WARNING
This equipment is not waterproof. To prevent a fire or shock hazard, do not place any container filled with liquid near this equipment (such as a vase or flower pot) or expose it to dripping, splashing, rain or moisture.

WARNING
To prevent a fire hazard, do not place any naked flame sources (such as a lighted candle) on the equipment.

VENTILATION CAUTION
When installing this unit, make sure to leave space around the unit for ventilation to improve heat radiation (at least 20 cm at top, 10 cm at rear, and 20 cm at each side).

WARNING
Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the product, and to protect it from overheating. To prevent fire hazard, the openings should never be blocked or covered with items (such as newspapers, tablecloths, curtains) or by operating the equipment on thick carpet or a bed.

WARNING
Store small parts out of the reach of children and infants. If accidentally swallowed, contact a doctor immediately.

Operating Environment
Operating environment temperature and humidity: +5 °C to +35 °C (+41 °F to +95 °F); less than 85 %RH (cooling vents not blocked)
Do not install this unit in a poorly ventilated area, or in locations exposed to high humidity or direct sunlight (or strong artificial light).

CAUTION
The STANDBY/ON switch on this unit will not completely shut off all power from the AC outlet. Since the power cord serves as the main disconnect device for the unit, you will need to unplug it from the AC outlet to shut down all power. Therefore, make sure the unit has been installed so that the power cord can be easily unplugged from the AC outlet in case of an accident. To avoid fire hazard, the power cord should also be unplugged from the AC outlet when left unused for a long period of time (for example, when on vacation).

Voltage selector
You can find the voltage selector switch on the rear panel of multi-voltage models. The factory setting for the voltage selector is 220-230 V. Please set it to the correct voltage for your country or region.

Before changing the voltage, disconnect the AC power cord. Use a medium size screwdriver to change the voltage selector switch.
Thank you for buying this Pioneer product. Please read through these operating instructions so you will know how to operate your model properly.

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Flow for connecting and setting the receiver

The unit is a full-fledged AV receiver equipped with an abundance of functions and terminals. It can be used easily after following the procedure below to make the connections and settings.

Required setting item: 1, 2, 3, 4, 5, 8, 10
Setting to be made as necessary: 6, 7, 9, 11, 12, 13, 14

Important

Using Wiring Navi on AVNavigator of this receiver, you can make the initial settings of the receiver on your computer or mobile device. In that case, you can use Wiring Navi to make the same connections or settings that are performed in Steps 2, 3, 4, 5, 6, 8, and 9. For details of how to use AVNavigator, refer to How to use the built-in AVNavigator on page 49.

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Our philosophy

Pioneer is dedicated to making your home theater listening experience as close as possible to the vision of the moviemakers and mastering engineer when they created the original soundtrack. We do this by focusing on three important steps:

1. Achieving the highest possible sound quality
2. Allowing for customized acoustic calibration according to any listening area
3. Fine-tuning the receiver with the help of world-class studio engineers

With the cooperation of AIR Studios, this receiver has been designated AIR Studios Monitor:

Features

Audio

- **AIR Studios Sound Tuning**
  The SC-LX88 and SC-LX78 have received the AIR Studios Monitor certification. Pioneer has a proven track record of applying its audio expertise to the creation of multi-channel sound environments. Established in 1969 in London, AIR Studios is now an acclaimed recording complex, favoured by many of the world’s most popular and renowned musical talents.

- **Class D Amplifier**
  This unit is an AV receiver developed based on the latest high performance Class D amplifier and integrating the essence of Pioneer’s high sound quality designs. This new generation reference amplifier offers outstanding performance with high sound quality and reproduces the latest in multi-channel digital contents.

- **ESS-32bit-DAC-equipped**
  All channels are equipped with ESS SABRE 32 Ultra Audio DACs. The Jitter Eliminators achieve clearer sound.

- **Audio Scaler**
  The combined effect of Hi-bit 32 Audio Processing, the digital filter and the up-sampling function can be used to convert the signals of music files or CDs to up to 192 kHz/32 bits to achieve even clearer sound with higher definition.

- **Hi-Bit 32 Audio Processing**
  Creates a wider dynamic range with digital sources like CDs, DVDs or BDs. 16-, 20- and 24-bit PCM as well as compressed audio is requantized to 32 bits, and the high frequency component is interpolated upon data processing to enable smoother, more subtle musical expression.

- **Easy setup using MCACC PRO**
  The Auto MCACC Setup provides a quick but accurate surround sound setup, which includes the advanced features of Professional Acoustic Calibration EQ.

- **Auto Phase Control Plus**
  For discs created with standards other than Phase Control, the LFE channel is delayed upon recording in the first place. This function automatically corrects phase shifting on such discs and broadcasts. This function is particularly effective when playing multi-channel music containing low frequency effects (LFE).

- **Full Band Phase Control (compatible with FRONT ALIGN)**
  The further advanced Full Band Phase Control technology focuses on the group delay in the speaker network filter, and compensates with special digital signal processing (DSP), to adjust the phase of each unit as well as the group delay for each speaker. Full Band Phase Control gives multi-range speakers the sound coherence of full-range speakers, while retaining the wide frequency range advantage. This is compatible with the FRONT ALIGN function for matching the characteristics of the speakers other than the front speakers with those of the front speakers.

- **PQLS Bit-stream**
  Jitterless high quality playback is possible by connecting a PQLS-compatible player with HDMI connections. This feature is only available when the connected Pioneer Blu-ray Disc Player supports the PQLS function.

- **Independent dual subwoofer output**
  The output for two subwoofers can be adjusted and set independently. When using two subwoofers, more ideal low-frequency playback can be realized by properly adjusting the output to each woofer.

- **Subwoofer EQ**
  The EQ for subwoofer output can be corrected. In addition to the results of MCACC automatic adjustment, the subwoofer output can be adjusted to match the viewing environment or your taste by manual correction.

Video

- **Ultra HD (with 4K/60p video support) - Pass-through and upscaling**
  Up to 4K/60p resolution images can be passed through and displayed as such, and the HD (High Definition) or Full HD images of DVDs, Blu-ray discs and HD broadcasts can be upscaled to a resolution of up to 4K/60p and displayed. A separate monitor supporting Ultra HD (4K video) is required.

- **HDMI (3D, Audio Return Channel) - 8in/3out (Dual out + HDZONE out)**
  A compatible component is required to use the above function.
Before you start

Network

- Spotify Digital Music-Streaming Service ready
  Spotify is a digital music-streaming service that gives you on-demand access to millions of songs. This receiver is ready for Connect from Spotify, which lets you select songs on your Spotify app to listen to on your audio system. For service availability in your country check www.spotify.com.

- Compatible with Windows 8
  This receiver is compatible with Windows 8, letting you easily stream music from compatible PCs on your home network.

- Apple AirPlay
  With AirPlay you can stream music from iTunes to this receiver and play it through your home theater system. You can even use the receiver to view metadata including song titles, artist’s names as well as the album art on a connected display. You can easily enjoy your iTunes music in any room in the house.

- DLNA Certified (1.5)
  This receiver is a DLNA certified (1.5) device, enabled to work not only as a DMP (Digital Media Player) for playing DMS (Digital Media Server) audio files, but also as a DMR (Digital Media Renderer) to be controlled remotely by a device such as a smartphone or PC.

- Internet Radio
  By connecting this receiver to the network via the LAN terminal, you can listen to Internet radio stations.

Connectivity

- USB-DAC (NATIVE DSD and LPCM transmission supported)
  SC-LX88 only
  Music files on a computer can be played by connecting the receiver with the computer using a commercially available USB cable. Files can be played with high sound quality when the exclusive driver is installed on the computer. The driver software can be installed from the included CD-ROM.
  Native DSD playback by DoP (DSD over PCM) transmission is supported.

- Easy Network connection with the Wireless LAN converter
  With the AS-WL300 wireless LAN converter, you can enjoy using a wireless LAN connection for the AV receivers. The AS-WL300 works with the power supply from the AV receiver’s dedicated USB terminal, so no AC adapter is required.

- Bluetooth adapter ready
  Using the Bluetooth ADAPTER (AS-BT100 or AS-BT200) lets you enjoy music files on an iPhone or other Bluetooth wireless technology enabled device wirelessly.

- MHL™ (Mobile High-definition Link)-compatible device playback
  An incorporates MHL 2 mobile device can be connected to enjoy 3D videos, full-HD videos, high quality multi-channel audio, and photos etc., with charge the battery on the receiver.

- HTC Connect
  HTC Connect makes it easy to wirelessly stream your favorite music straight from your HTC phone. There’s no need for a separate app; HTC Connect is built right in your phone’s music player.

- iPod Playback
  Your iPod and iPhone can be connected to the receiver’s USB terminal to play the music files on the iPod or iPhone. Also, the iPod or iPhone is charged when it is connected to the receiver.
Before you start

**Playback/Processing**

- **Dolby Atmos**
  This function can be used after performing a software update. This AV receiver supports the latest Dolby Atmos surround sound system. Dolby Atmos is a new technology in which, through real time calculation of audio data and meta data (position and time information) included in the audio signal, a surround sound space is achieved irrespective of the speaker layout and number of speakers. In order to enjoy Dolby Atmos, Dolby Atmos-compatible content is required. Dolby Atmos content on Dolby Atmos-compatible Blu-ray Discs can be played back on most conventional Blu-ray players by sending the Dolby Atmos bitstream to the AVR.

- **Multi-channel Music File playback**
  This receiver enables multi-channel music file playback with a resolution of up to 96 kHz/24 bit. Playback of WAV and FLAC files via the front USB port and network is supported.

- **DSD File Music playback (via Network, Front USB and HDMI)**
  Playback of high sound quality DSD music (DSD files and DSD discs (SACDs)) is supported.

- **High Resolution Music Playback**
  High resolution music files with resolutions of 96 kHz/24 bit to 192 kHz/24 bit can be played. Playback of AIFF, Apple Lossless, WAV and FLAC files via the front USB port and network is supported.

- **Gapless Playback**
  The silent section between tracks is skipped when playing music files, eliminating the interruptions that usually occur when playing live or concert contents. This receiver plays back AAC or MP3 format files with a minimum gap even though it is fundamentally impossible to play back without a gap.

- **Virtual Speakers**
  By turning on the 'Virtual Surround Back', 'Virtual Height', and 'Virtual Wide' modes, it is possible to realize a maximum of 11.1 channels combining the speakers that are actually installed and the virtual speakers. This makes for a smoother connection between the sounds and an improved 3D feel.

- **dts Neo:X compatible**
  This receiver supports the latest DTS processing format. The quality of Neo:X, originally designed for 9 channels or more, can be enjoyed in a 7-channel environment.

**Installation**

- **Built-in AVNavigator**
  When accessing the receiver from the browser of your smartphone, tablet, Windows PC or Mac, you can use **Wiring Navi**, which explains how to connect or **Interactive Operation Guide**, which visually and intelligibly explains the operation method.

- **iControlAV5 Remote Application**
  This is an application that allows intuitive operation of many of the receiver’s functions. This application is available on the App Store for iPhone, iPod touch and iPad. You can also get it on Google Play for Android smartphones. The application can be downloaded free of charge.

- **HDZONE output**
  This receiver supports output of the HDMI output to a subzone room. Powerful images can be enjoyed simply by connecting this receiver to a TV supporting 4K/Full-HD/3D. In addition, a multi-channel environment can be created by connecting this receiver to another AV receiver in the subzone room.

- **ZONE Ready**
  This receiver is equipped with HDZONE and ZONE 2. HDZONE supports HD audio/video streaming to a separate room via HDMI. Multi-Zone enables music and movie playback from different sources in three zones at the same time. With HDZONE, you can select not only HDMI input but also **INTERNET RADIO** or iPod/USB and the like.

- **Energy Saving Design**
  This AV receiver has an ecological design. In addition to even lower power consumption in standby, the receiver is equipped with an ‘eco mode’ for low power consumption when playing contents as well. Furthermore, the eco mode can easily be set with a dedicated button on the remote control of using iControlAV5.
Before you start

Checking what’s in the box

Please check that you’ve received the following supplied accessories:
- Setup microphone (cable: 5 m)
- Remote control unit
- AAA size IEC R03 dry cell batteries (to confirm system operation) x2
- AM loop antenna
- FM wire antenna
- Power cord
- CD-ROM
- Quick start guide
- Safety Brochure

Handling the CD-ROM

Precautions For Use
- This CD-ROM is for use with a personal computer. It cannot be used with a DVD player or music CD player.
- Attempting to play this CD-ROM with a DVD player or music CD player can damage speakers or cause impaired hearing due to the large volume.

License
- Please agree to the “Terms of Use” indicated below before using this CD-ROM. Do not use if you are unwilling to consent to the terms of its use.

Terms of Use
- Copyright to data provided on this CD-ROM belongs to PIONEER HOME ELECTRONICS CORPORATION. Unauthorized transfer, duplication, broadcast, public transmission, translation, sales, lending or other such matters that go beyond the scope of “personal use” or “citation” as defined by Copyright Law may be subject to punitive actions. Permission to use this CD-ROM is granted under license by PIONEER HOME ELECTRONICS CORPORATION.

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Notice in regards to the separately sold Bluetooth ADAPTER and wireless LAN converter

The countries/regions that adopted the optional products below, explained in the Operating instructions, are as per the list.

<table>
<thead>
<tr>
<th>Optional products</th>
<th>Model No.</th>
<th>Countries/regions that adopted the products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bluetooth ADAPTER</td>
<td>AS-BT100</td>
<td>Singapore, Malaysia, Thailand, Australia, New Zealand and Hong Kong</td>
</tr>
<tr>
<td></td>
<td>AS-BT200</td>
<td>Singapore, Malaysia, Thailand, Australia, New Zealand, Hong Kong and Taiwan</td>
</tr>
<tr>
<td>Wireless LAN Converter</td>
<td>AS-WL300</td>
<td>Singapore, Malaysia, Thailand, Australia, New Zealand, Hong Kong and Taiwan</td>
</tr>
</tbody>
</table>

Installing the receiver

- When installing this unit, make sure to put it on a level and stable surface.
- Don’t install it on the following places:
  — on a color TV (the screen may distort)
  — near a cassette deck (or close to a device that gives off a magnetic field). This may interfere with the sound.
  — in direct sunlight
  — in damp or wet areas
  — in extremely hot or cold areas
  — in places where there is vibration or other movement
  — in places that are very dusty
  — in places that have hot fumes or oils (such as a kitchen)
- Do not touch this receiver’s bottom panel while the power is on or just after it is turned off. The bottom panel becomes hot when the power is on (or right after it is turned off) and could cause burns.

Loading the batteries

The batteries included with the unit are to check initial operations; they may not last over a long period. We recommend using alkaline batteries that have a longer life.

WARNING
- Do not use or store batteries in direct sunlight or other excessively hot place, such as inside a car or near a heater. This can cause batteries to leak, overheat, explode or catch fire. It can also reduce the life or performance of batteries.

CAUTION
- Incorrect use of batteries may result in such hazards as leakage and bursting. Observe the following precautions:
  - Never use new and old batteries together.
  - Insert the plus and minus sides of the batteries properly according to the marks in the battery case.
  - When inserting the batteries, make sure not to damage the springs on the battery’s (–) terminals. This can cause batteries to leak or overheat.
  - Batteries with the same shape may have different voltages. Do not use different batteries together.
  - When disposing of used batteries, please comply with governmental regulations or environmental public institution’s rules that apply in your country/area.
Operating range of remote control unit

The remote control may not work properly if:
- There are obstacles between the remote control and the receiver’s remote sensor.
- Direct sunlight or fluorescent light is shining onto the remote sensor.
- The receiver is located near a device that is emitting infrared rays.
- The receiver is operated simultaneously with another infrared remote control unit.
Controls and displays

Remote control .............................................................................................................................. 13
Display ............................................................................................................................................ 15
Front panel ..................................................................................................................................... 16
The remote has been conveniently color-coded according to component control using the following system:

- **White** – Receiver control, TV control
- **Blue** – Operation of other devices and each input (TUNER, etc.) (See pages 57, 58, 60, 61, and 92.)

1. **STANDBY/ON**
   - This switches between standby and on for this receiver.

2. **ALL ZONE STBY**
   - Use this button to perform unique operations (page 91).

3. **MAIN RECEIVER**
   - Switches the remote to control the receiver (used to select the white commands). Switch to perform operations in the main zone.

4. **SOURCE CONTROL buttons**
   - Switches the input. Also, switches remote control operation mode for operating other devices or each input (TUNER, etc.) (page 89).
   - The input for HDMI, NET, and ALL switches each time these buttons are pressed.

5. **TV control buttons**
   - These buttons can be used to perform operations on the TV to which the TV INPUT button is assigned. The TV can be operated with these buttons regardless of the input set for the remote control’s operation mode (page 89).

6. **Receiver Control buttons**
   - **STATUS** – Displays the IP address and information such as selected/set functions and input signals on the display (page 86).
   - **OUTPUT PARAMETER** – Switches the output terminal of the HDMI signal or speaker terminal to be played (page 83).
   - **RETURN** – Press to confirm and exit the current menu screen.
   - **CHANNEL LEVEL** – Press repeatedly to select a channel, then use ‹/› to adjust the level (pages 84 and 105).

7. **Receiver setting buttons**
   - Press MAIN RECEIVER first to access:
     - **AUDIO PARAMETER** – Use to access the Audio options (page 84).
     - **VIDEO PARAMETER** – Use to access the Video options (page 81).
     - **HOME MENU** – Use to access the Home Menu (pages 52, 54, 75, 95, and 103).

8. **/ / / ENTER**
   - Use the arrow buttons when setting up your surround sound system (see page 90) and the Audio or Video options (page 80 or 81).

9. **LISTENING MODE buttons**
   - **AUTO** (AUTO SURROUND/ALC/STREAM DIRECT) – Switches between Auto Surround (page 64), Auto Level Control mode and Stream Direct mode (page 65).
   - **STANDARD SURROUND** – Press for Standard decoding and to switch various modes (Dolby, DTS, etc.) (page 64).
   - **ADVANCED SURROUND** – Use to switch between the various surround modes (page 65).

10. **Source device operation button**
    - Operates other devices or each input (TUNER, etc.).

11. **DIMMER**
    -Dims or brightens the display (page 89).

12. **SLEEP**
    - Use to put the receiver in sleep mode and select the amount of time before sleep (page 86).
13 Remote control LED
Lights when a command is sent from the remote control.

14 SUB ZONE CONTROL buttons
- **Z2 (ZONE 2)** – Holding down this button (for 1.5 seconds) until the remote control LED flashes one time, the mode changes to Zone 2 operation.
- **Z3 (ZONE 3)** – Holding down this button (for 1.5 seconds) until the remote control LED flashes one time, the mode changes to Zone 3 operation.
- **HD (HDZONE)** – Holding down this button (for 1.5 seconds) until the remote control LED flashes one time, the mode changes to HDZONE operation.

15 VOLUME +/-
Use to set the listening volume.
To adjust the main zone sound volume, press MAIN RECEIVER first and then press this button. When in the sub zone, press the SUB ZONE CONTROL button first and then press this button.

16 MUTE
Mutes the sound or restores the sound if it has been muted (adjusting the volume also restores the sound).
To mute the main zone sound volume, press MAIN RECEIVER first and then press this button. When in the sub zone, press the SUB ZONE CONTROL button first and then press this button.

17 LIGHT/RCU SETUP
Turns on/off the button lights. The white buttons (excluding DIMMER, SLEEP, and LIGHT) light.
The way the buttons light can be selected from four modes (page 91).
Used to set the remote control (page 89).
### Controls and displays

#### Display

1. **Signal indicators**
   - Light to indicate the currently selected input signal. **AUTO** lights when the receiver is set to select the input signal automatically (page 69).

2. **Program format indicators**
   - Light to indicate the channels to which digital signals are being input.
     - **L/R** – Left front/Right front channel
     - **C** – Center channel
     - **SL/SL** – Left surround/Right surround channel
     - **LFE** – Low frequency effects channel (the **( )** indicators light when an LFE signal is being input)
     - **XL/XR** – Two channels other than the ones above
     - **XC** – Either one channel other than the ones above, the mono surround channel or matrix encode flag

3. **Digital format indicators**
   - Light when a signal encoded in the corresponding format is detected.
   - **DIGITAL** – Lights with Dolby Digital decoding.
   - **DIGITAL PLUS** – Lights with Dolby Digital Plus decoding.
   - **TrueHD** – Lights with Dolby TrueHD decoding.
   - **DTS** – Lights with DTS decoding.
   - **DTS HD** – Lights with DTS-HD decoding.
   - **96/24** – Lights with DTS 96/24 decoding.
   - **DSD** – Lights during playback of DSD (Direct Stream Digital) signals.
   - **DSD PCM** – Light during DSD (Direct Stream Digital) to PCM conversion.
   - **PCM** – Lights during playback of PCM signals.
   - **MSTR** – Lights during playback of DTS-HD Master Audio signals.

4. **MULTI-ZONE**
   - Lights when the MULTI-ZONE feature is active (page 80).

5. **FULL BAND**
   - Lights when the Full Band Phase Control is switched on (page 69).

6. **Listening mode indicators**
   - **ALC** – Lights when the ALC (Auto level control) mode is selected (page 69).
   - **AUTO SURROUND** – Lights when the Auto Surround feature is switched on (page 69).
   - **STREAM DIRECT** – Lights when Direct/Pure Direct is selected (page 69).
   - **ADV.SURROUND** – Lights when one of the Advanced Surround modes has been selected (page 69).
   - **STANDARD** – Lights when one of the Standard Surround modes is switched on (page 69).

7. **(PHASE CONTROL)**
   - Lights when the Phase Control (page 68) or Full Band Phase Control (page 67) is switched on.

8. **ATT**
   - Lights when the input signal level is lowered to reduce distortion (page 79).

9. **PQLS**
   - Lights when the PQLS feature is active (page 77).

10. **Tuner indicators**
    - **TUNED** – Lights when a broadcast is being received.
    - **STEREO** – Lights when a stereo FM broadcast is being received in auto stereo mode.
    - **MONO** – Lights when the mono mode is set using MPX.

11. Lights when the sound is muted.

12. **SOUND**
    - Lights when the DIALOG E (Dialog Enhancement) or TONE (tone controls) features is selected (page 79).

13. **Master volume level**
    - Shows the overall volume level.
    - ‘—’ indicates the minimum level, and ‘+12dB’ indicates the maximum level.

14. **Input function indicators**
    - Light to indicate the input function you have selected.

15. **Scroll indicators**
    - Light when there are more selectable items when making the various settings.

16. **Speaker indicators**
    - Lights to indicate the current speaker terminals setting using OUT P. (page 83).

17. **SLEEP**
    - Lights when the receiver is in sleep mode (page 86).

18. **S.RTRV**
    - Lights when the Auto Sound Retriever function is active (page 79).

19. **Character display**
    - Displays various system information.

20. **Remote control mode indicator**
    - Lights to indicate the receiver’s remote control mode setting. (Not displayed when set to 1.) (page 108)
Front panel

1 STANDBY/ON
This switches between standby and on for this receiver.

2 INPUT SELECTOR dial
Use to select an input function.

3 Indicators
• MCACC PRO – Lights when EQ is set to ON in the AUDIO PARAMETER menu (page 79).
• FL OFF – Lights when ‘off’ (nothing displayed) is selected with the display’s dimmer adjustment (page 86).
• HDMI – Blinks when connecting an HDMI-equipped component; lights when the component is connected (page 84).
• iPod iPhone – Lights to indicate iPod/iPhone is connected (page 44).

4 Character display
See Display on page 55.

5 Remote sensor
Receives the signals from the remote control (page 11).

6 MASTER VOLUME dial

7 Front panel controls
To access the front panel controls, catch the sides of the door with your fingers and pull forward.

8 AUDIO PARAMETER
Use to access the Audio options (page 79).

9 TUNE/PRESET ENTER (TUNER/PRESET ENTER)
Use the arrow buttons when setting up your HOME MENU. Use TUNE ↑ / ↓ to find radio frequencies and use PRESET ← / → to find preset stations (page 60).

10 VIDEO PARAMETER
Use to access the Video options (page 81).

11 MULTI-ZONE controls
If you’ve made MULTI-ZONE connections (page 40) use these controls to control the sub zone from the main zone (page 85).

12 SPEAKERS
Use to change the speaker terminal (page 83).

13 iPod iPhone DIRECT CONTROL
Change the receiver’s input to the iPod and enable iPod operations on the iPod (page 57).

14 AUTO SURR/ALC/STREAM DIRECT
Switches between Auto Surround (page 64), Auto Level Control and Stream Direct mode (page 65).

15 STATUS
Displays the IP address and information such as selected/set functions and the input signal on the display (page 86).

16 TUNER controls
• BAND – Switches between AM and FM radio bands (page 60).
• TUNER EDIT – Use with TUNE ↑ / ↓, PRESET ← / → and ENTER to memorize and name stations for recall (page 60).

17 HOME MENU
Use to access the Home Menu (pages 54, 52, 75, 95 and 103).

18 RETURN
Press to confirm and exit the current menu screen.

19 PHONES jack
Use to connect headphones. When the headphones are connected, there is no sound output from the speakers.

20 MCACC SETUP MIC jack
Use to connect the supplied microphone (page 50).
21  iPod/iPhone terminals
Use to connect your Apple iPod/iPhone as an audio source (page 44), or connect a USB device for audio and photo playback (page 44).

22  HDMI 5 INPUT terminal
Use for connection to a compatible HDMI device (Video camera, etc.) (page 45).
Connecting your equipment

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Connecting your equipment

This receiver provides you with many connection possibilities, but it doesn’t have to be difficult. This chapter explains the kinds of components you can connect to make up your home theater system.

**CAUTION**
- Before making or changing the connections, switch off the power and disconnect the power cord from the power outlet. Plugging in should be the final step.
- When making connections, also keep the power cords of the devices being connected unplugged from the power outlets.
- Depending on the device being connected (CD, DVD or BD player, etc.), the methods of connection and terminal names may differ from the explanations in this manual. Also refer to the operating instructions of the respective devices.

**Important**
- Illustration shows the SC-LX88, however connections for the SC-LX78 are the same except where noted.

Rear panel

SC-LX88

<table>
<thead>
<tr>
<th>Input function</th>
<th>Input Terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDMI 1</td>
<td>BD</td>
</tr>
<tr>
<td>HDMI 2</td>
<td>BD</td>
</tr>
<tr>
<td>HDMI 3</td>
<td>BD</td>
</tr>
<tr>
<td>HDMI 4</td>
<td>BD</td>
</tr>
<tr>
<td>HDMI 5 (front panel)</td>
<td>BD</td>
</tr>
<tr>
<td>HDMI 6</td>
<td>BD</td>
</tr>
<tr>
<td>HDMI 7/MHL</td>
<td>BD</td>
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<tr>
<td>TV</td>
<td>BD</td>
</tr>
<tr>
<td>CD</td>
<td>BD</td>
</tr>
<tr>
<td>SAT/CBL</td>
<td>BD</td>
</tr>
<tr>
<td>SAT/CBL</td>
<td>BD</td>
</tr>
<tr>
<td>DVR/BDR</td>
<td>BD</td>
</tr>
<tr>
<td>DVR/BDR</td>
<td>BD</td>
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<tr>
<td>COAX-1</td>
<td>BD</td>
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<tr>
<td>COAX-2</td>
<td>BD</td>
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<tr>
<td>OPT-1</td>
<td>BD</td>
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<td>OPT-2</td>
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<td>OPT-3</td>
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<td>OPT-4</td>
<td>BD</td>
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<tr>
<td>OPT-5</td>
<td>BD</td>
</tr>
<tr>
<td>OPT-6</td>
<td>BD</td>
</tr>
<tr>
<td>ANALOG-1</td>
<td>BD</td>
</tr>
</tbody>
</table>

**Notes**
- The RS-232C terminal is exclusively for the installer.
- The input functions below are assigned by default to the receiver’s different input terminals. Refer to The Input Setup menu on page 52 to change the assignments if other connections are used.
Determining the speakers’ application

This unit is equipped with speaker terminals for 11 channels, allowing users to select a variety of speaker layouts/usage patterns according to their tastes. The terminals to which the speakers should be connected differ according to the speaker layout/usage pattern. Select one speaker layout/usage pattern before connecting the speakers. For instructions on connections, see Installing your speaker system on page 26.

However, the 5.2 +ZONE 2+ZONE 3 and Multi-ZONE Music settings can be used separately according to the situation. Normally set this to 5.2 +ZONE 2+ZONE 3 and use this for multi-zone/multi-source playback, and when using the system for home parties for example, set this to Multi-ZONE Music to associate all zones with the main zone.

- Be sure to connect speakers to the front left and right channels (L and R).
- It is also possible to only connect one of the surround back speakers (SB) or neither.
- If you have two subwoofers, the second subwoofer can be connected to the SUBWOOFER 2 terminal. Connecting two subwoofers increases the bass sound to achieve more powerful sound reproduction.

**Important**
- The Speaker System setting must be made if you use any of the connections shown below other than [A] (see Speaker system setting on page 103).
- The speakers from which sound is output can be switched according to the speaker layout/usage pattern (sound is not necessarily output from all connected speakers). Use the OUT P. button to switch the speakers from which sound is output. For details, see Switching the speaker terminals on page 83.

[A] 9.2 channel surround system (Top middle/Forward wide) connection

*Default setting
- Speaker System setting: 7.2.2ch TMD/FW

A 9.2 ch surround system connects the left and right front speakers (LR), the center speaker (C), the left and right top middle speakers (TMDL/TMDR), the left and right front wide speakers (FWL/FWR), the left and right surround back speakers (SBL/SBR), and the subwoofers (SW 1/SW 2). It is not possible to produce sound simultaneously from the top middle speakers and the front wide speakers. This surround system produces a more true-to-life sound from above. The speakers from which sound is output can be switched using the OUT P. button. For details, see Switching the speaker terminals on page 83.

[B] 9.2 channel surround system (Top middle/Forward height) connection

- Speaker System setting: 7.2.2ch TMD/FH

A 9.2 ch surround system connects the left and right front speakers (LR), the center speaker (C), the left and right top middle speakers (TMDL/TMDR), the left and right front height speakers (FHL/FHR), the left and right surround speakers (SL/SR), the left and right surround back speakers (SBL/SBR), and the subwoofers (SW 1/SW 2). It is not possible to produce sound simultaneously from the top middle speakers and the front height speakers. This surround system produces a more true-to-life sound from above. The speakers from which sound is output can be switched using the OUT P. button. For details, see Switching the speaker terminals on page 83.

[C] 9.2 channel surround system (Top forward/Top backward) connection

- Speaker System setting: 5.2.4ch

A 9.2 ch surround system connects the left and right front speakers (LR), the center speaker (C), the left and right top forward speakers (TFWL/TFWR), the left and right top backward speakers (TBWL/TBWR), the left and right surround speakers (SL/SR), and the subwoofers (SW 1/SW 2). Instead of the top forward speakers and top backward speakers, you can connect top middle speakers. You can use Speaker Setting to set which speakers are used (page 104). This surround system produces a more true-to-life sound from above.
[D] 7.2 channel surround system & Speaker B connection
- Speaker System setting: 7.2ch + Speaker B

With these connections you can simultaneously enjoy 7.2-channel surround sound in the main zone with stereo playback of the same sound on the B speakers. The same connections also allow for 9.2-channel surround sound in the main zone when not using the B speakers. The speakers from which sound is output can be switched using the OUT P. button. For details, see Switching the speaker terminals on page 83.

[E] 7.2 channel surround system & Front Bi-amping connection (High quality surround)
- Speaker System setting: 7.2ch + Front Bi-Amp

Bi-amping connection of the front speakers for high sound quality with 7.2-channel surround sound.

[F] 7.2 channel surround system & HDZONE connection (Multi Zone)
- Speaker System setting: 7.2ch + HDZONE

With these connections you can simultaneously enjoy 7.2-channel surround sound in the main zone with stereo playback on another component in HDZONE. (The selection of input devices is limited.) This speaker layout/usage pattern provides 7.2-channel playback using the surround back channels in the main zone.

[G] 5.2 channel surround system & Front Bi-amping connection (High quality surround) & HDZONE connection (Multi Zone)
- Speaker System setting: 5.2 Bi-Amp+HDZONE

With these connections you can simultaneously enjoy Bi-amping connection of the front speakers for high sound quality with 5.2-channel surround sound in the main zone with stereo playback on another component in HDZONE. (The selection of input devices is limited.)
[H-1] 5.2 channel surround system & ZONE 2/ZONE 3 connection (Multi Zone)
[H-2] 5.2 channel surround system & ZONE 2/HDZONE connection (Multi Zone)
[H-3] Multi-ZONE Music connection

- [H-1] Speaker System setting: 5.2 +ZONE 2+ZONE 3
- [H-2] Speaker System setting: 5.2 +ZONE 2+HDZONE
- [H-3] Speaker System setting: Multi-ZONE Music

With these connections you can simultaneously enjoy 5.2-channel surround sound in the main zone with stereo playback on another component in ZONE 2, ZONE 3 and HDZONE. (The selection of input devices is limited.) However, the 5.2 +ZONE 2+ZONE 3, 5.2 +ZONE 2+HDZONE and Multi-ZONE Music settings can be used separately according to the situation. Normally set this to 5.2 +ZONE 2+ZONE 3 or 5.2 +ZONE 2+HDZONE and use this for multi-zone/multi-source playback, and when using the system for home parties for example, set this to Multi-ZONE Music to associate all zones with the main zone.

[I] 5.2 channel surround system & Speaker B Bi-amping connection

- Speaker System setting: 5.2ch + SP-B Bi-Amp

With these connections you can simultaneously enjoy 5.2-channel surround sound in the main zone with stereo playback of the same sound on the B speakers. The B speakers can be bi-amped to achieve high quality sound. The speakers from which sound is output can be switched using the OUT P. button. For details, see Switching the speaker terminals on page 83.

[J] 5.2 channel surround system & Front and Surround Bi-amping connection (High quality surround)

- Speaker System setting: 5.2ch F+Surr Bi-Amp

Bi-amping connection of the front and surround speakers for high sound quality with 5.2-channel surround sound.

[K] 5.2 channel surround system & Front and Center Bi-amping connection (High quality surround)

- Speaker System setting: 5.2ch F+C Bi-Amp

Bi-amping connection of the front and center speakers for high sound quality with 5.2-channel surround sound.
Connecting your equipment

[5.2 channel surround system & Center and Surround Bi-amping connection (High quality surround)]

- **Speaker System setting:** 5.2ch C+Surr Bi-Amp

Bi-amping connection of the center and surround speakers for high sound quality with 5.2-channel surround sound.

**Other speaker connections**

- Your favorite speaker connections can be selected even if you have fewer than 5.2 speakers (except front left/right speakers).
- When not connecting a subwoofer, connect speakers with low frequency reproduction capabilities to the front channel. (The subwoofer’s low frequency component is played from the front speakers, so the speakers could be damaged.)
- After connecting, be sure to conduct the Full Auto MCACC (speaker environment setting) procedure. See [Automatically conducting optimum sound tuning (Full Auto MCACC)] on page 50.

**Placing the speakers**

Refer to the chart below for placement of the speakers you intend to connect.

**Listener speaker placement guidelines**

Listener speakers, such as Left, Right, Center, Left Surround, and Right Surround, are placed at ear level relative to the listener position.

- Place the surround speakers at 120° from the center. If you, (1) use the surround back speaker, and, (2) don’t use the front height speakers / front wide speakers, we recommend placing the surround speaker right beside you.
- If you intend to connect only one surround back speaker, place it directly behind you.
- Place the left and right front height speakers at least one meter directly above the left and right front speakers.
**Top speaker placement guidelines**

Top speakers, such as Top Forward (TFwL, TFwR), Top Middle (TMdL, TMdR) or Top Backward (TBwL, TBwR), are placed above the listener position on the ceiling.

*Layout as seen from above*

- All top speaker pairs should preferably be mounted along a vertical line that is a ±30º horizontal from the center-front reference. However, these speakers may be placed as far as the side walls and anywhere between the side walls and the middle of the room, if needed.
- We also recommend that the top forward speakers and top backward speakers be installed at a symmetrical distance from the front and rear of right above, respectively.

*Layout as seen from the side*

- The height of the Top Forward, Top Middle and Top Backward speakers mounted on the ceiling should preferably be no more than three times the height and no less than two times the height of the front speakers at listener height.
- The Top Forward, Top Middle and Top Backward speakers should be directed straight down, rather than directed at a central listener position.
- We recommend that the top middle speakers be installed slightly forward from right above.

---

**Some tips for improving sound quality**

Where you put your speakers in the room has a big effect on the quality of the sound. The following guidelines should help you to get the best sound from your system.

- The subwoofer can be placed on the floor. Ideally, the other speakers should be at about ear-level when you’re listening to them. Putting the speakers on the floor (except the subwoofer), or mounting them very high on a wall is not recommended.
- For the best stereo effect, place the front speakers 2 m to 3 m apart, at equal distance from the TV.
- If you’re going to place speakers around your CRT TV, use shielded speakers or place the speakers at a sufficient distance from your CRT TV.
- If you’re using a center speaker, place the front speakers at a wider angle. If not, place them at a narrower angle.
- Place the center speaker above or below the TV so that the sound of the center channel is localized at the TV screen. Also, make sure the center speaker does not cross the line formed by the leading edge of the front left and right speakers.
- It is best to angle the speakers towards the listening position. The angle depends on the size of the room. Use less of an angle for bigger rooms.
- Surround and surround back speakers should be positioned 60 cm to 90 cm higher than your ears and tilted slightly downward. Make sure the speakers don’t face each other. For DVD-Audio, the speakers should be more directly behind the listener than for home theater playback.
- Try not to place the surround speakers farther away from the listening position than the front and center speakers. Doing so can weaken the surround sound effect.
Connecting the speakers

Each speaker connection on the receiver comprises a positive (+) and negative (−) terminal. Make sure to match these up with the terminals on the speakers themselves. This unit supports speakers with a nominal impedance of 4 Ω to 16 Ω.

⚠️ CAUTION
- These speaker terminals carry HAZARDOUS LIVE voltage. To prevent the risk of electric shock when connecting or disconnecting the speaker cables, disconnect the power cord before touching any uninsulated parts.
- Make sure that all the bare speaker wire is twisted together and inserted fully into the speaker terminal. If any of the bare speaker wire touches the back panel it may cause the power to cut off as a safety measure.

Bare wire connections

⚠️ CAUTION
Make sure that all speakers are securely installed. This not only improves sound quality, but also reduces the risk of damage or injury resulting from speakers being knocked over or falling in the event of external shocks such as earthquakes.

1. Twist exposed wire strands together.
2. Loosen terminal and insert exposed wire.
3. Tighten terminal.

Notes
- Please refer to the manual that came with your speakers for details on how to connect the other end of the speaker cables to your speakers.
- Use an RCA cable to connect the subwoofer. It is not possible to connect using speaker cables.
- If you have two subwoofers, the second subwoofer can be connected to the SUBWOOFER 2 terminal. Connecting two subwoofers increases the bass sound to achieve more powerful sound reproduction.

Bi-amping your speakers

Bi-amping is when you connect the high frequency driver and low frequency driver of your speakers to different amplifiers for better crossover performance. Your speakers must be bi-ampable to do this (having separate terminals for high and low) and the sound improvement will depend on the kind of speakers you’re using.

![Bi-amping diagram]

CAUTION
- Most speakers with both High and Low terminals have two metal plates that connect the High to the Low terminals. These must be removed when you are bi-amping the speakers or you could severely damage the amplifier. See your speaker manual for more information.
- If your speakers have a removable crossover network, make sure you do not remove it for bi-amping. Doing so may damage your speakers.
Bi-wiring your speakers

Your speakers can also be bi-wired if they support bi-amping.
- With these connections, the Speaker System setting makes no difference.

⚠️ CAUTION
- Don’t connect different speakers from the same terminal in this way.
- When bi-wiring as well, heed the cautions for bi-amping shown above.
- To bi-wire a speaker, connect two speaker cords to the speaker terminal on the receiver.

Installing your speaker system

At the very least, front left and right speakers only are necessary. Note that your main surround speakers should always be connected as a pair, but you can connect just one surround back speaker if you like (it must be connected to the left surround back terminal).

[A] 9.2 channel surround system (Top middle/Front wide) connection
- If necessary, select ‘7.2.2ch TMd/FW’ from the Speaker System menu.
  See Speaker system setting on page 103 to do this.
- When only connecting one surround back speaker, connect it to the SURROUND BACK L (Single) terminals.
[B] 9.2 channel surround system (Top middle/Front height) connection
- Select '7.2.2ch TMd/FH' from the Speaker System menu.
  See Speaker system setting on page 103 to do this.
- When only connecting one surround back speaker, connect it to the SURROUND BACK L (Single) terminals.

![Diagram of 9.2 channel surround system (Top middle/Front height) connection]

[C] 9.2 channel surround system (Top forward/Top backward) connection
- Select '5.2.4ch' from the Speaker System menu.
  See Speaker system setting on page 103 to do this.
- When the top forward speakers and top backward speakers are used, there is no sound from the top middle speakers. When the top middle speakers are used, there is no sound from the top forward speakers and top backward speakers. You can use Speaker Setting to set which speakers are used (page 104).
[D] 7.2 channel surround system & Speaker B connection

- Select '7.2ch + Speaker B' from the Speaker System menu.

See Speaker system setting on page 103 to do this.

- When only connecting one surround back speaker, connect it to the SURROUND BACK L (Single) terminals.

[E] 7.2 channel surround system & Front Bi-amping connection (High quality surround)

- Select '7.2ch + Front Bi-Amp' from the Speaker System menu.

See Speaker system setting on page 103 to do this.

- When only connecting one surround back speaker, connect it to the SURROUND BACK L (Single) terminals.
[F] 7.2 channel surround system & HDZONE connection (Multi Zone)

- Select '7.2ch + HDZONE' from the Speaker System menu.
- See Speaker system setting on page 103 to do this.
- When only connecting one surround back speaker, connect it to the SURROUND BACK L (Single) terminals.

[G] 5.2 channel surround system & Front Bi-amping connection (High quality surround) & HDZONE connection (Multi Zone)

- Select '5.2 Bi-Amp+HDZONE' from the Speaker System menu.
- See Speaker system setting on page 103 to do this.
[H-1] 5.2 channel surround system & ZONE 2/ZONE 3 connection (Multi Zone)
[H-2] 5.2 channel surround system & ZONE 2/HDZONE connection (Multi Zone)
[H-3] Multi-ZONE Music connection

See Speaker system setting on page 103 to do this.

- [H-1] Speaker System setting: 5.2 +ZONE 2+ZONE 3
- [H-2] Speaker System setting: 5.2 +ZONE 2+HDZONE
- [H-3] Speaker System setting: Multi-ZONE Music

[I] 5.2 channel surround system & Speaker B Bi-amping connection

Select 5.2ch + SP-B Bi-Amp from the Speaker System menu.

See Speaker system setting on page 103 to do this.
[J] 5.2 channel surround system & Front and Surround Bi-amping connection
(High quality surround)

- Select '5.2ch F+Surr Bi-Amp' from the Speaker System menu.
  See Speaker system setting on page 103 to do this.

![Diagram of 5.2 channel surround system & Front and Surround Bi-amping connection]

[K] 5.2 channel surround system & Front and Center Bi-amping connection
(High quality surround)

- Select '5.2ch F+C Bi-Amp' from the Speaker System menu.
  See Speaker system setting on page 103 to do this.

![Diagram of 5.2 channel surround system & Front and Center Bi-amping connection]
5.2 channel surround system & Center and Surround Bi-amping connection (High quality surround)

- Select '5.2ch C+Surr Bi-Amp' from the Speaker System menu. See Speaker system setting on page 103 to do this.

### About the audio connection

<table>
<thead>
<tr>
<th>Types of cables and terminals</th>
<th>Transferable audio signals</th>
</tr>
</thead>
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<tr>
<td>HDMI</td>
<td>HD audio</td>
</tr>
<tr>
<td>Digital (Coaxial)</td>
<td>Conventional digital audio</td>
</tr>
<tr>
<td>Digital (Optical)</td>
<td>Conventional digital audio</td>
</tr>
<tr>
<td>RCA (Analog) (White/Red)</td>
<td>Conventional analog audio</td>
</tr>
</tbody>
</table>

- With an HDMI cable, video and audio signals can be transferred in high quality over a single cable.
- For HD audio, see About HDMI on page 33.
About the video converter

The video converter ensures that all video sources are output through the HDMI OUT 1 and HDMI OUT 2 terminals. If the TV is only connected to the receiver’s composite VIDEO MONITOR OUT jacks, all the other video devices must be connected through composite connections. If several video components are assigned to the same input function (see The Input Setup menu on page 52), the converter gives priority to HDMI, component, then composite (in that order).

Notes

- With factory default settings, video from the video cable or component cable will not be output from the HDMI terminal. To output video, you must switch video input to the device connected with the video cable or component cable and set V.CONV to ON (page 81).
- The only exception is HDMI: since this resolution cannot be downsampled, you must connect your monitor/TV to the receiver’s HDMI output when connecting this video source.
- If the video signal does not appear on your TV, try adjusting the resolution settings on your component or display. Note that some components (such as video game units) have resolutions that may not be converted. In this case, try switching Digital Video Conversion (in Setting the Video options on page 81) OFF.
- The signal input resolutions that can be converted from the component video input for the HDMI output are 480i/576i, 480p/576p, 720p and 1080i. 1080p signals cannot be converted.

About HDMI

The HDMI connection transfers uncompressed digital video, as well as almost every kind of digital audio. This receiver incorporates High-Definition Multimedia Interface (HDMI™) technology. This receiver supports the functions described below through HDMI connections:

- Digital transfer of uncompressed video (contents protected by HDCP (1080p/24, 1080p/60, etc.))
- 3D signal transfer
- Deep Color signal transfer
- x.v.Color signal transfer
- ARC (Audio Return Channel)
- 4K signal transfer
  — This may not operate properly, depending on the connected equipment.
  — 4K 24p, 4K 25p, 4K 30p, 4K 50p and 4K 60p signals are supported.
- Input of multi-channel linear PCM digital audio signals (192 kHz or less) for up to 8 channels
- Input of the following digital audio formats:
  — Dolby Digital, Dolby Digital Plus, DTS, High bitrate audio (Dolby TrueHD, DTS-HD Master Audio, DTS-HD High Resolution Audio), CD, SACD (DSD signal)
- Synchronized operation with components using the Control with HDMI function (see Control with HDMI function on page 74).

Notes

- An HDMI connection can only be made with DVI-equipped components compatible with both DVI and High Bandwidth Digital Content Protection (HDCP). If you choose to connect to a DVI connector, you will need a separate adaptor (DVI to HDMI) to do so. A DVI connection, however, does not support audio signals. Consult your local audio dealer for more information.
- If you connect a component that is not compatible with HDCP, an HDCP ERROR message is displayed on the front panel display. Some components that are compatible with HDCP still cause this message to be displayed, but so long as there is no problem with displaying video this is not a malfunction.
- Depending on the component you have connected, using a DVI connection may result in unreliable signal transfers.
- This receiver supports SACD, Dolby Digital Plus, Dolby TrueHD and DTS-HD Master Audio. To take advantage of these formats, however, make sure that the component connected to this receiver also supports the corresponding format.
- Use a High Speed HDMI™ Cable. If an HDMI cable other than a High Speed HDMI™ Cable is used, it may not work properly.
- When an HDMI cable with a built-in equalizer is connected, it may not operate properly.
- Signal transfer is only possible when connected to a compatible component.
- HDMI format digital audio transmissions require a longer time to be recognized. Due to this, interruption in the audio may occur when switching between audio formats or beginning playback.
- Turning on/off the device connected to this unit’s HDMI OUT terminal during playback, or disconnecting/connecting the HDMI cable during playback, may cause noise or interrupted audio.

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Connecting your TV and playback components

Connecting using HDMI

If you have an HDMI or DVI (with HDCP) equipped component (Blu-ray Disc player (BD), etc.), you can connect it to this receiver using a commercially available HDMI cable.

If the TV and playback components support the Control with HDMI feature, the convenient Control with HDMI functions can be used (see Control with HDMI function on page 74).

- When connecting to an HDMI/DVI-compatible monitor using the HDMI OUT 2 terminal, switch the HDMI output setting to OUT 2 or OUT 1+2. See Switching the HDMI output on page 84.
- In the same way, when an HDMI/DVI-compatible monitor is connected to the HDMI OUT 3 terminal, switch the HDMI OUT 3 setting to ON (page 85). In this case, MAIN/HDZONE at ZONE Setup must be set to MAIN (page 100).
- For input components, connections other than HDMI connections are also possible (see Connecting your DVD player with no HDMI output on page 35).
- If you want to listen to the sound of the TV over the receiver, connect the receiver and TV with audio cables.
  - When the TV and receiver are connected by HDMI connections, if the TV supports the HDMI ARC (Audio Return Channel) function, the sound of the TV can be input to the receiver via the HDMI OUT terminal, so there is no need to connect an audio cable. In this case, set ARC at HDMI Setup to ON (see HDMI Setup on page 75). After setting the ARC, some time may be required for the connected device to be recognized and the sound to be produced.
  - If you use a coaxial digital audio cable or RCA (analog) audio cable, you’ll need to tell the receiver which digital or analog audio input you connected the TV to (see The Input Setup menu on page 52).
  - Please refer to the TV’s operation manual for directions on connections and setup for the TV.
- If the TV to be connected using HDMI supports 4K/60p, you can switch the 4K/60p signal output setting in accordance with TV performance. When the 4K/60p setting is changed to 4:4:4, the video image may not be output normally unless the HDMI cable supports 4K/60p 4:4:4 24 bit (18 Gbps transmission). In such a case, select 4:2:0 (page 84).
- You cannot input 4K/60p 4:4:4 24 bit video from HDMI IN 3 to the IN 7 terminal. Use the BD IN, HDMI IN 1 or HDMI IN 2 terminal.
- The HDMI OUT 3 terminal outputs 4K/60p 4:4:4 24 bit video when MAIN/HDZONE is set to MAIN. When it is set to HDZONE, the 4K/60p 4:4:4 24 bit video is not output.
Connecting your DVD player with no HDMI output

This diagram shows connections of a TV (with HDMI input) and DVD player (or other playback component with no HDMI output) to the receiver.

With factory default settings, video from the video cable or component cable will not be output from the HDMI terminal. To output video, you must switch video input to the device connected with the video cable or component cable and set V.CONV to ON (page 34).

If you want to listen to the sound of the TV over the receiver, connect the receiver and TV with audio cables (page 34).

When the TV and receiver are connected by HDMI connections, if the TV supports the HDMI ARC (Audio Return Channel) function, the sound of the TV can be input to the receiver via the HDMI OUT 1 terminal, so there is no need to connect an audio cable. In this case, set ARC at HDMI Setup to ON (see HDMI Setup on page 70).

If you use an optical digital audio cable or RCA (analog) audio cable, you'll need to tell the receiver which digital input you connected the player to (see The Input Setup menu on page 59).

If HDZONE is set to on, video images connected using a video cable or component cable are not output from the HDMI terminal. To output video images, turn HDZONE off (page 83).

Important

With these connections, the picture is not output to the TV even if the DVD player is connected with an HDMI cable. Connect the receiver and TV using the same type of video cable as used to connect the receiver and player.

Also, when the receiver and TV are connected by anything other than an HDMI cable, the OSD function allowing display of the receiver’s settings, operations, etc., on the TV’s screen cannot be used. In this case, watch the receiver’s front panel display while performing the various operations and making settings.

Connecting your TV with no HDMI input

This diagram shows connections of a TV (with no HDMI input) and DVD player (or other playback component) to the receiver.
In order to listening to HD audio with this receiver, connect an HDMI cable, and use analog video cable for video signal input. Depending on the player, it may not be possible to output video signals to both HDMI and other video output (composite, etc.) simultaneously, and it may be necessary to make video output settings. Please refer to the operating instructions supplied with your player for more information.

If you want to listen to the sound of the TV over the receiver, connect the receiver and TV with audio cables (page 34).

If you use an optical digital audio cable or RCA (analog) audio cable, you’ll need to tell the receiver which digital input you connected the player to (see The Input Setup menu on page 52).

Connecting an HDD/DVD recorder, BD recorder and other video sources

This receiver has audio/video inputs suitable for connecting analog or digital video devices, including HDD/DVD recorders and BD recorders.

When you set up the receiver you’ll need to tell the receiver which input you connected the recorder to (see also The Input Setup menu on page 50).

In order to record, you must connect the analog audio cables (the digital connection is for playback only) (page 86).

If your HDD/DVD recorder, BD recorder, etc., is equipped with an HDMI output terminal, we recommend connecting it to the receiver’s HDMI DVR/BDR IN terminal. When doing so, also connect the receiver and TV by HDMI (see Connecting using HDMI on page 34).
Connecting a satellite/cable receiver or other set-top box

Satellite and cable receivers, and terrestrial digital TV tuners are all examples of so-called ‘set-top boxes’. When you set up the receiver you’ll need to tell the receiver which input you connected the set-top box to (see The Input Setup menu on page 52).

- With factory default settings, video from the video cable or component cable will not be output from the HDMI terminal. To output video, you must switch video input to the device connected with the video cable or component cable and set V.CONV to ON (page 81).
- If HDZONE is set to on, video images connected using a video cable or component cable are not output from the HDMI terminal. To output video images, turn HDZONE off (page 85).

- If your set-top box is equipped with an HDMI output terminal, we recommend connecting it to the receiver’s HDMI SAT/CBL IN terminal. When doing so, also connect the receiver and TV by HDMI (see Connecting using HDMI on page 34).

- Even if your set-top box is equipped with an HDMI output terminal, in some cases the sound is output from the digital audio output (optical or coaxial) and only the video is output from the HDMI output terminal. In this case, make the HDMI and digital audio connections as shown below.

- If you use a digital audio cable or RCA (analog) audio cable, you’ll need to tell the receiver which digital input you connected the set-top box to (see The Input Setup menu on page 52).

![Diagram of connecting a satellite/cable receiver or set-top box]
Connecting other audio components

This receiver has both digital and analog inputs, allowing you to connect audio components for playback. When you set up the receiver you’ll need to tell the receiver which input you connected the component to (see also The Input Setup menu on page 52).

- If your turntable has line-level outputs (i.e., it has a built-in phono pre-amp), connect it to the ANALOG IN 1 (CD) inputs instead.
- You can’t hear HDMI audio through this receiver’s digital out jack.

Connecting additional amplifiers

This receiver has more than enough power for any home use, but it’s possible to add additional amplifiers to every channel of your system using the pre-outs. Make the connections shown below to add amplifiers to power your speakers.

- If you’re not using a subwoofer, change the front speaker setting (see Speaker Setting on page 100) to LARGE.
- You can use the additional amplifier on the surround back channel pre-outs for a single speaker as well. In this case plug the amplifier into the left (SURROUND BACK L (Single)) terminal only.
- The sound from the surround back terminals will depend on how you have configured the Speaker system setting on page 103.
- If you have two subwoofers, the second subwoofer can be connected to the SUBWOOFER 2 terminal. Connecting two subwoofers increases the bass sound to achieve more powerful sound reproduction.
- To hear sound only from the pre-outs, switch the speaker terminals to SP: OFF (page 83) or simply disconnect any speakers that are connected directly to the receiver. It is also possible to hear sound only from the pre-outs by switching the AMP setting to OFF and setting the pre-amp mode to turn the power amplifiers for all channels off (see Setting the Audio options on page 79).
**Connecting the multichannel analog inputs**

*SC-LX88 only*

For your Blu-ray Disc player and DVD player may have 5.1, 6.1 or 7.1 channel analog outputs (depending on whether your player supports surround back channels). Make sure that the player is set to output multichannel analog audio.

- For instructions on playing the multichannel analog inputs, see *Selecting the multichannel analog inputs* on page 56.
- If there is a single surround back output, connect it to the SURR BACK L jack on this receiver.
- To use a 5.1-channel speaker set, use the surround speakers for the surround channel, not the surround back channel.
- The sound from the surround back terminals will depend on how you have configured the Speaker system setting on page 103.
- The audio signal input to MULTI CH IN cannot be downmixed.
- To input video signals using an HDMI cable, MULTI CH IN must be selected at Input under Input Setup and the connected HDMI terminal must be assigned to HDMI Input. For details, see *The Input Setup menu* on page 52.
- To input video signals using a composite video cable, Multi Ch In Setup must be selected at Other Setup and the connected video input terminal must be assigned to Video Input. For details, see *Multi Channel Input Setup* on page 110.

**Connecting AM/FM antennas**

Connect the AM loop antenna and the FM wire antenna as shown below. To improve reception and sound quality, connect external antennas (see *Connecting external antennas* on page 40).

1. Pull off the protective shields of both AM antenna wires.
2. Push open the tabs, then insert one wire fully into each terminal, then release the tabs to secure the AM antenna wires.
3. Fix the AM loop antenna to the attached stand.
   - To fix the stand to the antenna, bend in the direction indicated by the arrow (fig. a) then clip the loop onto the stand (fig. b).
   - If you plan to mount the AM antenna to a wall or other surface, secure the stand with screws (fig. c) before clipping the loop to the stand. Make sure the reception is clear.
4. Place the AM antenna on a flat surface and in a direction giving the best reception.
5. Connect the FM wire antenna into the FM antenna socket.
   - For best results, extend the FM antenna fully and fix to a wall or door frame. Don’t drape loosely or leave coiled up.
Connecting your equipment

Connecting external antennas
To improve FM reception, connect an external FM antenna to **FM UNBAL 75 Ω**.

To improve AM reception, connect a 5 m to 6 m length of vinyl-coated wire to the **AM LOOP** terminals without disconnecting the supplied AM loop antenna.

Indoor antenna (vinyl-coated wire) 5 m to 6 m

Outdoor antenna

75 Ω coaxial cable

**Important**
- The settings must be changed at ZONE Setup in order to use the multi-zone function (page 109).
- **MAIN/HDZONE at ZONE Setup** must be set to **HDZONE** in order to use the **HDZONE** function (page 109).

MULTI-ZONE setup
This receiver can power up to four independent systems in separate rooms after you have made the proper MULTI-ZONE connections.

Different sources can be playing in four zones at the same time or, depending on your needs, the same source can also be used. The main and sub zones have independent power (the main zone power can be off while one (or both) of the sub zones is on) and the sub zones can be controlled by the remote or front panel controls.

Making MULTI-ZONE connections
It is possible to make these connections if you have a separate subwoofer and speakers for your primary (ZONE 2) sub zone, and a separate amplifier (and speakers) for your secondary (ZONE 3) sub zone. You will also need a separate amplifier if you are not using the speaker terminals for your primary sub zone (For detail, see MULTI-ZONE setup using speaker terminals (ZONE 2) on page 41).

Also, if the separate receiver in the sub zone has an HDMI input terminal, this unit’s HDMI input can be played as HDZONE.

Here are three primary sub zone setups possible with this system. Choose whichever works best for you.

MULTI-ZONE listening options
The following table shows the signals that can be output to **ZONE 2**, **ZONE 3** and **HDZONE**:

<table>
<thead>
<tr>
<th>Sub Zone</th>
<th>Input functions available</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ZONE 2</strong></td>
<td>SAT/CBL, DVR, BD, INTERNET RADIO, MEDIA SERVER, FAVORITES, iPod/USB, USB-DAC, TV, CD, TUNER, ADAPTER PORT (Outputs analog audio)</td>
</tr>
<tr>
<td><strong>ZONE 3</strong></td>
<td>SAT/CBL, DVR, BD, INTERNET RADIO, MEDIA SERVER, FAVORITES, iPod/USB, USB-DAC (SC-LX88 only), TV, CD, TUNER, ADAPTER PORT (Outputs analog audio)</td>
</tr>
<tr>
<td><strong>HDZONE</strong> (HDMI)</td>
<td>BD, DVD, SAT/CBL, DVR, BD, INTERNET RADIO, MEDIA SERVER, FAVORITES, iPod/USB, USB-DAC (SC-LX88 only), HDMI 1, HDMI 2, HDMI 3, HDMI 4, HDMI 5, HDMI 6, HDMI 7/MHL (Outputs HDMI audio and video signals)</td>
</tr>
</tbody>
</table>

**Important**
- **a** It is not possible to down-convert the audio input signal from the HDMI input terminals or digital input terminals (OPTICAL and COAXIAL) and output them to ZONE 2.
- **b** It is not possible to down-convert the audio input signal from the HDMI input terminals or digital input terminals (OPTICAL and COAXIAL) and output them to ZONE 3.
- The inputs that can be switched differ according to how terminals HDMI IN 1 to IN 7 are assigned. Upon shipment from the factory, the input terminals are assigned to DVD, SAT/CBL, DVR, BD, HDMI 4, HDMI 5, HDMI 6 and HDMI 7/MHL, in order starting from terminal HDMI IN 1.
- The video/audio signals of the RCA analog input terminals, the digital input terminals (OPTICAL and COAXIAL) and the COMPONENT VIDEO input terminals cannot be up-converted and output to the HDZONE.
- When any of the HDMI 3 to HDMI 7/MHL inputs is selected in the main zone, it is only possible to select the same input as in the main zone for the HDZONE. (Inputs other than the ones listed here can be selected.)
- The same limitations apply when one of the above inputs is selected for the HDZONE.
- SC-LX88 only: If you wish to select USB-DAC for HDZONE, set Speaker System to “7.2ch + HDZONE, 5.2 Bi-Amp + HDZONE, or 5.2 + ZONE 2 + HDZONE” (page 103).
Notes

- When any of the INTERNET RADIO, MEDIA SERVER, FAVORITES, iPod/USB or ADAPTER PORT inputs is selected in the main zone, it is only possible to select the same input as in the main zone for the sub zone. (Inputs other than the ones listed here can be selected.)
- SC-LX88 only: Any of INTERNET RADIO, MEDIA SERVER, FAVORITES, iPod/USB or ADAPTER PORT and USB-DAC cannot be selected for each sub zone at the same time.
- SC-LX88 only: When AirPlay or DMR, and USB-DAC are input, you cannot select for each sub zone at the same time.

Basic MULTI-ZONE setup (ZONE 2)

1. Connect a separate amplifier to the AUDIO ZONE 2 OUT jacks on this receiver.
   You should have a pair of speakers attached to the sub zone amplifier as shown in the following illustration.

2. Connect a subwoofer to the SUBWOOFER ZONE 2 OUT jack on this receiver.
   When a subwoofer is connected, we recommend setting HPF (High Pass Filter) at ZONE Setup to ON (page 109).

MULTI-ZONE setup using speaker terminals (ZONE 2)

You must select 5.2 +ZONE 2+ZONE 3 or 5.2 +ZONE 2+HDZONE in Speaker system setting (page 103) to use this setup.

- Connect a pair of speakers to the subwoofer and subwoofer's left and right speaker terminals.
  When a subwoofer is connected, we recommend setting HPF (High Pass Filter) at ZONE Setup to ON (page 109).

Secondary MULTI-ZONE setup (ZONE 3)

- Connect a separate amplifier to the AUDIO ZONE 3 OUT jacks on this receiver.
  You should have a pair of speakers attached to the sub zone amplifier as shown in the following illustration.
Secondary MULTI-ZONE setup using speaker terminals (ZONE 3)

You must select 5.2 +ZONE 2+ZONE 3 in Speaker system setting on page 103 to use this setup.

- Connect a pair of speakers to the front wide speaker terminals.

![Diagram showing connections]

Multi-ZONE setup using HDMI terminal (HDZONE)

- Connect a separate receiver to this receiver’s HDMI OUT 3 terminal.

![Diagram showing connections]

Multi-zone connection using the HDMI terminal and speaker terminals (HDZONE)

- The settings must be changed at ZONE Setup in order to use the HDZONE function (page 109).
- To use the HDZONE functions, set Control or Control Mode in HDMI Setup to OFF. For details, see HDMI Setup on page 105.
- You must select 7.2ch + HDZONE, 5.2 Bi-Amp+HDZONE or 5.2 +ZONE 2+HDZONE in Speaker system setting (page 103) to use this setup.

1. Connect the speaker to the front wide speaker terminal or surround back speaker terminal. Which speaker terminal is connected defers depending on the Speaker System (page 103) setting. For details, see Installing your speaker system on page 26.

   The following figure shows the connection of the surround back speaker terminal.

2. Connect a TV monitor to the HDMI OUT 3 (HDZONE) terminal on this receiver.
Connecting to the network through LAN interface

By connecting this receiver to the network via the LAN terminal, you can listen to Internet radio stations. To listen to Internet radio stations, you must sign a contract with an ISP (Internet Service Provider) beforehand. When connected in this way, you can play audio files stored on the components on the local network, including your computer.

LAN terminal specifications

- LAN terminal: Ethernet jack (10BASE-T/100BASE-TX)

Connect the LAN terminal on this receiver to the LAN terminal on your router (with or without the built-in DHCP server function) with a straight LAN cable (CAT 5 or higher). Turn on the DHCP server function of your router. In case your router does not have the built-in DHCP server function, it is necessary to set up the network manually. For details, see Network Setup menu on page 106.

Notes

- Refer to the operation manual of the equipment you have as the connected equipment and connection method may differ depending on your Internet environment.
- When using a broadband Internet connection, a contract with an Internet service provider is required. For more details, contact your nearest Internet service provider.

Connecting optional Bluetooth ADAPTER

When the Bluetooth ADAPTER (AS-BT100 or AS-BT200) is connected to this receiver, a product equipped with Bluetooth wireless technology (portable cell phone, digital music player, etc.) can be used to listen to music wirelessly.

- The Bluetooth wireless technology enabled device must support A2DP profiles.
- Pioneer does not guarantee proper connection and operation of this unit with all Bluetooth wireless technology enabled devices.

Important

- Do not move the receiver with the Bluetooth ADAPTER connected. Doing so could cause damage or faulty contact.
- Switch the receiver into standby and connect Bluetooth ADAPTER to the ADAPTER PORT.
- For instructions on playing the Bluetooth wireless technology device, see Pairing the Bluetooth ADAPTER and Bluetooth wireless technology device on page 61.
Connecting an iPod

This receiver has a dedicated iPod terminal that will allow you to control playback of audio content from your iPod using the controls of this receiver.

![Diagram of iPod connection]

USB cable included with the iPod

Tip

- An iPod/iPhone can be connected to the receiver. For details on supported models and versions of the respective products, see Playing an iPod on page 57.
- Switch the receiver into standby, and then use the iPod cable to connect your iPod to the iPod/iPhone terminal on the front panel of this receiver.
  - For the cable connection, also refer to the operating instructions for your iPod.
  - When connecting an iPhone to this unit, keep the iPhone at least 20 cm away from this unit. If the iPhone is kept closer to this unit and a telephone call is received by the iPhone, noise may be output from this device.
  - iPod recharging occurs whenever an iPod is connected to this unit. (Recharging is enabled only when the unit’s power is turned on.)
  - For instructions on playing the iPod, see Playing an iPod on page 57.

Connecting a USB device

It is possible to play audio and photo files by connecting USB devices to this receiver.

![Diagram of USB connection]

USB mass storage device

- Switch the receiver into standby then connect your USB device to the USB terminal on the front panel of this receiver.
  - This receiver does not support a USB hub.
  - For instructions on playing the USB device, see Playing a USB device on page 58.
Connecting an MHL-compatible device

An MHL-compatible mobile device can be connected to enjoy 3D/Full-HD videos, high quality multi-channel audio, and photos etc., with charge the battery on the receiver. Use the MHL cable to connect the device.

Switch the receiver into standby then use the MHL cable to connect your MHL enabled device to the MHL terminal on the rear panel of this receiver.

- To automatically switch to the MHL input when an MHL-compatible device is connected, see MHL Setup on page 107.
- The MHL-compatible device is recharged whenever it is connected to this unit. (Recharging is enabled only when the unit’s power is turned on.)
- For instructions on playing the MHL-compatible device, see Playing an MHL-compatible device on page 59.
- Do not place the MHL device on this unit which has the power turned on.

Connecting an HDMI-equipped component to the front panel input

Using a USB cable to connect to a computer

SC-LX88 only

By using a USB cable (sold separately) to connect this unit’s USB-DAC IN terminal to the USB port on a computer, this unit can be used as a D/A converter.

For details regarding the output of signals input to the USB-DAC IN terminal, see Playing music from a computer on page 59.

Important
- The exclusive driver must be installed on the computer in order to play high sound quality files of over 48 kHz/24 bits. The driver software is provided on the included CD-ROM.
- When installing the driver, this receiver and the computer must be connected as shown below. After connecting, turn this receiver’s power on and select the USB-DAC input for the main zone. Note that for Mac OS, there is no need to install the driver software.

Important
- This unit cannot be used to play audio files from a computer unless Media Player is installed on the connected computer.
Connecting to a wireless LAN

Wireless connection to the network is possible through a wireless LAN connection. Use the separately sold AS-WL300 for connection.

- Use only the furnished accessory connecting cable.
- Certain settings are required to use a wireless LAN converter (AS-WL300). For instructions on making these settings, see the operating instructions included with the wireless LAN converter (AS-WL300).

Connecting an IR receiver

If you keep your stereo components in a closed cabinet or shelving unit, or you wish to use the sub zone remote control in another zone, you can use an optional IR receiver (such as a Niles or Xantech unit) to control your system instead of the remote sensor on the front panel of this receiver.

- Remote operation may not be possible if direct light from a strong fluorescent lamp is shining on the IR receiver remote sensor window.
- Note that other manufacturers may not use the IR terminology. Refer to the manual that came with your component to check for IR compatibility.
- If using two remote controls (at the same time), the IR receiver’s remote sensor takes priority over the remote sensor on the front panel.

1. Connect the IR receiver sensor to the IR IN jack on the rear of this receiver.

2. Connect the IR IN jack of another component to the IR OUT jack on the rear of this receiver to link it to the IR receiver.

Please see the manual supplied with your IR receiver for the type of cable necessary for the connection.
Switching components on and off using the 12 volt trigger

You can connect components in your system (such as a screen or projector) to this receiver so that they switch on or off using 12 volt triggers when you select an input function. However, you must specify which input functions switch on the trigger using the The Input Setup menu on page 52. Note that this will only work with components that have a standby mode.

- Connect the 12 V TRIGGER jack of this receiver to the 12 V trigger of another component. Use a cable with a mono mini-plug on each end for the connection. After you’ve specified the input functions that will switch on the trigger, you’ll be able to switch the component on or off just by pressing the input function(s) you’ve set on page 52.

Note
- The 12V trigger can be associated not only with switching of the input function but also with switching of the HDMI OUT terminal. For details, see HDMI Setup on page 75.

Plugging in the receiver

Only plug in after you have connected all your components to this receiver, including the speakers.

CAUTION
- Handle the power cord by the plug part. Do not pull out the plug by tugging the cord, and never touch the power cord when your hands are wet, as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, or other object on the power cord or pinch the cord in any other way. Never make a knot in the cord or tie it with other cables. The power cords should be routed so that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electric shock. Check the power cord once in a while. If you find it damaged, ask your nearest Pioneer authorized independent service company for a replacement.
- Do not use any power cord other than the one supplied with this unit.
- Do not use the supplied power cord for any purpose other than that described below.
- The receiver should be disconnected by removing the mains plug from the wall socket when not in regular use, e.g., when on vacation.
- Make sure the blue STANDBY/ON light has gone out before unplugging.

1. Plug the supplied power cord into the AC IN socket on the back of the receiver.
2. Plug the other end into a power outlet.
# Basic Setup

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- About the Home Menu ....................................................................................... 54
How to use the built-in AVNavigator

The built-in AVNavigator is equipped with Wiring Navi, which allows you to perform connection of this receiver and initial settings in interactive mode. By simply following the screen prompts to connect and set the unit, highly accurate initial settings can be performed easily. Additionally, in order to use various functions easily, contents linked to the receiver can be used.

Operating Environment

- AVNavigator can be used in the following environments:
  - Windows PC: Microsoft® Windows® XP/Windows Vista®/Windows® 7/Windows® 8/Windows® 8.1
  - Mac: Mac OS X (10.7, 10.8 or 10.9)
  - iPad/iPhone/iPod touch: iOS 7
  - Android device: Android 4.0.4, 4.1.1, 4.1.2, 4.2, 4.2.2, 4.4.2
- AVNavigator uses an Internet browser. The following browsers are supported:
  - Windows PC: Internet Explorer® 8, 9, 10, 11
  - Mac/iPad/iPhone/iPod touch: Safari 6.0
  - Android device: Android browser
- Depending on the computer network setting or security setting, AVNavigator may not operate.

Using AVNavigator

Important
- Connect the LAN terminal to the network (page 43).

1. Press ◎ STANDBY/ON to switch on the receiver and your computer.
2. Launch AVNavigator.
   Operate AVNavigator by following the screen prompts of your computer, etc.
   - If using a Windows PC, complete the below steps to start up.
     ① Start up Internet Explorer on your PC (open any random Internet page).
     ② Press STATUS on the remote control and check the front panel display on the receiver (the IP address of the receiver will appear).
     (Example Text Display)
     192.168.0.124
     If 0.0.0.0 or 169.254.112.202 appears in the address, it indicates that the receiver is not connected to the network. Check to make sure that the receiver and router are properly connected.
     ③ Enter number in (2) above in the field in Internet Explorer shown below and then press the ENTER key.
(Example Input Format) 192.168.0.124

- With a Windows PC other than Windows XP, you can use the following method to launch AVNavigator.
  Launch Explorer and right-click <SC-LX88> or <SC-LX78> displayed in the ‘Network’ folder, then click ‘View device webpage’.

- On a Mac, launch Safari and click <SC-LX88> or <SC-LX78> displayed in ‘Bonjour’ on the Bookmarks bar.
  — If ‘Bonjour’ is not displayed, tick the ‘Include Bonjour in the Favorites bar’ check box on the ‘Advanced’ tab in the Safari ‘Preferences...’ menu.
When using an iPad/iPhone/iPod touch, from the App Store, download iControlAV5, which is a free application. After launching iControlAV5, follow the instructions on the screen. After that, on the Home screen, tap ‘AVNavigator’ or the icon.

On an iPad, you can operate AVNavigator for iPad. Download AVNavigator for iPad from the App Store. After launching AVNavigator for iPad, follow the instructions on the screen.

When using an Android device, from Google Play Store, download iControlAV5, which is a free application. After launching iControlAV5, follow the instructions on the screen. After that, on the Home screen, tap the icon.

iPad

- On an iPad, you can operate AVNavigator for iPad. Download AVNavigator for iPad from the App Store. After launching AVNavigator for iPad, follow the instructions on the screen.
- When using an Android device, from Google Play Store, download iControlAV5, which is a free application. After launching iControlAV5, follow the instructions on the screen. After that, on the Home screen, tap the icon.

3 Select and use the desired function.
AVNavigator includes the following functions:
- **Wiring Navi** – Guides you through connections and initial settings in dialog fashion. High precision initial settings can be made easily.
- **Interactive Operation Guide** – The receiver will be operated using the remote control on the screen and you can view function explanations or videos. Explanations of the functions that are operated using the remote control are also automatically displayed.
- **Network Setup** – Used to make network-related settings.

Automatically conducting optimum sound tuning (Full Auto MCACC)
The Full Auto MCACC Setup measures the acoustic characteristics of your listening area, taking into account ambient noise, speaker connection and speaker size, and tests for both channel delay and channel level. When Measurement Type is Expert, in addition to this, Standing Wave, EQ and Full Band Phase Control are measured. After you have set up the microphone provided with your system, the receiver uses the information from a series of test tones to optimize the speaker settings and equalization for your particular room.

**Important**
- Make sure the microphone and speakers are not moved during the Full Auto MCACC Setup.
- Using the Full Auto MCACC Setup will overwrite any existing settings for the MCACC preset you select.
- Before using the Full Auto MCACC Setup, the headphones should be disconnected.
- With factory default settings, the on-screen display will be output from all HDMI output terminals and displayed on any TV connected via HDMI cable. You can change where the screen is output in the MAIN/HDZONE (page 109) and HDMI output (page 84) settings.

**CAUTION**
- The test tones used in the Full Auto MCACC Setup are output at high volume.

1 Press STANDBY/ON to switch on the receiver and your TV.
Make sure that the TV’s video input is set to this receiver.
2 Connect the microphone to the MCACC SETUP MIC jack on the front panel.

Make sure there are no obstacles between the speakers and the microphone. If you have a tripod, use it to place the microphone so that it is about ear level at your normal listening position. If you do not have a tripod, use some other object to install the microphone. Install the microphone on a stable floor. Placing the microphone on any of the following surfaces may make accurate measurement impossible:
- Sofas or other soft surfaces.
- High places such as tabletops and sofa tops.

The Full Auto MCACC display appears once the microphone is connected.

If you leave the GUI screen for over five minutes, the screen saver will appear.

If you are planning on bi-amping your front speakers, or setting up a separate speaker system in another room, read through Speaker system setting on page 103 and make sure to connect your speakers as necessary before continuing to step 4.

3 Press MAIN RECEIVER to switch the remote control to the receiver operation mode.

4 Select the parameters you want to set.

If the speakers are connected using any setup other than 7.2.2ch Tmd/FW, be sure to set Speaker System before the Full Auto MCACC Setup. See Speaker system setting on page 103.

- Speaker System – Shows the current settings. When this is selected and ENTER is pressed, the speaker system selection screen appears. Select the proper speaker system, then press RETURN to return.
- EQ Type – When you select Expert for Measurement Type, set the correction method of the frequency characteristics of the viewing environment. Usually, set SYMMETRY. For details, see Automatic MCACC (Expert) on page 95.

- MCACC – The six MCACC presets are used for storing surround sound settings for different listening positions. Simply choose an unused preset for now (you can rename it later in Data Management on page 101).
- Measurement Type – When Basic is set, the minimum required measurement is performed in a short period of time. When Expert is set, accurate and precise measurement is performed so it will take some time.

5 Select ‘START’, then press ENTER.

6 Follow the instructions on-screen.

Make sure the microphone is connected, and if you’re using a subwoofer, make sure it is switched on and set to a comfortable volume level.

7 Wait for the test tones to finish, then confirm the speaker configuration in the GUI screen.

A progress report is displayed on-screen while the receiver outputs test tones to determine the speakers present in your setup. Try to be as quiet as possible while it’s doing this.

If no operations are performed for 10 seconds while the speaker configuration check screen is being displayed, the Full Auto MCACC Setup will resume automatically. In this case, you don’t need to select ‘OK’ and press ENTER in step 7.

- With error messages (such as Too much ambient noise! or Check microphone.), select RETRY after checking for ambient noise (see Problems when using the Auto MCACC Setup on page 50) and verifying the microphone connection. If there doesn’t seem to be a problem, you can simply select GO NEXT and continue.

The configuration shown on-screen should reflect the actual speakers you have.

- If you see an ERR message (or the speaker configuration displayed isn’t correct), there may be a problem with the speaker connection. If selecting RETRY doesn’t work, turn off the power and check the speaker connections. If there doesn’t seem to be a problem, you can simply use \( \downarrow \) \( \uparrow \) \( \rightarrow \) \( \leftarrow \) to change the setting and continue.
- If the speaker is not pointed to the microphone (listening position) or when using speakers that affect the phase (dipole speakers, reflective speakers, etc.), Reverse Phase may be displayed even if the speakers are properly connected.

If Reverse Phase is displayed, the speaker’s wiring (+ and –) may be inverted. Check the speaker connections.
- If the connections were wrong, turn off the power, disconnect the power cord, then reconnect properly.
- If the connections were right, select GO NEXT and continue.

8 Make sure ‘OK’ is selected, then press ENTER.

A progress report is displayed on-screen while the receiver outputs more test tones to determine the optimum receiver settings.

Again, try to be as quiet as possible while this is happening. It may take 3 to 10 minutes.
The Full Auto MCACC Setup procedure is completed and the Home Menu menu reappears automatically.

Be sure to disconnect the microphone from this receiver upon completion of the Full Auto MCACC Setup. The settings made in the Full Auto MCACC Setup should give you excellent surround sound from your system, but it is also possible to adjust these settings manually using The System Setup menu on page 52 or The Input Setup menu if you didn’t hook up your digital equipment according to the default settings (see Input function default and possible settings on page 52). In this case, you need to tell the receiver what equipment is hooked up to which terminal so the buttons on the remote control correspond with the names on the remote control.

The Input Setup menu

You only need to make settings in the Input Setup menu if you didn’t hook up your digital equipment according to the default settings (see Input function default and possible settings on page 52). In this case, you need to tell the receiver what equipment is hooked up to which terminal so the buttons on the remote control correspond to the components you’ve connected.

With factory default settings, the on-screen display will be output from all HDMI output terminals and displayed on any TV connected via HDMI cable. You can change where the screen is output in the System Setup menu. (page 52) and HDMI output (page 52) settings.

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU.

A Graphical User Interface (GUI) screen appears on your TV. Use Up/Down/Left/Right and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.

2. Select ‘System Setup’ from the HOME MENU.


4. Select the input function that you want to set up.

The default names correspond with the names next to the terminals on the rear panel (such as DVD or SAT/CBL which, in turn, correspond with the names on the remote control.

5. Select the input(s) to which you’ve connected your component.

For example, if your DVD player only has an optical output, you will need to change the DVD input function’s Audio In setting from COAX-1 (default) to the optical input you’ve connected it to.

6. When you’re finished, proceed to the settings for other inputs.

You will return to the System Setup menu.

Input function default and possible settings

The terminals on the receiver generally correspond to the name of one of the input functions. If you have connected components to this receiver differently from (or in addition to) the defaults below, see The Input Setup menu on page 52 to tell the receiver how you’ve connected up. The dots (●) indicate possible assignments.

<table>
<thead>
<tr>
<th>Input function</th>
<th>HDMI</th>
<th>Audio</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD</td>
<td>IN 1</td>
<td>COAX-1</td>
<td>IN 1</td>
</tr>
<tr>
<td>SAT/CBL</td>
<td>IN 2</td>
<td>COAX-2</td>
<td>●</td>
</tr>
<tr>
<td>DVR/BDR</td>
<td>IN 3</td>
<td>OPT-2</td>
<td>IN 2</td>
</tr>
<tr>
<td>HDMI 1</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDMI 2</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDMI 3</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDMI 4</td>
<td>IN 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDMI 5</td>
<td>IN 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDMI 6</td>
<td>IN 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDMI 7/MHL</td>
<td>IN 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INTERNET RADIO

MEDIA SERVER

FAVORITES

iPod/USB
Basic Setup

Input function | Input Terminals | Component
---|---|---
USB-DAC | HDMI | Audio | Component
TV | OPT-1 | <b>
CD | ANALOG-1 | <c>
TUNER
PHONO
MULTI CH IN | <a>
ADAPTER PORT

a SC-LX88 only
b ARC at HDMI Setup is set to ON, it is not possible to make assignments to the TV input’s Audio In terminals.
c Only the TV and CD inputs can be assigned to ANALOG-1.

Operation Mode Setup

This receiver is equipped with a great number of functions and settings. The Operation Mode feature is provided for users who find it difficult to master all these functions and settings.

One of two settings can be selected for the Operation Mode: Expert and Basic.

- With factory default settings, the on-screen display will be output from all HDMI output terminals and displayed on any TV connected via HDMI cable. You can change where the screen is output in the MAIN/HDZONE (page 109) and HDMI output (page 84) settings.

Important

- Many of the settings and functions cannot be selected when the Operation Mode is changed to Basic.

1 Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU.

A Graphical User Interface (GUI) screen appears on your TV. Use ↑ / ↓ / ← / → and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.

2 Select ‘Operation Mode Setup’ from the HOME MENU.

3 Select the Operation Mode setting you want.

- Expert (default) – Users can set all the functions by themselves.
- Basic – Only certain basic settings can be operated. The settings that can be operated are shown below. They can be set as necessary by referring to the operating instructions.

<table>
<thead>
<tr>
<th>Operable settings/items</th>
<th>Descriptions</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOME MENU</td>
<td>Full Auto MCACC</td>
<td>Makes high precision sound field settings easily.</td>
</tr>
<tr>
<td>Input Name</td>
<td>Input names can be changed as desired for easier use.</td>
<td>55</td>
</tr>
<tr>
<td>Input Skip</td>
<td>Inputs not being used are skipped (not displayed).</td>
<td>50</td>
</tr>
<tr>
<td>Software Update</td>
<td>Updates to the latest version of the software.</td>
<td>116</td>
</tr>
<tr>
<td>Network Information</td>
<td>Checks the receiver’s IP address.</td>
<td>115</td>
</tr>
<tr>
<td>Audio Parameters</td>
<td>MCACC (MCACC preset)</td>
<td>Selects your favorite MCACC preset memory.</td>
</tr>
<tr>
<td></td>
<td>DELAY (Sound Delay)</td>
<td>Adjusts the delay time of the overall sound.</td>
</tr>
<tr>
<td></td>
<td>S.RTRV (Auto Sound Retriever)</td>
<td>Plays compressed sound with high sound quality.</td>
</tr>
<tr>
<td></td>
<td>DUAL (Dual Mono)</td>
<td>Dual monaural audio setting.</td>
</tr>
<tr>
<td></td>
<td>INPUT ATT (Input attenuate)</td>
<td>Decreases the input signal level to reduce distortion.</td>
</tr>
<tr>
<td></td>
<td>V.SPs (Virtual Speakers)</td>
<td>Automatically complements virtual surround speakers (surround back, front height and front wide) to create a sound field.</td>
</tr>
<tr>
<td></td>
<td>V.SB (Virtual Surround Back)</td>
<td>Creates a virtual surround back channel sound for playback.</td>
</tr>
<tr>
<td></td>
<td>V.HEIGHT (Virtual Height)</td>
<td>Creates a virtual height channel sound for playback.</td>
</tr>
<tr>
<td></td>
<td>V.WIDE (Virtual Wide)</td>
<td>Creates a virtual wide channel sound for playback.</td>
</tr>
<tr>
<td></td>
<td>V.DEPTH (Virtual Depth)</td>
<td>Plays with a sound field suited for 3D images.</td>
</tr>
<tr>
<td>Other functions</td>
<td>ALL INPUT SELECTOR</td>
<td>Switches the input.</td>
</tr>
<tr>
<td></td>
<td>VOLUME +/- MUTE</td>
<td>Use to set the listening volume.</td>
</tr>
<tr>
<td></td>
<td>LISTENING MODE</td>
<td>Selects your favorite listening modes.</td>
</tr>
<tr>
<td></td>
<td>PQS</td>
<td>Plays using the PQS function.</td>
</tr>
<tr>
<td></td>
<td>PHASE (Phase Control)</td>
<td>Plays with phase shifting in the low range corrected.</td>
</tr>
<tr>
<td></td>
<td>PHASE (Full Band Phase Control)</td>
<td>The Full Band Phase Control feature calibrates the frequency-phase characteristics of the speakers connected.</td>
</tr>
<tr>
<td></td>
<td>SOUND RETRIEVER AIR</td>
<td>Switches the input to ADAPTER PORT and plays compressed sound with high sound quality.</td>
</tr>
<tr>
<td></td>
<td>iPod iPhone DIRECT CONTROL</td>
<td>Switches the input to iPod/USB and sets the mode allowing operation from the iPod.</td>
</tr>
</tbody>
</table>

4 When you’re finished, press RETURN. You will return to the HOME MENU.
Changing the OSD display language (OSD Language)
The language used on the Graphical User Interface screen can be changed.
- The explanations in these operating instructions are for when English is selected for the GUI screen.
- With factory default settings, the on-screen display will be output from all HDMI output terminals and displayed on any TV connected via HDMI cable. You can change where the screen is output in the MAIN/HDZONE (page 109) and HDMI output (page 84) settings.

1. Press STANDBY/ON to switch on the receiver and your TV. Make sure that the TV’s video input is set to this receiver (for example, if you connected this receiver to the VIDEO jacks on your TV, make sure that the VIDEO input is now selected).
2. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU. A Graphical User Interface (GUI) screen appears on your TV. Use / and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.
4. Select ‘OSD Language’ from the System Setup menu.
5. Select the desired language.
6. Select ‘OK’ to change the language. The setting is completed and the System Setup menu reappears automatically.

Changing the TV format setting
If the Graphical User Interface screen is not displayed correctly, it may be that the TV system is set incorrectly for your country or region.

1. Switch the receiver into standby.
2. While holding down ENTER on the front panel, press STANDBY/ON. The display shows RESET NO.
3. Use TUNE to select PAL/NTSC PAL, and then use PRESET to select PAL or NTSC.

Changing the frequency step
If you find that you can’t tune into stations successfully, the frequency step may not be suitable for your country/region. Here’s how to switch the setting:

1. Switch the receiver into standby.
2. While holding down ENTER on the front panel, press STANDBY/ON. The display shows RESET.
3. Use TUNE to select FREQ STEP 9k, and then use PRESET to select 9k or 10k.

About the Home Menu
This receiver’s Home Menu (HOME MENU) can be used to make various settings and to check and adjust items that have been set.
- With factory default settings, the Home Menu screen will be output from all HDMI output terminals and displayed on any TV connected via HDMI cable. You can change where the screen is output in the MAIN/HDZONE (page 109) and HDMI output (page 84) settings.

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode.
2. To display the Home Menu screen, press HOME MENU on the remote control. A Graphical User Interface (GUI) screen appears on your TV. Use / and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.

The top level in the Home Menu is as shown below. Refer to the respective explanations to set, check and adjust as necessary.

- MCACC PRO – Use this to make automatic settings and detailed manual settings for the surround sound. For details, see Making receiver settings from the MCACC PRO menu on page 95.
- MCACC Data Check – This displays the MCACC PRO measurement results. Use it to check the MCACC memory. For details, see Checking MCACC Data on page 100.
- Data Management – Use this to manage the data in the MCACC memory. For details, see Data Management on page 101.
- System Setup – Use this to make various settings related to this system. For details, see Making receiver settings from the System Setup menu on page 103.
- Network Information – The setting status of the network-related items can be checked. For details, see Checking the Network Information on page 107.
- Operation Mode Setup – Use this to select this receiver’s operation mode. For details, see Operation Mode Setup on page 53.
Basic playback

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- Playing an iPod ................................................................. 57
- Playing a USB device ......................................................... 58
- Playing an MHL-compatible device ................................... 59
- Playing music from a computer ......................................... 59
- Listening to the radio ......................................................... 60

*Bluetooth ADAPTER for Wireless Enjoyment of Music* ......................................................... 61
Playing a source

Here are the basic instructions for playing a source (such as a DVD disc) with your home theater system.

1. **Switch on your system components and receiver.**
   Start by switching on the playback component (for example a DVD player), your TV and subwoofer (if you have one), then the receiver (press \* STANDBY/ON). Make sure that the TV’s video input is set to this receiver.

2. **Select the input function you want to play.**
   You can use the input function buttons on the remote control or the front panel INPUT SELECTOR dial.
   - As necessary, select the type of audio input signal (page 66).

3. **Press AUTO (AUTO SURR/ALC/STREAM DIRECT) to select ‘AUTO SURROUND’ and start playback of the source.**
   For such sound sources as Dolby TrueHD and DTS-HD, the surround sound is played. With stereo sound, the sound is played from the left and right front speakers with the default listening mode. To play a stereo sound source in multichannel, press Surr or ADV to select your favorite listening mode. (Example: Press ADV several times to select EXT.STEREO.)
   - You may need to check the digital audio output settings on your DVD player or digital satellite receiver. It should be set to output Dolby Digital, DTS and 88.2 kHz / 96 kHz PCM (2 channel) audio, and if there is an MPEG audio option, set this to convert the MPEG audio to PCM.
   - See also Listening to your system on page 69 for information on different ways of listening to sources.

4. **Use the VOLUME +/- to adjust the volume level.**
   Turn down the volume of your TV so that all sound is coming from the speakers connected to this receiver.

   **Note**
   Depending on the input to be played, the playback operation can in some cases be performed using the on-screen display. With factory default settings, the on-screen display will be output from all HDMI output terminals and displayed on any TV connected via HDMI cable. You can change where the screen is output in the MAIN/HDZONE (page 110) and HDMI output (page 84) settings.

**Turning off the sound**

Mutes the sound or restores the sound if it has been muted (adjusting the volume also restores the sound).
- Press MUTE.

**Playing a source with HDMI connection**

- Use ALL to select the input function connected to the receiver’s HDMI input terminals.
  You can also perform the same operation by using the INPUT SELECTOR dial on the front panel or pressing HDMI on the remote control repeatedly.
  - Set the HDMI parameter in Setting the Audio options on page 79 to THROUGH if you want to hear HDMI audio output from your TV (no sound will be heard from this receiver).
  - If the video signal does not appear on your TV, try adjusting the resolution settings on your component or displaying. Note that some components (such as video game units) have resolutions that may not be converted. In this case, use an analog video connection.

**Selecting the multichannel analog inputs**

SC-LX88 only

If you have connected a decoder or a DVD player as above, you must select the analog multichannel inputs for surround sound playback.
- When the center or surround speakers are bi-amped, no sound is produced even when MULTI CH IN is selected. (Check Determining the speakers’ application on page 70 and Bi-amping your speakers on page 76)
- When playback from the multichannel inputs is selected, only the volume and channel levels can be set.
- With MULTI CH IN inputs, it is possible to play pictures simultaneously. For details, see Multi Channel Input Setup on page 110.

1. **Make sure you have set the playback source to the proper output setting.**
   For example, you might need to set your DVD player to output multichannel analog audio.

2. **Use ALL to select MULTI CH IN.**
   You can also use the INPUT SELECTOR dial on the front panel.
   - Depending on the DVD player you’re using, the analog output level of the subwoofer channel may be too low. In this case, the output level of the subwoofer can be increased by 10 dB in the Multi Ch In Setup in Other Setup. For details, see Multi Channel Input Setup on page 110.
Basic playback

Playing an iPod

This receiver has the iPod/iPhone terminal that will allow you to control playback of audio content from your iPod using the controls of this receiver. Here we describe the procedure for playback on an iPod. For playback on a USB device, see Playing a USB device on page 58.

Important
- USB works with iPhone 5s, iPhone 5c, iPhone 5, iPhone 4s, iPhone 4, iPhone 3GS, iPhone 3G, iPhone, iPod touch (1st through 5th generation) and iPod nano (3rd through 7th generation).
- However, some of the functions may be restricted for some models.
- This receiver has been developed and tested for the software version of iPod/iPhone indicated on the website of Pioneer. http://pioneer.jp/homeav/support/ios/ao/
- Installing software versions other than indicated on the website of Pioneer may result in incompatibility with this receiver.
- iPod and iPhone are licensed for reproduction of non-copyrighted materials or materials the user is legally permitted to reproduce.
- Features such as the equalizer cannot be controlled using this receiver, and we recommend switching the equalizer off before connecting.
- Pioneer cannot under any circumstances accept responsibility for any direct or indirect loss arising from any inconvenience or loss of recorded material resulting from the iPod failure.
- When listening to a track on the iPod in the main zone, it is possible to control the sub zone, but not to listen to a different track in the sub zone from the one playing in the main zone.

1 Press \U{00B6} STANDBY/ON to switch on the receiver and your TV. See Connecting an iPod on page 44.

About one minute is required between turning the power on and completion of startup.
- It is also possible to operate the iPod on the iPod itself, without using the TV screen. For details, see Switching the iPod controls on page 57.

2 Press iPod USB on the remote control to switch the receiver to the iPod/USB. When the display shows the names of folders and files, you’re ready to play music from the iPod.

Playing back audio files stored on an iPod

To navigate songs on your iPod, you can take advantage of the GUI screen of your TV connected to this receiver. You can also control all operations for music in the front panel display of this receiver.

- Note that characters that cannot be displayed on this receiver are displayed as #.
- This feature is not available for photos on your iPod.

Finding what you want to play

When your iPod is connected to this receiver, you can browse songs stored on your iPod by playlist, artist name, album name, song name, genre or composer, similar to using your iPod directly.

1 Use \U{1F534}/\U{1F535} to select a category, then press ENTER to browse that category.
- When \U{1F524} or \U{1F525} is pressed at the list screen, the page switches.
- To return to the previous level any time, press RETURN.

2 Use \U{1F524}/\U{1F525} to browse the selected category (e.g., albums).
- Use \U{1F525}/\U{1F524} to move to previous/next levels.

3 Continue browsing until you arrive at what you want to play, then press \U{1F533} to start playback.
- On the playback screen, pressing RETURN displays a list screen. To return to the playback screen, press DISP.

Note
You can play all of the songs in a particular category by selecting the All item at the top of each category list. For example, you can play all the songs by a particular artist.

Basic playback controls

This receiver’s remote control buttons can be used for basic playback of files stored on an iPod.

Switching the iPod controls

You can switch over the iPod controls between the iPod and the receiver.

1 Press HOME MENU to switch the iPod controls.
- This enables operation and display on your iPod, and this receiver’s remote control and GUI screen become inactive.

2 Press HOME MENU again to switch back to the receiver controls.

Note
Change the receiver’s input to the iPod in one action by pressing the iPod iPhone DIRECT CONTROL button on the front panel to enable iPod operations on the iPod.
Playing a USB device

It is possible to play files using the USB interface on the front of this receiver.

- Compatible USB devices include external magnetic hard drives, portable flash memory drives (particularly key drives) and digital audio players (MP3 players) of format FAT16/32.
- Pioneer cannot guarantee compatibility (operation and/or bus power) with all USB mass storage devices and assumes no responsibility for any loss of data that may occur when connected to this receiver.

1 Press STANDBY/ON to switch on the receiver and your TV.
2 Press iPod USB on the remote control to switch the receiver to the iPod/USB.

When the display shows the names of folders and files, you’re ready to play from the USB device.

Note

If an Over Current message lights in the display, the power requirements of the USB device are too high for this receiver. Try following the points below:

- Switch the receiver off, then on again.
- Reconnect the USB device with the receiver switched off.
- Use a dedicated AC adapter (supplied with the device) for USB power.

If this doesn’t remedy the problem, it is likely your USB device is incompatible.

Playing back audio files stored on a USB memory device

The maximum number of levels that you can select in Step 2 (below) is 9.

1 Use f / g to select a folder, then press ENTER to browse that folder.
   - To return to the previous level any time, press RETURN.

2 Continue browsing until you arrive at what you want to play, then press ▶ to start playback.

- Copyrighted audio files cannot be played back on this receiver.
- DRM-protected audio files cannot be played back on this receiver.
- On the playback screen, pressing RETURN displays a list screen. To return to the playback screen, press DISP.

Basic playback controls

This receiver’s remote control buttons can be used for basic playback of files stored on USB memory devices.

- Press iPod USB to switch the remote control to the iPod/USB operation mode.

Tip

Slide shows of photo files can be played while listening to music files by returning to the folder/file list display while playing a music file on a USB device and then playing the photo files. At that time, select music files with a sampling frequency of 48 kHz or less.

About playable file formats

The USB function of this receiver supports the following file formats. Note that some file formats are not available for playback although they are listed as playable file formats.

- With MP3, WAV, AAC, FLAC, AIFF and Apple Lossless files, when music files with the same format, sampling frequency, quantization bit number and number of channels are played successively, they are played with no gap.
- When AAC or MP3 format is used, sound is reproduced with the minimum gap. If you are conscious about gaps, use WAV or FLAC files.

Music files

<table>
<thead>
<tr>
<th>Category</th>
<th>Extension</th>
<th>Stream</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP3</td>
<td>.mp3</td>
<td>MPEG-1 Audio Layer-3</td>
</tr>
<tr>
<td>WAV</td>
<td>.wav</td>
<td>LPCM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sampling frequency</th>
<th>32 kHz, 44.1 kHz, 48 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantization bitrate</td>
<td>16 bit</td>
</tr>
<tr>
<td>Channel</td>
<td>2 ch</td>
</tr>
<tr>
<td>Bitrate</td>
<td>8 kbps to 320 kbps</td>
</tr>
<tr>
<td>VBR/CBR</td>
<td>Supported/SUPPORTED</td>
</tr>
<tr>
<td>Sampling frequency</td>
<td>32 kHz, 44.1 kHz, 48 kHz</td>
</tr>
<tr>
<td>Quantization bitrate</td>
<td>16 bit, 24 bit</td>
</tr>
<tr>
<td>Channel</td>
<td>2 ch, 5.0 ch, 5.1 ch</td>
</tr>
</tbody>
</table>

Note

While a DSD file is being played, ◀ and ▶ are disabled.
Playing an MHL-compatible device

MHL (Mobile High-definition Link) is an interface standard for transmitting digital signals with mobile devices. MHL can carry high quality multi-channel audio data and 3D/Full-HD video formats. The MHL-compatible device’s video signals are output from the TV connected to the receiver, the audio signals are output from the speakers connected to the receiver or TV.

1. Press STANDBY/ON to switch on the receiver and your TV.
   See Connecting an MHL-compatible device on page 45.
2. Press MHL on the remote control to switch the receiver to the MHL.
3. Select and play the desired contents on the MHL-compatible device.

Notes
- MHL-compatible devices can be operated with the receiver’s remote control by pressing the remote control’s MHL button, but depending on the MHL-compatible device being used, some buttons may not be operable.
- To playback from a MHL-compatible device connected to the receiver on a TV that is also connected to the receiver, the power to the receiver must be turned on.

Playing music from a computer

SC-LX88 only

Use this function to play digital audio input to the unit’s rear panel USB-DAC IN terminal.

Important
- When switching this unit’s input from USB-DAC to another input, first quit the computer’s music playback application, then switch the input.
- The exclusive driver must be installed on the computer in order to play high sound quality files of over 48 kHz/24 bits and DSD files.
- The driver software is provided on the included CD-ROM.

1. Press STANDBY/ON to switch on the receiver and your computer.
   See Using a USB cable to connect to a computer on page 45.
2. Use ALL or to select USB-DAC.

You can also use the INPUT SELECTOR dial on the front panel.
3. Begin playback on the computer.

Notes
- Output from the OPTICAL OUT terminal is not supported during USB-DAC IN input.
- In addition to LPCM, DSD with DoP transmission is also supported. The supported format is 2.8 MHz, 1 bit.
  Only two channels, including LPCM, are supported.
- Playback cannot be controlled from this unit during use of this function; use your computer to control playback.
- When disconnecting the USB cable, always stop playback on the computer first.
- Sound may not be produced if your computer does not support USB 2.0 HS.
- This unit does not support use of a USB hub. Always use a USB cable to connect the unit directly to the computer.

---

**Photo files**

**Category** | **Extension** | **Format**
--- | --- | ---
JPEG | .jpg | Meeting the following conditions:
- Baseline JPEG format
- Chromaticity: YCbCr – 4:2:2
About playable file formats

The USB-DAC function of this receiver supports the following file formats. Note that some file formats are not available for playback although they are listed as playable file formats.

<table>
<thead>
<tr>
<th>Category</th>
<th>Stream</th>
<th>Sampling frequency</th>
<th>Quantization bitrate</th>
<th>Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPCM</td>
<td>LPCM</td>
<td>44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz</td>
<td>16 bit, 24 bit, 32 bit</td>
<td>2 ch</td>
</tr>
<tr>
<td>DSD</td>
<td>DSDIFF</td>
<td>2.8 MHz</td>
<td>1 bit</td>
<td>2 ch</td>
</tr>
<tr>
<td>DSD</td>
<td>DSF</td>
<td>2.8 MHz</td>
<td>1 bit</td>
<td>2 ch</td>
</tr>
</tbody>
</table>

- With DSD playback, only the DoP standard is supported. A PC player supporting the DoP standard is required. Only native playback is supported for DSD.
- When Speaker System is set to 7.2ch + Speaker B or 5.2ch + SP-B Bi-Amp, the audio signals of DSD files are not output to Speaker B.
- When USB-DAC is selected in the sub zone, DSD files and PCM signals with a sampling frequency of 176.4 kHz cannot be played.

Listening to the radio

The following steps show you how to tune in to FM and AM radio broadcasts using the automatic (search) and manual (step) tuning functions. If you already know the frequency of the station you want, see Tuning directly to a station for how to do this.

1. Press TUNER to select the tuner.
2. Use BAND to change the band (FM or AM), if necessary.
3. Tune to a station.

There are three ways to do this:
- **Automatic tuning** – To search for stations in the currently selected band, press and hold TUNE +/- for about a second. The receiver will start searching for the next station, stopping when it has found one. Repeat to search for other stations.
- **Manual tuning** – To change the frequency one step at a time, press TUNE +/–.
- **High speed tuning** – Press and hold TUNE +/– for high speed tuning. Release the button at the frequency you want.

Improving FM sound

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

Using the noise cut mode

The two noise cut modes can be used when receiving AM broadcasts. Press MPX to select the noise cut mode (1 to 2).

5. Press MPX to select the noise cut mode.
6. Press TOOLS (TUNER EDIT). The display shows PRESET MEMORY, then a blinking memory class.
7. Press CLASS to select one of the seven classes, then press PRESET +/– to select the station preset you want. You can also use the number buttons to select a station preset.
8. Press ENTER.

After pressing ENTER, the preset class and number stop blinking and the receiver stores the station.

Saving station presets

If you often listen to a particular radio station, it’s convenient to have the receiver store the frequency for easy recall whenever you want to listen to that station. This saves the effort of manually tuning in each time. This receiver can memorize up to 63 stations, stored in seven banks, or classes (A to G) of 9 stations each.

1. Tune to a station you want to memorize. See Listening to the radio on page 60 for more on this.
2. Press TOOLS (TUNER EDIT). The display shows PRESET MEMORY, then a blinking memory class.
3. Press CLASS to select one of the seven classes, then press PRESET +/- to select the station preset you want.
4. Press ENTER. You can also use the number buttons to select a station preset.
5. Press PRESET NAME, then a blinking cursor at the first character position.

Notes
- Press TOOLS (TUNER EDIT) twice to cancel the frequency and start over.
- If you make a mistake halfway through, press TOOLS (TUNER EDIT) twice to cancel the frequency and start over.
- Once you have named a station preset, you can press DISP when listening to a station to switch the display between name and frequency.
Remote control supplied with this unit allows you to play and stop media, and perform other operations.

Bluetooth supports SCMS-T contents protection, so music can also be enjoyed on devices equipped with SCMS-T type wireless technology. Listeners can listen to music on a device not equipped with wireless technology. Also, by using a commercially available transmitter supporting wireless technology (portable cell phone, digital music player, etc.) can be used to listen to music wirelessly. When the Bluetooth ADAPTER (AS-BT100 or AS-BT200) is connected to this unit, a product equipped with Bluetooth wireless technology is detected by the Bluetooth wireless technology device. If pairing is successful, there is no need for performing the pairing operation.

### Bluetooth ADAPTER for Wireless Enjoyment of Music

- About one minute is required between turning the power on and completion of startup.

#### Wireless music play

When the Bluetooth ADAPTER (AS-BT100 or AS-BT200) is connected to this unit, a product equipped with Bluetooth wireless technology (portable cell phone, digital music player, etc.) can be used to listen to music wirelessly. Also, by using a commercially available transmitter supporting Bluetooth wireless technology, you can listen to music on a device not equipped with Bluetooth wireless technology. The AS-BT100 and AS-BT200 models support SCMS-T contents protection, so music can also be enjoyed on devices equipped with SCMS-T type Bluetooth wireless technology.

#### Remote control operation

The remote control supplied with this unit allows you to play and stop media, and perform other operations.

- It must be necessary that the Bluetooth wireless technology enabled device supports AVRCP profiles.
- Remote control operations cannot be guaranteed for all Bluetooth wireless technology enabled devices.

---

**Pairing the Bluetooth ADAPTER and Bluetooth wireless technology device**

“Pairing” must be done before you start playback of Bluetooth wireless technology content using the Bluetooth ADAPTER. Make sure to perform pairing the first time you operate the system or any time pairing data is cleared. The pairing step is necessary to register the Bluetooth wireless technology device to enable Bluetooth communications. For more details, see also the operating instructions of your Bluetooth wireless technology device.

- Pairing is required when you first use the Bluetooth wireless technology device and Bluetooth ADAPTER.
- To enable Bluetooth communication, pairing should be done with both your system and Bluetooth wireless technology device.
- If the Bluetooth wireless technology device’s security code is “0000”, there is no need to make the security code setting on the receiver. Press BT ADPT to set the ADAPTER PORT input, then conduct the pairing operation on the Bluetooth wireless technology device. If pairing is successful, there is no need to perform the pairing operation below.
- When using the AS-BT200 only. This unit complies with Bluetooth Specifications Ver. 2.1. When this unit and another device equipped with Bluetooth wireless technology both comply with Bluetooth Specification Ver. 2.1, pairing of the two may be possible without the need for inputting a password. In this case, a passcode may be displayed on this receiver and the device equipped with Bluetooth wireless technology both comply with Bluetooth Specification Ver. 2.1, pairing of the two may be possible without the need for inputting a password.
- If the Bluetooth wireless technology device that you want to make pair, place it near the receiver and set it to the pairing mode. From the Bluetooth wireless technology device list, select Bluetooth ADAPTER and enter the PIN code selected in step 4.
- Check to see that the Bluetooth wireless technology device is detected by the Bluetooth wireless technology device. If the receiver and Bluetooth wireless technology device are not paired, start over from step 6.

**Notes**

- The PIN code may in some cases be referred to as PASSKEY.
- For information on enabling pairing on the Bluetooth wireless technology device, connection procedures, etc., see the Bluetooth wireless technology device’s operating instructions.
Listening to music contents of a Bluetooth wireless technology device with your system

1. Press BT ADPT on the remote control to switch the receiver to ADAPTER PORT input.

2. From the Bluetooth wireless technology device, perform the operation to connect to the Bluetooth ADAPTER.
   - When the Bluetooth ADAPTER is not plugged into the ADAPTER PORT, No Adapter will be displayed if ADAPTER PORT input is selected.

3. Start playback of music contents stored on the Bluetooth wireless technology device.
   - This receiver’s remote control buttons can be used for basic playback of files stored on Bluetooth wireless technology devices.
   - Bluetooth wireless technology device should be compatible with AVRCP profile.
   - Depending on the Bluetooth wireless technology device you use, operation may differ from what is shown in the remote control buttons.

4. While listening to a source, set the remote control to the receiver operation mode, then press ADV repeatedly to select SOUND RETRIEVER AIR.

Notes
- The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by PIONEER CORPORATION is under license. Other trademarks and trade names are those of their respective owners.
- With this receiver, when an iPod is connected or disconnected while the music of a Bluetooth wireless technology device is playing, the connection with the Bluetooth wireless technology device may be canceled.
- The SOUND RETRIEVER AIR listening mode can only be selected when the ADAPTER PORT input.
Listening to your system

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- Selecting MCACC presets ........................................................................................................ 66
- Choosing the input signal ........................................................................................................ 66
- Better sound using Phase Control .......................................................................................... 66
- Better sound using Phase Control and Full Band Phase Control ............................................ 67
Enjoying various types of playback using the listening modes

Using this receiver, you can listen to any source in surround sound. However, the options available will depend on your speaker setup and the type of source you’re listening to.

To play with surround sound, check “Standard surround sound” or “Using the Advanced surround effects” below and select the desired mode.

To play with the optimum mode for the input signal, see “Auto playback” or “Using Stream Direct”. (The sound is played in stereo when 2-channel signals are input, in surround when multi-channel signals are input.)

Note

When ALC is selected, the effect level can be adjusted using the EFFECT parameter in Setting the Audio options on page 79.

Important

• The listening modes and many features described in this section may not be available depending on the current source, settings and status of the receiver.

Auto playback

There are many ways to listen back to sources using this receiver, but the simplest, most direct listening option is the Auto Surround feature. The receiver automatically detects what kind of source you’re playing and selects multichannel or stereo playback as necessary.

• While listening to a source, press AUTO (AUTO Surr/ALC/STREAM DIRECT) for auto playback of a source.

AUTO SURROUND shows briefly in the display before showing the decoding or playback format. Check the digital format indicators in the front panel display to see how the source is being processed.

• If the source is Dolby Digital, DTS, or Dolby: 2.0 Surround, the proper decoding format will automatically be selected and shows in the display.

• When listening to the ADAPTER PORT input, the SOUND RETRIEVER AIR feature is selected automatically.

ALC – In the Auto level control (ALC) mode, this receiver equalizes playback sound levels. Also, the low and high frequency sounds, dialogs, surround effects, etc., that are difficult to hear when the volume is low are adjusted to be optimal for the volume level. This mode is particularly optimum when listening at night.

OPTIMUM Surr – In the Optimum Surround mode, this receiver automatically optimizes sound balance in each scene based on actually set volume. The sound balancer controls three major theater sounds elements dialogue, bass and surround with original algorithm.

• If necessary, press repeatedly to select a listening mode.

• The following modes provide basic surround sound for stereo and multichannel sources.

Standard surround sound

The following modes provide basic surround sound for stereo and multichannel sources.

• While listening to a source, press Surr (STANDARD SURROUND).

If necessary, press repeatedly to select a listening mode.

• If the source is Dolby Digital, DTS, or Dolby: 2.0 Surround, the proper decoding format will automatically be selected and shown in the display.

• WIDE SURROUND MOVIE and WIDE SURROUND MUSIC cannot be selected when no front wide speaker is connected.

With two channel sources, you can select from:

• EXT.STEREO – Gives multichannel sound to a stereo source, using all of your speakers

• WIDE SURROUND MOVIE – Up to 7.1 channel sound (front wide), especially suited to movie sources

• WIDE SURROUND MUSIC – Up to 7.1 channel sound (front wide), especially suited to music sources

• Neo:X CINEMA – Up to 9.1 channel sound (surround back and front height or surround back and front wide), especially suited to movie sources

• Neo:X MUSIC – Up to 9.1 channel sound (surround back and front height or surround back and front wide), especially suited to music sources

• Neo:X GAME – Up to 9.1 channel sound (surround back and front height or surround back and front wide), especially suited to video games

• STEREO – The audio is heard with your sound settings and you can still use the audio options.

With multichannel sources, if you have connected surround back, top forward, top middle, top backward, front height or front wide speakers, you can select (according to format):

• EXT.STEREO – See above

• Neo:X CINEMA – See above

• Neo:X MUSIC – See above

• Neo:X GAME – See above

• WIDE SURROUND MOVIE – See above

• WIDE SURROUND MUSIC – See above

• STEREO – See above

• DTS-ES Matrix or DTS-ES Discrete – Allows you to hear 6.1 channel playback with DTS-ES encoded sources

• Straight Decode – Plays back without the effects above.

Notes

• When listening to 2-channel sources in Neo:X CINEMA, Neo:X MUSIC or Neo:X GAME mode, you can also adjust the C.GAIN effect (see Setting the Audio options on page 70).

• When listening through headphones, you can select STEREO mode only.

• When playing DSD sources via USB-DAC, the NATIVE DSD mode is set. Other modes cannot be selected.

• When Neo:X CINEMA, Neo:X MUSIC or Neo:X GAME is selected, audio is not output from the top middle speaker, top forward speaker, and top backward speaker.
Using the Advanced surround effects

The Advanced surround effects can be used for a variety of additional surround sound effects. Most Advanced Surround modes are designed to be used with film soundtracks, but some modes are also suited for music sources. Try different settings with various soundtracks to see which you like.

- Press ADV (ADVANCED SURROUND) repeatedly to select a listening mode.
  - ACTION – Designed for action movies with dynamic soundtracks
  - DRAMA – Designed for movies with lots of dialog
  - ADVANCED GAME – Suitable for video games
  - SPORTS – Suitable for sports programs
  - CLASSICAL – Gives a large concert hall-type sound
  - ROCK/POP – Creates a live concert sound for rock and/or pop music
  - EXT.Stereo – Gives multichannel sound to a stereo source, using all of your speakers
  - F.S.SURROUND – Use to provide a rich surround sound effect directed to the center of where the front left and right speakers sound projection area converges.

- SOUND RETRIEVER AIR – Suitable for listening to the sound from a Bluetooth wireless technology device. The SOUND RETRIEVER AIR listening mode can only be selected when the ADAPTER PORT input.
- PHONES SURR – When listening through headphones, you can still get the effect of overall surround.
- ECO MODE 1 – Select this to play for example music that has a high audio level with a lower power consumption than usual.
- ECO MODE 2 – Select this to play movies, etc., with a high ratio of low volume scenes and high volume scenes (a large dynamic ratio) with a lower power consumption than usual. This mode provides greater power savings than ECO MODE 1.

- AUTO SURROUND – See Auto playback on page 64.
- ALC – Listening in Auto level control mode (page 64).—When ALC is selected, the effect level can be adjusted using the EFFECT parameter in Setting the Audio options on page 79.
- DIRECT – Plays back sound from the source with the least modification next to PURE DIRECT. With DIRECT, the only modifications added to PURE DIRECT playback are calibration of the sound field by the MCACC system and the Phase Control effect.
- PURE DIRECT – Plays back unmodified sound from source with only minimal digital treatment.
- OPTIMUM SURR – Listening in Optimum Surround mode (page 64).

Note

When listening through headphones, you can select ALC, OPTIMUM SURR or PURE DIRECT mode only.
Selecting MCACC presets

- Default setting: MEMORY 1
  If you have calibrated your system for different listening positions, you can switch between settings to suit the kind of source you’re listening to and where you’re sitting (for example, watching movies from a sofa, or playing a video game close to the TV).

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press AUDIO P.
2. Use ¥/ to select ‘MCACC’.
3. Use ¥/ to select the setting.

Press repeatedly to select one of the six MCACC presets. See Data Management on page 101 to check and manage your current settings.
- These settings have no effect when headphones are connected.
- You can also press ¥/ to select the MCACC preset.

Choosing the input signal

On this receiver, it is possible to switch the input signals for the different inputs as described below.
- This receiver can only play back Dolby Digital, PCM (32 kHz to 192 kHz) and DTS (including DTS 96/24) digital signal formats. The compatible signals via the HDMI terminals are: Dolby Digital, DTS, PCM (32 kHz to 192 kHz), Dolby TrueHD, Dolby Digital Plus, DTS-EXPRESS, DTS-HD Master Audio and SACD.
- You may get digital noise when an LD, CD, DVD or BD player compatible with DTS is playing an analog signal. To prevent noise, make the proper digital connections (page 40) and set the signal input to DIGITAL.
- Some DVD players don’t output DTS signals. For more details, refer to the instruction manual supplied with your DVD player.
- If you have calibrated your system for different listening positions, you can switch between settings to suit the kind of source you’re listening to and where you’re sitting (for example, watching movies from a sofa, or playing a video game close to the TV).

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press AUDIO P.
2. Use ¥/ to select ‘SIGSEL’.
3. Use ¥/ to select the input signal corresponding to the source component.

Each press-cycles through the options as follows:
- AUTO – The receiver selects the first available signal in the following order: HDMI, DIGITAL, ANALOG.
- ANALOG – Selects an analog signal.
- DIGITAL – Select an optical or coaxial digital input signal. ‘DIGITAL’ is displayed on the front panel display.
- HDMI – Selects an HDMI signal.
  — When the HDMI audio output parameter is set to THROUGH, the sound will be heard through your TV, not from this receiver.

When set to DIGITAL, HDMI or AUTO (only selected DIGITAL or HDMI), the indicators light according to the signal being decoded (see Display on page 15).

Better sound using Phase Control

This receiver’s Phase Control feature uses phase correction measures to make sure your sound source arrives at the listening position in phase, preventing unwanted distortion and/or coloring of the sound. Phase Control technology provides coherent sound reproduction through the use of phase matching for an optimal sound image. The default setting is on and we recommend leaving Phase Control switched on for all sound sources.

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press AUDIO P.
2. Use ¥/ to select ‘PHASE’.
3. Use ¥/ to switch on phase correction.

The PHASE CONTROL indicator on the front panel lights.

Notes

- Phase matching is a very important factor in achieving proper sound reproduction. If two waveforms are ‘in phase’, they crest and trough together, resulting in increased amplitude, clarity and presence of the sound signal. If a crest of a wave meets a trough, then the sound will be ‘out of phase’ and an unreliable sound image will be produced.
- For discs created with standards other than Phase Control, the LFE channel is delayed upon recording in the first place. Phase Control Plus function corrects for phase shifting on such discs. For instructions on setting the Phase Control Plus, see Setting the Audio options on page 78.
- If your subwoofer has a phase control switch, set it to the plus (+) sign (or 0°). However, the effect you can actually feel when PHASE CONTROL is set to ON on this receiver depends on the type of your subwoofer. Set your subwoofer to maximize the effect. It is also recommended you try changing the orientation or the place of your subwoofer.
- Set the built-in lowpass filter switch of your subwoofer to off. If this cannot be done on your subwoofer, set the cutoff frequency to a higher value.
- If the speaker distance is not properly set, you may not have a maximized PHASE CONTROL effect.
- The PHASE CONTROL mode cannot be set to ON in the following cases:
  — When headphones are plugged in.
  — When the PURE DIRECT mode is switched on.
  — When the HDMI audio output parameter is set to THROUGH in Setting the Audio options on page 79.
Better sound using Phase Control and Full Band Phase Control

This receiver is equipped with the two types of functions that correct phase distortion and group delay: Phase Control and Full Band Phase Control. Activating Full Band Phase Control is strongly recommended because it also involves the effects of Phase Control.

The Full Band Phase Control feature calibrates the frequency-phase characteristics of the speakers connected. Standard speakers designed exclusively for audio use generally reproduce sound with the divided frequency bands output from a speaker system consisting of multiple speakers (in case of typical 3-way speakers, for instance, the tweeter, the squawker (midrange), and the woofer output sound in the high-, middle-, and low-frequency ranges, respectively). Though these speakers are designed to flatten the frequency-amplitude characteristics across wide ranges, there are cases where the group delay characteristics are not effectively flattened. This phase distortion of the speakers subsequently causes group delay (the delay of low-frequency sound against high-frequency sound) during audio signal playback.

This receiver analyzes the frequency-phase characteristics of the speakers by measuring test signals output from the speakers with the supplied microphone, therefore flattening the analyzed frequency-phase characteristics during audio signal playback - the same correction is made for a pair of left and right speakers. This correction minimizes group delay between the ranges of a speaker and improves the frequency-phase characteristics across all ranges. Furthermore, the enhanced frequency-phase characteristics between channels ensure better surround sound integration for multichannel setting.

- Upon shipment from the factory, the Phase Control function is in on status. If you perform Full Auto MCACC (page 50) or Full Band Phase Ctrl of Auto MCACC (page 95), the Full Band Phase Control function is automatically turned on after measurement. By turning Full Band Phase Control on, the Phase Control function is turned on as well. Therefore, we recommend that usually the function be used with Full Band Phase Control on.

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press AUDIO P.
2. Use ↑ / ↓ to select ‘PHASE’.
3. Use ← → to select ‘FULLBND’.

Both the Phase Control and Full Band Phase Control functions are switched on. The FULL BAND and FULLBND indicators, on the front panel lights.

Notes

- The original characteristics of group delay of the speakers calibrated and the targeted characteristics after correction can be displayed graphically in the GUI screen (see Checking MCACC Data on page 100). Also, by transferring the measurement data to the computer using the CD-ROM, the original characteristics of group delay of the speakers calibrated and the corrected characteristics of group delay can be displayed in 3-dimension on your PC. For details, refer to the operating instructions for the MCACC PRO PC Display Application Software included on the CD-ROM.
- Depending on the input signal and listening mode, it may not be possible to set the Full Band Phase Ctrl mode to ON.
- The Full Band Phase Ctrl mode cannot be set to ON in the following cases:
  — When headphones are plugged in.
  — When the PURE DIRECT mode is switched on.
  — When the HDMI audio output parameter is set to THROUGH in Setting the Audio options on page 70.
## Playback with NETWORK features

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<td>About playable file formats</td>
<td>73</td>
</tr>
</tbody>
</table>
Introduction

This receiver is equipped with the LAN terminal and you can enjoy the following features by connecting your components to these terminals.

Listening to Internet radio stations

You can select and listen to your favorite Internet radio station from the list of Internet radio stations created, edited, and managed by the vTuner database service exclusively for use with the Pioneer products.

→ See Playback with Network functions on page 70 and Listening to Internet radio stations on page 70.

Playback the music files stored in PCs

You can playback a lot of musics stored in your PCs using this unit.

• Besides a PC, you can also play back audio files stored on your other components with the built-in media server function based on DLNA 1.0 or DLNA 1.5 framework and protocols (i.e. network-capable hard disks and audio systems).

→ See Playback with Network functions on page 70 and Playing back audio files stored on components on the network on page 72.

Listening to Spotify audio streaming playback

→ See About the Spotify audio stream playback function on page 71.

Notes

• To listen to Internet radio stations, you must sign a contract with an ISP (Internet Service Provider) beforehand.
• Photo or video files cannot be played back.
• With Windows Media Player 11 or Windows Media Player 12, DRM-protected audio files cannot be played back on this receiver.

About playable DLNA network devices

This unit allows you to play music on media servers connected on an identical Local Area Network (LAN) as the receiver. This unit allows for the playing of files stored on the following devices:

• PCs running Microsoft Windows 7 or Windows 8 with Windows Media Player 12 installed
• DLNA-compatible digital media servers (on PCs or other components)
Files stored in a PC or DMS (Digital Media Server) as described above can be played via command from an external Digital Media Controller (DMC). Devices controlled by this DMC to play files are called DMRs (Digital Media Renderers). This receiver supports this DMR function. When in the DMR mode, such operations as playing and stopping files can be performed from the external controller. Volume adjustment and the muting control are also possible. The DMR mode is canceled if the remote control unit is operated while in the DMR mode (aside from certain buttons, including the VOLUME +/-, MUTE and DISP).

• Depending on the external controller being used, playback may be interrupted when the volume is adjusted from the controller. In this case, adjust the volume from the receiver or remote control.

Using AirPlay on iPod touch, iPhone, iPad, and iTunes

AirPlay works with iPhone, iPad, and iPod touch with iOS 4.3.3 or later, Mac with OS X Mountain Lion or later, and PC with iTunes 10.2.2 or later.

To use AirPlay, select your receiver on your iPod touch, iPhone, iPad or in iTunes. *1

The receiver’s input will switch automatically to AirPlay when AirPlay is in use. *2

The following operations can be performed when in AirPlay mode:

• Adjustment of the receiver’s volume from iPod touch, iPhone, iPad or iTunes.
• Pause/resume, next/previous track, and shuffle/repeat from the remote control of the receiver. *3
• Display of the currently playing track information on the receiver’s display, including artist, song and album name.

*1: For more information, see the Apple website (http://www.apple.com).
*2: The receiver’s power automatically turns on when Network Standby at Network Setup is set to ON.
*3: If operation is not possible, press NET, then operate again.

Notes

• A network environment is required to use AirPlay.
• The receiver’s name that shows up in the AirPlay UI on iPod touch, iPhone, iPad and iTunes can be changed by Friendly Name from Network Setup.
• AirPlay provided on this receiver has been developed and tested based on the software versions for the iPod, iPhone, iPad and the software versions for iTunes that are indicated on the Pioneer website. AirPlay may not be compatible with iPod, iPhone, iPad or iTunes software versions other than those indicated on the Pioneer website.
http://pioneer.jp/homeav/support/ios/ao/

About the DHCP server function

To play back audio files stored on components on the network or listen to Internet radio stations, you must turn on the DHCP server function of your router. In case your router does not have the built-in DHCP server function, it is necessary to set up the network manually. Otherwise, you cannot play back audio files stored on components on the network or listen to Internet radio stations. See Network Setup menu on page 106 for more on this.

Authorizing this receiver

This receiver must be authorized to enable playback. This happens automatically when the receiver makes a connection over the network to the PC. If not, please authorize this receiver manually on the PC. The authorization (or permission) method for access varies depending on the type of server currently being connected. For more information on authorizing this receiver, refer to the instruction manual of your server.
About HTC Connect
This receiver features “HTC Connect”, a simple way to enjoy music content from your HTC Connect certified smart phone.
1 HTC Connect music streaming provided on this product has been developed based on interoperability testing as defined by the HTC Connect Certification program with the HTC Connect-compatible smartphones.
2 Music Navigation via the music progress bar is not currently supported with HTC Connect.
3 Third party music applications (those other than HTC’s pre-installed “Music” app) have not been tested for compatibility and may not work. HTC Connect has been tested with MP3, AAC, WMA and WAV encoding formats. Other formats may not be compatible.
4 High network congestion may interfere with the operation of HTC Connect.

HTC Connect Certified Smartphones

Notes
- Specifications and design subject to modification without notice.
- HTC, HTC Connect and the HTC Connect logo are trademarks of HTC Corporation.

Playback with Network functions

Important
- About one minute is required between turning the power on and completion of startup.
- When you play back audio files. “Connecting...” is displayed before playback starts. The display may continue for several seconds depending on the type of file.
- In case a domain is configured in a Windows network environment, you cannot access a PC on the network while you are logged onto the domain. Instead of logging onto the domain, log onto the local machine.
- There are cases where the time elapsed may not be correctly displayed.

Press NET repeatedly to select the category you want to play back.
It may take several seconds for this receiver to access the network. Select a category from the following list:
- INTERNET RADIO – Internet radio
- MEDIA SERVER – Server components on the network
- FAVORITES – Favorite songs currently being registered
Depending on the selected category, the names of folders, files, and Internet radio stations are displayed.

2 Use †/ ‡ to select the folder, music files or Internet radio station to play back, and then press ENTER.
Press †/ ‡ to scroll up and down the list and select the desired item. When you press ENTER, playback starts with the playback screen being displayed for the selected item. To return to the list screen, press RETURN. When the list screen is displayed from the playback screen, the playback screen reappears automatically if no operation is performed for three minutes while the list screen is displayed. Only audio files with the □ mark can be played. In case of the folders with the □ mark, use †/ ‡ and ENTER to select the desired folder and audio files.
- When □ is pressed at the list screen, the page switches.
- To return to the playback screen from the list display, press DISP.

3 Repeat step 2 to play back the desired song.
For detailed operating instructions, refer to the section shown below.
- Internet radio stations – See Listening to Internet radio stations on page 70.
- Media server – See Playing back audio files stored on components on the network on page 72.
- Favorites – See Playing back your favorite songs on page 72.

Basic playback controls
You can perform the following operations with the remote control of this receiver. Note that some buttons are not available for operation depending on the category currently being played back.
- Press NET to switch the remote control to the network operation mode.

Notes
- While a DSD file is being played, ◄◄ and ►► are disabled.
- When input is MEDIA SERVER or FAVORITES, the following action is taken, depending on the server or file.
- When input is INTERNET RADIO or Server component on the network, ◄◄ and ►► may not work.
- ◄◄ and ►► may not work or may take the same action as ◄◄ and ►►.
- When input is MEDIA SERVER, by pressing TOOLS on the list display screen, you can switch the displayed titles in alphabetical order or track order.

Listening to Internet radio stations
Internet radio is an audio broadcasting service transmitted via the Internet. There are a large number of Internet radio stations broadcasting a variety of services from every corner of the world. Some are hosted, managed, and broadcast by private individuals while others are by the corresponding traditional terrestrial radio stations or radio networks. Whereas terrestrial, or OTA (over-the-air), radio stations are geographically restricted on the range of radio waves broadcast from a transmitter through the air, Internet radio stations are accessible from anywhere in the world, as long as there is a connection to the Internet, as services are not transmitted through the air but are delivered over the World Wide Web. On this receiver you can select Internet radio stations by genre as well as by region.
Depending on the Internet line conditions, the sound may not be smooth when playing Internet radio.
About list of Internet radio
The list of Internet radio stations on this receiver is created, edited, and managed by the vTuner database service exclusively for use with this receiver. For details about vTuner, see vTuner on page 132.

Saving and retrieving Internet radio stations
You can easily save and retrieve saved Internet radio stations. See Playing back your favorite songs on page 72 for more on this.

• To listen to Internet radio stations, you must have high-speed broadband Internet access. With a 56 K or ISDN modem, you may not enjoy the full benefits of Internet radio.
• The port number varies depending on the Internet radio station. Check the firewall settings.
• A list of Internet radio stations provided by the vTuner database service is subject to change or deletion without notice due to various reasons.
• Broadcasts may be stopped or interrupted depending on the Internet radio station. In this case, you cannot listen to a radio station selected from the list of Internet radio stations.

Registering broadcast stations not on the vTuner list from the special Pioneer site
With the receiver, broadcast stations not included on the list of station distributed by vTuner can be registered and played. Check the access code required for registration on the receiver, use this access code to access the special Pioneer Internet radio site and register the desired broadcast stations in your favorites. The address of the special Pioneer Internet radio site is: http://www.radio-pioneer.com
1 Display the Internet Radio list screen.
To display the Internet Radio list screen, perform step 1 at Playback with Network functions on page 70.
2 Use ‘↑’ / ‘↓’ to select ‘Help’, then press ENTER.
3 Use ‘↑’ / ‘↓’ to select ‘Get access code’, then press ENTER.
The access code required for registration on the special Pioneer Internet radio site is displayed. Make a memo of this address.
The following can be checked on the Help screen:
• Get access code – The access code required for registration on the special Pioneer Internet radio site is displayed.
• Show Your WebID/PW – After registering on the special Pioneer Internet radio site, the registered ID and password are displayed.
• Reset Your WebID/PW – Resets all the information registered on the special Pioneer Internet radio site.
When reset, all the registered broadcast stations are also cleared. If you want to listen to the same stations, re-register after resetting.
4 Access the special Pioneer Internet radio site from your computer and perform the registration process.
http://www.radio-pioneer.com
Access the above site and use the access code in step 3 to perform user registration, following the instructions on the screen.
5 Register the desired broadcast stations as your favorites, following the instructions on the computer's screen.
Both broadcast stations not on the vTuner list and stations on the vTuner list can be registered. In this case they are registered on the receiver as favorite broadcast stations and can be played.

About the Spotify audio stream playback function
Spotify is a music streaming distribution service managed and operated by Spotify Ltd. and distributing music over the Internet.
Spotify audio streams can be enjoyed using this unit and your smartphone or other mobile digital device.

Preparations (1) Installing the Spotify application on mobile digital devices and registering a Spotify Premium account

Important

• The Spotify application must be installed on mobile digital devices and you must have registered a Spotify Premium account (for a charge) in order to use the Spotify audio stream playback function on this unit. For registration procedures and other Spotify services, see the Spotify website.
http://www.spotify.com/
http://www.spotify.com/connect/
• For information on the countries and regions where Spotify services can be used, see the website below.
http://www.spotify.com/
Spotify functions may be changed without notice.
An Internet connection is required on the mobile digital device in order to use the Spotify application. Using the mobile telephone line for the Internet connection tends to lead to high packet communication charges, so we recommend subscribing to a fixed packet rate plan. For details, contact your mobile telephone operator.

Preparations (2) Connecting this unit to the network

• Connect this unit to the network and also to the Internet (page 43).
• Connect the mobile digital device by Wi-Fi to the wireless LAN router of the same network as the one to which this unit is connected. For instructions on connecting, see the operating instructions of the mobile digital device and the wireless LAN router.
In order to use the Spotify audio stream playback function from the Spotify application
To use the Spotify audio stream playback function, select this unit on the Spotify application. When Spotify audio streaming starts, this unit’s input automatically switches to Spotify.

CAUTION

Even if you are away from home, if you start Spotify audio streaming to play music on your mobile digital device and this unit is selected, the sound will be output from this unit. Depending on the volume level, the output may be loud, so be sure to check the audio output selection carefully before starting audio streaming. In addition, if you accidentally select this unit and play the sound on it, switch the audio output selection to the mobile digital device.

Notes

• A separate contract with/payment to an Internet service provider is required to use the Spotify audio stream playback function.
• This unit’s name is displayed as the playback device on the Spotify application. Also, this unit’s name can be changed at Friendly Name in the network settings.
• When this unit is selected with the Spotify application, the account information is registered on this unit as well. When disposing of this unit, reset this unit’s settings in order to delete the account information registered on this unit. For instructions on resetting, see this unit’s operating instructions.
Playing back audio files stored on components on the network
This unit allows you to play music on media servers connected on an identical Local Area Network (LAN) as the receiver. This unit allows for the playing of files stored on the following devices:
- PCs running Microsoft Windows Vista or XP with Windows Media Player 11 installed
- PCs running Microsoft Windows 7 or Windows 8 with Windows Media Player 12 installed
- DLNA-compatible digital media servers (on PCs or other components)

Playing back your favorite songs
Up to 64 favorite tracks on the media server and/or Internet radio stations can be registered in the Favorites folder. Note that only the audio files stored on components on the network can be registered.

Registering and deleting audio files and Internet radio stations in and from the Favorites folder
1. Press NET repeatedly to select the INTERNET RADIO or MEDIA SERVER.
2. With the track or Internet radio station you want to register selected, press +Fav (Favorite). The selected song or Internet radio station is then registered in the Favorite.

**Note**
To delete tracks or Internet radio stations that have been registered, set the input to FAVORITES, select the track or station to be deleted, then press the CLR button.

About network playback
The network playback function of this unit uses the following technologies:

Windows Media Player
See Windows Media Player 11/Windows Media Player 12 on page 132 for more on this.

DLNA

Content playable over a network
- Even when encoded in a compatible format, some files may not play correctly.
- Movie or Photo files cannot be played back.
- There are cases where you cannot listen to an Internet radio station even if the station can be selected from a list of radio stations.
- Some functions may not be supported depending on the server type or version used.
- Supported file formats vary by server. As such, files not supported by your server are not displayed on this unit. For more information check with the manufacturer of your server.

Disclaimer for Third Party Content
Access to content provided by third parties requires a high speed internet connection and may also require account registration and a paid subscription.
Third party content services may be changed, suspended, interrupted, or discontinued at any time without notice, and Pioneer disclaims any liability in connection with such occurrences.
Pioneer does not represent or warrant that content services will continue to be provided or available for a particular period of time, and any such warranty, express or implied, is disclaimed.

About playback behavior over a network
- Playback may stall when the PC is switched off or any media files stored on it are deleted while playing content.
- If there are problems within the network environment (heavy network traffic, etc.) content may not be displayed or played properly (playback may be interrupted or stalled). For best performance, a 100BASE-TX connection between player and PC is recommended.
- If several clients are playing simultaneously, as the case may be, playback is interrupted or stalled.
- Depending on the security software installed on a connected PC and the setting of such software, network connection may be blocked.
Pioneer is not responsible for any malfunction of the player and/or the NETWORK features due to communication error/malfunctions associated with your network connection and/or your PC, or other connected equipment. Please contact your PC manufacturer or Internet service provider.

This product includes technology owned by Microsoft Corporation and cannot be used or distributed without a license from Microsoft Licensing, Inc.
Microsoft, Windows, Windows Media and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
About playable file formats

The NETWORK feature of this receiver supports the following file formats. Note that some file formats are not available for playback although they are listed as playable file formats. Also, the compatibility of file formats varies depending on the type of server. Check with your server to ensure the compatibility of file formats supported by your server.

- Internet radio playback may be affected by the Internet communications environment, and in this case playback may not be possible even with the file formats listed here.
- With MP3, WAV, AAC, FLAC, AIFF and Apple Lossless files, when music files with the same format, sampling frequency, quantization bit number and number of channels are played successively, they are played with no gap.
- Gapless playback is not possible when the format is being converted (transcoded) by the server.
- Gapless playback is not possible in the DMR mode.
- When AAC or MP3 format is used, sound is reproduced with the minimum gap. If you are conscious about gaps, use WAV or FLAC files.

Music files

<table>
<thead>
<tr>
<th>Category</th>
<th>Extension</th>
<th>Stream</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP3</td>
<td>.mp3</td>
<td>MPEG-1 Audio Layer-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sampling frequency 32 kHz, 44.1 kHz, 48 kHz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quantization bitrate 16 bit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Channel 2 ch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bitrate 8 kbps to 320 kbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VBR/CBR Supported/Supported</td>
</tr>
<tr>
<td>WAV</td>
<td>.wav</td>
<td>LPCM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sampling frequency 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quantization bitrate 16 bit, 24 bit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Channel 2 ch, 5.0 ch, 5.1 ch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bitrate 5 kbps to 200 kbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VBR/CBR Supported/Supported</td>
</tr>
<tr>
<td>WMA</td>
<td>.wma</td>
<td>WMA2/7/8/9</td>
</tr>
<tr>
<td>AAC</td>
<td>.m4a</td>
<td>MPEG-4 AAC LC</td>
</tr>
<tr>
<td></td>
<td>.aac</td>
<td>Sampling frequency 32 kHz, 44.1 kHz, 48 kHz</td>
</tr>
<tr>
<td></td>
<td>.3gp</td>
<td>Quantization bitrate 16 bit</td>
</tr>
<tr>
<td></td>
<td>.3g2</td>
<td>Channel 2 ch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bitrate 16 kbps to 320 kbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VBR/CBR Supported/Supported</td>
</tr>
<tr>
<td>Apple Lossless</td>
<td>.m4a</td>
<td>Apple Loss AAC</td>
</tr>
<tr>
<td></td>
<td>.mp4</td>
<td>Sampling frequency 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quantization bitrate 16 bit, 24 bit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Channel 2 ch</td>
</tr>
<tr>
<td>FLAC</td>
<td>.flac</td>
<td>FLAC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sampling frequency 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quantization bitrate 16 bit, 24 bit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Channel 2 ch</td>
</tr>
<tr>
<td>AIFF</td>
<td>.aiff</td>
<td>AAC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sampling frequency 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quantization bitrate 16 bit, 24 bit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Channel 2 ch</td>
</tr>
<tr>
<td>DSD</td>
<td>.dsf</td>
<td>DSD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sampling frequency 2.8224 MHz, 5.6448 MHz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quantization bitrate 1 bit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Channel 2 ch</td>
</tr>
</tbody>
</table>

---

a  “MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.”
b  32 kHz, 176.4 kHz and 192 kHz support 2-channel audio sources only.
c  • When playing the 5.0 channel or 5.1 channel file in the sub zone, only the front left and right sound is played. Multichannel playback is only available with the main zone.
  • Gapless playback is not possible with a 5.0 channel or 5.1 channel audio source.
d  Files encoded using Windows Media Codec 9 may be playable but some parts of the specification are not supported; specifically, Pro, Lossless, Voice.
e  Uncompressed FLAC files are not supported. Pioneer does not guarantee playback.
f  DSD files cannot be played in the sub zone.
Control with HDMI function

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About the Control with HDMI function

Synchronized operations below with a Control with HDMI-compatible Pioneer TV or Blu-ray Disc player are possible when the component is connected to the receiver using an HDMI cable.

- The receiver’s volume can be set and the sound can be muted using the TV’s remote control.
- The receiver’s input switches over automatically when the TV’s input is changed or a Control with HDMI-compatible component is played.
- The receiver’s power is also set to standby, when the TV’s power is set to standby.

Important

- With Pioneer devices, the Control with HDMI functions are referred to as “KURO LINK”.
- You cannot use this function with components that do not support Control with HDMI.
- We only guarantee this receiver will work with Pioneer Control with HDMI-compatible components. However, we do not guarantee that all synchronized operations will work with components that support the Control with HDMI function.
- Use a High Speed HDMI®/™ cable when you want to use the Control with HDMI function. The Control with HDMI function may not work properly if a different type of HDMI cable is used.
- For details about concrete operations, settings, etc., refer to also the operating instructions for each component.

Making Control with HDMI connections

You can use synchronized operation for a connected TV and other components.

- Be sure to connect the TV’s audio cable to the audio input of this unit. When the TV and receiver are connected by HDMI connections, if the TV supports the HDMI ARC (Audio Return Channel) function, the sound of the TV is input to the receiver via the HDMI OUT 1 terminal, so there is no need to connect an audio cable. In this case, set ARC at HDMI Setup to ON (see HDMI Setup on page 75).
- For details, see Connecting your TV and playback components on page 34.

Important

- When connecting this system or changing connections, be sure to switch the power off and disconnect the power cord from the wall socket. After completing all connections, connect the power cords to the wall socket.
- After this receiver is connected to an AC outlet, a 2 second to 10 second HDMI initialization process begins. You cannot carry out any operations during this process. The HDMI indicator in the front panel display blinks during this process, and you can turn on this receiver once it has stopped blinking. When you set the Control with HDMI to OFF, you can skip this process. For details about the Control with HDMI feature, see Control with HDMI function on page 74.
- To get the most out of this function, we recommend that you connect your HDMI component not to a TV but rather directly to the HDMI terminal on this receiver.
- The Control with HDMI function works on the TV connected to the HDMI OUT 1 terminal. It does not work on TVs connected to the HDMI OUT 2 or HDMI OUT 3 terminals.

HDMI Setup

You must adjust the settings of this receiver as well as the connected Control with HDMI-compatible components in order to make use of the Control with HDMI function. For more information see the operating instructions for each component.

1 Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU.
2 Select ‘System Setup’, then press ENTER.
3 Select ‘HDMI Setup’, then press ENTER.
4 Select the ‘Control’ setting you want.

Choose whether to set this unit’s Control with HDMI function ON or OFF. You will need to set it to ON to use the Control with HDMI function.

When using a component that does not support the Control with HDMI function, set this to OFF.

- ON – Enables the Control with HDMI function. Set Control Mode. ARC and PQLS in the subsequent setting items to the desired values.
- OFF – The Control with HDMI is disabled. The Control Mode. ARC and PQLS functions in the subsequent setting items cannot be used.

5 Select the ‘Control Mode’ setting you want.

Choose whether you want to enable synchronized operations.

- ON – Enabled for the synchronized operations.
- OFF – The synchronized operations disabled.

6 Select the ‘ARC’ setting you want.

When a TV supporting the HDMI ARC (Audio Return Channel) function is connected to the receiver, the sound of the TV can be input via the HDMI OUT 1 terminal.

After setting the ARC, some time may be required for the connected device to be recognized and the sound to be produced.

- ON – The TV’s sound is input via the HDMI terminal.
- OFF – The TV’s sound is input from the Audio input terminals other than HDMI inputs.

7 Select the ‘PQLS’ setting you want.

Choose whether to set this unit’s PQLS function AUTO or OFF.

For details about PQLS function, see Setting the PQLS function on page 78.

- AUTO – PQLS is enabled. A precision quartz controller in this receiver eliminates distortion caused by timing errors (jitter), giving you the best possible digital-to-analog conversion when you use the HDMI interface. This is valid as an HDMI function for PQLS-compatible players.
- OFF – PQLS is disabled.
8 Select the ‘Standby Through’ setting you want.
It is possible to transfer signals from an HDMI-connected player to the TV when this receiver’s power is on standby.
Select the HDMI input whose HDMI signal is to be input for through transfer when in the standby mode. When LAST is selected, the signal being input to the currently selected HDMI input is transferred. When OFF is selected, no HDMI input is transferred when in the standby mode. (However, when Control is set to ON, the HDMI signal is transferred through by the Control with HDMI function even when in the standby mode.)
- When anything other than OFF is set for this setting, the receiver’s HDMI input can be switched even when the receiver is in the standby mode. (Switch by pointing the remote control at the receiver and pressing the HDMI, BD, DVD or SAT/CBL button.)
- Setting to anything other than OFF increases power consumption in the standby mode.
- This setting can be used even with devices that are not compatible with the Control with HDMI function.
- The Standby Through function cannot be used with MHL-compatible devices.
9 Select the ‘12V Trigger’ setting you want.
The component connected to the 12 V TRIGGER jack can be turned on and off when HDMI OUT is switched. OUT 1, OUT 2, OUT 3 or OFF can be selected. Select OFF when you want the component to switch when the input function is switched.
10 Select the ‘Speaker B Link’ setting you want.
When ON is selected here, the speaker terminals that are played (the OUT P. button setting) can be changed automatically when HDMI OUT 1 and HDMI OUT 2 are switched. This only works when 7.2ch + Speaker B or 5.2ch + SP-B Bi-Amp is selected for the Speaker System setting.
- OFF – The speaker terminals that are played (the OUT P. button setting) do not change automatically when HDMI OUT 1 and HDMI OUT 2 are switched.
- ON – The speaker terminals that are played (the OUT P. button setting) change automatically when HDMI OUT 1 and HDMI OUT 2 are switched. For details, see Switching the HDMI output on page 84.
11 When you’re finished, press HOME MENU.

Before using synchronization
Once you have finished all connections and settings, you must:
1 Put all components into standby mode.
2 Turn the power on for all components, with the power for the TV being turned on last.
3 Choose the HDMI input to which the TV is connected to this receiver, and see if video output from connected components displays properly on the screen or not.
4 Check whether the components connected to all HDMI inputs are properly displayed.

About synchronized operations

Important
- Synchronized operations are enabled when Control Mode is set to ON after setting Control in HDMI Setup to ON. For details, see HDMI Setup on page 75.
The Control with HDMI-compatible component connected to the receiver operates in sync as described below.
- From the menu screen of the Control with HDMI-compatible TV, set audio to be played through this receiver, and the receiver will switch to the synchronized amp mode.
- When in the synchronized amp mode, you can adjust the receiver’s volume or mute the sound using the TV’s remote control.
- When in the synchronized amp mode, the synchronized amp mode is canceled when the receiver’s power is turned off. To turn the synchronized amp mode back on, set audio to be played through the receiver from the TV’s menu screen, etc. This receiver will power up and switch to the synchronized amp mode.
- When the synchronized amp mode is canceled, the receiver’s power turns off if you were viewing an HDMI input or a TV program on the TV.
- When in the synchronized amp mode, the synchronized amp mode is canceled if an operation that produces sound from the TV is performed from the TV’s menu screen, etc.
- When the TV’s power is set to standby, the receiver’s power is also set to standby. (Only when the input for a component connected to the receiver by HDMI connection is selected or when watching the TV.)
- The receiver’s input switches automatically when the Control with HDMI-compatible component is played.
- The receiver’s input switches automatically when the TV’s input is switched.
- The synchronized amp mode remains in effect even if the receiver’s input is switched to a component other than one connected by HDMI.
The operations below can also be used on Pioneer Control with HDMI-compatible TVs.
- When the receiver’s volume is adjusted or the sound is muted, the volume status is displayed on the TV’s screen.
- When the OSD language is switched on the TV, the receiver’s language setting also switches accordingly.
Setting the PQLS function

PQLS (Precision Quartz Lock System) is a digital audio signal transfer control technology using the Control with HDMI function. It offers higher-quality audio playback by controlling audio signals from the receiver to a PQLS compatible player, etc. This enables removing jitter that has a negative effect on the quality of the sound and is generated upon transmission.

- On players compatible with PQLS Bit-stream, PQLS always works for all sources.
- On players compatible with PQLS Multi Surround, PQLS works for all sources. Set the player’s audio output to Linear PCM.
- On players compatible with PQLS 2 ch Audio, PQLS only works when playing CDs. Please refer to the operating instructions supplied with your player for more information.

This function is activated when Control is set to ON.

Tip
- The PQLS setting is set at PQLS in HDMI Setup on the HOME MENU, but the setting can also be switched with the remote control, as described below.

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press AUDIO P.
2. Use  /  to select ‘PQLS’.
3. Use  /  to select the PQLS setting.

The setting is displayed on the front panel display.

- AUTO — PQLS is enabled. A precision quartz controller in this receiver eliminates distortion caused by timing errors (jitter), giving you the best possible digital-to-analog conversion when you use the HDMI interface. This is valid as an HDMI function for PQLS-compatible players.
- OFF — PQLS is disabled.

About Sound Retriever Link and Stream Smoother Link

These are automatic functions allowing you to output optimum audio and video signals from the receiver using the Control with HDMI function. When a player supporting the respective function is connected to the receiver by HDMI, the sound/picture is optimized for the compressed audio/video file played on the player.

- Depending on the compressed audio/video file format, it may not be operated automatically.
- Also see the player’s operating instructions.

Sound Retriever Link

When playing a compressed audio file on the player, the file’s bitrate information is acquired using the Control with HDMI function, and the sound is optimized on the receiver based on this information.

To activate the Sound Retriever Link function, make the setting below.

1. Set the HDMI Setup’s Control to ON, and set the Control Mode setting to ON.
   See HDMI Setup on page 75.
2. Set the S.RTRV (Auto Sound Retriever) setting to ON.
   See Setting the Audio options on page 79.

Stream Smoother Link

Using the Control with HDMI function, the receiver automatically detects whether a compressed video file is being played on the player, and if so automatically activates the Stream Smoother function.

To activate the Stream Smoother Link function, make the setting below.

1. Set the HDMI Setup’s Control to ON, and set the Control Mode setting to ON. See HDMI Setup on page 75.
2. Set the STREAM (Stream Smoother) setting to AUTO.
   See Setting the Video options on page 81.

Cautions on the Control with HDMI function

- Connect the TV directly to this receiver. Interrupting a direct connection with other amps or an AV converter (such as an HDMI switch) can cause operational errors.
- Only connect components (Blu-ray Disc player, etc.) you intend to use as a source to the HDMI input of this receiver. Interrupting a direct connection with other amps or an AV converter (such as an HDMI switch) can cause operational errors.
- When the receiver’s Control is turned ON, even if the receiver’s power is in the standby mode, it is possible to output the audio and video signals from a player via HDMI to the TV without producing sound from the receiver, but only when a Control with HDMI-compatible component (Blu-ray Disc player, etc.) and compatible TV are connected. In this case, the receiver’s power turns on and the power and HDMI indicators light.
- If the Control setting is not set to OFF, the power consumption during standby will increase.
Using other functions

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Switching the output (OUTPUT PARAMETER) ...............................83
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### Setting the Audio options

There are a number of additional sound settings you can make using the **AUDIO PARAMETER** menu. The defaults, if not stated, are listed in bold.

#### Important
- Note that if a setting doesn’t appear in the **AUDIO PARAMETER** menu, it is unavailable due to the current source, settings and status of the receiver.

1. **Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press AUDIO P.**

2. **Use ‹ › / ‹ › to select the setting you want to adjust.** Depending on the current status/mode of the receiver, certain options may not be able to be selected. Check the table below for notes on this.

3. **Use ‹ › / ‹ › to set as necessary.** See the table below for the options available for each setting.

4. **Press RETURN to confirm and exit the menu.**

#### Audio parameter menu

<table>
<thead>
<tr>
<th>Setting</th>
<th>What it does</th>
<th>Option(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MCACC</strong> (MCACC preset)</td>
<td>Selects your favorite MCACC preset memory when multiple preset memories are saved. When an MCACC preset memory has been renamed, the given name is displayed.</td>
<td>M1. MEMORY 1 to M6. MEMORY 6</td>
</tr>
<tr>
<td><strong>EQ</strong> (Acoustic Calibration EQ)</td>
<td>Switches on/off the effects of EQ Pro.</td>
<td>ON</td>
</tr>
<tr>
<td><strong>S-WAVE</strong> (Standing Wave)</td>
<td>Switches on/off the effects of Standing Wave Control.</td>
<td>ON</td>
</tr>
<tr>
<td><strong>PHASE</strong> (Phase Control)</td>
<td>Switches on/off the effects of Phase Control (<strong>page 66</strong>). It is automatically set to FULLBND when Full Band Phase Control measurement is performed (<strong>page 66</strong>). You cannot select FULLBND before the measurement.</td>
<td>ON</td>
</tr>
<tr>
<td><strong>PHASE C+</strong> (Phase Control Plus)</td>
<td>For discs created with standards other than Phase Control, the LFE channel is delayed upon recording in the first place. This function corrects for phase shifting on such discs. This function is particularly effective when playing multi-channel music containing low frequency effects (LFE). When AUTO is selected, not only the low range delay but also the polarity and correlation are detected to achieve the optimum effect.</td>
<td>AUTO/0 to 16 (ms)</td>
</tr>
<tr>
<td><strong>DELAY</strong> (Sound Delay)</td>
<td>Some monitors have a slight delay when showing video, so the soundtrack will be slightly out of sync with the picture. By adding a bit of delay, you can adjust the sound to match the presentation of the video.</td>
<td>0 to 800 (ms)</td>
</tr>
<tr>
<td><strong>TONE</strong> (Tone Control)</td>
<td>Applies the treble and bass tone controls to a source, or bypasses them completely.</td>
<td>BYPASS</td>
</tr>
<tr>
<td><strong>BASS</strong></td>
<td>Adjusts the amount of bass.</td>
<td>a</td>
</tr>
<tr>
<td><strong>S. RTRV</strong> (Auto Sound Retriever)</td>
<td>With the Auto Sound Retriever function, DSP processing is used to compensate for the loss of audio data upon compression, improving the sound’s sense of density and modulation. Also, when a player supporting the Sound Retriever Link function is connected to the receiver by HDMI, by setting this to ON, the bitrate information of the compressed audio file being played on the player is acquired using the Control with HDMI function, and the sound is optimized based on this information (Sound Retriever Link).</td>
<td>ON</td>
</tr>
<tr>
<td><strong>DNR</strong> (Digital Noise Reduction)</td>
<td>May improve the quality of sound in a noisy source (for example, videotape with lots of background noise) when switched on. This only has an effect with 2-channel signals. This mode is effective for contents with a sampling frequency of 48 kHz or less.</td>
<td>ON</td>
</tr>
<tr>
<td><strong>DIALOG E</strong> (Dialog Enhancement)</td>
<td>Localizes dialog in the center channel to make it stand out from other background sounds in a TV or movie soundtrack. By moving from UP1 through UP2 and UP3 up to UP4, you can make the sound source seem to relocate upwards.</td>
<td>OFF/FLAT/UP1/UP2/UP3/UP4</td>
</tr>
<tr>
<td><strong>AScale</strong> (Audio Scaler)</td>
<td>When AUTO is selected, Hi-bit32, UpSampling and DFilter are automatically set to the optimum settings according to the 2-channel audio source’s sampling frequency and bit rate to achieve high quality playback sound.</td>
<td>MANUAL</td>
</tr>
<tr>
<td><strong>Hi-bit32</strong></td>
<td>Creates a wider dynamic range with digital sources like CDs, DVDs or BDs. 16-, 20- and 24-bit PCM as well as compressed audio is requan-itized to 32 bits, and the high frequency component is interpolated upon data processing to enable smoother, more subtle musical expression.</td>
<td>x1 (Off)</td>
</tr>
<tr>
<td><strong>UpSampling</strong> (Up Sampling)</td>
<td>The 2-channel audio source’s sampling frequency is increased to the set multiple to achieve high quality playback sound.</td>
<td>x1</td>
</tr>
<tr>
<td><strong>DFilter</strong> (Digital Filter)</td>
<td>Switches the Audio DAC (Digital Audio Converter) digital filter type. One of two settings can be selected: SLOW (soft and warm), SHARP (sharp and bright).</td>
<td>SLOW</td>
</tr>
<tr>
<td><strong>PQLS</strong> (Precision Quartz Lock System)</td>
<td>Switches the PQLS function between AUTO and OFF (Getting the PQLS function on <strong>page 77</strong>).</td>
<td>AUTO</td>
</tr>
<tr>
<td><strong>DUAL</strong> (Dual Mono)</td>
<td>Specifies how dual mono encoded Dolby Digital soundtracks should be played. Dual mono is not widely used, but is sometimes necessary when two languages need to be sent to separate channels.</td>
<td>AUTO</td>
</tr>
<tr>
<td><strong>SIGSEL</strong> (Signal Select)</td>
<td>Use to switch the input signal type (analog/digital/HDMI) (<strong>page 18</strong>).</td>
<td>AUTO</td>
</tr>
</tbody>
</table>
### Setting | What it does | Option(s)
--- | --- | ---
**Fixed PCM**
 | This is useful if you find there is a slight delay before OFF recognizes the PCM signal on a CD, for instance. When ON is selected, noise may be output during playback of non-PCM sources. Please select another input signal if this is a problem. | OFF, ON
**DRC**
(Dynamic Range Control)
 | Adjusts the level of dynamic range for movie soundtracks optimized for Dolby Digital, DTS, Dolby Digital Plus, Dolby TrueHD, DTS-HD and DTS-HD Master Audio (you may need to use this feature when listening to surround sound at low volumes). | AUTO, MAX, MID, OFF
**Loud Mgmt**
(Loudness Management)
 | This is a setting of the post process function of the Dolby TrueHD decoder. By setting to OFF, you can enjoy higher sound quality. This is a setting of the post process function of the Dolby TrueHD decoder. By setting to OFF, you can enjoy higher sound quality. When set to the recommended value of 0 dB, the LFE is restricted to the set value. When OFF is selected, the sound is not output from the LFE channel. | OFF, –10dB, –5dB, –4dB, –3dB, –2dB, –1dB, 0dB, Default: 0dB
**LFE**
(LFE Attenuate)
 | Some audio sources include ultra-low bass tones. Set the LFE attenuator as necessary to prevent the ultra-low bass tones from distorting the sound from the speakers. | OFF, –20dB, –15dB, –10dB, –5dB, –4dB, –3dB, –2dB, –1dB, 0dB, Default: 0dB
**INPUT ATT**
(Input attenuate)
 | If the sound is distorted, this can be used to lower the input signal level and reduce the distortion. | OFF, ON
**HDMI**
(HDMI Audio)
 | Specifies the routing of the HDMI audio signal out of this receiver (amp) or through to a TV. When THROUGH is selected, no sound is output from this receiver. | AMP, THROUGH
**A.DELAY**
(Auto delay)
 | This feature automatically corrects the audio-to-video delay between components connected with an HDMI cable. The audio delay time is set depending on the operational status of the display connected with an HDMI cable. The video delay time is automatically adjusted according to the audio delay time. | OFF, ON
**C.GAIN**
(Center Gain)
(Applicable only when using a center speaker)
 | Adjusts the center gain to create a wider stereo effect with vocals. Adjust the effect from 0 (all center channel sent to front right and left speakers) to 1.0 (center channel sent to the center speaker only). | 0 to 1.0, Default: NecX CINEMA: 1.0, NecX MUSIC: 0.3, NecX GAME: 1.0
**EFFECT**
 | Sets the effect level for the ALC mode. | –10 to 90, Default: 50
**V.WIDE**
(Virtual Wide)
 | When you’re not using front wide speakers, selecting this mode allows you to hear a virtual front wide channel through your front speakers. | AUTO, MANUAL
**V.SB**
(Virtual Surround Back)
 | When you’re not using surround back speakers, selecting this mode allows you to hear a virtual surround back channel through your surround speakers. You can choose to listen to sources with no surround back channel information. | OFF, ON
**V.HEIGHT**
(Virtual Height)
 | When you’re not using front height speakers, selecting this mode allows you to hear a virtual front height channel through your front speakers. | OFF, ON
**V.DEPTH**
(Virtual Depth)
 | When this mode is selected, the sound field expands virtually to behind the display, resulting in a sound field with the same depth as the 3D picture to achieve a better sense of presence. | OFF, MIN, MID, MAX
**AMP**
 | This is set to turn power amplifier sections off and use channels exclusively in the pre-amp mode. This mode improves the continuity of the sound from the front channel to the surround channels. | F&C OFF, F & C OFF, On, Front OFF
**V.DEPTH**
(Virtual Depth)
 | When this mode is selected, the sound field expands virtually to behind the display, resulting in a sound field with the same depth as the 3D picture to achieve a better sense of presence. | OFF, MIN, MID, MAX

---

**a.** The adjustment can be made only when TONE is set to ON.

**b.** The default value changes depending on the type of input (page 17).

**c.** When ON is selected, the Sound Retriever effect is optimized based on the bitrate information of the contents input to the USB memory audio and INTERNET RADIO, MEDIA SERVER, FAVORITES (digital audio input only) to achieve high sound quality.

**d.** When ON is selected, optimum correction of the audio signals input via the HDMI OUT terminal is conducted with the HDMI ARC (Audio Return Channel) function, and the sound of digital TV broadcasts is produced with HD quality. This valid when the input is set to TV and ARC in HDMI Setup is set to ON. (See HDMI Setup on page 18.)

**e.** This feature is only available when the connected display supports the automatic audio/video synchronizing capability (‘lipsync’) for HDMI. If you find the automatically set delay time unsuitable, set A.DELAY to OFF and adjust the delay time manually. For more details about the lipsync feature of your display, contact the manufacturer directly.

**f.** On the front panel display, DIGITAL is displayed.

**g.** AUTO is only available for Dolby TrueHD signals. Select MAX or MID for signals other than Dolby TrueHD.

**h.** The attenuator isn’t available when using the Stream Direct (ANALOG DIRECT) modes.

**i.** The attenuator does not function when the listening mode is set to PURE DIRECT with AirPlay.

**j.** The HDMI Audio setting cannot be switched while performing synchronized amp mode operations.

**k.** You can only use the Virtual Surround Back mode if the surround speakers are on and the SB setting is set to NO or F & C or 5.2.4ch. 5.2 Bi-Amp+HDZONE 5.2 + ZONE 2+ZONE 3 5.2 + ZONE 2+HDZONE Multi-ZONE Music 5.2ch + SP-Bi-Amp 5.2ch F+Surr Bi-Amp 5.2ch F+C-Bi-Amp or 5.2ch CbSur Bi-Amp is selected at Speaker System.

**l.** This mode is effective for contents with a sampling frequency of 48 kHz or less.

**m.** This is a setting of the post process function of the Dolby TrueHD decoder. By setting to OFF, you can enjoy higher sound quality. This is a setting of the post process function of the Dolby TrueHD decoder. By setting to OFF, you can enjoy higher sound quality. When set to the recommended value of 0 dB, the LFE is restricted to the set value. When OFF is selected, the sound is not output from the LFE channel.

**n.** This function does not work when the sampling frequency is 32 kHz.

**o.** This setting only affects 2-channel audio sources.

**p.** The attenuator isn’t available when using the Stream Direct (ANALOG DIRECT) modes.

**q.** The attenuator does not function when the listening mode is set to PURE DIRECT with AirPlay.

**r.** The HDMI Audio setting cannot be switched while performing synchronized amp mode operations.

**s.** The synchronized amp mode must be turned on in order to play the receiver’s HDMI audio and video inputs from the TV with the receiver’s power in the standby mode. See About synchronized operations on page 22.

**t.** This feature is only available when the connected display supports the automatic audio/video synchronizing capability (‘lipsync’) for HDMI. If you find the automatically set delay time unsuitable, set A.DELAY to OFF and adjust the delay time manually. For more details about the lipsync feature of your display, contact the manufacturer directly.

**u.** Only when listening to 2-channel sources in NecX CINEMA/MUSIC/GAME mode.

**v.** This is a setting of the post process function of the Dolby TrueHD decoder. By setting to OFF, you can enjoy higher sound quality. This is a setting of the post process function of the Dolby TrueHD decoder. By setting to OFF, you can enjoy higher sound quality. When set to the recommended value of 0 dB, the LFE is restricted to the set value. When OFF is selected, the sound is not output from the LFE channel.

**w.** This feature is only available when the connected display supports the automatic audio/video synchronizing capability (‘lipsync’) for HDMI. If you find the automatically set delay time unsuitable, set A.DELAY to OFF and adjust the delay time manually. For more details about the lipsync feature of your display, contact the manufacturer directly.

**x.** This can be set when MANUAL is selected for V.SBs.

**y.** You can use the Virtual Surround Back mode when the headphones are connected to this receiver or when any of the stereo, Front Stage Surround Advance, Sound Retriever Air or Stream Direct modes is selected.

**z.** You can use the Virtual Surround Back mode if the surround speakers are on and the SB setting is set to NO or F & C or 5.2.4ch. 5.2 Bi-Amp+HDZONE 5.2 + ZONE 2+ZONE 3 5.2 + ZONE 2+HDZONE Multi-ZONE Music 5.2ch + SP-Bi-Amp 5.2ch F+Surr Bi-Amp 5.2ch F+C-Bi-Amp or 5.2ch CbSur Bi-Amp is selected at Speaker System.

**aa.** This mode is effective for contents with a sampling frequency of 48 kHz or less.

**bb.** This is a setting of the post process function of the Dolby TrueHD decoder. By setting to OFF, you can enjoy higher sound quality. This is a setting of the post process function of the Dolby TrueHD decoder. By setting to OFF, you can enjoy higher sound quality. When set to the recommended value of 0 dB, the LFE is restricted to the set value. When OFF is selected, the sound is not output from the LFE channel.
There are a number of additional picture settings you can make using the VIDEO PARAMETER menu. The defaults, if not stated, are listed in bold.

### Important
- When MAIN/HDZONE is set to HDZONE, the VIDEO PARAMETER menu setting works only for the signal of the HDMI OUT 1 and HDMI OUT 2 terminals. Also, when HDZONE is set to ON, VIDEO PARAMETER cannot be set (does not work).
- Note that if an option cannot be selected on the VIDEO PARAMETER menu, it is unavailable due to the current source, setting and status of the receiver.
- All of the setting items can be set for each input function. (However, with the audio only input function, VIDEO PARAMETER cannot be set.)
- Also, when HDZONE is set to ON, VIDEO PARAMETER cannot be set (does not work).
- Setting items other than V.CONV can only be selected when V.CONV is set to ON.

#### 1 Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press VIDEO P.

#### 2 Use † / ‡ to select the setting you want to adjust.
Depending on the current status/mode of the receiver, certain options may not be able to be selected. Check the table below for notes on this.

#### 3 Use ◄/► to set as necessary.
See the table below for the options available for each setting.

#### 4 Press RETURN to confirm and exit the menu.

### Video parameter menu

<table>
<thead>
<tr>
<th>Setting</th>
<th>What it does</th>
<th>Option(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V.CONV</td>
<td>Converts all video input signals so they can be output from the HDMI OUT 1 and HDMI OUT 2 terminals.</td>
<td>AUTO, OFF</td>
</tr>
<tr>
<td>RES</td>
<td>Specifies the output resolution of the video signal (when video input signals are output at the HDMI OUT terminals, select this according to the resolution of your monitor and the images you wish to watch).</td>
<td>AUTO, ON, OFF</td>
</tr>
<tr>
<td>PCINEMA</td>
<td>This setting optimizes the operation of the progressive scanning circuit for playing film materials. Normally set to AUTO. If the picture seems unnatural, switch this to ON or OFF.</td>
<td>AUTO, ON, OFF</td>
</tr>
<tr>
<td>P.MOTION</td>
<td>Adjusts the motion and still picture quality when video output is set to progressive.</td>
<td>0 to +8, Default: 0</td>
</tr>
<tr>
<td>STREAM</td>
<td>This improves elements that reduce picture quality mainly noticeable in network contents, such as mosquito noise and block noise. When AUTO is selected, this unit’s Stream Smoother function automatically turns on when network contents are played on the player supporting Stream Smoother Link and connected to this unit by HDMI (assuming that integrated operation with the Control with HDMI function is set). (Stream Smoother Link)</td>
<td>AUTO, OFF</td>
</tr>
<tr>
<td>V.ADJ</td>
<td>Sets the optimum picture quality for the type of monitor that is connected. Select PDP for plasma displays, LCD for liquid crystal monitors, FPJ for front projectors, PRO for professional monitors. If you want to adjust the picture quality settings to your personal tastes, select MEMORY.</td>
<td>PDP, LCD, FPJ, PRO, MEMORY</td>
</tr>
<tr>
<td>YNR</td>
<td>Reduces noise in the luminance (Y) signal.</td>
<td>0 to +8, Default: 0</td>
</tr>
</tbody>
</table>

(The image is only an example for checking the effect.)
<table>
<thead>
<tr>
<th>Setting</th>
<th>What it does</th>
<th>Option(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNR</td>
<td>Reduces noise in the input’s color (C) signal.</td>
<td>&lt;0 to +8</td>
</tr>
<tr>
<td></td>
<td>(The image is only an example for checking the effect.)</td>
<td>Default: 0</td>
</tr>
<tr>
<td>BNR</td>
<td>Reduces block noise (block-shaped distortion generated upon MPEG compression) in the picture.</td>
<td>&lt;0 to +8</td>
</tr>
<tr>
<td></td>
<td>(The image is only an example for checking the effect.)</td>
<td>Default: 0</td>
</tr>
<tr>
<td>MNR</td>
<td>Reduces mosquito noise (distortion generated at the contours of the picture upon MPEG compression) in the picture.</td>
<td>&lt;0 to +8</td>
</tr>
<tr>
<td></td>
<td>(The image is only an example for checking the effect.)</td>
<td>Default: 0</td>
</tr>
<tr>
<td>DETAIL</td>
<td>Adjusts how sharp edges appear.</td>
<td>&lt;0 to +8</td>
</tr>
<tr>
<td></td>
<td>(The image is only an example for checking the effect.)</td>
<td>Default: 0</td>
</tr>
<tr>
<td>BRIGHT</td>
<td>Adjusts the overall brightness.</td>
<td>&lt;–6 to +6</td>
</tr>
<tr>
<td></td>
<td>(The image is only an example for checking the effect.)</td>
<td>Default: 0</td>
</tr>
<tr>
<td>CONTRAST</td>
<td>Adjusts the contrast between light and dark.</td>
<td>&lt;–6 to +6</td>
</tr>
<tr>
<td></td>
<td>(The image is only an example for checking the effect.)</td>
<td>Default: 0</td>
</tr>
<tr>
<td>HUE</td>
<td>Adjusts the red/green balance.</td>
<td>&lt;–6 to +6</td>
</tr>
<tr>
<td></td>
<td>(The image is only an example for checking the effect.)</td>
<td>Default: 0</td>
</tr>
<tr>
<td>CHROMA</td>
<td>Adjusts saturation from dull to bright.</td>
<td>&lt;–6 to +6</td>
</tr>
<tr>
<td></td>
<td>(The image is only an example for checking the effect.)</td>
<td>Default: 0</td>
</tr>
<tr>
<td>BLK SETUP</td>
<td>Sets the black level according to the video input signal.</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Normally select 0. If the black level is too bright due to the combination with the connected monitor, select 7.5.</td>
<td>7.5</td>
</tr>
<tr>
<td>ASP</td>
<td>Specifies the aspect ratio when input signals are output at the HDMI output. Make your desired settings while checking each setting on your display (if the image doesn’t match your monitor type, cropping or black bands appear).</td>
<td>THROUGH NORMAL</td>
</tr>
</tbody>
</table>
Switching the output (OUTPUT PARAMETER)

You can press OUT P. to switch the output of speaker terminals or HDMI terminals to be played.

Switching the speaker terminals

If you selected 7.2.2ch TMD/FW, 7.2.2ch TMD/FH or 7.2ch + Speaker B at Speaker system setting on page 103, you can switch between speakers using the OUT P. button.

When you select 7.2.2ch + Front Bi-Amp. 7.2ch + HDZONE. 5.2.4ch. 5.2 Bi-Amp+HDZONE. 5.2ch + SP-B Bi-Amp. 5.2ch +sur Bi-Amp. 5.2ch +C+sur Bi-Amp. 5.2ch +C+sur Bi-Amp. Multi-ZONE Music. 5.2 +ZONE 2+HDZONE or 5.2 +ZONE 2+ZONE 3, the button will simply switch your main speaker terminal (A) on or off (Pre-AMP mode).

The pre-amp mode is a mode for reducing power consumption when power amplifiers are connected to the receiver’s PRE OUT terminals by individually turning off the power of the amplifiers for those channels.

Press repeatedly to choose a speaker terminal option:

When you select 7.2.2ch TMD/FW, you can select from:

- **SP**: TMD/FW ON – Top middle or front wide channels are added to the front, center, surround and surround back channels (maximum 7 channels) and a maximum of 9 channels are output. The top middle and front wide channels are switched automatically according to the audio input signal.
- **SP**: TMD ON – Top middle channels are added to the front, center, surround and surround back channels (maximum 7 channels) and a maximum of 9 channels are output.
- **SP**: FW ON – Front wide channels are added to the front, center, surround and surround back channels (maximum 7 channels) and a maximum of 9 channels are output.
- **SP**: OFF – No sound is output from the speakers.

When you select 7.2.2ch TMD/FH, you can select from:

- **SP**: TMD/FH ON – Top middle or front wide channels are added to the front, center, surround and surround back channels (maximum 7 channels) and a maximum of 9 channels are output. The top middle and front height channels are switched automatically according to the audio input signal.
- **SP**: TMD ON – Top middle channels are added to the front, center, surround and surround back channels (maximum 7 channels) and a maximum of 9 channels are output.
- **SP**: FH ON – Front height channels are added to the front, center, surround and surround back channels (maximum 7 channels) and a maximum of 9 channels are output.
- **SP**: OFF – No sound is output from the speakers.

When you select 7.2ch + Speaker B, you can select from:

- **SP**: A ON – Sound is output from the A-speaker terminals (up to 9 channels including front height channels), depending on the source.
- **SP**: B ON – Sound is output from the two speakers connected to the B-speaker terminals. Multichannel sources will not be heard.
- **SP**: A+B ON – Sound is output from the A-speaker terminals (up to 7 channels, depending on the source), the two speakers connected to the B-speaker terminals, and the subwoofer. The sound from the B-speaker terminals will be the same as the sound from the A-speaker terminals (multichannel sources will be downmixed to 2 channels).
- **SP**: OFF – No sound is output from the speakers.
Notes

- When 7.2ch + Speaker B or 5.2ch + SP-B Bi-Amp is selected for the Speaker System setting (page 103) and Speaker B Link (HDMI Setup on page 79) is set to "ON", the setting of the speaker terminals that are played changes automatically when HDMI OUT 1 and HDMI OUT 2 are switched. For details, see Switching the HDMI output on page 84.
- The subwoofer output depends on the settings you made in Manual speaker setup on page 103. However, if SP: B ON is selected above, no sound is heard from the subwoofer (the LFE channel is not downmixed).
- All speaker systems (except 7.2ch + Speaker B connections) are switched off when headphones are connected.

Switching the HDMI output

Set which terminal to use when outputting video and audio signals from the HDMI output terminals.

The HDMI OUT 1 terminal is compatible with the Control with HDMI function.

1. Press OUT P..
2. Use ↑/↓ to select 'OUT 1/2'.
3. Use ←/→ to select the output settings for the HDMI OUT 1 and HDMI OUT 2 terminals. Please wait a while when Please wait... is displayed.
   - The output switches among OUT 1+2, OUT 1, OUT 2 and OFF each time the button is pressed.
   - The synchronized amp mode is canceled when the HDMI output is switched. If you wish to use the synchronized amp mode, switch to OUT 1, then select the synchronized amp mode on the TV using the TV’s remote control.
4. Use ↑/↓ to select 'OUT 3'.
5. Use ←/→ to select the output settings for the HDMI OUT 3 terminal. Please wait a while when Please wait... is displayed.
   - The setting switches between ON and OFF each time this is pressed.
   - When MAIN/HDZONE is set to HDZONE, the output of the HDMI OUT 3 terminal cannot be switched (page 85).
6. When you're finished, press RETURN.

About the Speaker B Link function

When 7.2ch + Speaker B or 5.2ch + SP-B Bi-Amp is selected for the Speaker System setting (page 103) and Speaker B Link (HDMI Setup on page 79) is set to "ON", the setting of the speaker terminals that are played changes automatically when HDMI OUT 1 and HDMI OUT 2 are switched. The setting switches as follows.

- OUT 1+2 – Switches to SP: A+B ON. Sound is output simultaneously in the room where the A speakers are located and in the room where the B speakers are located.
- OUT 1 – Switches to SP: A ON. Sound is only output in the room where the A speakers are located.
- OUT 2 – Switches to SP: B ON. Sound is only output in the room where the B speakers are located.

HDMI 4K/60p signal output setting

If the TV to be connected using HDMI supports 4K/60p, you can switch the 4K/60p signal output setting in accordance with TV performance.

Operation is performed on the front panel of the unit. You cannot perform the setting if the multizone function is not set to MULTI ZONE OFF (page 85).

1. Switch the receiver into standby.
2. While holding down ENTER on the front panel, press ⊿ STANDBY/ON. The display shows RESET ⊿ NO ⊿.
3. Use ↑/↓ to select ‘4K/60p’.
4. Use ←/→ to select the signal to set.
   - 4:4:4 – Select this setting when connecting to a 4K/60p 4:4:4 24 bit compatible TV using HDMI. More high quality video images can be enjoyed.
     - When the HDMI cable does not support 4K/60p 4:4:4 24 bit (18 Gbps transmission), video image may not be output properly. In that case, select 4:2:0 to watch a 4K/60p 4:2:0 24 bit video image.
     - The HDMI OUT 3 terminal does not output a 4K/60p 4:4:4 24 bit video image if MAIN/HDZONE is set to HDZONE.
   - 4:2:0 – Select this setting when connecting to a 4K/60p 4:2:0 24 bit compatible TV using HDMI.
5. When you’re finished, press RETURN.
6. Press ⊿ STANDBY/ON to switch on the receiver and your TV.

Make sure that the TV’s video input is set to this receiver.

Changing the channel level while listening

Using the channel level settings, you can adjust the overall balance of your speaker system, an important factor when setting up a home theater system.

1. Press CH LV..
2. Use ↑/↓ to select the channel you wish to adjust.
3. Adjust the volume using ←/→.

The volume can be adjusted in the range of -12.0dB to +12.0dB, 0.5 dB steps.
4. When you’re finished, press RETURN.

Input Volume Absorber

This can be used to correct for the difference in volume between input sources.

1. Switch to the input whose volume you want to adjust.
2. Press CH LV..
3. Use ↑/↓ to select ‘ALL’.
4. Adjust the volume using ←/→.

The volume can be adjusted in the range of -12.0dB to +12.0dB, 0.5 dB steps.
5. When you’re finished, press RETURN.
Using the MULTI-ZONE controls

The following steps use the front panel controls to adjust the sub zone volume and select sources. See ZONE 2 remote controls and HDZONE remote controls on page 85.

Important
- The settings must be changed at ZONE Setup in order to use the multi-zone function (page 109).

1. Press the button on the front panel for the zone you want to operate (ZONE 2 ON/OFF, ZONE 3 ON/OFF or HDZONE ON/OFF).
   The zone switches between on and off each time the button is pressed. The MULTI-ZONE indicator lights when the MULTI-ZONE control has been switched ON.

2. Press MULTI-ZONE CONTROL on the front panel to select the sub zone(s) you want.
   - When the receiver is on, make sure that any operations for the sub zone are done while ZONE and your selected sub zone(s) show in the display. If this is not showing, the front panel controls affect the main zone only.
   - If the receiver is in standby, the display is dimmed, and ZONE and your selected sub zone(s) continue to show in the display.

3. Use the INPUT SELECTOR dial to select the source for the zone you have selected.
   For example, ZONE 2 SAT/CBL sends the source connected to the SAT/CBL inputs to the primary (ZONE 2) sub room.
   - If you select TUNER, you can use the tuner controls to select a preset station (see Saving station presets on page 60 if you’re unsure how to do this). The tuner cannot be tuned to more than one station at a time. Therefore, changing the station in one zone also changes the station in the other zone. Please be careful not to change stations when recording a radio broadcast.

4. Use the MASTER VOLUME dial to adjust the volume for the sub zone.
   - When Speaker System is set to anything other than 5.2 +ZONE 2+ZONE 3, 5.2 +ZONE 2+HDZONE or Multi-Zone Music, the volume output from the receiver’s AUDIO ZONE 2 OUT terminals can be fixed to –40 dB or 0 dB and the volume can be adjusted from the connected amplifier. If you want to adjust the volume from the connected amplifier, see ZONE Setup on page 109.

5. When you’re finished, press MULTI-ZONE CONTROL again to return to the main zone controls.
   You can also press ZONE 2 ON/OFF, ZONE 3 ON/OFF or HDZONE ON/OFF on the front panel to switch off all output to the sub zone.
   - You won’t be able to switch the main zone off completely unless you’ve switched off the MULTI-ZONE control first.
   - If you don’t plan to use the MULTI-ZONE feature for a while, turn off the power in both the sub and main rooms so that this receiver is in standby.

Note
When HDZONE is turned on, the video converter function is disabled. For that reason, video connected with the video cable or component cable is not output from the HDMI terminal. Also, upscaling of the HDMI input video cannot be performed. To enable the video converter function, turn off HDZONE.

ZONE 2 remote controls

Before operation, hold down Z2 on the remote control (for 1.5 seconds) until the remote control LED flashes one time.

The following table shows the possible ZONE 2 remote controls:

<table>
<thead>
<tr>
<th>Button(s)</th>
<th>What it does</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL</td>
<td>Use to select the input function in the sub zone.</td>
</tr>
<tr>
<td>Input function buttons</td>
<td>Use to select the input function directly (this may not work for some functions) in the sub zone.</td>
</tr>
<tr>
<td>VOLUME +/-&lt;a&gt;</td>
<td>Use to set the listening volume in the sub zone.</td>
</tr>
<tr>
<td>MUTE &lt;a&gt;</td>
<td>Mutes the sound or restores the sound if it has been muted (adjusting the volume also restores the sound).</td>
</tr>
<tr>
<td>Speaker System</td>
<td>Switches on/off power in the sub zone.</td>
</tr>
<tr>
<td>ALL</td>
<td>Use to select the input function in the sub zone.</td>
</tr>
<tr>
<td>Input function buttons</td>
<td>Use to select the input function directly (this may not work for some functions) in the sub zone.</td>
</tr>
<tr>
<td>VOLUME +/-&lt;a&gt;</td>
<td>Use to set the listening volume in the sub zone.</td>
</tr>
<tr>
<td>MUTE &lt;a&gt;</td>
<td>Mutes the sound or restores the sound if it has been muted (adjusting the volume also restores the sound).</td>
</tr>
</tbody>
</table>

ZONES 3 remote controls

Before operation, hold down Z3 on the remote control (for 1.5 seconds) until the remote control LED flashes one time.

The following table shows the possible ZONE 3 remote controls:

<table>
<thead>
<tr>
<th>Button(s)</th>
<th>What it does</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL</td>
<td>Use to select the input function in the sub zone.</td>
</tr>
<tr>
<td>Input function buttons</td>
<td>Use to select the input function directly (this may not work for some functions) in the sub zone.</td>
</tr>
<tr>
<td>VOLUME +/-&lt;a&gt;</td>
<td>Use to set the listening volume in the sub zone.</td>
</tr>
<tr>
<td>MUTE &lt;a&gt;</td>
<td>Mutes the sound or restores the sound if it has been muted (adjusting the volume also restores the sound).</td>
</tr>
</tbody>
</table>

HDZONE remote controls

Before operation, hold down HDZ on the remote control (for 1.5 seconds) until the remote control LED flashes one time.

The following table shows the possible HDZONE remote controls:

<table>
<thead>
<tr>
<th>Button(s)</th>
<th>What it does</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL</td>
<td>Use to select the input function in the HDZONE.</td>
</tr>
<tr>
<td>Input function buttons</td>
<td>Use to select the input function directly (this may not work for some functions) in the HDZONE.</td>
</tr>
<tr>
<td>VOLUME +/-&lt;a&gt;</td>
<td>Use to set the listening volume in the HDZONE.</td>
</tr>
<tr>
<td>MUTE &lt;a&gt;</td>
<td>Mutes the sound or restores the sound if it has been muted (adjusting the volume also restores the sound).</td>
</tr>
</tbody>
</table>

Note
- You can operate this only when Speaker System is set to 7.2ch + HDZONE 5.2 Bi-Amp+HDZONE or 5.2 +ZONE 2+HDZONE.
Making an audio or a video recording
You can make an audio or a video recording from the built-in tuner, or from an audio or video source connected to the receiver (such as a CD player or TV).
Keep in mind you can’t make a digital recording from an analog source or vice-versa, so make sure the components you are recording to/from are hooked up in the same way (see Connecting your equipment on page 19 for more on connections).
- The receiver’s volume, Audio parameters (the tone controls, for example), and surround effects have no effect on the recorded signal.
- Some digital sources are copy-protected, and can only be recorded in analog.
- Some video sources are copy-protected. These cannot be recorded.
Since the video converter is not available when making recordings (from the video OUT jacks) make sure to use the same type of video cable for connecting your recorder as you used to connect your video source (the one you want to record) to this receiver. For example, you must connect your recorder using Component video if your source has also been connected using Component video.

1. Select the source you want to record.
   You can use the input function buttons on the remote control or the front panel INPUT SELECTOR dial.

2. Prepare the source you want to record.
   Tune to the radio station, load the CD, video, DVD etc.

3. Select the input signal according to the signal to be recorded.
   Use the remote control’s AUDIO P. button.

4. Prepare the recorder.
   Insert a blank tape, MD, video etc. into the recording device and set the recording levels. Refer to the instructions that came with the recorder if you are unsure how to do this. Most video recorders set the audio recording level automatically-check the component’s instruction manual if you’re unsure.

5. Start recording, then start playback of the source component.

Using the sleep timer
The sleep timer switches the receiver into standby after a specified amount of time so you can fall asleep without worrying about the receiver being left on all night. Use the remote control to set the sleep timer.
- Press SLEEP repeatedly to set the sleep time.
- Off
- 30 min
- 60 min
- 90 min

You can check the remaining sleep time at any time by pressing SLEEP once. Pressing repeatedly will cycle through the sleep options again.
- The sleep timer is valid for all zones. If any zone is on, the sleep timer continues functioning.

Dimming the display
You can choose between four brightness levels for the front panel display. Note that when selecting sources, the display automatically brightens for a few seconds. Turning off the display is effective for suppressing noise from the display that affects sound quality.
- Press DIMMER repeatedly to change the brightness of the front panel display.
- You can also choose to turn the display off. In this case, the FL OFF indicator lights.

Checking your system settings
Use the status display screen to check your current settings for features such as surround back channel processing and your current MCACC preset.
1. Press STATUS.
2. Use $ to check the system setting.
   The information on the main unit display switches as shown below each time one of the buttons is pressed.
   IP address ⇔ Audio format ⇔ Sampling frequency ⇔ MCACC memory ⇔ Auto Phase Control Plus correction value ⇔ Input source to be played by ZONE 2 ⇔ Input source to be played by ZONE 3 ⇔ Input source to be played by HDZONE ⇔ HDMI output settings ⇔ HDMI output terminal used to output HDZONE
   - For some settings, some items are not displayed.
3. When you’re finished, press STATUS again to switch off the display.

Network settings from a web browser
Network settings can be made using the browser on a computer connected to the same LAN as the receiver.
1. Press STANDBY/ON to switch on the receiver.
2. Turn on the computer’s power and launch the Internet browser.
3. Input the receiver’s IP address into the browser’s address input field.
   Access the IP address “http://(the receiver’s IP address)” from a web browser. You can display the IP address of the unit on the unit’s display by pressing the STATUS button on the remote control.
   When connected with the receiver, the AVNavigator menu screen appears in the browser.
4. On the AVNavigator menu screen, select Network Setup.
5. Select the item you want to set.
Reseting the system

Use this procedure to reset all the receiver’s settings to the factory default. Use the front panel controls to do this. Set MULTI-ZONE to MULTI ZONE OFF.

- Disconnect the iPod and USB memory device from the receiver beforehand.
- Set the Control with HDMI to OFF (see HDMI Setup on page 75).

1. Switch the receiver into standby.

2. While holding down ENTER on the front panel, press STANDBY/ON. The display shows RESET NO.

3. Select ‘RESET’ using PRESET k/l, then press ENTER on the front panel. The display shows RESET? OK.

4. Press ENTER to confirm. OK appears in the display to indicate that the receiver has been reset to the factory default settings.

- Note that all settings will be saved, even if the receiver is unplugged.

Default system settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Video Converter</td>
<td>OFF</td>
</tr>
<tr>
<td>SPEAKERS</td>
<td>TMd/FW ON</td>
</tr>
<tr>
<td>Speaker System</td>
<td>7.2.2ch TMd/FW</td>
</tr>
<tr>
<td>Speaker Setting</td>
<td></td>
</tr>
<tr>
<td>Front</td>
<td>SMALL</td>
</tr>
<tr>
<td>Center</td>
<td>SMALL</td>
</tr>
<tr>
<td>TMd/TFw/TBw</td>
<td>SMALL</td>
</tr>
<tr>
<td>PH/FW</td>
<td>SMALL</td>
</tr>
<tr>
<td>Surr</td>
<td>SMALL</td>
</tr>
<tr>
<td>SB</td>
<td>SMALLx2</td>
</tr>
<tr>
<td>SW</td>
<td>SW1+2 YES</td>
</tr>
<tr>
<td>Surround Position</td>
<td>ON SIDE</td>
</tr>
<tr>
<td>Crossover</td>
<td>80Hz</td>
</tr>
<tr>
<td>X-Curve</td>
<td>OFF</td>
</tr>
<tr>
<td>DIMMER</td>
<td>Brightest</td>
</tr>
<tr>
<td>Input Volume Absorber</td>
<td>All Inputs 0dB</td>
</tr>
<tr>
<td>HDMI</td>
<td></td>
</tr>
<tr>
<td>HDMI Audio</td>
<td>AMP</td>
</tr>
<tr>
<td>Control</td>
<td>OFF</td>
</tr>
<tr>
<td>Control Mode</td>
<td>--- (OFF)</td>
</tr>
<tr>
<td>ARC (Audio Return Channel)</td>
<td>--- (OFF)</td>
</tr>
<tr>
<td>PQLS</td>
<td>--- (AUTO)</td>
</tr>
<tr>
<td>Standby Through</td>
<td>OFF</td>
</tr>
<tr>
<td>4K/60p</td>
<td>4:4:4</td>
</tr>
<tr>
<td>DSP</td>
<td></td>
</tr>
<tr>
<td>Power On Level</td>
<td>LAST</td>
</tr>
</tbody>
</table>

See also Setting the Audio options on page 79 for other default DSP settings.

- Note that all settings will be saved, even if the receiver is unplugged.

Setting Default

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Limit</td>
<td>OFF</td>
</tr>
<tr>
<td>Mute Level</td>
<td>FULL</td>
</tr>
<tr>
<td>Phase Control</td>
<td>ON</td>
</tr>
<tr>
<td>Auto Sound Retriever</td>
<td>iPod/USB, INTERNET RADIO, MEDIA SERVER, FAVORITES, ADAPTER PORT input function ON</td>
</tr>
<tr>
<td>Other input functions</td>
<td>OFF</td>
</tr>
<tr>
<td>Sound Delay</td>
<td>0 ms</td>
</tr>
<tr>
<td>Dual Mono</td>
<td>CH1</td>
</tr>
<tr>
<td>ORC</td>
<td>AUTO</td>
</tr>
<tr>
<td>LFE Attenuate</td>
<td>0dB</td>
</tr>
<tr>
<td>Auto delay</td>
<td>OFF</td>
</tr>
<tr>
<td>Digital Safety</td>
<td>OFF</td>
</tr>
<tr>
<td>Effect Level</td>
<td>ALC (Auto Level Control)</td>
</tr>
<tr>
<td>NeoX Options</td>
<td>Center Gain</td>
</tr>
<tr>
<td>All Inputs</td>
<td>Listening Mode (2 ch/multi ch) AUTO SURROUND</td>
</tr>
<tr>
<td>Listening Mode (Headphones)</td>
<td>STEREO</td>
</tr>
</tbody>
</table>

See also Setting the Audio options on page 79 for other default DSP settings.

MCACC

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCACC Position Memory</td>
<td>M1. MEMORY 1</td>
</tr>
<tr>
<td>Channel Level (M1 to M6)</td>
<td>0.0 dB</td>
</tr>
<tr>
<td>Speaker Distance (M1 to M6)</td>
<td>3.00 m</td>
</tr>
<tr>
<td>Standing Wave (M1 to M6)</td>
<td>ATT of all channels/filters 0.0 dB</td>
</tr>
<tr>
<td>EQ Data (M1 to M6)</td>
<td>All channels/bands 0.0 dB</td>
</tr>
<tr>
<td>EQ Wide Trim</td>
<td>0.0 dB</td>
</tr>
</tbody>
</table>

Network

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Standby</td>
<td>OFF</td>
</tr>
<tr>
<td>DHCP</td>
<td>ON</td>
</tr>
</tbody>
</table>
Controlling the rest of your system

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Setting the remote to control other components .................................. 89
Selecting preset codes directly ............................................................... 89
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Setting the remote to control other components

Most components can be assigned to one of the input function buttons (such as DVD or CD) using the component’s manufacturer preset code stored in the remote.

However, there are cases where only certain functions may be controllable after assigning the proper preset code, or the codes for the manufacturer in the remote control will not work for the model that you are using. If you can’t find a preset code that matches the component you want to control, you can still teach the remote individual commands from another remote control (see Programming signals from other remote controls on page 89).

- With the TV buttons, the TV can be operated regardless of the input set for the remote control’s operation mode. When using one TV set, we recommend assigning the same TV’s preset codes to the TV INPUT button and the TV button. When using two TV sets, for better convenience assign the TV connected to the MONITOR OUT terminals to the TV INPUT button, the other TV to the TV button.
- Devices may be assigned to the following input function buttons.

Selecting preset codes directly

1. Press and hold RCU SETUP, then press ‘1’ for three seconds.
   - Release the button after the LED flashes once. The LED continues to flash.
   - To cancel the preset setup mode press RCU SETUP.
2. Press the input function button for the component you want to control.
   - To assign the preset codes of the TV to be operated with the TV function, press the TV INPUT button. The LED of the remote control lights.
3. Use the number buttons to enter the 4-digit preset code.
   - See Preset code list on page 91.
4. Repeat steps 2 through 3 for the other components you want to control.
   - To try out the remote control, switch the component on or off (into standby) by pressing the SOURCE button. If it doesn’t seem to work, select the next code from the list (if there is one).
5. Press RCU SETUP to exit the preset setup mode.
Controlling the rest of your system

Programming signals from other remote controls

If the preset code for your component is not available, or the available preset codes do not operate correctly, you can program signals from the remote control of another component. This can also be used to program additional operations (buttons not covered in the presets) after assigning a preset code.

The remote can store about 120 preset codes from other components (this has been tested with codes of Pioneer format only).

Certain buttons represent operations that cannot be learned from other remote controls. The buttons available are shown below:

- STANDBY/ON
- ENTER
- SOURCE
- INPUT
- TV VOL
- Receiver
- ENTER CLR
- CH
- CH
- 2
- 546
- 8
- 0
- 79
- 13
- Fav
- 1

1. Press and hold RCU SETUP, then press ‘2’ for three seconds. Release the button after the LED flashes once. The LED continues to flash.
   - To “learn” codes at the TV buttons, proceed to step 3.
   - To cancel the preset setup mode press RCU SETUP.

2. Press the input function button for the component you want to control. The LED blinks once and flashes continuously.

3. Point the two remote controls towards each other, then press the button that will be doing the learning on this receiver’s remote control.
   - The LED flashes once, then stops flashing, remaining lit.
   - The remote controls should be 3 cm apart.

4. Press the corresponding button on the other remote control that is sending (teaching) the signal to this receiver’s remote control.
   - If the LED lights for one second and continues to flash, the setting has been successfully completed.
   - If the LED flashes for five seconds, it means the memory is full. See Erasing all learnt settings that are in one input function on page 91 to erase a programmed button you’re not using to free up more memory (note that some signals may take more memory than others).
   - Note that interference from TVs or other devices will sometimes result in the remote control learning the wrong signal.
   - Some commands from other remote controls cannot be learned, but in most cases the remotes just need to be moved closer together or farther apart.

5. To program additional signals for the current component repeat steps 3 and 4. To program signals for another component, exit and repeat steps 2 through 4.

6. Press RCU SETUP to exit the programming mode.

Erasing one of the remote control button settings

This erases one of the buttons you have programmed and restores the button to the factory default.

1. Press and hold RCU SETUP, then press ‘8’ for three seconds. Release the button after the LED flashes once. The LED continues to flash.
   - To erase operations registered at the TV buttons, proceed to step 3.
   - To cancel the preset setup mode press RCU SETUP.

2. Press the input function button corresponding to the command to be erased. The LED flashes once.

3. Press and hold the button to be erased for three seconds. If the LED lights for one second, the erasing has been successfully completed.

4. Repeat step 3 to erase other buttons.

5. Press RCU SETUP to exit the erasing mode.
Erasing all learnt settings that are in one input function
This operation erases all the operational settings of other devices that have been programmed in one input function, and restores the factory default. This function is handy for erasing all data programmed for devices no longer being used.

1. Press and hold RCU SETUP, then press ‘9’ for three seconds. Release the button after the LED flashes once. The LED continues to flash.
   • To cancel the preset setup mode press RCU SETUP.
2. Press and hold the input function button corresponding to the command to be erased for three seconds.
   To erase the operations registered at all the TV buttons, press the TV INPUT button for 3 seconds. If the LED lights for one second, the erasing has been successfully completed.

Setting the backlight mode
• Default setting: 1 (normal mode)
The backlight lighting pattern can be selected from among four modes, in consideration of convenience and battery service life.

1. Press and hold RCU SETUP, then press ‘6’ for three seconds. Release the button after the LED flashes once. The LED continues to flash.
   • To cancel the preset setup mode press RCU SETUP.
2. Press the number buttons of the time you wish to set.
   • 1 – The backlight is turned on and off with the light button. After it lights, it turns off automatically if no operation is performed for 10 seconds.
   • 2 – The backlight turns on when any button on the remote control is pressed. It is turned off with the light button. After it lights, it turns off automatically if no operation is performed for 10 seconds.
   • 3 – The backlight is turned on and off with the light button. After it lights, it turns off automatically if no operation is performed for 5 seconds.
   • 4 – The backlight does not turn on even when the light button is pressed.
   If the LED lights for one second and continues to flash, the setting has been successfully completed.
   If the LED flashes three times, the setting has failed.
3. Press RCU SETUP to exit the setup.

Using All Zone Standby
The All Zone Standby can be used to turn all zones to OFF when the receiver’s power is switched to standby. Also, when using separate Pioneer amplifiers/receivers for the sub zones, they can also be set to standby simultaneously.

1. Press and hold RCU SETUP, then press ‘7’ for three seconds.
   The LED continues to flash.
2. Press STANDBY/ON.
   The receiver’s power switches to standby and all zones are turned off.

Setting the switching time for the receiver operation mode
• Default setting: The AV amplifier operation mode is not switched automatically.
After pressing SOURCE CONTROL to operate another device, you need to press MAIN RECEIVER to switch the mode to receiver operation mode to operate this unit.
You can set to automatically switch to AV amplifier operation mode when a certain period of time elapses after remote operation of each input function is finished. See Setting the switching time for the receiver operation mode on page 91.

1. Press and hold RCU SETUP, then press ‘5’ for three seconds.
   The LED flashes once.
2. Press the number buttons of the time you wish to set.
   • 1 – The mode is not automatically switched to AV amplifier operation mode.
   • 2 – Switches in five minute.
   • 3 – Switches in three minute.
   • 4 – Switches in one minute.
   • 5 – Switches in 30 seconds.
3. Press RCU SETUP to exit the setup.

Resetting the remote control settings
Use this procedure to reset all the remote control’s settings to the factory default.
• When preset codes are set, all the signals learned in the input function buttons are cleared. This function is convenient when you want to reset some but not all of input function buttons.

1. Press and hold RCU SETUP, then press ‘0’ for three seconds. Release the button after the LED flashes once. The LED continues to flash.
2. Hold down the ENTER button for five seconds.
   If the LED lights for one second, the erasing has been successfully completed.

Resetting the remote control settings
Use this procedure to reset all the remote control’s settings to the factory default.
• When preset codes are set, all the signals learned in the input function buttons are cleared. This function is convenient when you want to reset some but not all of input function buttons.

1. Press and hold RCU SETUP, then press ‘0’ for three seconds. Release the button after the LED flashes once. The LED continues to flash.
2. Hold down the ENTER button for five seconds.
   If the LED lights for one second, the erasing has been successfully completed.

Default preset codes

<table>
<thead>
<tr>
<th>Input function button</th>
<th>Preset code</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD</td>
<td>2255</td>
</tr>
<tr>
<td>DVD</td>
<td>2197</td>
</tr>
<tr>
<td>HDMI</td>
<td>2144</td>
</tr>
<tr>
<td>TV</td>
<td>0305</td>
</tr>
<tr>
<td>CD</td>
<td>5000</td>
</tr>
<tr>
<td>SAT/CBL</td>
<td>6329</td>
</tr>
<tr>
<td>TV (INPUT)</td>
<td>0305</td>
</tr>
<tr>
<td>ALL 0</td>
<td>2034</td>
</tr>
</tbody>
</table>
## Controlling components

This remote control can control components after entering the proper codes (see [Setting the remote to control other components](#) on page 89 for more on this). Use the input function buttons to select the component.

### TV and Audio/Video components

<table>
<thead>
<tr>
<th>Button(s)</th>
<th>TV</th>
<th>TV (Monitor)</th>
<th>BD/DVD</th>
<th>HDD/BDR/DVR</th>
<th>VCR</th>
<th>SAT/CATV</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOURCE</td>
<td>POWER ON/OFF</td>
<td>POWER ON/OFF</td>
<td>POWER ON/OFF</td>
<td>POWER ON/OFF</td>
<td>POWER ON/OFF</td>
<td>POWER ON/OFF</td>
</tr>
<tr>
<td>Number buttons</td>
<td>numerics</td>
<td>numerics</td>
<td>numerics</td>
<td>numerics</td>
<td>numerics</td>
<td>numerics</td>
</tr>
<tr>
<td>CLR</td>
<td>• (lit)</td>
<td>KURO LINK</td>
<td>CLEAR</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>ENTER (CLASS)</td>
<td>CH ENTER</td>
<td>CH ENTER</td>
<td>ENTER</td>
<td>ENTER</td>
<td>—</td>
<td>ENTER</td>
</tr>
<tr>
<td>EXIT/INFO</td>
<td>EXIT</td>
<td>TOP MENU</td>
<td>TOP MENU</td>
<td>—</td>
<td>LIST</td>
<td></td>
</tr>
<tr>
<td>TOOLS/GUIDE/EPG</td>
<td>USER MENU</td>
<td>TOOLS &lt;/&gt;</td>
<td>GUIDE</td>
<td>—</td>
<td>GUIDE</td>
<td></td>
</tr>
<tr>
<td>ENTER</td>
<td>ENTER</td>
<td>ENTER</td>
<td>ENTER</td>
<td>—</td>
<td>ENTER</td>
<td></td>
</tr>
<tr>
<td>RETURN</td>
<td>RETURN</td>
<td>RETURN</td>
<td>RETURN</td>
<td>—</td>
<td>RETURN</td>
<td></td>
</tr>
<tr>
<td>AUTO SETUP</td>
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<td>—</td>
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<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>FREEZE</td>
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<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>ANT AV SELECTION</td>
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<td>—</td>
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<td>SCREEN SIZE</td>
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<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>AUDIO</td>
<td>AUDIO</td>
<td>AUDIO</td>
<td>AUDIO</td>
<td>AUDIO</td>
<td>AUDIO</td>
<td>AUDIO</td>
</tr>
<tr>
<td>DISPLAY</td>
<td>DISPLAY</td>
<td>DISPLAY</td>
<td>DISPLAY</td>
<td>—</td>
<td>DISPLAY/INFO</td>
<td></td>
</tr>
<tr>
<td>CH +/-</td>
<td>CH +/-</td>
<td>CH +/-</td>
<td>Subtitle (CH +)</td>
<td>Subtitle (CH +) or CH +/-</td>
<td>CH +/-</td>
<td>CH +/-</td>
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</table>

*a Controls for BD.*
## Audio/Video components

<table>
<thead>
<tr>
<th>Button(s)</th>
<th>LD</th>
<th>CD/CD-R/SACD</th>
<th>MD/DAT</th>
<th>TAPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOURCE</td>
<td>—</td>
<td>POWER ON/OFF</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POWER ON/OFF</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Number buttons</td>
<td>numerics</td>
<td>numerics</td>
<td>numerics</td>
<td>—</td>
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<tr>
<td>CLR</td>
<td>+10</td>
<td>&gt;10/CLEAR</td>
<td>CLEAR</td>
<td>CLEAR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;a&gt;</td>
<td></td>
</tr>
<tr>
<td>ENTER (CLASS)</td>
<td></td>
<td>DISC/ENTER</td>
<td>OPEN/CLOSE</td>
<td>ENTER</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;a&gt;</td>
<td></td>
</tr>
<tr>
<td>TOP MENU</td>
<td></td>
<td>—</td>
<td>—</td>
<td>MS</td>
</tr>
<tr>
<td>LEGATO LINK</td>
<td></td>
<td>&lt;b&gt;</td>
<td>—</td>
<td>MS</td>
</tr>
<tr>
<td>ENTER</td>
<td></td>
<td>DISC/ENTER</td>
<td>CLEAR</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;a&gt;</td>
<td></td>
</tr>
<tr>
<td>SOURCE</td>
<td></td>
<td>SACD SETUP</td>
<td>&lt;b&gt;</td>
<td>—</td>
</tr>
<tr>
<td>RETURN</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>BACK</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>PREVIOUS</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>NEXT</td>
<td></td>
<td>—</td>
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<td>&lt;</td>
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<tr>
<td>&gt;</td>
<td></td>
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<td>—</td>
<td>—</td>
</tr>
<tr>
<td>CLEAR</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>ENTER</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>SACD SETUP</td>
<td></td>
<td>&lt;b&gt;</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>BACK</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>PREVIOUS</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>NEXT</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>PREVIOUS</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>NEXT</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>DISPLAY/INFO</td>
<td></td>
<td>AUDIO</td>
<td>PURE AUDIO</td>
<td>—</td>
</tr>
<tr>
<td>TIME</td>
<td></td>
<td>&lt;b&gt;</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

- a Controls for MD.
- b Controls for SACD.

## TV (Projector)

<table>
<thead>
<tr>
<th>Button(s)</th>
<th>TV (Projector)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOURCE</td>
<td>POWER ON</td>
</tr>
<tr>
<td>1</td>
<td>MOVIE</td>
</tr>
<tr>
<td>2</td>
<td>STANDARD</td>
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<tr>
<td>3</td>
<td>DYNAMIC</td>
</tr>
<tr>
<td>4</td>
<td>USER1</td>
</tr>
<tr>
<td>5</td>
<td>USER2</td>
</tr>
<tr>
<td>6</td>
<td>USER3</td>
</tr>
<tr>
<td>7</td>
<td>COLOR+</td>
</tr>
<tr>
<td>8</td>
<td>SHARP+</td>
</tr>
<tr>
<td>9</td>
<td>GAMMA</td>
</tr>
<tr>
<td>0</td>
<td>COLOR–</td>
</tr>
<tr>
<td>CLR</td>
<td>SHARP–</td>
</tr>
<tr>
<td>ENTER (CLASS)</td>
<td>COLOR TEMP</td>
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<tr>
<td></td>
<td>EXIT</td>
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<tr>
<td></td>
<td>INFO</td>
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<td>TEST</td>
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<td>HIDE</td>
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<td>MENU</td>
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<tr>
<td></td>
<td>HDMI1</td>
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<td></td>
<td>HDMI2</td>
</tr>
<tr>
<td></td>
<td>COMP</td>
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<td></td>
<td>VIDEO</td>
</tr>
<tr>
<td></td>
<td>S-VIDEO</td>
</tr>
<tr>
<td></td>
<td>BRIGHT–</td>
</tr>
<tr>
<td></td>
<td>BRIGHT+</td>
</tr>
<tr>
<td>AUDIO</td>
<td>POWER OFF</td>
</tr>
<tr>
<td>DISP</td>
<td>ASPECT</td>
</tr>
<tr>
<td>CH +/-</td>
<td>CONTRAST +/-</td>
</tr>
</tbody>
</table>
Making receiver settings from the MCACC PRO menu

The MCACC (Multi Channel ACoustic Calibration) PRO system was developed in Pioneer’s laboratories with the aim of making it possible for home users to perform adjustments of the same level as in a studio easily and with high precision. The acoustic characteristics of the listening environment are measured and the frequency response is calibrated accordingly to allow high precision, automatic analysis and optimal calibration of the sound field to bring it closer to a studio environment than ever before. Furthermore, while it was previously difficult to eliminate standing waves, this receiver is equipped with a standing wave control function using a unique process to perform acoustic analysis and reduce their influence.

This section describes how to calibrate the sound field automatically and fine-adjust the sound field data manually.

1. Press STANDBY/ON to switch on the receiver and your TV.
   Make sure that the TV’s video input is set to this receiver.

2. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU.
   A Graphical User Interface (GUI) screen appears on your TV. Use ↑ / ↓ / ← / → and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.
   - Press HOME MENU at any time to exit the HOME MENU.

3. Select ‘MCACC PRO’ from the HOME MENU, then press ENTER.

4. Select the setting you want to adjust.
   - Full Auto MCACC – See Automatically conducting optimum sound tuning (Full Auto MCACC) on page 99 for a quick and effective automatic surround setup.
   - Auto MCACC – See Automatic MCACC (Expert) on page 96 for a more detailed MCACC setup.
   - Demo – No settings are saved and no errors occur. When the speakers are connected to this receiver, the test tone is output repeatedly. Press RETURN to cancel the test tone.

Automatic MCACC (Expert)

If your setup requires more detailed settings than those provided in Automatically conducting optimum sound tuning (Full Auto MCACC) on page 99, you can customize your setup options below. You can calibrate your system differently for up to six different MCACC presets, which are useful if you have different listening positions depending on the type of source (for example, watching movies from a sofa, or playing a video game close to the TV).

**Important**
- Make sure the microphone/speakers are not moved during the Auto MCACC Setup.
- The screen saver will automatically appear after five minutes of inactivity.

**CAUTION**
- The test tones used in the Auto MCACC Setup are output at high volume.

1. Select ‘Auto MCACC’ from the MCACC PRO menu, then press ENTER.
   If the MCACC PRO screen is not displayed, refer to Making receiver settings from the MCACC PRO menu on page 96.

2. Select the parameters you want to set.
   Use ↑ / ↓ to select the item, then use ← / → to set.
   - Auto MCACC – The default is ALL (recommended), but you can limit the system calibration to only one setting (to save time) if you want.
     - When data measurement is taken (after selecting ALL or Keep SP System), the reverb characteristics data (both before- and after-calibration) that this receiver had been storing will be overwritten.
     - When measurement is performed with other than SYMMETRY (after selecting ALL or Keep SP System), the reverberation characteristics after calibration cannot be predicted, so the graph for the characteristics after calibration (“After”) cannot be displayed. If you will need to display the graph for the characteristics after calibration (“After”), take the measurement using the EQ Professional menu in the Manual MCACC setup (page 97).
     - The EQ Pro & S-Wave measurement is also taken when ALL or Keep SP System is selected. See Acoustic Calibration EQ Professional on page 96 for more on this.
     - Either effect of Acoustic Calibration EQ Professional and Standing Wave can be switched on and off in the respective MCACC preset. For details, see Setting the Audio options on page 19.
   - EQ Type (only available when the Auto MCACC Menu above is EQ Pro & S-Wave) – This determines how the frequency balance is adjusted.
     - SYMMETRY implements symmetric correction for each pair of left and right speakers to flatten the frequency-amplitude characteristics.
     - ALL CH ADJ is a ‘flat’ setting where all the speakers are set individually so no special weighting is given to any one channel.
     - FRONT ALIGN sets all speakers in accordance with the front speaker settings (no equalization is applied to the front left and right channels).
   If you selected ALL or Keep SP System as your Auto MCACC menu, you can specify the MCACC preset where you want to save the SYMMETRY, ALL CH ADJ and FRONT ALIGN settings.
   EQ of subwoofer is automatically set when in ALL CH ADJ mode.
   - STAND.WAVE Multi-Point (only available when the Auto MCACC Menu above is EQ Pro & S-Wave) – In addition to measurements at the listening position, you can use two more reference points for which test tones will be analyzed for standing waves. This is useful if you want to get a balanced ‘flat’ calibration for several seating positions in your listening area. Place the microphone at the reference point indicated on-screen and note that the last microphone placement will be at your main listening position.

![Diagram of microphone placement](https://via.placeholder.com/150)
3 Connect the microphone to the MCACC SETUP MIC jack on the front panel.
Make sure there are no obstacles between the speakers and the microphone.

If you have a tripod, use it to place the microphone so that it’s about ear level at your normal listening position. If you do not have a tripod, use some other object to install the microphone.

- It may not be possible to measure correctly if the microphone is placed on a table, sofa, etc.

4 When you’re finished setting the options, select START then press ENTER.

5 Follow the instructions on-screen.

6 Wait for the Auto MCACC Setup to finish outputting test tones.
A progress report is displayed on-screen while the receiver outputs test tones to determine the speakers present in your setup. Try to be as quiet as possible while it’s doing this.

- With error messages (such as Too much ambient noise! or Check microphone.), select RETRY after checking for ambient noise (see Problems when using the Auto MCACC Setup on page 103) and verifying the microphone connection. If there doesn’t seem to be a problem, you can simply select GO NEXT and continue.
- Do not adjust the volume during the test tones. This may result in incorrect speaker settings.

7 If necessary, confirm the speaker configuration in the GUI screen.
The configuration shown on-screen should reflect the actual speakers you have.
If no operations are performed for 10 seconds while the speaker configuration check screen is being displayed, the Auto MCACC Setup will resume automatically. In this case, you don’t need to select OK and press ENTER in step 8.

- If you see an ERR message (or the speaker configuration displayed isn’t correct), there may be a problem with the speaker connection. If selecting RETRY doesn’t work, turn off the power and check the speaker connections. If there doesn’t seem to be a problem, you can simply use ↑ / ↓ to select the speaker and ← → to change the setting and continue.
- If the speaker is not pointed to the microphone (listening position) or when using speakers that affect the phase (dipole speakers, reflective speakers, etc.), Reverse Phase may be displayed even if the speakers are properly connected.

If Reverse Phase is displayed, the speaker’s wiring (+ and −) may be inverted. Check the speaker connections.
- If the connections were wrong, turn off the power, disconnect the power cord, then reconnect properly.
After this, perform the Auto MCACC procedure again.
- If the connections were right, select GO NEXT and continue.

8 Make sure ‘OK’ is selected, then press ENTER.
A progress report is displayed on-screen while the receiver outputs more test tones to determine the optimum receiver settings.
Again, try to be as quiet as possible while this is happening. It may take 3 to 7 minutes.

- If you selected a STAND.WAVE Multi-Point setup (in step 2), you will be asked to place the mic at the 2nd and 3rd reference points before finally placing it at your main listening position.

9 The Auto MCACC Setup procedure is completed and the MCACC PRO menu reappears automatically.
The settings made in the Auto MCACC Setup should give you excellent surround sound from your system, but it is also possible to adjust these settings manually using the Manual MCACC setup menu (starting below) or Manual SP Setup menu (starting on page 103).
- Depending on the characteristics of your room, sometimes identical speakers with cone sizes of around 12 cm will end up with different size settings. You can correct the setting manually using the Manual speaker setup on page 103.
- The subwoofer distance setting may be farther than the actual distance from the listening position. This setting should be accurate (taking delay and room characteristics into account) and generally does not need to be changed.
- If Auto MCACC Setup measurement results are incorrect due to the interaction of the speakers and viewing environment, we recommend adjusting the settings manually.

You can also choose to view the settings by selecting individual parameters from the MCACC Data Check screen (see Checking MCACC Data on page 100).
Press RETURN after you have finished checking each screen. When you’re finished, select RETURN to go back to the HOME MENU.
Be sure to disconnect the microphone from this receiver upon completion of the Auto MCACC Setup.
Manual MCACC setup

You can use the settings in the Manual MCACC setup menu to make detailed adjustments when you’re more familiar with the system. Before making these settings, you should have already completed Automatically conducting optimum sound tuning (Full Auto MCACC) on page 50.

You only need to make these settings once (unless you change the placement of your current speaker system or add new speakers).

⚠️ CAUTION

- The test tones used in the Manual MCACC setup are output at high volume.

Important

- Before starting adjustments, set the remote control in receiver operation mode and then select the MCACC memory to be adjusted in MCACC under the audio parameter function.
- For some of the settings below, you’ll have to connect the setup microphone to the front panel and place it about ear level at your normal listening position. Press HOME MENU to display the HOME MENU before you connect the microphone to this receiver.
- See Problems when using the Auto MCACC Setup on page 52 for notes regarding high background noise levels and other possible interference.
- If you’re using a subwoofer, switch it on and turn up the volume to the middle position.

1 Select ‘Manual MCACC’ from the MCACC PRO menu.

See Making receiver settings from the MCACC PRO menu on page 95 if you’re not already at this screen.

2 Select the setting you want to adjust.

If you’re doing this for the first time, you might want to make these settings in order.
- Fine Channel Level – Make fine adjustments to the overall balance of your speaker system (see Fine Channel Level on page 97).
- Fine SP Distance – Make precise delay settings for your speaker system (see Fine Speaker Distance on page 97).
- Standing Wave – Control overly resonant low frequencies in your listening room (see Standing Wave on page 98).
- EQ Adjust – Manually adjust the frequency balance of your speaker system while listening to test tones (see Acoustic Calibration EQ Adjust on page 98).
- EQ Professional – Calibrate your system based on the direct sound coming from the speakers and make detailed settings according to your room’s reverb characteristics (see Acoustic Calibration EQ Professional on page 99).
- Precision Distance (SC-LX89 only) – Fine-adjusting the positions of the speakers (see Precision Distance on page 99).

Fine Channel Level

- Default setting: 0.0dB (all channels)

You can achieve better surround sound by properly adjusting the overall balance of your speaker system. You can adjust the Channel Level of each speaker in 0.5 dB increments. The following setting can help you make detailed adjustments that you may not achieve using the Manual speaker setup on page 103.

1 Select ‘Fine Channel Level’ from the Manual MCACC setup menu.

The volume increases to the 0.0 dB reference level.

2 Adjust the level of the left channel.

This will be the reference speaker level, so you may want to keep the level around 0.0dB so that you’ll have plenty of room to adjust the other speaker levels.
- After pressing ENTER, test tones will be output.

3 Select each channel in turn and adjust the levels (+/–12.0 dB) as necessary.

Use ⬇️ to adjust the volume of the speaker you selected to match the reference speaker. When it sounds like both tones are the same volume, press ⬆️ to confirm and continue to the next channel.
- For comparison purposes, the reference speaker will change depending on which speaker you select.
- If you want to go back and adjust a channel, simply use ⬇️/ ⬆️ to select it.

4 When you’re finished, press RETURN.

You will return to the Manual MCACC setup menu.

Fine Speaker Distance

- Default setting: 3.00 m (all speakers)

For proper sound depth and separation with your system, it is necessary to add a slight bit of delay to some speakers so that all sounds will arrive at the listening position at the same time. You can adjust the distance of each speaker in 1 cm increments. The following setting can help you make detailed adjustments that you may not achieve using the Manual speaker setup on page 103.

1 Select ‘Fine SP Distance’ from the Manual MCACC setup menu.

2 Adjust the distance of the left channel from the listening position.

3 Select each channel in turn and adjust the distance as necessary.

Use ⬇️ to adjust the delay of the speaker you selected to match the reference speaker. Listen to the reference speaker and use it to measure the target channel. From the listening position, face the two speakers with your arms outstretched pointing at each speaker. Try to make the two tones sound as if they are arriving simultaneously at a position slightly in front of you and between your arm span.
- If you can’t seem to achieve this by adjusting the distance setting, you may need to change the angle of your speakers very slightly.
- The subwoofer’s test tone differs in tone from other channels. Adjust so that the sound of the subwoofer can be heard distinctly. Note that when adjusting the subwoofer, depending on the low frequency response of your speaker, it may be difficult to hear the change even when the setting is increased or decreased or when the position of the speaker is changed. Note that it may be difficult to compare this tone with the other speakers in your setup (depending on the low frequency response of the reference speaker).

When it sounds like the delay settings are matched up, press ⬆️ to confirm and continue to the next channel.
- For comparison purposes, the reference speaker will change depending on which speaker you select.
- If you want to go back and adjust a channel, simply use ⬇️/ ⬆️ to select it.

4 When you’re finished, press RETURN.

You will return to the Manual MCACC setup menu.
Standing Wave
• Default setting: ON/ATT 0.0dB (all filters)
Acoustic standing waves occur when, under certain conditions, sound waves from your speaker system resonate mutually with sound waves reflected off the walls in your listening area. This can have a negative effect on the overall sound, especially at certain lower frequencies. Depending on speaker placement, your listening position, and ultimately the shape of your room, it results in an overly resonant (‘boomy’) sound. The Standing Wave Control uses filters to reduce the effect of overly resonant sounds in your listening area. During playback of a source, you can customize the filters used for Standing Wave Control for each of your MCACC presets.
• Standing Wave control filter settings cannot be changed during playback of sources using the HDMI connection.

1 Select ‘Standing Wave’ from the Manual MCACC setup menu.

2 Adjust the parameters for the Standing Wave Control.
• Filter Channel – Select the channel to which you will apply the filter(s): MAIN (all except center channel and subwoofer), Center or SW (subwoofer).
• TRIM (only available when the filter channel above is SW) – Adjust the subwoofer channel level (to compensate for the difference in output post-filter).
• Freq / Q / ATT – These are the filter parameters where Freq represents the frequency you will be targeting and Q is the bandwidth (the higher the Q, the narrower the bandwidth, or range) of the attenuation (ATT, the amount of reduction to the targeted frequency).

3 When you’re finished, press RETURN.
You will return to the Manual MCACC setup menu.

Acoustic Calibration EQ Adjust
• Default setting: ON/0.0dB (all channels/bands)
Acoustic Calibration Equalization is a kind of room equalizer for your speakers (excluding the subwoofer). It works by measuring the acoustic characteristics of your room and neutralizing the ambient characteristics that can color the original source material (providing a ‘flat’ equalization setting). If you’re not satisfied with the adjustment provided in Automatically conducting optimum sound tuning (Full Auto MCACC) on page 50 or Automatic MCACC (Expert) on page 95, you can adjust these settings manually to get a frequency balance that suits your tastes.

1 Select ‘EQ Adjust’ from the Manual MCACC setup menu.
2 Select the channel(s) you want and adjust to your liking.
Use ﬁ to select the channel.
Use 0 to select the frequency and 0 to boost or cut the EQ. When you’re finished, go back to the top of the screen and press 0 to return to Ch, then use ﬁ to select the channel.
• The OVER! indicator shows in the display if the frequency adjustment is too drastic and might distort. If this happens, bring the level down until OVER! disappears from the display.

3 When you’re finished, press RETURN.
You will return to the Manual MCACC setup menu.

Using Acoustic Calibration EQ Professional
1 Select ‘EQ Professional’, then press ENTER.
2 Select an option and press ENTER.
• Reverb Measurement – Use this to measure the reverb characteristics before and after calibration.
• Reverb View – You can check the reverb measurements made for specified frequency ranges in each channel.
  — If the Reverb View procedure is performed after the Reverb Measurement operation, depending on the standing wave control setting, differences may appear on the reverb graph. With the Auto MCACC function, the reverberations are measured with the standing waves controlled, so the reverb characteristics graph shows the characteristics with the effect of the standing waves eliminated. By contrast, the Reverb Measurement function measures the reverberations without controlling the standing waves, so the graph indicates the reverb characteristics including the effect of the standing waves. If you wish to check the reverb characteristics of the room itself (with the standing waves as such), we recommend using the Reverb Measurement function.
• Advanced EQ Setup – Use this to select the time period that will be used for frequency adjustment and calibration, based on the reverb measurement of your listening area. Note that customizing system calibration using this setup will alter the settings you made in Automatically conducting optimum sound tuning (Full Auto MCACC) on page 50 or Automatic MCACC (Expert) on page 95, and is not necessary if you’re satisfied with these settings.

Acoustic Calibration EQ Professional
This setup minimizes the unwanted effects of room reverberation by allowing you to calibrate your system based on the direct sound coming from the speakers. Performing the Acoustic Calibration EQ Professional procedure is effective when the lower frequencies seem overly reverberant in your listening room (i.e. it sounds ‘boomy’) as shown at Type A below, or when different channels seem to exhibit different reverb characteristics as shown at Type B.
• Type A: Reverberance of high vs. low frequencies
• Type B: Reverb characteristics for different channels
If you selected ‘Reverb Measurement’, select EQ ON or EQ OFF, and then START.
The following options determine how the reverb characteristics of your listening area are displayed in Reverb View:
- **EQ OFF** – You will see the reverb characteristics of your listening area without the equalization performed by this receiver (before calibration).
- **EQ ON** – You will see the reverb characteristics of your listening area with the equalization performed by this receiver (after calibration). Note that the EQ response may not appear entirely flat due to adjustments necessary for your listening area.
  - The calibration corresponding to the currently selected MCACC preset will be used when EQ ON is selected. To use another MCACC preset, press MCACC to select the MCACC memory you want to store.
  - After auto calibration with **EQ Type** : SYMMETRY (Auto MCACC, etc.), the graph for the inferred reverb characteristics can be displayed by selecting **Reverb View**. To display the actually measured reverb characteristics after EQ calibration, measure with EQ ON.
When the reverb measurement is finished, you can select **Reverb View** to see the results on-screen. See Professional Calibration EQ graphical output on page 112 for troubleshooting information.

If you selected ‘Reverb View’, you can check the reverb characteristics for each channel. Press RETURN when you’re done.
The reverb characteristics are displayed when the **Reverb Measurement** measurements are conducted. Use ←/→ to select the channel, frequency and calibration setting you want to check. Use ↑/↓ to go back and forth between the three. The reverb characteristics graph before and after EQ calibration can be displayed by selecting **Calibration Before/After**. Note that the markers on the vertical axis indicate decibels in 2 dB steps.

If ‘Advanced EQ Setup’ is selected, select the MCACC memory to be stored, then enter the desired time setting for calibration, and then select START.
- To specify the place where the MCACC memory is to be stored, press MCACC to select the MCACC memory you want to store.
  - Based on the reverb measurement above, you can choose the time period that will be used for the final frequency adjustment and calibration. Even though you can make this setting without reverb measurement, it is best to use the measurement results as a reference for your time setting. For an optimal system calibration based on the direct sound coming from the speakers, we recommend using the 30-50ms setting. Use ←/→ to select the setting. Use ↑/↓ to switch between them. Select the setting from the following time periods (in milliseconds): 0-20ms, 20-30ms, 30-40ms, 40-50ms, 50-70ms and 60-80ms. This setting will be applied to all channels during calibration. When you’re finished, select **START**. It will take about 2 to 4 minutes for the calibration to finish.
After the Acoustic Calibration Equalization is set, you are given the option to check the settings on-screen.

### Precision Distance
**SC-LX88 only**
Before using this function, perform the Full Auto MCACC Setup procedure (see page 50). Performing the Full Auto MCACC procedure corrects the distance to a precision of 1 cm. If the Auto MCACC Setup function allows you to adjust the distance to the speakers (their position) with a precision of under 1 cm, here, rather than correct the numerical value of the distance, actually move the physical positions of the speakers to fine-adjust (the subwoofer cannot be adjusted). The input from the microphone is indicated on the screen. Fine-adjust the positions of the speakers so that the gauge reading is maximum. The detailed distance adjustments that were previously performed by skilled installers by ear can easily be performed watching the gauge on the monitor. Place the microphone in the same position as when the microphone was connected and the Full Auto MCACC operation was performed.

1. **Select ‘Precision Distance’ from the Manual MCACC setup menu.**
2. **Fine-adjust the positions of the speakers in sequence, starting from the front right channel.**
   - Test pulses are output from the speaker for the selected channel and from one other speaker. Move the position of the selected speaker 1 cm towards or away from the microphone. Watch the screen while doing so, and fine-adjust the positions of the speakers so that the gauge reading is maximum. Also, the channel serving as the standard differs according to the channel being adjusted. Do not move the speaker serving as the standard channel.
   - The maximum gauge reading is 10.0. (If the reading stays under 10.0, adjust the speaker for the maximum value.)
   - If the microphone is placed in a different position from when the Full Auto MCACC or Auto MCACC procedure was performed, it may not be possible to adjust properly. In this case, we recommend performing the procedure at Fine Speaker Distance on page 97 in the Manual MCACC measurements, then performing the adjustment described here without moving the microphone.
   - The adjustment here is for adjusting for an error of 1 cm or less (not adjustable with the Auto MCACC Setup). 0.0 may be displayed after distance correction with the Auto MCACC Setup, but even in this case this adjustment allows you to optimize the correction. Note that if the Auto MCACC Setup is performed after completing the fine-adjustment here, the correction precision will drop to about 1 cm.
   - Like with the Auto MCACC Setup, perform this adjustment in as quiet an environment as possible. 0.0 will be displayed if abrupt noise is input during the adjustment.
   - The distance for all the channels can only be made uniform even if the R (front right) channel is adjusted in the proper order.
   - Be very careful not to tip the speakers over when moving them.
   - The result of the adjustment performed here can be checked by listening to the test pulses output at the Precision Distance (the test pulses will be more centrally positioned between the speakers than before the adjustment was performed). Be careful not to change the distance values at this time.

3. **When you’re finished, press RETURN.**
   - You will return to the Manual MCACC setup menu.
Checking MCACC Data

At the procedure of Automatically conducting optimum sound tuning (Full Auto MCACC) on page 50, the procedure of Automatic MCACC (Expert) on page 96 or after fine-adjusting at Manual MCACC setup on page 97, you can check your calibrated settings using the GUI screen.

1 Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU.
A Graphical User Interface (GUI) screen appears on your TV. Use →/ ← to navigate through the screens and select menu items. Press RETURN to exit the current menu.

2 Select ‘MCACC Data Check’ from the HOME MENU.

3 Select the setting you want to check.
   - Speaker Setting – Used to check the settings of the speaker systems. See Speaker Setting on page 100 for more on this.
   - Channel Level – Used to check the output level of the different speakers. See Channel Level on page 100 for more on this.
   - Speaker Distance – Used to check the distance to the different speakers. See Speaker Distance on page 100 for more on this.
   - Standing Wave – Used to check the standing wave control filter settings. See Standing Wave on page 100 for more on this.
   - Acoustic Cal EQ – Used to check the calibration values of the listening environment’s frequency response. See Acoustic Cal EQ on page 100 for more on this.
   - Group Delay – Used to check the speakers’ group delay (both before and after calibration). See Group Delay on page 100 for more on this.

4 Press RETURN to go back to the MCACC Data Check menu, repeating steps 2 and 3 to check other settings.

5 When you’re finished, press RETURN.
You will return to the HOME MENU.

Speaker Setting
Use this to display the speaker size and number of speakers. See Speaker Setting on page 104 for more on this.

1 Select ‘Speaker Setting’ from the MCACC Data Check menu.
2 Select the channel you want to check.
Use →/ ← to select the channel. The corresponding channel on the layout diagram is highlighted.

Channel Level
Use this to display the level of the various channels. See Channel Level on page 105 for more on this.

1 Select ‘Channel Level’ from the MCACC Data Check menu.
2 When ‘MCACC’ is highlighted, use →/ ← to select the MCACC preset you want to check.
The level of the various channels set at the selected MCACC preset is displayed. ‘---’ is displayed for channels that are not connected.

Standing Wave
Use this to display the distance from the different channels to the listening position. See Speaker Distance on page 106 for more on this.

1 Select ‘Speaker Distance’ from the MCACC Data Check menu.
2 When ‘MCACC’ is highlighted, use →/ ← to select the MCACC preset you want to check.
The distance from the different channels set at the selected MCACC preset is displayed. ‘---’ is displayed for channels that are not connected.

Acoustic Cal EQ
Use this to display the calibration values for the frequency response of the various channels set in the different MCACC presets. See Acoustic Calibration EQ Adjust on page 98 for more on this.

1 Select ‘Acoustic Cal EQ’ from the MCACC Data Check menu.
2 When ‘Ch’ is highlighted, use →/ ← to select the channel.
The calibration value for the frequency response of the selected channel stored at the selected MCACC preset and its graph are displayed.

3 Press → to highlight ‘MCACC’, then use →/ ← to select the MCACC preset you want to check.

Group Delay
Use this to display the calibrated speaker group delay results. See Better sound using Phase Control and Full Band Phase Ctrl on page 67 for more on this.

1 Select ‘Group Delay’ from the MCACC Data Check menu.
2 When ‘Channel’ is highlighted, use →/ ← to select the channel you want to check.
The result of group delay calibration for the selected channel is displayed. After measurements have been performed with Full Auto MCACC selected at MCACC PRO or with ALL or Full Band Phase Ctrl selected when Auto MCACC is selected, the graph before group delay calibration is also displayed.
When After is selected at Calibration, the group delay after calibration is displayed. Compared to when Before is selected, with After there is less difference in the delay between frequency bands and the group delay between the different channels is uniform, allowing you to check the full band phase control effect.
No Data is displayed if the selected group delay has not been measured.
Data Management

This system allows you to store up to six MCACC presets, allowing you to calibrate your system for different listening positions (or frequency adjustments for the same listening position). This is useful for alternate settings to match the kind of source you’re listening to and where you’re sitting (for example, watching movies from a sofa, or playing a video game close to the TV).

From this menu you can copy from one preset to another, name presets for easier identification and clear any ones you don’t need.

- This can be done in Automatically conducting optimum sound tuning (Full Auto MCACC) on page 50 or Automatic MCACC (Expert) on page 95, either of which you should have already completed.

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU.

   A Graphical User Interface (GUI) screen appears on your TV. Use i/j/k/l and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.

2. Select ‘Data Management’ from the HOME MENU.

3. Select the setting you want to adjust.
   - Memory Rename – Name your MCACC presets for easy identification (see Renaming MCACC presets on page 101).
   - MCACC Memory Copy – Copy settings from one MCACC preset to another (see Copying MCACC preset data on page 101).
   - MCACC Memory Clear – Clear any MCACC presets that you don’t want (see Clearing MCACC presets on page 101).

Renaming MCACC presets

If you have several different MCACC presets that you’re using, you may want to rename them for easier identification.

1. Select ‘Memory Rename’ from the Data Management setup menu.

2. Select the MCACC preset you want to rename, then select an appropriate preset name. Use i/j to select the preset, then k/l to select a preset name.

3. Repeat for as many MCACC presets as necessary, then press RETURN when you’re finished.

You will return to the Data Management setup menu.

Copying MCACC preset data

If you want to manually adjust the Acoustic Calibration EQ (see Manual MCACC setup on page 97), we recommend copying your current settings to an unused MCACC preset. Instead of just a flat EQ curve, this will give you a reference point from which to start.

- The settings made in Automatically conducting optimum sound tuning (Full Auto MCACC) on page 50 or Automatic MCACC (Expert) on page 95.

1. Select ‘MCACC Memory Copy’ from the Data Management setup menu.

2. Select the setting you want to copy.
   - All Data – Copies all the settings of the selected MCACC preset memory.
   - Level & Distance – Copies only the channel level and speaker distance settings of the selected MCACC preset memory.

3. Select the MCACC preset you’ll be copying the settings ‘From’, then specify where you want to copy them ‘To’.

   Make sure you don’t overwrite an MCACC preset you’re currently using (this can’t be undone).

4. Select ‘OK’ to confirm and copy the settings.

When MCACC Memory Copy? is displayed, select YES. If NO is selected, the memory is not copied.

Completed! shows in the GUI screen to confirm the MCACC preset has been copied, then you automatically return to the Data Management setup menu.

Clearing MCACC presets

If you are no longer using one of the MCACC presets stored in memory, you can choose to clear the calibration settings of that preset.

1. Select ‘MCACC Memory Clear’ from the Data Management setup menu.

2. Select the MCACC preset you want to clear.

   Make sure you don’t clear an MCACC preset you’re currently using (this can’t be undone).

3. Select ‘OK’ to confirm and clear the preset.

When MCACC Memory Clear? is displayed, select YES. If NO is selected, the memory is not cleared.

Completed! shows in the GUI screen to confirm the MCACC preset has been cleared, then you automatically return to the Data Management setup menu.
The System Setup and Other Setup menus

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Making receiver settings from the System Setup menu

The following section describes how to change the speaker-related settings manually and make various other settings (input selection, OSD language selection, etc.).

- With factory default settings, the on-screen display will be output from all HDMI output terminals and displayed on any TV connected via HDMI cable. You can change where the screen is output in the MAIN/HDZONE (page 100) and HDMI output (page 94) settings.

1. Press ♻ STANDBY/ON to switch on the receiver and your TV.
2. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU.
3. A Graphical User Interface (GUI) screen appears on your TV. Use ↑ / ↓ / ← / → and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.
4. Make sure that the TV’s video input is set to this receiver.
5. Press HOME MENU at any time to exit the HOME MENU.
6. Select ‘System Setup’ from the HOME MENU, then press ENTER.

Select the setting you want to adjust.

- **Manual SP Setup** – Sets the type of connection used for surround back terminals and the size, number distance and overall balance of the connected speakers (see Manual speaker setup on page 103).
- **Input Setup** – Specifies what you’ve connected to the digital, HDMI and component video inputs (see The Input Setup menu on page 50).
- **OSD Language** – The GUI screen’s display language can be changed (see Changing the OSD display language (OSD Language) on page 54).
- **Network Setup** – Conducts the setup necessary to connect this unit to the network (see Network Setup on page 105).
- **HDMI Setup** – Synchronizes this receiver with your Pioneer component supporting Control with HDMI (page 74).
- **MHL Setup** – Changes the settings related to MHL (see MHL Setup on page 107).
- **Other Setup** – Makes customized settings to reflect how you are using the receiver (see The Other Setup menu on page 101).

### Manual speaker setup

This receiver allows you to make detailed settings to optimize the surround sound performance. You only need to make these settings once (unless you change the placement of your current speaker system or add new speakers).

These settings are designed to customize your system, but if you’re satisfied with the settings made in Automatically conducting optimum sound tuning (Full Auto MCACC) on page 50, it isn’t necessary to make all of these settings.

**CAUTION**

- The test tones used in the Manual SP Setup are output at high volume.

1. Select ‘Manual SP Setup’, then press ENTER.
2. See Making receiver settings from the System Setup menu on page 103 if you’re not already at this screen.
3. Select the setting you want to adjust.
4. If you are doing this for the first time, you may want to adjust these settings in order:
   - **Speaker System** – Specifies how you are using your surround back speaker terminals and B speaker terminals (page 103).
   - **Speaker Setting** – Specifies the size and number of speakers you’ve connected (page 104).
   - **Channel Level** – Adjusts the overall balance of your speaker system (page 105).
   - **Speaker Distance** – Specifies the distance of your speakers from the listening position (page 105).
   - **X-Curve** – Adjusts the tonal balance of your speaker system for movie soundtracks (page 105).

3. Make the adjustments necessary for each setting, pressing RETURN to confirm after each screen.

### Speaker system setting

- **Default setting:** 7.2.2ch TMd/FW

There are several ways you can use the speaker terminals with this receiver. In addition to a normal home theater setup where they are used for the top middle speakers or front wide speakers, they can be used for bi-amping the front speakers or as an independent speaker system in another room.

1. Select ‘Speaker System’ from the Manual SP Setup menu.
   - See Making receiver settings from the System Setup menu on page 103 if you’re not already at this screen.
2. Select the speaker system setting.
   - **7.2.2ch TMd/FW** – Select for normal home theater use with top middle and front wide speakers in your main (speaker system A) setup.
   - **7.2.2ch TMd/FH** – Select for normal home theater use with top middle and front height speakers in your main (speaker system A) setup.
   - **5.2.4ch** – Select for normal home theater use with top forward and top backward speakers in your main (speaker system A) setup.
   - **7.2ch + Speaker B** – Select to use the B speaker terminals to listen to stereo playback in another room (see Switching the speaker terminals on page 83).
   - **7.2ch + Front Bi-Amp** – Select this setting if you’re bi-amping your front speakers (see Bi-amping your speakers on page 25).
   - **7.2ch + HDZONE** – Select to use the front wide speaker terminals for an independent system in another zone (see Using the MULTI-ZONE controls on page 86).
   - **5.2 Bi-Amp+HDZONE** – Select this to use the surround back speaker terminals for an independent system in another zone with the front speakers bi-amped (see Bi-amping your speakers on page 25).
   - **5.2ch + SP-B Bi-Amp** – Select this setting if you’re bi-amping your B speakers (see Bi-amping your speakers on page 25).
• 5.2ch F+Surr Bi-Amp – Select this setting if you’re bi-amping your front and surround speakers (see Bi-amping your speakers on page 39).
• 5.2ch F+C Bi-Amp – Select this setting if you’re bi-amping your front and center speakers (see Bi-amping your speakers on page 29).
• 5.2ch C+Surr Bi-Amp – Select this setting if you're bi-amping your surround and center speakers (see Bi-amping your speakers on page 29).

Multi-ZONE Music – See Using Multi-ZONE Music on page 104.

• 5.2 +ZONE 2+HDZONE – Select to use the surround back (ZONE 2) and front wide (HDZONE) speaker terminals for an independent systems in another zone (see Using the Multi-ZONE controls on page 85).
• 5.2 +ZONE 2+ZONE 3 – Select to use the surround back (ZONE 2) and front wide (ZONE 3) speaker terminals for an independent systems in another zone (see Using the Multi-ZONE controls on page 85).

3 If you selected 7.2.2ch TMD/FW, 7.2.2ch TMD/FH, 7.2ch + Speaker B, 7.2ch + Front Bi-Amp, or 7.2ch + HDZONE in Step 2, select the placement of the surround speakers.

In a 7.2-channel surround sound system with surround speakers placed directly at the sides of the listening position, the surround sound of 5.1-channel sources is heard from the side. This function mixes the sound of the surround speakers with the surround back speakers so that the surround sound is heard from diagonally to the rear as it should be.

Depending on the positions of the speakers and the sound source, in some cases it may not be possible to achieve good results. In this case, set the setting to ON SIDE or IN REAR.

• ON SIDE – Select when the surround speakers is positioned right beside you.
• IN REAR – Select when the surround speaker is positioned obliquely behind you.

4 When ‘Setting Change?’ is displayed, select Yes. If No is selected, the setting is not changed.

You will return to the Manual Setup menu.

Using Multi-ZONE Music

Multi-ZONE Music can be used to play the same sound in the MAIN ZONE, ZONE 2 and ZONE 3, for example for home parties. Normally set Speaker System to 5.2 + ZONE 2+ZONE 3 for multi-zone/multi-source playback, then switch it to Multi-ZONE Music when having a home party. When this is done, the sound of the input function selected for the MAIN ZONE is played in all zones (the MAIN ZONE, ZONE 2 and ZONE 3).

• There is virtually no delay in the sound.
• Switching of the input for only ZONE 2 or ZONE 3 is disabled, but the volume can be adjusted or muted for the individual zones.
• This is only valid for ZONE 2 and ZONE 3 connections using the speaker terminals. No sound is output from the ZONE 2 and ZONE 3 pre-out terminals. Nothing is output from the ZONE 2 and ZONE 3 COMPONENT VIDEO output and VIDEO output terminals.
• The HDZONE setting does not apply to Multi-ZONE Music.

Speaker Setting

Use this setting to specify your speaker configuration (size, number of speakers and crossover frequency). It is a good idea to make sure that the settings made in Automatically conducting optimum sound tuning (Full Auto MCACC) on page 50 are correct. Note that this setting applies to all MCACC presets, and cannot be set independently.

1 Select ‘Speaker Setting’ from the Manual Setup menu.

2 Choose the set of speakers that you want to set, then select a speaker size.

Use — or — to select the size (and number) of each of the following speakers:

• Front – Select LARGE if your front speakers reproduce bass frequencies effectively, or if you didn’t connect a subwoofer. Select SMALL to send the bass frequencies to the subwoofer.
• Center – Select LARGE if your center speaker reproduces bass frequencies effectively, or select SMALL to send bass frequencies to the other speakers or subwoofer. If you didn’t connect a center speaker, choose NO (the center channel is sent to the front speakers).
• TMD – Select LARGE if your top middle speakers reproduce bass frequencies effectively, or select SMALL to send bass frequencies to the other speakers or subwoofer. If you didn’t connect the top middle speakers, choose NO (the top middle channel is sent to the front speakers).
• Fbw – Select LARGE if your top forward speakers reproduce bass frequencies effectively, or select SMALL to send bass frequencies to the other speakers or subwoofer. If you didn’t connect the top forward speakers, choose NO (the top forward channel is sent to the front speakers).
• Fbw – Select LARGE if your top forward speakers reproduce bass frequencies effectively, or select SMALL to send bass frequencies to the other speakers or subwoofer. If you didn’t connect the top forward speakers, choose NO (the top forward channel is sent to the front speakers).

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FW.
— You can adjust this setting only when Speaker System setting is 5.2.4ch.
— You can adjust this setting only when Speaker System setting is 5.2.4ch.
— You can adjust this setting only when Speaker System setting is 5.2.4ch.
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— You can adjust this setting only when Speaker System setting is 5.2.4ch.

<5.2.4ch + 7.2ch + Speaker B>

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FW.

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FH.

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FH.

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FH.

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FH.

• FH – Select LARGE if your front height speakers reproduce bass frequencies effectively, or select SMALL to send bass frequencies to the other speakers or subwoofer. If you didn’t connect front height speakers, choose NO (the front height channel is sent to the front speakers).

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FH.

• LFE signals and bass frequencies of channels set to SMALL are output to the subwoofer. This may not, however, yield the best bass results. Depending on the speaker placement of your room you may actually experience a decrease in the amount of bass due low frequency cancellations. In this case, try changing the position or direction of speakers. If you can’t get good results, listen to the bass response with it set to PLUS and YES or the front speakers set to LARGE and SMALL alternatively and let your ears judge which sounds best. If you’re having problems, the easiest option is to route all the bass sounds to the subwoofer by selecting SMALL for the front speakers.

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FH.

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FH.

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FH.

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— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FH.

— You can adjust this setting only when Speaker System setting is 7.2.2ch TMD/FH.
Select ‘X. OVER’ and set the crossover frequency.

Frequencies below this point will be sent to the subwoofer (or LARGE speakers).
- This setting decides the cutoff between bass sounds playing back from the speakers selected as LARGE, or the subwoofer, and bass sounds playing back from those selected as SMALL. It also decides where the cutoff will be for bass sounds in the LFE channel.
- With Full Auto MCACC setup or Auto MCACC setup (ALL or Speaker Setting), the setting here will not apply and the crossover frequency will be automatically set. Crossover frequency is a frequency aimed at achieving the optimal sound field taking into account the bass capacity of all connected speakers and human aural characteristics.

When you’re finished, press RETURN.
You will return to the Manual SP Setup menu.

Channel Level

Using the channel level settings, you can adjust the overall balance of your speaker system, an important factor when setting up a home theater system.

1. Select ‘Channel Level’ from the Manual SP Setup menu.
The test tones will start.
2. Adjust the level of each channel using \( \pm \).
Use \( \pm \) to switch speakers.
Adjust the level of each speaker as the test tone is emitted.
- If you are using a Sound Pressure Level (SPL) meter, take the readings from your main listening position and adjust the level of each speaker to 75 dB SPL (C-weighting/slow reading).
3. When you’re finished, press RETURN.
You will return to the Manual SP Setup menu.

Note
For best surround sound, make sure the surround back speakers are the same distance from the listening position.

Speaker Distance

For good sound depth and separation from your system, you need to specify the distance of your speakers from the listening position. The receiver can then add the proper delay needed for effective surround sound.

1. Select ‘Speaker Distance’ from the Manual SP Setup menu.
2. Adjust the distance of each speaker using \( \pm \).
You can adjust the distance of each speaker in 0.01 m increments.
3. When you’re finished, press RETURN.
You will return to the Manual SP Setup menu.

X-Curve

Most soundtracks mixed for cinema sound too bright when played back in large rooms. The X-Curve setting acts as a kind of re-equalization for home theater listening, and restores proper tonal balance of movie soundtracks.

1. Select ‘X-Curve’ from the Manual SP Setup menu.
2. Choose the X-Curve setting you want.
Use \( \pm \) to adjust the setting. The X-Curve is expressed as a downwards slope in decibels per octave, starting at 2 kHz. The sound becomes less bright as the slope increases (to a maximum of \(-3.0\)dB/oct). Use the following guidelines to set the X-Curve according to your room size:

<table>
<thead>
<tr>
<th>Room size (m²)</th>
<th>≤36</th>
<th>≤48</th>
<th>≤60</th>
<th>≤72</th>
<th>≤300</th>
<th>≤1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-Curve (dB/oct)</td>
<td>–0.5</td>
<td>–1.0</td>
<td>–1.5</td>
<td>–2.0</td>
<td>–2.5</td>
<td>–3.0</td>
</tr>
</tbody>
</table>

- If you select OFF, the frequency curve will be flat and the X-Curve has no effect.
3. When you’re finished, press RETURN.
Network Setup menu
Make the settings for connecting the receiver to the Internet and using the network functions.

1  Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU. A Graphical User Interface (GUI) screen appears on your TV. Use $\uparrow$/\downarrow/\leftarrow/\rightarrow and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.

2  Select ‘System Setup’ from the HOME MENU.

3  Select ‘Network Setup’ from the System Setup menu.

4  Select the setting you want to adjust.
If you are doing this for the first time, you may want to adjust these settings in order:
- IP Address, Proxy – Sets up the IP address/Proxy of this receiver (page 106).
- Network Standby – Even when the unit is in standby mode, it is possible to turn on the power of the unit from iControlAV5 (page 106).
- Friendly Name – The name of the receiver displayed on a computer or other device connected to the network can be changed (page 106).
- Parental Lock – Restricts usage of network functions (page 107).
- Port Number Setting – Sets the numbers of the ports where signals from IP Control are received (page 107).

IP address/Proxy setting
In case the router connected to the LAN terminal on this receiver is a broadband router (with a built-in DHCP server function), simply turn on the DHCP server function, and you will not need to set up the network manually. You must set up the network as described below only when you have connected this receiver to a broadband router without a DHCP server function. Before you set up the network, consult with your ISP or the network manager for the required settings. It is advisable that you also refer to the operation manual supplied with your network component.
- In case you make changes to the network configuration without the DHCP server function, make the corresponding changes to the network settings of this receiver.

IP Address
The IP address to be entered must be defined within the following ranges. If the IP address defined is beyond the following ranges, you cannot play back audio files stored on components on the network or listen to Internet radio stations.
Class A: 10.0.0.1 to 10.255.255.254
Class B: 172.16.0.1 to 172.31.255.254
Class C: 192.168.0.1 to 192.168.255.254

Subnet Mask
In case an xDSL modem or a terminal adapter is directly connected to this receiver, enter the subnet mask provided by your ISP on paper. In most cases, enter 255.255.255.0.

Default Gateway
In case a gateway (router) is connected to this receiver, enter the corresponding IP address.

Primary DNS Server/Secondary DNS Server
In case there is only one DNS server address provided by your ISP on paper, enter it in the ‘Primary DNS Server’ field. In case there are more than two DNS server addresses, enter ‘Secondary DNS Server’ in the other DNS server address field.

Proxy Hostname/Proxy Port
This setting is required when you connect this receiver to the Internet via a proxy server. Enter the IP address of your proxy server in the ‘Proxy Hostname’ field. Also, enter the port number of your proxy server in the ‘Proxy Port’ field.
1  Select ‘IP Address, Proxy’ from the Network Setup menu.
2  Select the DHCP setting you want.
When you select ‘ON’, the network is automatically set up, and you do not need to follow Steps 3. Proceed with Step 4.
If there is no DHCP server on the network and you select ‘ON’, this receiver will use its own Auto IP function to determine the IP address.
- The IP address determined by the Auto IP function is 169.254.X.X. You cannot listen to an Internet radio station if the IP address is set for the Auto IP function.
3  Enter the IP Address, Subnet Mask, Default Gateway, Primary DNS Server and Secondary DNS Server.
Press $\uparrow$/\downarrow to select a number and $\leftarrow/\rightarrow$ to move the cursor.
4  Select ‘OFF’ or ‘ON’ for the Enable Proxy Server setting to deactivate or activate the proxy server.
In case you select ‘OFF’, proceed with Step 7. In case you select ‘ON’, on the other hand, proceed with Step 5.
5  Enter the address of your proxy server or the domain name.
Use $\uparrow$/\downarrow to select a character, $\leftarrow/\rightarrow$ to set the position, and ENTER to confirm your selection.
6  Enter the port number of your proxy server.
Use $\uparrow$/\downarrow to select a character, $\leftarrow/\rightarrow$ to set the position, and ENTER to confirm your selection.
7  Select ‘OK’ to confirm the IP Address/Proxy setup.

Network Standby
Set so that the iControlAV5 function connected to the same LAN with the receiver can be used even while the unit is in standby status.
1  Select ‘Network Standby’ from the Network Setup menu.
2  Specify whether the Network Standby is ON or OFF.
- ON – Even when the unit is in standby mode, it is possible to turn on the power of the unit from the device iControlAV5 that is connected to the network.
- OFF – The ControlAV5 function is not available while the receiver is in standby mode (power consumption during standby can be suppressed).

Friendly Name
1  Select ‘Friendly Name’ from the Network Setup menu.
2  Select ‘Edit Name’ then select ‘Rename’. If after changing the name you want to restore the name to the default, select Default.
3  Input the name you want.
Use $\uparrow$/\downarrow to select a character, $\leftarrow/\rightarrow$ to set the position, and ENTER to confirm your selection.
Parental Lock

Set restrictions for using Internet services. Also set the password accompanying the usage restrictions.

- Upon shipment from the factory, the password is set to “0000”.

⚠️ Important

When the INTERNET RADIO or FAVORITES input is selected, the setting made here cannot be reflected.

1. Select ‘Parental Lock’ from the Network Setup menu.
2. Input the password.
   - Use ¦û to select a character, êë to set the position, and ENTER to confirm your selection.
3. Specify whether to turn Parental Lock on or off.
   - OFF – Internet services are not restricted.
   - ON – Internet services are restricted.
4. If you want to change the password, select Change Password.
   - In this case, the procedure returns to step 2.

Port Number Setting

On this receiver, there can be up to 5 numbers of ports where signals are received.

1. Select ‘Port Number Setting’ from the Network Setup menu.
2. Select the port number you want to change.
3. Input the port number.
   - Use ¦û to select a character, êë to set the position, and ENTER to confirm your selection.
   - It is not possible to set the same port number more than once.
4. If there are other port numbers you want to change, repeat steps 2 and 3.

⚠️ Note

We recommend setting the port number to 00023 or within the range of 49152 to 65535.

Checking the Network Information

The setting status of the following network-related items can be checked.

- IP Address – Check the IP address of this receiver.
- MAC Address – Check the MAC address of this receiver.
- Friendly Name – Friendly Name on page 106.

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU. A Graphical User Interface (GUI) screen appears on your TV. Use þû and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.
2. Select ‘Network Information’ from the HOME MENU. Display the setting status of the network-related items.

MHL Setup

Select whether or not to switch the input automatically to the MHL input when an MHL-compatible device is connected.

- Default setting: ON

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU.

   A Graphical User Interface (GUI) screen appears on your TV. Use þû and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.

   - Press HOME MENU at any time to exit the HOME MENU.

2. Select ‘System Setup’ from the HOME MENU, then press ENTER.
3. Select ‘MHL Setup’ from the System Setup menu.
4. Select the ‘Auto input switching’ from the MHL Setup menu.
5. Use êë to select the setting.
   - OFF – Does not automatically switch to MHL input.
   - ON – Automatically switches to MHL input.
6. Select ‘OK’, then press ENTER.

⚠️ Notes

- This is only valid for MHL-compatible devices supporting this function.
- When the power is on, the MHL-compatible device is charged. (This receiver supports charging of devices up to 0.9 A.)

The Other Setup menu

The Other Setup menu is where you can make customized settings to reflect how you are using the receiver.

1. Press MAIN RECEIVER to switch the remote control to the receiver operation mode, and then press HOME MENU.

   A Graphical User Interface (GUI) screen appears on your TV. Use þû and ENTER to navigate through the screens and select menu items. Press RETURN to exit the current menu.

2. Select ‘System Setup’ from the HOME MENU.
3. Select ‘Other Setup’, then press ENTER.
4. Select the setting you want to adjust.

   If you are doing this for the first time, you may want to adjust these settings in order:
   - Auto Power Down – Sets the power to turn off automatically when the receiver is not being used (page 108).
   - Volume Setup – Sets up the volume-related operations of this receiver (page 108).
   - Remote Control Mode Setup – Sets this receiver’s remote control mode (page 108).
   - Software Update – Use to update the receiver’s software and check the version (page 108).
   - ZONE Setup – Use to make the sub zone-related settings (page 109).
   - On Screen Display Setup – Sets whether or not to display the status on the display when the receiver is operated (page 110).
   - Play ZONE Setup – Select the zone for playing the audio contents of devices in the home network (page 110).
   - SC-LX88 only:
     - Multi Ch In Setup – Specifies the optional settings for a multi-channel input (page 110).
     - Maintenance Mode – This is used to receive maintenance from a Pioneer service engineer or custom installer (page 110).
5. Make the adjustments necessary for each setting, pressing RETURN to confirm after each screen.

Note

The System Setup and Other Setup menus
**Auto Power Down**

The power can be set to turn off automatically if no operation has been performed for a specific amount of time with no audio or video signals being input to the receiver. When using ZONE 2, ZONE 3 or HDZONE, the ZONE 2, ZONE 3 or HDZONE power can also be set to turn off, but for ZONE 2, ZONE 3 or HDZONE the power turns off automatically after the amount of time set here even if signals are being input or operations have been performed. Different times can be set for the main zone, ZONE 2, ZONE 3 and HDZONE.

1. Select ‘Auto Power Down’ from the Other Setup menu.
2. Select the zone you want to set and set the time after which the power turns off.
   - **MAIN** – The time can be selected from among “30 min”, “1 hour”, “3 hours”, “6 hours”, “9 hours” and “OFF”. The power turns off after there has been no signal and no operation for the selected time.
   - **ZONE 2** – The time can be selected from among “30 min”, “1 hour”, “3 hours”, “6 hours”, “9 hours” and “OFF”. The power turns off after the selected time.
   - **ZONE 3** – The time can be selected from among “30 min”, “1 hour”, “3 hours”, “6 hours”, “9 hours” and “OFF”. The power turns off after the selected time.
   - **HDZONE** – The time can be selected from among “30 min”, “1 hour”, “3 hours”, “6 hours”, “9 hours” and “OFF”. The power turns off after the selected time.

**Note**

Depending on the connected devices, the Auto Power Down function may not work properly due to excessive noise or other reasons.

**Volume Setup**

You can set the maximum volume of this receiver or specify what the volume level will be when the power is turned on.

1. Select ‘Volume Setup’ from the Other Setup menu.
2. Select the Power ON Level setting you want.

   The volume can be set so that it is always set to the same level when the receiver’s power is turned on.
   - **LAST** (default) – When the power is turned on, the volume is set to the same level as when the power was last turned off.
   - **--** – When the power is turned on, the volume is set to minimum level.
   - **-80.0dB** to **+12.0dB** – Specify the volume to be set when the power is turned on, in steps of 0.5 dB. It is not possible to set a volume level greater than the value specified at Volume Limit setup (see below).

3. Select the Volume Limit setting you want.

   Use this function to limit the maximum volume. The volume cannot be increased above the level set here, even by operating VOLUME button (or the dial on the front panel).
   - **OFF** (default) – The maximum volume is not limited.
   - **-20.0dB** to **-5.0dB** – The maximum volume is limited to the value set here.

4. Select the Mute Level setting you want.

   This sets how much the volume is to be turned down when MUTE is pressed.
   - **FULL** (default) – No sound.
   - **-40.0dB** to **-20.0dB** – The volume will be turned down to the level specified here.

5. When you’re finished, press RETURN.

   You will return to the Other Setup menu.

**Remote Control Mode Setup**

- Default setting: 1
  This sets this receiver’s remote control mode to prevent erroneous operation when multiple units of the receiver are being used.
  1. Select ‘Remote Control Mode Setup’ from the Other Setup menu.
  2. Select the Remote Control Mode setting you want.
  3. Select ‘OK’ to change the remote control mode.
  4. Follow the instructions on the screen to change the remote control’s setting.

See Operating multiple receivers on page 89.

5. When you’re finished, press RETURN.

   You will return to the Other Setup menu.

**Software Update**

Use this procedure to update the receiver’s software and check the version. There are two ways to update: via the Internet and via a USB memory device.

Updating via the Internet is performed by accessing the file server from the receiver and downloading the file. This procedure is only possible if the receiver is connected to the Internet.

Updating via a USB memory device is performed by downloading the update file from a computer, reading this file onto a USB memory device then inserting this USB memory device into the USB port on the receiver’s front panel. With this procedure, the USB memory device containing the update file must first be inserted into the USB port on the receiver’s front panel.

- If an update file is provided on the Pioneer website, download it onto your computer. When downloading an update file from the Pioneer website onto your computer, the file will be in ZIP format. Unzip the ZIP file before saving it on the USB memory device. If there are any old downloaded files or downloaded files for other models on the USB memory device, delete them.
  - http://www.pioneer-india.in (for India)
  - http://www.pioneerhongkong.com.hk (for Hong Kong)
- If an update file does not exist in the Pioneer’s website, updating the software for the receiver is not necessary.

**Important**

- DO NOT unplug the power cord during updating.
- When updating via the Internet, do not disconnect the LAN cable. When updating via a USB memory device, do not disconnect the USB memory device.
- If updating is interrupted before it is completed, start updating over from the beginning.
- The receiver’s settings may be reset when the software is updated. Information on the models for which the settings are reset is provided on the Pioneer website. Check the website before updating.

1. Select ‘Software Update’ from the Other Setup menu.
2. Select the update procedure.
   - **Update via Internet** – The receiver checks whether updatable software is available via the Internet.
   - **Update via USB Memory** – The receiver checks whether the USB memory device inserted into the USB port on the receiver’s front panel contains updatable software. “Accessing” is displayed and the update file is checked. Wait a while.
3 Check on the screen whether or not an update file was found.
   If “New version found.” is displayed, the update file has been found. The version number and updating time are displayed.
   If “This is the latest version. There is no need to update.” is displayed, no update file has been found.

4 To update, select OK.
The updating screen appears and updating is performed.
   • The power turns off automatically once updating is completed.

Software Update messages

<table>
<thead>
<tr>
<th>Status messages</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>FILE ERROR</td>
<td>Try disconnecting then reconnecting the USB device or storing the update file again. If the error still occurs, try using a different USB memory device. No update file was found on the USB memory device. Store the file in the USB memory device’s root directory.</td>
</tr>
<tr>
<td>UPDATE ERROR 1 to UPDATE ERROR 7</td>
<td>Turn the receiver’s power off, then turn it back on and try updating the software again.</td>
</tr>
<tr>
<td>Update via USB</td>
<td>If this message flashes, updating has failed. Update via a USB memory device. Put the update file on a USB memory device and connect the device to the USB port. When the file is found, software updating starts automatically.</td>
</tr>
</tbody>
</table>

UE11 Updating has failed. Use the same procedure to update the software again.
UE22 Updating has failed. Use the same procedure to update the software again.
UE33 Updating has failed. Use the same procedure to update the software again.

ZONE Setup
Switches the sub-zone setting.

MAIN/HDZONE setting (setting for how to use the HDMI OUT 3 terminal)

1 Select ‘ZONE Setup’ from the Other Setup menu.
2 Select ‘MAIN/HDZONE’, then press ENTER.
3 Set how the HDMI OUT 3 terminal is to be used.
   • MAIN: Select this to output the same input source as in the main zone. After setting this to MAIN, exit the home menu, then press OUT P. and select the terminal for HDMI output (page 84).
   • HDZONE (default): Use the HDMI output’s multizone function (HDZONE) to output an input source different from the one in the main zone (page 85).
4 Select ‘OK’, then press ENTER.

ZONE 2/ZONE 3/HDZONE setting
The volume setting and tone for the sub zones that can be used with this receiver can be changed and adjusted here.

   • When making multi-zone connections using the AUDIO ZONE 2 OUT or AUDIO ZONE 3 OUT terminals and performing playback in Zone 2 or Zone 3, you can set whether to adjust the Zone 2 or Zone 3 volume on the receiver or to fix it to a specific volume (–40 dB Fixed or 0 dB Fixed). This is set to Variable upon shipment from the factory, allowing the volume to be adjusted on the receiver. If you would like to adjust the volume from the connected amplifier, make the setting below.
   • HDZONE can be set when Speaker System is 7.2ch + HDZONE, 5.2 Bi-Amp+HDZONE or 5.2 +ZONE 2+HDZONE.
   • HDZONE is set to Variable. It cannot be set to –40 dB Fixed and 0 dB Fixed.

   CAUTION

   • Note that when Volume Level is set to 0 dB Fixed, the audio output from the AUDIO ZONE 2 OUT terminals is set to the maximum. Also, depending on the volume setting on the connected amplifier, large volumes may be produced even when Volume Level is set to –40 dB Fixed.

   1 Select ‘ZONE Setup’ from the Other Setup menu.
   2 Select a sub zone for which you wish to change the setting.
   3 Select the Volume Level setting you want.
      • Variable (default) – Adjusts the sound volume of the sub zone using this unit.
      • –40 dB Fixed/0 dB Fixed – The Zone 2/Zone 3 volume level output from the receiver is fixed to the value set here.
   4 Select the Power ON Level setting you want.
      Sets the sound volume of the sub zone when the multi-zone function is used to turn on the sub zone. Volume can be set for ZONE 2, ZONE 3, and HDZONE, respectively.

      When Volume Level is set to –40 dB Fixed or 0 dB Fixed, the volume is fixed to that level, so the volume cannot be set here.
      • LAST (default) – When MULTI-ZONE is turned on, the volume is set to the level the last time you were listening to that zone.
      • “---” – When MULTI-ZONE is turned on, the volume for that zone is set to the minimum.
      • –80.0dB to 0dB – When MULTI-ZONE is turned on, the volume is set to the level set here. The volume can be set up to the value set at Volume Limit below.

   5 Select the Volume Limit setting you want.
      The maximum volume for the zone selected in step 2 can be set.
      • –20.0dB to –10.0dB – The maximum volume is limited to the value set here.
      • –20.0dB to –10.0dB – The volume will be turned down to the level specified here.

   6 Select the Mute Level setting you want.
      The mute level for the zone selected in step 2 can be set.
      This sets how much the volume is to be turned down when MUTE is pressed.
      • FULL (default) – No sound.
      • –40.0dB to –20.0dB – The volume will be turned down to the level specified here.

   7 Adjust Lch Level and Rch Level.
      The channel level for the zone selected in step 2 can be set.
      The level can be adjusted between –12.0dB and +12.0dB, in 1 dB steps.
8. Select the HPF (High Pass Filter) setting you want.
   This can only be set when ZONE 2 is selected in step 2.
   The low frequency component output from the AUDIO ZONE 2 OUT terminals is cut. When a subwoofer is con-
   nected in Zone 2, we recommend setting this to “ON”. This is only valid when Zone 2 is connected using the
   AUDIO ZONE 2 OUT terminals.
   • OFF (default) – The High Pass Filter function is disabled.
   • ON – The High Pass Filter function is enabled.

9. Select the TONE setting you want.
   This can only be set when ZONE 2 is selected in step 2.
   The bass and treble for ZONE 2 can be adjusted. When BYPASS is selected, the original sound is played as such.
   When ON is selected, the BASS and TREBLE can be adjusted.
   • When the speaker terminals are being used for ZONE 2, the ZONE 2 TONE effect is available when
     Speaker System is set to 5.2 +ZONE 2+ZONE 3 or 5.2 +ZONE 2+HDZONE. The ZONE 2 TONE effect is not
     available when Multi-ZONE Music is selected.

10. Adjust the bass (BASS) and treble (TREBLE) to your tastes.
    This can only be set when ZONE 2 is selected in step 2 and ON is selected in step 8.
    The BASS and TREBLE can each be adjusted between –10.0dB and +10.0dB, in 1 dB steps.

11. When you’re finished, press RETURN.
    You will return to the Other Setup menu.

---

**Play ZONE Setup**

Select the zone for playing the audio contents of devices in the home network when using in the DMR mode.
- For playable DLNA-compatible network devices, see page 69.

1. Select ‘Play ZONE Setup’ from the Other Setup menu.
2. Select the zone in which you want to play the audio contents.
3. When you’re finished, press RETURN.
    You will return to the Other Setup menu.

---

**Notes**

- If another zone is on, it may not be possible to play the audio contents. In this case, turn the other zone off,
  then play the audio contents.
- MAIN/HDZONE at ZONE Setup must be set to HDZONE in order to use the HDZONE function (page 109).

---

**Multi Channel Input Setup**

*SC-LX88 only*

You can adjust the level of the subwoofer for a multi-channel input. Also, when the multi-channel input is
selected as an input function, you can display the video images of other input functions. In the Multi Channel
Input Setup, you can assign a video input to the multi-channel input.

1. Select ‘Multi Ch In Setup’ from the Other Setup menu.
2. Select the ‘SW Input Gain’ setting you want.
   • 0dB – Outputs sound of the subwoofer at the level originally recorded on the source.
   • +10dB – Outputs sound of the subwoofer at the level increased by 10 dB.
3. Select the ‘Video Input’ setting you want.
   When the multi-channel input is selected as an input function, you can display the video images of other input
   functions. The video input can be selected from the following: SAT/CBL, DVR/BDR, OFF.
4. When you’re finished, press RETURN.
   You will return to the Other Setup menu.

---

**Maintenance Mode**

Only use this if so instructed by a Pioneer service engineer or custom installer.
Making network settings using Safari

1. Launch Safari on your computer.
2. Press Bookmark icon. Click Bonjour list (a), and then select this receiver’s name (Friendly Name) (b) in Bookmark.
   If Bonjour list is not displayed, access the IP address “http://(the receiver’s IP address)” from Safari.
3. On the AVNavigator menu screen, select Network Setup.
4. Click IP, Proxy Setting.
5. Setup the network settings manually and then press Apply.

Note
This setting for the network has been confirmed for Mac OS X 10.7 and Safari 5.1.

Using Safari to set a friendly name

1. Launch Safari on your computer.
2. Press Bookmark icon. Click Bonjour list (a), and then select this receiver’s name (Friendly Name) (b) in Bookmark.
   If Bonjour list is not displayed, access the IP address “http://(the receiver’s IP address)” from Safari.
3. On the AVNavigator menu screen, select Network Setup.
4. Click Friendly Name.
5. Input a friendly name, then press Apply.

Note
This setting for the network has been confirmed for Mac OS X 10.7 and Safari 5.1.
Using Safari to update the firmware

1. Launch Safari on your computer.
2. Press Bookmark icon. Click Bonjour list (a), and then select this receiver’s name (Friendly Name) (b) in Bookmark.
   If Bonjour list is not displayed, access the IP address "http://(the receiver’s IP address)" from Safari.
3. On the AVNavigator menu screen, select Network Setup.
4. Click Firmware Update.

5. Press Start.
   The firmware update prepare screen is displayed. If the screen does not switch automatically, click Click here.

6. Browse the latest firmware on your computer (a) and then press Upload (b).
   Firmware files have the extension “fw”. Select a file with the extension “fw”.
   The confirmation screen is displayed. If you continue the firmware update, press OK. Once the firmware update process starts, you cannot stop it. Wait until the file is uploaded (about one minute may be required depending on your LAN connection environment).

7. The firmware upload status screen is displayed.
   “The upload process finished successfully.” will be shown when the update is completed.
   Once updating is completed, the receiver’s power automatically turns off.

Note
This setting for the network has been confirmed for Mac OS X 10.7 and Safari 5.1.
FAQ

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Troubleshooting

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

- If the unit does not operate normally due to external effects such as static electricity, disconnect the power plug from the outlet and insert again to return to normal operating conditions.
- If the problem is not solved after the troubleshooting below, if the screen freezes unexpectedly or if the buttons on the remote control or front panel stop working completely, do the following:
  - Press \( \text{STANDBY/ON} \) on the front panel to turn off the power, then turn the power back on.
  - If this does not solve the problem, turn off the power again, then press and hold the \( \text{STANDBY/ON} \) button on the front panel for at least five seconds. (The power turns on, then turns off after five seconds.)
  - If the power cannot be turned off, press and hold \( \text{STANDBY/ON} \) on the front panel for over five seconds. The power will turn off. In this case, the various settings made on the receiver may be cleared. (However, settings made when the power was turned off normally are not cleared.)

Power

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The power does not turn on.</td>
<td>Make sure that the power cord is plugged in to an active power outlet.</td>
</tr>
<tr>
<td>Try disconnecting from the power outlet, then plugging back in.</td>
<td></td>
</tr>
<tr>
<td>Power cannot be turned off.</td>
<td>Press the ZONE 2 button on the remote control for 1.5 seconds and then press the ( \text{STANDBY/ON} ) button to turn off the power.</td>
</tr>
<tr>
<td>ZONE 2 ON is displayed.)</td>
<td></td>
</tr>
<tr>
<td>Power cannot be turned off.</td>
<td>Press the ZONE 3 button on the remote control for 1.5 seconds and then press the ( \text{STANDBY/ON} ) button to turn OFF the power.</td>
</tr>
<tr>
<td>ZONE 3 ON is displayed.)</td>
<td></td>
</tr>
<tr>
<td>Power cannot be turned off.</td>
<td>Press the HDZONE button on the remote control for 1.5 seconds and then press the ( \text{STANDBY/ON} ) button to turn OFF the power.</td>
</tr>
<tr>
<td>HDZONE ON is displayed.)</td>
<td></td>
</tr>
<tr>
<td>The receiver suddenly switches off or the iPod iPhone indicator blinks.</td>
<td>Check that there are no loose strands of speaker wire touching the rear panel or another set of wires. If so, re-attach the speaker wires, making sure there are no stray strands.</td>
</tr>
<tr>
<td>The receiver may have a serious problem. Disconnect from the power and call a Pioneer authorized independent service company.</td>
<td></td>
</tr>
<tr>
<td>During loud playback the power suddenly switches off.</td>
<td>Turn down the volume.</td>
</tr>
<tr>
<td>Lower the 63 Hz and 125 Hz equalizer levels in the Manual MCACC setup on page 109.</td>
<td></td>
</tr>
<tr>
<td>Switch on the digital safety feature. While holding down ( \text{ENTER} ) on the front panel, press ( \text{STANDBY/ON} ) to set this receiver to the standby mode. Use ( \text{TUNE} ) ( \uparrow ) ( \downarrow ) to select ( \text{D.SAFETY OFF} ), and then use ( \text{PRESET} ) ( \uparrow ) ( \downarrow ) to select 1 or 2 (select ( \text{D.SAFETY OFF} ) to deactivate this feature). If the power switches off even with ( \text{2} ) selected, turn down the volume. With ( \text{1} ) or ( \text{2} ) on, some features may be unavailable.</td>
<td></td>
</tr>
<tr>
<td>If there is very little low frequency information in the source material, change your speaker settings to Front: ( \text{SMALL} )/Subwoofer: ( \text{YES} ), or Front: ( \text{LARGE} )/Subwoofer: ( \text{PLUS} ) (see Speaker Setting on page 109).</td>
<td></td>
</tr>
<tr>
<td>The unit does not respond when the buttons are pressed.</td>
<td>Try switching the receiver off, then back on again.</td>
</tr>
<tr>
<td>Try disconnecting the power cord, then connect again.</td>
<td></td>
</tr>
<tr>
<td>AMP ERR blinks in the display, then the power automatically switches off. The MCACC PRO blinks and the power does not turn on.</td>
<td>The receiver may have a serious problem. Do not try switching the receiver on. Unplug the receiver from the wall and call a Pioneer authorized independent service company.</td>
</tr>
</tbody>
</table>

FAQ

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The receiver suddenly switches off or the FL OFF indicator blinks.</td>
<td>There is a possibility that the power supply circuit of the receiver has failed. Wait at least one minute and then turn ON the power again. If the same symptom appears again after turning ON the power again, stop using the receiver, disconnect the power cable and request repair.</td>
</tr>
<tr>
<td>AMP OVERHEAT blinks in the display and the FL OFF indicator flashes and the power turns off.</td>
<td>Allow the unit to cool down in a well-ventilated place before switching back on (see Installing the receiver on page 10).</td>
</tr>
<tr>
<td>Check whether the cables used to connect the speakers are short-circuited.</td>
<td></td>
</tr>
<tr>
<td>Wait at least 1 minute, then try turning the power on again.</td>
<td></td>
</tr>
<tr>
<td>The temperature within the unit has exceeded the allowable value.</td>
<td></td>
</tr>
<tr>
<td>Lower the volume level.</td>
<td></td>
</tr>
<tr>
<td>HDZONE cannot be turned on.</td>
<td>Set Output Setting at MAIN/HDZONE to HDZONE (page 109).</td>
</tr>
<tr>
<td>The receiver suddenly power off or MCACC PRO flashes.</td>
<td>The power unit is damaged. Unplug the receiver from the wall and call a Pioneer authorized independent service company.</td>
</tr>
<tr>
<td>iPod iPhone indicator blinks.</td>
<td>The built-in cooling fan is malfunctioning. Do not try switching the receiver on. Unplug the receiver from the wall and call a Pioneer authorized independent service company.</td>
</tr>
<tr>
<td>Display blinks 12V TRG ERR</td>
<td>An error has arisen in the 12V trigger jacks. Reconnect accurately then turn the power back on.</td>
</tr>
</tbody>
</table>

No sound

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is no sound output, the sound gets cut off, or there is noise present.</td>
<td>If Fixed PCM in audio parameter is set to ( \text{ON} ), you will not be able to playback audio in formats other than PCM audio. For other audio formats than PCM audio, select ( \text{OFF} ). (See Setting the Audio options on page 76.)</td>
</tr>
<tr>
<td>No sound is output when an input function is selected.</td>
<td>Check the volume, mute setting (press ( \text{MUTE} ) and speaker setting (press ( \text{OUT} ) ( \text{P} )).</td>
</tr>
<tr>
<td>Make sure the correct input function is selected.</td>
<td></td>
</tr>
<tr>
<td>Check that the MCACC setup microphone is disconnected.</td>
<td></td>
</tr>
<tr>
<td>Make sure the correct input signal is selected (see Choosing the input signal on page 69).</td>
<td></td>
</tr>
<tr>
<td>Check that the source component is connected properly (see Connecting your equipment on page 19).</td>
<td></td>
</tr>
<tr>
<td>Check that the speakers are connected properly (see Connecting the speakers on page 20).</td>
<td></td>
</tr>
<tr>
<td>No sound from the surround or center speakers.</td>
<td>Check that the Stereo listening mode or the Front Stage Surround Advance mode isn’t selected; select one of the surround listening modes (see Enjoying various types of playback using the listening modes on page 63).</td>
</tr>
<tr>
<td>Check that the surround center speakers are not set to ( \text{NO} ) (see Speaker Setting on page 104).</td>
<td></td>
</tr>
<tr>
<td>Check the channel level settings (see Channel Level on page 105).</td>
<td></td>
</tr>
<tr>
<td>Check the speaker connections (see Connecting the speakers on page 20).</td>
<td></td>
</tr>
<tr>
<td>No sound from surround back speakers.</td>
<td>Check that the surround back speakers are set to ( \text{LARGE} ) or ( \text{SMALL} ) and the surround speakers are not set to ( \text{NO} ) (see Speaker Setting on page 104).</td>
</tr>
<tr>
<td>Check the speaker connections (see Connecting the speakers on page 25). If only one surround back speaker is connected, make sure it’s connected to the left channel speaker terminal.</td>
<td></td>
</tr>
</tbody>
</table>
### Symptom: No sound from front height or front wide speakers.
- **Remedy:** Check that the front height or front wide speakers are set to LARGE or SMALL, and the surround speakers are not set to NO (see Setting the Audio options on page 104).

### Symptom: No sound from subwoofer.
- **Remedy:** Check that the subwoofer is connected properly, switched on and the volume turned up.

### Symptom: No sound from the speakers.
- **Remedy:** Check the AMP setting. Set it to ON when you want to output sound from all the speakers (see Setting the Audio options on page 73).

### Symptom: Sound is produced from analog components, but not from digital ones (DVD, LD, CD, etc.).
- **Remedy:** Check that the input signal type is set to DIGITAL (see Choosing the input signal on page 63). Make sure that the digital input is assigned correctly for the input jack the component is connected to (see The Input Setup menu on page 66).

### Symptom: Broadcast stations cannot be selected automatically, or there is considerable noise in radio broadcasts.
- **Remedy:** Fully extend the FM wire antenna, adjust the position for best reception and secure to a wall, etc. Use an outdoor antenna for better reception (see page 10).

### Symptom: Noise is output when scanning a DTS CD.
- **Remedy:** This is not a malfunction of the receiver. The scan function of your other speakers (see Speaker Setting on page 105).

### Symptom: Can’t record audio.
- **Remedy:** You can only make a digital recording from a digital source, and an analog recording from an analog source. For digital sources, make sure that what you’re recording isn’t copy protected.

### Symptom: Subwoofer output is very low.
- **Remedy:** To route more signal to the subwoofer, set it to PLUS or set the front speakers to SMALL (see Speaker Setting on page 104).

### Symptom: The Phase Control feature doesn’t seem to have an audible effect.
- **Remedy:** If applicable, check that the lowpass filter switch on your subwoofer is off, or the lowpass cutoff is set to the highest frequency setting. If there is a PHASE setting on your subwoofer, set it to 0º (or depending on the subwoofer, the setting where you think it has the best overall effect on the sound).

### Symptom: Full Band Phase Control cannot be selected.
- **Remedy:** Perform Full Auto MCACC measurements (see Automatically conducting optimum sound tuning (Full Auto MCACC) on page 56). Full Band Phase Control automatically turns on once measurements are completed.

### Symptom: Noise or hum can be heard even when there is no sound being input.
- **Remedy:** Check that personal computers or other digital components connected to the same power source are not causing interference.

### Symptom: Noise or hum can be heard even when there is no sound being input.
- **Remedy:** Check that personal computers or other digital components connected to the same power source are not causing interference.

### Symptom: There seems to be a time lag between the speakers and the output of the subwoofer.
- **Remedy:** See Automatically conducting optimum sound tuning (Full Auto MCACC) on page 56 to set up your system again using MCACC (this will automatically compensate for a delay in the subwoofer output).
### ADAPTER PORT terminal

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The maximum volume available (shown in the front panel display) is lower than the +12 dB maximum.</td>
<td>Check that the Volume Limit is set to OFF (see Volume Setup on page 108).</td>
</tr>
<tr>
<td>The channel level setting may be over 0.0 dB.</td>
<td></td>
</tr>
<tr>
<td>Certain listening modes or HOME MENU items cannot be selected.</td>
<td>When Operation Mode is set to Basic, the Pioneer-recommended settings are made and not all of the functions can be used. To use all of the functions without restrictions, set Operation Mode to Expert (see Operation Mode Setup on page 54).</td>
</tr>
<tr>
<td>The volume level drops automatically.</td>
<td>Some functions cannot be selected, depending on the input signal and listening mode.</td>
</tr>
<tr>
<td>Volume seems different when input is switched.</td>
<td>Set the Channel Level setting to ALL, then adjust the volume of the respective input sources (see Input Volume Absorber on page 64).</td>
</tr>
<tr>
<td>When HDZONE is ON, multi-channel audio sources are not output in the main zone.</td>
<td>When HDZONE is selected in Speaker System and also the same HDMI input is selected for both the main zone and HDZONE. 2-channel PCM audio sources are output from the main zone as well. To output multi-channel audio sources, set HDZONE to OFF or change the HDZONE input.</td>
</tr>
<tr>
<td>No HDZONE sound is output.</td>
<td>With HDZONE, multi-channel audio may not be output. In this case, set the audio output setting of your playback device to 2-channel PCM.</td>
</tr>
</tbody>
</table>

### Video

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>No image is output when an input is selected.</td>
<td>Check the video connections of the source component.</td>
</tr>
<tr>
<td>For HDMI, or when V.CONV is set to OFF and a TV and another component are connected with different cords (in Setting the Video options on page 52), you must connect your TV to this receiver using the same type of video cable as you used to connect your video component. For the component video input, however, signals are only output from the HDMI OUT 1 or HDMI OUT 2 terminal, so when using the component video input, set V.CONV to OFF. Make sure the input assignment is correct for components connected using component video or HDMI cables (see The Input Setup menu on page 59).</td>
<td></td>
</tr>
<tr>
<td>No image is output when an input is selected.</td>
<td>Check the video connections of the source component.</td>
</tr>
<tr>
<td>Sometimes a video deck may output a noisy video signal (during scanning, for example), or the video quality may just be poor (with some video game units, for example). The picture quality may also depend on the settings, etc. of your display device. Switch off the video converter and reconnect the source and display device using the same type of connection (component or composite), then start playback again.</td>
<td>Check the video input you selected on your TV is correct.</td>
</tr>
<tr>
<td>Some components (such as video game units) have resolutions that may not be converted. If adjusting this receiver’s Resolution setting (in Setting the Video options on page 52) and/or the resolution settings on your component or display doesn’t work, try switching V.CONV (see Setting the Video options on page 51) to OFF. When the device is connected using an HDMI OUT terminal, press the remote control’s OUT P. button to check the HDMI OUT output setting. For OUT 3, also check the MAIN/HDZONE setting at ZONE Setup.</td>
<td></td>
</tr>
<tr>
<td>Noise, intermittent, or distorted picture.</td>
<td>Some components in the HDZONE setting may be over 1080/24p or 4K/24p, the picture may not be displayed properly for some source materials. In this case, set the resolution to something other than 1080/24p or 4K/24p (see page 81).</td>
</tr>
<tr>
<td>Video signals are not output from the component terminal.</td>
<td>Video signals cannot be used. For audio only input (TUNER, CD, and TV), the video parameter function cannot be used. Use for video or input with a GUI display.</td>
</tr>
<tr>
<td>When a monitor only compatible with resolutions of 480i is connected to the component terminal and another monitor is connected to the HDMI terminal, the video signals may not be output to the monitor connected to the component terminal. If this happens, do the following: — Turn off the power of the monitor connected to the HDZONE terminal. — Change the VIDEO P. menu, RES setting (see Setting the Video options on page 52). — Video signals from the HDMI terminal cannot be output to the component terminal. Input the video signals from the player or other source to the composite or component terminals. When using the component terminal, assign it at Input Setup (see The Input Setup menu on page 59).</td>
<td></td>
</tr>
<tr>
<td>When a monitor only compatible with resolutions of 480i is connected to the component terminal and another monitor is connected to the HDMI terminal, the video signals may not be output to the monitor connected to the component terminal. If this happens, do the following: — Turn off the power of the monitor connected to the HDZONE terminal. — Change the VIDEO P. menu, RES setting (see Setting the Video options on page 52). — Video signals from the HDMI terminal cannot be output to the component terminal. Input the video signals from the player or other source to the composite or component terminals. When using the component terminal, assign it at Input Setup (see The Input Setup menu on page 59).</td>
<td></td>
</tr>
<tr>
<td>The picture’s movement is unnatural.</td>
<td>When Resolution under VIDEO PARAMETER is set to 1080/24p or 4K/24p, the picture may not be displayed properly for some source materials. In this case, set the resolution to something other than 1080/24p or 4K/24p (see page 81).</td>
</tr>
</tbody>
</table>

### FAQ

**FAQ**

- **ADAPTER PORT terminal**
  - **Symptom**: The Bluetooth wireless technology device cannot be connected or operated. Sound from the Bluetooth wireless technology device is not emitted or the sound is interrupted.
  - **Remedy**: Check that no object that emits electromagnetic waves in the 2.4 GHz band (microwave oven, wireless LAN device or Bluetooth wireless technology apparatus) is near the unit. If such an object is near the unit, set the unit far from it. Or, stop using the object emitting the electromagnetic waves.
  - Check that the Bluetooth wireless technology device is not too far from the unit and that obstructions are not set between the Bluetooth wireless technology device and the unit. Set the Bluetooth wireless technology device and the unit so that the distance between them is less than about 10 m and no obstructions exist between them.
  - Check that the Bluetooth ADAPTER and the ADAPTER PORT of the unit are correctly connected.
  - The Bluetooth wireless technology device may not be set to the communication mode supporting the Bluetooth wireless technology. Check the setting of the Bluetooth wireless technology device.
  - Check that pairing is correct. The pairing setting was deleted from this unit or the Bluetooth wireless technology device. Reset the pairing.
  - Check that the profile is correct. Use a Bluetooth wireless technology device that supports A2DP profile and AVRCP profile.
  - **ADT OVERLOAD** is displayed on the display. There is a problem in the power supply for the Bluetooth adapter. After turning OFF the power of the receiver, disconnect the Bluetooth adapter and insert the Bluetooth adapter again, then turn ON the power of the receiver. If ADT OVERLOAD is displayed even though the above operation is repeated several times, there is a problem with the receiver or the Bluetooth adapter. Disconnect the power cable and request repair.
### Settings

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Auto MCACC Setup continually shows an error.</td>
<td>The ambient noise level may be too high. Keep the noise level in the room as low as possible (see also Problems when using the Auto MCACC Setup on page 50). If the noise level cannot be kept low enough, you will have to set up the surround sound manually (page 100).</td>
</tr>
<tr>
<td>When using only one surround back speaker, connect it to the SURROUND BACK L (Single) terminals.</td>
<td>To use a 5.1-channel speaker set, use the surround speakers for the surround channel, not the surround back channel.</td>
</tr>
</tbody>
</table>
| Make sure there are no obstacles between the speakers and the microphone. | If Reverse Phase is displayed, try the following:  
- The speaker's wiring (+ and -) may be inverted. Check the speaker connections.  
- Depending on the type of speakers and their installation conditions, Reverse Phase may be displayed even if the speakers are properly connected. If this happens, select GO NEXT and continue.  
- If the speaker is not pointed to the microphone (listening position) or when using speakers that affect the phase (dipole speakers, reflective speakers, etc.), it may not be possible to properly identify the polarity. |
| There may have been some low frequency noise in the room from an air-conditioner, a refrigerator, or the like. | Depending on a number of factors (bass reproduction capabilities of the speakers, room size, speaker placement, etc.) this may occur in some cases. Change the speaker setting manually in Speaker Setting on page 95, and use the ALL (Keep SP System) option for the Auto MCACC menu in Automatic MCACC (Expert) on page 56. |
| Can't adjust the Fine Speaker Distance setting properly. | Check that the speakers are all in phase (make sure the positive (+) and negative (-) terminals are matched up properly). |
| SC-LBBB only: Gauge (value) does not increase with the Precision Distance adjustment. | Perform the Full Auto MCACC procedure before the Precision Distance adjustment (see Automatically conducting optimum sound tuning (Full Auto MCACC) on page 58). |
| Place the microphone accurately in the same position as when the Full Auto MCACC procedure was performed. | Do not move the speaker used as the reference point, either. Also, adjust in order, starting from the front right speaker. |
| When adjusting the speaker positions, do not move the speakers much; only move them about 1 cm towards or away from the microphone. | If you forget exactly where the microphone should be positioned or if there are problems after the procedure has been performed repeatedly, re-calibrate the distance using the Full Auto MCACC procedure, then without moving the microphone redo the Precision Distance adjustment. |

### Professional Calibration EQ graphical output

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The reverberation characteristics graph after EQ calibration does not appear entirely flat.</td>
<td>There are cases where the graph does not appear flat (even when selecting ALL CH ADJ in the Auto MCACC Setup) due to adjustments made to compensate for room characteristics to achieve optimal sound.</td>
</tr>
<tr>
<td>EQ adjustments made using the Manual MCACC setup do not appear to change the reverberation characteristics graph after EQ calibration.</td>
<td>Despite level adjustments being made, the filters used for analysis may not display these adjustments in the reverberation characteristics graph after EQ calibration. However, these adjustments are taken into account by the filters dedicated to overall system calibration.</td>
</tr>
<tr>
<td>Lower frequency response curves do not seem to have been calibrated for SMALL speakers.</td>
<td>Low frequencies used in bass management (the subwoofer channel) will not change for speakers that have been specified as SMALL in the configuration, or do not output these frequencies.</td>
</tr>
</tbody>
</table>

### Display

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The display is dark or off.</td>
<td>Check the digital connections and make sure that the digital inputs are assigned correctly (see The Input Setup menu on page 59).</td>
</tr>
<tr>
<td>The display shows KEY LOCK ON when you try to make settings.</td>
<td>The on-screen display is not displayed unless this receiver's HDMI OUT 1 or HDMI OUT 2 terminal is connected to the TV by HDMI cable. If the TV does not support HDMI, watch this receiver’s front panel display when performing operations and making settings.</td>
</tr>
<tr>
<td>The display shows DIGITAL or DTS does not light when playing Dolby/DTS software.</td>
<td>When the input is a 3D signal, OSD cannot be displayed.</td>
</tr>
</tbody>
</table>

### FAQ

- **DIGITAL** or **DTS** does not light. These indicators do not light if playback is paused.
- **DIGITAL** or **DTS** does not light. Make sure that the receiver is set to AUTO or DIGITAL (see Choosing the input signal on page 58).
### Symptom Remedy

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>When playing Dolby Digital or DTS sources, the receiver’s format indicators do not light.</td>
<td>Check that the player is connected using a digital connection. Make sure that the receiver is set to AUTO or DIGITAL (see Choosing the input signal on page 66). Ensure that if there are several audio tracks on the disc, the Dolby Digital or DTS is selected.</td>
</tr>
<tr>
<td>When playing certain discs, none of the receiver’s format indicators light.</td>
<td>The disc may not contain multi-channel material. Check the disc packaging for more on what audio tracks are recorded on the disc. It does not light when the PCM signal or analog signal is input.</td>
</tr>
<tr>
<td>When playing a disc with the listening mode set to Auto Surround or ALC, DTS Neo:X does not appear on the receiver.</td>
<td>Make sure that the receiver is set to AUTO or DIGITAL (see Choosing the input signal on page 66). If a two channel soundtrack is currently playing (including Dolby: 2.0 Surround), then this is not a malfunction. Check the disc packaging for details about the audio tracks available.</td>
</tr>
<tr>
<td>During playback of DVD-Audio, the display shows PCM.</td>
<td>This will occur when playing DVD-Audio material over the HDMI connection. This is not a malfunction. See the Power section (page 114).</td>
</tr>
<tr>
<td>The power turns off automatically and some indicator flashes, or some indicator flashes and the power does not turn on.</td>
<td>The OSD Language setting must be switched to Chinese. For details, see Changing the OSD display language (OSD Language) on page 54.</td>
</tr>
<tr>
<td>Track names, etc., are not displayed in Chinese on the OSD when playing with the network function, a USB input, etc.</td>
<td>The OSD Language setting must be switched to Chinese. For details, see Changing the OSD display language (OSD Language) on page 54.</td>
</tr>
</tbody>
</table>

### Remote control Symptom Remedy

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot be remote controlled.</td>
<td>Set the remote control unit’s remote control mode so that it matches the setting on the main unit (see Operating multiple receivers on page 89). Try replacing the batteries in the remote control (see Loading the batteries on page 10).</td>
</tr>
<tr>
<td>Some components cannot be operated with the system remote.</td>
<td>If the battery ran down, the preset codes may have been cleared. Re-enter the preset codes. The preset code may be incorrect. Redo the procedure for entering preset codes. When commands from the remote control units of other devices are registered using the learning function, in some cases they may not be learned properly. In this case, register the commands again using the learning function (see page 90). If they still do not work, they may be in a special format that cannot be registered on this receiver’s remote control. Operate the device using another remote control.</td>
</tr>
</tbody>
</table>
HDMI

Symptom: The HDMI indicator blinks continuously.
Remedy: Check all the points below.

Symptom: Video/audio is not output or is interrupted.
Remedy: This receiver is HDCP-compatible. Check that the components you are connecting are also HDCP-compatible. If they are not, please connect them using the component or composite video jacks.
Depending on the connected source component, it’s possible that it will not work with this receiver (even if it is HDCP-compatible). In this case, connect using the component or composite video jacks between source and receiver.
If the problem still persists when connecting your HDMI component directly to your monitor, please consult the component or monitor manual or contact the manufacturer for support.
If video images do not appear on your TV, try adjusting the resolution, Deep Color or other setting for your component.
While analog video signals are being output over HDMI, use a separate connection for audio output.
To output signals in Deep Color, use an HDMI cable (High Speed HDMI(TM) Cable) to connect this receiver to a component or TV with the Deep Color feature.

Symptom: The picture and sound output get cut off, or there is no output produced.
Remedy: Influence from a TV whose power is set to standby may cause the picture or sound output to not be produced or to get cut off. In this case, press OUT P., and make sure to use an output other than the HDMI output to which that TV is connected.

Symptom: No picture.
Remedy: Try changing the Resolution setting (in Setting the Video options on page 109).
To use the HDMI OUT 3 terminal in the main zone, set the MAIN/HDZONE Output Setting to MAIN. (page 81)

Symptom: No sound, or sound suddenly ceases.
Remedy: Check that the HDMI Audio setting is set to AMP (Setting the Audio options on page 79).
If the component is a DVI device, use a separate connection for the audio.
If analog video is being output over HDMI, please use a separate connection for the audio.
Check the audio output settings of the source component.
HDMI format digital audio transmissions require a longer time to be recognized. Due to this, interruption in the audio may occur when switching between audio formats or beginning playback.
Turning on/off the device connected to this unit’s HDMI OUT terminal during playback, or disconnecting/connecting the HDMI cable during playback, may cause noise or interrupted audio.

Symptom: Noisy or distorted picture.
Remedy: Sometimes a video deck may output a noisy video signal (during scanning, for example), or the video quality may just be poor (with some video game units, for example). The picture quality may also depend on the settings, etc. of your display device. Switch off the video converter and reconnect the source and display device using the same type of connection (component or composite), then start playback again.
If the problem still persists when connecting your HDMI component directly to your monitor, please consult the component or monitor manual or contact the manufacturer for support.

Symptom: HDCP ERROR shows in the display.
Remedy: Check whether or not the connected component is compatible with HDCP. If it is not compatible with HDCP, reconnect the source device using a different type of connection (component or composite). Some components that are compatible with HDCP still cause this message to be displayed, but so long as there is no problem with displaying video, this is not a malfunction.

FAQ

Symptom: Synchronized operation not possible using Control with HDMI function.
Remedy: Check the HDMI connections.
The cable may be damaged.
Select ON for the Control Mode with HDMI setting (see HDMI Setup on page 79).
Turn the TV’s power on before turning on this receiver’s power.
Set the TV side Control with HDMI setting to on (see TV’s operating instructions).
Connect the TV to the HDMI OUT 1 terminal and set the HDMI output to OUT 1. Then turn on first the TV’s power, then this receiver’s power.

When HDZONE is set to ON, the video resolution and number of audio channels for the main zone side changes.
This is due to the HDMI connection specifications; it is not a malfunction. When playing the same input in the main zone and HDZONE, video and audio signals that can be output in common for all the devices connected to the HDMI OUT 1, HDMI OUT 2 and HDMI OUT 3 (HDZONE) terminals are set.

HDZONE cannot be turned on.
Set Output Setting at MAIN/HDZONE to HDZONE. (page 109).
When the input source for the main or HDZONE is switched or when the power of the respective zones is turned on and off, the audio or video of the HDMI output terminal that is not being operated is sometimes interrupted.

This is because the HDMI devices need to recognize each other again. This is not a malfunction. If the picture is disturbed or not displayed, turn off the power of the devices in all the zones, then try again. Also try temporarily turning the Network Standby and Standby Through settings OFF.

Such menus as the HOME MENU as well as the on-screen display are not displayed for HDMI OUT 1 or HDMI OUT 2.
Press OUT P., and switch the HDMI OUT 1/2 setting.

Cannot upscale to 4K or 1080p.
Change V.CONV to ON. (page 81)
Change RES. (page 81)
When HDZONE is turned on, upscaling cannot be performed. To perform upscaling, turn off HDZONE (page 85).

4K video is not output even though a 4K compliant TV is connected.

When the MAIN/HDZONE setting is MAIN and the HDMI output setting is OUT 1+2 and when the MAIN/HDZONE setting is HDZONE and HDZONE is the same input as with the main zone, video is output with the lower resolution of the TV connected to HDMI OUT 1 and HDMI OUT 2. When there is only one 4K compliant TV, connect it to HDMI OUT 1 and set the HDMI output setting to OUT 1 or turn off HDZONE so that video is only output to the 4K compliant TV.

Even though a 4K/60p 4:4:4 24 bit compatible TV is connected, the 4K/60p 4:4:4 24 bit video image is not output correctly.
Set the HDMI 4K/60p signal output setting to 4:4:4. (page 64)
When the HDMI cable does not support 4K/60p 4:4:4 24 bit (18 Gbps transmission), video images may not be output properly. In that case, replace the cable with a compatible HDMI cable or change the HDMI 4K/60p signal output setting to 4:2:0 to watch the 4K/60p 4:2:0 24 bit video image.
The HDMI OUT 3 terminal does not output a 4K/60p 4:4:4 24 bit video image if MAIN/HDZONE is set to HDZONE. Set MAIN/HDZONE to MAIN or use the HDMI OUT 1 or HDMI OUT 2 terminals.
You cannot input 4K/60p 4:4:4 24 bit video from HDMI IN 3 to the IN 7 terminal. Use the BD IN HDMI IN 1 or HDMI IN 2 terminal.
### MHL

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>When playing an MHL-compatible device connected to the HDMI 7/MHL terminal, the Standby Through function does not work and the power turns off.</td>
<td>The MHL device will not operate unless power is being supplied from this receiver. When this receiver is in the Standby Through mode, power cannot be supplied due to reduced power consumption. Because of this, the MHL device will not operate. This is not a malfunction.</td>
</tr>
<tr>
<td>MHL-compatible device cannot be operated with the remote control.</td>
<td>Press MHL to set the remote control to the MHL control mode.</td>
</tr>
<tr>
<td>MHL POW ERR is displayed on the display.</td>
<td>There is a problem with the power supply for the MHL device. After turning OFF the receiver, disconnect the MHL device, connect the MHL device again and then turn ON the power of the receiver. If the error is displayed even though the above operation is repeated several times, there is a problem with the receiver or the MHL device. Disconnect the power cable and request repair.</td>
</tr>
</tbody>
</table>

### USB interface

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The folders/files stored on a USB memory device are not displayed.</td>
<td>The folders/files are currently stored in a region other than the FAT (File Allocation Table) region.</td>
<td>Store the folders/files in the FAT region.</td>
</tr>
<tr>
<td>A USB memory device is not recognized.</td>
<td>The USB memory device does not support the mass storage class specifications.</td>
<td>Try using a USB memory device compatible with the mass storage class specifications. Note that there are cases where even the audio files stored on a USB memory device compatible with the mass storage class specifications are not played back on this receiver (page 58).</td>
</tr>
<tr>
<td>A USB hub is currently being used.</td>
<td>This receiver recognizes the USB memory device as a fraud.</td>
<td>Switch off and on again this receiver.</td>
</tr>
<tr>
<td>A USB memory device is connected and displayed, but the audio files stored on the USB memory device cannot be played back.</td>
<td>Some formats of USB memory devices, including FAT 12, NTFS, and HFS, cannot be played back on this receiver.</td>
<td>Check whether the format of your USB memory device is either FAT 16 or FAT 32. Note that the FAT 12, NTFS, and HFS formats cannot be played back on this receiver (page 58).</td>
</tr>
<tr>
<td>The USB memory cannot be operated with the remote control.</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Over Current shows in the display.</td>
<td>—</td>
<td>There is a problem with the power supply for the USB memory. After turning OFF the receiver, disconnect the USB memory, connect the USB memory again and then turn on the power of the receiver. If Over Current is displayed even though the above operation is repeated several times, there is a problem with the receiver or USB memory. Disconnect the power cable and request repair.</td>
</tr>
</tbody>
</table>

### Built-in AVNavigator

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVNavigator does not interact well with the receiver.</td>
<td>The receiver’s power is not turned on, The receiver or computer is not connected to the LAN, The router’s power is off, Network connections could be restricted due to the computer’s network settings, etc.</td>
<td>Turn the receiver’s power on. (Wait about 60 seconds after the power turns on for network functions to start. Connect a LAN cable to the receiver or computer (page 43). Turn the router’s power on, Check the computer’s network settings, security settings, etc.</td>
</tr>
<tr>
<td>In the middle of Wiring Navi, you are instructed to turn off the power of the unit and then connect other equipment or speakers.</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>When the Wiring Navi or Interactive Operation Guide is launched, a warning about security protection appears on the browser.</td>
<td>This is to avoid failure of the receiver due to a short-circuit between cables or from static electricity.</td>
<td>Per the Wiring Navi instructions, turn OFF the power of the receiver. As long as the browser has not quit, Wiring Navi resumes guidance upon turning ON the receiver.</td>
</tr>
<tr>
<td>AVNavigator screen is not displayed on the browser.</td>
<td>This receiver’s IP address has not been entered into the browser correctly.</td>
<td>Check the receiver’s IP address and enter it correctly in the browser (page 117).</td>
</tr>
<tr>
<td>Receiver settings cannot be made from a browser.</td>
<td>JavaScript is disabled on the internet browser.</td>
<td>Enable JavaScript.</td>
</tr>
<tr>
<td></td>
<td>The browser is not compatible with JavaScript.</td>
<td>Use an internet browser that is compatible with JavaScript.</td>
</tr>
</tbody>
</table>
### iPod

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>iPod is not recognized.</td>
<td>This receiver recognizes the iPod as a fraud.</td>
<td>Switch off and on again this receiver. Reconnect the iPod with the receiver switched off. Change to an input other than iPod/USB, then set the input back to iPod/USB.</td>
</tr>
<tr>
<td>iPod touch/iPhone is not recognized or otherwise does not operate properly.</td>
<td>The iPod’s operation may be unstable.</td>
<td>Try performing the operation below. 1. Press the sleep/sleep cancel button on the iPod touch/iPhone simultaneously with the home button for at least 10 seconds to restart the device. 2. Turn this receiver’s power on. 3. Connect the iPod touch/iPhone to this receiver.</td>
</tr>
<tr>
<td>iPod cannot be operated with the remote control.</td>
<td>—</td>
<td>Press iPod USB to set the remote control to the iPod USB control mode.</td>
</tr>
</tbody>
</table>

### Network

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot access the network.</td>
<td>The LAN cable is not firmly connected.</td>
<td>Firmly connect the LAN cable (page 45).</td>
</tr>
<tr>
<td></td>
<td>The router is not switched on.</td>
<td>Switch on the router.</td>
</tr>
<tr>
<td></td>
<td>Internet security software is currently installed in the connected component.</td>
<td>There are cases where a component with Internet security software installed cannot be accessed.</td>
</tr>
<tr>
<td></td>
<td>The audio component on the network which has been switched off is switched on.</td>
<td>Switch on the audio component on the network before switching on this receiver.</td>
</tr>
<tr>
<td>Playback does not start while “Connecting...” continues to be displayed.</td>
<td>The component is currently disconnected from this receiver or the power supply.</td>
<td>Check whether the component is properly connected to this receiver or the power supply.</td>
</tr>
<tr>
<td>The PC or Internet radio is not properly operated.</td>
<td>—</td>
<td>Press NET to set the remote control to the network function control mode.</td>
</tr>
<tr>
<td>The network function cannot be operated with the remote control.</td>
<td>The corresponding IP address is not properly set.</td>
<td>Switch on the built-in DHCP server function of your router, or set up the network manually according to your network environment (page 109).</td>
</tr>
<tr>
<td></td>
<td>The IP address is being automatically configured.</td>
<td>The automatic configuration process takes time. Please wait.</td>
</tr>
</tbody>
</table>

### Symptom

<table>
<thead>
<tr>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot access the component connected to the network.</td>
<td>The component connected to the network is not properly set.</td>
</tr>
<tr>
<td></td>
<td>There are no playable audio files on the component connected to the network.</td>
</tr>
<tr>
<td></td>
<td>The audio files are copyrighted.</td>
</tr>
<tr>
<td></td>
<td>Cannot access the component connected to the network.</td>
</tr>
<tr>
<td></td>
<td>The component connected to the network is not properly set.</td>
</tr>
<tr>
<td></td>
<td>There are no playable audio files on the component connected to the network.</td>
</tr>
</tbody>
</table>

### iPod

#### iPod is not recognized.
- This receiver recognizes the iPod as a fraud.
  - Switch off and on again this receiver.
  - Reconnect the iPod with the receiver switched off.
  - Change to an input other than iPod/USB, then set the input back to iPod/USB.

#### iPod touch/iPhone is not recognized or otherwise does not operate properly.
- The iPod’s operation may be unstable.
  1. Press the sleep/sleep cancel button on the iPod touch/iPhone simultaneously with the home button for at least 10 seconds to restart the device.
  2. Turn this receiver’s power on.
  3. Connect the iPod touch/iPhone to this receiver.

#### iPod cannot be operated with the remote control.
- Press iPod USB to set the remote control to the iPod USB control mode.
### FAQ

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio playback is undesirably stopped or disturbed.</td>
<td>The audio file currently being played back was not recorded in a format playable on this receiver.</td>
<td>Check whether the audio file was recorded in a format supported by this receiver. Check whether the folder has been damaged or corrupted. Note that there are cases where even the audio files listed as playable on this receiver cannot be played back or displayed (page 70).</td>
</tr>
<tr>
<td>The LAN cable is currently disconnected.</td>
<td>The LAN cable is currently disconnected.</td>
<td>Connect the LAN cable properly (page 43).</td>
</tr>
<tr>
<td>There is heavy traffic on the network with the Internet being accessed on the same network.</td>
<td>There is heavy traffic on the network with the Internet being accessed on the same network.</td>
<td>Use 100BASE-TX to access the components on the network.</td>
</tr>
<tr>
<td>When in the DMR mode, depending on the external controller being used, playback may be interrupted when a volume operation is performed from the controller.</td>
<td>When in the DMR mode, depending on the external controller being used, playback may be interrupted when a volume operation is performed from the controller.</td>
<td>In this case, adjust the volume from the receiver or remote control.</td>
</tr>
<tr>
<td>There is a connection routed through a wireless LAN on the same network.</td>
<td>There is a connection routed through a wireless LAN on the same network.</td>
<td>Install away from any devices emitting electromagnetic waves on the 2.4 GHz band (microwave ovens, game consoles, etc.). If this does not solve the problem, stop using other devices that emit electromagnetic waves.</td>
</tr>
<tr>
<td>Cannot access Windows Media Player 11 or Windows Media Player 12.</td>
<td>In case of Windows Media Player 11: You are currently logged onto the domain through your PC with Windows XP or Windows Vista installed. In case of Windows Media Player 12: You are currently logged onto the domain through your PC with Windows 7 or Windows 8 installed.</td>
<td>Connect the mobile digital device by Wi-Fi to the wireless LAN router of the same network as the one to which this unit is connected. A Spotify Premium account (for a charge) must be registered on the Spotify application. For details, see Wireless LAN on page 102.</td>
</tr>
<tr>
<td>Cannot listen to Internet radio stations.</td>
<td>The firewall settings for components on the network are currently in operation.</td>
<td>Check the firewall settings for components on the network.</td>
</tr>
<tr>
<td></td>
<td>You are currently disconnected from the Internet.</td>
<td>Check the connection settings for components on the network, and consult with your network service provider if necessary (page 104).</td>
</tr>
<tr>
<td></td>
<td>The broadcasts from an Internet radio station are stopped or interrupted.</td>
<td>There are cases where you cannot listen to some Internet radio stations even when they are listed in the list of Internet radio stations on this receiver (page 70).</td>
</tr>
<tr>
<td>This unit cannot be selected from the Spotify application.</td>
<td>—</td>
<td>Connect the mobile digital device by Wi-Fi to the wireless LAN router of the same network as the one to which this unit is connected. A Spotify Premium account (for a charge) must be registered on the Spotify application. When this unit is in standby, it cannot be selected from the Spotify application.</td>
</tr>
<tr>
<td>The sound of the Spotify audio stream is not produced.</td>
<td>—</td>
<td>Check whether this unit is selected on the Spotify application. Check that contents are playing on the Spotify application. If the above does not solve the problem, turn this unit’s power off then back on.</td>
</tr>
<tr>
<td>With an AV receiver that has the ‘System Setup’ → ‘Other Setup’ → ‘Play ZONE Setup’ option, the sound may be playing in another zone.</td>
<td>With an AV receiver that has the ‘System Setup’ → ‘Other Setup’ → ‘Play ZONE Setup’ option, the sound may be playing in another zone.</td>
<td>If this is the case, set which zone the sound is to be played in at the play zone settings.</td>
</tr>
<tr>
<td>This unit’s volume does not increase when the volume slider in the Spotify application is raised.</td>
<td>This unit’s volume does not increase when the volume slider in the Spotify application is raised.</td>
<td>A volume upper limit is provided so that the volume will not inadvertently go up too much. To further increase the volume, use the remote control. When the iControlAV5 or built-in AVNavigator application is being used, you can use the application to increase the volume.</td>
</tr>
<tr>
<td>Playback continues on this unit when the Spotify application is quit.</td>
<td>Playback continues on this unit when the Spotify application is quit.</td>
<td>The Spotify audio stream continues from this unit, even when the Spotify application is quit. To operate again, relaunch the Spotify application.</td>
</tr>
<tr>
<td>The Network functions cannot be operated with the buttons on the remote control.</td>
<td>The Network functions cannot be operated with the buttons on the remote control.</td>
<td>Press NET to set the remote control to the Network function mode (page 71).</td>
</tr>
<tr>
<td>When DMR mode or AirPlay is used from a computer, smartphone, etc., the sound is played in subzone.</td>
<td>When DMR mode or AirPlay is used from a computer, smartphone, etc., the sound is played in subzone.</td>
<td>Change Play ZONE Setup to MAIN (page 119).</td>
</tr>
<tr>
<td>AirPlay or DMR mode cannot not be used for subzone.</td>
<td>AirPlay or DMR mode cannot be used for subzone.</td>
<td>When USB-DAC input is selected for any of sub zones, AirPlay and DMR mode cannot be used for other sub zone. Switch the sub-zone in which the USB-DAC input is selected to a different input.</td>
</tr>
<tr>
<td>Network connections cannot be made via the wireless LAN converter (AS-WL300).</td>
<td>Network connections cannot be made via the wireless LAN converter (AS-WL300).</td>
<td>For details, see Wireless LAN on page 102.</td>
</tr>
</tbody>
</table>
USB-DAC
SC-LX80 only

Symptoms Causes Remedies
When the **USB-DAC** terminal is connected to a PC via USB cable, audio files on the PC cannot be played.

Has the proper device driver been installed on the PC?

When using a USB cable to connect the unit’s **USB-DAC** terminal to a PC in order to play audio files on the PC, the proper device driver must be downloaded from the supplied CD-ROM and installed on your PC.

No sound is produced when attempting to play files on a PC.

Are volume settings correct for the OS and application program?

Raise the volume settings as required.

Is the OS audio output set to MUTE?

Cancel the MUTE setting.

Are multiple applications running simultaneously?

Try closing applications that are not in use.

Are volume settings correct for the OS and application program?

For audio device select “Pioneer USB Audio Device”.

High sound quality files (over 48 kHz/24 bits) cannot be played.

The exclusive driver is not installed on the computer.

Install the driver software on the computer from the included CD-ROM.

Wireless LAN
Network cannot be accessed via wireless LAN.

Wireless LAN converter’s power is not on. (Wireless LAN converter’s “Power”, “WPS” and “Wireless” indicators are not all lit.)

- Check that the USB cable connecting the wireless LAN converter to the receiver’s **DC OUTPUT** for **WIRELESS LAN** terminal is properly connected.

**WLAN POW ERR** is displayed on the receiver’s display window.

- There is a problem with the wireless LAN converter’s power supply. Turn the receiver’s power off, then disconnect the USB cable, reconnect the USB cable and turn the receiver’s power back on.
- If **WLAN POW ERR** is still displayed after repeating the above procedure several times, there is a problem with the receiver or the USB cable. Unplug the receiver from the wall and call a Pioneer authorized independent service company.

The LAN cable is not firmly connected.

- Firmly connect the LAN cable (*page 46*).

Wireless LAN converter and base unit (wireless LAN router, etc.) are too far apart or there is an obstacle between them.

- Improve the wireless LAN environment by moving the wireless LAN converter and base unit closer together, etc.

There is a microwave oven or other device generating electromagnetic waves near the wireless LAN environment.

- Use the system in a place away from microwave ovens or others device generating electromagnetic waves.
- Avoid using devices generating electromagnetic waves as much as possible when using the system with the wireless LAN.

Multiple wireless LAN converters are connected to the wireless LAN router.

- When connecting multiple wireless LAN converters, their IP addresses must be changed.

Wireless LAN connections cannot be established between the wireless LAN converter and base unit (wireless LAN router, etc.).

- The wireless LAN converter must be set in order to establish wireless LAN connections. For details, see the CD-ROM included with the wireless LAN converter.

The IP address settings of the receiver and wireless LAN converter do not match the settings of the wireless LAN router, etc.

- Check the IP address settings of the receiver and wireless LAN converter (including the DHCP setting).
- If the receiver’s DHCP setting is “ON”, turn the receiver’s power off, then turn the power back on.
- Check that the IP addresses of the receiver and wireless LAN converter match the settings of the wireless LAN router, etc.
- If the receiver’s DHCP setting is “OFF”, set an IP address matching the network of the base unit (wireless LAN router, etc.).
  - For example, if the wireless LAN router’s IP address is “192.168.1.1”, set the receiver’s IP address to “192.168.1.XXX” (*1), the subnet mask to “255.255.255.0”, the gateway and DNS to “192.168.1.1”.
  - Next, set the wireless LAN converter’s IP address to “192.168.1.249” (*2).
  - (*1) Set the “XXX” in “192.168.1.XXX” to a number between 2 and 248 that is not assigned to other devices.
  - (*2) Set the “249” in “192.168.1.249” to a number between 2 and 249 that is not assigned to other devices.

Try making the wireless LAN converter’s advanced settings.

- The wireless LAN converter can be connected to a computer to make the advanced wireless LAN settings. For details, see the CD-ROM included for the wireless LAN converter. Check the settings of the wireless LAN router, etc., then change the settings of the wireless LAN converter.
- Note, however, that making the advanced wireless LAN settings will not necessarily improve the wireless LAN environment. Be careful when changing the settings.

The access point is set to conceal the SSID.

- In this case, the SSID may not be displayed on the access point list screen. If not, set the SSID, etc., by making the wireless LAN converter settings on the receiver manually.
  - **WLAN POW ERR** is displayed on the receiver’s display window.
  - Turn the receiver’s power off, then disconnect the USB cable, reconnect the USB cable and turn the receiver’s power back on.
  - Check that the IP addresses of the receiver and wireless LAN converter match the settings of the wireless LAN router, etc.
  - If the **WLAN POW ERR** is still displayed after repeating the above procedure several times, there is a problem with the receiver or the USB cable. Unplug the receiver from the wall and call a Pioneer authorized independent service company.

The access point’s security settings use WEP 152-bit length code key or shared key authentication.

- For example, if the wireless LAN router’s IP address is “192.168.1.1”, set the receiver’s IP address to “192.168.1.XXX” (*1), the subnet mask to “255.255.255.0”, the gateway and DNS to “192.168.1.1”.
- Next, set the wireless LAN converter’s IP address to “192.168.1.249” (*2).
- (*1) Set the “XXX” in “192.168.1.XXX” to a number between 2 and 248 that is not assigned to other devices.
- (*2) Set the “249” in “192.168.1.249” to a number between 2 and 249 that is not assigned to other devices.

Try making the wireless LAN converter’s advanced settings.

- The wireless LAN converter can be connected to a computer to make the advanced wireless LAN settings. For details, see the CD-ROM included for the wireless LAN converter. Check the settings of the wireless LAN router, etc., then change the settings of the wireless LAN converter.

The access point’s security settings use WEP 152-bit length code key or shared key authentication.

- The receiver does not support WEP 152-bit length code key or shared key authentication.
- For example, if the wireless LAN router’s IP address is “192.168.1.1”, set the receiver’s IP address to “192.168.1.XXX” (*1), the subnet mask to “255.255.255.0”, the gateway and DNS to “192.168.1.1”.
- Next, set the wireless LAN converter’s IP address to “192.168.1.249” (*2).
- (*1) Set the “XXX” in “192.168.1.XXX” to a number between 2 and 248 that is not assigned to other devices.
- (*2) Set the “249” in “192.168.1.249” to a number between 2 and 249 that is not assigned to other devices.

Network connections cannot be established even when the above measures are taken.

- Reset the wireless LAN converter. After this, redo the wireless LAN converter’s settings.

About resetting
1. Check that the wireless LAN converter’s power is on.
2. Press the wireless LAN converter’s reset button for at least 3 seconds.
3. Release the reset button.

When the wireless LAN converter is restarted, the resetting procedure is completed.
Surround sound formats
Below is a brief description of the main surround sound formats you’ll find on BDs, DVDs, satellite, cable and terrestrial broadcasts, and video cassettes.

Dolby
The Dolby technologies are explained below. See http://www.dolby.com for more detailed information.

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DTS
The DTS technologies are explained below. See http://www.dts.com for more detailed information.

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SABRE DAC™
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About HDMI
HDMI (High-Definition Multimedia Interface) is a digital transfer standard for receiving video and audio data with a single cable. It is an adaptation of DVI (Digital Visual Interface), a display connection technology, for use in home audio devices. This interface standard is for next-generation TVs providing High-bandwidth Digital Content Protection (HDCP).

The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing, LLC in the United States and other countries.

HTC Connect
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About iPod

AirPlay works with iPhone, iPad, and iPod touch with iOS 4.3.3 or later, Mac with OS X Mountain Lion or later, and PC with iTunes 10.2.2 or later.

USB works with iPhone 5s, iPhone 5c, iPhone 5, iPhone 4s, iPhone 4, iPhone 3GS, iPhone 3G, iPhone, iPod touch (1st through 5th generation) and iPod nano (3rd through 7th generation).

“Made for iPod” and “Made for iPhone” mean that an electronic accessory has been designed to connect specifically to iPod or iPhone, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod or iPhone may affect wireless performance.

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Windows 8

This product is Windows 8 Compatible.

MHL

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About FLAC
FLAC Decoder
Josh Coalson
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About Performance Audio Framework
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About Spotify
The Spotify software is subject to third party licenses found here:
www.spotify.com/connect/third-party-licenses
Auto Surround, ALC and Stream Direct with different input signal formats

The following charts show what you will hear with different input signal formats, depending on the Stream Direct mode (see Using Stream Direct on page 65 you have selected.

**Stereo (2 channel) signal formats**

<table>
<thead>
<tr>
<th>Input signal format</th>
<th>Auto Surround / DIRECT</th>
<th>ALC</th>
<th>PURE DIRECT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surround Back speaker(s): Connected</strong></td>
<td>Dolby Digital</td>
<td>Dolby Digital</td>
<td>Dolby Digital</td>
</tr>
<tr>
<td>Dolby 2.0 Surround</td>
<td>Dolby Digital</td>
<td>Dolby Digital</td>
<td>Dolby Digital</td>
</tr>
<tr>
<td>DTS Surround</td>
<td>Neo:X CINEMA</td>
<td>DTS</td>
<td>Neo:X CINEMA</td>
</tr>
<tr>
<td>Other stereo sources</td>
<td>Stereo playback</td>
<td>Stereo playback</td>
<td>Stereo playback</td>
</tr>
<tr>
<td>Analog sources</td>
<td>As above</td>
<td>As above</td>
<td>ANALOG DIRECT (stereo)</td>
</tr>
<tr>
<td>PCM sources</td>
<td>As above</td>
<td>As above</td>
<td>Stereo playback</td>
</tr>
<tr>
<td>DVD-A sources</td>
<td>As above</td>
<td>As above</td>
<td>As above</td>
</tr>
<tr>
<td>SACD sources</td>
<td>As above</td>
<td>As above</td>
<td>As above</td>
</tr>
<tr>
<td><strong>Surround Back speaker(s): Not connected</strong></td>
<td>Dolby Digital</td>
<td>Dolby Digital</td>
<td>Dolby Digital</td>
</tr>
<tr>
<td>Dolby 2.0 Surround</td>
<td>Dolby Digital</td>
<td>Dolby Digital</td>
<td>Dolby Digital</td>
</tr>
<tr>
<td>DTS Surround</td>
<td>Neo:X CINEMA</td>
<td>DTS</td>
<td>Neo:X CINEMA</td>
</tr>
<tr>
<td>Other stereo sources</td>
<td>Stereo playback</td>
<td>Stereo playback</td>
<td>Stereo playback</td>
</tr>
<tr>
<td>Analog sources</td>
<td>As above</td>
<td>As above</td>
<td>ANALOG DIRECT (stereo)</td>
</tr>
<tr>
<td>PCM sources</td>
<td>As above</td>
<td>As above</td>
<td>Stereo playback</td>
</tr>
<tr>
<td>DVD-A sources</td>
<td>As above</td>
<td>As above</td>
<td>As above</td>
</tr>
<tr>
<td>SACD sources</td>
<td>As above</td>
<td>As above</td>
<td>As above</td>
</tr>
</tbody>
</table>

**Multichannel signal formats**

<table>
<thead>
<tr>
<th>Input signal format</th>
<th>Auto Surround / PURE DIRECT / DIRECT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surround Back speaker(s): Connected</strong></td>
<td>Dolby Digital</td>
</tr>
<tr>
<td>Dolby: Surround EX</td>
<td>Dolby Digital</td>
</tr>
<tr>
<td>DTS-HD Master Audio ES (6.1 channel flagged)</td>
<td>DTS-ES (Matrix)</td>
</tr>
<tr>
<td>DTS-ES (6.1 channel sources/8.1 channel flagged)</td>
<td>DTS-ES (Matrix/Discrete)</td>
</tr>
<tr>
<td>Other 5.1/6.1/7.1 channel sources</td>
<td>Straight decoding</td>
</tr>
<tr>
<td><strong>Surround Back speaker(s): Not connected</strong></td>
<td>DVD-A sources/Multi-rch PCM</td>
</tr>
<tr>
<td>SACD sources (5.1 channel encoding)</td>
<td>As above</td>
</tr>
<tr>
<td>Other 5.1/6.1/7.1 channel sources</td>
<td>As above</td>
</tr>
</tbody>
</table>

a Unavailable with only one surround back speaker connected.

**Speaker Setting Guide**

In order to achieve an even better surround effect, it is important to accurately position the speakers and make their volume and tone characteristics uniform so as to finely focus the multi-channel sound.

The three major elements in positioning the speakers are **distance**, **angle** and **orientation** (the direction in which the speakers are pointing).

**Distance**: The distance of all the speakers should be equal.

**Angle**: The speakers should be horizontally symmetrical.

**Orientation**: The orientation should be horizontally symmetrical.

In most homes, however, it is not possible to achieve this environment. For the distance, on this receiver it is possible to automatically correct the speaker distance electrically to a precision of 1 cm using the Full Auto MCACC Setup function (page 50).

**Step 1: Speaker layout and distance adjustment**

Use speaker stands or the like to make sure the speakers are steady, and leave at least 10 cm from the surrounding walls. Position the speakers attentively so that the speakers on the left and right are at equal angles from the listening position (center of the adjustments). (We recommend using cords, etc., when adjusting the layout.) Ideally all the speakers should be equidistant from the listening position.

**Note**

If the speakers cannot be set at equal distances (on a circle), use the Auto MCACC Setup speaker distance correction and Fine Speaker Distance functions to make them equalize the distance artificially.

**Step 2: Adjusting the speaker height**

Adjust the heights (angles) of the different speakers.

Adjust so that the front speaker units reproducing mid- and high frequencies is roughly at the height of the ears. If the center speaker cannot be set at the same height as the front speakers, adjust its angle of elevation to point it to the listening position.

Set surround speaker 1 so that it is not under the height of the ears.

**Step 3: Adjusting the speaker orientation**

If the left and right speakers are not pointing in the same direction, the tone will not be the same on the right and left, and as a result the sound field will not be reproduced properly. However, if all the speakers are pointed towards the listening position, the sound field will seem cramped. Testing by the Pioneer Multi-channel Research Group has shown that a good sense of sound positioning can be achieved by pointing all the speakers towards an area 30 cm to 80 cm behind the listening position (between the surround speakers and the listening position). However, the sense of sound positioning can differ according to the conditions in the room and the speakers being used. In smaller environments in particular (when the front speakers are close to the listening position), with this method the speakers will be pointed too inward. We suggest you use this example of installation as reference when trying out different installation methods.
Step 4: Positioning and adjusting the subwoofer

Placing the subwoofer between the center and front speakers makes even music sources sound more natural (if there is only one subwoofer, it doesn’t matter if it is placed on the left or right side). The low bass sound output from the subwoofer is not directional and there is no need to adjust the height. Normally the subwoofer is placed on the floor. Put it in a position at which it will not cancel out the bass sound output from the other speakers. Also note that placing it near a wall may result in sympathetic vibrations with the building that could excessively amplify the bass sound.

If the subwoofer must be installed near a wall, place it at an angle so that it is not parallel to the wall surface. This can help reduce any sympathetic vibrations, but depending on the shape of the room this could result in standing waves. However, even if standing waves are generated, their influence on the sound quality can be prevented using the Auto MCACC’s standing wave control function (page 98).

Step 5: Default settings with the Auto MCACC Setup (auto sound field correction) function

It is more effective to perform the Full Auto MCACC Setup (page 50) procedure once the adjustments described above have been completed.

Note

The distance to the subwoofer may be slightly larger than the distance actually measured with a tape measure, etc. This is because this distance is corrected for electric delay, and is not a problem.

Positional relationship between speakers and monitor

Position of front speakers and monitor

The front speakers should be as equidistant as possible to the monitor.

Position of center speaker and monitor

Since mostly dialogs are output from the center speaker, keeping the center speaker as close as possible to the screen makes the overall sound more natural. For TVs using Braun tubes, however, when installing the center speaker on the floor, adjust its angle of elevation to point it towards the listening position.

Installation on floor (Diagram as seen from the side)

Monitor

- If the center speaker is not of the shielded type, install it away from the TV.
- When installing the center speaker on top of the monitor, place it facing slightly downwards towards the listening position.

About messages displayed when using network functions

Refer to the following information when you come up with a status message while operating the Network functions.

<table>
<thead>
<tr>
<th>Status messages</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Down</td>
<td>The selected category or Internet radio station cannot be accessed.</td>
</tr>
<tr>
<td>File Format Error</td>
<td>Cannot be played back for some reasons.</td>
</tr>
<tr>
<td>Track Not Found</td>
<td>The selected song has not been found anywhere on the network.</td>
</tr>
<tr>
<td>Server Error</td>
<td>The selected server cannot be accessed.</td>
</tr>
<tr>
<td>Server Disconnected</td>
<td>The server has been disconnected.</td>
</tr>
<tr>
<td>Empty</td>
<td>There are no files stored in the selected folder.</td>
</tr>
<tr>
<td>License Error</td>
<td>The license for the contents to be played back is invalid.</td>
</tr>
<tr>
<td>Item Already Exists</td>
<td>This is displayed when the file you have attempted to register in the Favorites folder has already been registered.</td>
</tr>
<tr>
<td>Favorite List Full</td>
<td>This is displayed when you have attempted to register a file in the Favorites folder but the Favorites folder is already full.</td>
</tr>
</tbody>
</table>
Important information regarding the HDMI connection

There are cases where you may not be able to route HDMI signals through this receiver (this depends on the HDMI-equipped component you are connecting—check with the manufacturer for HDMI compatibility information).

If you aren’t receiving HDMI signals properly through this receiver (from your component), please try one of the following configurations when connecting up.

Configuration A

Use component video cables to connect the video output of your HDMI-equipped component to the receiver’s component video input. The receiver can then convert the analog component video signal to a digital HDMI signal for transmission to the display. For this configuration, use the most convenient connection (digital is recommended) for sending audio to the receiver. See the operating instructions for more on audio connections.

Note

The picture quality will change slightly during conversion.

Configuration B

Connect your HDMI-equipped component directly to the display using an HDMI cable. Then use the most convenient connection (digital is recommended) for sending audio to the receiver. See the operating instructions for more on audio connections. Set the display volume to minimum when using this configuration.

Notes

• If your display only has one HDMI terminal, you can only receive HDMI video from the connected component.
• Depending on the component, audio output may be limited to the number of channels available from the connected display unit (for example audio output is reduced to 2 channels for a monitor with stereo audio limitations).
• If you want to switch the input function, you’ll have to switch functions on both the receiver and your display unit.
• Since the sound is muted on the display when using the HDMI connection, you must adjust the volume on the display every time you switch input functions.

Cleaning the unit

• Use a polishing cloth or dry cloth to wipe off dust and dirt.
• When the surface is dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleansers.
• Never use thinners, benzene, insecticide sprays or other chemicals on or near this unit, since these will corrode the surface.
Glossary

Audio formats/Decoding

Dolby
The Dolby technologies are explained below. See http://www.dolby.com for more detailed information.

Dolby Digital
Dolby Digital is a multichannel digital audio coding system widely used in cinemas, and in the home for DVD and digital broadcast soundtracks.

Dolby TrueHD
Dolby TrueHD is the lossless encoding technology developed for high-definition optical discs in the upcoming era.

Dolby Digital Plus
Dolby Digital Plus is the audio technology for all high-definition programming and media. It combines the efficiency to meet future broadcast demands with the power and flexibility to realize the full audio potential expected in the upcoming high-definition era.

DTS
The DTS technologies are explained below. See http://www.dts.com for more detailed information.

DTS Digital Surround
DTS Digital Surround is a 5.1-channel audio coding system from DTS Inc. now widely used for DVD-Video, DVD-Audio, 5.1 music discs, digital broadcasts, and video games.

DTS-HD Master Audio
DTS-HD Master Audio is a technology that delivers master audio sources recorded in a professional studio to listeners without any loss of data, preserving audio quality.

DTS-HD High Resolution Audio
A high definition audio technology by which signals can be transferred over HDMI cables.

DTS-ES
DTS-ES (the ES stands for Extended Surround) is a decoder that is capable of decoding both DTS-ES Discrete 6.1 and DTS-ES Matrix 6.1 encoded sources.

DTS Neo:X
DTS Neo:X can generate 11.1 channel surround sound from any matrixed stereo source (such as video or TV) and from 5.1 channel sources.

Decoding
A technology for converting digital signals that have been compressed upon recording by a digital signal processing circuit, etc., into the original signals. The term “decoding” (or “matrix decoding”) is also used for the technology which converts 2-channel sound sources into multiple channels or expands 5.1-channel signals into 6.1 or 7.1 channels.

Additional information

Calibrating the sound field/improving the sound quality

Phase Control
The Phase Control technology incorporated into this receiver’s design provides coherent sound reproduction through the use of phase matching for an optimal sound image at your listening position.

Phase Control Plus (Auto Phase Control Plus)
Corrects the delay in the contents’ low frequency effects (LFE). When properly corrected, the bass sound is more powerful, improving the balance of the sound. When AUTO is selected, the contents are analyzed in real time, allowing them to be played in optimal conditions. This is effective for contents with low frequency effects (LFE), such as Dolby Digital 5.1-channel contents.

Full Band Phase Control
The Full Band Phase Control feature calibrates the frequency-phase characteristics of the speakers connected.

Full Band Phase Control FRONT ALIGN
Full Band Phase Control calibrates frequency phase disturbances (group delay) for the full speaker band (Full Band) (SYMMETRY), but with this unit it is also possible to calibrate the frequency phase characteristics of other speakers to the frequency phase characteristics of the front speakers (FRONT ALIGN).

Virtual Speakers
Virtual playback of a maximum of 11.2 channels combining the actually installed speakers and the virtual speakers is possible. This makes for smoother connection between the sounds and an improved 3D feel.

Virtual Surround Back
When you’re not using surround back speakers, selecting this mode allows you to hear a virtual surround back channel through your surround speakers. You can choose to listen to sources with no surround back channel information.

Virtual Height
When you’re not using front height speakers, selecting this mode allows you to hear a virtual front height channel through your front speakers.

Virtual Wide
When you’re not using front wide speakers, selecting this mode allows you to hear a virtual front wide channel through your front speakers.

Virtual Depth
When this mode is selected, the sound field expands virtually to behind the display, resulting in a sound field with the same depth as the 3D picture to achieve a better sense of presence.

Auto Sound Retriever
The Auto Sound Retriever feature employs DSP technology to restore sound pressure and smooth jagged artifacts left over after compression. With some audio inputs, the Sound Retriever effect is automatically optimized based on the bitrate information of the contents that have been input to achieve high sound quality.

Sound Retriever Air
Sound Retriever Air compensates for reduced sound quality due to compression when sending Bluetooth signals.

PQLS
Jitterless high quality playback is possible by connecting a PQLS-compatible player with HDMI connections.

ALC (Auto Level Control)
In the Auto level control (ALC) mode, this receiver equalizes playback sound levels. Also, the low and high frequency sounds, dialogs, surround effects, etc., that are difficult to hear when the volume is low are adjusted to be optimal for the volume level. This mode is particularly optimum when listening at night.
Front Stage Surround Advance
With the Front Stage Surround Advance feature, you can enjoy seamless, natural surround sound effects using only the front speakers, without deteriorating the quality of the original sound.

MCACC
The Auto MCACC Setup provides a quick but accurate surround sound setup, which includes the advanced features of Professional Acoustic Calibration EQ.

HDMI
Control with HDMI function
Synchronized operations below with a Control with HDMI-compatible Pioneer TV or Blu-ray Disc player are possible when the component is connected to the receiver using an HDMI cable.

- The receiver’s volume can be set and the sound can be muted using the TV’s remote control.
- The receiver’s input switches over automatically when the TV’s input is changed or a Control with HDMI-compatible component is played.
- The receiver’s power is also set to standby, when the TV’s power is set to standby.

ARC (Audio Return Channel)
When a TV supporting the HDMI ARC (Audio Return Channel) function is connected to the receiver, the sound of the TV can be input via the HDMI OUT terminal. The sound of the TV can be input from the receiver’s HDMI OUT terminal, so connection with the TV can be completed with a single HDMI cable.

Network function
AirPlay
AirPlay works with iPhone, iPad, and iPod touch with iOS 4.3.3 or later, Mac with OS X Mountain Lion or later, and PC with iTunes 10.2.2 or later. For more information, see the Apple website (http://www.apple.com).

DLNA
The Digital Living Network Alliance (DLNA) is a cross-industry organization of consumer electronics, computing industry and mobile device companies. Digital Living provides consumers with easy sharing of digital media through a wired or wireless network in the home.

vTuner
vTuner is a paid online database service that allows you to listen to radio and TV broadcasts on the Internet. vTuner lists thousands of stations from over 100 different countries around the globe. For more detail about vTuner, visit the following website: http://www.radio-pioneer.com

Windows Media
Windows Media is a multimedia framework for media creation and distribution for Microsoft Windows. Windows Media is either a registered trademark or trademark of Microsoft Corporation in the U.S. and/or other countries. Use an application licensed by Microsoft Corporation to author, distribute, or play Windows Media formatted content. Using an application unauthorized by Microsoft Corporation is subject to malfunction.

Windows Media Player 11/Windows Media Player 12
Windows Media Player is software to deliver music, photos and movies from a Microsoft Windows computer to home stereo systems and TVs. With this software, you can play back files stored on the PC through various devices wherever you like in your home. This software can be downloaded from Microsoft’s website.

- Windows Media Player 11 (for Windows XP or Windows Vista)
- Windows Media Player 12 (for Windows 7 or Windows 8)

For more information check the official Microsoft website.

Router
A device for relaying data flowing on a network to another network. In homes, routers often also function as DHCP servers. Products with built-in wireless LAN access points are called “wireless LAN routers”.

DHCP
Abbreviation of Dynamic Host Configuration Protocol. A protocol for automatically assigning such setting information as IP addresses within network connections. This offers convenience in that, when enabled, it allows network functions to be used simply by connecting the devices to the network.

Wireless LAN/Wi-Fi
“Wi-Fi” (Wireless Fidelity) is a trademark coined by the Wi-Fi Alliance trade association to increase recognition of wireless LAN standards. With the increase in the number of devices connected to computers in recent years, Wi-Fi offers the advantage of eliminating the complexity of making connections with LAN cables by using wireless connection. As a way of reassuring users, products that have passed interoperability tests carry the logo “Wi-Fi Certified” to indicate that compatibility is assured.

WPS
Abbreviation of Wi-Fi Protected Setup. A standard established by the Wi-Fi Alliance industry group for a function allowing settings related to interconnection of WPS-compatible wireless LAN devices and encryption to be made with simple operations. There are a number of methods, including push-button configuration and PIN code configuration. This AV receiver supports both push-button configuration and PIN code configuration.

SSID
Abbreviation of Service Set Identifier. A wireless LAN access point identifier. Can be set as desired using up to 32 characters of English letters and numbers.
Bluetooth function

Bluetooth wireless technology
A short-range wireless communications standard for digital devices. Information is exchanged between devices several meters to several tens of meters apart using radio waves. It uses radio waves on the 2.4 GHz band which does not require applications for licenses or usage registration for applications conducting wireless exchange of digital information at relatively low speeds, such as computer mouses and keyboards, mobile phones, smartphones, text and audio information for PDAs, etc.

Pairing
"Pairing" must be done before you start playback of Bluetooth wireless technology content using the Bluetooth ADAPTER. Make sure to perform pairing the first time you operate the system or any time pairing data is cleared. The pairing step is necessary to register the Bluetooth wireless technology device to enable Bluetooth communications. For more details, see also the operating instructions of your Bluetooth wireless technology device.
- Pairing is required when you first use the Bluetooth wireless technology device and Bluetooth ADAPTER.
- To enable Bluetooth communication, pairing should be done with both your system and Bluetooth wireless technology device.

Receiver function

Operation Mode
This receiver is equipped with a great number of functions and settings. The Operation Mode feature is provided for users who find it difficult to master all these functions and settings.

MHL
MHL (Mobile High-definition Link) is an interface standard for transmitting digital signals with mobile devices. MHL can carry high quality multi-channel audio data and 3D/Full-HD video formats.
*This receiver incorporates MHL 2.*

USB-DAC
By using a USB cable (Type A Male to Type B Male, sold separately) to connect this unit’s USB-DAC IN terminal to the USB port on a PC, this unit can be used as a D/A converter.
Features index

Operation Mode
See Operation Mode Setup on page 53.

AVNavigator
See How to use the built-in AVNavigator on page 49.

ECO MODE 1, 2
See Using the Advanced surround effects on page 65.

HDZONE
See MULTI-ZONE setup on page 40.

HTC Connect
See About HTC Connect on page 70.

Multi-ZONE Music
See Using Multi-ZONE Music on page 104.

Play ZONE
See Play ZONE Setup on page 110.

4K pass through/up scaling
See About HDMI on page 33.

Full Auto MCACC
See Automatically conducting optimum sound tuning (Full Auto MCACC) on page 50.

Automatic MCACC (Expert)
See Automatic MCACC (Expert) on page 95.

Manual MCACC setup
See Manual MCACC setup on page 97.

PQLS
See Setting the PQLS function on page 77.

Phase Control
See Better sound using Phase Control on page 66.

Full Band Phase Control
See Better sound using Phase Control and Full Band Phase Control on page 67.

Standing Wave
See Setting the Audio options on page 79.

Phase Control Plus
See Setting the Audio options on page 79.

Auto Sound Retriever
See Setting the Audio options on page 79.

ALC (Auto Level Control)
See Auto playback on page 64.

Front Stage Surround Advance
See Enjoying various types of playback using the listening modes on page 64.

Sound Retriever Air
See Enjoying various types of playback using the listening modes on page 64.

Dialog Enhancement
See Setting the Audio options on page 79.

Internet radio
See Listening to Internet radio stations on page 70.

vTuner
See Listening to Internet radio stations on page 70.

DLNA
See About network playback on page 72.

AirPlay
See Using AirPlay on iPod touch, iPhone, iPad, and iTunes on page 69.

Wireless LAN
See Connecting to a wireless LAN on page 46.

Playback High Resolution audio file
See About playable file formats on page 73.

Slideshow
See Playing back photo files stored on a USB memory device on page 58.

Bluetooth ADAPTER
See Bluetooth ADAPTER for Wireless Enjoyment of Music on page 61.

ARC (Audio Return Channel)
See HDMI Setup on page 75.

Auto delay
See Setting the Audio options on page 79.

Height Gain (Dolby Pro Logic llz Height option)
See Setting the Audio options on page 79.

Virtual Surround Back
See Setting the Audio options on page 79.

Virtual Height
See Setting the Audio options on page 79.

Virtual Wide
See Setting the Audio options on page 79.

Virtual Depth
See Setting the Audio options on page 79.

Digital Video Converter
See Setting the Video options on page 81.

Pure Cinema
See Setting the Video options on page 81.

Progressive Motion
See Setting the Video options on page 81.

Advanced Video Adjust
See Setting the Video options on page 81.

Auto Power Down
See The Other Setup menu on page 107.

USB-DAC
See Playing music from a computer on page 59.
Specifications

Amplifier section
Multi channel simultaneous power output (1 kHz, 1 %, 8 Ω).................................................. 850 W (SC-LX88)/810 W (SC-LX78) 8 ch total.................................
Maximum power output (1 kHz, THD 10 %, 4 Ω, 1 ch Driven)................................................. 370 W (SC-LX88)/350 W (SC-LX78) per channel
Rated power output (1 kHz, 4 Ω, 1 %, 1 ch Driven)................................................................. 260 W (SC-LX88)/250 W (SC-LX78) per channel
Rated power output (1 kHz, 8 Ω, 1 %, 1 ch Driven)................................................................. 220 W (SC-LX88)/210 W (SC-LX78) per channel
Total harmonic distortion ................................................................. 0.04 % (1 kHz, 130 W + 130 W, 8 Ω)
Guaranteed speaker impedance ............................................................................. 4 Ω to 16 Ω

Audio Section
Input (Sensitivity/Impedance)
PHONO MM................................................................. LINE ................................................................ 5 mV/47 kΩ
PHONO MM ................................................................. LINE ................................................................ 400 mV/47 kΩ
Output (Level/Impedance)
REC  ................................................................................. LINE ................................................................ 400 mV/2.2 kΩ
Signal-to-Noise Ratio (IHF, short circuited, A network)
LINE .......................................................................................... 103 dB

Tuner Section
Frequency Range (FM) ................................................................. 87.5 MHz to 108 MHz
Antenna Input (FM) ................................................................. 75 Ω unbalanced
Frequency Range (AM) ................................................................. 531 kHz to 1602 kHz
Antenna (AM) ................................................................. Loop antenna (balanced)

Video Section
Signal level
Composite Video .................................................................................. 1 Vp-p (75 Ω)
Component Video .................................................................................. 1 Vp-p (75 Ω), Y: 1.0 Vp-p (75 Ω), PB/PR: 0.7 Vp-p (75 Ω)
Corresponding maximum resolution
Component Video .................................................................................. 1080p (1125p)

Digital In/Out Section
HDMI terminal .................................................................................. 19-pin (Not DVI)
HDMI output type.................................................................................. 5 V, 55 mA
HDMI input/MHL terminal ........................................................................ 5 V, 900 mA
USB terminal .................................................................................. USB2.0 High Speed (Type A) 5 V, 1 A
USB terminal (SC-LX88 only) .................................................................. USB2.0 High Speed (Type B)
iPod terminal.................................................................................. 5 V, 55 mA
USB ADAPTER PORT terminal ................................................................ 5 V, 100 mA
WIRELESS LAN ADAPTER terminal .................................................. 5 V, 600 mA

Integrated Control Section
Control (IR) terminal .............................................................................. ø 3.5 Mini-jack (MONO)
IR signal ................................................................................. High Active (High Level: 2.0 V)
12 V Trigger terminal .............................................................................. ø 3.5 Mini-jack (MONO)
12 V Trigger output type ........................................................................ 12 V, Total 150 mA
RS-232C cable type ............................................................................. 9-pin, cross type, female-female

Network Section
LAN terminal .................................................................................. 10 BASE-T/100 BASE-TX

Miscellaneous
Power requirements ............................................................................... AC 220 V to 230 V / 240 V, 50 Hz/60 Hz
Power consumption.................................................................................. 370 W
In standby .................................................................................. 0.1 W
In standby (HDMI control on) ............................................................. 0.3 W
In standby (Network standby on) .......................................................... 2.0 W
Auto power down ................................................................................. 2.5 W
Dimensions .................................................................................. 435 mm (W) x 185 mm (H) x 441 mm (D)
Weight (without package) .................................................................. SC-LX88 ................................................................. 18.0 kg
.................................................................................. SC-LX78 ................................................................. 17.6 kg

Number of Furnished Parts
MCACC Setup microphone ........................................................................ 1
Remote control unit ................................................................................. 1
AAA size IEC R03 dry cell batteries .................................................................. 2
AM loop antenna .................................................................................. 1
FM wire antenna .................................................................................. 1
Power cord.......................................................................................... 1
CD-ROM .......................................................................................... 1
Quick start guide .................................................................................. 1
Safety Brochure .................................................................................. 1

Notes
- These specifications are applicable when the power supply is 230 V.
- Specifications and the design are subject to possible modifications without notice, due to improvements.
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- Corporation and product names mentioned herein are trademarks or registered trademarks of the respective corporations.
You should have no problem controlling a component if you find the manufacturer in this list, but please note that there are cases where codes for the manufacturer in the list will not work for the model that you are using. There are also cases where certain functions may be controllable after assigning the proper preset code.

Important

- We do not guarantee the operations of all the manufacturers and devices listed. Operation may not be possible even if a preset code is entered.

If you can’t find a preset code that matches the component you want to control, you can still teach the remote individual commands from another remote control (see Programming signals from other remote controls, page 3).
If operations are not possible using the preset codes below, you may be able to conduct operations with the preset codes for the BD. DVR (BDR, HDR).

Pioneer 2014
AEG 2016
Aiwa 2019
Alba 2016
Amstrad 2018
AMS 2016
Akai 2016
Alba 2122, 2133, 2143
Amstrad 2128
AMX 2016
Awo 2019
B&O 2189
Bang & Olufsen 2189
Bellagio 2189
Best Buy 2185
Brainwave 2188
Branch 2112, 2139
Bush 2122, 2143, 2177, 2184
Camera Audio 2180
CAT 2182, 2183
Centrum 2163
CGV 2180, 2188
Chintech 2189
Claronic 2184
Coby 2190
Conion 2187
Continental Edison 2189
Crown 2188
C-Tech 2181
CyberHome 2103, 2123
Daewoo 2186
Daewoo 2130, 2154, 2188
Daewoo International 2127
Dalen 2187
Dansi 2179, 2188
Daytek 2105, 2128, 2189
Daytron 2189
Dec 2188
Decca 2188
Denon 2161, 2163
Denver 2164, 2184, 2186, 2190
Denzel 2177
Diamond 2180, 2181
DK Digital 2159
Dmtech 2005
Dual 2178
DVX 2181
Easy Home 2185
Eclipse 2180
Electrohome 2188
Elna 2188
Eltia 2142, 2188
Enzor 2178
Finlux 2180, 2188
Gericom 2145
Global Solutions 2181
Global Sphere 2181
Goodmans 2186, 2195, 2184
Graetz 2178
Grundig 2148
Grunkel 2188
H&B 2164
Haas 2180, 2181
HiMax 2185
Hitachi 2110, 2178, 2185
Innovation 2097
JVC 2119, 2136, 2192
Kansai 2190
Kennex 2188
Kenwood 2146
Krypton 2188
Koala 2180
Koo 2180
Kondo 2180
Kyorin 2187
Latech 2186
Lenco 2184, 2188
LG 2111, 2115, 2135, 2138, 2160, 2171
Life 2097
Lifegate 2097
Limit 2181
Lowo 2151
LogicLab 2181
Magnavox 2184
Majestic 2190
Marantz 2157
Marquet 2188
Matsui 2139
Medion 2097
Medion 2097
MICO 2180
Micromax 2097
Microstar 2139
Mikono 2188
Mizuza 2184, 2185
Monika 2188
Monya 2178
Mustek 2101
Mx Onda 2180
Naiko 2180
Neufunk 2187
Neviso 2188
Nevir 2187
NU-TEC 2117
One 2183
Optimus 2179
Optimus 2099
Orava 2184
Oonio 2180
Orion 2186
P&B 2184
Panasonic 2131, 2141, 2121, 2177, 2131, 2170
Philips 2100, 2106, 2117, 2118, 2126, 2134, 2157
Pointer 2188
Portland 2188
Powerpoint 2189
Prosonic 2190
Provision 2164
Rai 2178
RedStar 2186, 2188, 2190
Reo 2185
Roadstar 2116, 2184
Roin 2189
Rowin 2189
Rownovin 2183
Saba 2112, 2139
Saab 2141
Salvo 2188
Samsung 2110, 2137, 2158, 2173, 2176
Sansui 2160, 2180, 2188
Sanyo 2130, 2160, 2166
ScanMagic 2101
Schaub Lorenz 2188
Schneider 2095
Scientific Labs 2181
Scott 2102, 2187
SEG 2116, 2178, 2181, 2189
Sharp 2097, 2141, 2174
Sigmatek 2185
Silva 2186
Singer 2180, 2181
Skymaster 2153, 2181
Skyworth 2186
Slim Art 2180
SM Electronic 2181
Sony 2104, 2108, 2123, 2142, 2125, 2150, 2175
Soundmaster 2181
Soundmax 2181
Spectra 2189
Standard 2181

Additional information