press the MULTI CONTROL button you want to check the preset code for.

3 Press 9, 9 then 0.
Each preset code consists of four digits, for example 1329. Each digit will be represented by a series of blinks on the remote's LED—3 blinks to represent the digit "3", etc.

4 Press 1.
The blinking LED indicates the left-most digit of the preset code ("1" in the example above).

5 Press 2.
The blinking LED indicates the next digit of the preset code ("3" in the example above).

6 Press 3.
The blinking LED indicates the next digit of the preset code ("2" in the example above).

7 Press 4.
The blinking LED indicates the right-most digit of the preset code ("9" in the example above).

29

Displays & Controls

Front Panel
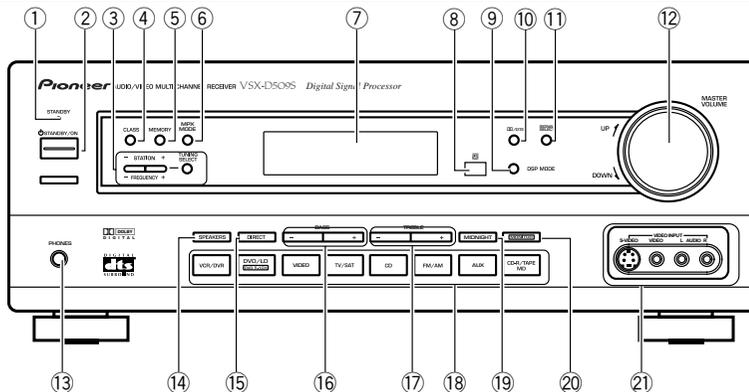
This illustration shows the VSX-D509S model.

① **STANDBY indicator**

Lights when the receiver is in standby mode (note that the receiver consumes a small amount of power (1W) in standby mode).

② ⏻ **STANDBY/ON button**

Switches the receiver between on and standby.(note that the receiver consumes a small amount of power (1W) in standby mode).

③ **STATION (+/−), FREQUENCY (+/−), TUNING SELECT buttons (see pages 42-44)**

STATION (+/−)
Selects station memories when using the tuner.
FREQUENCY (+/−)
Selects the frequency when using the tuner.
TUNING SELECT
Switches between station memory and frequency select modes.

④ **CLASS button (see pages 43-44)**

Switches between the three banks (classes) of station memories.

⑤ **MEMORY button (see page 43)**

Press to memorize a station for recall using the STATION **(+/−)** buttons.

⑥ **MPX button (see page 42)**

If the **TUNED** or **STEREO** indicators don't light when tuning to an FM station because the signal is weak, press the MPX button to switch the receiver into mono reception mode. This should improve the sound quality and allow you to enjoy the broadcast.

⑦ **Display (see page 31)**

⑧ **Remote sensor**

Receives the signals from the remote control.

⑨ **DSP MODE button (see page 39)**

Use to switch between the various DSP modes available (**HALL1, HALL 2, JAZZ, DANCE, THEATER1, THEATER 2**) and **DSP off**. Use to create different surround sound effects from any stereo source.

⑩ **◻◻ /DTS button (see pages 38, 41)**

Use to switch between the various Dolby/DTS surround modes.

⑪ **SIGNAL SELECT button (see page 37)**

Use to select between an analog or digital signal.

⑫ **MASTER VOLUME**

Use to set the overall listening volume.

⑬ **PHONES jack**

Use to connect headphones but this does not switch the speakers off.

⑭ **SPEAKER button**

Use to switch the speaker system A ➜ B ➜ A+B ➜ off.

⑮ **DIRECT button**

Use to switch DIRECT playback on or off. This mode bypasses the tone controls and channel levels for the most accurate reproduction of a program source.

⑯ **BASS (+/−) buttons**

Use to increase/decrease bass (within a range of -6dB to 6dB in 2dB steps).

⑰ **TREBLE (+/−) buttons**

Use to increase/decrease treble (within a range of -6dB to 6dB in 2dB steps).

⑱ **Function buttons**

Use to select a source for playback or recording.

⑲ **MIDNIGHT button (see page 40)**

Use when listening to movie soundtracks at low volume. This feature will enable you to hear quiet sounds and not get jolted by loud or sudden sound effects.

⑳ **MONITOR button**

Press to switch tape monitoring on/off.

㉑ **VIDEO INPUT jacks (VSX-D509S only)**

Connect a video camera, video game system, etc. to the VIDEO INPUT jacks (refer to page 10).

30

Display
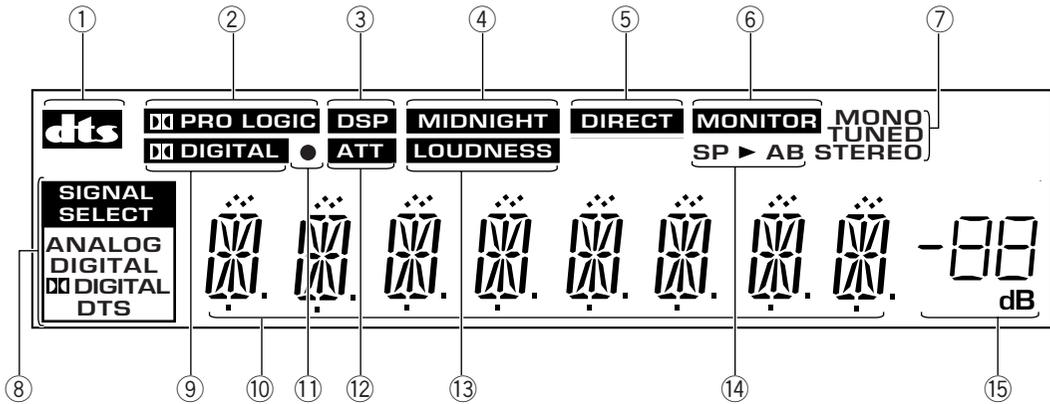
① **DTS indicator**

Lights when DTS mode is being used.

② **◻◻ PRO LOGIC indicator**

When the ◻◻ (DOLBY)/DTS mode of the receiver is on, this lights to indicate playback of a two channel source.

③ **DSP indicator**

Lights when any Advanced Theater or DSP mode is selected.

④ **MIDNIGHT indicator**

Lights when MIDNIGHT listening mode is in use.

⑤ **DIRECT indicator**

Lights when source DIRECT is in use. This function bypasses all tone, balance, DSP and Dolby Surround effects.

⑥ **MONITOR indicator**

Lights when **MONITOR** is selected to hear a recording as it's being made (see page 45).

⑦ **TUNER indicators**

MONO:
Lights when the mono mode is set using the MPX MODE button.
TUNED:
Lights when a broadcast is being received.
STEREO:
Lights when a stereo FM broadcast is being received in auto stereo mode.

⑧ **SIGNAL SELECT indicators**

Light to indicate the type of input signal assigned for the current component (see "Front Panel", ⑪, SIGNAL SELECT).
ANALOG : Lights when an analog signal is selected.
DIGITAL : Lights when a digital audio signal is selected.

◻◻ DIGITAL : Lights when a DOLBY DIGITAL signal is played.
DTS: Lights when a source with DTS audio signals is played.

⑨ **◻◻ DIGITAL indicator**

When the ◻◻ (DOLBY)/DTS mode of the receiver is on, this lights to indicate playback of a Dolby Digital signal. However, ◻◻ PRO LOGIC lights during 2 channel playback of Dolby Digital.

⑩ **CHARACTER display**

Shows the radio frequency or function (DVD/LD, CD, etc.) receiver is using .

⑪ **OVERLOAD indicator**

This lights when an analog signal is too strong (the SIGNAL SELECT needs to be on ANALOG). It indicates the sound is distorting and the signal should be reduced.

⑫ **ATT indicator**

Lights when ATT is used to attenuate (reduce) the level of the input signal (can only be used in ANALOG mode).

⑬ **LOUDNESS indicator**

Lights when the LOUDNESS, used to boost the bass and treble in quiet listening, is on.

⑭ **SPEAKER indicator**

Shows if the speaker system is on or not. SP ►A and/or B means speakers are switched on. SP ► means speakers are switched off.

⑮ **MASTER VOLUME LEVEL**

Shows the overall volume level. Volume level is maintained even when the power is off. –-dB indicates the minimum level, and 0dB indicates the maximum level.

• Depending on the level settings you make for individual channels, the MAX level can range between –10dB and 0dB.

Operation

31

Remote Control (VSX-D509S)
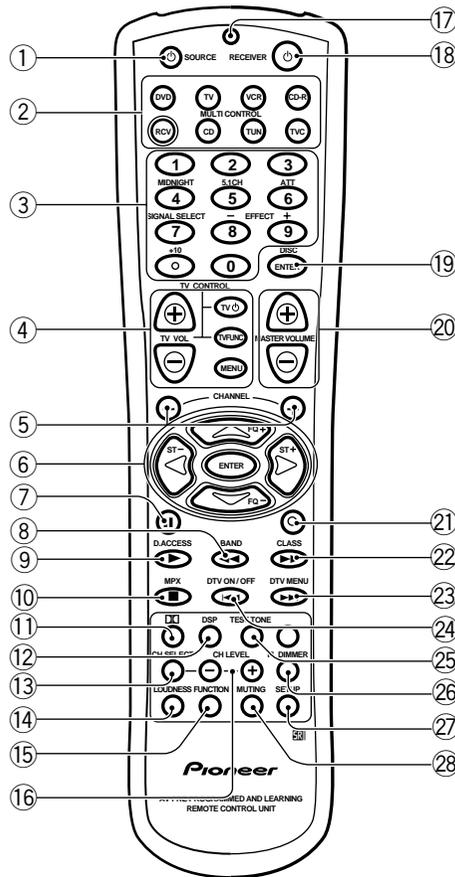
① **SOURCE ⏻ button**

Use to turn on/off other components coneccted to the receiver.

② **MULTI CONTROL buttons**

Use to put the receiver/remote control in the stated mode.

For other equipment controls, see Controlling the Rest of Your System on pages 46-50.

③ **NUMBER/MODE buttons (see pages 23, 43)**

Use the number buttons to select the radio frequency in tuner DIRECT ACCESS mode or the tracks in CD, DVD mode etc.

Also, buttons marked with the following names have special functions. If you try to use one of these functions but the display flashes it means that function cannot be used in the current mode (for example DSP modes cannot be used when 5.1 CH setting is on).

MIDNIGHT (see page 40)
Use to put receiver in MIDNIGHT mode. To use first press the RECEIVER button then operate this button.

5.1 CH (see page 39)
When the DVD/LD or DVD 5.1 CH function is selected each press switches the DVD/LD input between DVD/LD and DVD 5.1 CH. To use first press the RECEIVER button then operate this button.

ATT
Use to attenunate (lower) the level of an analog input signal and prevent distortion (refer to p.31 ⑫). To use first press the RECEIVER button then operate this button.

SIGNAL SELECT (see page 37)
Use to select the proper signal (analog, digital) for the source your are inputting. To use first press the RECEIVER button then operate this button.

EFFECT +/– buttons
Use to add or subtract the amount of effect in different DSP sound modes or advanced listening modes.

32

④ **THE FOLLOWING FOUR SETS OF BUTTONS ARE DEDICATED TV CONTROL. THEY ARE ONLY USED FOR CONTROLLING YOUR TV.**

TV VOLUME +/– buttons
Use to adjust the volume on your TV.

TV ⏻ button
Use to turn on the power of the TV.

TV FUNC button
Use select the TV function.

MENU button
Use to access different menus associated with your Satellite TV, cable TV, etc.

⑤ **CHANNEL +/– buttons**
Use to adjust the volume on your TV.

⑥ **◄ ► ▲▼ (FQ +/–) & ENTER buttons (see pages 16-21, 42)**
Use these arrow buttons when setting up your surround sound system (see pages 16-21). These buttons are also used to control DVD menus/options. The FQ +/– buttons can be used to find radio frequencies.

⑦ **ⅠⅠ button**
Use to pause other components.

⑧ **◄◄ button (BAND)**
Use to fast reverse search on CDs etc.

Use to switch between the AM and FM band when in TUNER mode.

⑨ **► button (DIRECT ACCESS)**
Use to play other components. Also use to directly access a radio station by pressing the number of the station you want.

⑩ **■ button (MPX)**
Use to stop other components. Also use to switch between auto stereo and mono reception of FM broadcasts. If the signal is weak then switching to MONO will improve the sound quality.

⑪ **ⅅⅅ button**
Use to put receiver in DOLBY DIGITAL, DOLBY SURROUND and DTS modes. To use first press the RECEIVER button then operate this button.

⑫ **DSP button**
Use to put receiver in one of the DSP modes. To use first press the RECEIVER button then operate this button.

⑬ **CHANNEL SELECT**
Use to select a speaker when setting up the surround sound of the receiver. To use first press the RECEIVER button then operate this button.

⑭ **LOUDNESS button**
Use to switch on the loudness. This feature is useful for getting good bass and treble sounds listening at low volumes.

⑮ **FUNCTION button**
Use to select the playback or recording source. This button lets you cycle through the different functions of the receiver in the following order: CD, tuner, AUX, CD-R/TAPE/MD, VCR/DVR, DVD/LD, VIDEO and TV/SAT.

⑯ **CHANNEL LEVEL +/– buttons**
Use to adjust the output level of the selected channel(s).

⑰ **LED DISPLAY**
This display flashes when a command is sent from the remote control to the receiver. It also flashes at other times, for example when teaching the receiver preset codes, with specific meanings.

⑱ **RECEIVER button (see page 16)**
This switches between STANDBY mode and power ON for this receiver.

⑲ **ENTER button (DISC)**
Use for controlling other components only.

⑳ **MASTER VOLUME +/– buttons**
Use to set the overall listening volume.

㉑ **● button**
Use to record with other components.

㉒ **►► button (CLASS)**
Use to fast forward search on CDs etc. Also use the CLASS feature to switch between the three banks (classes) of station memories.

㉓ **►►Ⅰ button (DTV MENU)**
Use to skip forward tracks on CD players etc. Also use to access DTV menus.

㉔ **Ⅰ◄◄ button (DTV ON/OFF)**
Use to skip reverse tracks on CD players etc. Also use to turn DTV on/off.

㉕ **TEST TONE**
Use to sound the TEST TONE when setting up the surround sound of the receiver. To use first press the RECEIVER button then operate this button.

㉖ **FL DIMMER button**
Use this button to make the fluorescent display (FL) dimmer or brighter. There are three brightness settings as well as an off setting.

㉗ **SETUP button (see p.27, 29)**
Use this button when setting up the remote control to control other components.

㉘ **MUTING button**
Use to mute the sound or restore the sound if it has been muted.

Operation

Remote Control (VSX-D409)
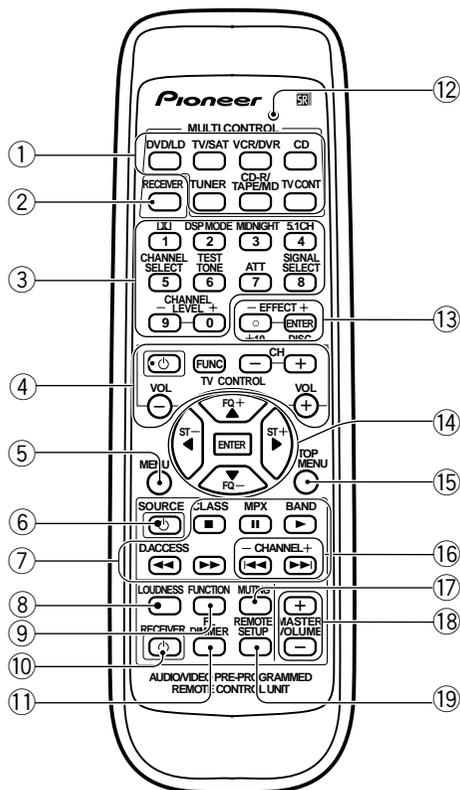
① MULTI CONTROL buttons

Use to put the receiver/remote control in the stated mode.
For other equipment controls, see Controlling the Rest of Your System on pages 46-50.

② RECEIVER button (see page 16)

Use this button when setting up the surround sound for the receiver.

③ NUMBER/MODE buttons (see pages 23, 43)

Use the number buttons to select the radio frequency in tuner DIRECT ACCESS mode or the tracks in CD, DVD mode etc.

Also, buttons marked with the following names have special functions. If you try to use one of these functions but the display flashes it means that function cannot be used in the current mode (for example DSP modes cannot be used when 5.1 CH setting is on).

☐☐ (see pages 38, 41)
Use to put receiver in DOLBY DIGITAL, DOLBY SURROUND and DTS modes. To use first press the RECEIVER button then operate this button.

DSP mode (see pages 39)
Use to put receiver in one of the DSP modes. To use first press the RECEIVER button then operate this button.

MIDNIGHT (see page 40)
Use to put receiver in MIDNIGHT mode. To use first press the RECEIVER button then operate this button.

5.1 CH (see page 40)
When the DVD/LD or DVD 5.1 CH function is selected each press switches the DVD/LD input between DVD/LD and DVD 5.1 CH. To use first press the RECEIVER button then operate this button.

CHANNEL SELECT (see page 22-note)
Use to slect a speaker when setting up the surround sound of the receiver. To use first press the RECEIVER button then operate this button.

TEST TONE (see page 22)
Use to sound the TEST TONE when setting up the surround sound of the receiver. To use first press the RECEIVER button then operate this button.

34

ATT

Use to attenunate (lower) the level of an analog input signal and prevent distortion (refer to p.31 ⑫). To use first press the RECEIVER button then operate this button.

CHANNEL LEVEL +/– (see page 22-note)

Use to set up the levels of the surround sound of the receiver. To use first press the RECEIVER button then operate this button.

SIGNAL SELECT (see page 37)

Use to select the proper signal (analog, digital) for the source your are inputting. To use first press the RECEIVER button then operate this button.

④ **THE FOLLOWING FOUR SETS OF BUTTONS ARE DEDICATED TV CONTROL. THEY ARE ONLY USED FOR CONTROLLING YOUR TV.**

FUNC button

Use select the TV function.

TV POWER button

Use to turn on the power of the TV.

TV CHANNEL +/– buttons

Use to change channels on your TV.

TV VOLUME +/– buttons

Use to adjust the volume on your TV.

⑤ **MENU button**

Use to access different menus associated with your DVD player.

⑥ **SOURCE button**

Use to turn on/off other components connected to the receiver.

⑦ **THE FOLLOWING BUTTONS ARE BOTH CONTROLS FOR OTHER COMPONENTS (LIKE A DVD PLAYER) AND DEDICATED TUNER CONTROLS. THE TUNER CONTROLS ARE EXPLAINED HERE. YOU CAN USE THEM AFTER YOU HAVE PUSHED THE TUNER MULTI CONTROL BUTTON.**

CLASS button (see pages 43, 44)

Use to switch between the three banks (classes) of station memories.

MPX MODE button (see page 42)

Use to switch between auto stereo and mono reception of FM broadcasts. If the signal is weak then switching to MONO will improve the sound quality. Also, this is the pause button for CDs, tapes, DVDs, etc.

BAND button (see pages 42, 43)

Use to switch between the AM and FM band when in TUNER mode.

D. ACCESS button (see page 43)

Use to directly access a radio station by pressing the number of the station you want.

⑧ **LOUDNESS button**

Use to switch on the loudness. This feature is useful for getting good bass and treble sounds listening at low volumes.

⑨ **FUNCTION button**

Use select the playback or recording source. This button lets you cycle through the different functions of the receiver in the following order: CD, tuner, AUX, CDR/TAPE, VCDR/DVR, DVD/ LD, DVD 5.1 CH., and TV/SAT.

⑩ **RECEIVER ⏻ (POWER) button**

This switches between STANDBY mode and power ON for this receiver.

⑪ **FL DIMMER button**

Use this button to make the fluorescent display (FL) dimmer or brighter. There are three brightness settings as well as an off setting.

⑫ **LED DISPLAY (see pages 24-25)**

This display flashes when a command is sent from the remote control to the receiver. It also flashes at other times, for example when teaching the receiver preset codes, with specific meanings.

⑬ **EFFECT +/– buttons (see page 41-note)**

Use to add or subtract the amount of effect in different DSP sound modes or advanced listening modes.

⑭ **◄ ► ▲▼ (FQ +/–) & ENTER buttons (see pages 16-21, 42)**

Use these arrow buttons when setting up your surround sound system (see pages 14-15). These buttons are also used to control DVD menus/options and for deck 1 of a double cassette deck player. The FQ +/– buttons can be used to find radio frequencies.

⑮ **TOP MENU button**

In DVD mode this button brings you to the top or most fundamental menu.

⑯ **CHANNEL +/– buttons**

Use to select the stations of memorized radio frequencies. Also use to skip tracks backward or forward on CDs, DVDs, etc.

⑰ **MUTING button**

Use to mute the sound or restore the sound if it has been muted.

⑱ **MASTER VOLUME +/– buttons**

Use to set the overall listening volume.

⑲ **REMOTE SETUP button (see page 24)**

Use this button when setting up the remote control to control other components.

Operation

35

Sound Modes

Learning about the Sound Modes

The sound modes are explained here.

There are two cinema modes: STANDARD, and ADVANCED THEATER. These are designed to be used with multi channel surround sound audio/visual sources (like DVDs and LDs). Intrinsic to home theater, these modes can deliver realistic and powerful surround sound that recreates the movie theater experience. You may need to experiment with them to see which settings suit your home system and personal tastes.
The DSP and STEREO modes are designed to be used with music sources but some DSP modes are also suited for film soundtracks. Again, try different settings with various soundtracks to see which you like.

STANDARD mode

This mode is for pure decoding of Dolby Digital, DTS and Dolby Surround. No special effects are added. It is good for enjoying movies that have been recorded in Dolby Digital, DTS or Dolby Surround.

You can identify Dolby Digital software by the ▯▯ DOLBY DIGITAL or ▯▯ DOLBY SURROUND AC-3 DIGITAL marks. Most Dolby Surround software is marked ▯▯ DOLBY SURROUND, but unmarked software may also incorporate Dolby Surround.
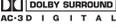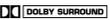
ADVANCED THEATER modes

MUSICAL
   Simulates the acoustic environment of a large concert hall and is suitable for music or musical sources marked ▯▯ DOLBY DIGITAL (▯▯ DOLBY SURROUND AC-3 DIGITAL) or dts SURROUND.
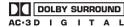
DRAMA
   Simulates the relaxed environment of a classic medium size movie theater, and is suitable for watching dramas on sources marked ▯▯ DOLBY DIGITAL (▯▯ DOLBY SURROUND AC-3 DIGITAL) or dts DIGITAL SURROUND.
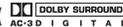
ACTION
   Simulates the acoustic environment of a modern large movie theater. You can enjoy the power and dynamics of motion picture audio which is suitable for action movies on sources marked ▯▯ DOLBY DIGITAL , ▯▯ DOLBY SURROUND AC-3 DIGITAL or dts DIGITAL SURROUND.
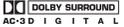
EXPANDED
   This mode is especially designed to give sound depth to stereo sources. The overall effect builds a dynamic and broad sound space, allowing two-channel (stereo) signals to faithfully imitate a five speaker sound. Use with Dolby Pro Logic for a stereo surround effect. You can also use with Dolby Digital sources for a wider stereo field than STANDARD mode.

DSP modes

The DSP (Digital Signal Processing) modes allow you to transform your living room into a variety of different sonic environments when playing standard (two-channel) stereo sources, Dolby Pro Logic sources, and Dolby Digital sources. If you try to add this effect to functions which can not use it "SP off" flashes in the display.

HALL 1
   Simulates the acoustic environment of a large concert hall of wooden construction. Complex delay of reflected sounds coupled with reverberation effects create a dynamic and beautiful sound characteristic of an orchestra performing in a concert hall, making it suitable for classical music

HALL 2
   Simulates the acoustic environment of a concert hall with stone walls. The rich reverberations and natural fullness of the sound create the auditory impression of being in a concert hall, making it suitable for classical music.

JAZZ
   Simulates the acoustic environment of a jazz club. Less delay on the reflected sounds emphasizes the sensation of hearing a live band.

DANCE
   Simulates the acoustic environment and strong bass sound of a nightclub with a square dance floor. A short delay on the reflected sounds emulates the raw power of the dance music.

THEATER 1
   Adjusts the delay of the reflected sound to simulate the acoustic environment of a medium sized movie theater.

THEATER 2
   Simulates the acoustic environment of a theater while maintaining proper localization of each channel.

36

Switching ANALOG/DIGITAL Signal Input

When you select a function (for example, CD) that is only hooked up by a digital connection, then the ANALOG/DIGITAL signal input switch will automatically choose digital. If you have that function hooked up by both digital and analog connections this switch lets you choose which to listen to.
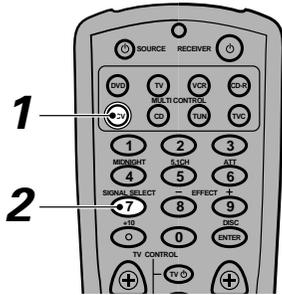
1 Press RCV.

This switches the remote to the surround setup mode. (On the VSX-D409 the button is called RECEIVER.)

2 Press SIGNAL SELECT to select the input signal corresponding to the source component.

Each press switches between ANALOG and DIGITAL signal selection.

3 While SIGNAL SELECT is set to DIGITAL, □□ DIGITAL lights when a Dolby Digital signal is input, DTS lights when a DTS signal is input.
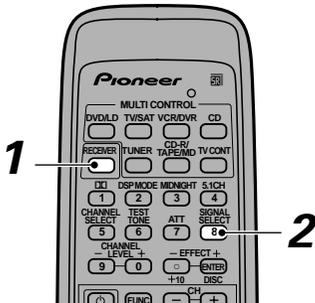
Each press switches between ANALOG and DIGITAL signal selection.

When a Dolby Digital signal is input.

When a DTS signal is input.

memo

• SIGNAL SELECT is fixed in the "ANALOG" position for components not assigned to one of the two digital input jacks.
• This receiver can only play back Dolby Digital, PCM (32kHz, 44kHz, and 48kHz), DTS, digital signal formats. With digital signal formats other than these, set SIGNAL SELECT to "ANALOG".
• When an LD or CD player compatible with DTS is played back with SIGNAL SELECT set in "ANALOG", digital noise is output caused by playing back the DTS directly (no decoding). To prevent noise, you need to make digital connections (Refer to page 11) and set SIGNAL SELECT to "DIGITAL".
• Some DVD players don't output DTS signals. For more details, refer to the instruction manual supplied with your DVD player.

SIGNAL SELECT

Operation

37
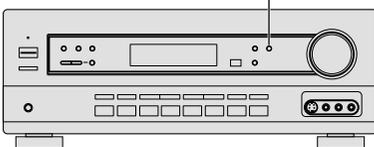
Playing Sources with Dolby Digital or DTS Sound
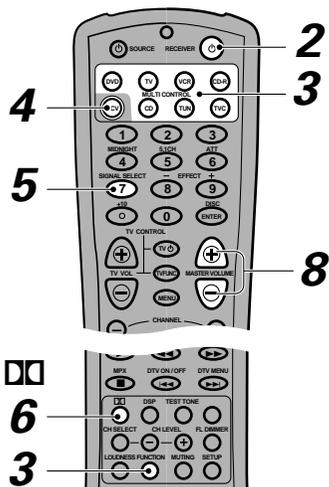
1 Turn on the power of the playback component.

2 Turn on the power of the receiver.
Be sure that the standby indicator turns off on the front panel.

3 Press MULTI CONTROL buttons or the FUNCTION button to select the source you want to playback.
If the DIRECT FUNCTION is OFF you have to use the FUNCTION button to select the source (see p.28).

4 Press RCV.
The set the remote to select the sound mode. (On the VSX-D409 the button is called RECEIVER.)

5 Press SIGNAL SELECT to select DIGITAL.
(Refer to "Switching ANALOG/DIGITAL signal input" on the previous page.)

6 Press ▣▣ to switch the Dolby/DTS mode on.

7 Start playback of the component you selected in step 1.

8 Press MASTER VOLUME (+/−) to adjust the volume level.
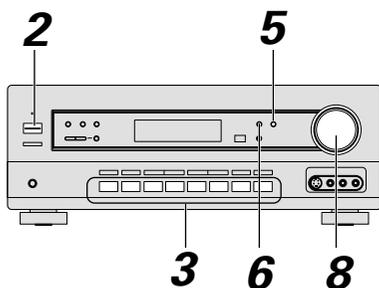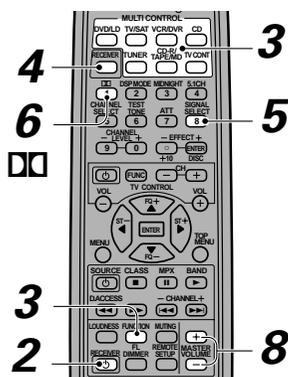
memo
• When an LD or CD player compatible with DTS is played back with SIGNAL SELECT set in "ANALOG", digital noise is output caused by playing back the DTS directly (no decoding). To prevent noise, you need to make digital connections (Refer to pages 11) and set SIGNAL SELECT to "DIGITAL".

memo

When playing LD recorded in Dolby Digital
When connecting a DVD/LD player or LD player using the ▣▣ RF output, a commercially available RF demodulator (RFD-1) is required. The RF demodulator changes the RF signal to a digital signal which is then processed by the receiver at the digital input jacks. For more details, refer to the instruction manual supplied with the RFD-1.

Selecting a Sound Mode

To ensure the best possible surround sound, be sure to complete the set up procedures described in "Setting Up for Surround Sound" (starting on page 16) before using the sound modes. This is particularly important when using the ▢▢ (Dolby) surround mode.

Surround operation
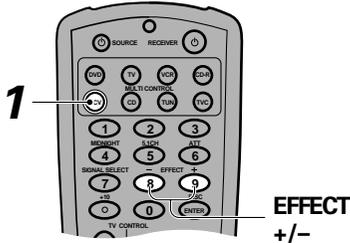
1 EFFECT +/−

2

1 Press RCV.

This sets the remote to select the sound mode. (On the D409 the button is called RECEIVER.)
(You can skip this step when using the controls on the receiver.)

2 Press DSP MODE to select the sound mode.

Each press changes the DSP mode as follows:

```
 →HALL 1 → HALL 2 → JAZZ → DANCE
 (OFF) ← THEATER 2 ← THEATER 1 ←
```

1
2 EFFECT +/−
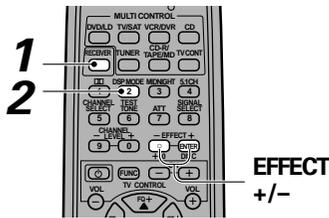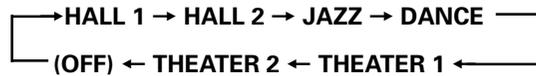
memo   The amount of effect of each DSP mode can be adjusted in the range of 10 to 90 (the default setting value is 70) by pressing EFFECT +/−.

DSP MODE
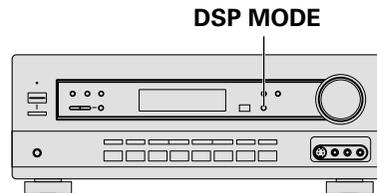
DVD 5.1 ch. input playback (VSX-D509S)

Connect a component with 5.1 channel output to enjoy the surround sound created by 5.1 channel playback.
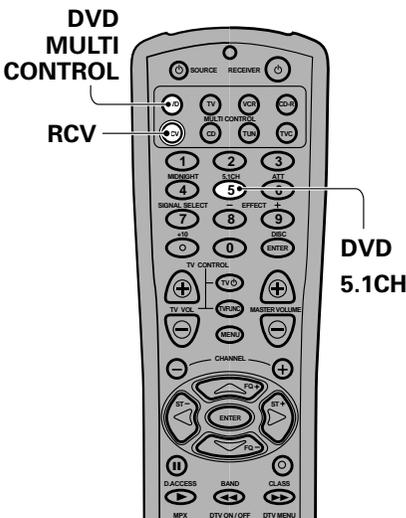
DVD MULTI CONTROL

RCV

DVD 5.1CH

There are two ways to switch on DVD 5.1 CH mode. With the remote control press the DVD/ LD MULTI CONTROL button. Then press the RCV button and number button 5 (DVD 5.1CH). On the main unit simply press the DVD button.

Press number button 5 (DVD 5.1CH) on the remote to go back to the DVD mode control. To exit this mode using the main unit simply press other function button (DVD/LD, etc.).

Each press switches the input: DVD/LD ⬌ DVD 5.1ch
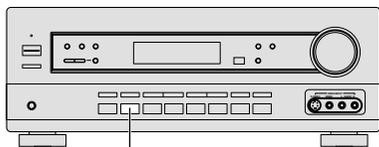
DVD/LD -81 dB ⬌ DVD 5.1ch -81 dB

Operation

39

DVD 5.1CH

memo
• When 5.1 ch input is selected, Dolby mode, DSP mode, SIGNAL SELECT, ATT, DIRECT, TONE, MIDNIGHT mode, LOUDNESS and speakers B cannot be operated.
• When 5.1ch input is selected, only the volume level and channel levels can be set.

DVD 5.1 ch. input playback (VSX-D409)

Connect a DVD player with 5.1 channel output to enjoy the surround sound created by 5.1 channel playback.
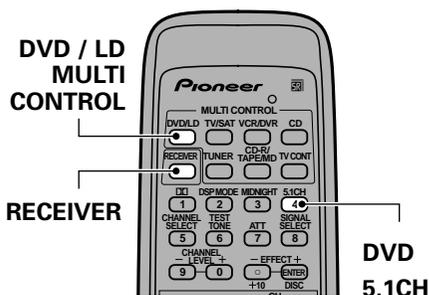
DVD / LD MULTI CONTROL

RECEIVER

DVD 5.1CH

There are two ways to switch on DVD 5.1 CH mode. With the remote control press the DVD/LD MULTI CONTROL button. Then press the RECEIVER button and number button 4 (DVD 5.1CH). On the main unit simply press the DVD 5.1CH button.

Press number button 4 (DVD 5.1CH) on the remote to go back to the DVD/LD mode control To exit this mode using the main unit simply press other function button (DVD/LD, etc.).

$$DVD \quad 5.1ch \; {}^{-81}_{dB}$$
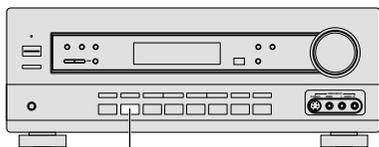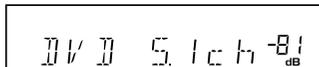
memo
• When 5.1 ch input is selected, Dolby mode, DSP mode,SIGNAL SELECT, ATT, DIRECT, TONE, MIDNIGHT mode and LOUDNESS cannot be operated.
• When 5.1ch input is selected, only the volume level and channel levels can be set.

DVD 5.1CH

Using in MIDNIGHT Listening Mode

When the volume is low, surround effects tend to become less than satisfactory. Turn the MIDNIGHT listening mode on to enjoy the effects of quality surround sound even at low volumes. This mode allows you to hear effective surround sound of movies at low volume levels.

Press MIDNIGHT.

Each press switches MIDNIGHT listening mode on or off.

$$MIDNIGHT \; {}^{-81}_{dB}$$
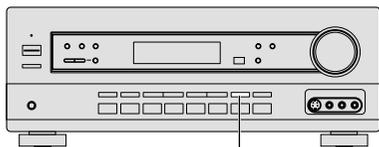
MIDNIGHT

memo
The effect automatically adjusts according to the volume level.

40

ADVANCED THEATER mode (Dolby/DTS mode)

Switch on the Dolby/DTS mode by pressing the ◻◻ surround button. When Dolby/DTS mode is ON, Dolby Pro Logic, Dolby Digital and DTS, and signal processing is performed automatically corresponding to the input signal. Use this button to cycle through the various modes.

For all modes other than STANDARD, DSP is switched on and will appears in the diisplay.
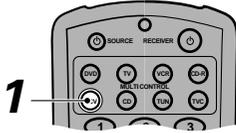
1

◻◻ *2*

1
◻◻ *2*

◻◻ **/DTS**

1 Press RCV.
This sets the remote to select the sound mode. (On the D409 the button is called RECEIVER.)
(You can skip this step when using the controls on the receiver.)

2 Switch the Dolby/DTS mode on and off by pressing ◻◻ on the remote control or ◻◻/ DTS on the front panel.
Each press changes the display as follows.

→ STANDARD → MUSICAL → DRAMA

(OFF) ← EXPANDED ← ACTION ←
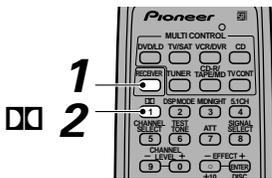
Refer to page 36 for more details about each surround effect.
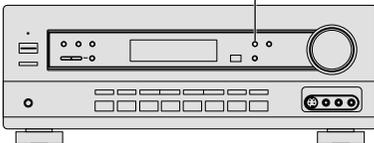
memo • The effects of Dolby/DTS mode can be adjusted in the range of 10 to 90 by pressing EFFECT +/– (the default setting is 70). Also, the effect level can be set in each Dolby/DTS mode by pressing the EFFECT +/– button. The STANDARD mode cannot be changed.

Playing a Source
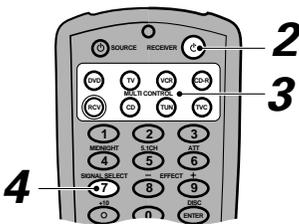
2
3

4

3

3
4

3
2

1 Turn on the power of the playback component.

2 Turn on the power of the receiver.
Be sure that the standby indicator turns off on the front panel.

3 Press MULTI CONTROL buttons or the FUNCTION button to select the source you want to playback.
If the DIRECT FUNCTION is OFF you have to use the FUNCTION button to select the source (see p.28).

4 If necessary, press SIGNAL SELECT to select the input signal corresponding to the source component (as above).
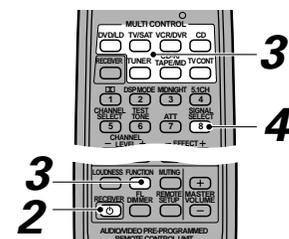
5 Start playback of the component you selected in step 1.

Operation

41

Finding a Station

The following steps show you how to tune in to FM and AM radio broadcasts using the automatic (search) and manual (step) tuning functions. If you already know the exact frequency of the station you want to listen to, see Tuning Directly to a Station on the following page. Once you are tuned to a station you can memorize the frequency for recall later—see Memorizing Stations on page 43 for more on how to do this.
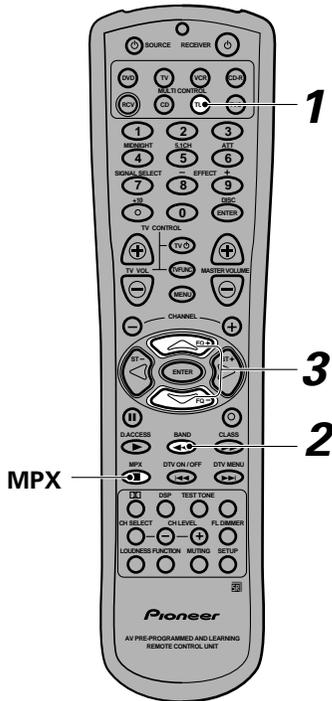
MPX

1 Press the MULTI CONTROL TUN button

On the receiver, press the **FM/AM** button to select the tuner mode.

2 Use the BAND button to change the band (FM or AM), if necessary.

Each press switches the band between FM and AM (on the front panel use the FM/AM button).

3 Tune to a station.

Automatic tuning

To search for stations in the currently selected band, press and hold either the **FQ. +** or **FQ. −** button for about a second. The receiver will start searching for the next station, stopping when it has found one. Repeat this step to search for other stations.

Manual tuning

To change the frequency one step at a time, press the **FQ. +** / **FQ. −** (▲▼) buttons.

High speed tuning

Press and hold the **FQ. +** or **FQ. −** button for high speed tuning, releasing the button once the desired frequency is reached.
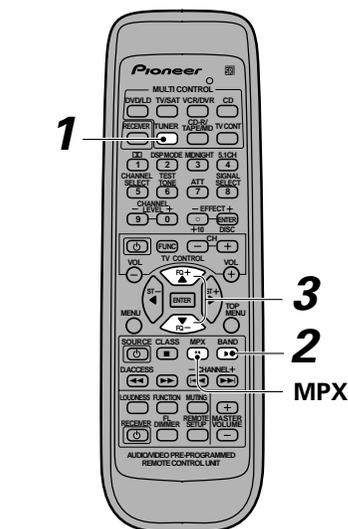
MPX mode

If the **TUNED** or **STEREO** indicators don't light when tuning to an FM station because the signal is weak, press the MPX button to switch the receiver into mono reception mode. This should improve the sound quality and allow you to enjoy the broadcast.

MPX

MPX
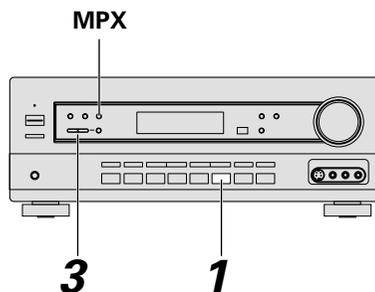
Tuning Directly to a Station

Sometimes, you'll already know the frequency of the station you want to listen to. In this case, you can simply enter the frequency directly using the number buttons on the remote control (this function is not available using the front panel controls of the receiver).
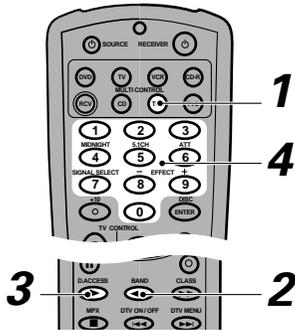
1 Press the MULTI CONTROL TUN button

On the receiver, press the **FM/AM** button to select the tuner mode.

2 Press the BAND button to select either FM or AM.

Each press switches the band between FM and AM.
On the receiver, pressing the FM/AM button switches between bands.

3 Press D.ACCESS (DIRECT ACCESS).

4 Use the number buttons to enter the frequency of the radio station.
Example:
To tune to 106.00 (FM), press **1 – 0 – 6 – 0 – 0**

```
            SP▸A    TUNED
                    STEREO
F M    1 0 6.0 0
```
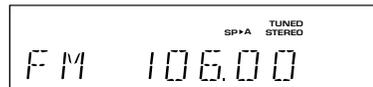
If you make a mistake while inputting the frequency, press the **D.ACCESS** button twice to cancel the frequency and start again.
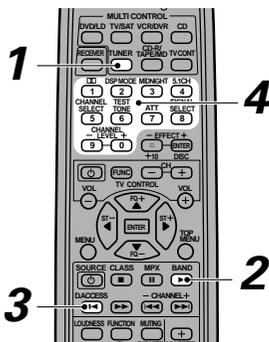
Memorizing Stations

If you often listen to a particular radio station, it's convenient to have the receiver store the frequency for easy recall whenever you want to listen to that station. This saves the effort of manually tuning in each time. The VSX-D409/509S can memorize up to 30 stations, stored in three banks, or classes, (A,B and C) of 10 stations each. When memorizing FM frequencies, the receiver also stores the MPX setting (auto stereo or mono, see p.42). The process for memorizing stations is only possible from the controls on the front panel of the receiver.
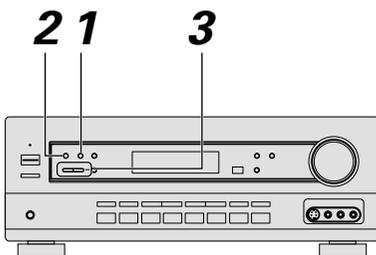
1 Tune to a station you want to memorize.
See Finding a Station and Tuning Directly to a Station, on pages 42 and this page, for more on how to do this.

2 Press MEMORY.

The display shows a blinking memory class.

```
            SP▸A    TUNED
                    STEREO
A -    9 9.5 0
```
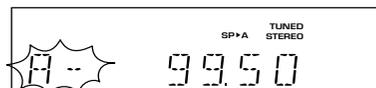
3 Press CLASS to select one of the three classes.

Repeatedly pressing this button cycles through the three available classes, A, B and C.

4 Press STATION +/− to select the desired station memory number.

Pressing these buttons repeatedly cycles through the 10 available station memories in each class.
After choosing the location you want, the preset class and number blink for about 5 seconds and the receiver stores the station.
Repeat steps 1 to 4 to memorize up to 30 stations.

Recalling Memorized Stations

Having memorized up to 30 stations (see the previous page for how to do this), you can be listening to a station with a couple of button presses.
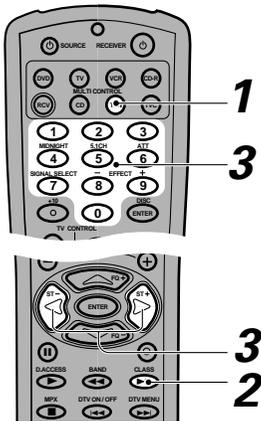
1 Press the MULTI CONTROL TUN button

On the receiver, press the **FM/AM** button to select the tuner mode.

2 Press CLASS to select the class in which the station is stored.

Repeatedly pressing this button cycles through the three available classes, A, B and C.

3 Use the STATION +/− buttons to select the station memory in which the station is stored.

Alternatively, recall the station memory using the number buttons on the remote control.
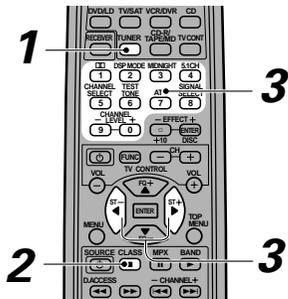
memo

If the receiver is left disconnected from the AC power outlet for a lengthy period, the station memories will be lost and will have to be reprogrammed.
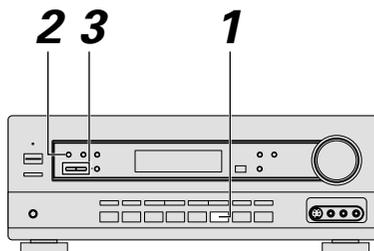
Making a Recording

Making an Audio or a Video Recording

The following steps show you how to make an audio or a video recording from the built in tuner, or from an audio or video source connected to the receiver (such as a CD player or TV). Recordings can be made to a CD-Recorder, cassette deck, MD, VCR, or DVR deck connected to the CD-R/TAPE/MD, VCR or DVR in/out connectors.

> memo   The receiver's volume, balance tone (bass, treble, loudness), and surround effects have no effect on the recorded signal.
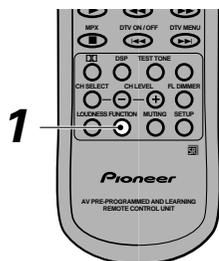
1 Press the FUNCTION button to select a source to record (you can also use the MULTI CONTROL buttons if the DIRECT FUNCTION is on).

All functions except MONITOR are accessible from the remote control.
On the receiver, select the source directly using the front panel buttons.
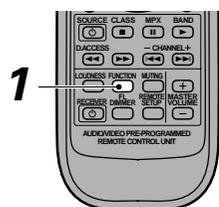
2 Prepare the program source.

Tune to the radio station, load the CD, etc. For a video recording load the video, DVD etc.

3 Insert a blank tape, MD, video etc. into the recording device connected to either CD-R/MD/TAPE or VCR/DVR and set the recording levels.

Refer to the instructions that came with the recorder if you are unsure how to do this. Most video recorders set the audio recording level automatically—check your video's instruction manual if you are unsure whether yours has manual controls.
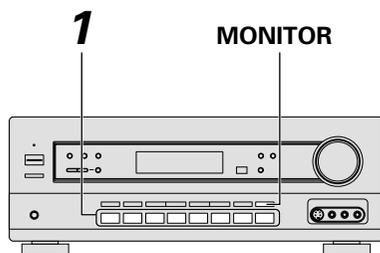
4 Start recording, then start playback of the source component.

Record MONITOR

You can listen to (monitor) the recording as it's being made using the MONITOR button on the the front panel (a cassette deck would have to have a record monitor function).

Press the MONITOR button to switch between the recorded signal and the original source signal.

Making a digital recording

The VSX-D509S has one digital output jack. If you want to make a digital recording from this receiver hook up this optical output to the optical input on the digital component you want to record into. The source component (like MD,CD, DVD, etc) must be digital also, of course. Make sure the analog/digital switch is set to digital (see p. 37) The recording procedure is the same as described above.

Operation

Controlling the Rest of Your System

CD/MD/CD-R/VCR/LD Player Controls

memo — This remote control can control these components after entering the proper codes or teaching the receiver the commands (see p.23-25).

Use MULTI CONTROL buttons to put the remote control in the stated mode.
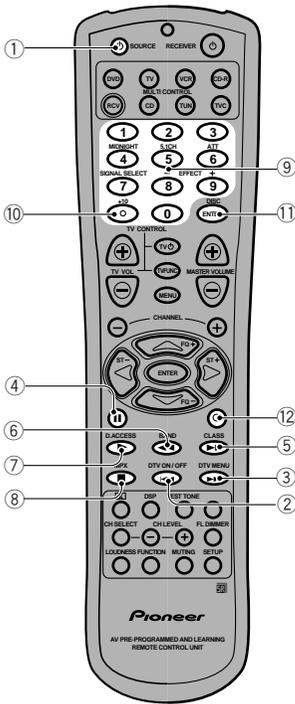
① ⏻ **SOURCE**
Press to switch the CD, MD OR CD-R player between **STANDBY** and **ON**.

② |◄◄
Press to return to the start of the current track. Repeated presses skips to the start of previous tracks. When controlling a VCR, use this button to go back channels (channel -).

③ ►►|
Press to advance to the start of the next track. Repeated presses skips to the start of following tracks. When controlling a VCR, use this button to go forward channels (channel +).

④ ▮▮
Press to pause playback.

⑤ ►►
Hold down for fast forward playback.

⑥ ◄◄
Hold down for fast reverse playback.

⑦ ►
Press to start playback.

⑧ ■
Press to stop playback (on some models, pressing this when the disc is already stopped will cause the disc tray to open).

⑨ **Number Buttons**
Used to directly access tracks on a program source.

⑩ **+10 Button**
Use this button to select tracks higher than 10. Press this button and the remaining number to get the track (+10 Button + 3= track 13).

⑪ **ENTER (DISC) Button**
For a multiple CD player use this button to choose the disc. On an MD player use it ejects thte disc, on a VCR it switches between the VDR tuner and the TV tuner. On an LD it changes sides of the LD.

⑫ ● **RECORD Button (VSX-D509S only)**
Use to start recording. To prevent accidental recording, this button must be pressed twice to take effect (the second press must be within 10 seconds of the first).

⑬ **MENU (VSX-D409 only)**
Press to advance to the start of the next track. Repeated presses skips to the start of following tracks.

⑭ **TOP MENU (VSX-D409 only)**
Press to return to the start of the current track. Repeated presses skips to the start of previous tracks.

⑮ ◄ ► ▲▼ **& ENTER buttons (VSX-D409 only)**
These buttons can be used play or stop (etc.) many components and also to navigate DVD menus/options. Specifically:

◄ to rewind or reverse program source

► to fast forward program source

▲ to pause program source

▼ to stop program source

ENTER to play program source

▲▼ pressed together to start recording (for recording devices only).

46
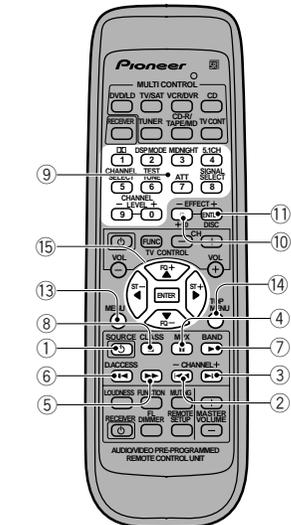
Cassette Deck Controls

memo This remote control can control these components after entering the proper codes or teaching the receiver the commands (see p.23-25).

Use MULTI CONTROL buttons to put the remote control in the stated mode.
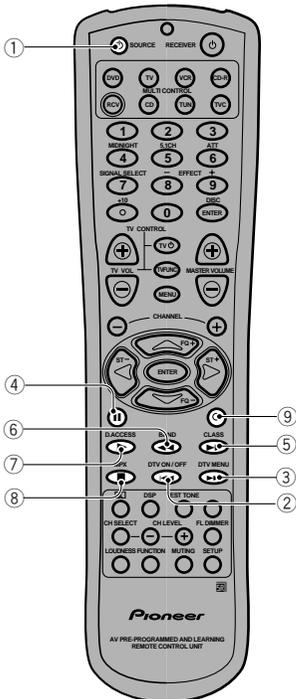
① ⏻ **SOURCE**

Press to switch the cassette deck between **STANDBY** and **ON** (not possible on all models).

② |◀◀

Use to play the reverse side of the tape on a reversible deck.

③ ▶▶|

Use to play the forward side of the tape on a reversible deck.

④ ▮▮

Press to pause playback or recording.

⑤ ▶▶

Press to fast forward the tape. Pressing during playback starts forward search.

⑥ ◀◀

Press to rewind the tape. Pressing during playback starts reverse search.

⑦ ▶

Press to start playback.

⑧ ■

Press to stop playback.

⑨ ● **RECORD Button (VSX-D509S only)**

Use to start recording. To prevent accidental recording, this button must be pressed twice to take effect (the second press must be within 10 seconds of the first).

⑩ **MENU (VSX-D409 only)**

Use this button to do a rewind music search.

⑪ **TOP MENU (VSX-D409 only)**

Use this button to do a forward music search.

⑫ **THESE CONTROLS CAN BE USED FOR DECK ONE OF A DUAL TAPE DECK (VSX-D409 only)**

▲ : Press to pause the tape.

▼ : Press to stop the tape.

ENTER : Press to start playback

◀ : Press to rewind the tape.

▶ : Press fast forward the tape

FOR DECK TWO OR ANY DECK THAT CAN RECORD:

▲▼ : pressed together to start recording

Operation

47
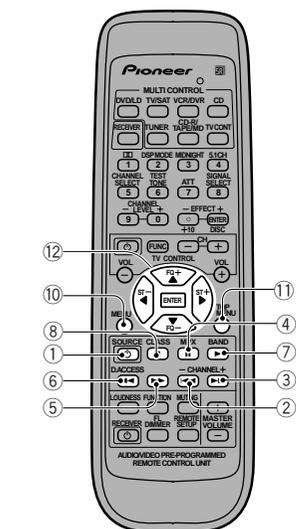
DVD/DVR Player Controls

memo

This remote control can control this component after entering the proper codes or teaching the receiver the commands (see p.23-25).

Use MULTI CONTROL buttons to put the remote control in the stated mode.
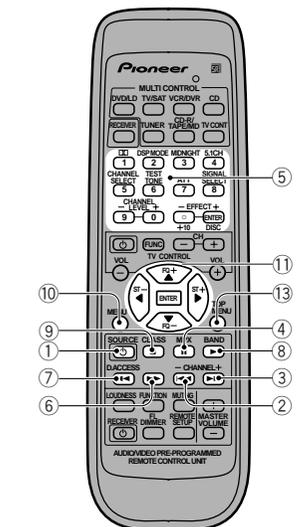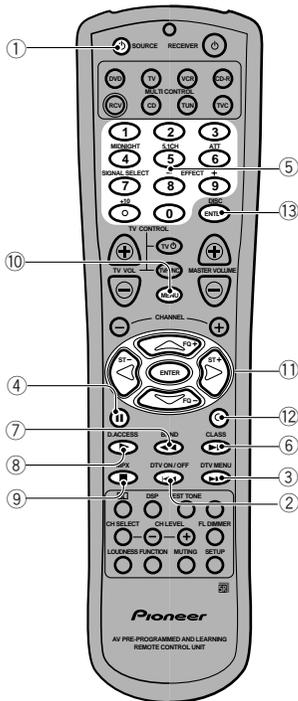
① ⏻ **SOURCE**

Press to switch the DVD/LD player between STANDBY and ON.

② |◄◄

Press to return to the start of the current chapter (track). Repeated presses skips to the start of previous tracks. When controlling a DVR, use this button to go back channels (channel +).

③ ►►|

Press to advance to the start of the next chapter (track). Repeated presses skips to the start of following tracks. When controlling a DVR, use this button to go forward channels (channel +).

④ ❚❚

Press to pause playback (on some models this will freeze-frame the picture).

⑤ **Number buttons**

Use the number buttons to navigate the on-screen display.

The **ENTER** button is used as a SETUP button for the DVD players internal menus. The +10 button is used to selet tracks higher than 10.

⑥ ►►

Hold down for fast forward playback.

⑦ ◄◄

Hold down for fast reverse playback.

⑧ ►

Press to start playback (on some models, pressing this when the disc tray is empty will cause the disc tray to open).

⑨ ■

Press to stop playback (on some models, pressing this when the disc is already stopped will cause the disc tray to open).

⑩ **MENU**

Displays menus concerning the current DVD or DVR you are using.

⑪ **USE THESE BUTTONS TO NAVIGATE DVD MENUS**

▲ : up

▼ : down

ENTER: enter the command selected

◄ : left

► : right

⑫ ● **RECORD Button (VSX-D509S only)**

Use to start recording. To prevent accidental recording, this button must be pressed twice to take effect (the second press must be within 10 seconds of the first).

⑬ **ENTER (VSX-D409 : TOP MENU)**

Use to display the lead trailer on a DVD.

DTV Controls

memo This remote control can control these components after entering the proper codes or teaching the receiver the commands (see p.23-25).

Use MULTI CONTROL buttons to put the remote control in the stated mode.
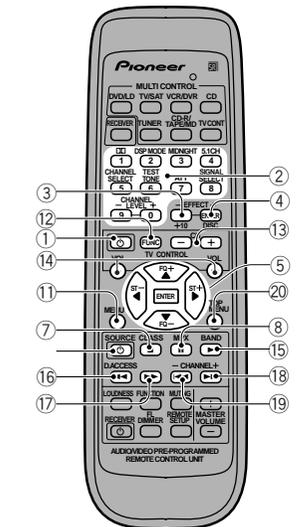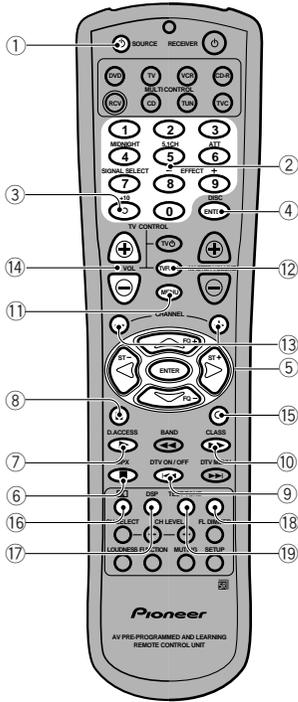
① ⏻ **STANDBY/ON (power)**

Press to switch the TV or CATV between **STANDBY** and **ON**.

② **Number buttons**

Use to select a specific TV channel.

③ ● **(+10) button**

Use to add a decimal point when selecting a specific TV channel.

④ **ENTER (DISC) button**

Use to enter a channel.

⑤ ▲/▼/◄/►/**ENTER**

Press to select or adjust and navigate items on the menu screen.

ENTER：Use to bring up the DTV menus.

⑥ ■ **(VSX-D509S only)**

Use to select the desired closed caption.

⑦ ► **(VSX-D409 : ■)**

Use to switch DTV audio tracks

⑧ ❚❚

Use as the GUIDE button for navigating

⑨ |◄◄ **(VSX-D409 : ⏻ SOURCE)**

Press to switch the DTV on or off.

⑩ ►► **(VSX-D509S only)**

Use to set the screen mode.

⑪ **MENU**

Use to select different menus from the DTV functions.

THESE FOUR BUTTONS ARE DEDICATED TV CONTROL BUTTONS FOR ANY TYPE OF TV SETUP.

⑫ **TV FUNC. (TV only)**

Press to switch the TV input (not possible with some models).

⑬ **CHANNEL +/−**

Use to select channels.

⑭ **TV VOL +/−**

Use to adjust the TV volume.

⑮ ● **(VSX-D409 : ►)**

Use to get INFO on the DTV program.

⑯ ⅅⅅ **(VSX-D409 : ◄◄)**

Use to choose the BLUE commands on a DTV menu.

⑰ **DSP (VSX-D409 : ►►)**

Use to choose the GREEN commands on a DTV menu.

⑱ **BLANK (VSX-D409 : ►►|)**

Use to choose the YELLOW commands on a DTV menu.

⑲ **TEST TONE (VSX-D409 : |◄◄)**

Use to choose the RED commands on a DTV menu.

⑳ **TOP MENU**

Press to clear the DTV menu.

Operation

49

Cable TV/Satellite TV/TV Controls

memo This remote control can control these components after entering the proper codes or teaching the receiver the commands (see p.23-25).

Use MULTI CONTROL buttons to put the remote control in the stated mode.
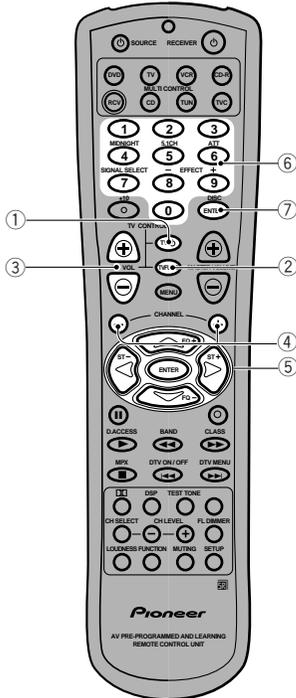
① **TV ⏻**
Press to switch the TV or CATV between **STANDBY** and **ON**.

② **TV FUNC. (TV only)**
Press to switch the TV input. (Not possible with all models. If it doesn't work with the preset code, use the learning feature — see page 26.)

③ **TV VOL +/–**
Use to adjust the TV volume.

④ **CHANNEL +/–**
Use to select channels.

⑤ **▲/▼/◄/►/ENTER**
Press to select or adjust and navigate items on the menu screen.

⑥ **Number buttons**
Use to select a specific TV channel.

⑦ **ENTER (DISC) button (VSX-D509S only)**
Use to enter a channel.

⑧ **I◄◄ (VSX-D409 only)**
Use to move to lower numbered channels

⑨ **►►I (VSX-D409 only)**
Use to move to higher numbered channels

⑩ **EFFECT +/– (VSX-D409 only)**
For TV and cable TV use tis button toimmediately enter a new channel (CHANNEL ENTER function). For satellite TV use this button to exit the menu screen.

⑪ **MENU (VSX-D409 only)**
Use to select the menu screen.

⑫ **TOP MENU (VSX-D409 only)**
Use to bring up the GUIDE on a satellite TV.

memo
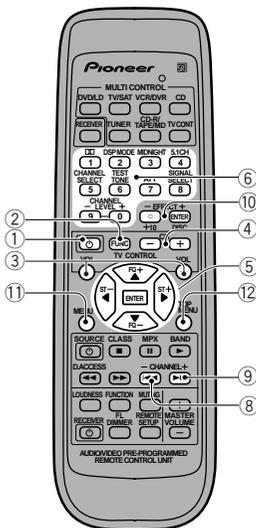
The first four buttons for the VSX-D409, and the the first three buttons for the VSX-D509S, are dedicated to control the TV assigned to the TVC button. Thus if you only have one TV to hook up to this system assign it to the TVC MULTI CONTROL button. If you have two TVs, assign the main TV to the TVC button. If you hook up your system this way, the first four TV controls will always be accessible.

50

Troubleshooting

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
The power does not turn ON.	• The power plug is disconnected. • The protection circuit may have been activated.	• Connect the power plug to the wall outlet. • Disconnect the power plug from the outlet, and insert again.
The unit does not respond when the buttons are pressed.	• Static electricity caused by dry air.	• Disconnect the power plug from the outlet, and insert again.
No sound is output when a function is selected.	• Improper connections. • Sound is muted. • The volume is turned down. • The MONITOR is ON. • Speakers are turned OFF.	• Make sure the component is connected correctly (refer to pages 8 to 15). • Press MUTING on the remote control. • Adjust MASTER VOLUME. • Press the MONITOR button. • Press SPEAKERS to select the speakers you connected.
No image is output when a function is selected.	• Improper connections. • The input source is not properly selected.	• Make sure the component is connected correctly (refer to pages 8 to 15). • Press the correct function button.
Considerable noise in radio broadcasts.	• Incorrect frequency. • The antenna is not connected. • ▯▯ RF and/or digital cables are near the antenna terminals and wires. **FM broadcasts** • The FM antenna is not fully extended or is poorly positioned. • Weak radio signals. **AM broadcasts** • The AM antenna is poorly positioned. • Weak radio signals. • Interference cause by other equipment (fluorescent lamp, motor, etc.).	• Tune in the correct frequency. • Connect the antenna (refer to page 13). • Route ▯▯ RF and digital cables away from the antenna terminals and wires. • Fully extend the FM wire antenna, position for best reception, and secure to a wall. • Connect an outdoor FM antenna (refer to page 13). • Adjust the direction and position for best reception. • Connect an additional internal or external AM antenna (refer to page 13). • Turn off the equipment causing the noise or move it away from the receiver. • Place the antenna farther away from the equipment causing the noise.

Symptom	Cause	Remedy
Broadcast stations cannot be selected automatically.	• Weak radio signal.	• Connect an outdoor antenna (refer to page 13).
No sound from surround or center speakers.	• Speaker settings are incorrect. • The rear and/or center levels are turned down. • The surround and/or center speakers are disconnected.	• Refer to "SPEAKERS setting mode" on page 17 to check the speaker settings. • Refer to "Setting the volume level of each channel" on page 22 to check the speaker levels. • Connect the speakers (refer to page 14).
Sound is produced from other components, but not from LD or DVD player.	• SIGNAL SELECT is set incorrectly. • The digital inputs are assigned incorrectly, or not at all.	• Set SIGNAL SELECT to "DIGITAL" or "ANALOG" according to the type of connections made. (refer to page 37). • Set the digital input settings correctly (refer to pages 20-21).
No sound is output or a noise is output when software with DTS is played back.	• SIGNAL SELECT is set to "ANALOG". • A DVD player not compatible with DTS is used, or the setting of DVD player is incorrect. • The digital output level is adjusted on a CD player or other component equipped with digital output level adjustment capability. (The DTS signal has been altered by the player, and cannot be read.)	• Make digital connections (refer to page 11) and set SIGNAL SELECT to "DIGITAL" (refer to page 37). • Refer to the instruction manual supplied with the DVD player. • Set the digital volume level of the player to full, or to the neutral position.
When a search is performed by a DTS compatible CD player during playback, noise is output.	• The search function performed by the player slightly alters the digital information, making it unreadable.	• This is not a malfunction, but be sure to turn the volume down to prevent the output of loud noise from your speakers.
Cannot be remote controlled.	• The remote control batteries have worn out. • Too far away or bad angle of operation. • There is an obstacle between the receiver and the remote control. • Strong light such as fluorescent light is shining onto the unit's remote control signal light-receiving window.	• Replace the batteries (refer to page 7). • Operate within 23 feet (7 m), 30° of the remote sensor on the front panel (refer to page 7). • Remove the obstacle or operate from another position. • Avoid exposing the remote sensor on the front panel to direct light.
The display is dark or off.	• The FL DIMMER button is pushed.	• Press FL DIMMER on the remote control repeatedly to return to the default.

If the unit does not operate normally due to external effects such as static electricity
Disconnect the power plug from the outlet and insert again to return to normal operating conditions.

Preset Code List (VSX-D509S)

Device	Manufacturer	Manufacturer Code
DVD	Harman/Kardon	0582
	JVC	0558,0623
	Kenwood	0534
	Magnavox	0503
	Mitsubishi	0521
	Onkyo	0503,0627
	Optimus	0525
	Panasonic	0490,0632
	Philips	0503,0539
	Proscan	0522
	RCA	0522
	Samsung	0573
	Sharp	0630
	Sony	0533
	Technics	0490
	Theta Digital	0571
	Toshiba	0503
	Yamaha	0490,0545
	Zenith	0503,0591
	Pioneer	0525,0571,0632 0631(DVD-R)
LD	Akai	0598
	Audio-Technica	0059,0201
	BBK	0624
	Denon	0059
	Disco Vision	0023
	Funai	0584
	Hitachi	0023
	Hong Deng	0542
	Idall	0595
	Kebao	0581
	Mitsubishi	0059
	NAD	0059
	Panasonic	0496
	Philips	0475
	Rowa	0541
	SMC	0596
	Sega	0023
	Sharp	0597
	Shinco	0540
	Sony	0193,0201,0583 0589
	Super	0581
	Toshiba	0599
	Pioneer	0023,0059,0463 0572
TV	AOC	0019,0030
	Admiral	0093,0463
	Aiko	0092
	Akai	0030
	Alaron	0179
	Allegro	0720,0774
	Ambassador	0177
	Ameroca Action	0180
	Ampro	0751

Device	Manufacturer	Manufacturer Code
TV	Amstrad	0412
	Anam National	0161,0250,0425
	Anam	0004,0009,0068 0161,0180,1250 0425
	Audio-Technica	0000,0036,0053 0093,0145,0150 0156,0160,0161 0166,0170
	Audiovox	0092,0180,0451 0623
	Aumrk	0060
	Baur	0010,0512
	Baysonic	0180
	Belcor	0019
	Bell & Howell	0016,0154
	Bradford	0180
	Brackwood	0019
	Broksonic	0236,0463
	CCE	0037
	CXC	0180
	Candle	0030,0056
	Carnivale	0030
	Carver	0054,0170
	Celebrity	0000
	CME	0010,0035,0512
	Cineral	0092,0451
	Citzen	0030,0039,0056 0060,0092
	Concerto	0056
	Contec	0180
	Craig	0161,0180
	Crosley	0054
	Crown	0039,0180,0418
	Curtis Mathes	0016,0030,0039 0047,0051,0054 0056,0060,0093 0145,0154,0166 0451,0466,1147 1347
	Daewoo	0019,0039,0066 0092,0154,0451 0623,0624
	Daytron	0019,0039
	Denon	0145
	Dumont	0017,0019
	Dwin	0720,0774
	ECE	0037
	Electroband	0000
	Emerson	0019,0038,0039 0154,0177,0178 0179,0180,0236 0282,0463,0623 0624
	Envision	0030

Device	Manufacturer	Manufacturer Code
TV	Etron	0009,0646
	Fisher	0154
	Fortress	0093
	Fujitsu	0179
	Futuretech	0180
	Funai	0171,0179,0180 0264
	GE	0021,0047,0051 0093,0178,0282 0451,1147,1347
	Gibralter	0017,0019,0030
	GoldStar	0001,0002,0019 0030,0037,0039 0056,0178
	Gradiente	0053,0056,0170
	Granada	0037
	Grundig	0037
	Grunpy	0179,0180
	Hallmark	0178
	Harley Davidson	0179
	Harman/Kardon	0054
	Harvard	0068,0180
	HCM	0412
	Hitachi	0038,0056,0145
	Imperial	0418
	Infinity	0054
	Innova	0037
	Interfunk	0512
	Inteq	0017
	JBL	0054
	JCB	0000
	JVC	0036,0053,0069 0094,0160
	KEC	0180
	Konig	0512
	KTV	0030,0039,0180
	Kenwood	0019,0030
	LG	0056
	Loewe	0512
	LXI	0047,0054,0154 0156,0178
	Logik	0016
	Luxman	0056
	Matsui	0035
	MGA	0019,0030,0150 0178
	MTC	0019,0030,0056 0060,0512
	Magnavox	0030,0036,0054 0179
	Majestic	0016
	Marantz	0030,0037,0054
	Matsushita	0250
	Megatron	0145,0178
	Minutz	0021

Device	Manufacturer	Manufacturer Code	Device	Manufacturer	Manufacturer Code	Device	Manufacturer	Manufacturer Code
TV	Memorex	0016,0056,0060 0150,0154,0178 0250,0463	TV	Sampo	0030,0039	CATV	ABC	1003,1008,1011 1014
	Midland	0017,0039,0047 0051		Samsux	0039		Bell & Howell	1014
				Sansei	0451		Contec	1019
	Mitsubishi	0019,0093,0150 0178,0108,0512		Sansui	0463		Daehan	1778
				Sanyo	0154,0208,0339		Daeryung	1008
	Motorola	0093		Scimitsu	0019		Everquest	1015
	Multitech	0180		Scotch	0178		Gemini	1015
	NAD	0156,0166,0178		Scott	0019,0178,0179 0180,0236		GoldStar	1144,1838
	NTC	0092					General Instrument	1011,1276,1476 1810
	NEC	0019,0030,0036 0056,0170		Sei-Sinudyne	0010		Hitachi	1011
				Semivox	0180		Jasco	1015
	Netsat	0037		Semp	0156		Jerrold	1003,1011,1012 1014,1015,1276 1476,1810
	Nikkai	0035		Sears	0047,0054,0056 0154,0156,0171 0178,0179			
	Nikko	0030,0092,0178						
	Onwa	0180		Sharp	0039,0093,0165		LG Alps	1779
	Optimus	0154,0166,0250		Shogun	0019		Memorex	1000
	Optonica	0093,0165		Signature	0016		Now	1776
	Orion	0179,0236,0463		Sky	0037		Oak	1019
	Osaki	0412		Sky-Worth	0037		Pacific	1678
	Otto	0010,0512		Sony	0000,0010		Panasonic	1000,1107
	Palladium	0418		Soundesign	0178,0179,0180		Paragon	1000
	Panasonic	0051,0161,0250 0680		Soundwave	0418		Pulsar	1000
				Squareview	0171		Quasar	1000
	Penny	0002,0019,0021 0030,0039,0047 0051,0056,0060 0156,0178,1347		Starlite	0180		Radio Shack	1015
				Supreme	0000		Rembrandt	1011
				Sylvania	0030,0054		Runco	1000
				Symphonic	0171		Samsung	1144,1702
				TMK	0056,0177,0178		Scientific Atlanta	1008,1477,1877
	Philco	0019,0030,0054 0145,0463		Tandy	0093		Seawoo	1780
				Technics	0051,0250		Signal	1015
	Philips	0037,0054		Technal Ace	0179		Signature	1011
	Pilot	0019,0030,0039		Techwood	0051,0056		Starcom	1003,1015
	Portland	0019,0039,0092		Teknika	0016,0019,0039 0054,0056,0060 0092,0150,0179 0180		Stargate	1015
	Prism	0051					Starquest	1015
	Proscan	0047					Taihan	1778
	Protech	0418					Tocom	1012
	Proton	0178,0466		Telefunken	0056		Tongkook	1777,1840
	Pulsar	0017,0019		Toshiba	0035,0036,0060 0154,0156		Toshiba	1000
	Quasar	0051,0165,0250					Tusa	1015
	Quelle	0010,0512		Totevision	0039		Zenith	1000,1525
	RCA	0019,0038,0047 0051,0090,0093 1047,1147,1247 1347,1447		Vector Research	0030		Pioneer	1023,1144,1260 1533,1679 (DTV) 1680 (Set Top Box)
				Victor	0036,0053,0160 0250			
				Vidikron	0054			
	Radio Shack	0019,0030,0039 0047,0056,0154 0165,0178,0180		Vidtech	0019,0036,0178	SAT	AlphaStar	1772
				Wards	0016,0019,0021 0030,0054,0056 0165,0178,0179		Chaparral	1216
	Real istic	0019,0030,0039 0056,0154,0165 0178,0180					Dae Young	1735
							Daeryung	1396
				White			Echostar	1396,1775
	Roadstar	0418		Westinghouse	0463,0623,0624		Expressvu	1775
	Runco	0017,0030,0603		Yamaha	0019,0030		General Instrument	1361,1627,1869
	SSS	0019,0180		Zenith	0016,0017,0092 0463			
	Samsung	0019,0030,0037 0056,0060,0090 0178					HTS	1775
				Pioneer	0038,0166,0172 0679 (DTV),0680 0166		Hitachi	1489,0819
							Hughes Network Systems	1749

Device	Manufacturer	Manufacturer Code	Device	Manufacturer	Manufacturer Code	Device	Manufacturer	Manufacturer Code
SAT	Hung Chang	1732	CD	MCS	0029	TAPE	Kyocera	1171
	JVC	1492,1505,1506 1775		MTC	0420		Lotte	1339
	Jerrold	1361,1627		Magnavox	0157,0305		Luxman	1266
	JiWon	1364		Marantz	0029,0157,0180		Magnavox	1029
	Kabil	1737		Mission	0157		Marantz	1029
	Magnavox	1722,1724		NSM	0157		Nakamichi	1218
	Marantz	1200		Nikko	0174,0362,0525		Nikko	1364
	Memorex	1724		Onkyo	0101,0381,0868		Olympus	1266
	Mitsubishi	1491		Optimus	0000,0032,0037 0145,0179,0305 0420,0437,0468		Onkyo	1135,1282
	NEC	1496,1499,1507 1508					Optimus	1027,1220
	Next Level	1869		Panasonic	0029,0303		Panasonic	1229
	Panasonic	1340,1500,1701		Parasound	0420		Philips	1029
	Philips	1200,1722,1724		Philips	0157,0626		RCA	1261
	Primestar	1361,1627		Proton	0157		Renaissance	1413
	RCA	1143,1392,1566 1855		QED	0157		Samsung	1391
	Radio Shack	1869		Quasar	0029		Sansui	1029
	Sanyo	1493		RCA	0053,0179,0305		Sanyo	1261
	Sharp	1494		Realistic	0179,0180,0420		Sonic	1375
	Sony	1275,1639,1661		Rotel	0157,0420		Sony	1170,1243,1291
	Star Choice	1869		SAE	0157		Teac	1391
	Tae Kwang	1733		Sansui	0157,0305		Technics	1229
	Toshiba	1486,1790		Sanyo	0179,0349		Victor	1244,1273
	Uniden	1722,1724		Scott	0305		Wards	1027
	VTech	1321		Sears	0305		Yamaha	1094,1097
	Victor	1492,1505,1506		Sharp	0037,0180,0861		Pioneer	1027,1099,1101 1220
	Zenith	1856		Sherwood	0114,0180	TUNER	Pioneer	0080
	Pioneer	1662,1329		Sony	0000,0185,0490	VCR	Admiral	0048,0209
CD	Aiwa	0124,0157		Soundesign	0145		Adventura	0000
	Anam	0362		Tascam	0420		Aiko	0278
	Burmester	0420		Teac	0174,0180,0393 0420		Aiwa	0000,0037,0307
	California Audio Labs	0029		Technics	0029,0303		Akai	0041,0106,0281 0315
	Carver	0157,0179,0437		Toshiba	0481		America Action	0278
	Curtis Mathes	0029		Victor	0072		American High	0035
	DKK	0000		Wards	0053,0157		Anam	0037,0162,0226 0240,0278,0553 0579
	Denon	0003,0358,0873		Yamaha	0036,0187		Anam National	0162,0226,1162
	Dynamic Bass	0179		Yorx	0461		Asha	0240
	Emerson	0305		Pioneer	0032,0244,0305 0468,0551 1062 (CD-R)		Audiovox	0037
	Eroica	0562,0563	TAPE	ADC	1171		Beaumark	0240
	Fantasia	0525		Aiwa	1029,1197,1223		Boll & Howell	0104
	Fisher	0174,0179		Akai	1189		Blaupunkt	0226
	Garrard	0393,0420		Anam	1364		Broksonic	0002,0121,0184 0209,0479
	Genexxa	0032,0305		Carver	1029,1261		CCE	0072,0278
	GoldStar	0383,0525		Denon	1076		Calix	0037
	Harman/Kardon	0157,0173		Dual	1383		Canon	0035
	Hitachi	0032		Dynamic Bass	1261		Capehart	0020
	Inkel	0114,0180,0437		Eroica	1418		Carver	0081
	JVC	0072		Fisher	1261		Cineral	0278
	Kenwood	0028,0037,0190 0681,0826		Garrard	1375		Citizen	0037,0278
	Krell	0157		GoldStar	1375		Craig	0037,0047,0072 0240,0271
	LXI	0305		Harman/Kardon	1029,1182		Curtis Mathes	0035,0041,0060 0162
	Linn	0157		Inkel	1070			
	Luxman	0266		JVC	1244,1273			
				Kenwood	1070			

Device	Manufacturer	Manufacturer Code	Device	Manufacturer	Manufacturer Code	Device	Manufacturer	Manufacturer Code
VCR	Colt	0072	VCR	Memorex	0000,0035,0037	VCR	Sears	0000,0035,0037
	Cybernex	0240			0039,0046,0047			0042,0046,0047
	Daewoo	0020,0045,0046			0048,0104,0209			0104
		0278,0561			0240,0307,1037		Semp	0045
	Daytron	0020			1162,1262		Sharp	0048,0363
	Denon	0042		Minolta	0042		Shintom	0072
	Dynatech	0000		Motorola	0035,0048		Shogun	0240
	Electrohome	0037		Multitech	0000,0072		Singer	0072
	Electrophonic	0037		NAD	0058		Sony	0000,0032,0034
	Emerex	0032		NEC	0038,0040,0041			0035
	Emerson	0000,0002,0037			0067,0104		Sylvania	0000,0035,0043
		0043,0121,0184		National	0226			0081
		0208,0209.0278		Nikko	0037		Symphonic	0000
		0479,0561		Nikon	0034		TMK	0208,0240
	Fisher	0047,0104		Noblex	0240		Tatung	0041
	Fuji	0035		Olympus	0035,0226		Teac	0000,0041
	Funai	0000		Optimus	0037,0048,0058		Technics	0035,0162
	GE	0035,0048,0060			0104,0162,0432		Teknika	0000,0035,0037
		0240			1048,1062,1162			0052
	Garrard	0000			1262		Thomas	0000
	General	0052		Orion	0002,0184,0209		Toshiba	0043,0045
	Go Video	0432,0526			0479		Totevision	0037,0240
	GoldStar	0037,0038,0225		Panasonic	0035,0162,0225		Unitech	0240
		0480			0226,0227,1162		Vector	0045
	Gradiente	0000,0008		Penney	0035,0037,0038		Vector Research	0038,0040
	HI-Q	0047			0040,0042,0240		Victor	0008,0041,0067
	Harley Davidson	0000		Pentax	0042		Video Concepts	0040,0045
	Harman/Kardon	0038,0081		Philco	0035,0209,0479		Videosonic	0240
	Harwood	0072		Philips	0035,0081		Wards	0000,0035,0042
	Headquarter	0046		Pilot	0037			0047,0048,0060
	Hitachi	0000,0041,0042		Portland	0020			0072,0081,0240
		0166.,0235		Profitronic	0240		White	0209,0278
	Hughes Network	0042		Proscan	0060		Westinghouse	
	Systems			Protec	0072		XR-1000	0000,0035,0072
	JVC	0008,0041,0067		Pulsar	0039		Yamaha	0038
	Jensen	0041		Quarter	0046		Zenith	0000,0034,0039
	KEC	0037,0278		Quartz	0046			0209,0479
	KLH	0072		Quasar	0035,0162,1162		Pioneer	0058,0067,0168
	Kenwood	0038,0041,0067		RCA	0035,0042,0048	MD	Sony	0490
	Kodak	0035,0037			0060,0106,0240		Denon	0873
	LG	0480		Radio Shack	0000,1037		Kenwood	0681,0826
	LXI	0037		Radix	0037		Onkyo	0868
	Lloyd's	0000,0208		Randex	0037		Sharp	0861
	Logik	0072		Realistic	0000,0035,0037		Pioneer	1063
	MEI	0035			0046,0047,0048			
	MGA	0043,0240			0104			
	MGN Technology	0240		Ricoh	0034			
	MTC	0000,0240		Runco	0039			
	Magnasonic	0278		STS	0042			
	Magnavox	0000,0035,0039		Samsung	0045,0240,0426			
		0081			0432			
	Magnin	0240		Sanky	0039,0048			
	Marantz	0035,0081		Sansui	0000,0041,0067			
	Marta	0037			0209,0271,0479			
	Matsushita	0035,0162,0227		Sanyo	0046,0047,0104			
	Mitsubishi	0043,0048,0067			0240			
		0173		Scott	0043,0045,0121			
					0184			

Preset Code List (VSX-D409)

Device	Manufacturer	Manufacturer Code	Device	Manufacturer	Manufacturer Code
DVD	TOSHIBA	001	CD	DENON	309
	SONY	002		RCA	302, 319, 300, 313
	PANASONIC	003		PHILIPS	312, 322
	JVC	004		YAMAHA	314, 315, 328
	SAMSUNG	005		JVC	303
	SHARP	006		TEAC	305, 306, 324, 325, 327
	AKAI	007		ONKYO	307, 308, 320
	RCA	009		MARANTZ	323, 312, 324
	PIONEER	000, 003, 111		SANYO	313
LD	SONY	101		OPTIMUS	300
	PANASONIC	105, 106		PIONEER	300
	KENWOOD	103	CD-R	PHILIPS	346
	PHILIPS	104		PIONEER	345
	RCA	107	TAPE	SONY	801, 806
	MITSUBISHI	100		TECHNICS	803
	PIONEER	100, 111		KENWOOD	804, 807
TV	RCA	601, 615, 616, 617 610, 623, 621, 602, 618		TEAC	805
				DENON	810
	ZENITH	603, 620		ONKYO	808, 809
	MAGNAVOX	612, 629, 607, 610, 603		YAMAHA	811, 812
				JVC	802
	GE	611, 628, 601, 608, 607, 610, 617, 602, 618		FISHER	813
				RCA	800
				OPTIMUS	800
	PANASONIC	608, 622, 607		PIONEER	800
	SONY	604	MD	SONY	901
	TOSHIBA	605, 626, 602, 621		KENWOOD	903
	MITSUBISHI	609, 610, 602, 621		SHARP	902
	HITACHI	606, 624, 625, 610, 618		TEAC	904
				ONKYO	905
	JVC	613, 623		DENON	906
	SHARP	602, 619, 627		PIONEER	900, 907(FOR DAT), 902
	SANYO	614, 621	VCR	RCA	401, 413, 415, 406, 408, 414, 405, 411, 432, 433, 402, 418, 419
	PHILIPS	607			
	GOLDSTAR	610, 623, 621, 602			
	GRADIENT	630		ZENITH	403, 404, 417
	RADIO SHACK	610, 623, 621, 602		MAGNAVOX	414, 408, 426, 403
	PIONEER	600		FISHER	412, 426, 427, 410, 425, 420
CATV	JERROLD	701, 702, 703, 704, 711, 712, 713, 714, 715, 716			
				PANASONIC	408, 432, 433
				TOSHIBA	405, 409, 426
	SA	705, 706, 708, 709		JVC	407, 428, 429, 430, 431, 408, 414
	ZENITH	707, 710, 717			
	PIONEER	700		HITACHI	406, 434, 436, 408, 401
SAT	RCA	201, 203		SONY	404, 416, 417, 457, 458, 459, 408
	SONY	202			
	ECHOSTAR	205		MITSUBISHI	409, 420, 421, 422, 423, 424, 408, 407
	PIONEER	200			
DTV	PANASONIC	227		SANYO	410, 425, 435, 412
	PIONEER	207, 226		SHARP	402, 418, 419
DVR	PIONEER	456		GOLDSTAR	411, 409
CD	SONY	301, 316, 317, 318		GRANDIENTE	441
	TECHNICS	304, 326		OPTIMUS	408, 432, 433, 402, 418, 419
	KENWOOD	310, 311, 321			
				PIONEER	400

57

Specifications

Amplifier Section

Continuous average power output of 100 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.2 %** total harmonic distortion (front).

Continuous Power Output
VSX-409
Front .... 100 W per channel (1kHz, 0.8 %, 8 Ω)
Center .... 100 W (1kHz, 0.8 %, 8 Ω)
Surround .... 100 W per channel (1kHz, 0.8 %, 8 Ω)
VSX-509S
Front .... 100 W per channel (1kHz, 0.8 %, 8 Ω)
Center .... 100 W (1kHz, 0.8 %, 8 Ω)
Surround .... 100 W per channel (1kHz, 0.8 %, 8 Ω)

Input (Sensitivity/Impedance)
  CD, AUX, VCR/DVR, CD-R/TAPE/MD, DVD/LD,
  TV/SAT, VIDEO***
    .... 200 mV/47 kΩ
Frequency Response
  CD, AUX, VCR/DVR, CD-R/TAPE/MD, DVD/LD,
  TV/SAT, VIDEO***
    .... 5 Hz to 100,000 Hz $^{+0}_{-3}$ dB
Output (Level/Impedance)
  VCR/DVR REC, CD-R/TAPE/MD REC
    .... 200 mV/2.2 kΩ
Tone Control
  BASS .... ± 6 dB (100 Hz)
  TREBLE .... ± 6 dB (10 kHz)
  LOUDNESS   +9 dB/+9 dB (100 Hz/10 kHz)

Signal-to-Noise Ratio (IHF, short circuited, A network)
  CD, AUX, VCR/DVR, CD-R/TAPE/MD, DVD/LD,
  TV/SAT, VIDEO***
    .... 96 dB
Signal-to Noise Ratio [EIA, at 1 W (1 kHz)]
  CD, AUX, VCR/DVR, CD-R/TAPE/MD, DVD/LD,
  TV/SAT, VIDEO***
    ... . 79 dB

Video Section
Input (Sensitivity/Impedance)
  VCR/DVR, DVD/LD, TV/SAT, VIDEO*** ... 1 Vp-p/75 Ω
Output (Level/Impedance)
  VCR/DVR .... 1 Vp-p/75 Ω
Frequency Response
  VCR/DVR, DVD/LD, TV/SAT, VIDEO*** → MONITOR
    .... 5 Hz to 7 MHz $^{+0}_{-3}$ dB
Signal-to-Noise Ratio .... 55 dB
Cross Talk .... 55 dB

FM Tuner Section
Frequency Range .... 87.5 MHz to 108 MHz
Usable Sensitivity
  .... Mono:13.2 dBf, IHF (1.3 µV/ 75 Ω)
50 dB Quieting Sensitivity .... Mono: 20.2 dB
                                          Stereo: 38.6 dBf
Signal-to-Noise Ratio .... Mono: 73 dB (at 85 dBf)
                                   Stereo: 70 dB (at 85 dBf)
Distortion .... Stereo: 0.5 % (1 kHz)
Alternate Channel Selectivity .... 60 dB (400 kHz)
Stereo Separation .... 40 dB (1 kHz)
Frequency Response .... 30 Hz to 15 kHz (±1) dB
Antenna Input (DIN) .... 75 Ω unbalanced

AM Tuner Section
Frequency Range .... 530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna) .... 350 µV/m
Selectivity .... 25 dB
Signal-to-Noise Ratio .... 50 dB
Antenna .... Loop antenna

Miscellaneous
Power Requirements .... AC 120 V, 60 Hz
Power Consumption .... 250 W
In Standby .... 1 W
AC Outlet .... 100 W MAX. (SWITCHED)
Dimensions
VSX-D409 .... 420 (W) x 158 (H) x 391 (D) mm
          (16-9/16 (W) x 6-4/16 (H) x 15-6/16 (D) in.)
VSX-D509S .... 420 (W) x 158 (H) x 401 (D) mm
          (16-9/16 (W) x 6-4/16 (H) x 15-13/16 (D) in.)
Weight (without package)
VSX-D409 .... 8.4 kg (18 lb 8 oz)
VSX-D509S .... 8.4 kg (18 lb 8 oz)

Furnished Parts
FM Antenna 1
AM Loop Antenna 1
Dry Cell Batteries
Size AA / IEC R6P (VSX-D409) 2
Size AA / IEC LR6 (VSX-D509S) 2
Remote Control Unit 1
Operating Instructions 1

NOTE:
Specifications and the design are subject to possible modifications without notice, due to improvements.

* *Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.*
** *Measured by Audio Spectrum Analyzer.*
***VSX-D509S only*

Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:
• Start your volume control at a low setting.
• Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:
• Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

Information courtesy of the Deafness Research Foundation.

Should this product require service in the U.S.A. and you wish to locate the nearest Pioneer Authorized Independent Service Company, or if you wish to purchase replacement parts, operating instructions, service manuals, or accessories, please call the number shown below.

8 0 0 – 4 2 1 – 1 4 0 4

Please do not ship your product to Pioneer without first calling the Customer Service Department at the above listed number for assistance.

PIONEER ELECTRONICS SERVICE, INC.
CUSTOMER SERVICE DEPARTMENT
P.O. BOX 1760, LONG BEACH,
CA 90801-1760, U.S.A.

For warranty information please see the Limited Warranty sheet included with your product.

Should this product require service in Canada, please contact a Pioneer Canadian Authorized Dealer to locate the nearest Pioneer Authorized Service Company in Canada.
Alternatively, please contact the Customer Service Department at the following address:

Pioneer Electronics of Canada, Inc.
Customer Service Department
300 Allstate Parkway, Markham, Ontario L3R
OP2
(905) 479-4411
1-877-283-5901

For warranty information please see the Limited Warranty sheet included with your product.

Si ce produit doit être réparé au Canada, veuillez vous adresser à un distributeur autorisée Pioneer au Canada pour obtenir le nom de la Société de Service Autorisée Pioneer le plus près de chez vous. Ou encore, veuillez communiquer avec le Service de Clientèle de Pioneer:

Pioneer électroniques du Canada, Inc.
Département de service aux consommateurs
300 Allstate Parkway, Markham, Ontario L3R OP2
(905) 479-4411
1-877-283-5901

Pour obtenir des renseignements sur la garantie, veuillez vous reporter au feuillet sur la Garantie Limitée qui accompagne le produit.

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