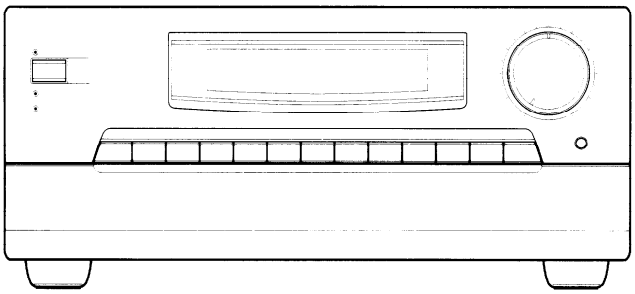
Artistry in Sound

ONKYO

Audio Video Control Receiver

TX-DS939

Instruction Manual



CONTENTS

Thank you for purchasing the Onkyo TX-DS939 Audio Video Control Receiver.
Please read this manual thoroughly before making connections and operating the unit.
Following the instructions in this manual will enable you to obtain optimum performance and listening enjoyment from your new A/V Receiver.
Please retain this manual for future reference.

Features

Amplifier Features

- **120 Watts per channel into 8 ohms (stereo), 20 Hz to 20 kHz, 0.05% THD**
- **100 Watts per channel to front left/center/right and Surround left/right**
- **Auto-switch cooling fan turns on only after sustained, very high power runs**
- **20-Bit Delta Sigma D/A and A/D converters for greater accuracy**
- **Midbass control to fine tune the mid-range response**
- **Powerful, precise, latest generation 24-bit Motorola 56009 and 56004 DSP chips work in unison to provide effortless DSP performance and dramatically improved processing capacity**
- **18 Surround modes**
  ***Dolby Digital:* Dolby digital (AC-3), Home THX Cinema, Action, Drama, Musical**
  ***Dolby Pro Logic:* Pro Logic, Home THX Cinema, Action, Drama, Musical**
  ***Others:* Concert Hall, Live, Arena, Stadium, Night Club, Open Air, Church, Discotheque**

Audio/Video Features

- **Built-in Dolby Digital decoder**
- **Built-in AC-3 RF demodulator for videodisc player**
- **Home THX 5.1 cinema mode with Re-Equalization, Decorrelation and Timbre Matching circuitry**
- **Midnight Theater mode for late-night listening at low volume levels**
- **Acoustic program presets to store parameter settings**
- **Auto acoustic analyzer with microphone**
- **Programmable 7 compatible remote stands on it own**
- **Sleep timer (remote)**
- **Audio muting (remote)**
- **3 Switched AC outlets (U.S./Canadian models); 2 switched AC outlets (European models)**
- **Intelligent Power Management (IPM) turns ON/OFF entire A/V system with TV power button**

General Features

- **Multiroom and multisource (with AV selector) capability (USA models are compatible with Xantech products.)**
- **11 Pre Out terminals (front L/R/Center, surround L/R, subwoofer × 2, multisource L/R/Video/S-video)**
- **Video-1 through Video-7 are S-video compatible**
- **Front panel Video-7/Camcorder switchable inputs and outputs**
- **2 Video Monitor Out jacks**
- **Video Y/C mixing circuitry with Monitor TV Out and Recording Out for VCR**
- **4 Digital inputs (AC-3 RF/optical × 2/coaxial)**
- **A/B Speaker selector and outputs**
- **Motorized precision volume control**
- **Additional display for lesser-used functions**
- **Drop-down panel with light**
- **4-mode display dimmer (bright, normal, dim and off)**

Tuner Features

- **40 AM/FM random presets with four-group classifications**
- **Direct access tuning**
- **Automatic FM/AM scan tuning**
- **8-Character input**
- **RDS with PS/PTY/TP/RT (European and Asian models)**

FOR USA MODEL

Note to CATV system installer:

- This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

FCC INFORMATION FOR USER

CAUTION:

Changes or modifications not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment dose 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 other equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which other receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FOR CANADIAN MODEL (POUR LE MODELE CANADIEN)

- For models having a power cord with a polarized plug.

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

- THIS DIGITAL APPARATUS DOES NOT EXCEED THE CLASS B LIMITS FOR RADIO NOISE EMISSION FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATIONS OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

- Sur les modèles dont la fiche est polarisée.

ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

- L'INTERFERENCE, RADIO ELECTRIQUE GENEREE PAR CET APPAREIL NUMERIQUE DE TYPE B NE DEPASSE PAS LES LIMITES ENONCEES DANS LE REGLEMENT SUL LES PERTURBATIONS RADIO ELECTRIQUES, SECTION APPAREIL NUMERIQUE, DU MINISTERE DES COMMUNICATIONS.

Declaration of Conformity

We, ONKYO EUROPE
ELECTRONICS GMBH
INDUSTRIESTRASSE 18/20
82110 GERMERING,
GERMANY

CE

declare in own responsibility, that the ONKYO product described in this instruction manual is in compliance with the corresponding technical standards such as EN55013,EN55020,EN60555-2, EN60065

GERMERING,GERMANY

H. YAMAZOE

ONKYO EUROPE ELECTRONICS GMBH

"WARNING"

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

CAUTION:

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

- 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.

- 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 product.

Important safeguards

1. **Read Instructions** – All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** – All operating and use instructions should be followed.
5. **Water and Moisture** – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. **Carts and Stands** – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING

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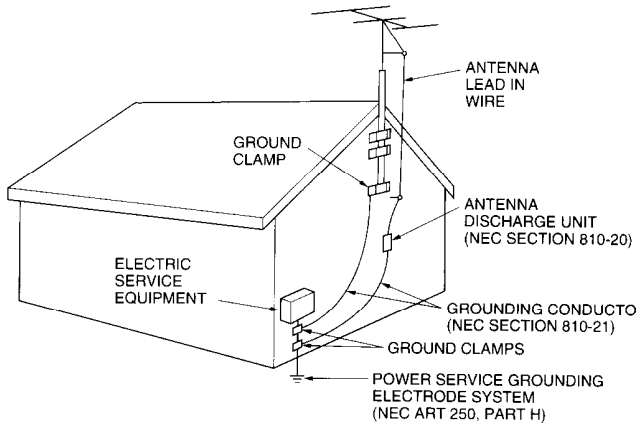
7. **Wall or Ceiling Mounting** – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation** – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or if placed in a built-in installation, such as a book case or cabinet that may impede the flow of air through the ventilation openings, there should be free space of at least 20 cm and open up behind the appliance.
9. **Heat** – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. **Power Sources** – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. **Polarization** – If the appliance is provided with a polarized plug having one blade wider than the other, please read the following information: The polarization of the plug is a safety feature. The polarized plug will only fit the outlet one way. If the plug does not fit fully into the outlet, try reversing it. If there is still trouble inserting it, the user should seek the services of a qualified electrician. Under no circumstances should the user attempt to defeat the polarization of the plug.
12. **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, especially near plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Cleaning** – The appliance should be cleaned only as recommended by the manufacturer.
14. **Power Lines** – An outdoor antenna should be located away from power lines.
15. **Nonuse Periods** – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
16. **Object and Liquid Entry** – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
17. **Damage Requiring Service** – The appliance should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped, or the enclosure damaged.
18. **Servicing** – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
19. **Outdoor Antenna Grounding** – If an outside antenna is connected to the receiver, be sure the antenna 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 the antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 73.1.

FIGURE 73.1:
EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE



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Precautions

1. Warranty Claim
You can find the serial number on the rear panel. In case of warranty claim, please report this number.

2. Recording copyright
Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

3. AC fuse
The fuse is located inside the chassis and is not user-serviceable. If power does not come on, contact your Onkyo authorized service station.

4. Care
From time to time you should wipe the front and rear panels and the cabinet with a soft cloth. For heavier dirt, dampen a soft cloth in a weak solution of mild detergent and water, wring it out dry, and wipe off the dirt. Following this, dry immediately with a clean cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since these could damage the finish or remove the panel lettering.

5. Power
WARNING
BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.

- Some models are designed for use only with the power supply voltage of the region where they are sold.
  U.S./Canadian model: AC 120 V, 60 Hz
  European/Australian model: AC 230 V, 50 Hz

ATTENTION FOR BRITISH MODEL

Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel.

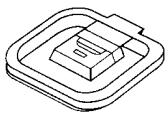
IMPORTANT:
The wires in the mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

IMPORTANT
A 5 amp fuse is fitted in this plug. Shoud the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS 1362. Check for the ASTA mark or the BSI mark on the body of the fuse.
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.
If in any doubt please consult a qualified electrician.

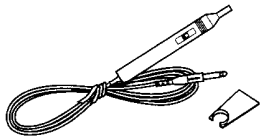
Supplied accessories

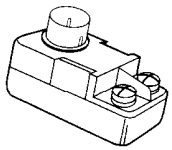

Remote controller (1)


Batteries (2)
(size AA, R6, or UM-3)


AM loop antenna (1)


FM antenna (1)


Microphone (1)
(for Analyzer Setup)
Battery (size AA, R6 or UM-3) (1)
Microphone stand (1)

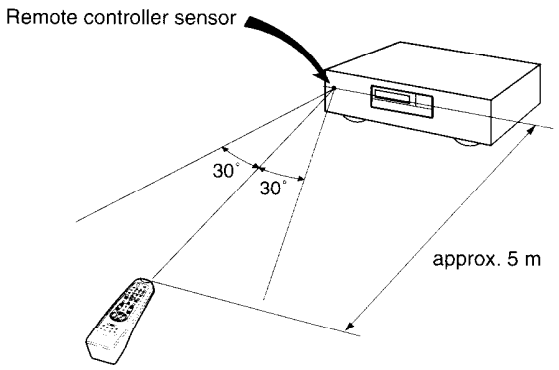

75/300 ohm antenna adaptor (1)

Memory Preservation
This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system. The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

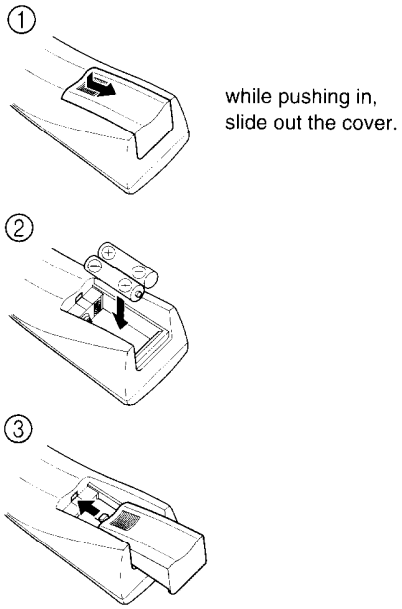
Dolby Surround
Manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby", "AC-3", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

LUCAS FILM and THX are registered trademarks of LUCASFILM LTD.

Before operating this unit



Insert the batteries into the remote controller according to the ilustration.



Using the remote controller

The following information will help you get optimal use from the remote controller.

- Place this unit away from direct bright light which can prevent proper operation of the remote controller.
- Make sure audio rack doors do not have tinted glass. Placing this unit behind such a door may prevent proper remote controller operation.

Loading the batteries

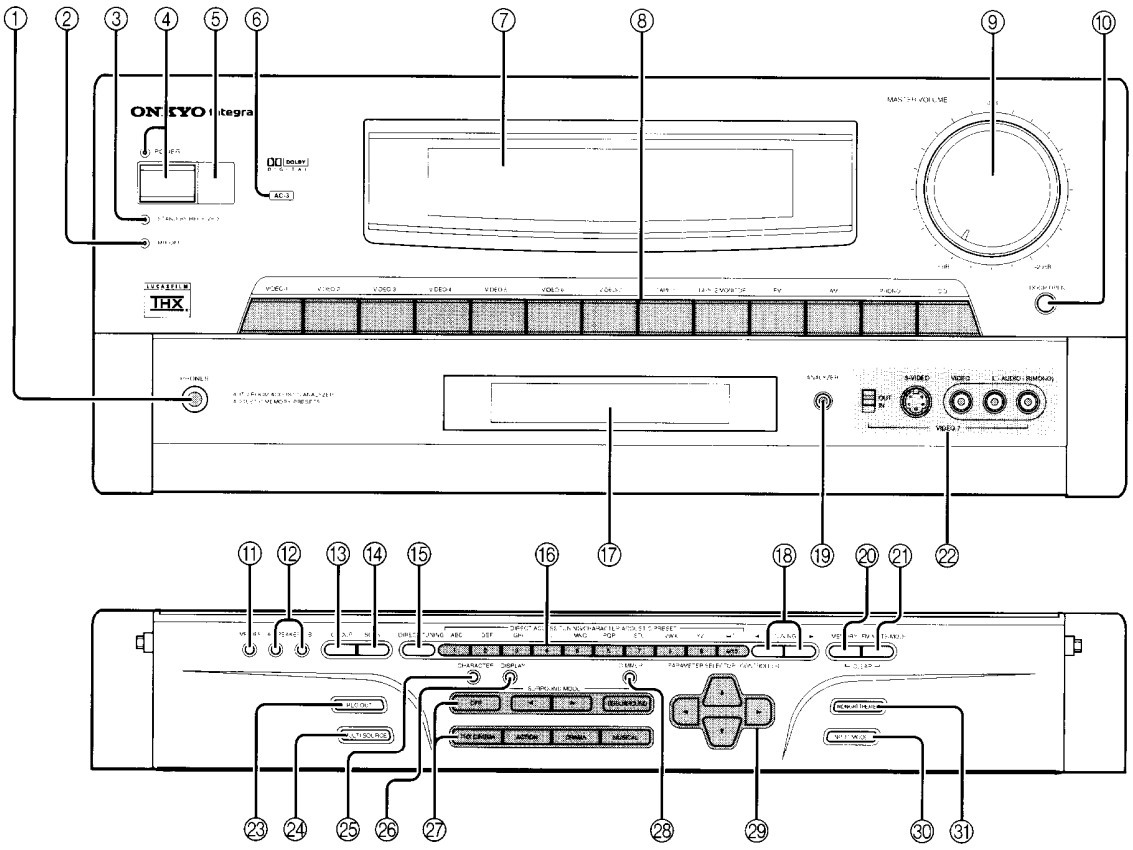
Remove the battery compartment cover by opening it as shown in the illustration. Load two AA- (R6- or UM-3) size batteries into the RC-310M with the plus (+) and minus (–) terminals positioned as indicated by the diagram inside the battery compartment, then close the cover.

- When the batteries lose their power, the indicator on the remote controller will flash each time a button is pressed.
- Immediately remove empty batteries to avoid corrosion damage.
- To avoid potential corrosion damage, never mix old batteries with new ones.
- Learned codes are not lost, even when the batteries are replaced.
  They may be lost, however, if battery replacement is not completed within one hour. In this case, the unit must learn the codes again.
- The manganese batteries supplied with this unit have a service life of approximately six months, depending on the frequency of use.
- The TX-DS939 comes equipped with two AA (R6 or UM-3) manganese batteries, but we recommend that long-life AA (LR6 or AM-3) size alkaline batteries be used when replacing the batteries.

Control positions and names

For more information about the buttons and controls, refer to the page numbers appearing in brackets after each item.

Front panel



① **PHONES (headphone) jack [37]**

② **MR OFF (Multi-Room Remote System on/off) indicator [24]**

③ **STAND-BY/RECEIVED indicator [19]**
The STAND-BY/RECEIVED indicator lights up each time a signal is received from the remote controller .

④ **POWER switch and POWER indicator (SYSTEM switch and SYSTEM indicator on the European/Australian model) [19]**

⑤ **Remote controller sensor**

⑥ **Dolby Digital (AC-3) indicator [49]**

⑦ **Upper display**

⑧ **Input selector buttons [36, 44-48]**
Video: VIDEO-1, VIDEO-2, VIDEO-3, VIDEO-4, VIDEO-5, VIDEO-6, VIDEO-7
Audio: TAPE-1, TAPE-2 MONITOR, FM, AM, PHONO, CD

⑨ **MASTER VOLUME control knob and indicator [33, 36]**
Correctly calibrated, the 0 dB position corresponds to the volume level in a film mixing room during the production of a soundtrack.
The MASTER VOLUME control knob simultaneously adjusts the volume of the front, center and Surround speakers and the PRE OUT outputs (but not the multi-source output). Turning it clockwise increases the volume. The volume can also be adjusted using the remote controller 's VOL ▲/▼ buttons.
The Master Volume level settings shown on the display are: $-\infty$ dB (minimum), –60 ~ –1, 0, +1 ~ +18 dB (maximum).
Depending on the calibration, it may be impossible to set the MASTER VOLUME level to +18dB. Even if the knob is manually turned to its maximum, it will return to its highest possible setting.
Use the remote controller to adjust the multi-source level.

⑩ **DOOR OPEN button**
Press to open the front panel.

⑪ **MR OFF (Multi-Room Remote System on/off) button [24]**

⑫ **SPEAKERS A/B selector buttons [36]**
Used to select the speakers. The indicator in the display for the selected speakers lights up. Speakers A and B can not be selected at the same time.

⑬ **GROUP button [39-40]**

⑭ **SCAN button [40, 42]**

⑮ **DIRECT TUNING button [38]**

⑯ **1 ~ 9 and 0/10 buttons [38-40, 43]**

⑰ **Lower display**

⑱ **TUNING ◄, ► buttons [38, 42-43, 46]**

⑲ **ANALYZER microphone connector [31]**

⑳ **MEMORY button [39]**

㉑ **FM MUTE/MODE button [38, 39, 43]**

㉒ **VIDEO-7 connectors and OUT/IN switch [14]**

㉓ **REC OUT (record out) button [44-45]**

㉔ **MULTI SOURCE (multi-source) button [24]**

㉕ **CHARACTER button [43]**

㉖ **DISPLAY button [42]**

㉗ **SURROUND MODE buttons [49]**
OFF: Switches between the stereo and Surround modes.
◄ / ►: Used to select the desired Surround mode.
DOLBY SURROUND:
Used to select the Dolby digital (AC-3) or PRO LOGIC Surround mode.
THX CINEMA, ACTION, DRAMA and MUSICAL:
Used to select the desired Dolby digital (AC-3) or PRO LOGIC Surround mode.

㉘ **DIMMER button (U.S./Canadian models only)**
Used to change the brightness of the display in four steps (bright, medium, dim and off). If a function is set with the display turned off, the display will light up for a few seconds, and then go off.
PTY/TP (program type/traffic program) button [42] (European/Australian and Asian models only)

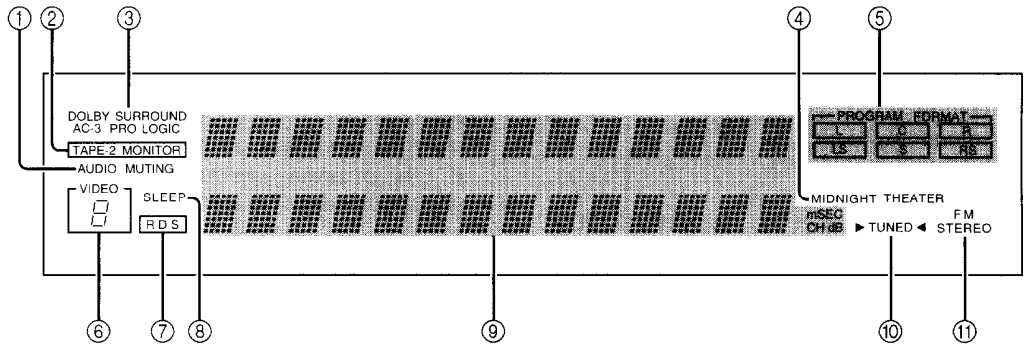
㉙ **PARAMETER buttons [30, 33, 35, 49]**

㉚ **INPUT MODE button [36]**

㉛ **MIDNIGHT THEATER button [53]**

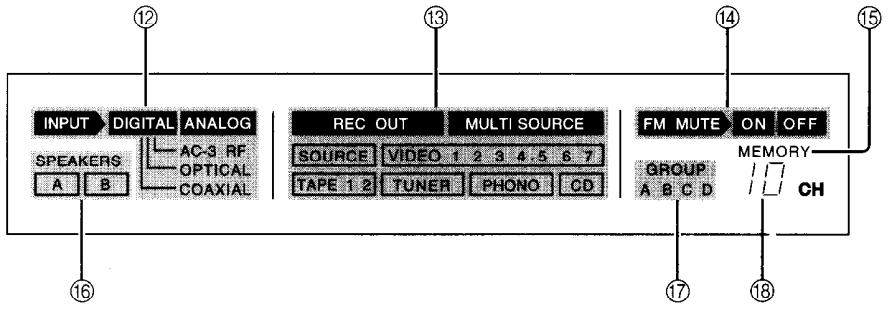
Control positions and names

Upper Display



① AUDIO MUTING indicator [36, 38]
② TAPE-2 MONITOR indicator [47-48]
③ SURROUND MODE indicators [49]
④ MIDNIGHT THEATER indicators [53]
⑤ PROGRAM FORMAT indicators [49]
⑥ VIDEO-1 to -7 input indicator [36]
⑦ RDS indicator [42] (European/Australian model only)
⑧ SLEEP indicator [9]
⑨ Multi-function display
⑩ TUNED indicator [38]
⑪ FM STEREO indicator [38]

Lower Display



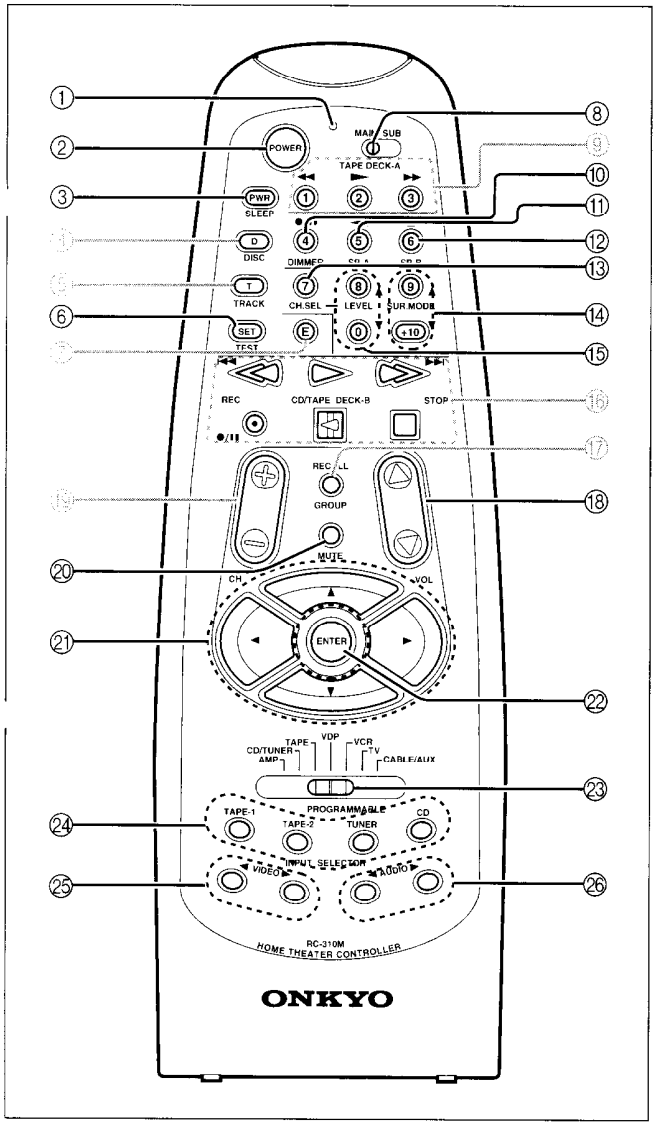
⑫ INPUT MODE indicators [36]
⑬ REC OUT (recording out) and MULTI SOURCE (multi-source) indicators [24, 44-45]
⑭ FM MUTE (FM muting) ON/OFF indicators [38]
⑮ MEMORY indicator [39]
⑯ SPEAKERS A/B indicators [36]
⑰ GROUP indicator [39-40]
⑱ Channel (preset no.) indicator [39-40]

Remote Controller

The TX-DS939's remote controller can be used to operate components bearing Onkyo's RI (Remote Interactive) mark which are connected to the TX-DS939. Refer to *Remote controller connections* on page 13 for connection details.

NOTE:
European/Australian model only:

- The remote controller cannot be used if the POWER button on the front panel is set to OFF.
- The buttons in the shaded area can be used to program the remote controller functions of other brands of audio/visual equipment. Refer to *Programming remote controller codes* on page 25-26 for more details on programming these buttons.



General controls:

① **Remote controller operation indicator**
Lights up each time a button on the remote controller is pressed.

② **POWER button**
Switches the TX-DS939 between stand-by status (the STAND-BY/RECEIVED indicator is lit) and power-on status (the POWER/SYSTEM indicator is lit).

⑧ **MAIN/SUB selector switch**
Switch to MAIN to use the remote controller to operate the system from the main room; switch to SUB to control it from the sub-room.

⑳ **MUTE button**
Temporarily switches off the sound from the speakers, and PRE OUT and PHONES outputs, but not the MULTI-SOURCE output. The AUDIO MUTING indicator on the display flashes. Press this button again or turn the power off and on again to cancel the audio muting.

㉑ **On-screen cursor operation buttons**
Allow you to move the cursor in the on-screen display.

㉒ **ENTER button**
Confirms or cancels the cursor operation in the on-screen display.

㉓ **Direct select switch**
Allows you to select the device that you wish to operate or to enter remote controller codes. Before the VDP, VCR, TV or CABLE/AUX settings can be used, the codes from the remote controller of each component must be stored in the TX-DS939's remote controller. (Refer to *Programming remote controller codes* on pages 25 and 26 for more details.)

㉔ **INPUT SELECTOR buttons**
Allow you to select from TAPE-1, TAPE-2 (monitor), TUNER or CD.

㉕ **VIDEO ◄/► buttons**
Allow you to select from VIDEO-1 through -7.

㉖ **AUDIO ◄/► buttons**
Allow you to select from TAPE-1, TUNER, PHONO or CD.

⑱ **VOL ▼/▲ buttons**
Allow you to adjust the volume level of the selected component.

AMP controls:

The following buttons can be used when the direct select switch ㉓ is set to AMP.

③ **SLEEP button**
Sets the power-off timer, which turns off the power to the system after a certain period of time has passed. Press this button to display "90 MIN". With each press of this button, subtract 10 minutes from the timer setting until the desired time is displayed. Five seconds after this button is first pressed, the timer automatically starts and the SLEEP indicator on the display lights up. Press this button while the indicator is lit to display the amount of time remaining. Each time this button is pressed while the remaining time is displayed, 10 minutes are subtracted from the time. If this button is pressed while 10 minutes or less appear in the display, the sleep timer is cancelled and the power is not turned off.

⑥ **TEST button (p.26, 35)**
Used when storing the remote controller codes, and starts the test tone when adjusting the volume balance between the speakers. (Refer to pages 26 and 35.)

⑬ **CH SEL button (p.35)**
Switches between the speakers during the volume adjustment of the speakers.

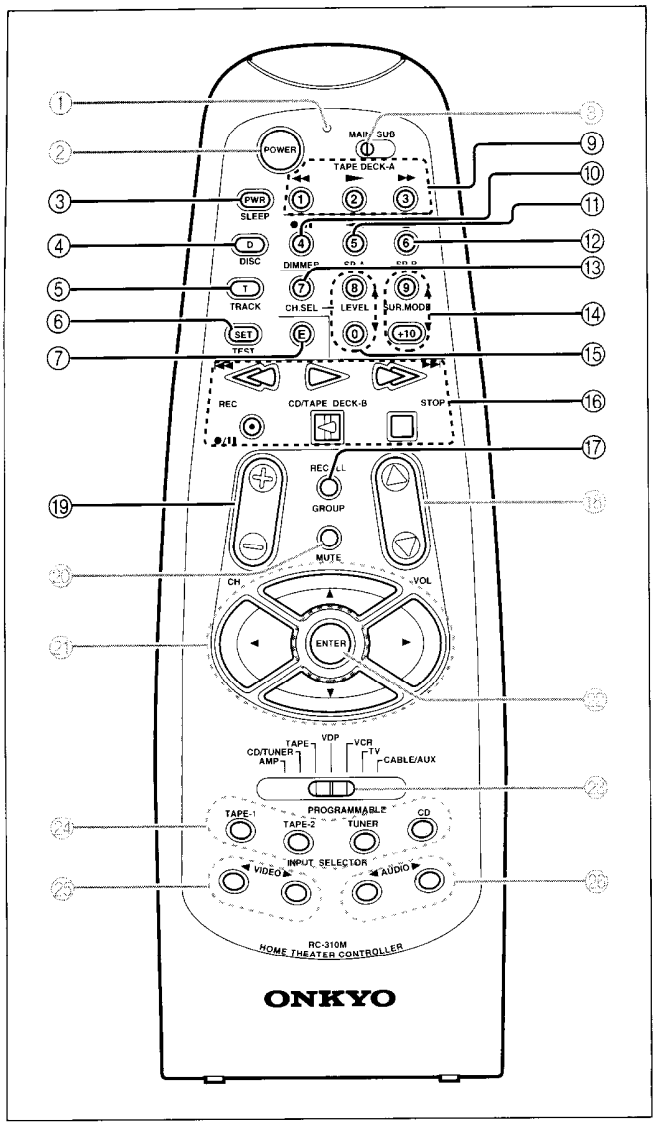
⑮ **▲ LEVEL and ▼ LEVEL buttons (p.35)**
Adjust the playback level of the speakers.

⑩ **DIMMER button**
Changes the brightness of the display in four steps: bright, medium, dim and off.

⑪ **SP-A button**
Turns the main room speakers on or off.

⑫ **SP-B button**
Turns the sub-room speakers on and off.

⑭ **▲ SUR. MODE/▼ SUR. MODE buttons**
Allow you to select the Surround mode.



CD/TUNER controls:

The following buttons can be used when the device select switch ㉓ is set to CD/TUNER.

③ SLEEP button
Refer to the explanation for this button under AMP controls.

④ DISC button
Allows you to specify a disc number for discs in the ONKYO CD changer.

⑤TRACK button
Allows you to use the number keys to specify a track on the ONKYO CD.

⑨~⑮ Number buttons (0, 1~9) and +10 button
Function as number keys.

⑯ CD operation buttons
Function as operating buttons.

◀◀ Down
▶▶ Up
■ Stop
▶ Playback
❚❚ Pause

⑰ GROUP button
Allows you to select a group (A, B, C or D) for the tuner preset memory.

⑲ CH +/– buttons
Allow you to select a preset FM or AM station.

TAPE (tape deck) controls:

The following buttons can be used when the device select switch ㉓ is set to TAPE.

③ SLEEP button
Refer to the explanation for this button under AMP controls.

⑨~⑫ TAPE DECK-A operation buttons
Function as operating buttons for Tape Deck-A.

◀◀ Fast rewind
▶▶ Fast forward
◀ Reverse playback
▶ Forward playback
●/❚❚ Rec/pause
■ Stop

⑯ TAPE DECK-B operation buttons
Function as operating buttons for Tape Deck-B.

◀◀ Fast rewind
▶▶ Fast forward
◀ Reverse playback
▶ Forward playback
●/❚❚ Rec/pause
■ Stop

VDP (video disc player) controls:

The following buttons can be used when the device select switch ㉓ is set to VDP.

③ PWR button
Turns on and off the power.

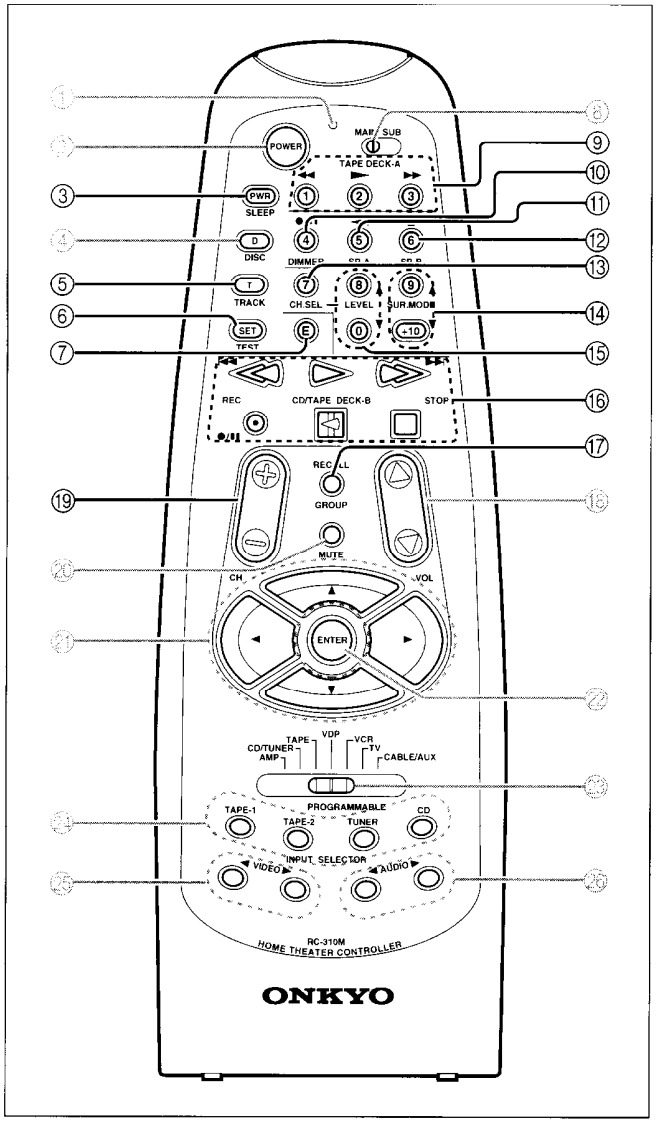
⑥ SET button
Allows you to start programming the video device codes of other brands' in order to operate them using this remote controller.

⑦ Enter button
Allows you to enter other brands' video device codes into this remote controller .

⑨~⑮ Number buttons (0, 1~9) and +10 button
Functions as number keys for selecting a chapter.

⑯ VDP operation buttons
Function as operating buttons.

◀◀ Fast rewind
▶▶ Fast forward
■ Stop
▶ Playback
❚❚ Pause



VCR (video cassette recorder) controls:

The following buttons can be used when the device select switch ㉓ is set to VCR.

③ PWR button

Turns on and off the power.

⑤ T button

Toggles between the VCR and TV.

⑥ SET button

Refer to the explanation for this button under VDP controls.

⑦ Enter button

Refer to the explanation for this button under VDP controls.

⑨~⑮ Number buttons (0, 1~9) and +10 button

Functions as number keys for selecting a channel.

⑯ VCR operation buttons

Function as operating buttons.

◁◁	Fast rewind	▷	Forward playback
▷▷	Fast forward	●/II	Rec/pause
◁	Reverse playback	□	Stop

⑲ CH +/– buttons

Allow you to select a channel.

TV controls:

The following buttons can be used when the device select switch ㉓ is set to TV.

③ PWR button

Turns on and off the power.

⑤ T button

Toggles between the VCR and TV.

⑥ SET button

Refer to the explanation for this button under VDP controls.

⑦ Enter button

Refer to the explanation for this button under VDP controls.

⑨~⑮ Number buttons (0, 1~9) and +10 button

Functions as number keys for selecting a channel.

⑰ RECALL button

Allows you to select a previously selected channel.

⑲ CH +/– buttons

Allow you to select a channel.

CABLE/AUX controls:

The following buttons can be used when the device select switch ㉓ is set to CABLE/AUX.

③ PWR button

Turns on and off the power.

⑥ SET button

Refer to the explanation for this button under VDP controls.

⑦ Enter button

Refer to the explanation for this button under VDP controls.

⑨~⑮ Number buttons (0, 1~9) and +10 button

Functions as number keys for selecting a chapter.

⑰ RECALL button

Allows you to select a previously-selected channel.

⑲ CH +/– buttons

Allow you to select a channel

Introduction

Surround System

Since the TX-DS939 is equipped with front, center and Surround amplifiers, Dolby Digital, Dolby Pro Logic and other Surround effects can be produced. You can enjoy the feeling of a movie theater, concert hall or ball game ground in your own room.

Dolby Digital (AC-3) DOLBY DIGITAL

Dolby Digital (AC-3) is a new-generation digital audio format for multi-channel Surround audio. With this digital audio format, you can create a five full-range channel system called a "3/2" channel Surround system (left, center, right, and two Surround channels), which is a developed version of the conventional "3/1" channel Surround system (left, center, right, and only one Surround channel). Adding to its five full-range channels, Dolby Digital (AC-3) supports an LFE (low frequency effect) channel, which is used solely for low frequency sounds independent of the other channels. This fully discrete 5.1 channel Dolby Digital (AC-3) can reproduce sound of a wide and dynamic range, changing your room into a home theater.

Dolby Digital (AC-3) technology is implemented in such media as laser discs, DVD video discs, CATV (cable television) and DBS (direct broadcasting satellite).

By using CATV, video disc players with an AC-3RF output for Dolby Digital (AC-3) digitally encoded discs, or the proper equipment for the playback of laser discs bearing the DOLBY DIGITAL trademark.

DOLBY PRO LOGIC Surround

Many motion pictures produced have been released in the 4-channel "Dolby Stereo" sound, with music, dialogue, and panned effects coming from the 3-channel front soundstage, and Surround effects and ambience emanating from the sides and rear of the theater.

The motion picture masters are used for production of stereo VHS, VHS-Hi-Fi, Beta Hi-Fi, and stereo laser discs that you can buy or rent at your video store.

Video tapes and laser discs bearing the DOLBY SURROUND trademark or corresponding DVDs, you can recreate in your own living room the feeling of watching a movie in a top quality theater.

HOME THX CINEMA Surround LUCASFILM THX

The THX CINEMA Surround mode applies additional processing to Dolby Digital and Dolby Pro Logic multi-channel Surround sources. The THX processing is designed by Lucasfilm sound engineers to recreate the sound of a top-quality theater. Use the THX CINEMA mode for all movies on disc, tape or broadcast. For best results, it is recommended to use a THX-certified loudspeaker system.

ACTION, DRAMA and MUSICAL Surround

These three movie genre modes use Dolby Digital or Dolby Pro Logic Surround decoding in addition to Onkyo processing to enhance the best quality of the source.

AC-3 or PRO LOGIC ACTION:	for encoded media emphasizing the special effects
AC-3 or PRO LOGIC DRAMA:	for encoded media emphasizing the dialog
AC-3 or PRO LOGIC MUSICAL:	for encoded media emphasizing the music

CONCERT HALL Surround

This mode is especially suited for media already having a substantial amount of reverb sound such as classical music since it simulates the atmosphere of a concert hall.

LIVE Surround

This mode reproduces the feeling of a live performance.

ARENA Surround

This mode recreates the mood of listening to a concert in a domed stadium.

STADIUM Surround

This mode is best when watching a live sporting event since it remove the announcer's voice so that it seems to come from all around you, simulating the feel of being in a stadium.

NIGHT CLUB Surround

This mode gives you the feeling of listening to a live jazz performance in a small nightclub.

OPEN AIR Surround

This mode recreates the atmosphere of listening to a live performance in an open air arena.

CHURCH Surround

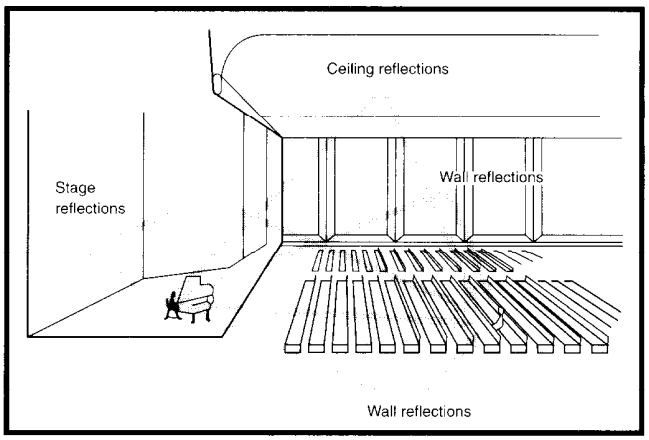
This mode reproduces the mood of being in a church.

DISCOTHEQUE Surround

This mode generates the feeling of listening to music in a high-ceilinged dance hall.

DSP (digital signal processor)

The DSP converts the musical signal into digital form and produces reflected sound from the digital signal. This is applied to the musical signal to yield an effect approaching that of a live performance.



NOTE:

- The concert hall effect is produced from the reflections and reverberations contained in the original recording. These are converted into reflected sound that is reproduced from four directions. Thus, in some cases an unnatural impression can be conveyed if there are too few reflections in the recording or if the effects in the original recording were produced artificially.
- The concert hall effect is not merely an artificial reverberation unit, but a sophisticated effect that spreads existing reverberation around.

Multi-Room Remote System (MR)

Using the Multi-Room Remote System equipment, you can operate all components connected to the TX-DS939 from either the main room or the sub-room. (Refer to pages 20 to 22 for more details.)

The following equipment (sold separately) is essential for using the Onkyo Multi-Room System:

USA & Canada:

* Onkyo's Multi-Room System kits HKT-600, HKT-700 (IR Remote Controller Extension System) and
* Xantech's Multi-Room System

Other area:

* Sensor Unit: Model No. HR-10
* Remote Emitter: Model No. HE-50 (AC)
* Remote Emitter Head: Model No. HE-10

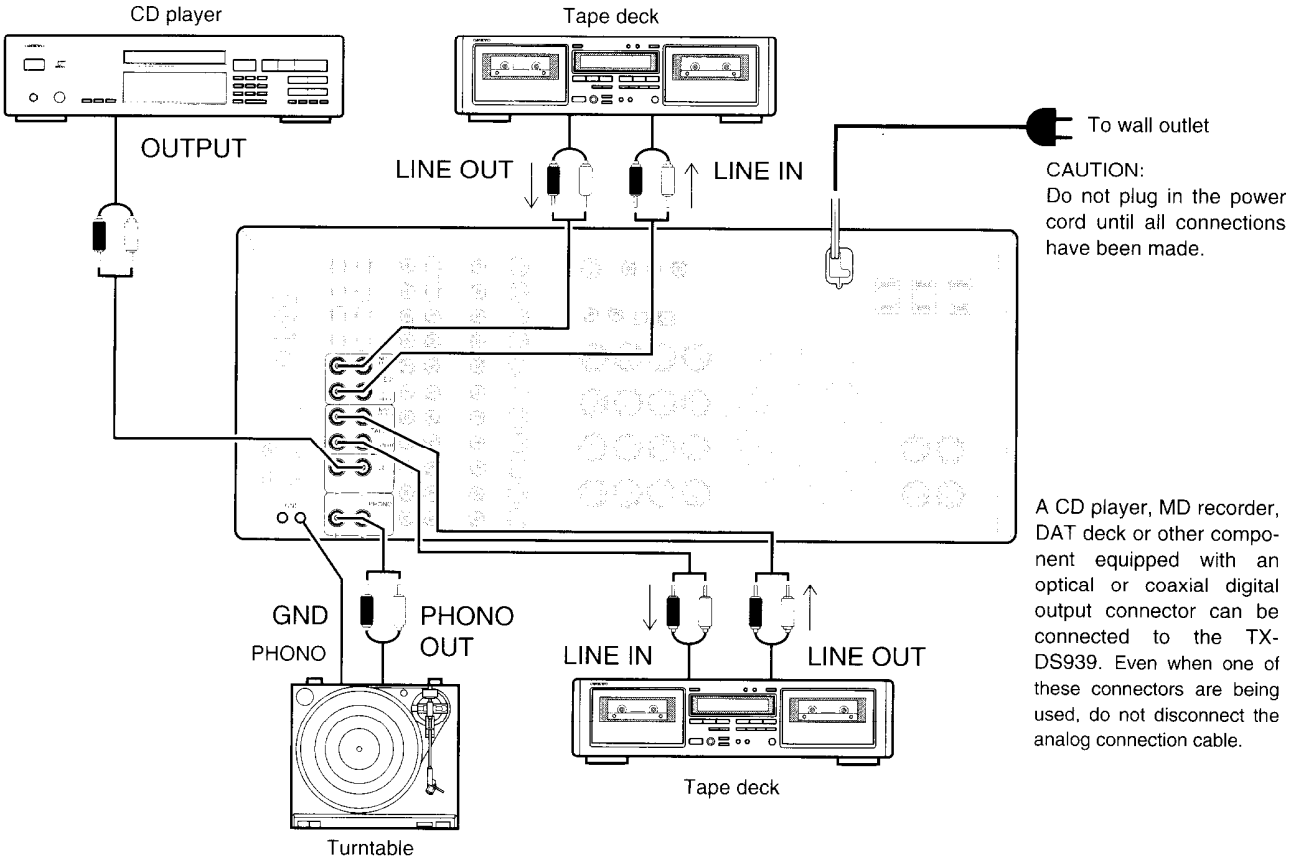
The following secondary remote controller can be used to operate the system from the sub-room:

* Secondary Remote Controller for Multi-Room Remote System: Model No. RC-MR1H

Consult your nearest Onkyo service center when replacing your Onkyo Multi-Room System with a Xantech Multi-Room System.

Connecting audio equipment

Refer to the instruction manual of each component when making connections.
On each pair of input connectors, the red connector corresponds to the right channel (marked R) and the white connector to the left channel (marked L).



CAUTION:
Do not plug in the power cord until all connections have been made.

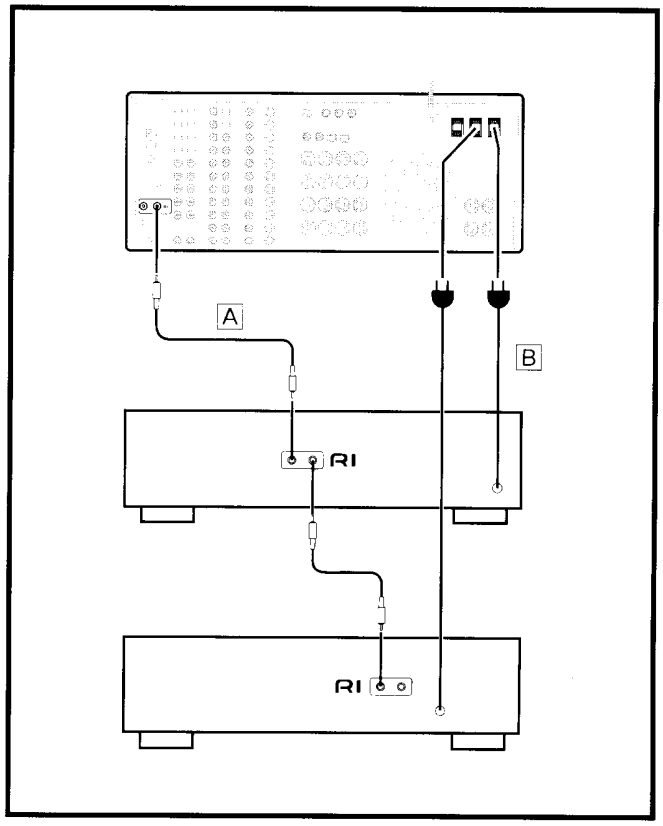
A CD player, MD recorder, DAT deck or other component equipped with an optical or coaxial digital output connector can be connected to the TX-DS939. Even when one of these connectors are being used, do not disconnect the analog connection cable.

Remote controller connections A

Cassette tape decks and a compact disc player that are equipped with an Onkyo RI connector can be operated using the remote controller included with this unit.
To enable remote controller operation of other components, connect the remote controller cable as shown at the right.
Connect the remote controller cable to the black connector with the RI mark, never connect it to the green or gray connector with the MR mark.

NOTE:

- To enable proper remote controller operation, both the RI cables and the audio cables must be connected to the units.
- This unit's remote controller cannot be used to control Onkyo turntables.
- An RI remote controller cable equipped with 1/8" (3.5 mm) mini jacks is included with any other component installed with an RI connector.



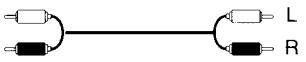
AC outlet connections B

The power to components connected to the SWITCHED outlet is turned on and off using the power buttons on the front panel and remote controller .

NOTE:

- The shape, number and total capacity of the AC outlets may differ according to the model and the area where the unit is purchased. Be careful that other components connected to this unit do not exceed the capacity that is printed on the rear panel above the AC outlets.

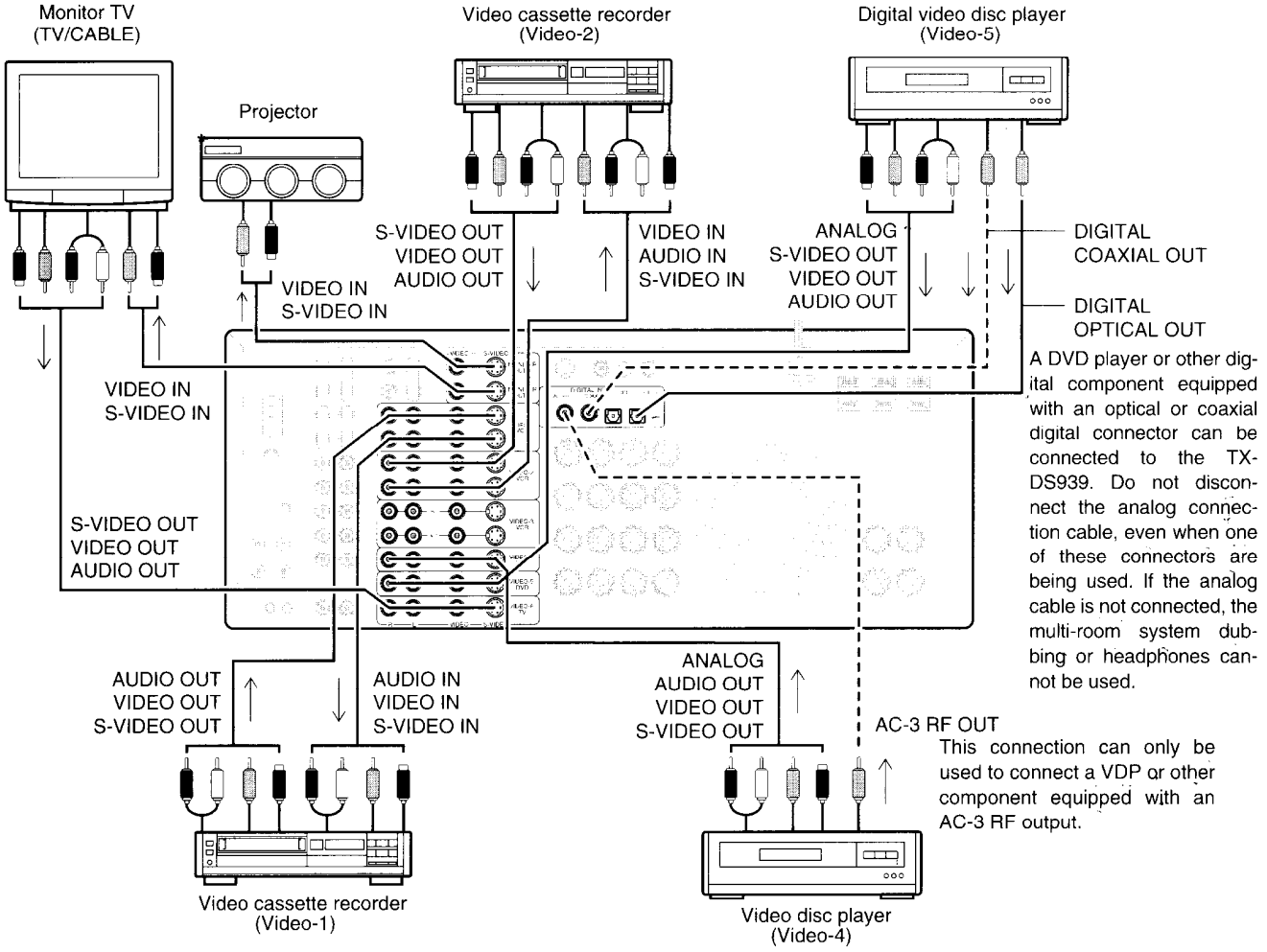
Connecting video equipment



Refer to the instruction manual of each component when making connections.
On each pair of input connectors, the red connector corresponds to the right channel (marked R) and the white connector to the left channel (marked L).

* The MONITOR OUT-1 and -2 connectors are used in the same way.

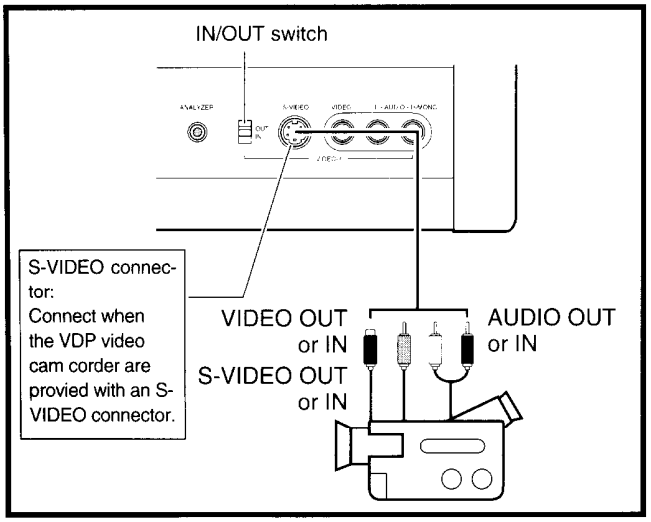
If there should be interference between the TV and this unit, place this unit as far from the TV as possible. We do not recommend the use of a common TV/FM antenna. (Refer to *Connecting antennas* on page 20.)



A DVD player or other digital component equipped with an optical or coaxial digital connector can be connected to the TX-DS939. Do not disconnect the analog connection cable, even when one of these connectors are being used. If the analog cable is not connected, the multi-room system dubbing or headphones cannot be used.

This connection can only be used to connect a VDP or other component equipped with an AC-3 RF output.

If a VDP's AC-3 RF output is connected to the TX-DS939's AC-3 RF DIGITAL INPUT connector, also connect the VDP's analog output to this unit's VIDEO-4 INPUT connectors. If a Dolby Digital (AC-3) laser disc is played back, the sound will automatically be reproduced in Dolby Digital (AC-3).



VIDEO-7/CAMCORDER

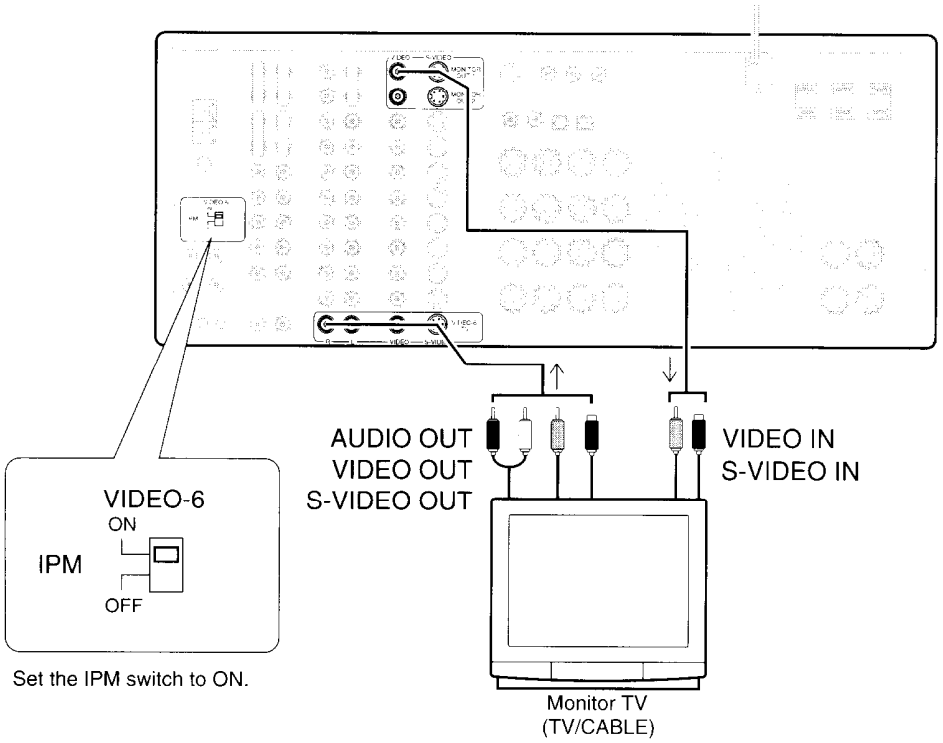
The IN/OUT switch at the left of these connectors can be used to select whether the connectors will be used as inputs or outputs.

NOTE:

- When the video equipment is monaural, connect its audio output to the right (R) audio input connector on this unit.
- When the IN/OUT switch is set to OUT, the sound from VIDEO-7 cannot be heard from the headphones, speakers or any components connected to the OUTPUT (REC), MULTI SOURCE OUT and PRE OUT connectors, and the picture cannot be seen from components connected to the MONITOR OUT connectors.

Connecting video equipment

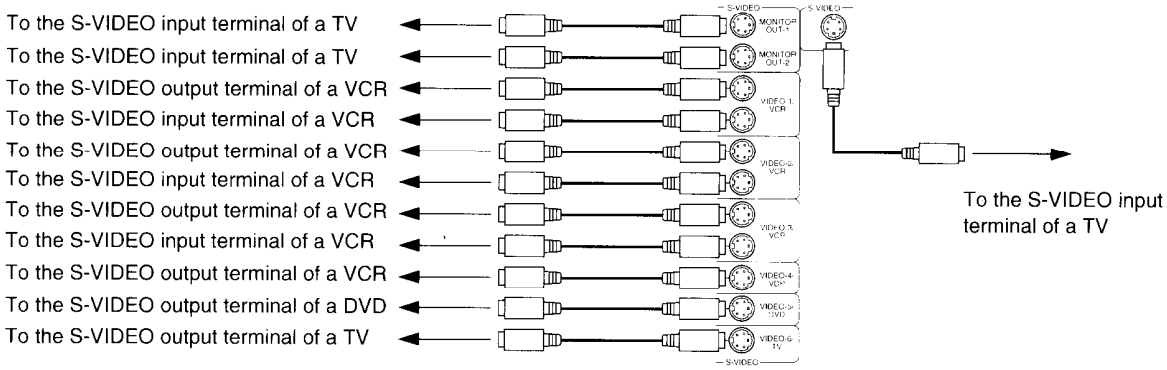
The TX-DS939 is equipped with an IPM system, which automatically turns on or off the receiver's power 3 seconds to 5 minutes after the TV is turned on or off. To use this function, connect the units as shown in the diagram below.

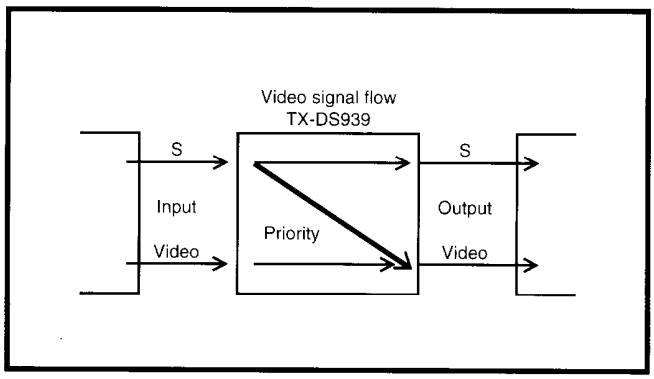


NOTE:

- The IPM function does not operate if the TV screen remains blank (i.e. no picture appears) after switching it on.
- If the TV goes off, ": :" flashes on the right side of the TX-DS939's display and five minutes later it also turns off.
- If a TV or monitor is connected to both the VIDEO IN and VIDEO OUT connectors, be sure to set the IPM switch to ON. If the switch is set to OFF, the TV or monitor may be damaged.

S-VIDEO connectors





Video and S-VIDEO input and output priority

A signal fed into the S-VIDEO input connector will be output from both the S-VIDEO and the normal video connectors. However, a signal fed into the normal video connector will be output only from the normal video connector.

NOTE:

- When video equipment or a TV/monitor with an S-VIDEO input is connected to both the S-VIDEO connector and the normal video connector, some models automatically select recording or playback via the S-VIDEO connection (S-VIDEO connector input has priority).

Positioning speakers

Front, Center and Surround speakers

Speaker placement plays an important role in the reproduction of Surround sound. The manner in which the speakers are placed varies depending on the size of the room and the wall coverings used in the room. The illustration below shows an example of a layout for standard speaker placement. Refer to this example when positioning the speakers in order to experience the best of Surround sound.

For Surround sound reproduction, a minimum of two front speakers and two Surround speakers are required.

- The TX-DS939 is capable of driving 2 speaker systems (A or B).
- The subwoofer output of the TX-DS939 is a line level out.

THX speaker system

- Use speakers approved by LUCASFILM LTD.
- Use left, right and center speakers placed at the same height and aim them toward the seated ear height position.
- Use left and right surround speakers placed above 1m (3 feet) the listener's ear level, and generally to the sides of the listeners.
- Since sound emanates from the front and rear of the surround speakers, listeners will hear specious sounds reflected from surfaces in the room.
- Other surround speaker locations may also be acceptable as long as the null is pointed toward the listening area.
- Place the subwoofer for smoothest bass in the listening room.

Refer to the instruction manual included with your speakers for more details.

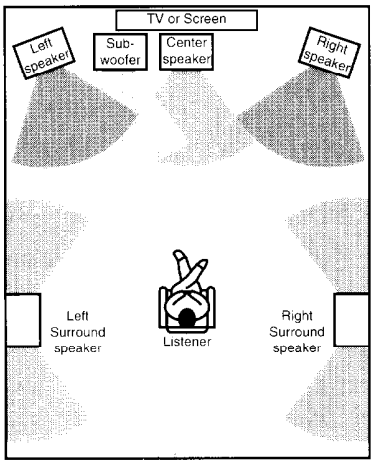
Other speaker systems

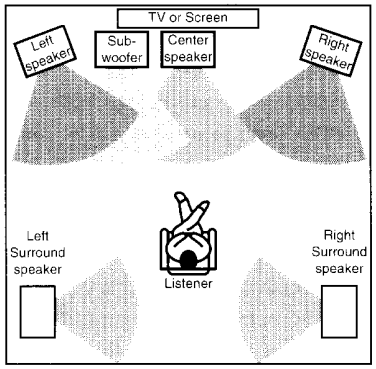
For ideal Surround effects, all speakers should be installed. If a center speaker or subwoofer is not connected, the sound from the unused channel is properly distributed to the connected speakers in order to produce the best Surround sound possible.

Front: The left, right and center speakers should face the seated listener and be placed at ear level. The center speaker produces a richer sound image by enhancing the perception of the sound's source and movement.

Surround: Place the left and right Surround speakers 1 m (3 feet) above the listener's ear level with the listener within the sound range. These speakers produce the feel of a moving sound while generating the sensation of being in the middle of the action.

Subwoofer: Install a subwoofer with a built-in power amplifier for powerful bass sounds. The placement of the subwoofer does not affect the final quality of the sound image too much, so you can install it with the room layout in mind.

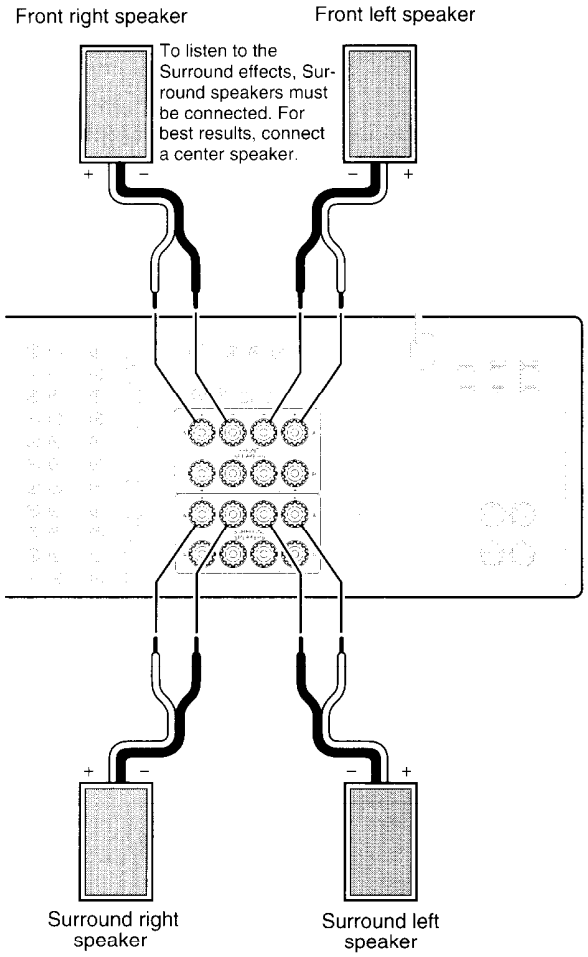




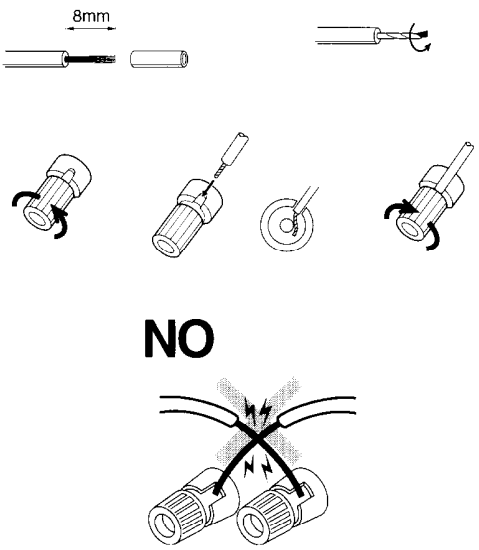
- Since there are limits on the distances from the main unit to the speakers and the distances between the left and right speakers, be sure to position the speakers so that they do not extend past these limits.
- Also refer to *Speaker Distance* on page 34 while installing the speakers.

Connecting speakers

Front and Surround speakers



Connecting speaker cables



NOTE:

- To prevent damage to circuitry, never short-circuit the positive (+) and negative (–) speaker wires.
- The speaker terminals on the European/Australian model are not banana-plug-compatible.

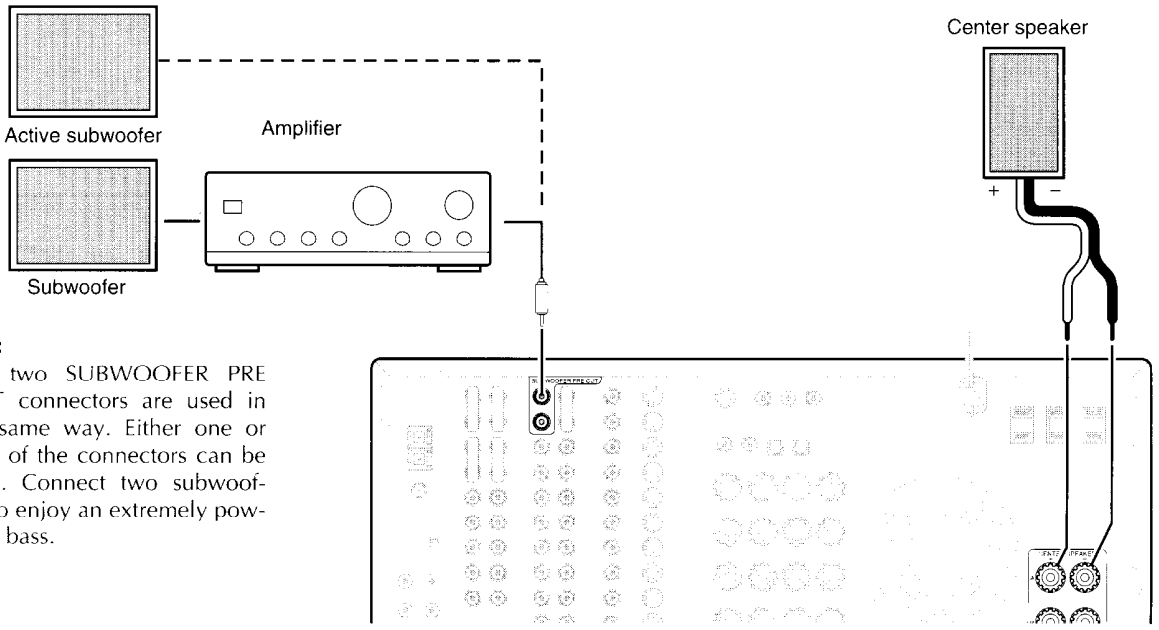
B terminals

Use these terminals to connect a second set of speakers.

Speaker impedance

When only one pair of speakers are connected, the impedance of the speakers used must be between 6 and 8 Ω .

Center speaker and subwoofer

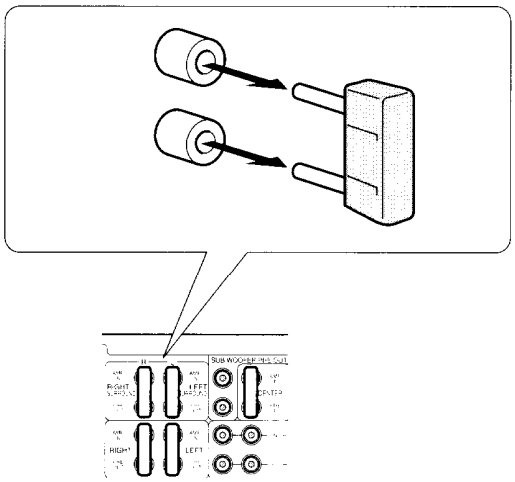


NOTE:

- The two SUBWOOFER PRE OUT connectors are used in the same way. Either one or both of the connectors can be used. Connect two subwoofers to enjoy an extremely powerful bass.

Connecting optional amplifiers

Removing the jumper



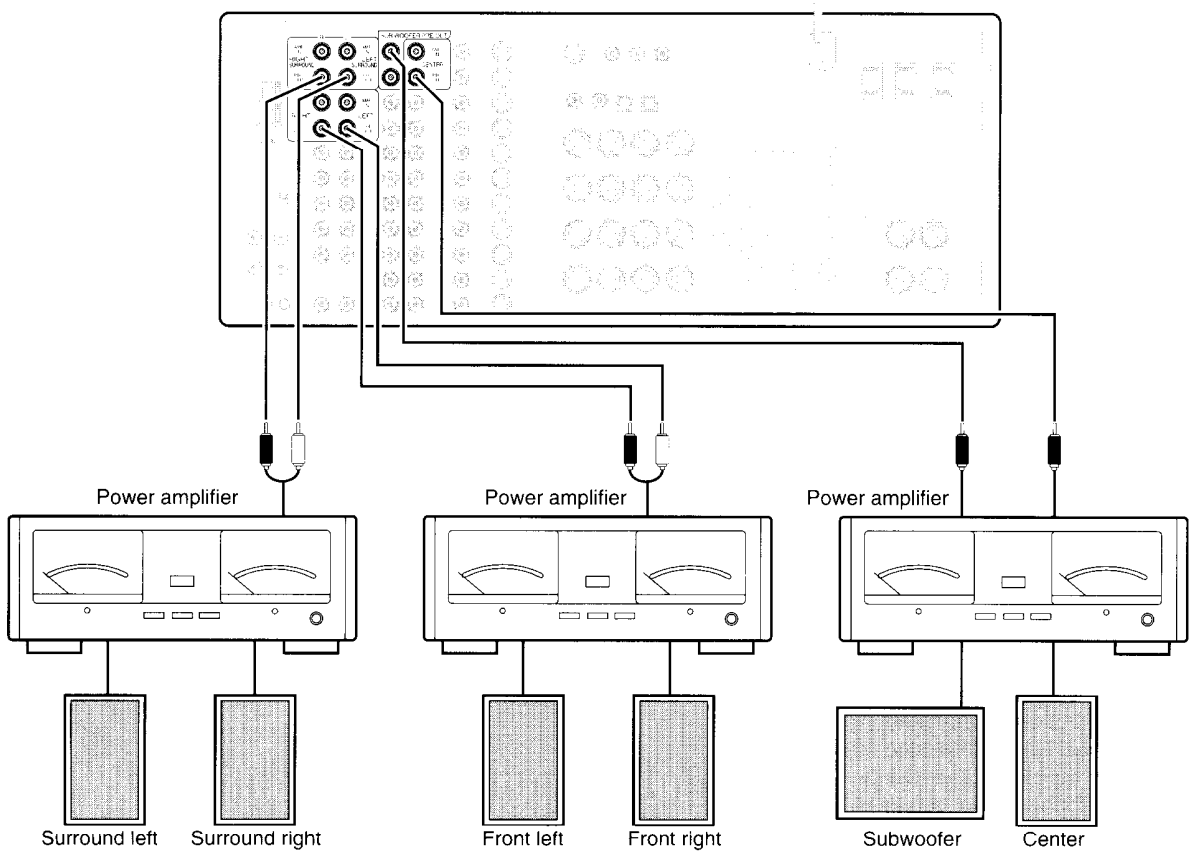
First, remove the jumper plugs from the PRE OUT and AMP IN terminals on the rear panel.

NOTE:

- Be sure not to lose the jumper plugs after they have been removed.

Connecting power amplifiers

The TX-DS939 is equipped with a set of PRE OUT connectors, which allow you to connect external power amplifiers. With such amplifiers, you can play sources at even higher volume levels than with the TX-DS939 alone.
Connect the TX-DS939's PRE OUT connectors to the power amp input connectors, then connect the speakers to the power amp.



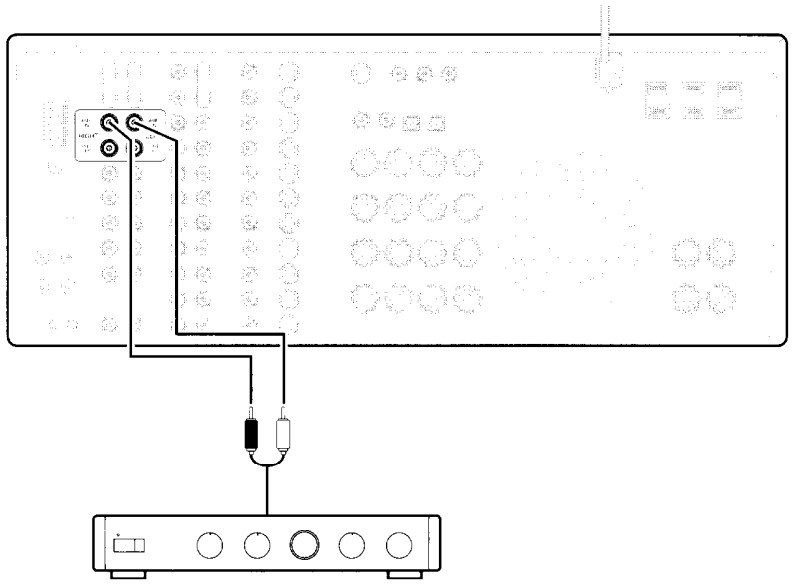
NOTE:

- Power amplifiers or integrated amplifiers can be used in this application.

Connecting optional amplifiers

Connecting an optional pre-amplifier

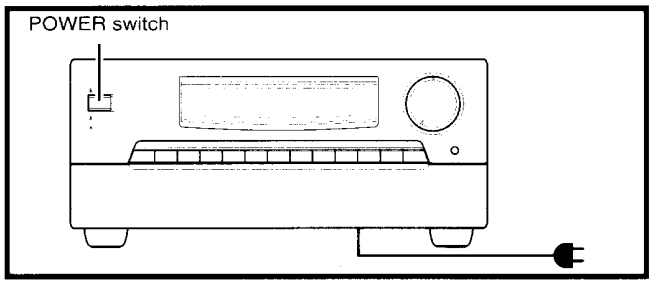
The TX-DS939 is equipped with a set of AMP IN connectors which allow you to connect an external pre-amplifier. Connect the pre-amp to the TX-DS939's AMP IN connectors to the pre-amp's output connectors, then connect the speakers to the TX-DS939.



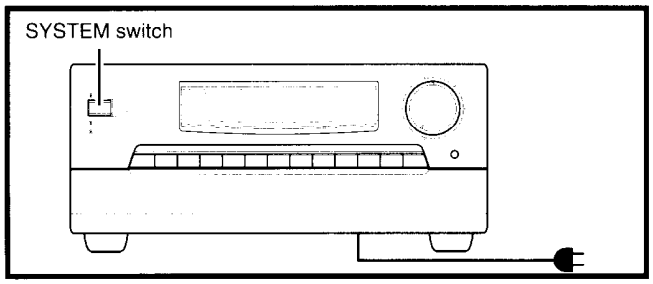
Pre-amplifier

Connecting the power

Before plugging in the unit, confirm that all connections have been made properly.
Before turning on the power, be sure that the MASTER VOLUME control knob is fully turned counterclockwise.
Turning on this unit's power may cause a momentary power surge, which might interfere with other electrical equipment, such as computers. If so, use a wall outlet on a different circuit.

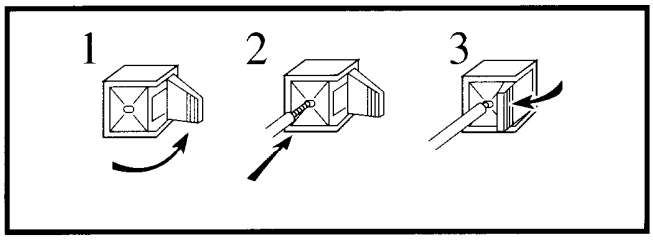


U.S./Canadian models:
Plugging the TX-DS939's power cord into an AC outlet puts the unit in stand-by status (the STAND-BY/RECEIVED indicator is lit). Pressing the POWER switch turns on the unit and lights up the POWER indicator. If this switch is pressed again, the unit returns to the stand-by status.
The POWER button on the remote controller is used in the same way as the POWER switch on the TX-DS939.



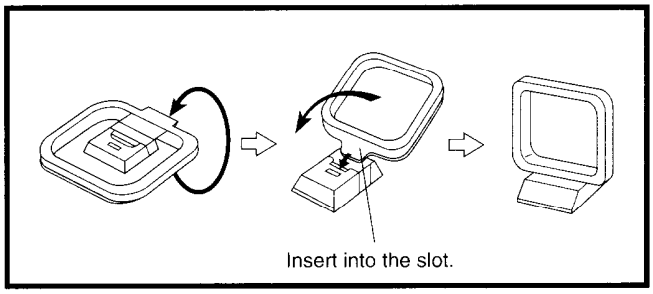
European/Australian model:
After plugging the TX-DS939's power cord into an AC outlet, press the SYSTEM switch to put the unit in power-on status (the unit can be operated and its SYSTEM indicator is lit). The remote controller cannot be used to operate the TX-DS939 if the SYSTEM switch is not set to ON.
When the SYSTEM switch is set to ON, pressing the POWER button on the remote controller switches the TX-DS939 between stand-by status (the STAND-BY/RECEIVED indicator is lit) and power-on status (the SYSTEM indicator is lit).
Pressing the SYSTEM switch on the TX-DS939 to set it to OFF turns off the unit. (when the SYSTEM switch is set to OFF, only a small amount of power is used.)

Connecting antennas



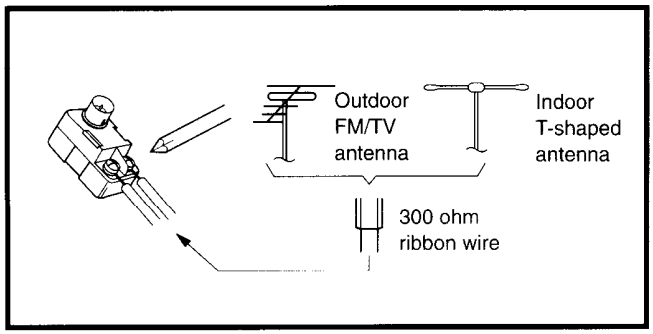
Antenna cables

1. Press down on the lever.
2. Insert the wire.
3. Return the lever.



AM loop antenna

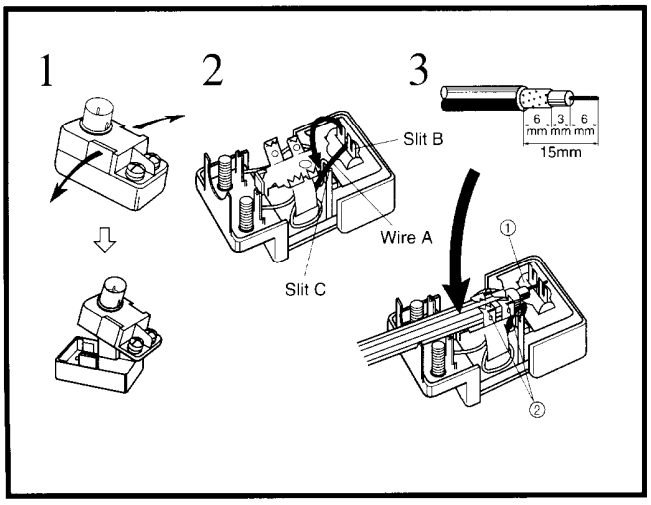
Assemble the loop antenna as shown in the illustration. (Refer to the next page for connecting the AM loop antenna.)



75/300 ohm adaptor

Connecting the T-shaped antenna or 300 ohm ribbon wire to the 75/300 ohm adaptor

Loosen the screws and wrap the wires around them. Then, tighten the screws with a screwdriver.

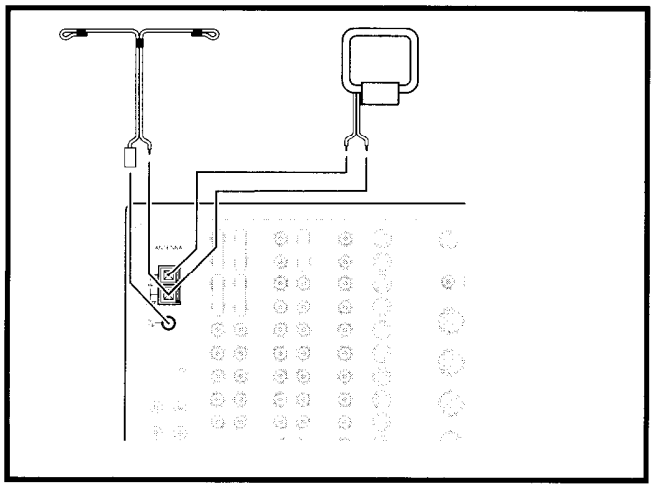


Connecting the coaxial cable to the 75/300 ohm adaptor

1. With your fingernail or a small screwdriver, pull the stoppers outwards and remove the cover.
2. Remove the transformer wire A from slit B and insert it into slit C.
3. Prepare the coaxial cable as shown in the illustration. Connect the coaxial cable to the 75/300 ohm antenna adaptor.

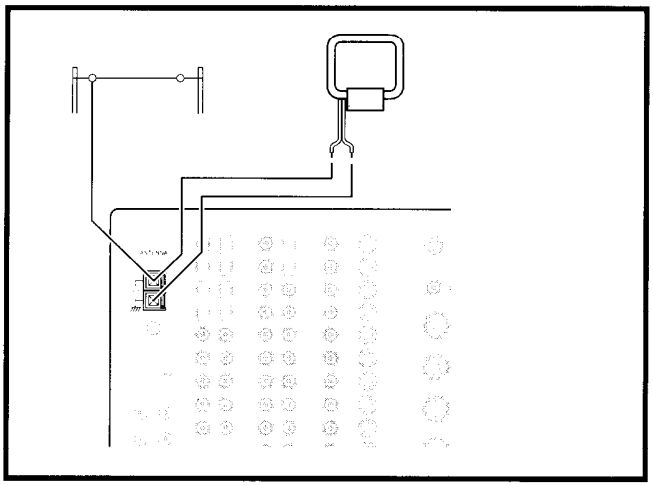
   ① Insert the end of the cable.
   ② Use pliers to pinch it and keep it in place.

4. Re-install the cover.



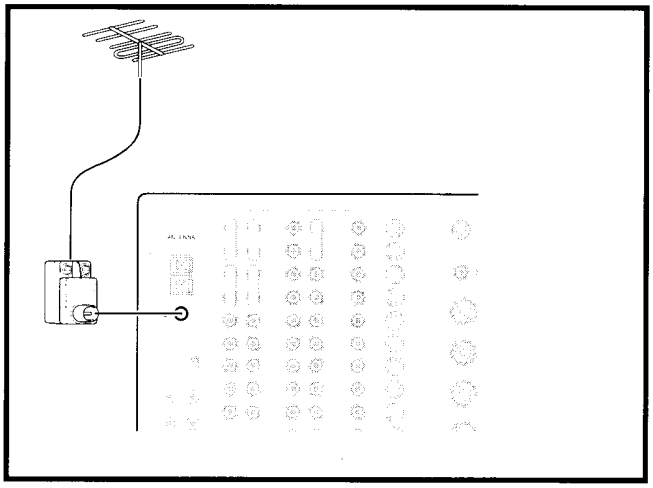
FM antenna and AM loop antenna

The FM antenna is for indoor use only. Extend the antenna and move it until the clearest signal is received. Use tacks or similar objects to fix it in the T-shaped arrangement giving the least amount of distortion.
The AM loop antenna is also for indoor use only. Position it where the clearest sound is received. Put it as far as possible away from this unit, the TV, speaker cables and power cords.
If clear signals cannot be received using only the enclosed FM antenna or AM loop antenna, connect an outdoor FM or outdoor AM antenna as needed.



Outdoor AM antenna

The outdoor AM antenna will be more effective if it is stretched horizontally above a window or outside. (Do not disconnect the AM loop antenna.



Outdoor FM antenna

Be sure that the outdoor FM antenna is positioned as follows:

- Keep the antenna away from noise sources, such as neon signs and busy roads.
- Do not position it near power lines, etc. This is very dangerous.

Setting up the Multi-Room Remote System

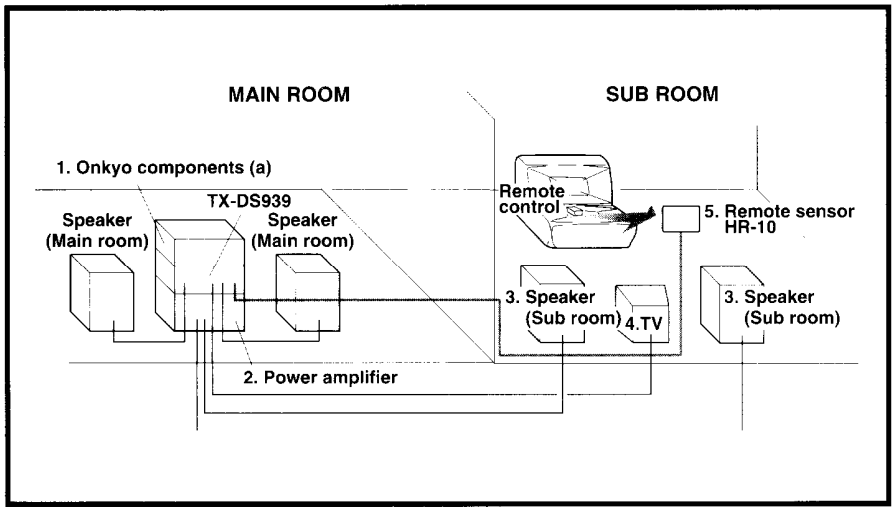
Using the optional Multi-Room System equipment as well as a power amplifier and connecting a components as shown in the following diagrams makes it possible to control them from the room that they are in (main room) and from another room (sub-room).

NOTE:

- Do not plug in the power cord until all connections have been made.

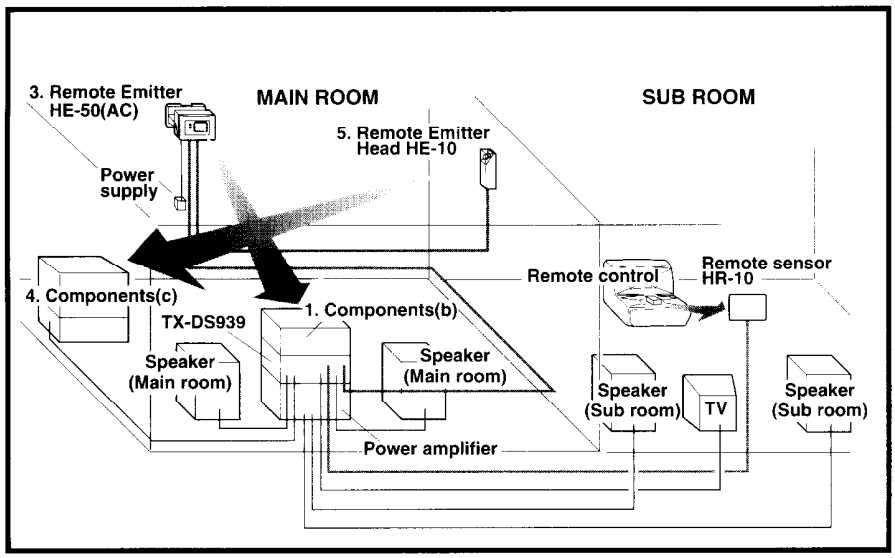
Make connections ① through ⑥ as shown in the connection diagram at the bottom of the page. Be sure the components are correctly connected.

■ Connecting components equipped with Onkyo RI connectors



1. Set up the Onkyo RI components (a).
2. Connect the TX-DS939 to the power amplifier. (①)
3. Connect the sub-room speaker cables to the speaker terminals on the power amplifier. (②)
4. Connect the TX-DS939 to the TV. (③)
5. Install Remote Sensor HR-10 in the sub-room, then connect it to the TX-DS939. (④)

■ Connecting components not equipped with Onkyo RI connectors

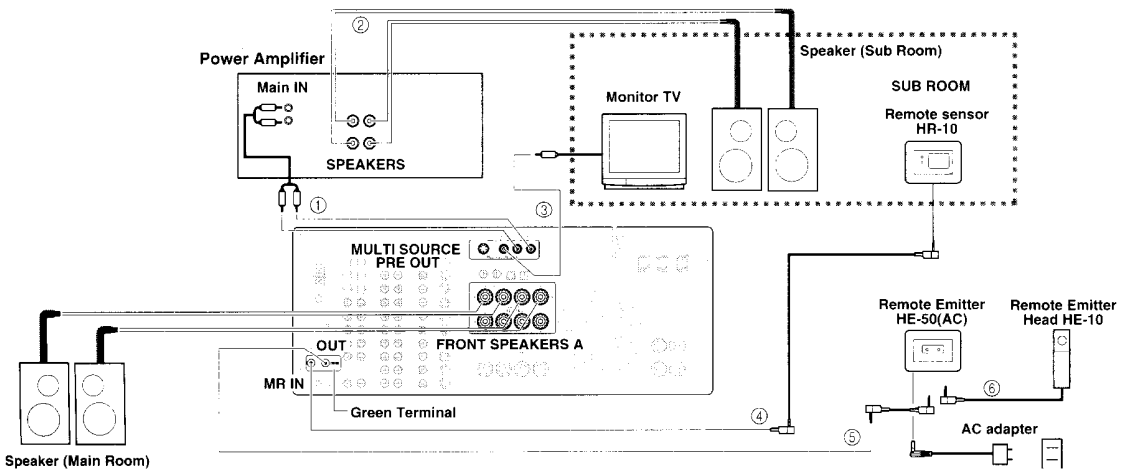


1. Connect the components (b) to the TX-DS939.
2. Make the connections described above in steps 2 through 5.
3. Install Remote Emitter HE-50 (AC) so that its sensor is directed toward these components, then connect it to the TX-DS939. (⑤)
   (Connect the AC adaptor to the Remote Emitter.)

To operate components positioned out of range of the emitter installed as described above:

4. Connect these components (c) to the TX-DS939.
5. Install Remote Emitter Head HE-10 so that its sensor is directed toward these components, then connect it to the HE-50 (AC). (⑥)

Connection diagram



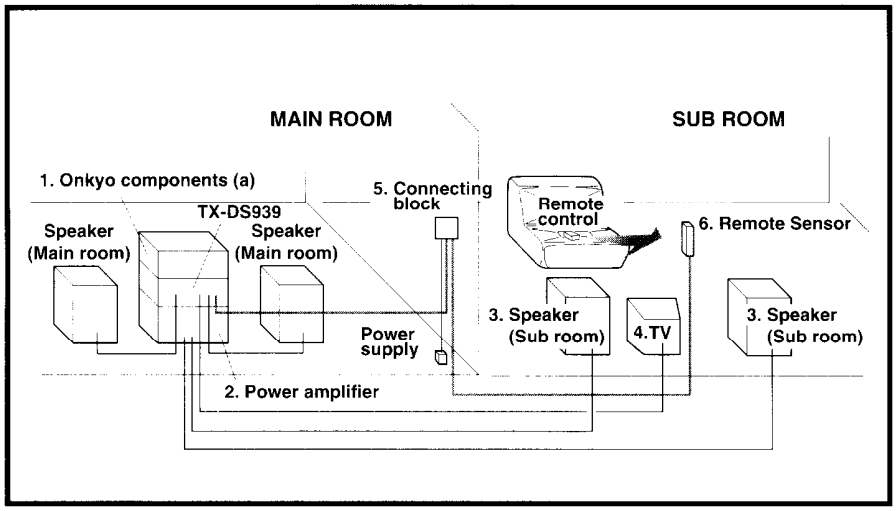
Xantech Multi-Room System (U.S. and Canadian models):

NOTE:

- Do not plug in the power cord until all connections have been made.

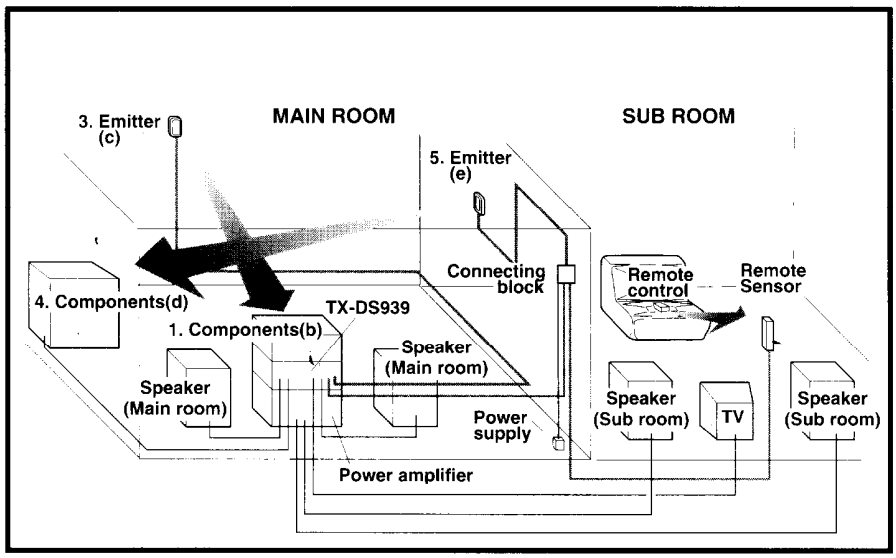
Make connections ① through ⑥ as shown in the connection diagram at the bottom of the page. Be sure the components are correctly connected.

■ Connecting components equipped with Onkyo RI connectors



1. Set up the Onkyo RI components (a).
2. Connect the TX-DS939 to the power amplifier. (①)
3. Connect the sub-room speaker cables to the speaker terminals on the power amplifier. (②)
4. Connect the TX-DS939 to the TV. (③)
5. Install the Connecting Block in the main room, then connect it to the TX-DS939. (④)
6. Install the Remote Sensor in the sub-room, then connect it to the Connecting Block in the main room. (⑤)

■ Connecting components not equipped with Onkyo RI connectors

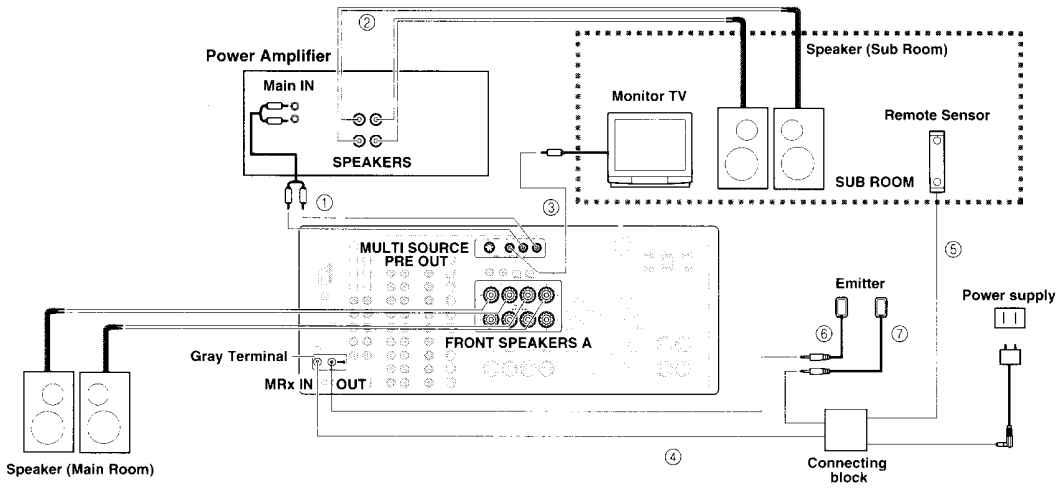


1. Connect the components (b) to the TX-DS939.
2. Make the connections described above in steps 2 through 6.
3. Install Emitter (c) so that its sensor is directed toward the components, then connect it to the TX-DS939. (⑥)

To operate components positioned out of range of the emitter installed as described above:

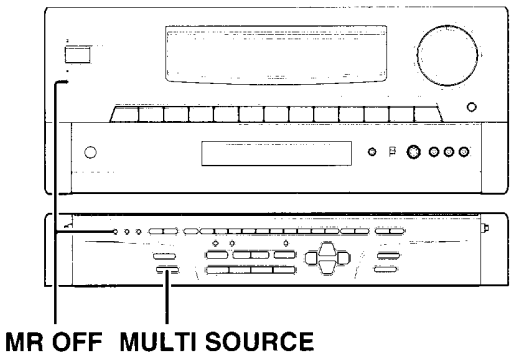
4. Connect these components (d) to the TX-DS939.
5. Install another Emitter (e) so that its sensor is directed toward these components, then connect it to the Connecting Block. (⑦)

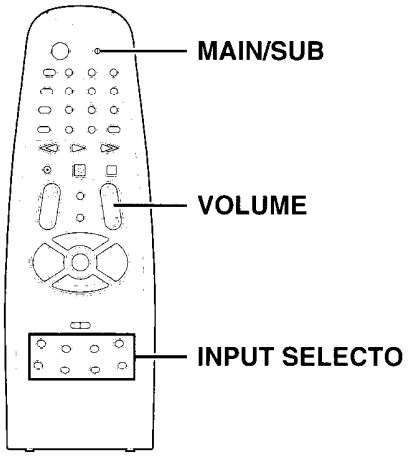
Connection diagram



Multi-Room Remote Controller

Refer to pages 22 and 23 for connection details.



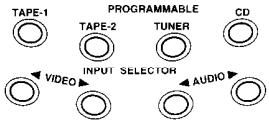


1

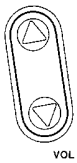
Indicator off

2

3



4



5

Listening from another room

In the main room:

1. **Press the MR OFF button on the TX-DS939 to make the indicator go off. (If the MR OFF indicator is lit, the multi-room system cannot be used.)**
2. **Set the MAIN/SUB selector switch on the remote controller ler to SUB.**
3. **Press the appropriate INPUT SELECTOR button on the remote controller to select your desired source and start operating it.**
   The MULTI SOURCE indicator in the display lights up.
   To select a different sub-room source from the main room, press the MULTI SOURCE button on the main unit, then while the MULTI SOURCE indicator flashes, use the input selector buttons to select your desired source. (If an input selector button is pressed while the indicator is off, the main room source will change.)
4. **Press the VOLUME ▲ or ▼ button to set the MULTI SOURCE level to its minimum (between –78 and –76 dB).**
   The MULTI SOURCE level appears on the display.

In the sub-room, direct the remote controller toward the Remote Sensor (Onkyo multi-room system) and:

5. **Use the VOLUME ▲ or ▼ button to adjust the volume to the desired level.**

NOTE:

- If the MAIN/SUB selector switch on the remote controller is set to MAIN and the MASTER VOLUME control knob is adjusted, the volume level of the speakers in the main room will change, not the speakers in the sub-room.
- When the MAIN/SUB selector switch is set to SUB, sound cannot be heard from speakers A.

If the remote controller is used from the sub-room, but the components cannot be controlled, check the following:

- Use the controls on the TX-DS939 in the main room to check whether it is working properly. Then, use the remote controller to check whether the component is working properly. If it is not, refer to page 5.
- When operating a component not bearing Onkyo's RI mark, check that the emitter is directed toward that component.
- Check that the components are correctly connected.
- Check that the MR OFF indicator on the TX-DS939 is not lit.

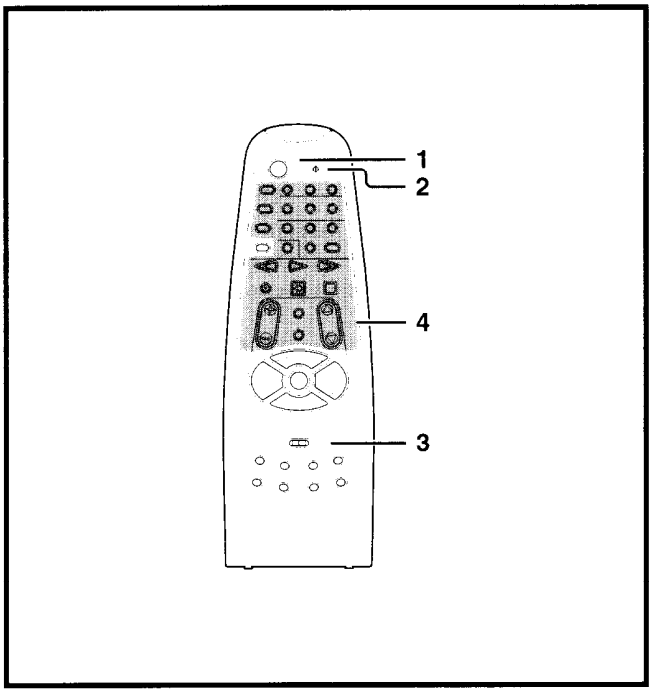
Programming remote controller codes

Universal Programmable Remote Controller RC-310M

If you are using another manufacturer's product which has a remote controller , you can memorize that component's codes into the RC-310M.

NOTE:

- The commands of Onkyo cassette tape decks and the CD player are already stored at the TAPE and CD/TUNER positions of the remote controller's device select switch.
- This remote controller uses infrared rays. Most remote controller codes can be memorized using the infrared system; however, depending on the degree to which the system differs, there may be some rare occasions where memorization is not possible.



Displays and switches

1. Remote controller operation indicator

This indicator acts as a guide when commands are programmed into or sent by the remote controller . It also warns the user when an error is made or battery power is low.

2. MAIN (main room)/SUB (sub-room) selector switch

MAIN: Select MAIN to operate the system, such as when playing a sound source using a Surround mode, from the main room.

SUB: Select SUB to operate the Onkyo Multi-Room Remote System, the TX-DS939 and other brands' components from the sub-room.

3. Device select switch

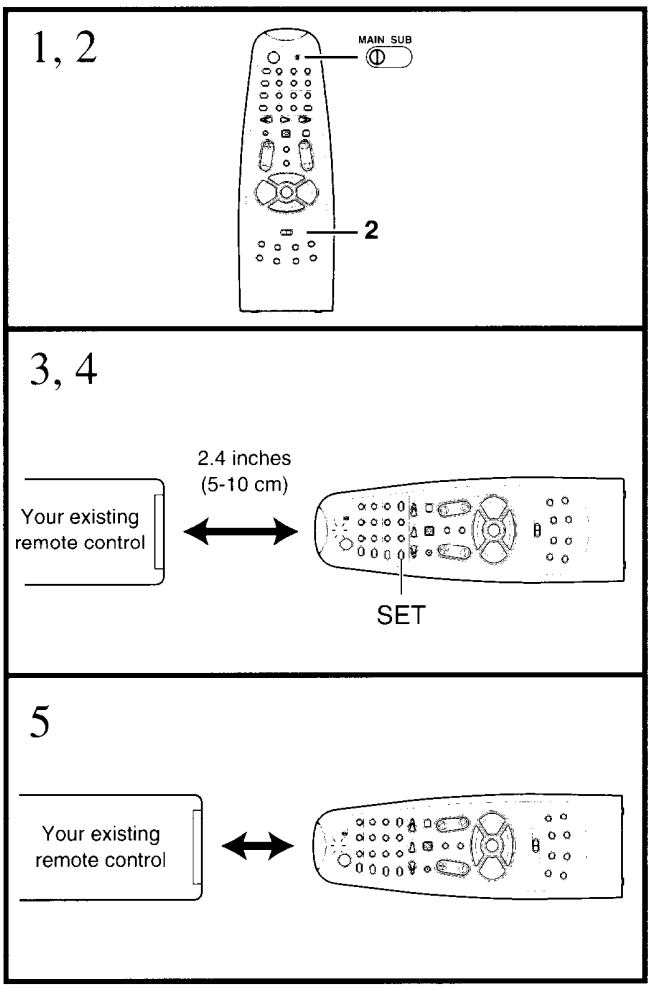
AMP, CD/TUNER, TAPE:
Select AMP or TUNER to operate the TX-DS939's amp and tuner. Select CD and TAPE to operate the connected ONKYO CD player and tape deck.

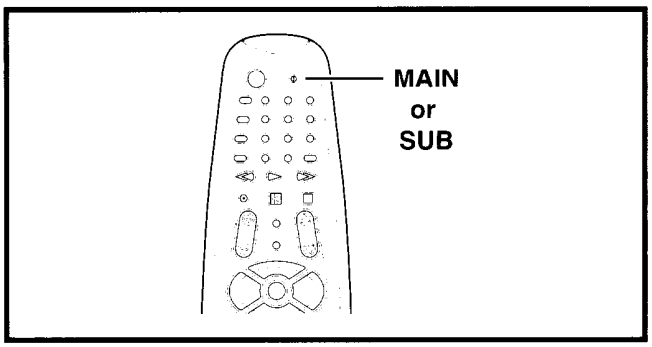
VDP, VCR, TV, CABLE/AUX (green):
Select VDP, VCR, TV or CABLE/AUX when storing the remote controller codes of other manufacturer's components.

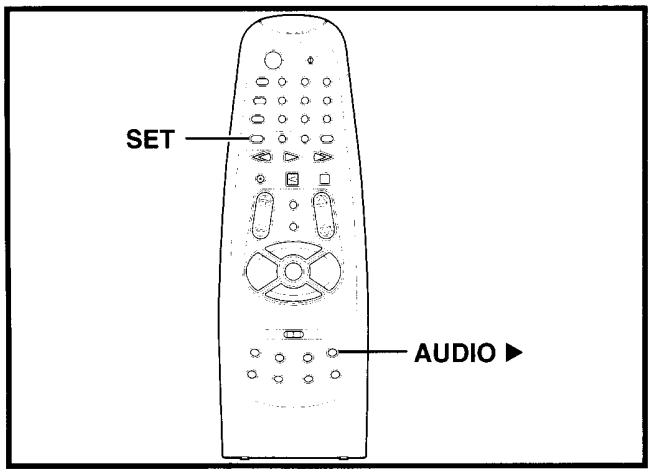
4. Programmable buttons

	Device commands			
Symbol	VDP	VCR	TV	CABLE/AUX
PWR SLEEP	POWER	POWER	POWER	POWER
D DISC	spare	spare	spare	spare
T TRACK	TRACK	TV/VCR	VIDEO	spare
① ~ ⓪, +10	CHAPTER	CHANNEL	CHANNEL	CHANNEL
ENTER	ENTER	ENTER	ENTER	ENTER
▷	PLAY	PLAY	spare	spare
◁◁	FAST REWIND	FAST REWIND	spare	spare
▷▷	FAST FORWARD	FAST FORWARD	spare	spare
●/II	spare	RECORD	spare	spare
II	PAUSE	PAUSE	spare	spare
□	STOP	STOP	spare	spare
CH	TRACK JUMP +, –	CHANNEL UP, DOWN	CHANNEL UP, DOWN	CHANNEL UP, DOWN
RECALL	spare	spare	CH RECALL	CH RECALL
GROUP				
MUTE	TX-DS939 mute	TX-DS939 mute	MUTING	MUTING
VOL	TX-DS939 volume	TX-DS939 volume	VOLUME UP, DOWN	VOLUME UP, DOWN

Programming remote controller codes







Programming new control codes

1. **Set the MAIN/SUB selector switch to MAIN.**
2. **Set the device select switch on the remote controller to VDP, VCR, TV or CABLE/AUX, depending on the component whose control codes you wish to program.**
3. **Place both units on a table or other flat surface with the head of this remote controller 2 to 4 inches (5 to 10 cm) from the head of the other brand's remote controller.**
4. **Press the SET button.**
   The remote controller operation indicator lights up.
5. **Press the RC-310M remote controller button that you wish to program.**
   The remote controller operation indicator temporarily goes off, and then lights up again.
6. **Before the indicator has finished blinking for the second time, hold down the other brand's remote controller button which has the command that you wish to program into the RC-310M.**
7. **Repeat steps 2. through 6. until the RC-310M buttons are programmed as desired.**

NOTE:

- Some remote controller s use a single button to send various codes, with the code changing each time the button is pressed. If you are using this type of remote controller , program only one command for each of this remote controller 's programmable buttons.
- Refer to the instruction manuals for the other brands' components for more details regarding their operation.
- Even after codes have been memorized, keep the other brand's remote controller in a safe place. If the memorized codes are lost when the RC-310M's batteries run down, etc., it may be necessary to program it again.

Operating the remote controller

Check whether previously programmed commands are working properly. If the remote controller operation indicator does not light up when a programmed button is pressed, it may need to be programmed again using the other manufacturer's remote controller .

1. **Set the MAIN/SUB selector switch to the desired position.**
2. **Set the device select switch to the desired component.**
3. **Operate the remote controller by pressing the button of the desired command.**

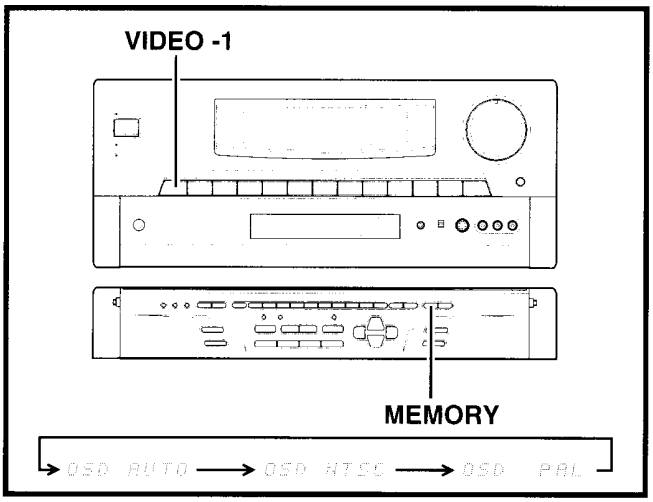
Changing commands

1. **Press the SET button.**
2. **Follow the procedure outlined in *Programming new control codes.***
   Entering new codes for some buttons will not affect other programmed buttons.

Clearing a programmed command

While pressing the button for the programmed command that you wish to clear, hold down the AUDIO ▶ button and press the SET button until remote controller operation indicator goes off.

Using the on-screen display function
(remote controller only)

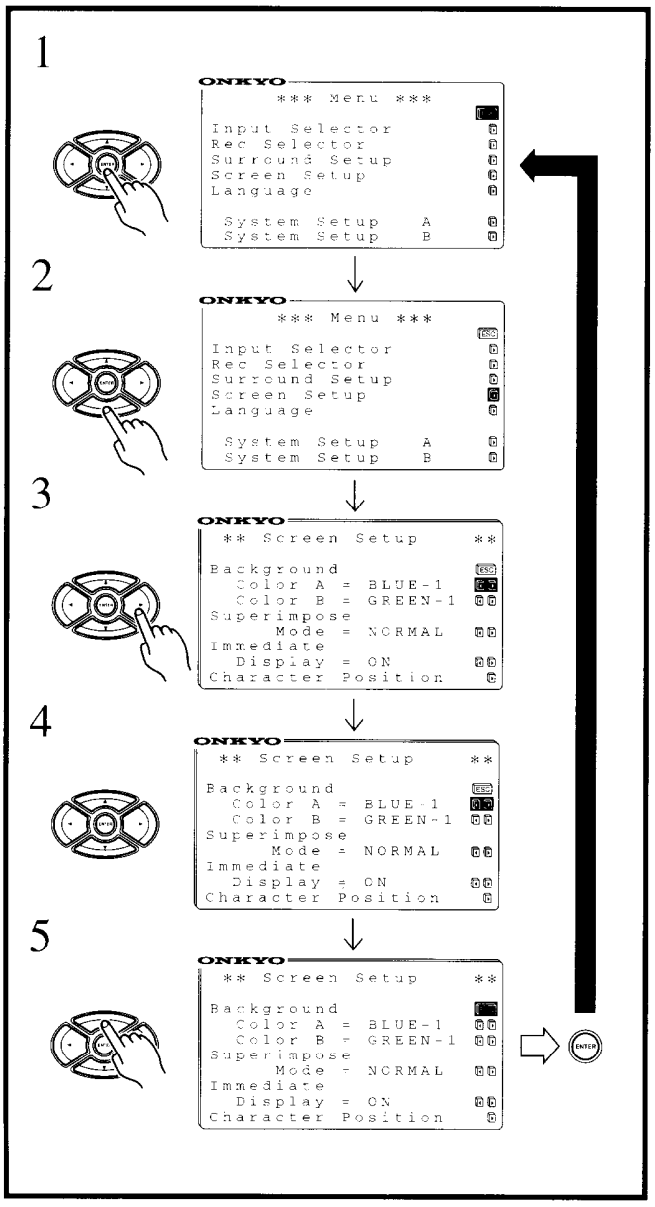


Selecting the NTSC or PAL system (Not available on the U.S. and Canadian models)

If the picture on the screen scrolls with the TV signal that is being received, change the system setting.

1. **To display the currently selected system type for three seconds, hold down the MEMORY button and press the VIDEO-1 button once.**
2. **To change the setting, keep the MEMORY button held down and continue pressing the VIDEO-1 button until the desired system appears.**

If "OSD AUTO" is selected, the unit will automatically select the system used by the connected TV/monitor or projecter.



Basic operation

Use the remote controller to move the cursor (the black highlighting on a setting) and enter the desired settings.

1. **Press the ENTER button on the remote controller to display the Menu screen.**
2. **Select the desired screen using the ▲ or ▼ cursor button on the remote controller .**
3. **Press the ► cursor button on the remote controller to display the selected screen.**
4. **Select the desired parameter using the ▲ or ▼ cursor button on the remote controller and change the setting using the ◄ or ► cursor button.**
5. **After all of the desired settings have been entered, move the cursor to ESC in the screen and press the ENTER button on the remote controller to return to the Menu screen.**

When a video source is playing, the video image is displayed behind the on-screen display. When nothing is being played, the on-screen display appears in front of the selected background color.

Since the on-screen display is output only to the MONITOR OUT terminal, the display is not recorded, even if an on-screen display appears on the TV/monitor while recording.

The parameters in each screen differ according to the Surround mode selected. Pressing the ◄ or ► cursor button while the cursor is positioned over certain items may display a sub-screen.

Moving the cursor to ▭ and pressing the ENTER button performs the selected command or begins the chosen mode.

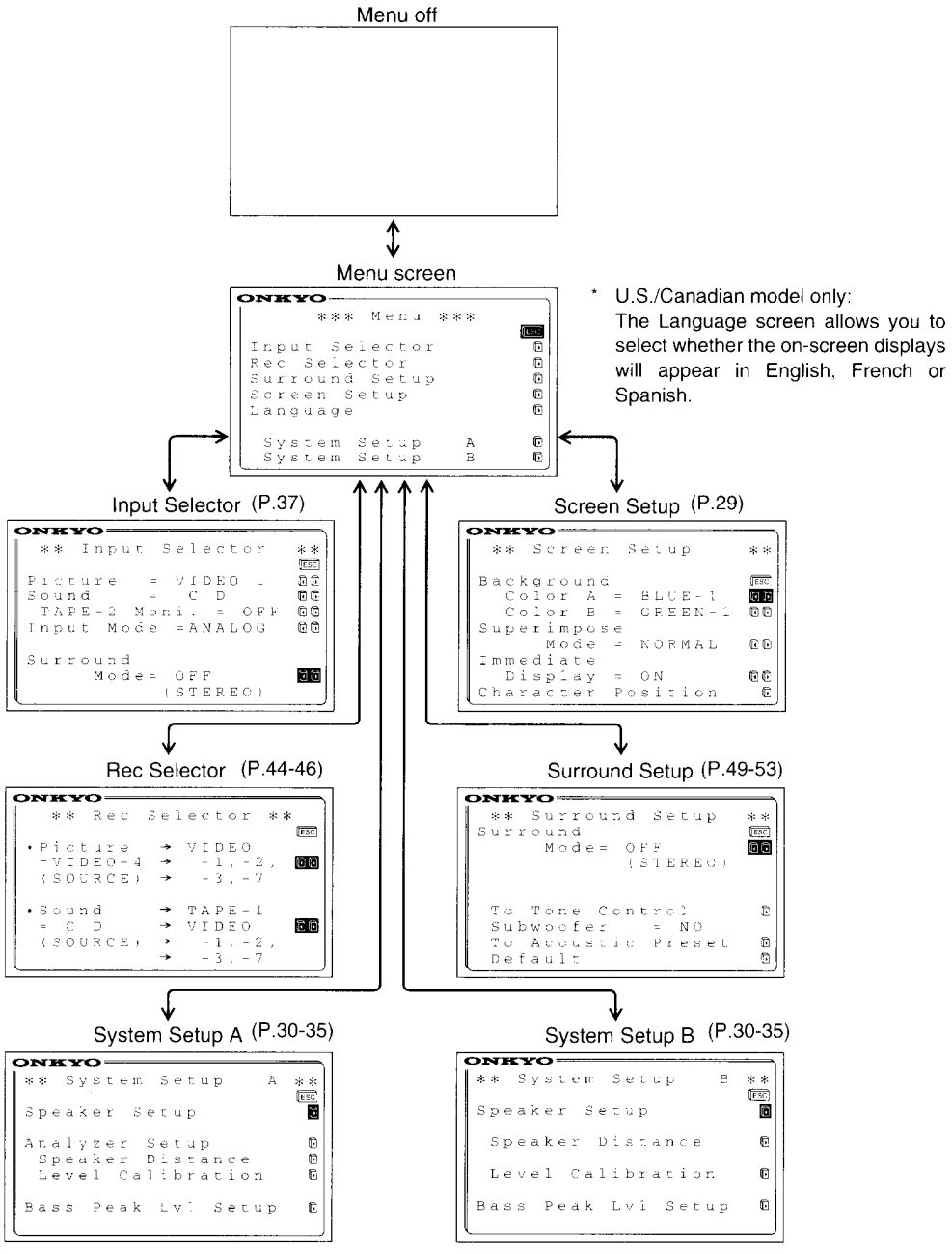
NOTE:

- The on-screen display is only output to the VIDEO and S-VIDEO MONITOR OUT-1 and -2 connectors. It is not output to the VIDEO and S-VIDEO MULTI SOURCE OUT connectors.
- Be sure to select the correct input on the TV/monitor. (For example, if the cable connected to MONITOR OUTPUT is connected to the TV/monitor's VIDEO 1 INPUT, VIDEO 1 must be selected on the TV/monitor.)
- When using an old TV that is not installed with a video input, the on-screen display can be seen by connecting a VCR.

Using the on-screen display function (remote controller only)

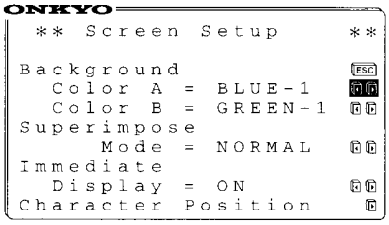
Screens

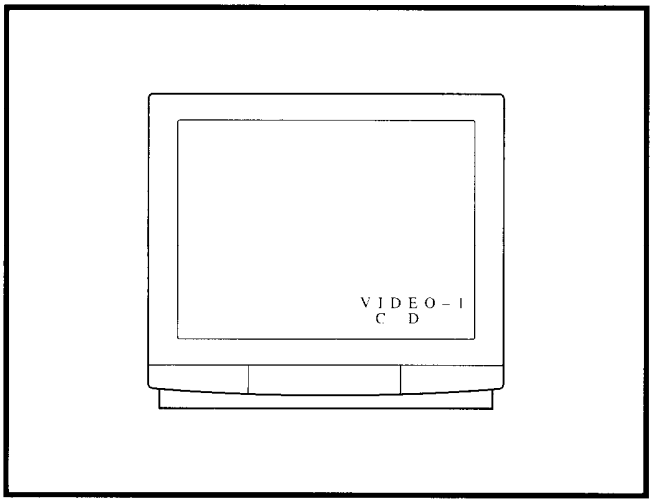
Refer to the page whose number appears within parentheses for more details about the screen.
Selecting certain settings for some parameters in the Surround Setup screen may result in other parameters either disappearing or being skipped over by the cursor.



Screen Setup screen

When Screen Setup is selected, the following screen appears:





Background Color

You can select a background color from among 7 colors (Blue-1, Blue-2, Green-1, Green-2, Magenta, Red-1 or Red-2). Different background colors can be selected for System Setup A and System Setup B.

Note that the above color descriptions are standard. The actual colors may differ depending on the TV/monitor's tone and brightness settings.

When there is an image input signal, the input signal will be used as the background and the background color which you have selected will not be displayed.

Superimpose Mode

It is possible to set the on-screen display so that it is easy to read when an image input signal is received. This parameter can be set to OFF, NORMAL or BLACK. Select OFF to display the background color behind the on-screen display characters or NORMAL to replace the background color with the image from the input signal. If BLACK is selected, the characters of the on-screen display appear in white in front of a black background.

Immediate Display

These characters appear on the TV/monitor screen for 3 seconds each time an operation is performed. Select ON if you wish the immediate display to be shown, or OFF if you don't wish for it to appear.

Character Position

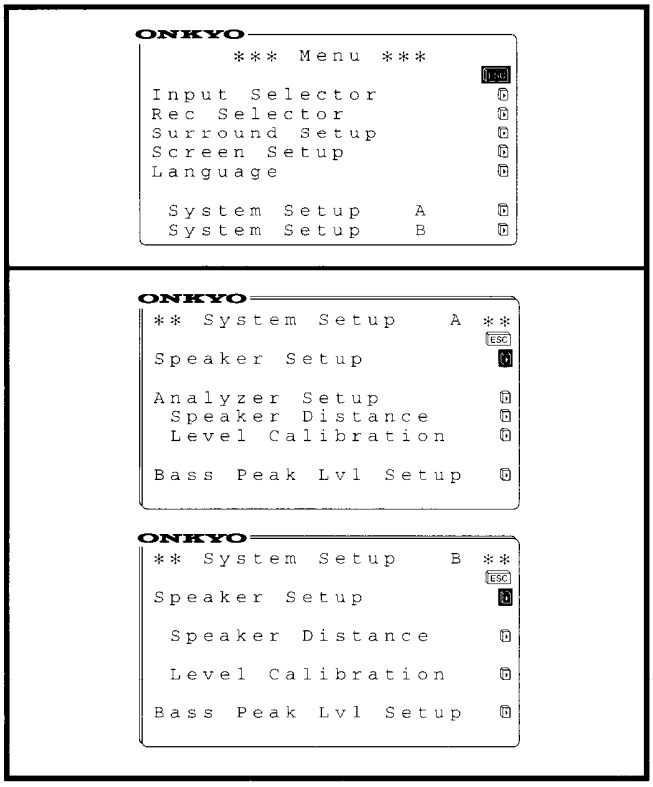
You can move the position of the on-screen display up, down, left or right within the screen.

Setting up the speaker systems

Use the System Setup screen to set the speaker parameters for all Surround modes. System Setup A and B have different parameters.

NOTE:

- Since all Surround modes will have the same parameter settings, it is not necessary to separately set the parameters for each Surround mode.



On-screen display operation

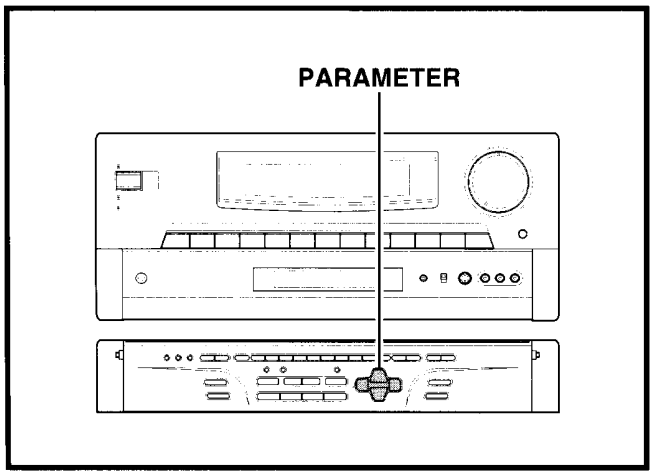
1. **Press the ENTER button on the remote controller to display the Menu screen.**
2. **Move the cursor to select either System Setup A or System Setup B, and then press the ► cursor button on the remote controller to display the appropriate System Setup screen.**

If System Setup A is selected:

3. **Press the ▼ cursor button to select Speaker Setup, and then press the ► cursor button to display the Speaker Setup screen.**
4. **Press the ▲ or ▼ cursor button to select the parameters, and then press the ◄ or ► cursor button to select the appropriate settings.**
   Refer to *System Setup* screen on page 34 for more details on the parameters.
5. **Perform the Analyzer Setup procedure in *Using Analyzer Setup* on pages 31 and 32.**
   To manually set the Speaker Distance and Level Calibration parameters, refer to steps 4., 5. and 6. explained below in the System Setup B instructions.
6. **Perform the Bass Peak Level Setup procedure in *Using Bass Peak Level Setup* on page 33.**

If System Setup B is selected:

3. **Perform steps 3. and 4. explained above in the System Setup A instructions.**
4. **Press the ▼ cursor button to select Speaker Distance, and then press the ► cursor button to display the Speaker Distance screen.**
5. **Perform step 4. explained above in the System Setup A instructions to enter the settings for the parameters in the Speaker Distance screen.**
6. **Perform the Level Calibration procedure in *Calibrating the speaker levels* on page 35.**
7. **Perform the Bass Peak Level Setup procedure in *Using Bass Peak Level Setup* on page 33.**



Main unit operation

1. **Press ▽ to select System Setup.**
2. **Press ◁ or ▷ to select A or B.**

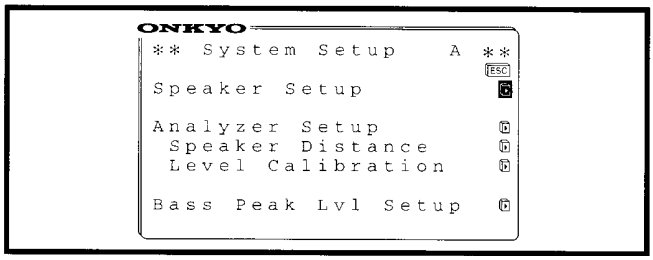
If System Setup A is selected:

3. **Press ▽ to select Speaker Setup, and then press ▷ to select ON.**
4. **Press ▽ to select the parameters, and then press ◁ or ▷ to select the appropriate settings.**
   Refer to *System Setup screen* on page 34 for more details on the parameters.
5. **Perform the Analyzer Setup procedure in *Using Analyzer Setup* on pages 31 and 32.**
   To manually set the Speaker Distance and Level Calibration parameters, refer to steps 4., 5. and 6. explained below in the System Setup B instructions.
6. **Perform the Bass Peak Level Setup procedure in *Using Bass Peak Level Setup* on page 33.**

If System Setup B is selected:

3. **Perform steps 3. and 4. explained above in the System Setup A instructions.**
4. **Press ▽ to select Speaker Distance, and then press ▷ to select ON.**
5. **Perform step 4. explained above in the System Setup A instructions to enter the settings for the parameters in the Speaker Distance screen.**
6. **Perform the Level Calibration procedure in *Calibrating the speaker levels* on page 35.**
7. **Perform the Bass Peak Level Setup procedure in *Using Bass Peak Level Setup* on page 33.**

System setup A:

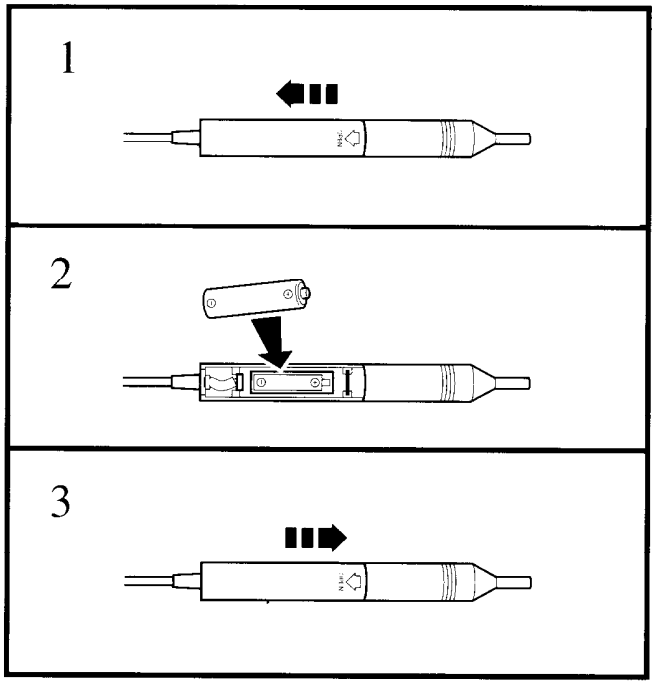


NOTE:

- Be sure to enter the settings for the Speaker Setup parameters before performing the Analyzer Setup procedure, otherwise the settings will not be entered correctly.

Using Analyzer Setup:

This parameter allows you to quickly and easily set the Speaker Distance and Level Calibration parameters at the same time.
Before starting the Analyzer Setup, be sure that the enclosed microphone is correctly set up according to the following procedure.

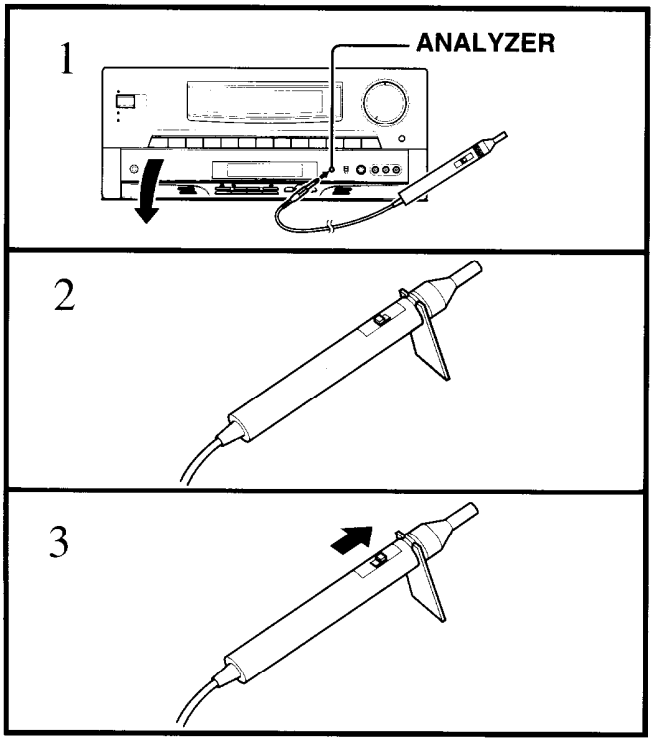


Inserting the battery

1. **Remove the battery compartment cover by sliding it in the direction of the arrow on the cover.**
2. **Correctly install the enclosed battery, making sure that its positive and negative ends face the directions shown on the sticker in the battery compartment.**
3. **Re-install the cover.**

NOTE:

- Always use a new battery. If a very old battery is used, the speakers will not be set up correctly and may be damaged.



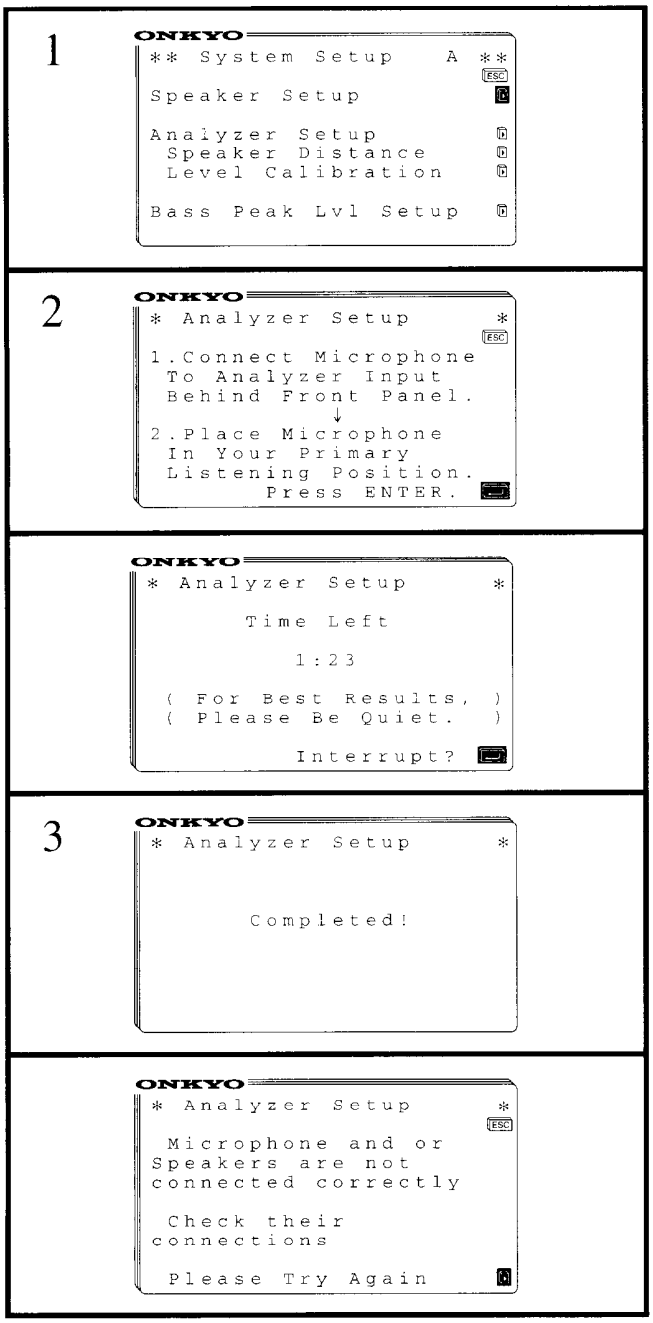
Connecting the acoustic analyzer microphone

1. **Insert the plug on the acoustic analyzer microphone into the ANALYZER jack behind the door of the TX-DS939's front panel.**
2. **Position the acoustic analyzer microphone at the listening position.**
   - Set up the microphone in the microphone stand, then place it on the floor or on a stable level surface which has very little vibration at the center of the listening position.
   - In addition, point the end of the acoustic analyzer microphone toward the center speaker or TV/monitor, or between the left and right front speakers.

NOTE:

- Be sure that no objects obstruct the area between the acoustic analyzer microphone and each of the speakers.

3. **Set the switch on the acoustic analyzer microphone to ON, then perform the Analyzer Setup procedure explained on page 32.**
4. **After finishing the Analyzer Setup, set the microphone switch to OFF, and remove the acoustic analyzer microphone plug from the ANALYZER jack. Then, remove the microphone battery and store the acoustic analyzer microphone in a safe place.**



On-screen display operation

1. **Move the cursor to Analyzer Setup in the System Setup A screen, and then press the ► cursor button on the remote controller to display the Analyzer Setup screen.**
   If an active subwoofer is connected, turn its power on and set its level to the center position.
2. **Position the cursor over ▭ and press the ENTER button.**
   The MASTER VOLUME automatically increases to the standard level. The noise level of the room is measured for approximately ten seconds, then a test signal sounds and the parameters are automatically adjusted.
   If the test signal does not sound, there is too much noise in the room. In order for the Analyzer Setup to be performed correctly, be sure that there is no noise in the room. Remain quiet and turn off noisy appliances, such as the air conditioner.
   While the Analyzer Setup is being performed, a screen appears showing the amount of time remaining until the procedure is finished.
   Try to stay as quiet as possible until the Analyzer Setup procedure is finished.
   Stopping the Analyzer Setup
   Position the cursor over ▭ (Interrupt?) and press the ENTER button. (Refer to *Restarting the Analyzer Setup* below for the restarting procedure.)
3. **If the Analyzer Setup is completed correctly, "Completed!" appears on the screen.**

If "Microphone and/or Speakers are not connected correctly. Check their connections." appears on the screen, check for the following possible causes, then try performing the Analyzer Setup procedure again.

- The microphone and/or the speakers are not connected correctly.
- The battery is not installed in the microphone.
- The microphone is not set to ON.
- The subwoofer parameter of Speaker Setup is set incorrectly.

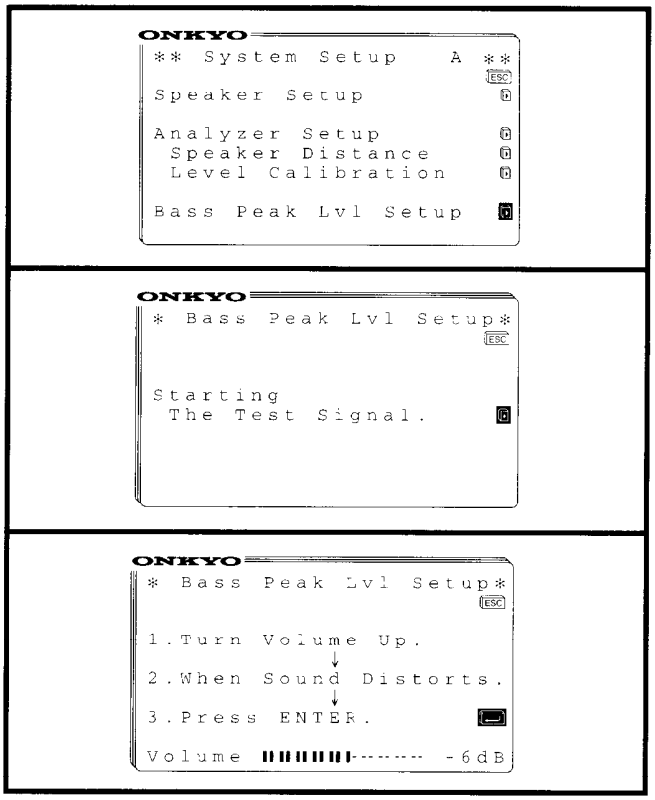
Restarting the Analyzer Setup
Press the ► button.

NOTE:

- Since the speaker distance is determined by the length of time needed for the sound wave to reach the microphone, the measured speaker distances may differ from the actual ones depending on the speaker type and position. If the speaker distances cannot be set correctly even after performing the procedure a few times, the speaker distances should be set manually. (Refer to System Setup screen on page 34 for more details.)
- If there are large differences in the speaker distances, the TX-DS939 will automatically adjust them.

Using Bass Peak Level Setup:

With DOLBY DIGITAL (AC-3), not only the low frequency effects (LFE), but also the bass of all channels can be heard from the subwoofer or large speakers. This procedure prevents the subwoofer or large speakers from becoming too loud and creating an unbalanced sound.
Since the sound is output at a loud volume, perform this operation carefully.

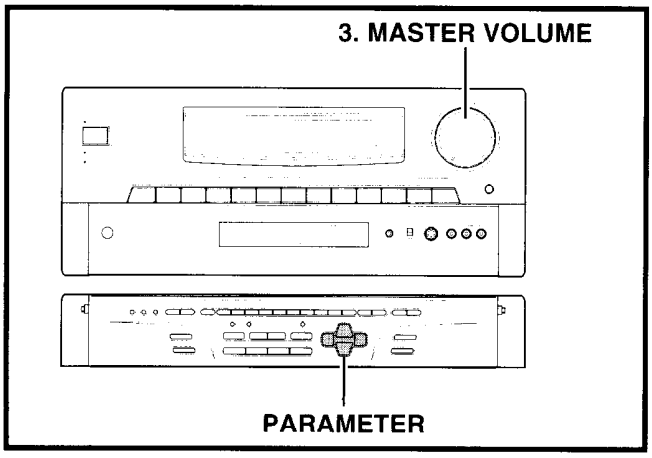


On-screen display operation

1. **Move the cursor to Bass Peak Lvl Setup, and then press the ► cursor button on the remote controller to display the Bass Peak Level Setup screen.**
2. **Move the cursor to Starting the Test Signal, and then press the ► cursor button.**
   The test signal sounds.
3. **Press the VOL ▲ button to increase the volume. When the subwoofer sound begins to distort or reaches its maximum level, press the ENTER button.**

NOTE:
- Each time the subwoofer amp level is changed, perform the Bass Peak Lvl Setup and correct the setting.

* Refer to the operations below when using just the main unit to carry out the on-screen display operation described above.



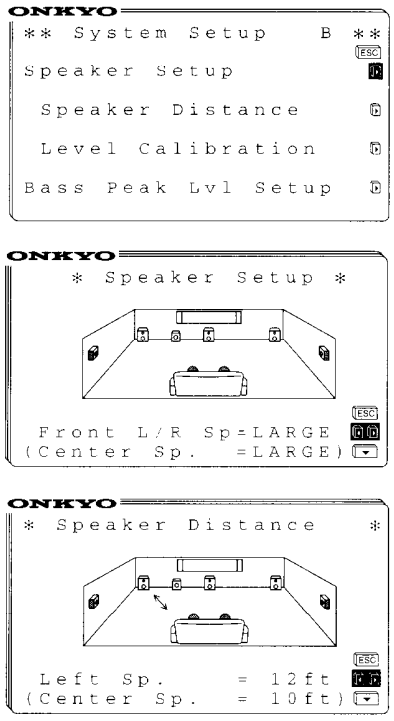
Main unit operation

1. **Press ▽ to select Bass Peak Lvl Setup.**
2. **Press ▷ to select ON.**
   The test signal sounds.
3. **Turn the MASTER VOLUME control knob to the right to increase the volume. When the subwoofer sound begins to distort, press ▷.**
   To stop the Bass Peak Level Setup at any time, press ◁.

NOTE:
- If the Subwoofer parameter of Speaker Setup is set to NO, turning the MASTER VOLUME control knob will produce a clicking noise; however, this is not a malfunction.

Using the system setup A or B:

If the Analyzer Setup in System Setup A cannot correctly enter the settings or if System Setup B is to be set, enter settings for the parameters as mentioned below.



Speaker settings

LARGE: Select when using large, wideband speakers in conjunction with a subwoofer.

SMALL: Select when using small speakers with limited bass signal handling. With this setting, the bass sounds of the speakers set to SMALL are played back from the subwoofer or other speakers set to LARGE.

NONE: Select when a center and Surround speakers are not used.

Speaker Setup

Use this parameter to specify which speakers are connected and their size. Select LARGE or SMALL for front speakers, LARGE, SMALL or NONE for the center speaker and Surround speakers and select YES or NO depending on whether or not a subwoofer is connected. "Completed!" appears on the screen after the settings are entered, and then the System Setup screen appears two seconds later. If the settings are not entered correctly, after "Not Completed. Please Try Again." appears, try entering the settings again.

NOTE:

- If the Surround Speakers parameter is set to NONE, only OFF or DOLBY SURROUND can be selected as the Surround mode. If no center or Surround speakers are connected, no Surround mode can be used and the setting will remain set to OFF.

Speaker Distance

Use this parameter to specify the distance of the speakers' positions from the listener. The delay time is automatically set according to these distances. First, press the ENTER button on the remote controller to select whether the distances will be shown in meters (the settings will change in 0.3 m steps) or feet (the settings will change in 1 foot steps). Then, measure the distance of the left/right front, center, left/right Surround speakers and subwoofer from the listening position and select the correct settings.

Level Calibration

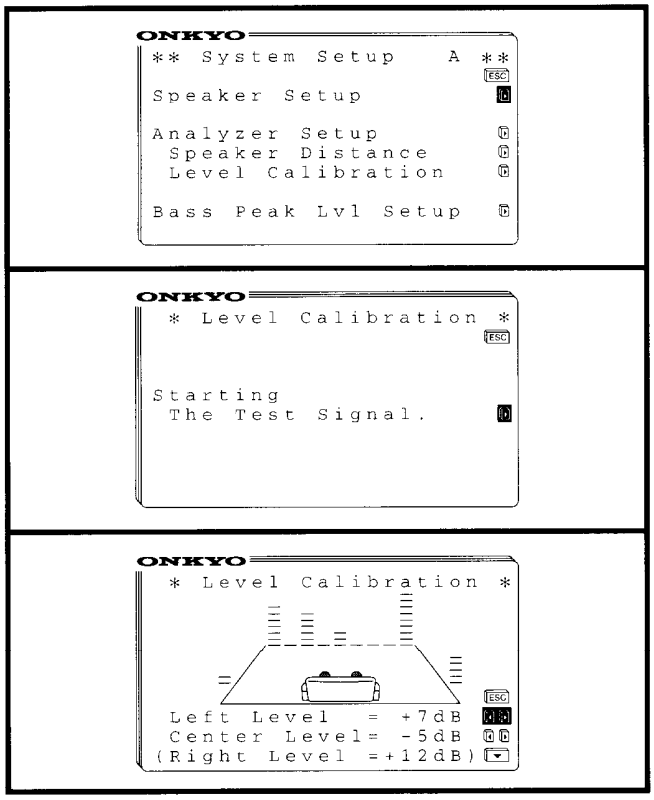
Adjust the level of each channel in order to remain faithful to the film director's intentions. This parameter is used to calibrate each channel's absolute sound level using a test signal. Refer to *Calibrating the speaker levels son page 35.*

Bass Peak Lvl Setup

In a Dolby Digital (AC-3) sound, you may wish to add bass to each channel, not only low frequency effects to the subwoofer or large speakers. This parameter prevents the subwoofer sound from becoming too loud and distorting. Refer to *Using Bass Peak Level Setup* on page 33 for more details.

Calibrating the speaker levels:

To calibrate the sound level, measure the channel level from your listening position with a sound level meter (not included) at C-weighting and slow response, and then set each channel level to 75 dB spl.
When Test Signal on the main unit is set to ON, the master volume automatically sets itself to the reference position. However, when Test Signal is OFF, the master volume automatically returns to its previous position.



On-screen display operation

1. **Move the cursor to Level Calibration in the System Setup A screen, and then press the ► cursor button on the remote controller to display the Level Calibration screen.**
2. **Move the cursor to Starting the Test Signal, and then press the ► cursor button.**
   The test signal sounds from the left front speaker and the current level is displayed in the screen.
3. **Press the ▲ or ▼ cursor button on the remote controller to select a speaker.**
   With each press of the button, the selected speaker changes one at a time in the following sequence:
   → Left Level → Center Level → Right Level → R-Sur. Level → SW Level ← L-Sur. Level ←
4. **Press the ◄ or ► cursor button to adjust the level.**
   The adjustments can be made in 1 dB steps between –15 dB (minimum) and +10 dB (maximum) for the subwoofer and between –12 dB and +12 dB for all other speakers.
   The level should be set to 75 dB using a sound level meter at C-weighting and slow response.
   While making the adjustments, the test signal will automatically turn itself off if an adjustment is not made within 2 minutes.
5. **Repeat steps 3. and 4. to adjust all speaker levels until the test signal level sounds the same from all speakers.**
6. **To turn off the test signal, move the cursor over ESC and press the ENTER button.**

* Refer to the operations below when using just the or the main unit to carry out the on-screen display operation described above.

Remote control operation

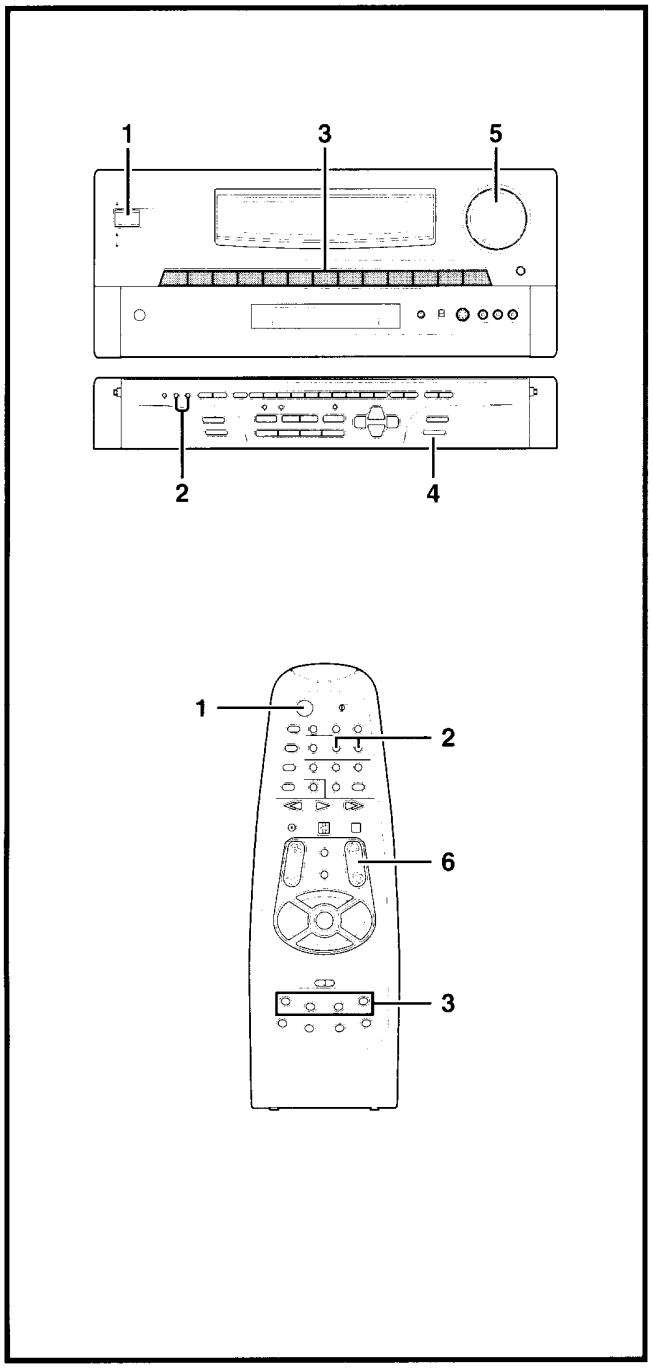
1. **Set the device select switch to AMP.**
2. **Press SET/TEST to sound the test signal.**
3. **Press 7/CH.SEL to select a speaker.**
4. **Press 8/LEVEL ▲ or 0 ▼ to adjust the level.**
5. **Repeat steps 2. and 3. to adjust all speaker levels until the test signal level sounds the same from all speakers.**
6. **Press SET/TEST to turn off the test signal after all of the speakers have been calibrated.**

Main unit operation

1. **Press ▼ to select Test Signal.**
2. **Press ► to select ON.**
   The test signal sounds from the left front speaker.
3. **Press ▼ to select a speaker.**
   With each press of the button, the selected speaker changes one at a time in the following sequence:
   → Left → Center → Right → R-Surround → L-Surround → Subwoofer ←
4. **Press ◄ or ► to adjust the level.**
5. **Repeat steps 3. and 4. to adjust all speaker levels until the test signal level sounds the same from all speakers.**
6. **After all parameters have been set, press ▲.**

Listening to your favorite source

Be sure that the AUDIO MUTING indicator is not lit and that the TAPE-2 MONITOR indicator is not lit when a source other than TAPE-2 MONITOR is being selected. Refer to pages 49 to 53 for more details on playing the selected source with a Surround mode.



- If the input signal is not digital, the TX-DS939 automatically switches to analog playback. However, for optimum results with an analog input signal, the INPUT mode should be set to ANALOG.
- The TX-DS939 is equipped with a high-precision microcomputer. Therefore, if external noise interferes with this unit's signal, use a commercially available adaptor with a built-in noise filter.

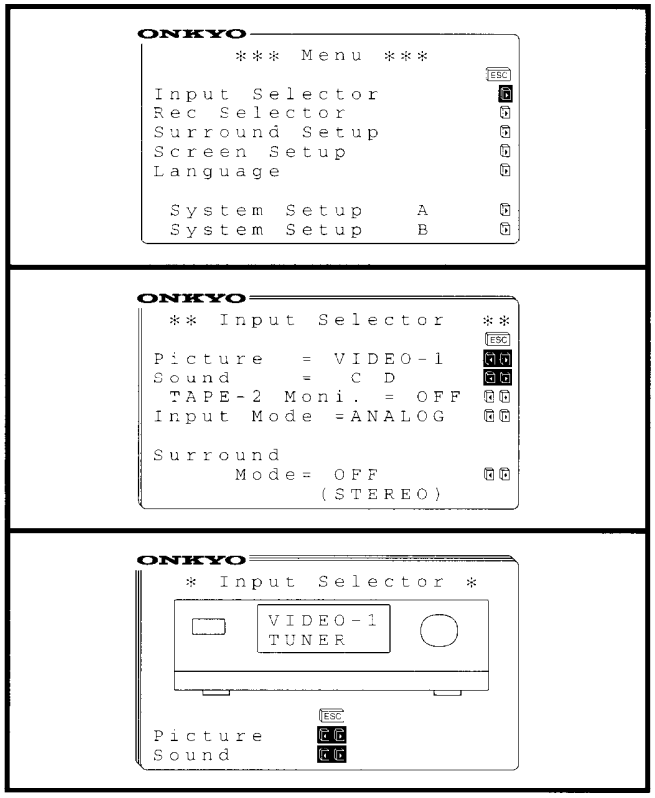
Remote control and main unit operation

1. **Press either the POWER button on the remote controller or the POWER switch (SYSTEM on the European/Australian model) on the main unit to turn on the power.**
   European/Australian model only:
   If the SYSTEM switch on the main unit is set to OFF, the remote controller cannot be used.
2. **Press the A or B speaker selector button to select the desired speakers.**
   The corresponding indicator (SPEAKERS A or B) lights up.
3. **Press the input selector button for the desired source on the main unit or the remote controller or use the ◄ AUDIO ► and ◄ VIDEO ► buttons on the remote control.**
   The name of the selected source will appear on the display. For FM or AM reception, the band and the frequency will also appear.
   To play the selected source using a Surround mode, refer to pages 49 to 53.
   Check that the VIDEO-7 IN/OUT switch is set to IN when using the component connected to the VIDEO-7 connectors.
   Refer to the procedure on the following page to select the source using the on-screen display.
4. **Select the INPUT mode.**
   (Only an analog signal is output when AM, FM, PHONO and TAPE-2 is selected.)
   When the CD player, DAT deck or other component is connected to a DIGITAL INPUT OPT-1, OPT-2 or COAXIAL connector, you can use the INPUT MODE button on the main unit to choose whether the signal from that component will be digital or analog.

The indicator corresponding to the selected INPUT mode lights up.

   Once the INPUT mode of a component is set to DIGITAL, that setting will automatically be selected each time the input selector button for that component is pressed to choose it as the source.
   To select a different component as the digital source:
   1. Press the input selector button for the component that is currently set as the digital source.
   2. Press the INPUT MODE button to select ANALOG.
   3. Press the input selector button for the different component that will be set as the digital source, and then press the INPUT MODE button to select the desired digital setting.
5. **Follow the operating instructions for the selected unit to start playback.**
   Refer to *Tuning in a radio station* on page 38 for more details on using the tuner.
6. **Adjust the volume to the appropriate level using the MASTER VOLUME control knob.**

The tone control can be adjusted using the on-screen display or main unit. Refer to *Using the tone control* on page 54 for more details.



On-screen display operation

First, select the desired speakers by pressing a speaker button on either the remote controller or the main unit.

1. **Press the ENTER button on the remote controller to display the Menu screen.**
2. **Move the cursor to Input Selector and press the ► cursor button on the remote controller to display the Input Selector screen.**
3. **Press the ◄ or ► cursor button to display the Input Selector screen.**
4. **Press the ▲ or ▼ cursor button to select Picture and/or Sound, and then press the ◄ or ► cursor button to select the desired input source.**

   Picture

   Specifies the input source of the picture.

   Sound

   Specifies the input source of the sound.

   When you press the ◄ or ► cursor button while cursors are on both Picture and Sound, you can change both parameters at the same time. However, if any setting other than VIDEO-1 through –7 is selected for the Sound parameter, the Picture setting remains unchanged and only the Sound changes.

   TAPE-2 Moni.

   Switches on and off the sound from the component connected to the TAPE-2 connectors. Keep this parameter set to OFF when TAPE-2 is not being used.

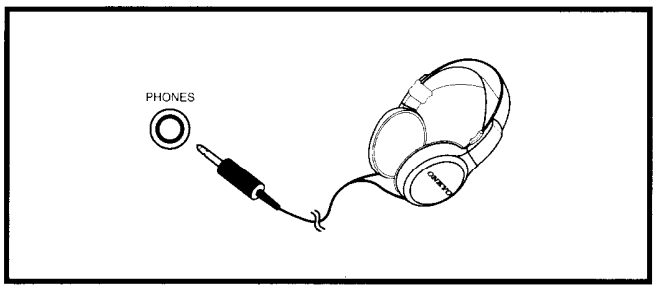
   Input Mode

   Specifies whether the signal from the component connected to one of the DIGITAL INPUT connectors will be digital or analog. (Refer to page 36 or Quick Reference for more details.)

   Surround Mode

   Specifies the Surround mode.
5. **Move the cursor over ESC and press the ENTER button.**
6. **Follow the operating instructions for the selected unit to start playback.**

   If TUNER is selected as the Sound input source, refer to *Tuning in a radio station* on page 38 for more details.



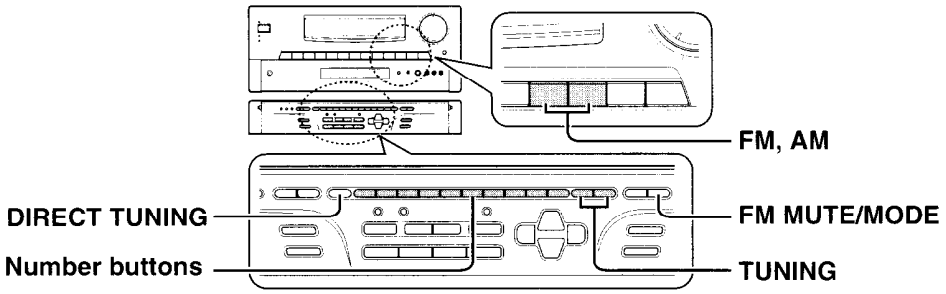
Headphones

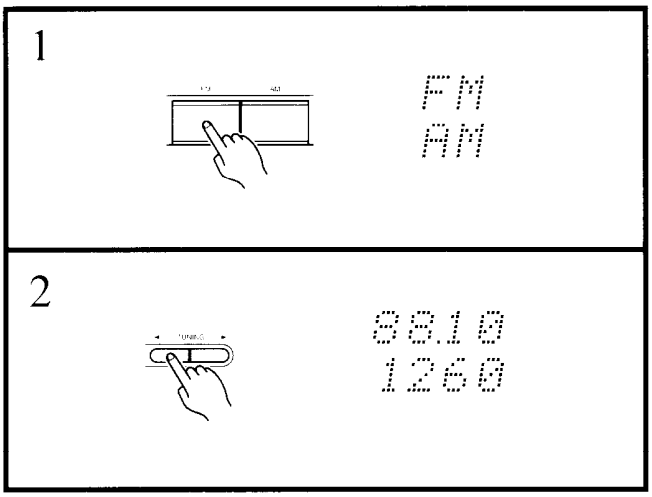
Headphones with a standard stereo jack can be inserted into the PHONES jack.

When the headphones plug is inserted into the PHONES jack, speakers A and B are turned off and the Surround mode automatically switches to STEREO.

Tuning in a radio station

Make sure that the TAPE-2 MONITOR and AUDIO MUTING indicators are off.



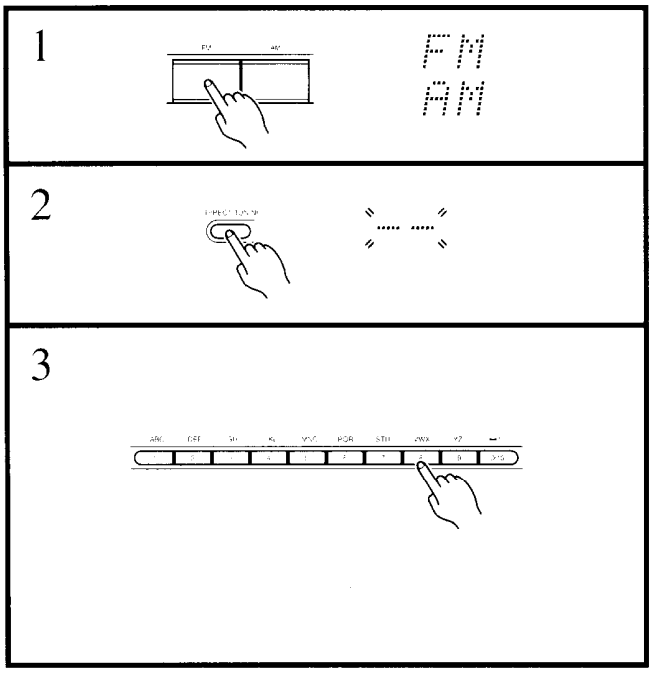


Manual tuning

1. **Press either the FM or AM button on the main unit.**
2. **Change the frequency using the TUNING ◄ or ►button.**
   Press the ◄ TUNING button to decrease the frequency and press the ► TUNING button to increase the frequency.
   The TUNED indicator in the display lights up when the station is properly tuned in.

In FM, each press of a TUNING button changes the frequency in 50 kHz steps; in AM, the frequency changes in steps of 9 or 10 kHz, depending on the model.

If a button is continuously held down for more than 0.5 seconds while tuning an FM station, the frequencies are scanned and tuning automatically stops when a broadcast is received.



Direct tuning

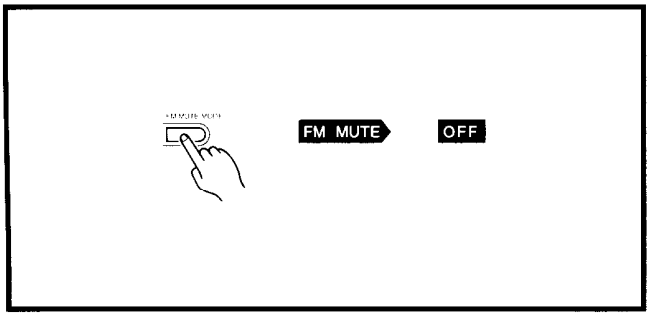
1. **Press either the FM or AM button on the main unit.**
2. **Press the DIRECT TUNING button.**
   "-- --" flashes in the display for 16 seconds.
3. **While "-- --" flashes, enter the frequency using the number buttons.**
   For example, to enter "88.10 MHz", press the 8, 8, 1, then 0/10 number buttons.
   The TUNED indicator in the display lights up when the station is properly tuned in.

If you enter a frequency where there is no station, this unit will automatically tune to the first station immediately below the entered frequency.

If you enter a frequency that is out of range, this unit will return to the previous frequency.

European/Australian model:
Since the AM frequency changes in 9 kHz steps, the frequency can be entered directly.

U.S./Canadian model:
Since the AM frequency changes in 10 kHz steps, any number entered in the 1 kHz digit position automatically changes to 0.



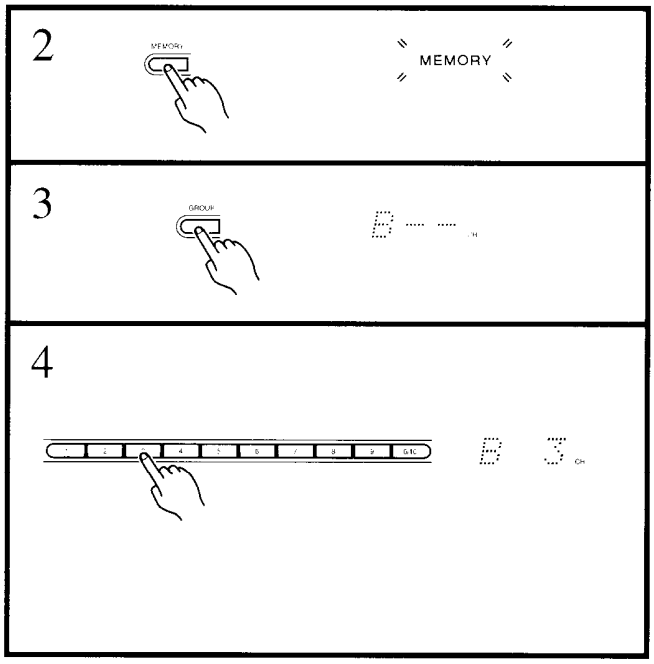
Tuning in an FM stereo radio station

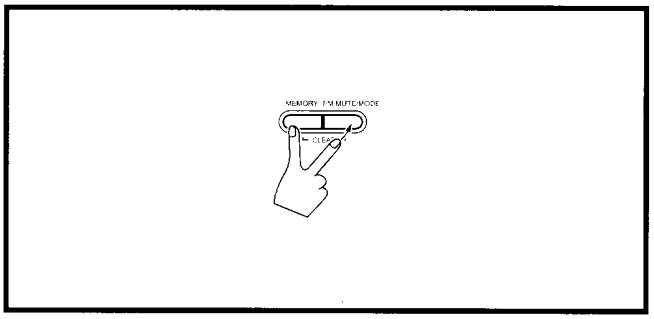
If you tune in a stereo FM station, the FM STEREO indicator lights up if the signal is sufficiently strong. If the signal is weak, it may be impossible to tune in the station.

1. **Press the FM MUTE/MODE button on the main unit.**
   The FM MUTE OFF indicator lights up. This changes the broadcast to mono, so interstation noise can be heard.
2. **Select the station that you want to listen to.**

Using preset radio stations

A total of 40 FM or AM stations can be stored in the memory, ten in each group (A, B, C and D).





Setting a preset station

1. **Select the radio station frequency that you want to store in the memory.**
   (Refer to *Tuning in a radio station* on page 38.)
2. **Press the MEMORY button on the main unit.**
   The MEMORY indicator in the display lights up for 8 seconds.
3. **While the MEMORY indicator is lit, continue pressing the GROUP button until the desired group is selected.**
   With each press of the button, the group name that is shown on the display changes one at a time in the following sequence: A → B → C → D →A...
4. **Enter the desired preset number using the number buttons.**
   Press the 0/10 number button when choosing preset number 10.

NOTE:

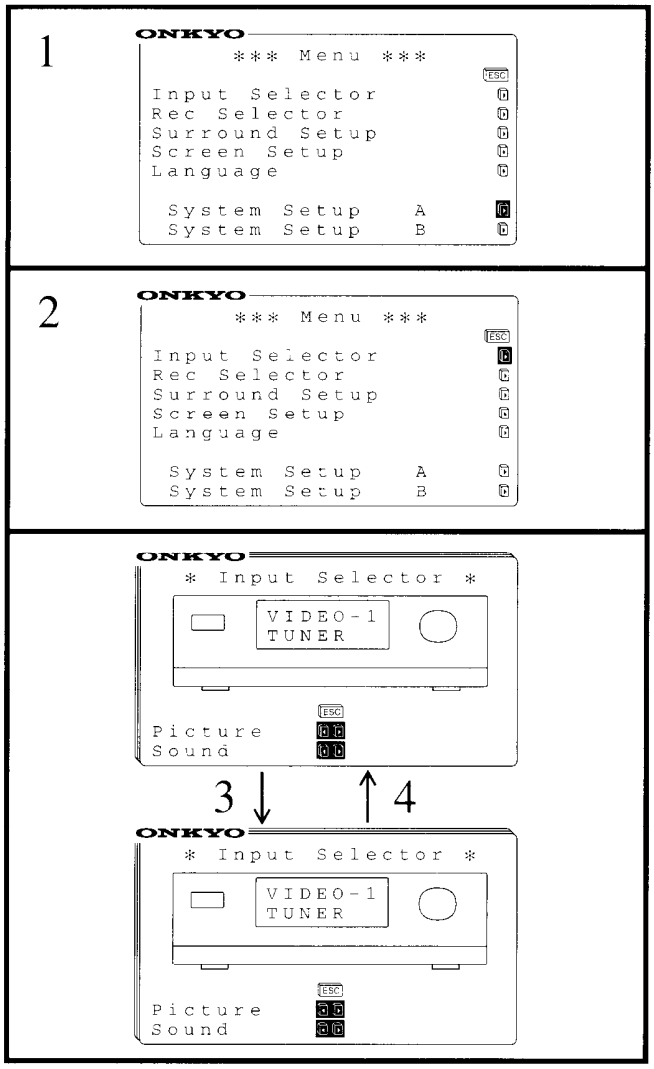
European/Australian model only:
If the selected FM station broadcasts RDS signals with a PS (Program service name), the name of the station is displayed instead of the frequency. If there is no PS, the frequency is displayed. (Refer to pages 41and 42 for more details about RDS reception.)

Cancelling a preset station

1. **Select the station that you want to cancel.**
   (Refer to *Selecting a preset station* on page 40.)
2. **Hold down the MEMORY button on the main unit and press the FM MUTE/MODE button.**
   "--" appears in the display.

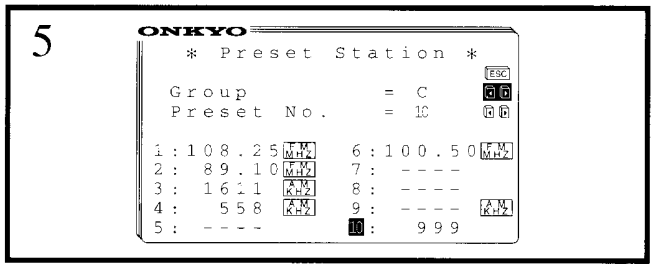
Selecting a preset station

NOTE:
If no radio stations are stored in the memory, a group and preset number cannot be selected. Refer to *Setting a preset station* on page 38 for more details.



On-screen display operation

1. **Press the ENTER button on the remote controller to display the Menu screen.**
2. **Move the cursor to Input Selector and press the ► cursor button on the remote controller to display the Input Selector screen.**
3. **If TUNER is not selected as the Sound source, press the ▲ or ▼ cursor button to move the cursor to Sound, and then press the ◄ or ► cursor button to display the Input Selector screen.**
4. **Select TUNER as the Sound source, then move the cursor over ESC and press the ENTER button.**
5. **Change the Group and Preset No. parameters to select the desired station.**
   The preset frequencies in the selected group are displayed.



* Refer to the operations below when using just the remote controller or the main unit to carry out the on-screen display operation described above.

Remote control operation

First, select the tuner as the source by pressing the TUNER input selector button on the remote control.

1. **Set the device select switch to CD/TUNER.**
2. **Press RECALL / GROUP until the desired group is displayed.**
3. **Press CH ⊕ ⊖ until the desired preset number is displayed.**

Main unit operation

First, select the tuner as the source by pressing the AM or FM input selector button on the main unit.

1. **Press GROUP until the desired group is displayed.**
2. **Enter the desired preset number using the number buttons or press SCAN to scan through the preset stations.**
   If SCAN is pressed, each station stored in the selected group will be played for 5 seconds. When the desired station is found, press SCAN again to stop scanning.

Receiving RDS broadcasts
(Not available in the U.S. and other areas)

RDS reception is only available in areas where RDS broadcasts are available.

What is RDS?

Many FM stations now transmit RDS signals which give additional information. RDS provides you with various services so that, for example, you can choose a station broadcasting your favorite category of music or other information. The information shown below is available on this unit.

NOTE:

- In some cases, the characters that appear in the TX-DS939's display may not be exactly the same as the ones broadcast by the radio station. If unusual characters appear in the display, characters are being received that cannot be correctly displayed by the TX-DS939. This does not indicate a malfunction of the unit.

PS: Program Service Name
When an RDS station broadcasting PS information is selected, the station's name is displayed instead of the frequency.

PTY: Program Type
When an RDS station broadcasting PTY information is selected, the station type (classification) is displayed.

TP: Traffic Program
When an RDS station broadcasting TP information is selected, traffic information is displayed.

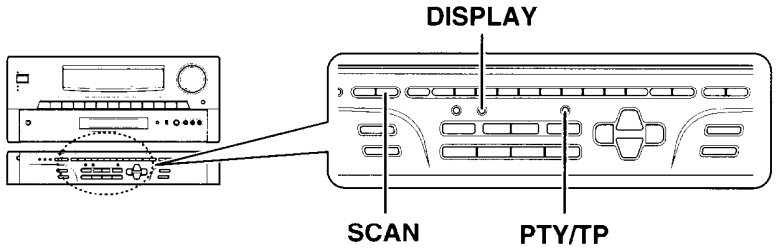
RT: Radio Text
When an RDS station broadcasting RT information is selected, information received from the station is displayed.

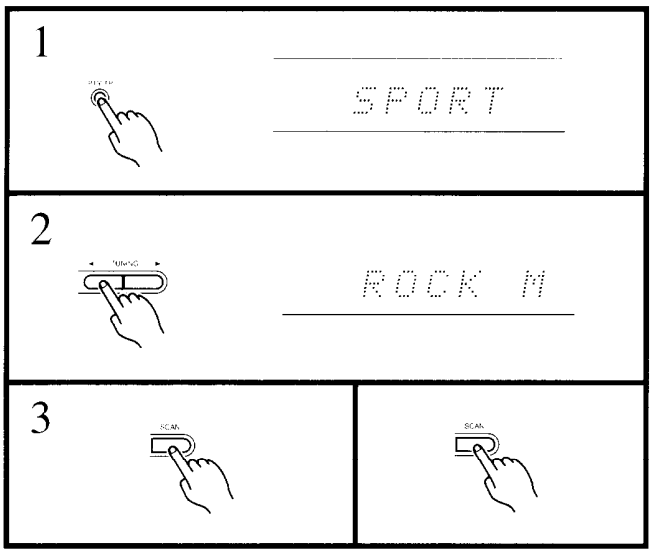
PTY Classifications

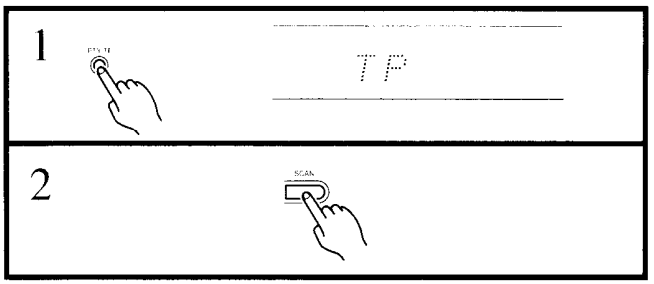
1. **NEWS** (news reports)
2. **AFFAIRS** (current affairs)
3. **INFO** (general information)
4. **SPORT** (sports news)
5. **EDUCATE** (educational programs)
6. **DRAMA** (radio series)
7. **CULTURE** (cultural programs)
8. **SCIENCE** (science and technology programs)
9. **VARIED** (various talk programs, e.g. quizzes, panel games and comedies)
10. **POP M** (pop music)
11. **ROCK M** (rock music)
12. **M O R M** (middle-of-the-road or easy listening music)
13. **LIGHT M** (light classical music)
14. **CLASSICS** (serious classics, e.g. orchestral, symphonic and chamber music)
15. **OTHER M** (other types of music, e.g. Jazz, Rhythm & Blues, Folk, Country, Reggae)

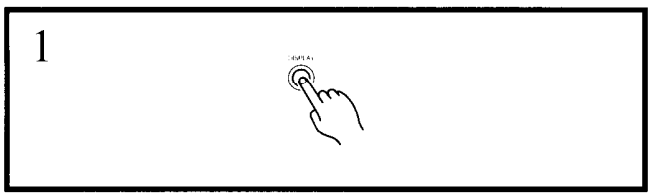
* **ALARM** (When an RDS station is making an emergency broadcast, this PTY will flash on the display.)

Receiving RDS broadcasts (Not available in the U.S. and other areas)









Searching for a station of your favorite program type (PTY scan)

If the selected station is not broadcasting RDS signals, this function cannot be used.

1. **Press the PTY/TP button on the main unit until "PTY" appears on the display.**
   If "Not RDS" appears on the display, the selected station is not an RDS station.
2. **Use the TUNING ◄ or ► button to select the program type (PTY), for example "ROCK M".**
   Refer to the PTY descriptions on the previous page.
3. **Press the SCAN button to start searching for stations of the desired program type.**
   When a station of the desired program type is received, scanning stops for approximately 5 seconds, and then continues again.
4. **When the desired station is found, press the SCAN button to stop scanning.**

Searching for traffic information (TP scan)

If the selected station is not broadcasting RDS signals, this function cannot be used.

1. **Press the PTY/TP button until "TP" appears on the display.**
2. **Press the SCAN button to start searching for other TP stations.**
   When a station broadcasting traffic information is found, scanning stops. If "Not find" appears on the display, a TP station cannot be found.

Displaying Radio Text (RT)

If the selected station is not broadcasting RDS signals, this function cannot be used.
With each press of the DISPLAY button on the main unit , the displayed RDS information changes as shown below:

Frequency → Entered characters or Program Service Name → Radio Text → Frequency

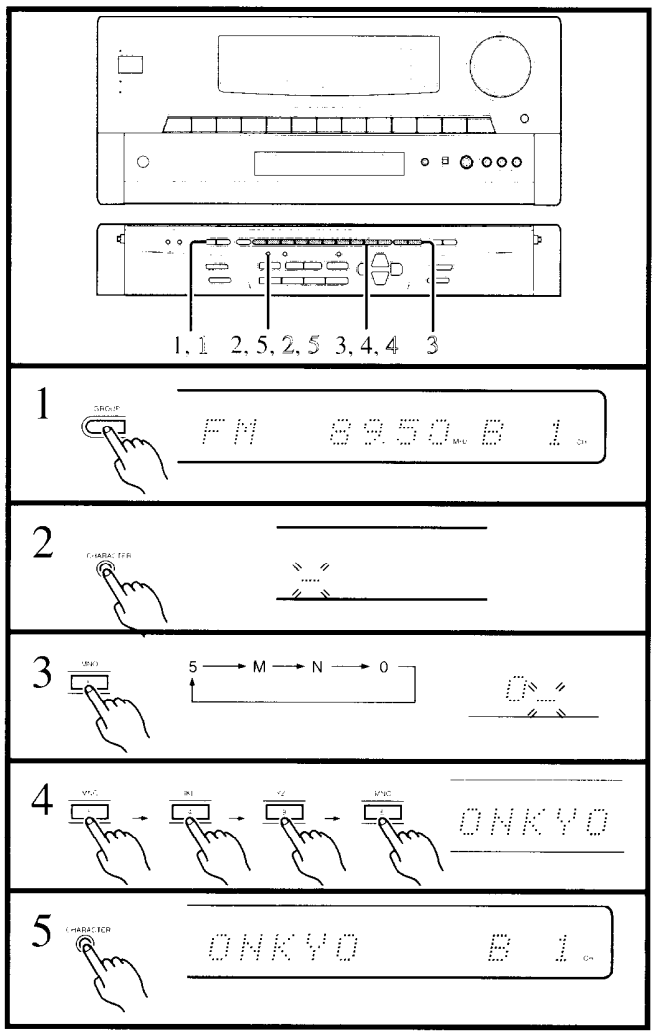
If the current station you are listening to is not an RDS station, only the station frequency and the entered characters appear. (Refer to *Entering characters* on page 43 for more details about entering characters.) If no characters have been entered, only the frequency is displayed.

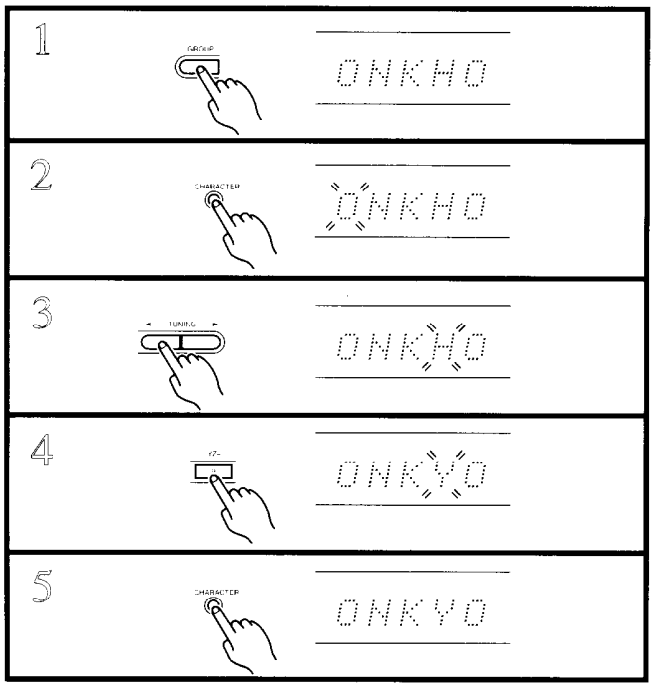
When RT signals are received, about 15 seconds are necessary until the Radio Text appears on the display.

If "Wait" appears on the display, more time is required to receive the RT information. When the information is received, the characters will scroll across the display. If "No text" appears on the display for 3 seconds, RT information is not available.

Entering characters

While receiving a preset FM or AM station, a maximum of 8 characters consisting of letters, numbers and some symbols can be stored, for example to represent the station name.
If you attempt to enter characters for an FM station broadcasting RDS information, "RDS...PS" is displayed and characters cannot be entered.





Characters which can be entered:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0 – ␣ * /

Note: ␣ indicates a space.

Entering characters

As an example, assume an FM station with a frequency of 89.50 MHz has been stored in preset number 1CH of group B and will be given the name "ONKYO".

1. **Select the desired station.**
   (Refer to *Selecting a preset station* on page 40.)
2. **Press the CHARACTER button on the front panel.**
   The frequency in the display goes off and the cursor (_) flashes.
3. **Continue pressing the 5MNO button until "O" is displayed.**
   With each press of the button, the character that appears in the display changes one at a time in the following sequence:
   5 → M → N → O → 5...
   If a button is not pressed within one second, the cursor automatically moves to the next position.
   To delete a character, press the DIRECT TUNING button. After the selected character is deleted, all characters to the right of the deleted character move one space to the left.
4. **Continue pressing number buttons to enter the desired characters.**
   To enter N, press the 5MNO button.
   To enter K, press the 4JKL button.
   To enter Y, press the 9YZ- button.
5. **Press the CHARACTER button to store the entered characters.**
   If a button is not pressed within 16 seconds, the operation will end automatically.

Changing an entered character

1. **Select the desired station.**
   (Refer to *Selecting a preset station* on page 40.)
2. **Press the CHARACTER button.**
   The first character and the cursor flash alternately.
3. **Press the TUNING ◄ or ► button to move the cursor below the character that you wish to change.**
   The cursor moves to the right when the ► TUNING button is pressed and moves to the left when the ◄ TUNING button is pressed.
4. **Enter the desired character.**
   The previous character is replaced with a new character.
5. **Press the CHARACTER button.**

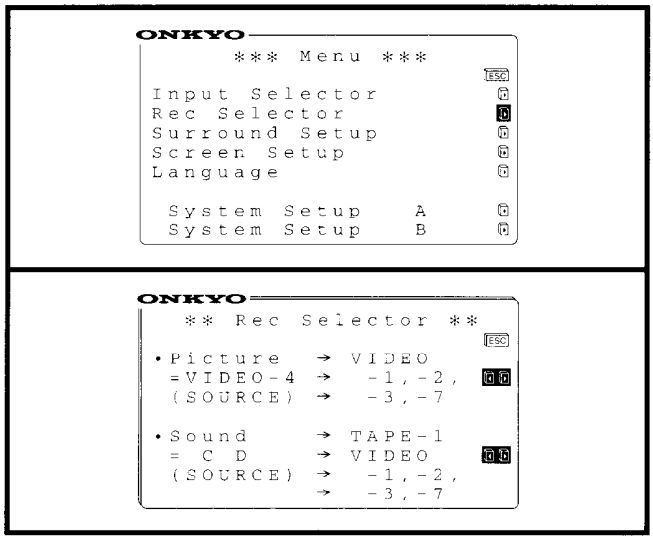
Clearing all characters

1. **Select the desired station.**
   (Refer to *Selecting a preset station* on page 40.)
2. **Press the CHARACTER button.**
3. **Hold down the MEMORY button and press the FM MUTE/MODE button.**
   All characters entered for the selected station are cleared.

Recording a source

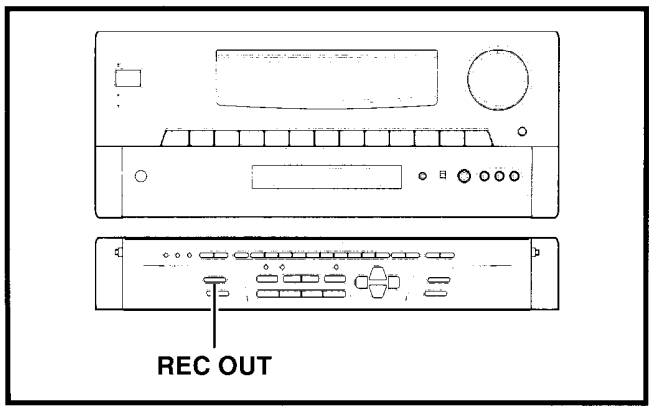
The TX-DS939 can be used to record either the source that is currently being listened to/watched or a different source. Check that the components are connected to the TX-DS939 as shown in *Connecting audio equipment* and *Connecting video equipment* on pages 13 to 14. If the Multi-Room System equipment is connected, be sure the MR OFF indicator is lit while recording.

Listening to/watching the source while recording it:



On-screen display operation

1. **Press the ENTER button on the remote controller to display the Menu screen.**
2. **Move the cursor to Rec Selector and press the ► cursor button on the remote controller to display the Rec Selector screen.**
3. **Move the cursor to Picture and/or Sound and press the ◄ or ► cursor button on the remote controller to select the component with "(SOURCE)" displayed below it on the left side of the screen. The components that can record it will appear on the right side.**
   The component indicated as "(SOURCE)" is the currently selected input source. If a different component is selected in the Input Selector screen or by pressing an input selector button, "(SOURCE)" will appear below the name of the newly selected component.
   In the screen shown at the left, the currently selected video source is VIDEO-4 VCR and it can be recorded by VIDEO-1, -2, -3 or -7; the currently selected sound source is the CD player and it can be recorded by TAPE-1 or VIDEO-1, -2, -3 or -7.
   Sound
   Indicates which sound source is available for playback and which components are available for recording onto.
   Picture
   Indicates which video source is available for playback and which components are available for recording onto.
   When recording onto the component connected to the VIDEO-7 connectors, be sure to set the IN/OUT switch to OUT.
4. **Start recording on the recording component, then start playing the selected source.**
   With the on-screen display, Picture and Sound can separately be set to different components.



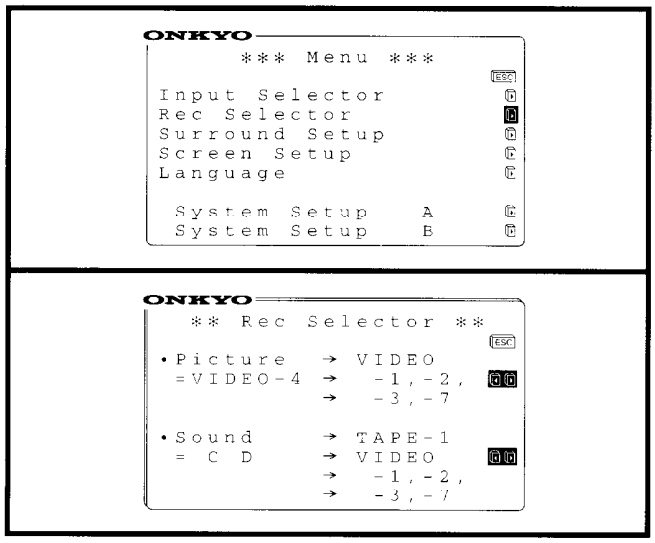
Main unit operation

1. **Press an input selector button to select the desired source.**
2. **Press REC OUT.**
3. **While the REC OUT indicator is flashing, press REC OUT again.**
   The SOURCE indicator and the indicator for the selected source light up with red boxes around them.
4. **Start recording on the recording component, then start playing the selected source.**

NOTE:

- Do not adjust any controls on the TX-DS939 after starting the recording operation.
- Pressing an input selector button while recording will change the source being recorded.
- When the TAPE-2 MONITOR indicator is lit, only the TAPE-2 source can be recorded. Even if a different input selector button is pressed, the TAPE-2 MONITOR indicator will remain lit.
- Certain combinations of video input and output connections will allow sound recording, but not picture recording. An input connected to the normal video connector cannot be recorded from the S connector. Be sure to check the video connections before recording. (Refer to pages 13 and 14.)

Listening to/watching a source while recording a different one:

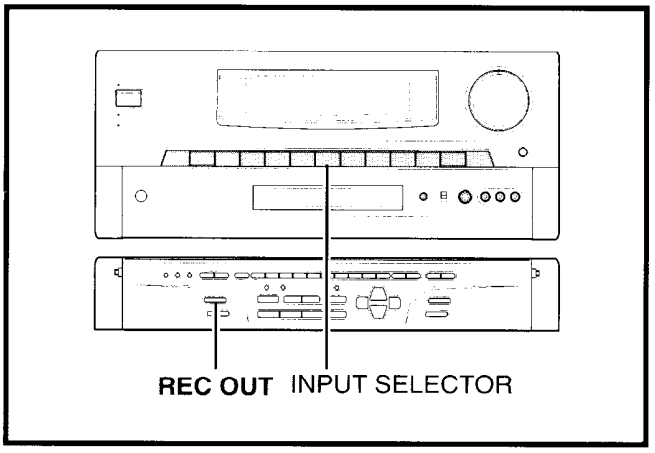


On-screen display operation

1. **Press the ENTER button on the remote controller to display the Menu screen.**
2. **Move the cursor to Rec Selector and press the ► cursor button on the remote controller to display the Rec Selector screen.**
3. **Move the cursor to Picture and/or Sound and press the ◄ or ► cursor button on the remote controller to select the desired source on the left side of the screen. The components that can record it will appear on the right side.**
4. **Start recording on the recording component, then start playing the selected source.**
5. **To select the source that you wish to listen to or watch, move the cursor to Input Selector in the Menu screen, press the ► cursor button on the remote controller to display the Input Selector screen, and then select a different source.**
   Refer to *Listening to your favorite source* on page 36 and 37 for more details on selecting the source that you wish to listen to or watch.

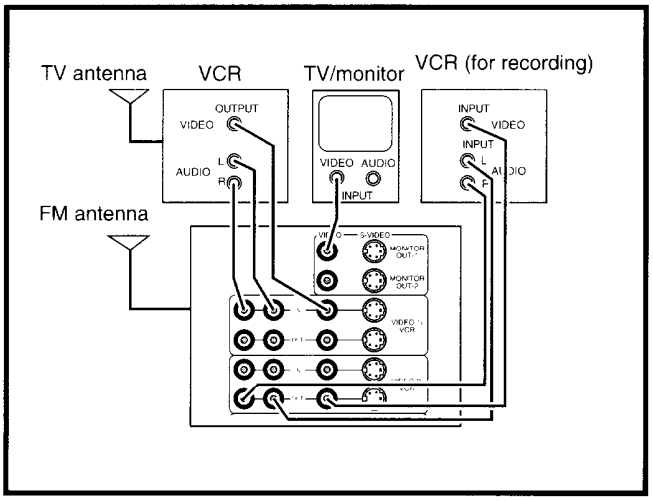
NOTE:

- When recording from an FM or AM station while listening to a different sound source, the station frequency and preset number and group are displayed for 3 seconds before the selected listening source's display appears.



Main unit operation

1. **If you are mixing a video and an audio source for VCR recording, press the input selector button for the VCR that will be used to play the video and press the REC/PAUSE button on the VCR that will be used to record.**
2. **Press REC OUT.**
3. **While the REC OUT indicator is flashing, press an input selector button to select the desired source. If you are mixing video and audio, select the audio source.**
   The indicator for the selected source lights up with a red box around it.
4. **Start recording on the recording component, then start playing the selected source(s).**
   If a VCR is being used to mix a video and an audio source, the picture from the video source and the sound from the audio source will be recorded together.
5. **To select the source that you wish to listen to or watch, press the input selector button for the desired source.**
   Refer to *Listening to your favorite source* on page 36 and 37 for more details on selecting the source that you wish to listen to or watch.



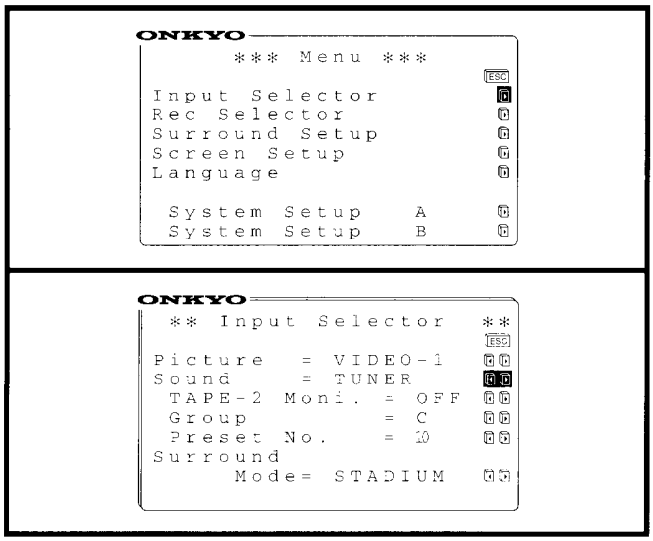
Playing back and recording a TV picture with FM/ CABLE TV sound

When two VCRs are used, a TV broadcast can be recorded with a simulcast FM broadcast.

1. **Receive the TV broadcast using the VCR tuner.**
2. **Press the VIDEO-1 input selector button on the TX-DS939 to select the VCR being used to tune in the TV broadcast.**
3. **Press the FM input selector button and tune in the FM simulcast by selecting a preset station or using the TUNING ◄ or ► button.**
   The picture will be sent to the TV/monitor and the FM stereo sound to the speakers.
4. **To record the TV picture with FM sound, begin recording on the VCR not being used to receive the TV broadcast.**
   The program can be monitored while recording.

Recording using TAPE-2 MONITOR:

If a tape deck is connected to the TAPE-2 connectors and a source other than TAPE-2 is selected, the sound from the selected source can be recorded.



On-screen display operation

1. **Move the cursor to Input Selector in the Menu screen and press the ► cursor button on the remote controller to display the Input Selector screen.**
2. **Move the cursor and press the ◄ or ► cursor button to display the Input Selector screen.**
3. **Press the ◄ or ► cursor button to select the desired Sound source, and then move the cursor over ESC and press the ENTER button.**
   If OFF is selected for the TAPE-2 Moni. parameter in the Input Selector screen, the sound from the source can be heard. If a 3-head tape deck connected to the TAPE-2 connectors is being used for recording, select ON to hear the sound that is just recorded.
4. **Start recording using the TAPE-2 tape deck, then start playing the selected source.**
   Refer to the tape deck instruction manual for more details.

Remote control and main unit operation

1. **Press an input selector button to select the source to be recorded.**
   If the [TAPE-2 MONITOR] indicator in the display is not lit, the sound from the source can be heard. If a 3-head tape deck connected to the TAPE-2 connectors is used for recording, press either the TAPE-2 button on the remote controller or the TAPE-2 MONITOR button on the main unit to light up the [TAPE-2 MONITOR] indicator and hear the sound that is just recorded.
2. **Start recording using the TAPE-2 tape deck, then start playing the selected source.**
   Refer to the tape deck instruction manual for more details.

NOTE:

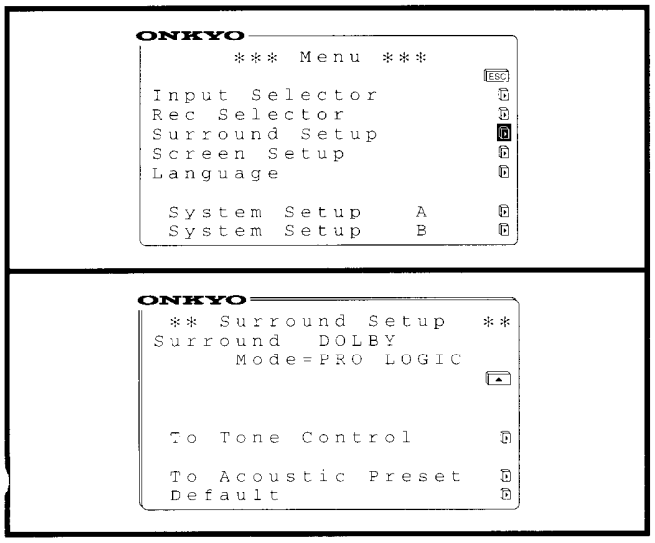
- Set the recording level with the controls on the tape deck that is being used for recording.

Selecting a Surround mode

Before using the Surround mode, be sure the System Setup parameters have been set. If the parameters have been set once, it is not necessary to set them again.

The DOLBY DIGITAL (AC-3) Surround mode is used to decode media such as laser discs (bearing the DOLBY SURROUND AC-3 DIGITAL mark), DVD videos (bearing the DOLBY DIGITAL mark) and Dolby Digital (AC-3) broadcasts.

With the Dolby Surround mode, video tapes and laser discs bearing the DOLBY SURROUND trademark are decoded to reproduce the multi-channel Surround sound of a movie theater.



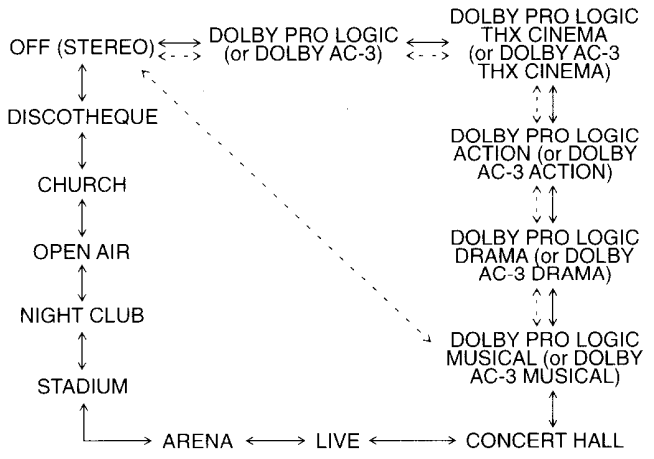
If large hi-fi speakers are connected, the Subwoofer parameter of Speaker Setup can be set to NO in the OFF (STEREO) Surround mode.

On-screen display operation

1. **Press the ENTER button on the remote controller to display the Menu screen.**
2. **Move the cursor to Surround Setup and press the ► cursor button on the remote controller to display the Surround Setup screen.**
3. **Press the ◄ or ► cursor button on the remote controller to select the desired Surround mode.**
   With each press of a button, the Surround mode changes one at a time in the sequence shown below under *Remote controller operation*.
   If DOLBY PRO LOGIC is selected when a Dolby Digital (AC-3) source is played back, the Surround mode automatically changes to DOLBY AC-3 and the AC-3 indicator lights up. The PROGRAM FORMAT indicators also light up to show the channels of the AC-3 source being played back. The indicators represent the channels as follows:
   L: left front channel
   C: center channel
   R: right front channel
   LS: left Surround channel
   RS: right Surround channel
   S: monaural Surround channel
4. **Press the ▲ or ▼ cursor button to select a parameter, and then press the ◄ or ► cursor button to either select a setting or display the screen for the selected parameter. When a screen is displayed, press the ◄ or ► cursor button to select a setting.**
   Each mode has a number of parameters which can be used to adjust the sound. (Refer to pages 52 and 53 for more details.)

Remote control operation

1. **Set the device select switch to AMP.**
2. **Press (9) SUR.MODE ▲ or (+10) ▼ to select the desired Surround mode.**
   The mode changes as shown below.
   (The broken lines show the sequence when a Dolby Digital (AC-3) source is played.):



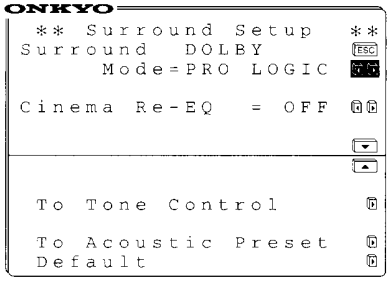
Main unit operation

1. **Press SURROUND MODE ◄ or ► to select the CONCERT HALL, LIVE, ARENA, STADIUM, NIGHT CLUB, OPEN AIR, CHURCH or DISCOTHEQUE Surround mode**
   or
   Press DSURROUND to select DOLBY PRO LOGIC (or DOLBY AC-3). To select their THX CINEMA (THX 5.1), DRAMA, ACTION or MUSICAL mode, press THX CINEMA, DRAMA, ACTION or MUSICAL.
   If Dolby Digital (AC-3)-encoded discs are played, the Surround mode automatically switches to AC-3.
   Press OFF to turn off the Surround mode and return to stereo.
2. **Press ▲ or ▼ to select a parameter.**
   Refer to the diagram on page 56 for the order in which the parameters will appear.
   The parameter name appears on the display for 5 seconds. If it goes off, press the button again to display it.
3. **Press ◄ or ► to select a setting.**
4. **Repeat steps 2. and 3. to adjust the parameters.**

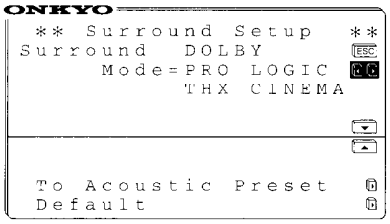
Selecting a Surround mode

Various parameters are available in the Surround mode screens shown below.
When not all parameters can be shown in one screen, ▼ appears in the bottom right-hand corner of the screen. Press the ▼ cursor button on the remote controller to move the cursor to ▼. The screen displays more parameters.
Refer to *Setting the Surround mode parameters* on pages 52 and 53 for more details on each of the Surround mode parameters.

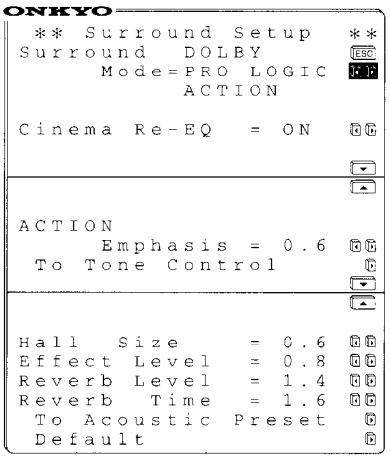
Dolby Pro Logic



Dolby Pro Logic
THX CINEMA



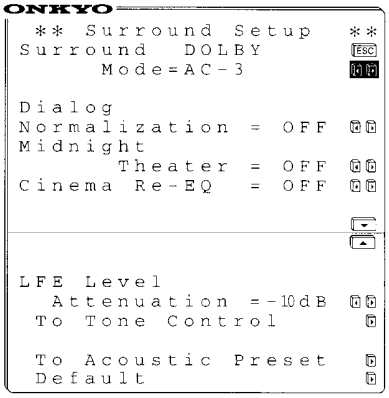
Dolby Pro Logic
ACTION/DRAMA/MUSICAL



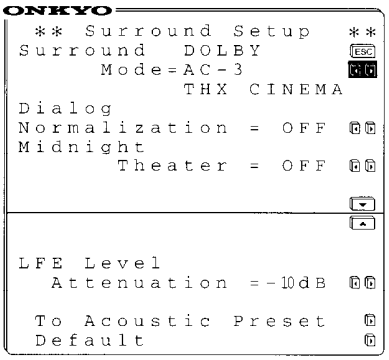
NOTE:

- If a Dolby Digital (AC-3) source is played back, the following Surround modes cannot be selected: CONCERT HALL, LIVE, NIGHT CLUB, DISCOTHEQUE, ARENA, STADIUM, OPEN AIR and CHURCH.
- After playing a Dolby Digital (AC-3) source, wait 15 seconds before trying to play a source that is not encoded in the Dolby Digital (AC-3) format.

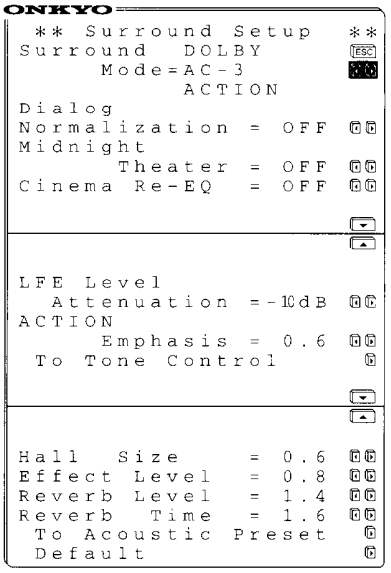
Dolby Digital (AC-3)



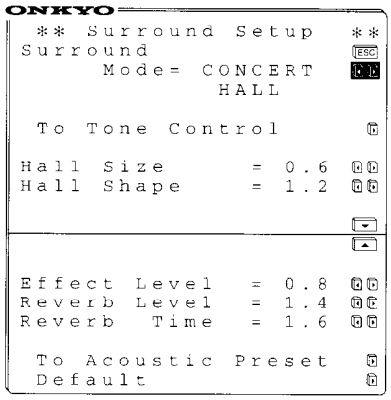
Dolby Digital (AC-3)
THX CINEMA



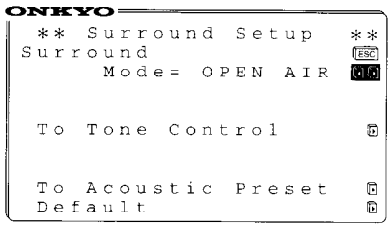
Dolby Digital (AC-3)
ACTION/DRAMA/MUSICAL



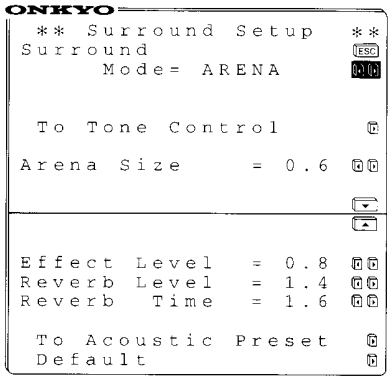
Concert Hall/Live/Night Club/Discotheque



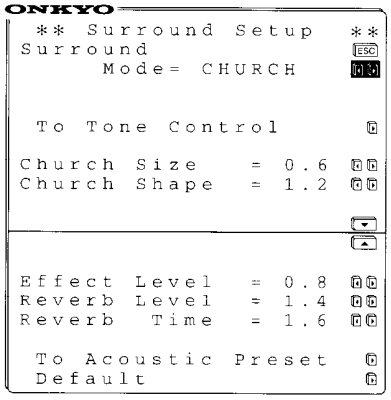
Open Air



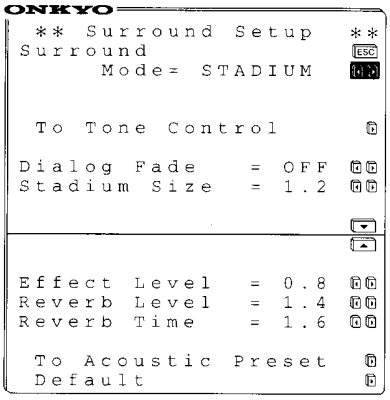
Arena



Church



Stadium



Setting the Surround mode parameters

LFE (Low Frequency Effect) Level Attenuation (DOLBY DIGITAL (AC-3) mode only)
If the reproduced bass is too loud, set this parameter to –10dB to decrease the Low Frequency Effect in the low-frequency channel by 10 dB.

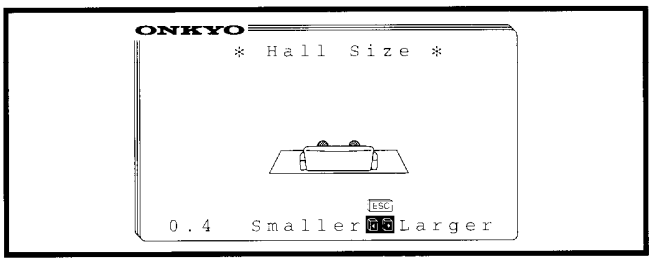
Dialog Normalization (DOLBY DIGITAL (AC-3) THX CINEMA Surround mode only)
This parameter adjusts the dialog of the program to the most suitable level. Normally, this parameter should be set to ON.

Cinema Re-EQ
Motion pictures are produced on the assumption that they will be shown at a large cinema. If they are shown in a small room, the high-frequency range sound will be raised, resulting in an uncomfortable sound. If your system is placed in a small room, set this parameter to ON to reproduce an optimal sound for the home theater system.

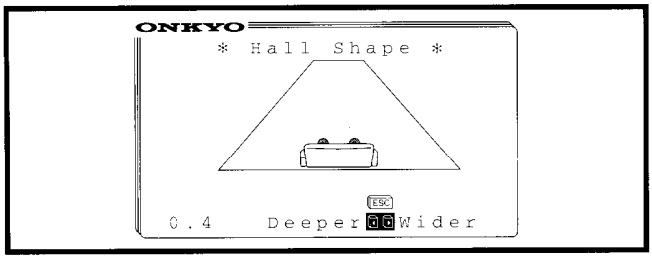
NOTE:
- This parameter is normally set to ON when the DOLBY DIGITAL (AC-3) THX CINEMA or DOLBY PRO LOGIC THX CINEMA Surround mode is used.

ACTION/DRAMA/MUSICAL Emphasis
These parameters bring out even more the ACTION, DRAMA or MUSICAL effects. The emphasis can be set between 0.4 and 1.6.

Hall Size/Arena Size/Stadium Size/Church Size
These parameters allow you to set the size of the hall/arena/stadium/church. The size can be selected from seven settings between 0.4 and 1.6, indicating the size of the movie theater.

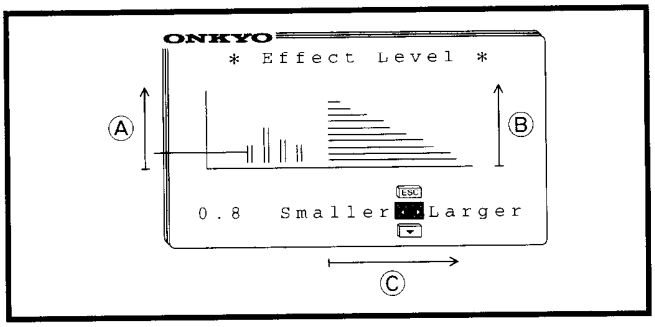


Hall Shape/Church Shape
You can select from seven hall/church shape settings between 0.4 and 1.6, indicating the ratio of breadth to length. 0.4 to 0.8 simulate rectangular shapes, 1.0 simulates a square shape and 1.2 to 1.6 simulate oblong shapes.



Dialog Fade (STADIUM Surround mode only)
When you wish to remove the announcer's voice while watching a sports broadcast, set this parameter to ON. It may be difficult or not possible to remove the announcer's voice from some sources.

Effect Level, Reverb Level and Reverb Time
By adjusting the level of the initial reflections and reverberation in sound from a recording, it is possible to create the illusion of actually being in a stadium without leaving your living room. For each parameter, you can select from seven settings between 0.4 and 1.6.



Effect level (Ⓐ)
Adjusts the initial reflection level. Increasing the setting increases the effect sound level.

Reverb level (Ⓑ)
Adjusts the level of only the reverb (not the initial reflections). Increasing the setting makes the "mountain" higher and increases the reverb sound level.

Reverb Time (Ⓒ)
Adjusts the time taken for the reverberation to decay completely. Increasing the setting widens the base of the "mountain" and lengthens the reverb time.

Midnight Theater
If you must play a movie at a low sound volume, at night for example, set this parameter to OFF, LOW or HIGH, depending on how much you wish to make the dynamic range of the reproduced sound narrower for easy-to-hear sound. This parameter can also be set by pressing the MIDNIGHT THEATER button on the main unit.

NOTE:
- This parameter will have no effect on the sound if other components that are being used with the Dolby Digital (AC-3)-encoded media are not used with this function. When the DOLBY AC-3 THX CINEMA Surround mode is selected, this parameter will not affect the sound.

Subwoofer (OFF (STEREO) Surround mode only)
Set this parameter to OFF when you want to turn off the subwoofer and listen to the sound from only the left and right speakers.

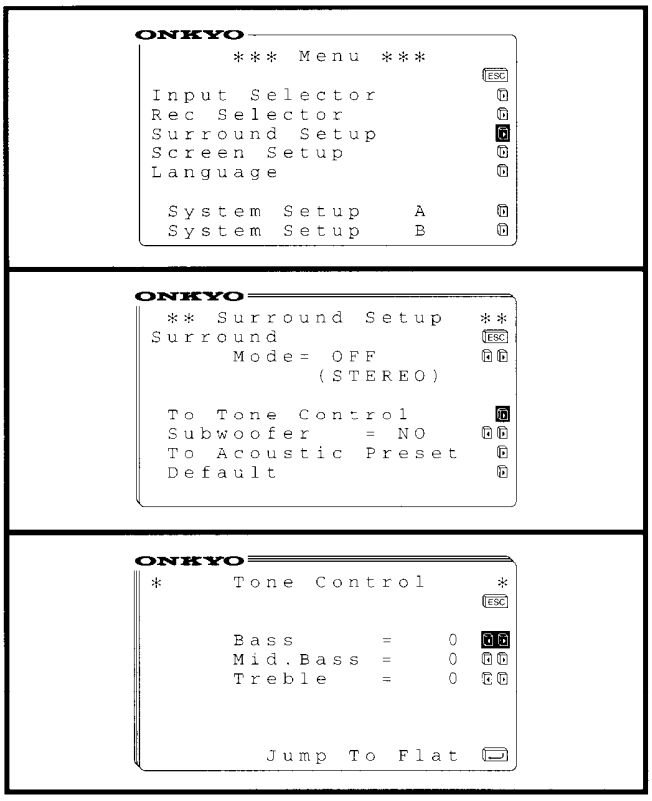
Default
Move the cursor to this parameter and press the ▶ cursor button on the remote controller to display the YES and NO settings. Move the cursor to YES and press the ◀ cursor button to return all parameters in the displayed Surround Setup screen to their default settings. Move the cursor to NO and press the ▶ cursor button to leave the parameters unchanged.

Default values

Parameter	Default values
LFE Level Attenuation	0 dB
Dialog Normalization	ON
Cinema Re-EQ	OFF
ACTION/DRAMA/MUSICAL Emphasis	1.0
Hall/Arena/Stadium/Church Size	1.0
Hall/Church Shape	1.0
Dialog Fade	OFF
Effect Level	1.0
Reverb Level	1.0
Reverb Time	1.0
Midnight Theater	OFF
Subwoofer	YES

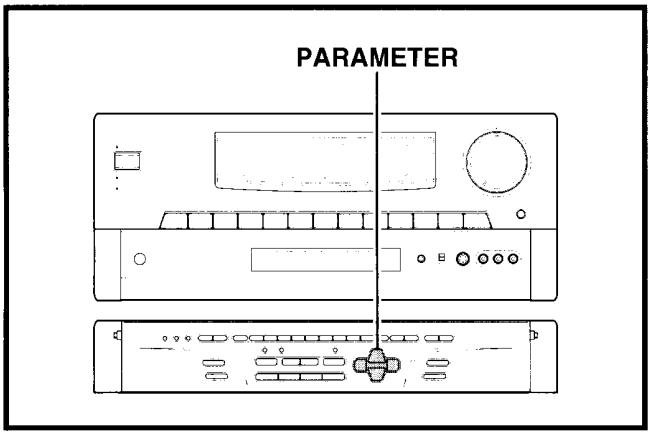
Using the Tone Control

The bass, midbass and treble settings can be set for each individual Surround mode. When a Surround mode is selected, the tone controls automatically adjust to the settings that were last entered for that mode.



On-screen display operation

1. **Press the ENTER button on the remote controller to display the Menu screen.**
2. **Move the cursor to Surround Setup and press the ► cursor button on the remote controller to display the Surround Setup screen.**
3. **Press the ◄ or ► cursor button to select the desired Surround mode.**
4. **Move the cursor to To Tone Control and press the ► cursor button to display the Tone Control screen.**
5. **Press the ▲ or ▼ cursor button to select a parameter and press the ◄ or ► cursor button to select a setting.**
   Settings between –12 and +12 can be selected.
   To make the tone controls flat, select Jump To Flat and press enter button.
   Bass
   Adjust to strengthen or weaken the bass response.
   Mid. Bass
   Adjust to strengthen or weaken the midbass response.
   Treble
   Adjust to strengthen or weaken the treble response.
6. **Repeat step 5. to set the parameters as desired.**

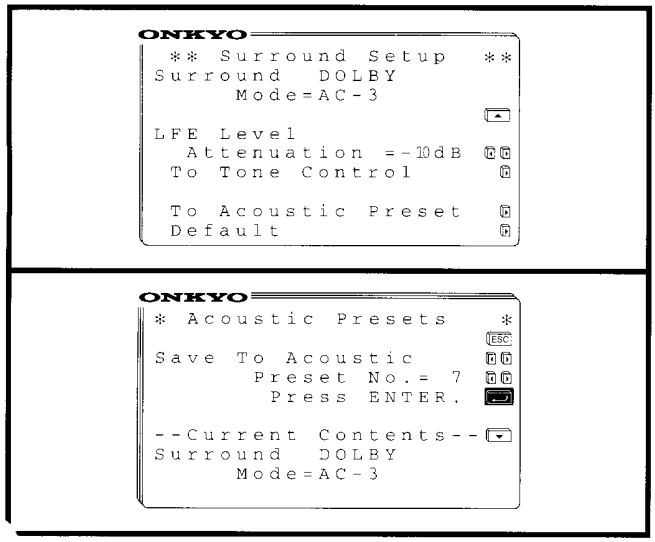


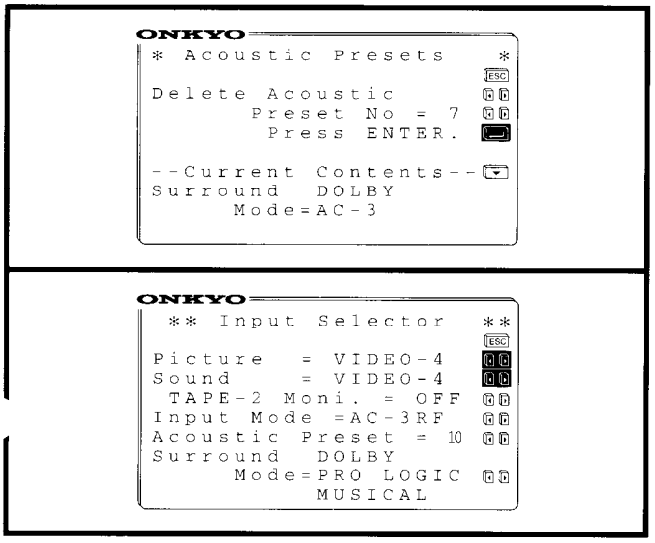
Main unit operation

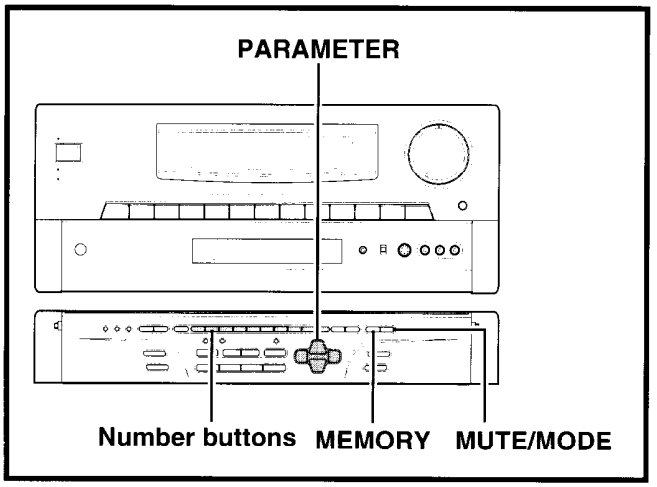
1. **Select the desired Surround mode. (Refer to pages 49 to 51.)**
2. **Press ▲ or ▼ to select Bass, Mid. Bass or Treble and press ◄ or ► to select a setting.**

Using the Acoustic Preset

Up to 10 programs with preset Surround modes and parameters can be stored in the memory. When VIDEO-1 through -7 is selected as the input source, recalling a preset program automatically adjusts the Surround mode and parameters to those set. This is convenient if you wish to re-use certain Surround modes and parameter settings, since it allows you to recall them quickly.







On-screen display operation

Storing a preset:

1. **Press the ENTER button on the remote controller to display the Menu screen.**
2. **Move the cursor to Surround Setup and press the ► cursor button on the remote controller to display the Surround Setup screen.**
3. **Select the desired Surround mode, and then set the parameters as desired.**
   Refer to *Selecting a Surround mode* on pages 49 to 51 for more details.
4. **Move the cursor to To Acoustic Preset and press the ► cursor button to display the Acoustic Presets screen.**
5. **Move the cursor to Preset No. and press the ◄ or ► cursor button to select the desired preset number.**
   Each press of the button changes the number that is displayed.
6. **Move the cursor to "Press ENTER.", and then press the ENTER button.**

Cancelling a preset:

1. **Move the cursor to Save to Acoustic and press the ► cursor button to select Delete Acoustic.**
2. **Select the number of the preset that you wish to cancel.**
3. **Move the cursor to ⏎ and press the ENTER button.**

Using an acoustic preset

1. **Select a source from VIDEO-1 through -7 in the Input Selector screen.**
2. **Move the cursor to Acoustic Preset and press the ◄ or ► cursor button to select the desired preset number.**

Main unit operation

1. **Select the desired Surround mode and set its parameters.**
   Refer to *Selecting a Surround mode* on pages 49 to 51 for more details.
2. **Press MEMORY and the number button on the main unit corresponding to the desired preset number.**

Using an acoustic preset

Use the input selector buttons to select a source from VIDEO-1 through -7, then press a number button on the main unit corresponding to the desired preset number.

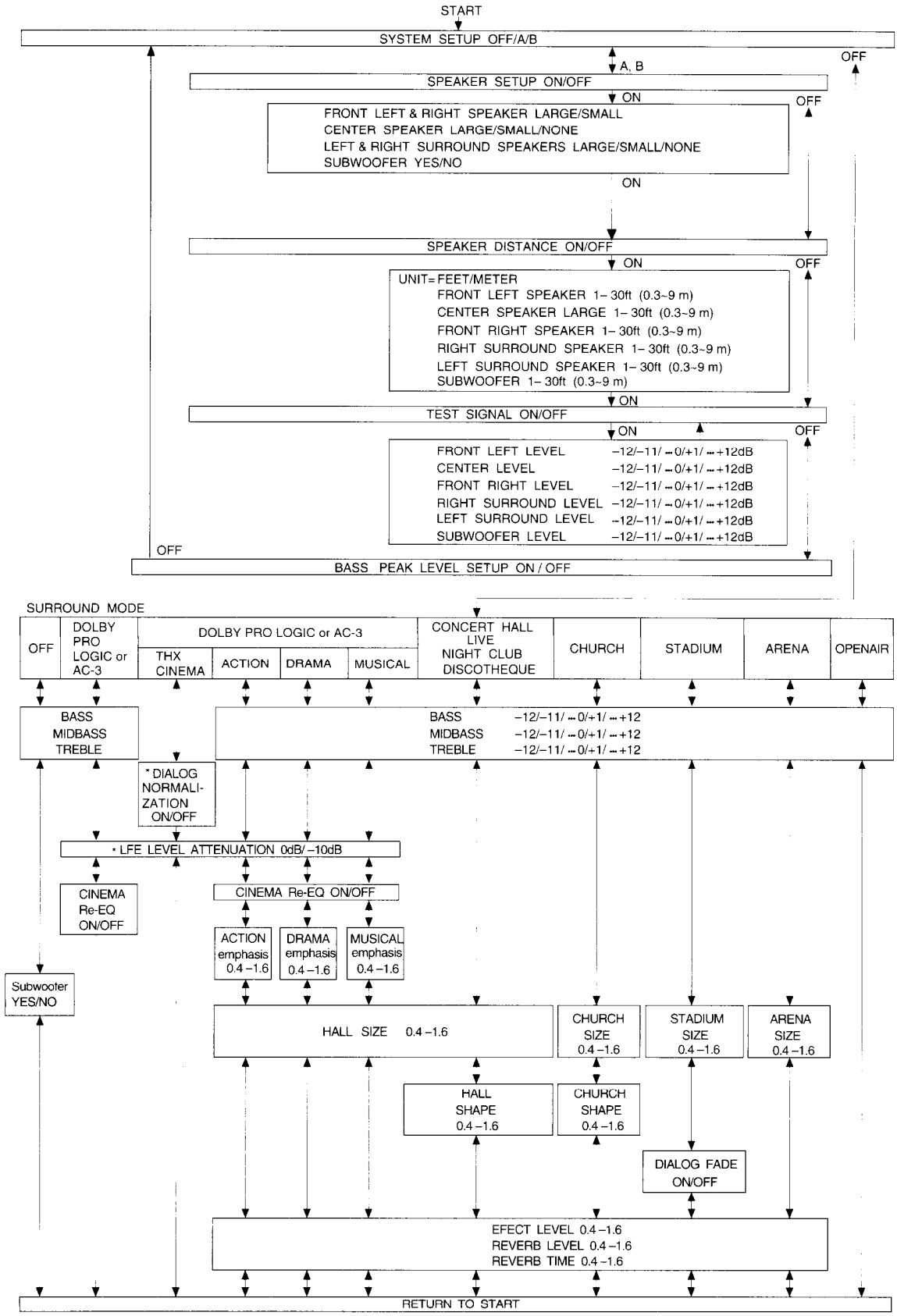
Cancelling a preset

1. **Select the number of the preset that you wish to cancel.**
2. **While holding down MEMORY, press MUTE/MODE.**

TX-DS939 parameters

Refer to *Selecting a Surround mode* on pages 49 to 51for details on setting the Surround mode parameters.

TX-DS939 Parameter



"*" indicates the parameters that only appear with the Dolby Digital (AC-3) Surround mode. With the PRO LOGIC Surround mode, these parameters are skipped.

Troubleshooting guide

If a problem occurs, adjust the controls on the TX-DS939 front panel to confirm that the remote controller is not malfunctioning or has worn out batteries.

Trouble	Cause	Remedy
Power, then immediately no power	● The amplifier protection circuitry has been activated. ("PROTECT" is displayed.)	● Contact your Onkyo service center.
No power	● The power cord is disconnected. ● There is external noise in the computer circuits of the TX-DS939. ● The AC fuse is blown.	● Connect the power cord. ● Turn the power off and then on again, or remove the AC plug from the outlet.. ● Contact your Onkyo service center.
Power but no sound	● The [TAPE-2 MONITOR] indicator is lit. ● The AUDIO MUTING indicator is lit. ● The connections are bad or incorrect. ● The jumper plugs between the PRE OUT and AMP IN terminals are removed.	● Press the TAPE-2 MONITOR button. ● Press the MUTE button on the remote control. ● Check the input leads, speaker leads, pin plugs, etc. ● Insert the jumper plugs.
Power but no sound, or sound is heard from a component other that selected with the input selector buttons	● The Input mode is set incorrectly.	● Set the Input mode correctly. (Refer to page 36.)
No sound or very minimal sound from the center speaker	● The speaker wires are disconnected. ● Surround mode is set to CONCERT HALL, LIVE, ARENA , STADIUM, OPEN AIR, NIGHT CLUB, CHURCH, DISCOTHEQUE or OFF ● The Center Level is set to the minimum. ● The Center Speaker Setup is set to NONE.	● Check the connection between the amplifier and the speaker. ● When CONCERT HALL, LIVE, ARENA , STADIUM, OPEN AIR, NIGHT CLUB, CHURCH, DISCOTHEQUE or OFF is selected for the Surround mode, only the effect sound will be output from the center speaker. The sound level will be less compared to the sound level when the DOLBY DIGITAL (AC-3), PRO LOGIC, THX CINEMA, ACTION, DRAMA, MUSICAL is selected, when the surround mode is set to OFF, no sound will output from center speaker. ● Set the Center Level to the appropriate setting. ● Set the Center Speaker Setup to SMALL or LARGE.
Hum or low-frequency noise	● Poor or no input ground ● Poor or no phono motor ground ● The input and output cables are incorrectly positioned.	● Check the outer conductor of input plugs. ● Check for a proper ground connection. ● Adjust the placement of the cables to reduce hum.
Howling when the volume is turned up	● The turntable and speakers are too close to each other.	● Move them farther away from each other.
The sound is interrupted.	● A noise is being produced in the operating environment.	● Use a commercially available adaptor with a built-in noise filter.
AM stations cannot be received	● The AM loop antenna is not attached.	● Connect the enclosed AM loop antenna to the AM antenna terminals.
Buzzing noise on AM (particularly at night or with weak stations)	● There is noise from other electrical equipment, such as fluorescent lamps.	● Move the AM loop antenna to a different position. ● Connect an outdoor AM antenna.
High-pitched noise or buzzing noise on AM	● There is noise from the TV.	● Place the AM loop antenna as far as possible from the TV. ● Move the unit away from the TV.
FM TUNED and STEREO indicators flicker and a hiss is heard on FM.	● The station signal is too weak. ● The stereo FM broadcasts cover only about half the distance of an ordinary broadcast.	● Install an outdoor FM antenna. ● Adjust the position or direction of the outdoor antenna.
No station is recalled when a preset button is pressed.	● The power cord has been unplugged for an extended period of time.	● The memory contents are lost. Store all stations again.
Multi-Room Remote System does not operate.	● The connections are incorrect. ● The MR OFF indicator on the TX-DS939 is lit. ● The remote controller is not aimed at the sensor. ● The path between the remote controller and the sensor is blocked.	● Check the connections. ● Press the MR OFF button. (The MR OFF indicator should go off.) ● Aim the remote controller at the TX-DS939 remote controller sensor. ● Remove the object blocking the path to the sensor.
Front panel controls function but remote controller does not.	● There are no batteries in the remote control. ● The batteries are worn out.	● Insert batteries. ● Replace batteries.
Also refer to the respective instruction manuals of the other components, e.g. video disc player, video cassette recorder or TV/monitor.		

Troubleshooting guide

NOTE:

- The tuning steps by which the tuned frequency changes on each band have been set at the factory to the proper value for the country where the unit is to be sold. If you use the unit in a country where a different tuning step is required or if the broadcast frequencies in your country change so that you cannot tune in radio stations accurately, contact your authorized Onkyo service center.

This device employs a microcomputer to perform various functions and operations. If interference generated by an external power supply, radio waves, or other electrical source results in an accident which causes the specified operations and functions to operate abnormally, follow the procedure below to reset the unit.

1. While holding down the CD button, press the VIDEO-1 button.
2. After "Clear" is displayed, the preset memory and parameters stored in the memory, such as those for the Surround mode, are initialized and will return to the factory default settings.

Problem with the RC-310M remote controller

The remote controller does not operate.	• First, try adjusting the controls on the main unit's front panel. If the unit cannot be operated, the problem is in the main unit and not the remote control. • If the batteries are weak, replace them. • Check that the component selector switch on the remote controller is set to the component that is being used.
Some of this remote control's functions cannot be memorized by another remote control.	• This remote controller uses an infrared ray system allowing most functions to be memorized. However, there may be some instances where memorization is not possible or some remote controller functions cannot be memorized due to the output method.
It is difficult to memorize functions in this remote controller from anther remote control, and even after a function is memorized, it cannot be used correctly.	• Check that the RC-310M is aimed directly at the other remote controller, or that the two units are close enough from each other. • Confirm whether the batteries of your existing remote controller are weak. If the batteries are weak, it may be impossible to operate a function or to memorize functions. Insert new batteries and try again. • The RC-310M remote controller uses an infrared ray system allowing most functions to be memorized. However, there may be some instances where memorization is not possible or some remote controller functions cannot be memorized due to the output method.
The functions of the television, video cassette player, etc., memorized into this remote controller do not operate properly when the buttons are pressed.	• Make sure the functions memorized correspond to the characters or marks on the remote controller buttons. The functions will operate as memorized regardless of the button markings. • If the batteries are weak, it may be impossible to memorize functions. Insert the indicated type of batteries into your existing remote controller and this remote controller, and try memorizing the code again. (Make sure the new batteries are the correct type indicated for the equipment.)
The operable distance of the RC-310M is shorter than that of the existing remote control, or the reaction time of the machine is slow when using the RC-310M.	• The operable distance of this remote controller and your existing remote controller are different. In this case, it may happen that the operable distance of this remote controller is shortened. • Try memorizing the functions once again, making sure the two remote controls are separated by the correct distance. • Check that the batteries are not weak. • The correspondence between the unit and machine may be slow.
The codes memorized by the RC-310M buttons have been "forgotten".	• If the batteries are left out of the unit for more than one hour, memorized codes will be lost. If this is the case, memorize the codes again.

Questions	Answers
Q : Why can't I get On-screen displays on my TV/monitor?	A : Make sure you have a single RCA video cable running from the monitor output connector on the back of the TX-DS939 to the EXT. 1 or video-1 input of your TV/monitor. You must make the input selection on the TV/monitor. (Many customers assume that the TX-DS939 will switch the TV/monitor mode automatically).
Q : How do I get just my TV sound through my stereo?	A : On the back of your TV/monitor you should see AUDIO OUT LEFT and RIGHT RCA jacks. Run a standard RCA cable from those outputs to the VIDEO-1 IN on the TX-DS939 . Do not use the PHONO input.
Q : Why is there no sound coming from my unit? It worked fine yesterday and there is some music faintly in the background.	A : Check to see that the TAPE-2 MONITOR indicator is not lit.

Specifications

AMPLIFIER SECTION

Power output: Stereo mode (Surround mode: OFF)
L and R FRONT SPEAKERS
120 watts per channel min. RMS. at 8 ohms; both channels driven between 20 Hz and 20,000 Hz with no more than 0.05 % total harmonic distortion.
Continuous power 2 × 160 Watt at 6ohms (DIN)
Surround mode
LEFT, RIGHT, CENTER, LEFT SURROUND and RIGHT SURROUND
100 watts per channel min. RMS at 8 ohms, three channels driven from 20 Hz to 20,000 Hz with no more than 0.08% total harmonic distortion.

IM distortion: 0.05% at rated power (L and R FRONT in Stereo mode)

Damping factor: 60 at 8 ohms (L and R)

Input sensitivity/impedance:
Phono: 2.5 mV/50 kohms
Line (CD, TAPE-1 and - 2, VIDEO-1 ~ -7): 200 mV/50 kohms
Amp in (LEFT, RIGHT, CENTER, LEFT SURROUND and RIGHT SURROUND): 1 V/50 kohms (100 W output)

Output level/impedance:
OUTPUT (REC) (TAPE-1 and -2): 200 mV/2.2 kohms
OUT (VIDEO 1~ 3, 7): 200 mV/2.2 kohms
PRE OUT (LEFT, RIGHT, CENTER, LEFT SURROUND, RIGHT SURROUND, SUBWOOFER): 1 V/470 ohms

Phono overload: 120 mV RMS. at 1,000 Hz, 0.5 % THD.

Frequency response: 20 to 30,000 Hz, ±0.5 dB (Line in, Stereo mode)

RIAA deviation: 20 to 20,000 Hz, ±0.8 dB

Tone control: BASS: ±10 dB at 50 Hz; MIDBASS: ±10 dB at 300 Hz; TREBLE: ±10 dB at 10,000 Hz

Signal-to-noise ratio: PHONO: 80 dB (IHF A, 5mV input); Line: 100 dB (IHF A)

Muting: –∞dB

VIDEO SECTION

Television format: NTSC (U.S. and Canadian models); NTSC/PAL (Other models)

Input sensitivity/impedance
IN (VIDEO-1~7) VIDEO (Composite): 1Vp-p/75 ohms
IN (VIDEO-1~7) S-VIDEO (Y signal): 1Vp-p/75 ohms
IN (VIDEO-1~7) S-VIDEO (C signal): 0.28Vp-p/75 ohms

Output level/impedance
OUT (VIDEO-1~ 3, 7, MONITOR OUT) VIDEO (Composite): 1Vp-p/75 ohms
OUT (VIDEO-1~ 3, 7, MONITOR OUT) S-VIDEO (Y signal): 1Vp-p/75 ohms
OUT (VIDEO-1~3, 7, MONITOR OUT) S-VIDEO (C signal): 0.28Vp-p/75 ohms

DIGITAL SECTION

Digital input sampling frequency: 32, 44.1, 48 kHz

Input sensitivity/impedance:
Coaxial: 0.5 Vpp/75 ohms
AC-3RF: 0.4 Vpp/75 ohms

TUNER SECTION

FM:

Tuning range:	87.50 – 108.00 MHz (50 kHz steps)
Usable sensitivity:	Mono: 11.2 dBf, 1.0 µV (75 ohms)
	Stereo: 17.2 dBf, 2.0 µV (75 ohms)
50-dB Quieting sensitivity:	Mono: 17.2 dBf, 2.0 µV (75 ohms)
	Stereo: 37.2 dBf, 20 µV (75 ohms)
Capture ratio:	1.5 dB
Image rejection ratio:	85 dB
IF rejection ratio:	90 dB
Signal-to-noise ratio:	Mono: 76 dB
	Stereo: 70 dB
Alternate channel Attenuation:	55 dB
AM suppression ratio:	50 dB
Harmonic distortion:	Mono: 0.1%
	Stereo: 0.2%
Frequency response:	30 – 15,000 Hz ± 1.0 dB
Stereo separation:	45 dB at 1kHz
	30 dB between 100 and 10,000 Hz
Muting level:	17.2 dBf

AM:

Tuning: U.S. and Canadian models: 530 to 1710 kHz (10-kHz steps)
Others models: 522 to 1611 kHz (9-kHz steps)

Usable sensitivity:	30 µV
Image rejection ratio:	40 dB
IF rejection ratio:	40 dB
Signal-to-noise ratio:	40 dB
Harmonic distortion:	0.7%

GENERAL

Power supply: U.S. and Canadian models: AC120 V, 60 Hz
Other models: AC 230 V, 50 Hz

Dimensions (W x H x D):	435 × 195 × 456 mm (17-1/8" × 7-11/16" × 17-15/16")
Weight:	21 kg (46.3 lbs.)

REMOTE CONTROL RC-310M

Transmitter:	Infrared
Signal range:	Approx. 5 meters (16 ft.)
Power supply:	Two AA batteries (1.5 V × 2)

Specifications and features are subject to change without notice.