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Precautions

DO NOT move this unit during playback.

During playback, the disc is rotating at high speed. Do not try to lift or move this unit as the disc may be damaged. Otherwise, the disc may be damaged.

When moving this unit

You must remove the disc and close the disc tray when moving this unit. Then, press the OPERATION switch, and after the pilot light on the unit turns off, unplug the power cord from the AC outlet. If the unit is moved with a disc remaining inside, this can cause a malfunction.

Location for installation

This unit should be installed where there is no vibration from the outside and where ventilation and heat dissipation are sufficient. Do not install where the temperature is abnormally high such as in direct sunlight or where it is dusty or humid because this could result in damage to this unit despite proper heat radiation. Do not install this unit in a location which obstructs driving you car.

Notice when this unit is installed in a rack with glass doors

While the glass doors are closed, do not open the disc tray by pressing the open/close (u) switch of the remote control. Disc tray performance will be blocked, and that may result in a malfunction.

Dew condensation

In winter, be careful when carrying this unit from a cold place to a warm place or if the room temperature is suddenly raised by a heater or the like where this unit is installed. The unit interior (operating blocks and lens) will have dew condensation on it.

In such a condition, this unit cannot work normally and playback is impossible.

This depends on the state of dew condensation, but you will be able to enjoy the music if the unit is left untouched for one to two hours after it has been turned on and the temperature of this unit is maintained at room temperature until the condensation dries.

Even in summer, dew condensation can occur if this unit is directly exposed to cool air from an air conditioner.

In such a case, the installation place should be changed.

Cleaning

For cleaning, use a piece of soft cloth to wipe the unit such as cleaning cloth available on the market.

If the unit has become very dirty, remove the dirt with soft cloth absorbing a small amount of neutral detergent, and then wipe the unit with dry cloth.

Do not use a solvent like benzine or thinner because such a substance can often damage the exterior.



How to handle discs

- Do not use any deficient disc (with cracks, warp, etc.).
- Do not damage the signal surface of the disc or make it dirty.
- Do not place paper or a sticker on the disc. Such awkward handling can warp the disc and playback may become impossible. In many cases, rental discs carry labels and paste may protrude from under the label. Before use, check that the disc is free from protruding paste or the like.
- Do not play with two discs in a stack.

■ Storage

- Always put your discs in a case. Store them vertically where high temperature, high humidity, and direct exposure to sunlight are not prevalent. Places with extremely low temperature should also be avoided.
- Read the caution notes carefully that are attached to discs.

■ Disc cleaning

- If a disc is dirty from fingerprints or dusty, the sound quality may be lowered. Lightly wipe the disc with soft cloth, from the inside to outer periphery. (Don't wipe it along the circumference.)
- Do not use a volatile chemical such as benzine or thinner.
 Record spray, anti-static agents, and other such materials cannot be used either.
- Where the disc seems to be very dirty, dip soft cloth in water, wring it well, and remove contaminants. Lastly, remove the moisture with dry cloth.

■ Disc in a specific shape

This unit cannot accept discs in specific shapes (heart-shaped, hexagonal, etc.) for playback. Never use such discs as they can cause malfunctions.

Repair and adjustments

When repair and adjustments are needed, please ask the store where you bought the unit.

Before Use

Check the accessories.

After unpacking, check if the following accessories are not missing.

- Power cable
- Remote controller (RA-N3)



• "AAA" batteries (2 pieces)

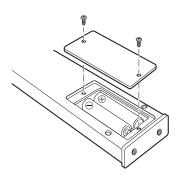


- Phillips screwdriver
- Safety cautions
- Owner's Manual (This document)

How to Use Remote Control

Insert batteries into the remote control.

- 1. Remove the battery cover on the rear of the remote control.
 - Remove the two screws on the top and bottom of the battery cover using the supplied Phillips screw driver. Insert your fingernail between the battery cover and remote control unit and lift the battery cover to remove.
- 2. Put 2 AAA batteries in the battery case as shown in the illustration on the battery case in consideration of the polarity $(\oplus$ and \ominus).
- 3. Do the reverse procedure to the battery cover removal. Set the battery cover in the remote control unit from above, and fix the battery cover by fastening the two screws on the top and bottom of the battery cover using the supplied Phillips screwdriver.

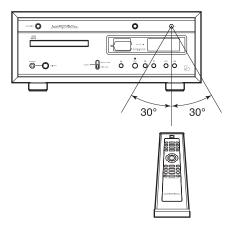


- Do not use a new battery and an old one together.
- There may be a case in which the voltages are different between two batteries even though their shapes are
 the same. Do not use the batteries of different types together.
- If the remote control is not used for a long time (more than 1 month), the batteries shall be removed from the case. If the battery liquid is leaking, wipe away the liquid from the case before inserting new batteries.



Remote control's range

The remote control can be used by pointing at the remote control infrared receiver on the front panel of main unit. The effective distance is approx. $5\,\mathrm{m}$ from the main unit and 30° on both sides from the control infrared receiver.

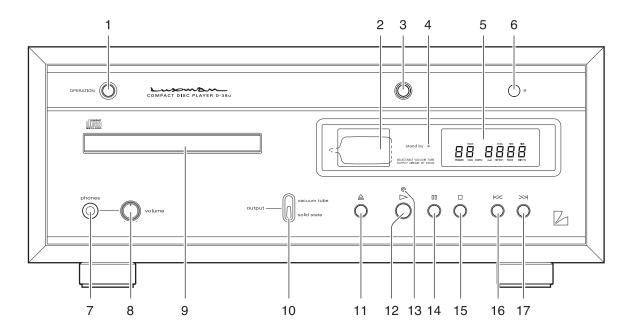


Effective distance: approx. 5 m

Do not expose the remote control infrared receiver to direct sunlight or strong light sources.

Names and Functions

Front side of main unit



1. Operation switch (OPERATION)

Pressing this switch at the standby state blinks the standby (stand by) indicator and starts warming up the vacuum tube. After the lapse of a certain time (approx. 30 seconds), the standby (stand by) indicator turns off and the unit turns to the operating state in which audio can be output.

Pressing this switch again at the operating state turns the unit to the standby state.

2. Vacuum tube lighting

Lights up ECC82 (12AU7) used for the vacuum tube output circuit. Lights up when the vacuum tube is selected with the output selection switch.

3. Pilot light

Lights orange when the OPERATION switch is pressed.

4. Standby indicator (stand by)

Lights orange to show that this unit turns to the standby state when the power cable is connected to the AC inlet (AC IN) at the rear side of main unit and the AC 230 V outlet.

Due to the warm-up of the vacuum tube, the unit is at the mute state during a certain time (approx. 30 seconds) after the OPERATION switch is turned ON until audio is actually output. No sound is generated even when performing disc playback operation during the period.

5. Display

The display shows the music track number, lapse of time/residual time, and other such functional information during disc playback.

6. Remote control infrared receiver (R)

This is a sensor to receive signals from the accessory remote control. Do not place any objects in front of the sensor.

7. Headphone jack (phones)

When you want to use a stereo headphone, insert the headphone plug in this output jack.



8. Headphone volume control (volume)

Adjusts the audio output volume of the stereo headphone connected to the headphone jack. The audio output volume of the analog output (ANALOG OUT) and digital output (DIGITAL OUT) terminals at the rear side of main unit cannot be controlled with this volume control. (The output level is always constant.)

9. Disc tray

This tray accommodates a disc. When inserting or removing a disc, this tray is opened or closed by pressing the open/close switch (\triangle) .

10. Output selection switch (output)

Changes the analog output circuit.

Select the desired sound quality.

vacuum tube:

Select the output circuit that applies the ECC82 (12AU7) vacuum tubes for the output buffer. Vacuum tube lighting lights up when this output circuit is selected.

solid state:

Select the output circuit that applies the solid-state IC amplifier for the output buffer. Vacuum tube lighting turns off when this output circuit is selected.

11. Open/close switch (♠)

This switch is pressed when opening or closing the disc tray.

12. Play switch (>>)

This switch is pressed to start playback.

13. Play indicator

Lights up while a disc is being played back. Blinks when the pause switch ([[]]) is pressed. (Pause state)

14. Pause switch (□□)

When this switch is pressed in the middle of disc playback, the playback stops. When this switch is pressed again, the playback starts again. During pause, the play indicator blinks.

15. Stop switch/(□)

This switch is pressed to stop playback.

16. Previous switch (<<<)

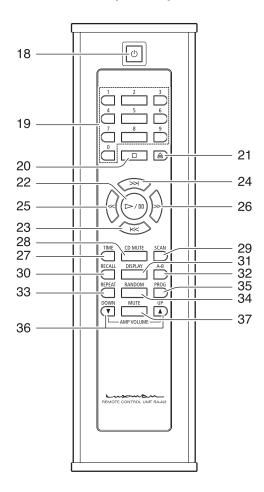
When this switch is pressed, the playback returns to the beginning of track. When this switch is pressed twice, the playback returns to the beginning of previous track. When this switch is pressed twice while the first track on the disc is being played back, the playback jumps to the last track.

17. Next switch/(>>/)

When this switch is pressed, the playback jumps to the beginning of next track. When this switch is pressed twice while the last track on the disc is being played back, the playback jumps to the first track.

Names and Functions

Remote controller (RA-N3)



Operation switch ((1))

Pressing this switch at the standby state blinks the standby indicator and starts warming up the vacuum tube. After the lapse of a certain time (approx. 30 seconds), the standby indicator turns off and the unit turns to the operating state in which audio can be output. Pressing this switch again at the operating state turns the unit to the standby state.

19. Numeric keys (1 - 9, 0)

These keys are pressed to specify the music track number directly for playback or for program.

When specifying the tenth or later music selection, press the 10s digit key first and then the unit digit key within two seconds.

(Example: For playback by designating the 15th music selection, press "1" and then "5" within two seconds.)

20. Stop switch/(□)

This switch is pressed to stop playback.

21. Open/close switch (A)

This switch is pressed when opening or closing the disc tray.

22. Play/pause switch (>>/ [][)

This switch is pressed to start playback. When this switch is pressed in the middle of disc playback, the playback stops. When this switch is pressed again, the playback starts again. During pause, the play indicator blinks.

23. Previous switch (K<)

When this switch is pressed, the playback returns to the beginning of track. When this switch is pressed twice, the playback returns to the beginning of previous track. When this switch is pressed twice while the first track on the disc is being played back, the playback jumps to the last track.

24. Next switch (>>/)

When this switch is pressed, the playback jumps to the beginning of next track. When this switch is pressed twice while the last track on the disc is being played back, the playback jumps to the first track.



25. Rewind switch (<<)

This switch is pressed to rewind the current track.

No sound is generated during rewind.

When the switch is released, ordinary playback resumes.

26. Fast-forward switch (>>>)

This switch is pressed to fast-forward the current track.

No sound is generated during fast-forward.

When the switch is released, ordinary playback resumes.

27. Time switch (TIME)

Each time this switch is pressed in the middle of playback, the display changes as follows. "Remaining time of current track", "Remaining time of disc", "Elapsed time of current track"

28. CD mute switch (CD MUTE)

This switch is used for temporary muting of the audio output from this unit. During the CD mute mode, the right-pointing triangle between the track number and time blinks in the display. When this switch is pressed again, sound resumes. Irrespective of the mute switch being pushed, the disc continues to play.

29. Scan switch (SCAN)

This switch is used for introduction playback for all music on the disc. When this switch is pressed while playback is being stopped, the leading part of each music track is played for ten seconds and this continues for all music on the disc. This stops after the leading part of the last music track has been played. During introduction playback, "SCAN" blinks in the display.

30. Recall switch (RECALL)

This switch is pressed to recall the track played back recently.

31. Display switch (DISPLAY)

This switch is used to adjust the brightness of the main unit display. Each time this switch is pressed, the brightness changes between three levels. (The lighting of the display does not turn off.)

32. A-B switch

This switch is used for the repeated playback of tracks on a disc within a specified range. In the middle of playback, the switch is pressed once where the range starts. Then, "A→" blinks in the display. When this switch is pressed again where the range stops, "A→B" lights up in the display, and repeated playback is performed within the range specified. When this switch is pressed again (for the third time) during the repeated playback, repeated playback is canceled and regular playback resumes.

The repeated playback is not functional while playback is being stopped

33. Repeat switch (REPEAT)

This switch is used for repeated playback of a specific track or disc. When this switch is pressed in the middle of playback, "REPEAT1" lights up in the display, and the music being played at that time is then played once more (again and again). When this switch is pressed again, "REPEAT" lights up in the display, and the entire disc is then played once more (again and again).

When this switch is pressed again (for the third time) in the middle of repeated playback, repeated playback is canceled and regular playback resumes.

The repeated playback is not functional while playback is being stopped

34. Random switch (RANDOM)

This switch replays the music track on a disc at random. When this switch is pressed, "SHUFFLE" lights up in the display and random playback starts. Playback is stopped after all music tracks are finished. When this switch is pressed again, regular playback resumes.

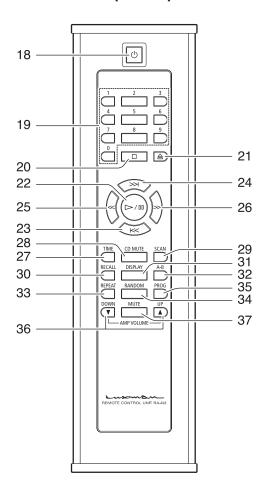
35. Program switch (PROGRAM)

This switch is used to replay the music tracks on a disc in your favorite order.

For detailed information about programming, refer to Page 13.

Names and Functions

Remote controller (RA-N3)



36. Amp volume switch (AMP VOLUME, UP, DOWN)

This switch is used to control the volume of the corresponding amplifier.

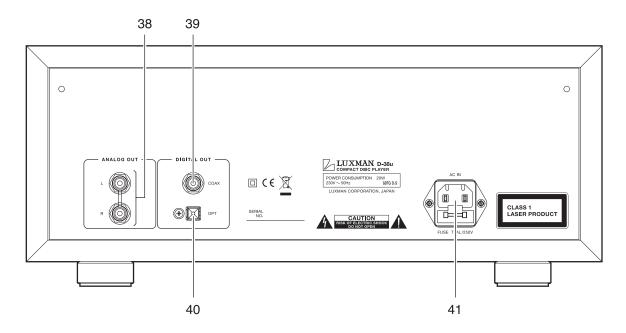
37. Mute (MUTE)

This switch is used to mute the corresponding amplifier. When this switch is pressed again, sound resumes.

As of October 2009, the AMP volume control with the aid of a remote control is applicable to the pre-main amplifier SQ-38u, SQ-N100.



Rear side of main unit



38. Analog output terminal (ANALOG OUT)

This output terminal generates audio output in analog mode. Connect these terminals to the unbalanced line input terminals of such device as a pre-main amplifier or pre-amplifier using RCA pin-plug cables.

39. Digital (coaxial) output terminal (DIGITAL OUT, COAX)

This output terminal generates digital audio output of the coaxial type. Connect this terminal to the coaxial digital input terminal of such device as a D/A converter or digital amplifier using a coaxial digital cable.

40. Digital (optical) output terminal (DIGITAL OUT, OPT)

This output terminal generates digital audio output of the optical type. Connect this terminal to the optical digital input terminal of such device as a D/A converter or digital amplifier using an optical digital cable.

This terminal has been covered with a protection cap at the factory. Before connection, remove the cap.

41. AC inlet (AC IN)

The accessory power cable is connected.

The power should be obtained from a 230 V AC outlet.

Connections

Before Connecting

Before connecting other devices, connect the jack side of the accessory power cable to the AC inlet (AC IN) of this unit.

Connecting the Power Supply

Use an accessory AC power cable and insert the AC plug in a 230 V AC outlet on the wall.

Connection to the amplifier (analog output)

Connect the analog output terminals to the line input terminals (CD, LINE, etc.) of the amplifier through two pin-plug cables of R and L.

At this moment, exercise extra care not to conduct wrong connection between the right and left (R, L) channels. If the right and left channels are connected reversely, the localization of sound images is deteriorated, thus failing in normal stereo playback. If the grounding of the pin-plug cables is inadequately connected, noises including hum may be generated, resulting in an adverse S/N ratio. Surely insert the connection plug.

Connection to the amplifier (digital output)

When connecting this terminal to such device as a D/A converter or digital amplifier that has a digital input terminal, use a coaxial digital cable or an optical digital cable.



To the digital input terminal of a D/A converter or digital amplifier

Operations

Before operation

- Confirm that the connections are correct. (Normal playback cannot be achieved in case of wrong connections in regard to R and L.)
- 2. Press the OPERATION switch.

Maintain the sound volume of the connected amplifier at the minimum level until the standby (stand by) indicator blinks and then turns off. When a stereo headphone is connected to the unit, turn down the sound volume of the headphone.

How to insert and play a compact disc (CD)

- 1. Press the open/close (A) switch to open the disc tray.
- 2. Put a compact disc (CD) on the tray according to the guide with the label facing upwards.
- 3. Press the open/close (A) switch to open the disc tray.
 - * When the compact disc (CD) is set, the disc information is read out and the total number of music tracks and the total playback time are displayed.

Regular playback

When the play switch (>>>) is pressed after disc insertion, playback starts with the first music track on the disc. After the last music track is played, playback stops automatically.

Program playback

Using a remote control, it is possible to play the music tracks on a disc in your favorite order.

- 1. When the program switch (PROG) is pressed during stoppage, "PROGRAM", "EDIT", and "00 P-00" is indicated in the display. The two-digit figure before "P" indicates the track being selected and the two-digit figure after "P" indicates the total number of music tracks already selected.
- 2. Press a numeric key (1 9, 0) to select music to program.
- 3. When the program switch (PROG) is pressed again, the selected music track and the order are saved and the programmed numeral is indicated in the display.
- 4. Repeat steps 2 3 to select another music track. A maximum of 30 music tracks can be programmed.
- 5. When the play switch (>>) is pressed, program playback starts in the programmed order.
- 6. When the "0" switch is pressed in the middle of editing, the contents are automatically deleted.
- 7. When the contents of editing have to be changed, press the program switch (PROG) for the required times while playback is stopped until already edited program is displayed. Editing is finished when the contents are changed and the program switch (PROG) is pressed.



Other playback methods

For playback methods other than the regular method, refer to the functional descriptions about the respective switches on pages 7 to 8.

Output selection

With the output selection switch (output), the analog output can be selected between the vacuum tube circuit and solidstate circuit according to your taste.

vacuum tube:

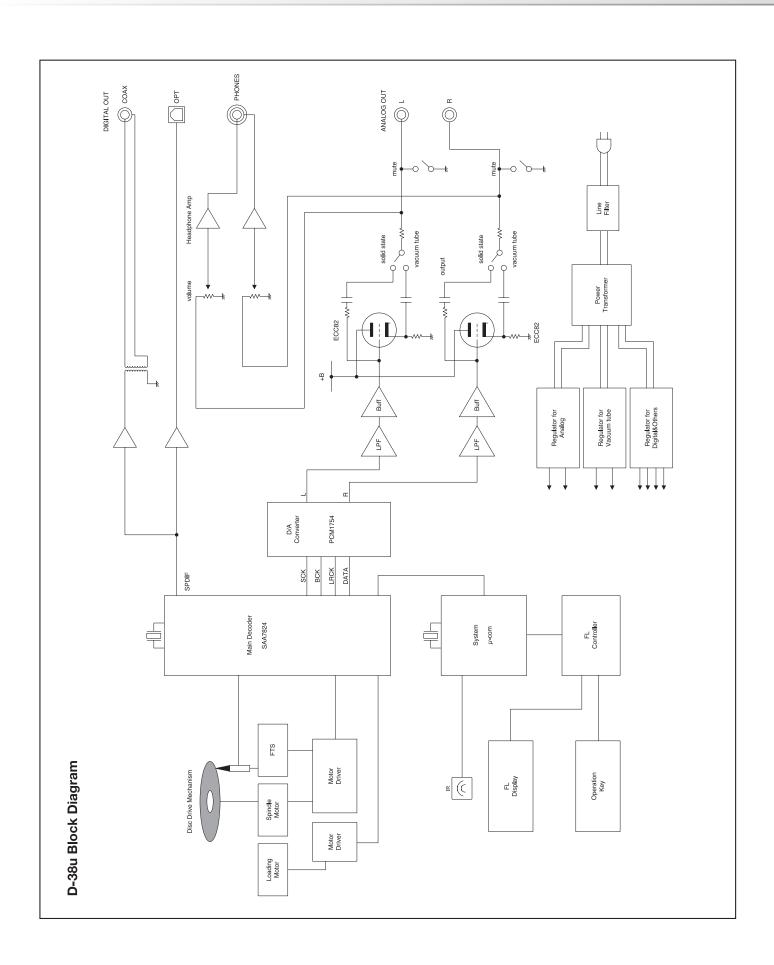
Select the output circuit that applies the ECC82 (12AU7) vacuum tubes for the output buffer.

solid state:

Select the output circuit that applies the solid-state IC amplifier for the output buffer.

Output selection is possible even during playback, but the selection at the beginning of a music track (when a track starts) is recommended to enjoy the difference in sound qualities of the two output circuits.

Block Diagram



Specifications



Applicable disk	Compact disc digital audio	
Number of quantization bits	16 bits	
Sampling frequency	44.1 kHz	
Number of channels	2 (stereo)	
Frequency response	4 Hz – 20 Hz	
Total harmonic distortion	0.004% or less (1 kHz)	
Dynamic range	95 dB or more	
S/N ratio	95 dB or more (IHF-A weighted)	
Analog output level	2.0 V	
Analog output	1 x Unbalanced (RCA) line, 1 x headphone line (Sound volume can be adjusted.)	
Digital output	1x optical (TOS-LINK), 1x coaxial (RCA)	
Vacuum tube used	x1 ECC82 (12AU7)	
Standard Accessories	 Remote controller (RA-N3) Power cable Terminal protection cap Owner's Manual Safety cautions 	
Power supply voltage	AC 230V (50Hz)	
Power consumption	20 W, 0.1 W (standby)	
Dimensions	400 x 168 x 280 mm (WxHxD) (terminals and knobs excluded from the dimension)	
Weight	9.0kg	

^{*} Specifications and appearance are subject to change without notice.

Before Asking for Repair Services

While the unit is used, an unusual phenomenon may be confused as a malfunction for a certain reason.

Prior to asking us for repair services, please check the table below and read the instruction manual for the subsidiary devices. If the cause of malfunction cannot be identified, please make queries to the purchasing store. When we have once accepted your request for repair services, inspection fees and traveling expenses may be claimed even though the unit is found to be normal.

Problem	Cause	Solution
Power is not turned on.	· The power plug is disconnected from the wall outlet, or it is not completely inserted.	· Insert the power plug in the wall outlet completely.
	The power plug is disconnected from the AC inlet, or it is not inserted completely.	· Insert the power plug in the AC inlet completely.
Playback cannot be performed, the sound skips, or the disc tray comes out.	· The compact disc is inserted backwards.	· Put the compact disc in the tray with the label facing upwards.
	· The disc is set in the disk tray incorrectly.	· Set the disc on the disc tray correctly.
	· The disc is dirty.	· Clean the disc to remove dirt.
	· The interior of this unit suffers from dew condensation.	· Remove dew condensation from the interior of this unit.
	· Vibration is applied to this unit.	· Be sure the unit is in an environment where it will not be exposed to vibration.
	· This unit is installed at an angle.	· Install this unit parallel to the ground.
Playback is possible, but no sound is generated from both right and left channels.	· The CD mute mode is on.	· Press the CD MUTE switch of the remote control to cancel the mute mode.
	The volume control knob of the amplifier is set at the minimum sound level.	· Turn the volume control of the amplifier clockwise to increase the sound volume.
	The input selector of the amplifier is not set in the playback source position.	· Set the input selector of the amplifier in the playback source position.
	· Cable connections are incomplete.	· Make cable connections correctly.
No sound comes out on one side.	· The connecting cable is not connected on one side only.	· Correctly connect the cable.
The remote control cannot be operated.	The remote control is operated deviating from the specified operating range.	· Operate the remote control within the speci- fied operating range.
	· The remote control battery has drained out.	· Replace the remote control battery with a new one.

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