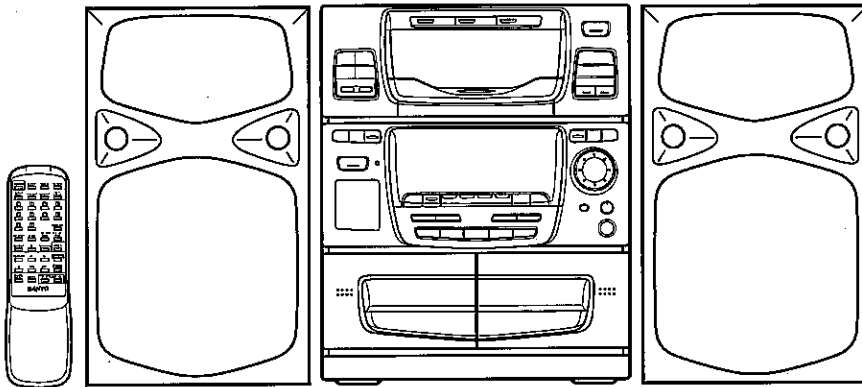


# SANYO

## INSTRUCTION MANUAL

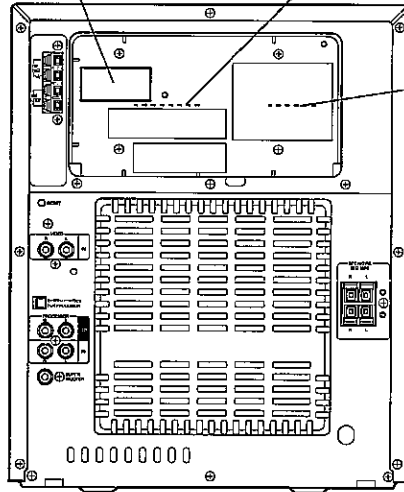
## DC-F400

### Mini Component System



CLASS 1 LASER PRODUCT  
LUOKAN 1 LASERLAITE  
KLASS 1 LASERAPPARAT

**CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.**  
**ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION, UNDGÅ UDSÆTTELSE FOR STRÅLING.**  
**VARNING – OSYNLIG LASER STRÅLNING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.**  
**VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITTS AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN.**  
**VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.**



**CAUTION - USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED IN THE OPERATING INSTRUCTIONS MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.**

**THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED PERSONNEL.**

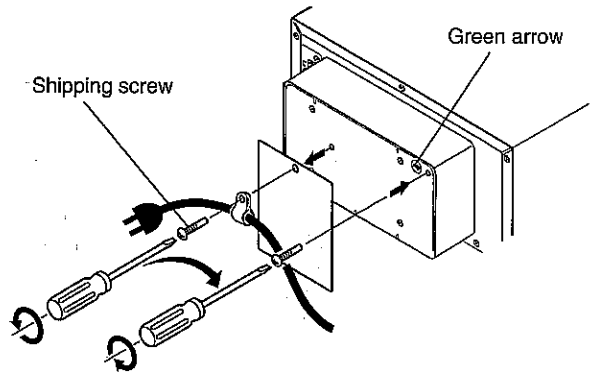
## PRECAUTIONS

- If water should enter the unit, electrical shock or malfunction may result. Always use it in a place where there is low humidity and little dust.
- Do not use where there are extremes of temperature (below 5°C or exceeding 35°C) or where direct sunlight may strike it.
- Because of the CD player's extremely low noise and wide dynamic range, there might be a tendency to set the volume on the amplifier unnecessarily high. Doing so may produce an excessively large output from the amplifier which could damage your speakers.
- Sudden changes in the ambient temperature may cause condensation to form on the optical lens inside the unit. If this happens, take out the disc, leave the unit for about 1 hour, and then proceed to operate.
- **When carrying the unit, be sure to remove any discs which may be inside and turn the power off. The STANDBY indicator lights. Then unplug the mains lead from the AC outlet. Carrying the unit with any discs inside may damage the discs and/or the unit.**
- The system's speakers use powerful magnets. Do not place timepieces, credit cards, cassette tapes or video tapes, etc. near the speakers.

Do not install this equipment in a confined space, such as a book case or built in cabinet.

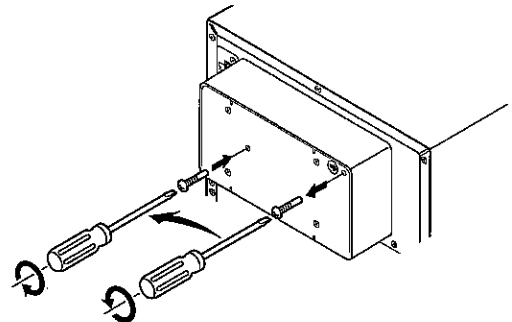
### Before use

Remove the shipping screw from the rear of the unit as shown in figure. This screw is used to secure the CD mechanism during shipment and should be retained for future use as shown in figure.



### Before transportation

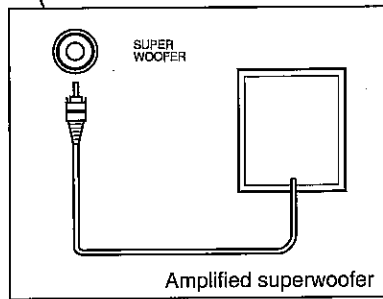
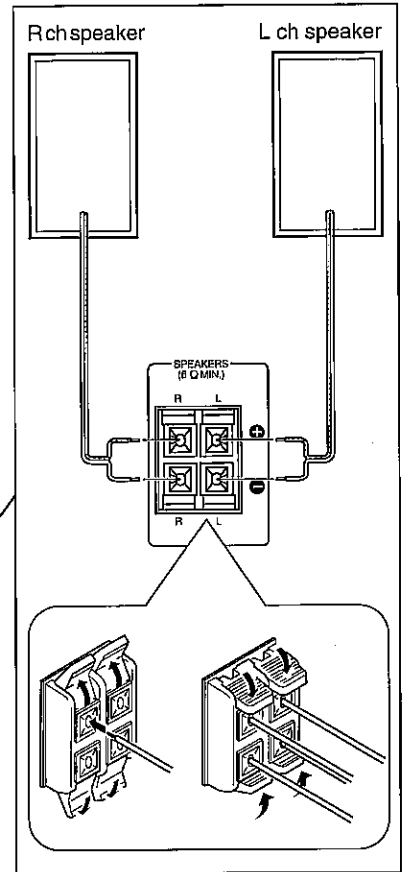
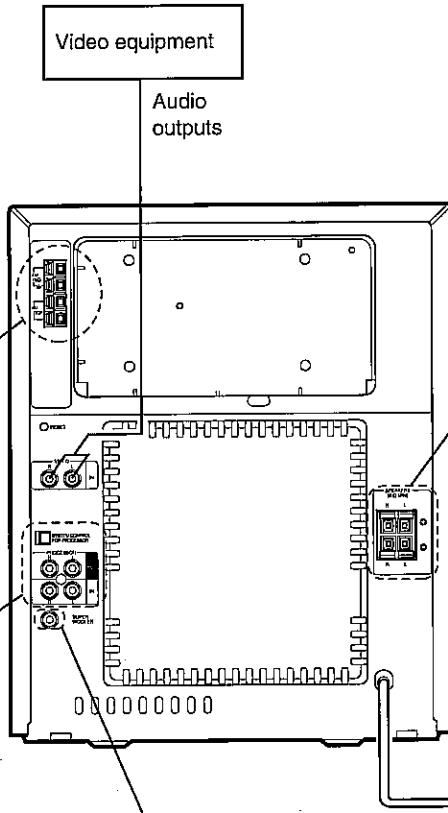
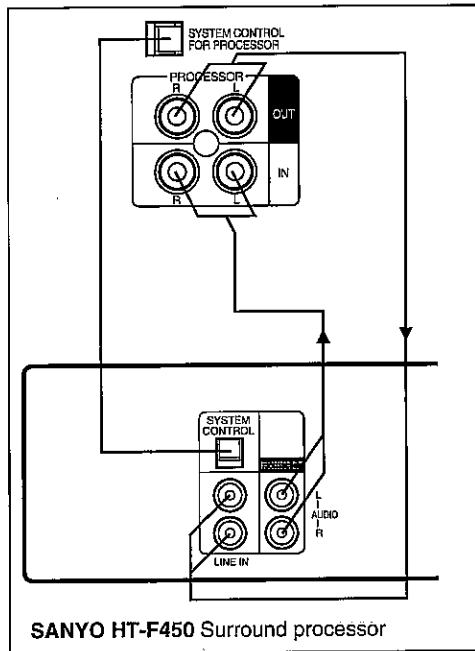
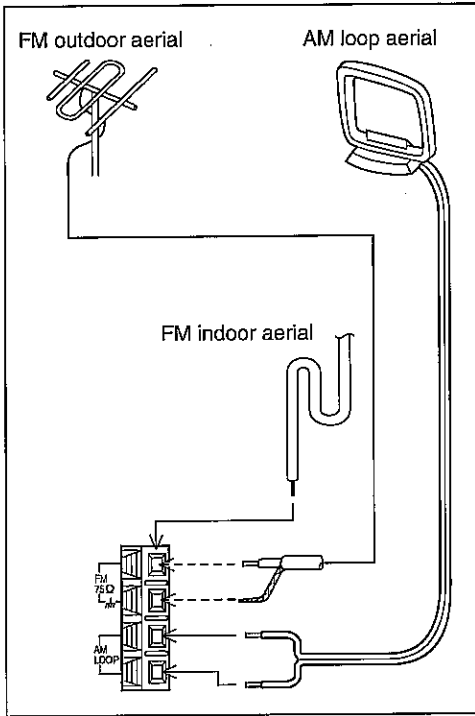
1. Turn on the power and remove all discs from the unit.
2. Turn the power off. The STANDBY indicator lights.
3. Then unplug the mains lead from the AC outlet.
4. Reinstall the shipping screw as shown in figure.



# CONNECTIONS

**Note:**

Do not connect the mains lead to an AC outlet until all connections have been made.



When the unit is first connected, the display switches automatically to the demonstration mode. To cancel this mode, turn the power on or press the DISPLAY button.

The system is not disconnected from the mains unless the mains lead is unplugged from the AC outlet.

**Speakers**

When connecting the speakers, make sure that (+) and (-) polarities are matched properly. Otherwise, the sound may appear to be lacking in the bass range and in stability.

Connect the speaker wire with the stripe to the red terminal (+) and the other wire to the black terminal (-).

Note:

If desired, the speaker grilles can be removed.

**FM aerial**

The FM indoor aerial is sufficient to receive most local FM broadcasts and should be connected to the FM 75 ohm terminal. Extend the aerial wire as straight as possible and, while listening to the sound from the system, secure it in a position which yields minimal distortion and noise.

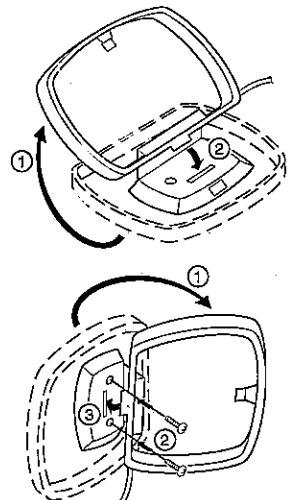
In fringe areas or where reception is distorted or noisy, an FM outdoor aerial (not supplied) should be connected instead of the indoor aerial. The terminals will accept 75-ohm coaxial cable. Consult your dealer.

**AM loop aerial**

Assemble the loop aerial as shown in figure. Unwind the aerial wires, then connect them to the AM LOOP terminals. Place the loop aerial in a position which yields the best AM reception, or attach it to a wall or other surface as shown in figure.

Note:

To minimize noise, the speaker, mains and any other leads should not come close to the FM indoor or outdoor aerial lead and AM loop aerial. Do not place the aerial leads close to the system.



Screws (not supplied)

## SANYO HT-F450 surround processor

Remove the two jumper pins between the "IN" and "OUT" PROCESSOR sockets.

Connect audio leads (not supplied) from the PROCESSOR OUT sockets of the HT-F450 surround processor to the "IN" PROCESSOR sockets. Connect audio leads from the LINE IN sockets of the HT-F450 to the "OUT" PROCESSOR sockets.

When not in use, keep the pins in the "IN" and "OUT" PROCESSOR sockets.

Refer to the instructions supplied with the HT-F450 for more details.

**For system control operation**, connect the system control lead (supplied with the HT-F450) from the SYSTEM CONTROL socket of the HT-F450 to the SYSTEM CONTROL FOR PROCESSOR socket.

### System control operation

The AC power to the connected HT-F450 is turned on and off with the POWER button on the DC-F400.

### IMPORTANT NOTE

In case of playing or recording the audio source from TV, VCR, Laser disc or others while using with HT-F450 surround processor;

#### For playing:

Select VIDEO function on the DC-F400.

#### For recording:

1. Do not connect any non-supplied audio leads to the HT-F450.
2. Connect audio leads (not supplied) from the audio output sockets of desired sets (recording source) to the VIDEO IN sockets of the DC-F400.
3. Select VIDEO function on the DC-F400.

Do not activate the **SRS** (Sound Retrieval System) on the DC-F400 while using with HT-F450 surround processor.

If you want to turn the **SRS** on, select the surround off mode on the HT-F450.

## Video equipment

Connect audio leads (not supplied) from the audio output sockets of a video equipment to the VIDEO IN sockets.

## Headphones

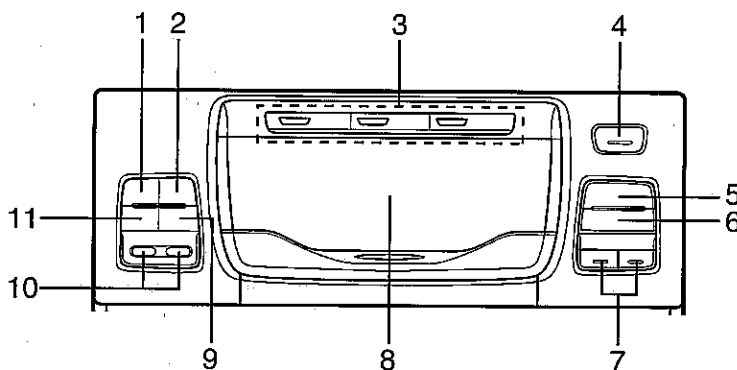
Connect stereo headphones (not supplied) to the PHONES socket for monitoring or for private listening. The speakers are automatically disconnected when headphones are connected.

## Super woofer

Connect an amplified superwoofer (not supplied) to the SUPER WOOFER socket.

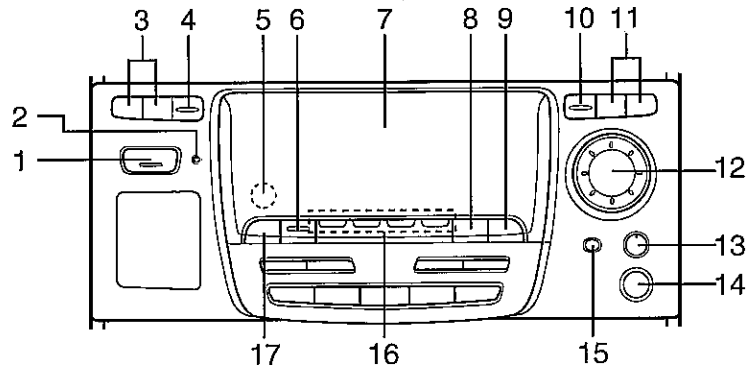
# CONTROLS

## CD player section



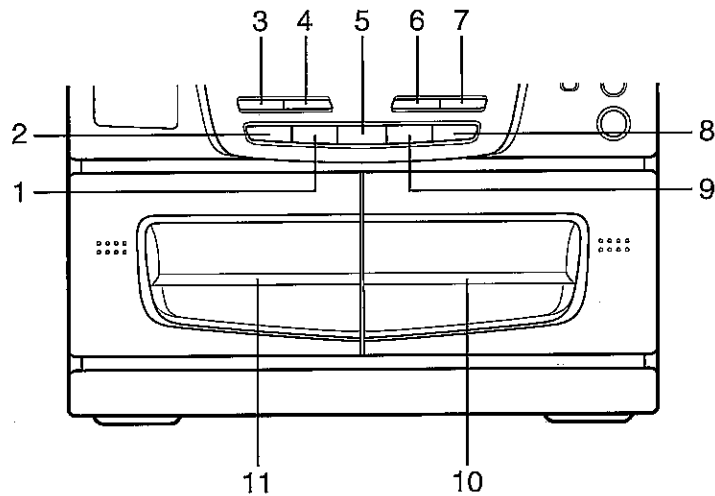
1. Repeat button (REPEAT)
2. Disc check button (DISC CHECK)
3. Disc select buttons/indicators (DISC 1/DISC 2/DISC 3)
4. Disc tray open/close button (OPEN/CLOSE)
5. Play/Pause button (▶/⏸ PLAY/PAUSE)
6. Stop button (■ STOP)
7. Skip/Search buttons (SKIP/SEARCH)
8. Disc trays (inside the door)
9. Edit button (EDIT)
10. Computer recording buttons/indicators (COMPUTER REC)
11. Memory button (MEMORY)  
(This button can also be used as a tuner memory button.)

## Tuner/Amplifier section



- |  |  |
|--|--|
| 1. Power button (POWER)  | 10. Tuner function/Band select button (TUNER/BAND) |
| 2. Standby indicator (STANDBY)                                     | 11. Preset tuning buttons (PRESET)                 |
| 3. Tuning buttons (TUNING)   | 12. Volume control (VOLUME)                        |
| 4. FM mode select button (FM MODE)                                 | 13. Space control (SPACE)                          |
| 5. Remote sensor (IR)  | 14. Headphones socket (PHONES)                     |
| 6. SRS (Sound Retrieval System) sound button/indicator (SRS SOUND) | 15. Display button (DISPLAY)                       |
| 7. Display   | 16. Function indicators (CD/TAPE/TUNER/VIDEO)      |
| 8. Function button (FUNCTION)                                      | 17. Sound preset button (SOUND PRESET)             |
| 9. Bass expander button (BASSXPANDER)                              |  |

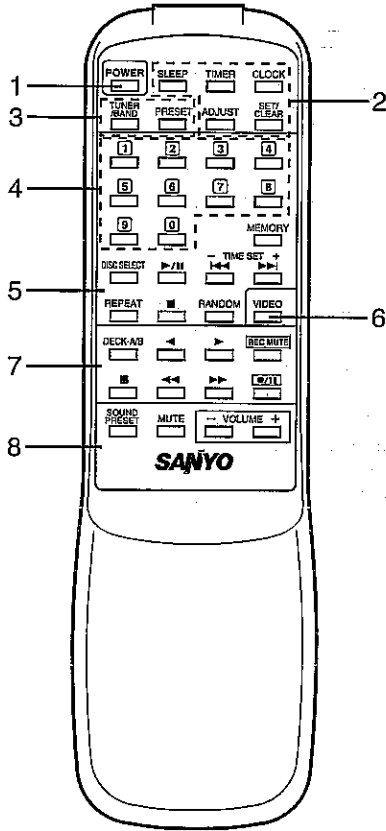
## Cassette deck section



- |  |                               |
|--|-------------------------------|
| 1. Reverse play button (◀)                   | 7. Dolby NR button (DOLBY NR) |
| 2. Fast wind button (◀◀)                     | 8. Fast wind button (▶▶)      |
| 3. Reverse mode select button (REVERSE MODE) | 9. Forward play button (▶)    |
| 4. Deck select button (DECK A/B)             | 10. Deck B cassette holder    |
| 5. Stop button (■)                           | 11. Deck A cassette holder    |
| 6. Record/Record pause button (REC PAUSE)    |                               |

# REMOTE CONTROL

## Controls



1. Power button (POWER)
2. Clock/Timer controls  
SLEEP: Sleep timer button  
TIMER: On/Off timer button  
CLOCK: Clock button  
ADJUST: Adjust button  
SET/CLEAR: Set/Clear button
3. Tuner controls  
TUNER/BAND: Tuner function/Band select button  
PRESET: Preset tuning up button
4. Number buttons (1 - 9, 0)
5. CD player controls  
MEMORY: Memory button  
DISC SELECT: Disc select button  
▶/||: Play/Pause button  
TIME SET/◀◀, ▶▶: Time set/Skip/Search buttons  
REPEAT: Repeat button  
■: Stop button  
RANDOM: Random play button
6. Video function button (VIDEO)
7. Deck controls  
DECK-A/B: Deck select button  
◀: Reverse play button  
▶: Forward play button  
REC MUTE: Record muting button  
■: Stop button  
◀◀, ▶▶: Fast wind buttons  
●/||: Record/Record pause button
8. Amplifier controls  
SOUND PRESET: Sound preset button  
MUTE: Audio muting button  
VOLUME: Volume buttons

## Number buttons (1 - 9, 0)

These buttons are used to select the track numbers on a disc or preset radio stations.

If the function is "CD", the buttons select the track numbers on a disc. If the function is "TUNER", the buttons select preset radio stations.

With any other function, the buttons will not function.

- Two buttons must always be pressed.

Example:

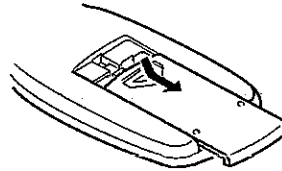
To select No. 3, press 0, then 3.

To select No. 10, press 1, then 0.

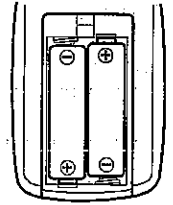
To select No. 25, press 2, then 5.

## Inserting batteries

1



2

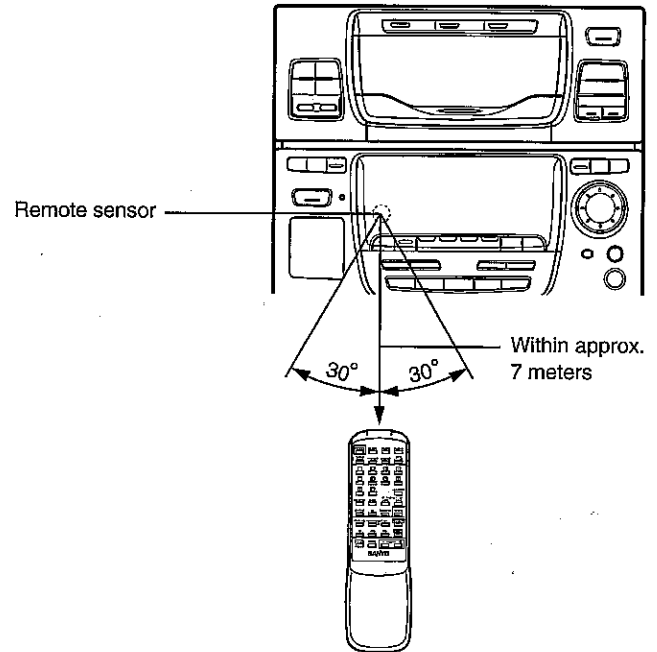


Two AA/SUM-3/R6 batteries  
(not supplied)

Note:

Always remove batteries if the remote control is not to be used for a month or more. Batteries left in the unit may leak and cause damage.

## Remote control range



The buttons on the remote control perform similar functions to similarly marked buttons on the front panel. See "REMOTE CONTROL OPERATION" for more details.

# ADJUSTING THE CLOCK (Using the remote control)

Example: To set "PM 6:30",

1. Press the CLOCK button. The clock display appears.
  - After connecting the mains lead for the first time, when you press the CLOCK button, the clock display blinks.
2. Press the ADJUST button within 10 seconds.

AM 12:00

The hours display blinks.

3. Press the + or - TIME SET button to set the "hours."

PM 6:00

4. Press the ADJUST button.

PM 6:00

The minutes display blinks.

5. Press the + or - TIME SET button to set the "minutes."

PM 6:30

6. Press the ADJUST button. The clock starts.

PM 6:30

- The time can be set accurately by pressing the ADJUST button when a time signal is heard.
- These operations can be done, even if in standby.
- To display the clock during operation, press the CLOCK button. Press it again to return to the original display.
- When the display blinks because of a power failure, reset the time.

# BEFORE OPERATION

## Turning the power on and off

Press the POWER button. The indicators and displays light and the STANDBY indicator goes out. (After connecting the mains lead, when you press the POWER button for the first time, the volume reset feature automatically sets the initial volume level.)

To turn off the power, press the POWER button again. The STANDBY indicator lights. The clock display remains lit.

- When the mains lead is connected to the AC outlet, the STANDBY indicator lights and the unit will respond to commands from the remote control.

## Smart start function

If the following buttons are pressed when the unit is in standby, the unit turns on automatically and the selected function is set.

CD player section	▶/   PLAY/PAUSE, DISC 1, DISC 2, DISC 3, OPEN/CLOSE
Tuner section	TUNER/BAND
Cassette section	▶, ◀

## Selecting the function

Press the FUNCTION button to select the desired function. The selected function indicator lights in red.

The function is automatically selected when CD play or tape playback is started, or when the TUNER/BAND button has been pressed (except during recording or tape dubbing).

- When the function selection is changed, CD play or tape playback is automatically stopped.

## Adjusting the volume

Turn the VOLUME control, or press the + or - VOLUME button on the remote control.

The display shows the current volume level in "dB" for approximately 2 seconds. The displayed digital reading changes in 2dB steps as shown below:

"VOL --- dB (minimum)" → "VOL - 78dB" → "VOL - 76dB" → "VOL - 74dB" ... → "VOL - 2dB" → "VOL 0dB (maximum)"

## To reduce the volume temporarily (muting)

Press the MUTE button on the remote control. "MUTE" blinks on the display.

To restore the previous volume setting, press the MUTE button again. "MUTE" disappears.

## Bass expander system

Press the BASSXPANDER button to enhance the bass sound. "BASS" appears on the display.

- The initial setting of this function is ON.

## Selecting the sound mode

Press the SOUND PRESET button to select the sound mode matching the music to be listened to.

- POP: Pops, etc.
- ROCK: Rock music, etc.
- CLASSIC: Classical music, etc.
- JAZZ: Jazz, etc.

## Spectrum analyzer

Indicates the input level and peak value of each sound range.

## Demonstration mode

If the DISPLAY button is pressed, the display enters the demonstration mode. The following display modes will sequentially appear.

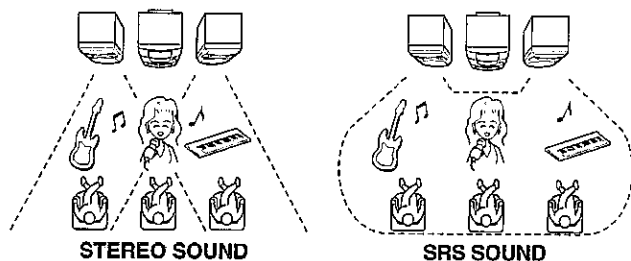


To cancel this mode, press the DISPLAY button again.

## What is SRS (SOUND)?

**SRS (SOUND)**, the Sound Retrieval System, replaces stereo as the method of accurately reproducing sound and is rapidly becoming the standard for 3-D audio technology. It creates a three-dimensional sound image from any audio source with only two conventional stereo speakers. Whether the signal is stereo or surround sound encoded, **SRS (SOUND)** expands the material and immerses the listener in three-dimensional sound.

**SRS (SOUND)** differs from stereo and traditional sound expansion techniques because it is based on the human hearing system. It retrieves the spatial information from recordings and restores the original three-dimensional sound field. As a result, the reproduced sound is much closer to a live performance. Like live performances, **SRS (SOUND)** has no critical listening position (sweet spot). Listeners can move around the room and continue to be immersed in full three-dimensional sound.



**SRS**, the SRS symbol "SOUND" and "Sound Retrieval System" are registered trademarks of SRS Labs, Inc. in the U.S. and selected countries.

**SRS** (Sound Retrieval System) technology is manufactured under license from SRS Labs, Inc.

**SRS** (Sound Retrieval System) technology is protected by USA patents 4,748,669 and 4,841,572 and additional patents worldwide.

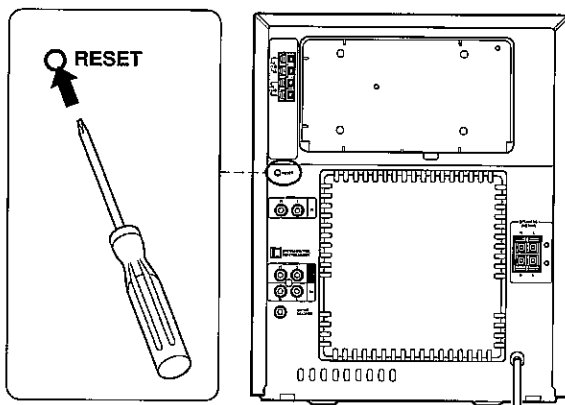
## To activate the SRS (Sound Retrieval System)

Press the SRS SOUND button. The SRS SOUND indicator lights. Adjust the sound space with the SPACE control.

- The SPACE control will function only while the **SRS** is activated.
- The **SRS** will not activate with monaural sources.

## WHAT TO DO IF ...

If the operation of the unit or display is not normal or when all the memory contents are to be cleared, disconnect the mains lead from the AC outlet, then press the RESET button (rear of the unit) for 30 seconds or more.





# CD PLAY

Use compact discs bearing the symbol shown below. In addition to conventional 12 cm CDs, this system can be used to play 8 cm CDs without an adapter.

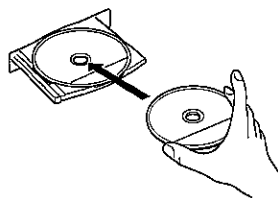


## Note:

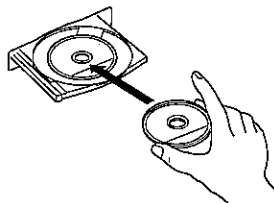
- Do not touch the disc tray while it is moving.
- Never place anything except a compact disc on the disc tray. Foreign objects can damage the unit.
- Do not apply excessive force to the disc tray.
- Discs must be placed on the disc tray one at a time.

If discs are loaded, you can turn the unit on and begin play immediately by pressing the ►/|| PLAY/PAUSE, DISC 1, DISC 2 or DISC 3 button.

1. Select "CD" function by pressing the FUNCTION button. "CD" appears on the display, then "CD" is replaced by "DISC". "1" disc number blinks.
2. Press one of the disc select buttons (DISC 1, DISC 2 or DISC 3), then press the OPEN/CLOSE button.
  - If the changer mechanism has detected "no disc" for the disc select button pressed, the tray slides out automatically. The selected disc tray slides out. "OPEN" appears and the selected disc number blinks on the display.
3. Place the disc with the label facing up on the disc tray.

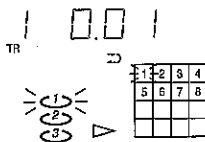


For 12 cm CD



For 8 cm CD

4. Press the OPEN/CLOSE button again to close the disc tray.  
Note:  
To open or close the disc tray, be sure to use the OPEN/CLOSE button. Do not touch the disc tray by hand.
5. Repeat steps 2 - 4 to load another disc.
6. Press one of the disc select buttons (DISC 1, DISC 2 or DISC 3). The selected disc indicator blinks.



"▷" appears, and play starts from the first track of the selected disc. The track number and elapsed playing time for the current track are displayed.

Also, the whole track numbers (up to track 16) on the disc are displayed on the music calendar.

- When playing tracks numbered 17 or higher, no track number appears on the music calendar.
- If the desired disc number has been selected, the ►/|| PLAY/PAUSE button can also be used to start play.

## Note:

If the disc is loaded with the label facing downward, or if a badly scratched disc is loaded, "NO DISC" appears on the display. If this occurs, load the disc correctly or replace the damaged disc.

7. Press the ■ STOP button to end disc play.  
When the last track of the last disc has been played, the player stops automatically.
  - When the OPEN/CLOSE button is pressed during play, play will stop and the disc tray will slide out.

## Ejecting or replacing discs

1. While in the CD play or stop mode, press one of the disc select buttons to be ejected, then press the OPEN/CLOSE button.
  - While the player is playing one disc, you can eject or replace another disc without stopping play.
2. Remove or replace the disc.
3. Press the OPEN/CLOSE button.

## Notes on handling compact discs

- Do not expose the disc to direct sunlight, high humidity or high temperatures for extended periods of time.
- Discs should be returned to their cases after use.
- Do not apply paper or write anything on the disc surface.
- Handle the disc by its edge. Do not touch the playing surface (glossy side).
- Fingerprints and dust should be carefully wiped off the playing surface of the disc with a soft cloth.  
Wipe in a straight motion from the centre to the outside of the disc.
- Never use chemicals such as record cleaning sprays, antistatic sprays or fluids, benzene or thinner to clean compact discs.

## To start play from the desired track

### Using the remote control

1. Select the desired disc by pressing the DISC SELECT button, then press the ■ button.
2. Press two number buttons to select the desired track.

### Using the main unit

1. Press the desired DISC button, then press the ■ STOP button.
2. Select the desired track by using the SKIP/SEARCH buttons, then press the ►/|| PLAY/PAUSE button.

## Temporarily stopping play

Press the ►/|| PLAY/PAUSE button. "▷" blinks on the display. To resume play, press the button again.

## Skip play

To skip to track 6 while track 3 is playing, press the ►►/►► SKIP/SEARCH button repeatedly until "6" appears in TRACK on the display. To skip back to track 3 while track 6 is playing, press the ◀◀/◀◀ SKIP/SEARCH button repeatedly until "3" appears.

- The number buttons on the remote control can also be used for skip play. To skip to track 6 while one track is playing, press 0, then 6.

## Search (forward/reverse)

If the ►►/►► or ◀◀/◀◀ SKIP/SEARCH button is pressed during play, the player will search at high speed in the forward or reverse direction while the button is being pressed. When the button is released, normal play will continue.

## Random play

Press the RANDOM button on the remote control to begin random play. The player will automatically select and play discs and tracks at random. "RANDOM" appears on the display.

- Random play will not function during programmed play.

## Repeat play

Press the REPEAT button repeatedly to select the desired repeat mode in the following sequence. The selected repeat mode is shown on the display.

- REPEAT ONE: Repeat one track.
- REPEAT ALL: Repeat all tracks on the selected disc.
- REPEAT CONT: Repeat all tracks on all discs.
- Released: Normal play mode

## Note:

During programmed play, "REPEAT CONT" can not be selected.

## Disc check

Press the DISC CHECK button to play the first 10 seconds of the first track of each disc. "▷" and "DISC CH" appear, and the disc number blinks on the display.

- Press the ■ STOP button to stop disc check.
- Disc check will not function during random play or programmed play.

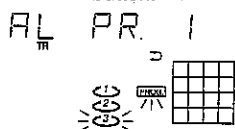
## PROGRAMMED PLAY

Up to 32 selections, from up to 3 discs, can be programmed for play in any order.

- To begin the programming procedure, select "CD" function first.
- The discs or tracks must be programmed in the stop mode.
- The same disc or track can be programmed more than once.

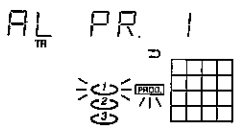
Follow the example below to programme tracks 6 and 2 on DISC 1 and all tracks on DISC 3. In this example, each disc has 9 tracks and DISC 3 is in playing position.

1. Press the MEMORY button.



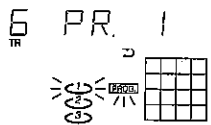
2. Select disc 1 by pressing the DISC 1 button.

- The DISC SELECT button on the remote control can also be used.

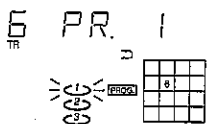


3. Select track 6 by pressing the ►►/►► SKIP/SEARCH button.

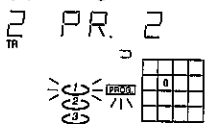
- The number buttons on the remote control can also be used.



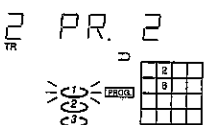
4. Press the MEMORY button.



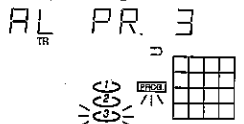
5. Select track 2 by pressing the ◀◀/◀◀ SKIP/SEARCH button.



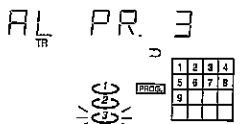
6. Press the MEMORY button.



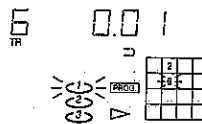
7. Select disc 3 by pressing the DISC 3 button.



8. Press the MEMORY button.



9. Press the ►/|| PLAY/PAUSE button to start play.



When all programmed selections have been played, the player stops automatically. "0 0.00" appears on the display.

- The programme contents are retained in memory.
- Any attempt to programme more than 32 selections will result in "FULL" being displayed and discontinuation of the programming.
- If a non-existent disc or track number is programmed, that disc or track will be skipped during play.
- The programme is cleared when the ■ STOP button is pressed in the stop mode.

## Checking the programme

Each time the MEMORY button is pressed in the stop mode, the programmed details sequentially appear on the display.

## Changing a programme

**To add a new selection to a programme:**

1. In the stop mode, press the MEMORY button repeatedly until "- - -" is displayed.
2. Select a disc and track number as explained above.
3. Press the MEMORY button.

**To change a selection:**

1. In the stop mode, press the MEMORY button repeatedly until the selection to be replaced is displayed.
2. Select a disc and track number as explained above.
3. Press the MEMORY button.

Note:

Programmed details cannot be partially deleted or inserted.

## WHAT TO DO IF ...

If the operation of the unit or display is not normal, even though the appropriate buttons have been pressed.

1. Disconnect the mains lead.
2. Press the RESET button (rear of the unit) for 30 seconds or more.
3. Connect the mains lead.
4. Press the POWER button to turn the power on.
5. Press the desired function button.

Note:

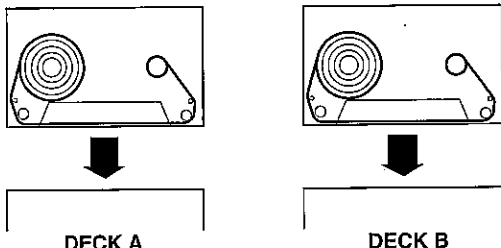
If the unit does not operate correctly, please contact your nearest SANYO Authorized Service Centre.

# LISTENING TO TAPES

Deck A is for playback only; deck B is for both playback and recording.

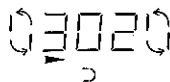
If a cassette is loaded, you can turn the unit on and begin play immediately by pressing the ► or ◀ button.

1. Select "TAPE". "TAPE" appears on the display, then "TAPE" is replaced by the tape mode display.
2. Press the cassette holder (EJECT portion) to open it.
3. Load the cassette(s).



After loading the cassette(s), push the cassette holder (EJECT portion) back into position. "A" or "B" appears on the display.

4. Set the DOLBY NR button according to whether the tape has been recorded with the Dolby NR system or not.  
With Dolby NR ..... "□□ B NR" appears  
Without Dolby NR ..... "□□ B NR" disappears
5. Select deck A or deck B by pressing the DECK A/B button if required. (If only one cassette is loaded, deck A or deck B will be selected automatically.)
6. Select the reverse mode with the REVERSE MODE button as desired.
7. Press the ► or ◀ button to begin playback. "►" or "◀" appears on the display.  
► : For forward play  
◀ : For reverse play



8. Press the ■ button to stop playback at any time.  
When the end of the tape has been reached, automatic stop or reverse will be activated.

## Types of usable tapes

The type of tape used is automatically identified by the system since decks A and B both employ an auto tape selection system. The following types of tape can be used with this system.

- Normal
- CrO<sub>2</sub>
- Metal (Only for playback)

Note:

- CrO<sub>2</sub>/Metal tapes without sensing holes cannot be used since they cannot be identified by the auto tape selector.
- Endless tapes cannot be used.
- Do not use C-120 tapes. They may jam in the mechanism.

## Auto reverse

Press the REVERSE MODE button to select the reverse mode as desired.

⏮ :

For listening to one side of the tape only.

⏪ :

For listening to both sides of the tape in succession.

- If playback has been started from the reverse side, only the reverse side will be played back.

⏩ :

For listening repeatedly to both sides of the tape.

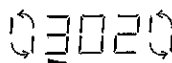
## Fast forward and rewind

Press the ►► or ◀◀ button. "►►" or "◀◀" blinks.

When the tape has been wound to the end, the deck stops automatically.

## Tape counter

Each deck has a counter. The counter of the selected deck appears on the display and helps you to quickly locate the recorded selection for playback.



Both sides of the counter indicate tape movement with rotating graphic displays.

## To reset the tape counter to "000"

In the stop mode, press the DECK A/B button to select the counter to be reset, then press the ■ button.

- When the tape is automatically rewound during CD computer recording or tape computer dubbing, the counter automatically resets to "000".

## Relay playback

1. Load the cassettes into both decks.
2. Set the REVERSE MODE button to ⏪.
3. Select deck A or deck B by pressing the DECK A/B button if required.
4. Press the ► or ◀ button.

DECK A (forward → reverse) → DECK B (forward → reverse).  
DECK A reverse → DECK B (forward → reverse).  
DECK B (forward → reverse) → DECK A (forward → reverse).  
DECK B reverse → DECK A (forward → reverse).

## Dolby NR system

Dolby Noise Reduction circuitry provides superior recording and playback results by suppressing tape hiss by up to 10 dB.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"DOLBY" and the double-D symbol □□ are trademarks of Dolby Laboratories Licensing Corporation.

# LISTENING TO THE RADIO

To turn the unit on and listen to the last received station, press the TUNER/BAND button.

## Automatic/Manual tuning

- Press the TUNER/BAND button to select FM or AM.
  - "TUNER" is selected automatically. "TUNER" appears on the display, then "TUNER" is replaced by the tuner mode display.
- Automatic tuning**  
Press the + or - TUNING button (more than 0.7 seconds) to tune in a station. The unit will scan up or down the band and receive the next receivable station. Press the button again to continue.

### Manual tuning

Press the + or - TUNING button briefly (less than 0.7 seconds) until the desired frequency is displayed. Each time the button is pressed, the frequency changes in 0.05 MHz steps for FM and 9 kHz steps for AM.

FM 103.25 MHz

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

## To preset stations

Up to 36 stations for FM band, and up to 12 stations for AM band can be preset.

### Automatic presetting (APT)

- Press the TUNER/BAND button to select FM or AM.
- Press and hold down the MEMORY button for at least 3 seconds. "PROG." blinks.

The automatic tuning mode is set and automatic presetting begins from the low end of the band.

When 36 stations for FM (12 stations for AM) have been preset or the high end of the band is reached, automatic presetting stops. "PROG." disappears and the station memorized on channel number 1 will be heard.

- To preset stations on the other band, follow steps above.

### Note:

If APT is activated, all previously programmed stations of the band will be cleared and new stations will be programmed.

### Manual presetting

- Tune in the station to be preset as described in "Automatic/Manual tuning".
- Press the MEMORY button.

-- 103.25 MHz

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

- Press the + or - PRESET button to select the channel number to be preset.

9 103.25 MHz

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

- Press the MEMORY button.
  - In this example, "103.25 MHz" FM station is preset on FM channel number 9.

- The number buttons on the remote control can be used to select the preset station. In this example, press 0, then 9 after the step 2 above.

FM 103.25 MHz

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

### Note:

If the next step is not taken within 10 seconds while performing steps 2 - 4, "PROG." disappears and the preset operation is cancelled. Press the MEMORY button to continue.

- Repeat the steps above to add more preset stations.

- When presetting a new station, the previously preset station on the same channel number of the same band is cleared.

- The preset stations will be retained in the memory even if the unit is turned off.

If the memory contents are lost due to a power failure or other condition, preset the stations again.

## Listening to preset stations

- Press the TUNER/BAND button to select FM or AM.
- Press the + or - PRESET button (less than 0.7 seconds) to select the desired channel number. The selected channel number blinks on the display.

- The number buttons on the remote control can also be used. Press two number buttons within 4 seconds.

### Preset scan tuning

- Press the TUNER/BAND button to select FM or AM.
- Press the + PRESET button (more than 0.7 seconds). The channel number blinks on the display. Each of the preset stations is tuned in for 5 seconds.
- When the desired station has been tuned in, press the + PRESET button again to keep the reception locked at that station.

- To receive an FM stereo broadcast, make sure that "MONO" is not displayed. If "MONO" appears, press the FM MODE button to turn the "MONO" indication off.

"ST" appears when an FM stereo broadcast is received.

- If the signal from an FM stereo station is weak and reception is poor, press the FM MODE button to change to monaural reception. ("ST" is replaced by "MONO" in the display.)

### When beat interference is heard

A high-pitched noise called "beat" is sometimes heard during reception of radio broadcasts.

If this occurs,

- Press the MEMORY button.
- While "PROG." is blinking, press the  $\leftarrow$  SKIP/SEARCH button to select "bc-A" or "bc-B". Select the setting that gives the best results.

### Changing the AM reception frequencies

It is not necessary to perform this procedure in the Australia and New Zealand.

- Press the TUNER/BAND button to select "AM".
- While pressing the MEMORY button on the front panel, press the  $\blacksquare$  STOP button (CD section) on the front panel.

522 - 1710 kHz (9 kHz steps)  $\longleftrightarrow$  520 - 1710 kHz (10 kHz steps)

# LISTENING TO VIDEO SOURCES

- Select "VIDEO". "VIDEO" appears on the display.

- Follow the instructions supplied with the video equipment.

# BEFORE RECORDING AND DUBBING

Recording copyright material without permission of the copyright owners is usually an infringement. If you wish to re-record copyright material, permission from the copyright owner is necessary. SANYO does not approve of, and cannot be held responsible for, any unlawful use of this machine.

Use deck B for recording.

1. Press the cassette holder (EJECT portion) to open it and load the cassette for recording.
2. Set the DOLBY NR button to ON or OFF as desired.  
Dolby NR ON ..... "DOLBY NR" appears  
Dolby NR OFF ..... "DOLBY NR" disappears
3. Set the reverse mode with the REVERSE MODE button.  
⏮ :  
For recording one side only.  
⏪ :  
For recording both sides in succession.
  - If recording has been started from the reverse side, only the reverse side will be recorded.
  - If a tape with one of its tabs already broken out is used for recording, the tape will not be reversed automatically, and it will stop.
  - If the REC PAUSE or COMPUTER REC button is pressed while the ⏮ mode is selected, the ⏪ is selected automatically.

Recording will start in the forward direction under the following conditions:

- When CD computer recording is used
- When tape computer dubbing is used
- When using the timer for unattended recording

## Automatic record muting

Undesirable parts of a programme can be omitted while recording. Press the REC MUTE button on the remote control once while recording. "REC" blinks on the display and a 5-second unrecorded blank space is created, then the cassette deck enters the record pause mode. "REC" remains lit and "▶" or "◀" blinks on the display.

- To add another 5-second blank space, press the REC MUTE button again.
- To resume recording, press the ▶ or ◀ button corresponding to the "▶" or "◀" indicator that is blinking.

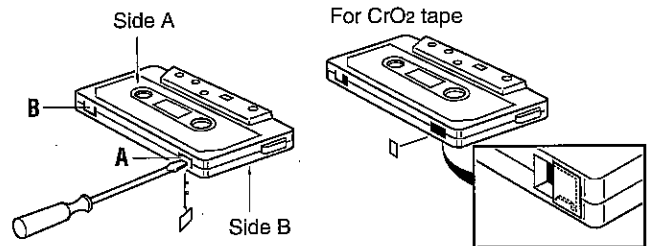
Note:

The record muting function does not operate during CD computer recording or tape computer dubbing.

## Accidental erasure prevention tabs (for protecting valuable recordings)

Accidental erasure can be prevented by breaking out the tabs on the end of the cassette tape (where the tape is not exposed) using a screwdriver or similar implement.

If a tab is broken out in error and you wish to re-record the tape, simply block the tab hole using adhesive tape and the tape can be used for recording again.



Break out tab A for side A.  
Break out tab B for side B.

# RECORDING

## RECORDING COMPACT DISCS

### Computer recording

With computer recording, you can record a CD onto a cassette by pressing just one button.

1. Load the disc(s) to be recorded.
2. Load a blank cassette into deck B.
3. Select "CD" function.
  - For programmed recording from up to 3 discs, programme the material in advance (as described under "PROGRAMMED PLAY").
4. Press the disc select button (DISC 1, DISC 2 or DISC 3) to select the disc to be recorded first, then press the ■ STOP button.
  - For programmed recording, this step is unnecessary.
5. Select "↔" reverse mode.
6. Press the HIGH or NORMAL COMPUTER REC button.  
HIGH: For high speed recording. The HIGH indicator blinks.  
NORMAL: For normal speed recording. The NORMAL indicator blinks.

The system automatically performs the following functions:

Deck B:

- The tape rewinds to the beginning.
- Recording starts.

CD player:

- The player searches for the first track to be recorded, then enters the pause mode.
- CD play starts.

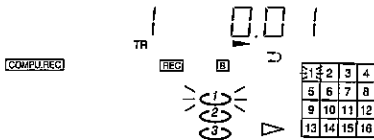
#### Manual edit recording

Recording starts without rewinding the tape initially.

Press the EDIT button to turn the "MANUAL" indication on before proceeding to step 6.

- To cancel this mode, press the button again. "MANUAL" disappears.
- After loading the cassette, the tape must be wound to the point where you would like to start recording.

The selected disc indicator blinks. "COMPU. REC", "REC", "▶" and "▷" appear on the display as recording begins.



If the tape reverses from side A to B while a track is still playing, the player enters the pause mode at the beginning of the track that was playing. This track will be recorded at the beginning of side B.

When the end of the tape (side B) is reached, the CD player and deck B stop automatically.

- If the last track on the CD plays completely before the end of the tape, disc play stops automatically. Deck B also stops.

Note:

- Recording starts automatically after 4 seconds for high speed recording or 8 seconds for normal speed recording, so the recording will not be interrupted by the leader tape at the beginning of sides A and B.
- A 5-second blank space is automatically recorded at the end of each track.
- To stop computer recording at any time, press the ■ STOP button on the CD player or the ■ button on the deck. The CD player and deck B will stop.
- When CD computer recording is used, repeat play mode is cancelled automatically.
- When high speed CD computer recording is used, Dolby NR recording mode is cancelled automatically.
- During high speed recording, normal monitoring is not possible.
- When a CD of inferior quality is recorded into a tape with high speed recording and reproduced, it may accompany some noise. In this case, use normal speed recording.

### Manual recording

1. Follow the steps 1 - 3 under "Computer recording" above.
  - If required, press the disc select button (DISC 1, DISC 2 or DISC 3) to select the disc, then press the ■ STOP button. Select the track number to be recorded.
2. Press the REC PAUSE button. Deck B enters the record pause mode. "REC" appears and "◀▶" blinks on the display.
3. Press the ▶ or ◀ button. "▶" or "◀" remains lit and recording starts.
4. To stop recording, press the ■ button on the deck.

When the end of the tape is reached, the CD player and deck B stop automatically.

## RECORDING FROM THE TUNER OR VIDEO INPUT

1. Load a blank cassette into deck B.
2. Tune in the radio station to be recorded, or play a video cassette or video disc.
3. Press the REC PAUSE button. Deck B enters the record pause mode.
4. Press the ▶ or ◀ button. Recording starts.
5. Press the REC PAUSE button to temporarily stop recording. To resume recording, press the ▶ or ◀ button corresponding to the "▶" or "◀" indicator that is blinking.
6. Press the ■ button to stop recording.

#### When beat interference is heard

A high-pitched noise called "beat" is sometimes heard during the recording of radio broadcasts.

If this occurs,

1. Press the MEMORY button.
2. While "PROG." is blinking, press the ▶▶/▶▶ SKIP/SEARCH button to select "bc-1" or "bc-2". Select the setting that gives the best results.

# TAPE DUBBING (Deck A to Deck B)

Load the cassette to be played back into deck A and a blank cassette into deck B.

## Computer dubbing

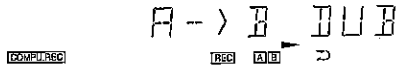
- Use the same length cassettes in both decks for the computer dubbing operation.

1. Select "TAPE" function.
2. Select "↶" reverse mode.
3. Press the HIGH or NORMAL COMPUTER REC button.  
HIGH: For high speed dubbing. The HIGH indicator blinks.  
For dubbing the tape at high speed (twice normal speed).  
NORMAL: For normal speed dubbing. The NORMAL indicator blinks.  
For dubbing while monitoring at normal speed.

The system performs the steps below and automatically starts deck A playback and deck B recording.

- 1) Deck A: Tape rewinds.
- 2) Deck B: Tape rewinds.
- 3) Deck B: Erases the first few seconds of the tape.

"COMPU. REC", "A - B DUB", "REC", "A", "B" and "▶" appear on the display as dubbing begins.



- Press the ■ button to stop dubbing at any time. The tape will not stop during computer dubbing if the REC PAUSE button is pressed.
- During high-speed dubbing, normal monitoring is not possible.
- Computer dubbing must start from the beginning of the tape. To start dubbing from a position in the middle of the tape, use manual dubbing.

## Manual dubbing

1. Select "TAPE" function.
2. Select "↶" reverse mode.
3. Deck B: Locate the tape position where recording will begin.
4. Deck A: Select ▶ or ◀ (to match deck B), then locate the selection of the tape to be dubbed.
5. Press the REC PAUSE button. "REC" and "B" appear, and "◀▶" blinks on the display.
6. Press the ▶ or ◀ button (to match the same direction in the steps 3 and 4 above). "A" appears and "▶" or "◀" remains lit. Manual dubbing starts.
  - Both decks run in the same direction.
7. Press the ■ button to stop dubbing.

## Automatic stop during tape dubbing

If deck A or deck B stops automatically, the other deck will also stop.

- During tape dubbing, the DOLBY NR button has no effect on the copied tape. If the tape to be copied is encoded with Dolby NR, the copy will be Dolby NR encoded automatically.

# TIMER OPERATION (Using the remote control)

## Using the on/off timer

Set the on and off times, function to be used and volume level. Operation will start with the selected function at the on time. The sound will be gradually increased from a no-sound level to the volume setting (fade-in). The power will be switched off at the off time. The on/off timer will function every day unless it is released.

### Preparation

Note:

Make absolutely sure that the clock is set to the correct time before setting the timer.

- Select the function for timer operation and prepare the sources to be used.
  - If the function selected is tuner, tune in to the desired band and station.
  - For tape playback: If cassettes have been loaded into both decks, deck A takes precedence. Tape playback and recording will start only from the forward side.
- Adjust the volume level as desired.

### Operation

1. Press the TIMER button.

AM 12:00



The previous timer on time setting appears.



2. Press the ADJUST button within 10 seconds.

AM 12:00



3. Set the timer on time by pressing the + or - TIME SET button, then press the ADJUST button (as described under "ADJUSTING THE CLOCK").



AM 7:00 ⇒ AM 7:30



The timer off time setting appears.

4. Set the timer off time as described in step 3.

AM 8:30 ⇒ [ ]



The previous timer mode setting (play "⊖" or recording "⊖ REC") and the current function appear.

5. Select the timer mode by pressing the + or - TIME SET button.
  - Each time the button is pressed, "⊖ REC" and "⊖" blinks alternately. Select "⊖ REC" for unattended recording.
  - If you wish to change the function, press the FUNCTION button on the front panel to select the desired function.
6. Press the ADJUST button.

The original display returns, then the timer operation standby mode is activated. "⊖" (or "⊖ REC") remains lit.
7. Press the POWER button to switch off the power.

- "⊖" (or "⊖ REC") blinks during a timer controlled operation.
- To switch off the power during a timer controlled operation, press the POWER button. The timer will be set in the standby mode.

### To check the timer settings

Press the TIMER button repeatedly. The timer settings are displayed in the following order:

- On time
- Off time
- Timer mode/Function
- Original display returns

To change the settings, press the TIMER button to select the setting to be changed, then press the ADJUST button so that the display blinks. Change the setting as explained above.

### To release the timer

After turning the power on, press the TIMER button, then press the SET/CLEAR.

### To set the timer again with the same settings

1. Press the TIMER button, then press the SET/CLEAR.
2. Press the POWER button to switch off the power.

Note:

- If the SET/CLEAR button is pressed while the timer is being set, the original display returns.
- The timer mode is released if a power failure occurs during timer controlled operation.
- The timer may not operate if a power failure occurs during timer operation standby mode.

## Using the sleep timer

The sleep timer automatically switches off the power after a preset time has elapsed. The volume will gradually be reduced (fade-out) during the 1-minute period before the unit turns off. There are 12 time periods available: 120, 110, 100, 90, 80, 70, 60, 50, 40, 30, 20, and 10 minutes.

Press the SLEEP button repeatedly to select the desired sleep time. "SLEEP" and the selected time blink on the display. After several seconds, the original display returns. "SLEEP" blinks.

### To check the remaining sleep time

Press the SLEEP button. The remaining time is displayed. After several seconds, the original display returns.

### To release the sleep timer while in operation

Press the SLEEP button, then press the SET/CLEAR. The timer is also released if the power is switched off.



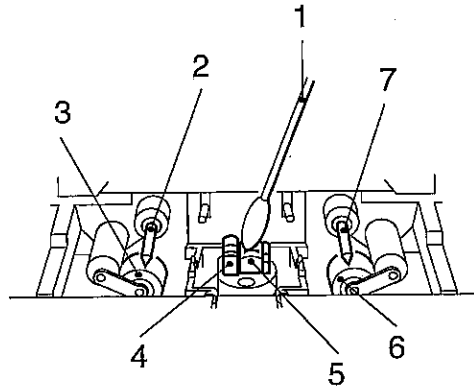
# MAINTENANCE

## Cleaning the decks A and B heads

To ensure playback and recording with good-quality sound, use cotton swab to clean the heads, pinch rollers and capstans of the decks after about every 10 hours of use.  
If the dirt persists, soak the swab in a little methylated spirit or head cleaning fluid and then clean.

## Main unit

Use a soft cloth to remove dirt on the main unit.  
If the dirt persists, dip a soft cloth into a diluted solution of neutral detergent, wring it out, wipe away the dirt, and then take up any moisture with a dry cloth.  
Do not use benzene, thinners or alcohol since they will mar the finish of the surfaces.



- 1. Cotton swab
- 2, 7. Capstan
- 3, 6. Pinch roller
- 4, 5. Head

# REMOTE CONTROL OPERATION

Note:  
The buttons on the remote control perform similar functions to similarly marked buttons on the front panel.

## Common section

- |                            |               |
|----------------------------|---------------|
| Power on/off               | POWER         |
| Adjust volume              | - or + VOLUME |
| Select sound preset        | SOUND PRESET  |
| Temporarily mute the sound | MUTE          |
| Select "VIDEO" function    | VIDEO         |
- "CD" is automatically selected when the ►/|| or DISC SELECT button is pressed.
  - "TUNER" is automatically selected when the TUNER/BAND button is pressed.
  - "TAPE" is automatically selected when the ► or ◀ button is pressed.
  - If the following buttons are pressed when the unit is in standby, the unit turns on automatically and the selected function is set.  
►/||, TUNER/BAND, ►, ◀, VIDEO

## Tuner section

- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| Select "TUNER" and/or Select band | TUNER/BAND                        |
| Select preset station             | (TUNER/BAND) → 1 - 9, 0 or PRESET |

## CD player section

- |                                   |  |
|-----------------------------------|--|
| Select "CD" and/or Start play     | ►/   |
| Select the desired disc and track | DISC SELECT → 1 - 9, 0, ◀◀ or ▶▶                                 |
| Programmed play                   | In CD mode MEMORY → DISC SELECT → 1 - 9 0 ◀◀ or ▶▶   MEMORY → ►/ |

- |                       |   |
|-----------------------|---|
| Temporarily stop play | During play ►/                            |
| Skip play             | During play ◀◀ or ▶▶ (press once)         |
| Search                | During play ◀◀ or ▶▶ (press continuously) |
| Repeat play           | REPEAT                                    |
| Random play           | RANDOM                                    |
| Stop                  | ■   |

## Cassette deck section

- |                                     |                           |
|-------------------------------------|---------------------------|
| Select "TAPE" and/or Start playback | ► or ◀                    |
| Select deck                         | DECK-A/B                  |
| Fast wind                           | ▶▶ or ◀◀                  |
| Start recording                     | ●/   → ► or ◀             |
| Temporarily stop recording          | During recording ●/       |
| Record mute                         | During recording REC MUTE |
| Stop                                | ■                         |

# SPECIFICATIONS

## Tuner section

Reception frequency:

FM: 87.5 - 108 MHz

AM: 522 - 1710 kHz

## CD player section

Type:

Changer, 3-disc

Channels:

2-channel stereo

Sampling frequency:

44.1 kHz

Pick-up:

Optical 3-beam semiconductor laser

Laser output:

0.6 mW (Continuous wave max.)

Wave length:

790 nm

Frequency response:

20 Hz to 20 kHz

Wow/flutter:

Below measurable limits

## Cassette deck section

Track system:

4-track, 2-channel stereo

Frequency response:

50 Hz to 15 kHz (CrO<sub>2</sub> tape)

50 Hz to 14 kHz (Normal tape)

Signal-to-noise ratio:

60 dB (Dolby NR ON)

Wow/flutter:

0.12% (WRMS)

Fast forward/rewind time:

Approx. 110 sec. (C-60)

## Amplifier section

Output power:

80 W x 2 (at 6 ohms, 10% distortion)

Sound preset:

Four electronic presets

Inputs

VIDEO IN: 400 mV/50k ohms

PROCESSOR IN: 300 mV/75k ohms

Outputs

PROCESSOR OUT: 430 mV

SPEAKERS: 6 ohms

PHONES: 8 - 32 ohms

Power requirements:

AC 230 - 240 V, 50 Hz

Power consumption:

120 W

Dimensions:

270(W) x 330(H) x 348(D) mm

Weight:

10.4 kg

## Speaker systems

Type:

3 way bass reflex

Unit used:

Woofer: 16 cm cone type

Mid range: 5 cm cone type

Tweeter: piezoelectric

Maximum power-handling capacity:

180 W (peak)

Nominal impedance:

6 ohms

Dimensions:

200(W) x 330(H) x 267(D) mm

Weight:

3.7 kg (per speaker)

Specifications subject to change without notice.



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