Thank you for buying this Pioneer product. Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference. In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

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

---

**IMPORTANT**

The lightning flash with arrowhead within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the appliance's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

---

**CAUTION**

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

---

**FOR USE IN THE UNITED KINGDOM**

The wires in this mains lead are coloured in accordance with the following code:
- blue: neutral (N)
- brown: live (L)

If the plug provided is unsuitable for your socket outlets, the plug must be cut off and a suitable plug fitted.

The cut-off plug should be disposed of and must not be inserted into any 13 amp socket as this can result in electric shock. The plug or adaptor or the distribution panel should be provided with 5 amp fuses. As the colours of the wires in the mains lead of this appliance may not correspond with coloured markings identifying the terminals in your plug, proceed as follows:
- The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
- The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal of a three pin plug.

**NOTE**

After replacing or changing a fuse, the fuse cover in the plug must be replaced with a fuse cover which corresponds to the colour of the insert in the base of the plug or the word that is embossed on the base of the plug, and the appliance must not be used without a fuse cover. If lost, replacement fuse covers can be obtained from your dealer. Only 5 A fuses approved by BSI or ASTA to BS 1362 should be used.
# CONTENTS

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSTALLATION</td>
<td>2</td>
</tr>
<tr>
<td>PANEL FACILITIES</td>
<td>3</td>
</tr>
<tr>
<td>CONNECTIONS</td>
<td>6</td>
</tr>
<tr>
<td>OPERATIONS</td>
<td>8</td>
</tr>
<tr>
<td>REMOTE CONTROL</td>
<td>9</td>
</tr>
<tr>
<td>TROUBLE SHOOTING</td>
<td>11</td>
</tr>
<tr>
<td>SPECIFICATIONS</td>
<td>12</td>
</tr>
</tbody>
</table>

## FEATURES

- **Remote control integrated amplifier**
  
  Convenience is combined with no-compromise performance. The remote provides access to all Pioneer audio equipment with the mark.

- **Power output of 55 + 55 watts at 4 ohms, DIN (35 watts per channel, at 8 ohms from 20 Hz to 20,000 Hz with 0.05 % total harmonic distortion.)**

- **Wide-Range Linear Circuit**
  
  This new current feedback circuit assures improved operating stability for flat output impedance and stable driving of speakers across the full range of frequencies.

- **Low-impedance driving capability.** To capably drive speaker with low impedance for better digital sound.

- **"DIRECT" button**
  
  For bypassing all secondary circuits except for volume; highest purity results.

- **6 Inputs: PHONO, CD, TUNER, TAPE 2 MONITOR, TAPE/DAT, LINE.**

- **Large insulators**

- **Connections for two pairs of speaker systems.**

## INSTALLATION

### LOCATION

Install the amplifier in a well-ventilated location where it will not be exposed to high temperature or humidity. Do not install the amplifier in a location which is exposed to direct rays of the sun, or near to hot appliances or radiators. Excessive heat can adversely affect the cabinet and internal components. Installation of the amplifier in a damp or dusty environment may result in malfunction, or accident. (Also avoid installation near cookers etc., where the amplifier may be exposed to smoke from oil, steam or heat.)

### POWER-CORD CAUTION

Handle the power cord by the plug. 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, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

### MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very 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 cleaners.
- Never use thinners, benzine, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.
PANEL FACILITIES

FRONT PANEL

1 POWER STANDBY/ON switch/indicator
This is the switch for electric power.
ON: When set to the ON position, power is supplied and the unit becomes operational.
STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness. When the STANDBY indicator lights, the unit is in STANDBY.
NOTE: When performing timer recording with this unit, be sure to set the POWER STANDBY/ON switch to ON.

2 Remote control sensor window

3 Input selector buttons/indicators
Use to select the playback source.
PHONO: For record playback with a turntable.
CD: For compact disc playback with a CD player.
TUNER: For AM or FM broadcast reception with a tuner.
TAPE 2 MONITOR:
For playback with a cassette deck or adaptor connected to TAPE2/MONITOR (ADPT) terminals.
TAPE1/DAT:
For playback with a cassette deck or digital audio cassette deck connected to TAPE 1/DAT terminals.
LINE:
For playback with a component connected to LINE terminals.

4 VOLUME control
Use to adjust the volume level.

5 SPEAKERS A selector button
Use this button to listen to the speaker systems connected to SPEAKERS A terminals.
ON(A): Depressed position: Sound is heard from the speaker systems.
OFF(A): Released position: No sound is heard from the speaker systems. Set to this position when listening with headphones.

6 SPEAKERS B selector button
Use this button to listen to the speaker systems connected to SPEAKERS B terminals.
ON(B): Depressed position: Sound is heard from the speaker systems.
OFF(B): Released position: No sound is heard from the speaker systems. Set to this position when listening with headphones.

7 PHONES jack
When using headphones, insert the plug into this jack.

8 BASS tone control
Use to adjust the low-frequency tone. The center position is the flat (normal) position. When turned to the right, low-frequency tones are emphasized; when turned to the left, low-frequency tones are de-emphasized.
NOTE:
This control does not operate when DIRECT button is in the on position.
PANEL FACILITIES

③ TREBLE tone control
Use to adjust the high-frequency tone. The center position is the flat (normal) position. When turned to the right, high-frequency tones are emphasized; when turned to the left, high-frequency tones are de-emphasized.

NOTE:
This control does not operate when DIRECT button is in the on position.

⑩ BALANCE control
Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the L (left) position and if the left side is louder, turn toward the R (right) position.

NOTE:
This control does not operate when DIRECT button is in the on position.

① LOUDNESS button/indicator
Use when listening at low volume levels.

On: The indicator lights. Boosts low and high frequencies to give added punch to playback even at low volume levels.

Off: The indicator goes off. Should normally be left in this position.

NOTE:
This button does not operate when the DIRECT button is in the on position.

③ DIRECT button/indicator
Use this button when you do not wish to pass the output from input terminal equipment through the various frequency adjusting circuits (BASS, TREBLE, BALANCE, LOUDNESS). This button also operates with respect to the component connected to the TAPE 2/MONITOR (ADPT) terminals.

On: The indicator lights. The signals input through the input terminals are reproduced without passing through the various frequency adjusting circuits. This results in flat, pure sound which is a more faithful reproduction of the input source.

Off: The indicator goes out. The signal passes through the various frequency adjusting circuits.
**PANEL FACILITIES**

**REAR PANEL**

1. PHONO terminals
2. Turntable ground terminal (GND)
3. TUNER terminals
4. CD terminals
5. LINE terminals
6. TAPE 1/DAT REC terminals
7. TAPE 1/DAT PLAY terminals
8. TAPE 2/MONITOR (ADPT) REC terminals
9. TAPE 2/MONITOR (ADPT) PLAY terminals
10. SPEAKERS B terminals (Right channel)
11. SPEAKERS B terminals (Left channel)
12. SPEAKERS A terminals (Right channel)
13. SPEAKERS A terminals (Left channel)
14. CONTROL OUT jack (see page 7)
   This jack is for output of control signals when operating other components bearing the mark with the attached remote control unit.
15. AC INLET jack
   Connect one end of the power cord to here and the other end to an AC wall socket, or the AC outlet of an audio timer. If you are going to be away from home for a long period of time, disconnect the unit from the wall socket.
Make all connections after unplugging AC cords.

**CONNECTING THE SPEAKER CORDS [A]**

1. Strip off the vinyl covering and twist the tip of the wire core.
2. Loosen the knob and insert the wire core into the terminal hole.
3. Tighten the knob to fix the wire core in place.

**NOTE:**
Do not allow the wire core to protrude and touch other terminals or wires. If the cores of differing wires touch, damage may result to your amplifier and/or speaker systems.

**Speaker Impedance**
When speaker systems are connected to only SPEAKERS A or SPEAKERS B terminals, such speakers should have rated impedance in the range of 4 - 16 Ω.
When speakers are connected to both the A and B terminals, they should have a rated impedance in the range of 8 - 16 Ω.

**CONNECTING THE INPUT/OUTPUT CORDS [B]**
Connect the white plug ③ to the L (left) channel ①, and the red plug ④ to the R (right) channel ②. Be sure to insert the plugs securely.
The INPUT/OUTPUT terminals of this unit are tinplated for high audio quality.

**REMOTE CONTROL CORD CONNECTIONS [C]**
By interconnecting the CONTROL jacks of Pioneer units with the [⑤] mark, the entire system can be operated with this remote control unit, although some of the units (AM/FM tuner, compact disc player, cassette deck, etc.) may not be equipped with remote sensors. The entire system can be operated by a remote control unit connecting PIONEER stereo components to each other using the control input (CONTROL IN) jack on each component. Use the remote control cord supplied with the respective unit for the connection. An example is shown in the fig. [⑤]. As long as you connect "OUT" to "IN", the connecting sequence is arbitrary. In the case of a unit which has only an "IN" connector, however, connect it last.

① Remote control unit
② A-303R
③ Cassette deck
④ Compact disc player
⑤ FM/AM tuner
OPERATIONS

BEFORE BEGINNING OPERATIONS
1. Set the POWER STANDBY/ON switch to ON.
2. Press the SPEAKERS selector button corresponding to the speaker system to be used.
3. Set the DIRECT button to off.

PLAYBACK PROCEDURES
1. Set the input selector buttons to the desired playback source.
   - For playback with the equipment connected to LINE terminals: Set to [LINE].
   - For reception of an AM/FM broadcast: Set to [TUNER].
   - For playback of a record: Set to [PHONO].
   - For playback of a compact disc: Set to [CD].
   - For playback of a tape: Set to [TAPE 1/DAT].

   NOTE:
   Always be sure to turn off TAPE 2 MONITOR when not using TAPE 2 MONITOR.
2. Operate the equipment to begin playback.
3. Adjust playback volume with VOLUME control on this unit.
4. Adjust the tone to your preference using BASS and TREBLE controls, and BALANCE control.

RECORDING TAPES
(Use the component connected to the TAPE 1/DAT REC terminals.)
1. Select the recording equipment with input selector buttons.
   Select a setting other than TAPE 2 MONITOR.
2. Begin recording by operating the recording equipment.
   Refer to the operating instructions for your cassette deck for proper operating procedures.

COPYING TAPES
When two decks are used, you can record the sounds from one deck onto the other.
Application examples:
   - To make a tape copy with contents identical to the original tape.
   - To edit a recording of an FM broadcast in order to cut out unwanted commercials, recording only of desired material onto another tape.
1. Load tapes for playback (pre-recorded tape) and recording (blank tape) into the respective cassette decks.
2. Select the copying direction with input selector buttons and TAPE 2 MONITOR button.
   - When copying from the cassette deck of TAPE 1/DAT terminals to the cassette deck of TAPE 2/MONITOR (ADPT) terminals: Set the input selector button to TAPE 1/DAT.
   - When copying from the cassette deck of TAPE 2/MONITOR (ADPT) terminals to the cassette deck of TAPE 1/DAT terminals: Set the TAPE 2 MONITOR button to ON and the input selector to a position other than TAPE 1/DAT.
3. Operate the cassette decks to begin copying.
   Set the cassette deck with the blank tape to the recording mode, and set the cassette deck with the original (playback) tape to the playback mode.

TO USE THE COMPONENT CONNECTED TO THE TAPE 2/MONITOR (ADPT) TERMINALS
(For an adaptor component)
By connecting a graphic equalizer, source sounds (from records, tapes, AM/FM broadcasts, etc.) can be heard with added sound and tone compensation.
Sounds compensated with the adaptor component can be recorded on the cassette deck connected to the TAPE 1/DAT terminals.
1. Set the TAPE 2 MONITOR button to ON.
2. Play back the source.
3. Operate the adaptor component.
(For a cassette deck)
   - A cassette deck connected here can be operated in the same way (recording and playback) as a deck connected to the TAPE 1/DAT terminals.
   - Also, if two decks are used, you can copy tapes from one deck onto the other (see the section "COPYING TAPES").
   - On a 3-head cassette deck, sound can be concurrently heard while recording on tape. This operation of checking the sound quality and recording level is called "monitoring".
1. Set the TAPE 2 MONITOR button to ON.
2. Operate the cassette deck to perform playback (or recording).

NOTE:
Be sure to perform this operation with the adaptor component power switch in the on position. Even when not using the adaptor component, its power switch must be left on. If the adaptor component is switched off, no sound will be produced, or the playback sound will be distorted.

<ARB1486>
USING AN AUDIO TIMER TO PERFORM TIMER RECORDING

Connect this unit's power cord into the AC power outlet of an audio timer, and set the POWER STANDBY/ON switch to the ON condition (STANDBY indicator goes off) when making timer settings.

If the unit is left in the standby mode (STANDBY indicator lights), timer operation will not be possible.

NOTE:
The source selected with the input selector is backed up for a few days even when the POWER switch is set to off or the power cord is unplugged.
After this period, the CD is automatically selected when the power is supplied.

REMOTE CONTROL

LOADING BATTERIES

Open the battery compartment cover on the back of the remote control unit.
Insert size "AA" [IEC R6P (SUM-3)] dry cell batteries into the battery compartment in accordance with the indications (±) inside the compartment.
Close the cover of the battery case.
Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:
1. Always insert batteries into the battery compartment correctly matching the positive ± and negative ± polarities, as indicated inside the compartment.
2. Never mix new and used batteries.
3. Batteries of the same size may have different voltages, depending on their type. Do not mix different types of batteries.

RANGE OF REMOTE CONTROL

When the remote control unit is pointed at the remote sensor window on the stereo amplifier and any of its buttons is pressed, the unit and other components can be operated by remote control.
Distance: Within a range of approx. 7 meters from the unit’s remote control sensor window.
Angle: Within approx. 30 degrees from the center of the unit’s remote control sensor window.
Remote control will not be possible if there is an obstacle between the remote control unit itself and the unit’s remote control sensor window.
- The accessory remote control unit can be used to control some functions of other Pioneer cassette decks, CD players and tuners (only those Pioneer components bearing the mark).

Remote control sensor window

7 m

<ARB1496>
REMOTE CONTROL

1. **CD POWER button**
   Switches CD player power ON/OFF.

2. **AMP POWER button**
   Switches the amplifier power STANDBY/ON.

3. **TAPE SELECT button**
   Selects the cassette No. (1 to 6) for multi-cassette changer.

4. **DECK II button**
   To operate Deck II, press this button before pressing the operating buttons. Also, when using a single deck, press this button before pressing the operating buttons.

5. **DECK I button**
   To operate Deck I, press this button before pressing the operating buttons.

6. **DISC SELECT button**
   Press this to select discs on a multi-play or twin tray compact disc player.

7. **Input selector buttons**
   Use to select the playback source.
   - **CD**: For compact disc playback with a CD player.
   - **TUNER**: For AM or FM broadcast reception with a tuner.
   - **PHONO**: For record playback with a turntable.
   - **TAPE 1**: For playback with a cassette deck or digital audio cassette deck connected to TAPE 1/DAT terminals.
   - **TAPE 2**: For playback with a cassette deck or adapter connected to TAPE 2/MONITOR (ADPT) terminals.
   - **LINE**: For playback with a component connected to LINE terminal.

8. **TUNER POWER button**
   Switches TUNER power ON/OFF.

9. **TAPE POWER button**
   Switches the cassette deck power ON/OFF.

10. **TAPE operation buttons**
    - **—**: Playback in the direction of the arrows.
    - **I**: Stop
    - **— — — —**: Tape fast forward.

11. **CD player operation buttons**
    - **—**: Returns you to the start of the track playing (Track search).
    - **— —**: Takes you to the start of the next track (Track search).
    - **I**: Stop
    - **—**: Play

12. **STATION +, — buttons**
    Calls each station number in sequence.

13. **VOLUME +, — buttons**
    + ---------------------------------------- Increases the volume.
    - ---------------------------------------- Decreases the volume.

**NOTE:**
When the accessory remote control unit is used to operate other pioneer components with the symbol, it cannot be used to operate functions which do not correspond to the functions listed on the remote control unit.

<ARB1496>
## TROUBLE SHOOTING

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

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>No power supplied to unit.</td>
<td>• Power plug is disconnected from outlet.</td>
<td>• Insert plug securely into outlet.</td>
</tr>
<tr>
<td></td>
<td>• The component power plug has been plugged into another component power outlet (e.g. timer, etc.) but power to that unit is disconnected.</td>
<td>• Turn on power to the other component.</td>
</tr>
<tr>
<td></td>
<td>• POWER STANDBY/ON switch is set to STANDBY.</td>
<td>• Press the POWER STANDBY/ON switch to ON.</td>
</tr>
<tr>
<td>No sound.</td>
<td>• Connecting cords are disconnected from terminals, or connected incorrectly.</td>
<td>• Connect securely.</td>
</tr>
<tr>
<td></td>
<td>• Terminals, or connecting cords pin plugs are dirty.</td>
<td>• Clean terminals and plugs.</td>
</tr>
<tr>
<td></td>
<td>• Input selector button is not set to the desired input source.</td>
<td>• Set the input selector button correctly (PHONO, TUNER, CD, LINE, TAPE 1(DAT, TAPE 2 MONITOR)).</td>
</tr>
<tr>
<td></td>
<td>• Operation of other components is incorrect.</td>
<td>• Consult the operating instructions for the other components.</td>
</tr>
<tr>
<td></td>
<td>• Both SPEAKERS selector buttons are set to OFF(■).</td>
<td>• Set one button or both buttons to ON (●)</td>
</tr>
<tr>
<td>No sound from one speaker.</td>
<td>• Connecting cords or speaker cords are disconnected on that side.</td>
<td>• Connect securely.</td>
</tr>
<tr>
<td></td>
<td>• BALANCE control has been adjusted to one side.</td>
<td>• Adjust BALANCE control to center position.</td>
</tr>
<tr>
<td>Cannot record tapes.</td>
<td>• Connections are incorrect.</td>
<td>• Reconnect properly.</td>
</tr>
<tr>
<td></td>
<td>• Operation of cassette deck is incorrect.</td>
<td>• Consult the operating instructions for the cassette deck.</td>
</tr>
<tr>
<td>Cannot perform tape copying.</td>
<td>• Operation of cassette deck is incorrect.</td>
<td>• Consult the operating instructions for the cassette deck.</td>
</tr>
<tr>
<td>The remote control unit does not work. (Other components cannot be operated.)</td>
<td>• Batteries are dead or no batteries in remote control unit.</td>
<td>• Insert new batteries (see page 9).</td>
</tr>
<tr>
<td></td>
<td>• The remote control sensor is not receiving any signals.</td>
<td>• Operate the remote control unit within a range of 7 meters and an angle of 30 degrees (refer to page 9).</td>
</tr>
<tr>
<td></td>
<td>• The battery compartment cover is not perfectly closed.</td>
<td>• Check that the battery compartment cover is closed correctly.</td>
</tr>
<tr>
<td></td>
<td>• The remote control cord is not connected.</td>
<td>• Connect correctly (see page 7).</td>
</tr>
<tr>
<td></td>
<td>• A fluorescent light is shining on the remote sensor window.</td>
<td>• Move so fluorescent light does not shine directly on amplifier front panel remote sensor window.</td>
</tr>
</tbody>
</table>

- Malfunctions may occur as the result of external influences, such as lightning or static electricity. In this case, set the POWER STANDBY/ON switch to OFF and then ON again to restore normal operation.
### SPECIFICATIONS

#### Amplifier Section
- **Continuous power output** (both channels driven at 20Hz to 20kHz)**
  - T.H.D. 0.05%, 8 Ω ........................................... 35 W + 35 W*
  - T.H.D. 0.1%, 4 Ω ........................................ 40 W + 40 W*
- **DIN continuous power output** (both channels driven at 1kHz)
  - T.H.D. 1%, 8 Ω ........................................... 45 W + 45 W
  - T.H.D. 1%, 4 Ω ........................................ 55 W + 55 W
- **Dynamic power output (on EIA dynamic test signal)**
  - 4 Ω .......................................................... 68 W
- **Total harmonic distortion**
  - 20 Hz to 20 kHz, 17.5 W, 8Ω .................................. 0.05%*
- **Power output specification is for when power supply is 230 V.**
- **Input sensitivity/impedance**
  - PHONO (MM) ........................................... 2.8 mV/50 kΩ
  - CO, TUNER, LINE, TAPE 1/DAT, TAPE 2/MONITOR (ADPT) ........... 200 mV/50 kΩ
- **PHONO overload level**
  - 1kHz, T.H.D. 0.1% (MM) .................................. 150 mV
- **Output level/impedance**
  - TAPE 1/DAT, TAPE 2/MONITOR (ADPT) output ........................................ 200 mV/1 kΩ
- **Frequency response**
  - PHONO (MM) ........................................ 20 Hz to 20 kHz ±0.5dB
  - CD, TUNER, LINE, TAPE 1/DAT, TAPE 2/MONITOR (ADPT) ...... 5 Hz to 100 kHz ±3dB*
- **Tone control**
  - BASS ........................................... ±8 dB (100 Hz)
  - TREBLE ........................................... ±8 dB (10 kHz)
- ** Loudness contour (volume control set at -30dB position)** ........................................ +5 dB (100Hz)/ +3 dB (10kHz)
- **Signal-to-Noise ratio (HF short circuit, A network)**
  - PHONO (MM, 5 mV input) ................................ 84 dB*
  - CD, TUNER, LINE, TAPE 1/DAT, TAPE 2/MONITOR (ADPT) ........... 105 dB*
- **Signal-to-Noise ratio (DIN, continuous power 50mW)**
  - PHONO (MM) ........................................ 69 dB/65 dB*
  - CD, TUNER, LINE, TAPE 1/DAT, TAPE 2/MONITOR (ADPT) ........... 89 dB/69 dB*

#### Power Supply/Miscellaneous
- **Power requirements**
  - U.K. model ........................................... a.c. 240 Volts ~, 50/60 Hz
  - Singapore model ........................................ a.c.220-230 Volts, 50/60 Hz
- **Power consumption** ........................................ 370 W
- **Dimensions** ........................................ 420(W) × 360(D) × 125(H) mm
- **Weight (without package)** .................................. 6.3 kg

#### Accessories
- Remote control unit ........................................... 1
- Batteries (IEC R6P, AA) ...................................... 2
- Operating instructions .......................................... 1

**NOTE:** Specifications and design subject to possible modification without notice, due to improvements.

* Measured with DIRECT button set to on.
** Measured by Audio Spectrum Analyzer.