

FW830C
FW870C



Important notes for users in the U.K.

Mains plug

This apparatus is fitted with an approved 13 Amp plug. To change a fuse in this type of plug proceed as follows:

- 1 Remove fuse cover and fuse.
- 2 Fix new fuse which should be a BS1362 5 Amp, A.S.T.A. or BSI approved type.
- 3 Refit the fuse cover.

If the fitted plug is not suitable for your socket outlets, it should be cut off and an appropriate plug fitted in its place.

If the mains plug contains a fuse, this should have a value of 5 Amp. If a plug without a fuse is used, the fuse at the distribution board should not be greater than 5 Amp.

Note: The severed plug must be disposed of to avoid a possible shock hazard should it be inserted into a 13 Amp socket elsewhere.

How to connect a plug

The wires in the mains lead are coloured with the following code: blue = neutral (N), brown = live (L).

As these colours may not correspond with the colour markings identifying the terminals in your plug, proceed as follows:

- Connect the blue wire to the terminal marked N or coloured black.
- Connect the brown wire to the terminal marked L or coloured red.
- Do not connect either wire to the earth terminal in the plug, marked E (or ⏏) or coloured green (or green and yellow).

Before replacing the plug cover, make certain that the cord grip is clamped over the sheath of the lead - not simply over the two wires.

Copyright in the U.K.

Recording and playback of material may require consent. See Copyright Act 1956 and The Performer's Protection Acts 1958 to 1972.

Italia

DICHIARAZIONE DI CONFORMITA'

Si dichiara che l'apparecchio FW830C e FW870C Philips risponde alle prescrizioni dell'art. 2 comma 1 del D.M. 28 Agosto 1995 n. 548.

Fatto a Eindhoven , il 30/2/1999

Philips Consumer Electronics
Philips, Glaslaan 2
5616 JB Eindhoven, The Netherlands

Norge

Typeskilt finnes på apparatens underside.

Observer: Nettbryteren er sekundert innkopleet. Den innebygde nettdelen er derfor ikke frakopleet nettet så lenge apparatet er tilsluttet nettkontakten.

For å redusere faren for brann eller elektrisk støt, skal apparatet ikke utsettes for regn eller fuktighet.

**CLASS 1
LASER PRODUCT**

FW830C



FW870C



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General Information

- *The typeplate (which contains the serial number) is located at the rear of the system.*
- *Recording is permissible if copyright or other rights of third parties are not infringed.*
- *This product complies with the radio interference requirements of the European Community.*


Environmental Information

All unnecessary packaging has been omitted. We have tried to make the packaging easy to separate into three materials: cardboard (box), polystyrene foam (buffer) and polyethylene (bags, protective foam sheet).

Your system consists of materials which can be recycled and reused if disassembled by a specialized company. Please observe the local regulations regarding the disposal of packaging materials, exhausted batteries and old equipment.

Acknowledgement



The Dolby B NR System and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation. Manufactured under license from Dolby Laboratories Licensing Corporation.

Accessories (Supplied)

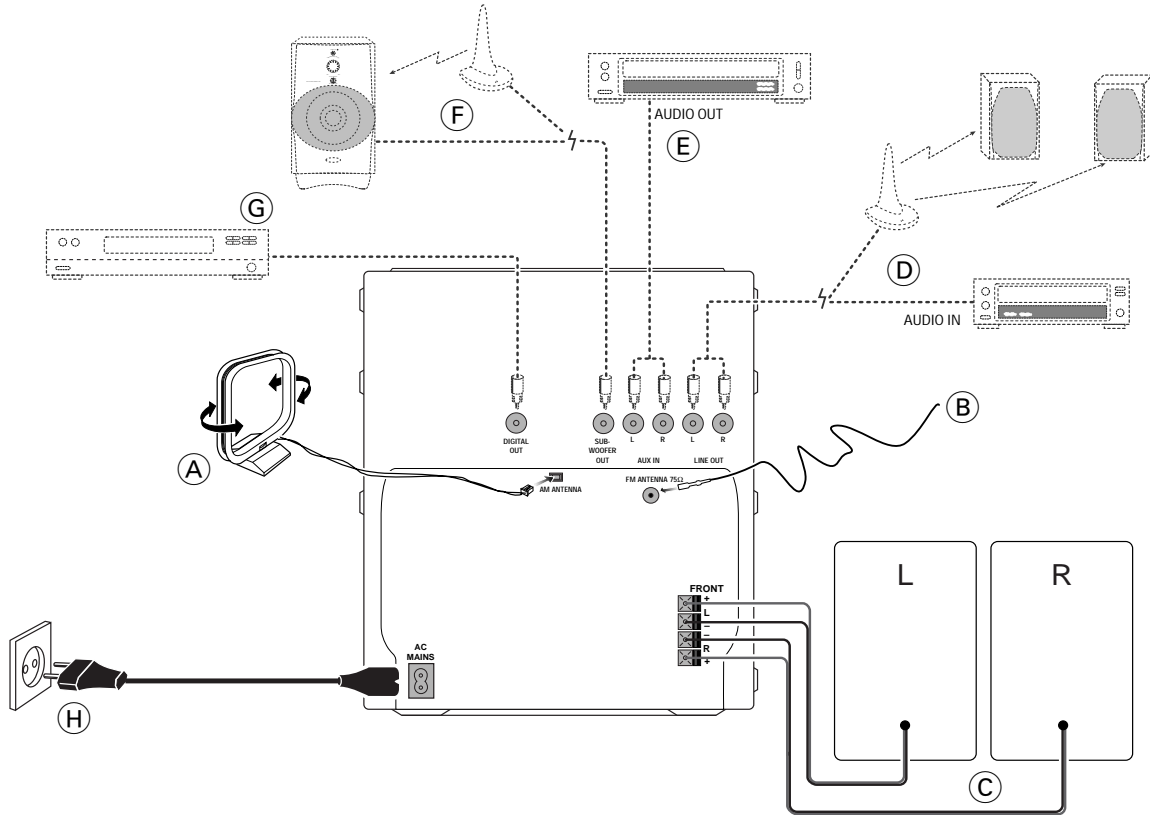
- Remote control
- Batteries (two AA size) for remote control
- AM loop antenna
- FM wire antenna
- AC power cord

Safety Information

- Before operating the system, check that the operating voltage indicated on the typeplate (or the voltage indication beside the voltage selector) of your system is identical with the voltage of your local power supply. If not, please consult your dealer. The typeplate is located at the rear of your system.
- When the system is switched on, do not move it around.
- Place the system on a solid base (e.g. a cabinet).
- Place the system in a location with adequate ventilation to prevent internal heat build-up in your system.
- The system incorporates a built-in safety feature that prevents over heating.
- Do not expose the system to excessive moisture, rain, sand or heat sources.
- Under no circumstances should you repair the system yourself, as this will invalidate the warranty!

- If the system is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens of the CD unit inside the system. Should this occur, the CD player will not operate normally. Leave the power on for about one hour with no disc in the system until normal playback is possible.
- Electrostatic discharge may cause unexpected problems. See whether these problems disappear if you unplug the AC power cord and plug it in again after a few seconds.
- **To disconnect the system from the power supply completely, remove the AC power plug from the wall socket.**

Rear Connections



A AM Loop Antenna Connection

Connect the supplied loop antenna to the AM ANTENNA terminal. Place the AM loop antenna far away from the system and adjust its position for the best reception.

B FM Wire Antenna Connection

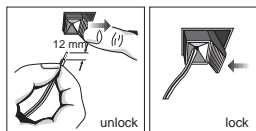
Connect the supplied FM wire antenna to the FM ANTENNA 75 Ω terminal. Adjust the position of the FM antenna for the best reception.

Outdoor Antenna

For better FM stereo reception connect an outdoor FM antenna to the FM ANTENNA 75 Ω terminal using a 75 Ω coaxial wire.

C Speakers Connection

- Connect the right speaker to Front terminal R, with the red wire to + and the black wire to - .
- Connect the left speaker to Front terminal L, with the red wire to + and the black wire to - .
- Clip the stripped portion of the speaker wire as shown.



D Line Out Connection (wireless ready)

You can connect the audio left and right LINE OUT terminals to a optional CD Recorder ANALOGUE IN terminals. This allows you to record in an analogue format.

You can also install additional optional front active speakers away from the system (e.g. in another room) to reduce the inconvenience of running long speaker wires across rooms. You can place as many remote speakers as you like provided they operate at the same radio frequency. Connect the wireless radio frequency transmitter to the LINE OUT terminals. Place the active speakers at your preferred location. Be sure to follow the instructions supplied with the active speakers.

Note:

- Availability of a wireless transmitter and its peripherals is subjected to the approval of local authorities. Please check with your local safety or approving authority.

E Connecting other equipment to your system

You can connect the audio left and right OUT terminals of a TV, VCR, Laser Disc player, DVD player or CD-Recorder to the AUX/CD-R IN terminals at the rear of the system.

F Subwoofer Out Connection

Connect the optional active subwoofer to the SUBWOOFER OUT terminal. The subwoofer reproduces just the low bass effect (e.g. explosions, the rumble of spaceships, etc.). Be sure to follow the instructions supplied with the subwoofer.

G Digital Out Connection

You can record the digital sound from the CD, through this output, on any audio equipment with digital input (e.g. CD Recorder, Digital Audio Tape (DAT) deck, Digital to Analog Converter and Digital Signal Processor).

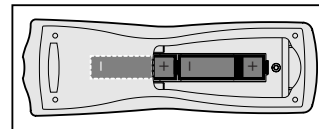
Connect one end of the cinch cable (not supplied) to the DIGITAL OUT socket and the other end to the audio equipment with digital input. When connecting the cinch cable, make sure it is fully inserted.

H AC Power Supply

After all other connections have been made, connect the AC power cord to the system and to the wall outlet.

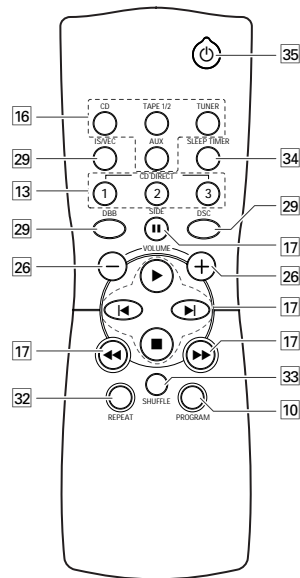
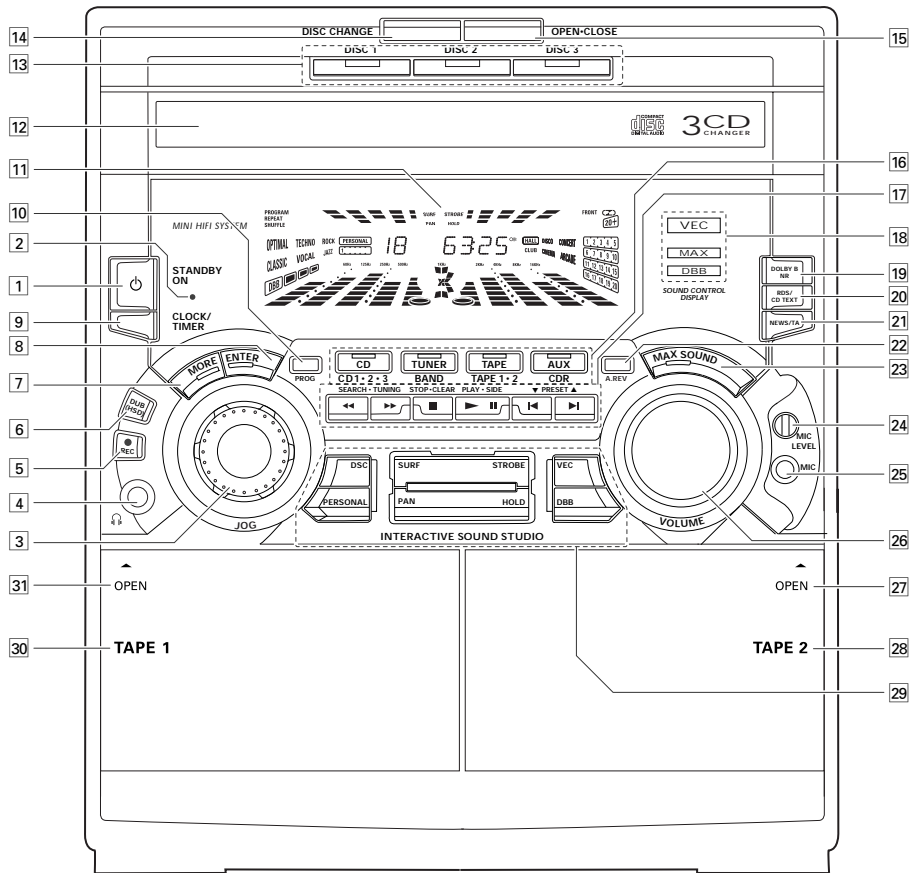
Inserting batteries into the Remote Control

- Insert the batteries (Type R06 or AA) into the remote control as shown in the battery compartment.



- To avoid damage from possible battery leakage, remove dead batteries or batteries that will not be used for a long time. For replacement, use type R06 or AA batteries.

CONTROLS



Controls on the system and remote control

1 STANDBY ON

- to switch the system on or to standby mode.
- to use for EASY SET.

2 LOW POWER STANDBY LED

- lit up during low power standby.

3 JOG

- to select the desired equalizer display.
- to select the desired DSC setting. You must select the DSC feature first.
- to select the desired level of Personal Sound. You must select the PERSONAL Sound setting first.
- to select the desired VEC setting. You must select the VEC feature first.

4

- to connect headphones.

5 REC (RECORD)

- to start recording on tape deck 2.

6 DUB (HIGH SPEED DUBBING [HSD])

- to dub a tape in normal or fast speed.

7 MORE

- to switch the calibration status on or off.
- to select personal equalizer band for adjustment.
- to select personal equalizer setting for storing.

8 ENTER

- to confirm the calibration status.
- to store the personal equalizer band.
- to store and confirm the personal equalizer setting.

9 CLOCK/TIMER

- to view the clock, set the clock or set the timer.

10 PROG (PROGRAM)

- to program CD tracks in CD mode or preset radio stations in tuner mode.

11 DISPLAY

- to view the current setting of the system.

12 CD CAROUSEL TRAY

13 CD DIRECT PLAY (DISC 1 / DISC 2 / DISC 3)

- to select a CD tray for playback.

14 DISC CHANGE

- to change CD(s).

15 OPEN-CLOSE

- to open or close the CD carousel.

16 SOURCE : to select the following: CD / (CD 1•2•3)

- to select CD mode. When CD playback is stopped, press to select the disc tray 1, 2 or 3.

TUNER / (BAND)

- to select Tuner mode. When in Tuner mode, press to select the waveband: FM, MW or LW.

TAPE / (TAPE 1•2)

- to select Tape mode. When tape playback is stopped, press to select either tape deck 1 or 2.

AUX / (CDR)

- to select sound from an external source (e.g. TV, VCR, Laser Disc player, DVD player or CD Recorder). When in Aux mode, press to select either AUX or CDR.

17 MODE SELECTION

◀▶ (SEARCH •TUNING)

- for CD to search backward/forward.

- for TUNER to tune to a lower or higher radio frequency.

- for TAPE to rewind or fast forward a tape.

■ (STOP•CLEAR)

- for CD to stop CD playback or to clear a program.

- for TUNER to stop programming.

- for TAPE to stop playback or recording.

- DEMO (*on the system only*) to start or stop demonstration mode.

▶ || (PLAY •SIDE)

- for CD to start or interrupt playback.

- for TAPE to start playback.

- SIDE : When playing in Tape 2 mode, to change side.

◀▶ (PRESET ▼▲)

- for CD to skip to the beginning of the current, previous, or next track.

- for TUNER to select a preset radio station in memory.

18 SOUND DISPLAY PANEL

- to view the selected Interactive Sound Studio setting.

19 DOLBY B NR

- to switch on or off Dolby NR.

20 RDS/CD TEXT

- for TUNER to select RDS data in the following order: station name, program type, radio text and frequency.
- for CD to view the CD encoded information. (*For FW870C only*)

21 NEWS/TA

- to hear News or Traffic Announcement data when it is available.

22 A. REV (AUTO REVERSE)

- available in tape deck 2 only.
- to select the desired play modes (◀ / ▶) / (◀▶).

23 MAX SOUND

- to switch on or off MAX sound for extra bass.

24 MIC LEVEL

- to adjust the mixing level for karaoke or microphone recording.

25 MIC

- to connect microphone jack.

26 VOLUME

- to adjust the volume.

27 OPEN

- to open tape deck 2.

28 TAPE DECK 2

29 INTERACTIVE SOUND STUDIO DIGITAL SOUND CONTROL (DSC)

- to select the desired sound effect : OPTIMAL, TECHNO, ROCK, CLASSIC, VOCAL or JAZZ.

PERSONAL

- to select or set personal equalizer setting
- ### SURF
- to switch on or off the SURF feature.

STROBE

- to switch on or off the STROBE feature.

PAN

- to switch on or off the PAN feature.

HOLD

- to switch on or off the HOLD feature during CD playback only.

VEC

- to select the desired sound effect : HALL, DISCO, CONCERT, CLUB, CINEMA or ARCADE.

DYNAMIC BASS BOOST (DBB)

- to select a bass boost level or to switch off bass boost.

30 TAPE DECK 1

31 OPEN

- to open tape deck 1.

32 REPEAT

- to repeat a CD track, a disc, or all the available discs.

33 SHUFFLE

- to play all the available discs and their tracks in random order.

34 SLEEP TIMER

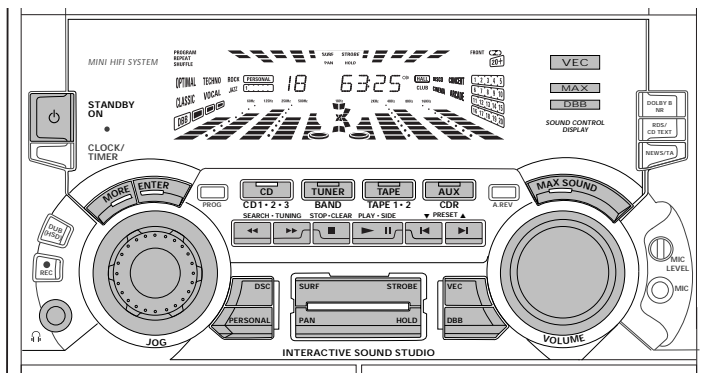
- to switch the system to standby mode at a selected time period.

35

- to switch the system to standby mode.

Notes for remote control:

- *First select the source you wish to control by pressing one of the source select keys on the remote control (e.g. CD, TUNER, TAPE 1/2 or AUX).*
- *Then select the desired function (▶, ◀, ▶|, etc.).*



Important:
Before you operate the system, complete the preparation procedures.

Demonstration mode

The system has a demonstration mode that shows the various features offered by the system. **When the system is switched on for the first time, the demonstration mode will start automatically.**

Notes:

- During the demonstration, if you press any source (or standby-on) button, the system will switch to the respective mode (or standby).
- When the system is switched to standby mode, the demonstration will resume 5 seconds later.

To stop the demonstration mode

- Press and hold **STOP-CLEAR** ■ (on the system only) for **5 seconds** when the system is in demonstration mode.
 - The demonstration will stop.
 - "DEMO OFF" is displayed.
 - The system will switch to standby mode.
 - About 5 seconds later, the system will go into an energy saving mode (< 2 watts). The low power **STANDBY ON** LED will be lit.

Note:

- Even though the AC power cord is removed from and reconnected to the wall socket, the demonstration will remain off until it is switched on again.

To start the demonstration mode

- Press and hold **STOP-CLEAR** ■ (on the system only) for **5 seconds** when the system is in standby mode.
 - The demonstration will begin.

Easy Set

EASY SET allows you to store all available radio stations and RDS stations automatically.

- 1 Press and hold **STANDBY-ON** (on the system only) for **5 seconds** when the system is in standby or demonstration mode.
 - "EASY SET" will be displayed, and followed by "TUNER" and then "AUTO".
 - EASY SET will start searching for all radio stations with RDS and then followed by radio stations on FM, MW and LW band respectively.
 - All available RDS and radio stations with sufficient signal strength will be stored. Up to 40 presets may be stored.
- 2 The system will proceed to set the RDS time automatically with the stored RDS preset station.
 - If no RDS station is available in the first preset station, the program will exit automatically.
 - After a radio station is found, "EASY SET" will be displayed and followed by "TIME"

- When searching RDS time;
 - "SEARCH RDS TIME" will be displayed.
 - When RDS time is read, "RDS TIME" will be displayed. The current time will be displayed for 2 seconds and stored automatically.

Notes:


- EASY SET will start with the RDS station, if there are still presets available, it will continue to store the FM, MW and LW bands respectively.
- When EASY SET is used, all previously stored radio stations will be replaced.
- The last preset radio station or the first available RDS station will appear on the display when EASY SET is completed.
- If RDS station does not transmit RDS time within 90 seconds, the program will exit automatically and the display will show "NO RDS TIME".

Switching the system ON

- Press **CD**, **TUNER**, **TAPE** or **AUX**.

You can also switch on the system by pressing any one of the CD DIRECT PLAY buttons.

Switching the system to standby mode

- Press **STANDBY•ON** again or  on the remote control.
 - The system will switch to standby mode.
 - About 5 seconds later, the system will go into an energy saving mode (< 2 watts). The low power STANDBY ON LED will be lit.

Selecting the Source

- Press the respective source selection button: **CD**, **TUNER**, **TAPE** or **AUX**.
 - The display indicates the selected source.

Note:

- For an external source, make sure you have connected the audio left and right OUT terminals of the external equipment (TV, VCR, Laser Disc player, DVD player or CD Recorder) to the AUX IN terminals.

Selecting the Equalizer Display

You can select the desired equalizer display for the system. You must not press the DSC button on the system before using the JOG.

- Rotate the **JOG** to select the desired Equalizer Display, **PEAK HOLD**, **MIDDLE OUT**, **TOP DOWN**, **NORMAL**, or **NITE MODE**.
 - The selected display will be shown.

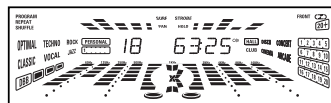
PEAK HOLD Display



MIDDLE OUT Display



TOP DOWN Display



NORMAL Display



NITE MODE Display



Note:


- In NITE MODE, all lights will be switched off and the display brightness will be dimmed.

Sound Control

VOLUME ADJUSTMENT

Adjust **VOLUME** to increase or decrease the sound level.

For Personal Listening

Connect the headphones plug to the  socket at the front of the system. The speakers will be muted.

AUTO DIGITAL SOUND CONTROL (DSC)

- Press and hold **DIGITAL SOUND CONTROL (DSC)** for about 5 seconds.
 - The current music is sampled and it automatically select the most suitable DSC setting.

DIGITAL SOUND CONTROL (DSC)

The DSC feature enables you to adjust the system to suit your type of music.

- Press **DIGITAL SOUND CONTROL (DSC)** to select **OPTIMAL**, **TECHNO**, **ROCK**, **CLASSIC**, **VOCAL** or **JAZZ**.
 - The selected digital sound is encircled.
 - "OPTIMAL X", "TECHNO X", "ROCK X", "CLASSIC", "VOCAL X" or "JAZZ X" will be displayed. "X" is the pre-selected level.

→ VEC will be switched off.

You can change the digital sound setting level for all except CLASSIC with the JOG.

- First select the DSC feature, then rotate the **JOG** until the desired digital sound setting level is reached.
 - The digital sound setting level will increase or decrease between level 1 and 5.

Note:

- For neutral setting, select **CLASSIC** and switch off **DBB**.

VIRTUAL ENVIRONMENT CONTROL (VEC)

The VEC feature enables you to adjust the system to select a type of environment.

- Press **VEC** to select **HALL**, **DISCO**, **CONCERT**, **CLUB**, **CINEMA** or **ARCADE**.
 - The selected environment is encircled.
 - "HALL X", "DISCO X", "CONCERT X", "CLUB X", "CINEMA X" or "ARCADE X" will be displayed. "X" is the pre-selected level.

You can change the environment setting level for all except CONCERT with the JOG.

- First select the VEC feature, then rotate the **JOG** until the desired environment is reached.
 - The level will increase or decrease between level 1 and 5.

AUTO SOUND CALIBRATION (ASC)

Whenever a new DSC or VEC feature is selected. The ASC will automatically calibrate the new sound in order to give a smooth transition.

- 1 Press **DSC** or **VEC**.
→ The selected digital sound is encircled.
- 2 Press **MORE** to switch the calibration ON or OFF.
- 3 Press **ENTER** to confirm the selection.
→ "CALIBRATION ON" or "CALIBRATION OFF" will be displayed.

MAX SOUND

The MAX SOUND feature enables you to unleash a maximum sound effect combining the volume and DBB effect.

- Press **MAX SOUND** to switch on or off.
→ "MAX SOUND" or "OFF" will be displayed.

PERSONAL SOUND

You can store up to 6 personal settings.

- Press **PERSONAL** to select USER 1, USER 2, USER 3, USER 4, USER 5 or USER 6.
→ "USER 1, USER 2, USER 3, USER 4, USER 5 or USER 6" will be displayed.

Personal Setting

You can adjust the personal setting to your desired level with the JOG.

- 1 Press and hold **PERSONAL** for about 5 seconds.
→ The personal setting mode is switched on.
→ "60 HZ" will be displayed.
- 2 Rotate the **JOG** until the desired equalizer band level.
→ The equalizer band level will be displayed.
- 3 Press **MORE** to select the next equalizer band.
60 HZ → 250 HZ →
1 KHZ → 4 KHZ →
16 KHZ → 60 HZ ...
• Repeat **2** and **3** until all equalizer bands are set.
- 4 Press **ENTER** to confirm the personal setting.
→ "STORE UX" will be displayed.
"X" is the next available personal setting.
• Press **MORE** to select the desired store location.
- 5 Press **ENTER** to confirm the store location.
• Repeat **1 – 5** to adjust the other personal settings.

Rotate the JOG to adjust the speed of the effect after selecting SURF, STROBE, PAN or HOLD.

SURF

This feature allows you to simulate the sound effect like an ocean wave as though the music is surfing on top of the waves.

- Press **SURF**.
→ "SURF XX" will be displayed.

STROBE

This feature allows you to simulate a stroboscopic sound effect as though the music appears and disappears.

- Press **STROBE**.
→ "STRB XX" will be displayed.

PAN

This feature allows you to simulate a panoramic sound effect as though the music is circling through the room.

- Press **PAN**.
→ "PAN XX" will be displayed.

HOLD

This feature allows you to simulate the sound effect like scratching a vinyl LP record and is only applicable during CD play mode.

- Press **HOLD**.
→ "HOLD XX" will be displayed.

Notes:

- "XX" is the speed of the effect.
- All other sound effects will be switched off when SURF, STROBE, PAN or HOLD is selected.

DYNAMIC BASS BOOST (DBB)

There are three DBB settings to enhance the bass response.

- Press **DBB** briefly to select a bass boost level.
→ The respective DBB level is being encircled and lit.
→ "BEAT, PUNCH or BLAST" will be displayed.

To switch off DBB

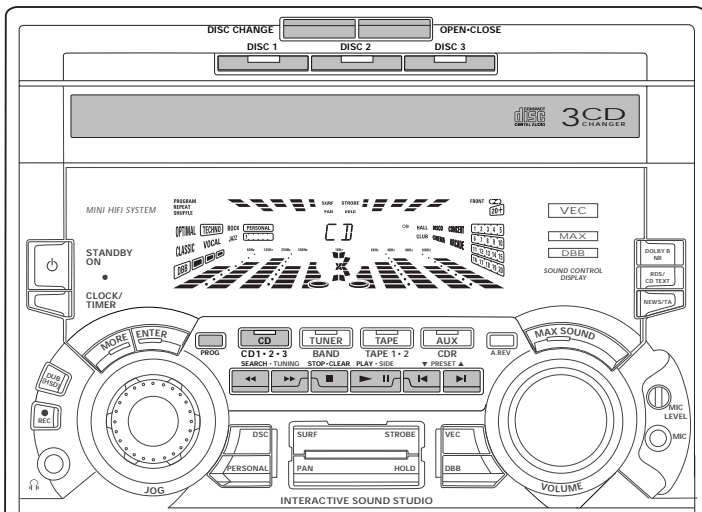
- Press **DBB** briefly until "DBB OFF" is displayed.

Note:

- Some CDs or tapes might be recorded in high modulation. It may cause distortion at high volume. If this occurs, switch off DBB or reduce the volume.

Automatic DSC-DBB selection

The best DBB setting is generated automatically for each DSC selection. You can manually select the DBB setting that best suits your listening environment.

**Warning!**

- 1) *This system is designed for conventional CDs. Do not use any accessories such as disc stabilizer rings or CD treatment sheets, etc., which may damage the CD mechanism.*
- 2) *Do not load more than one disc into each tray.*
- 3) *When the CD changer is loaded with CDs, do not turn over or shake the system. This may jam the changer.*

You may load three discs in the CD changer for continuous playback without interruption.

Disc for playback

This system can playback all audio CD, finalized audio CD-Recordable and finalized audio CD-Rewritable format discs.

**CD Text** (For FW870C only)

It will enable you to know which album and its track you are selecting or playing on specially encoded CD.

- Press **RDS/CD TEXT**.
 - At stop mode**
 - The title of album or total playing time will be displayed.
 - During Playback**
 - The title of album, track title or elapsed time will be displayed.
- If the album and track title are not known.
 - "NO TEXT ON DISC" will be displayed.

Loading the CD Changer

- 1 Press **CD** to select CD mode.
- 2 Press **OPEN•CLOSE**.
 - The CD carousel slides out.
- 3 Load a CD with the printed side up in the right tray.
 - You can load another disc in the left tray.
 - To load the third disc, press the **DISC CHANGE** button.
 - The CD carousel will rotate until the empty tray is ready for loading.
- 4 Press **OPEN•CLOSE** to close the CD carousel.
 - The total number of tracks and the playing time of the last selected disc appear on the display.

Note:

- *To ensure good system performance, wait until the CD changer completely reads the disc(s) before proceeding.*

CD Direct Play

You can play a CD directly by pressing the **DISC 1**, **DISC 2** or **DISC 3** button. The CD player will stop at the end of playback of the selected disc.

- A lit button indicates that a disc is loaded in the disc tray.

Playing a CD

- 1 Press **PLAY ►** to start playback.
 - The disc tray, track number and elapsed playing time of the current track appear on the display.
 - The current track number will also be flashing on the music calendar.
 - When a track has been played, the track number will be erased from the music calendar.
 - To interrupt playback, press **II**.
 - The playing time flashes.
 - To resume playback, press **PLAY ►** again.
- 2 To stop playback, press **STOP•CLEAR ■**.

Note:

- *All the available discs will play once, then stop.*

Disc Change

You can change the outer two discs while the third inner disc is stopped or is playing.

- 1 Press **DISC CHANGE**.
→ The CD carousel slides out.
- 2 Replace the discs in the left and right disc trays.
 - If you press **DISC CHANGE** again during playback, the CD will stop playing.
→ The CD carousel will rotate until the inner tray is rotated out and is ready for loading.
- 3 Press **OPEN•CLOSE** to close the CD compartment.

Selecting a desired track

Selecting a desired track when playback is stopped

- 1 Press **◀** or **▶** until the desired track appears on the display.
- 2 Press **PLAY ▶** to start playback.
→ The selected track number and elapsed playing time appear on the display.

Selecting a desired track during playback

- Press **◀** or **▶** until the desired track appears on the display.
→ The selected track number and elapsed playing time appear on the display.

- If you press **◀** once it will skip to the beginning of the current track and play the track again.

Searching for a particular passage during playback

- Press and hold **◀◀** or **▶▶** until the desired passage is located.
→ The volume will be reduced.
- Play returns to normal when **◀◀** or **▶▶** is released.

Programming Tracks

Programming tracks of a loaded CD is possible when playback is stopped. The display will indicate the total tracks stored in the program. Up to 40 tracks can be stored in the memory in any order. When 40 tracks are stored and you attempt to store another track, the display will show "FULL".

- 1 Load the desired discs in the disc trays.
- 2 Press **PROGRAM** to start programming.
→ The **PROGRAM** flag starts flashing.
- 3 Press the **CD (CD 1•2•3)** button to select the disc.
- 4 Press **◀** or **▶** to select the desired track.
- 5 Press **PROGRAM** to store the track.
 - Repeat steps **3** to **5** to store other discs and tracks.

- 6 Press **STOP•CLEAR ■** once to end programming.
→ The total number of tracks programmed and total playing time appear on the display.

Notes:

- If the total playing time is more than "99:59" or if one of the programmed tracks has a number greater than 30, then "-- : - - -" appears on the display instead of the total playing time.
- During programming, if no button is pressed within 20 seconds, the system will exit program mode automatically.

Reviewing the program

Reviewing of the program is possible only when playback is stopped.

- Press **◀** or **▶** repeatedly to review the programmed tracks.
- Press **STOP•CLEAR ■** to exit review mode.

Playing the program

- 1 Press **PLAY ▶** to start program playback.
→ "PLAY PROGRAM" appears on the display.
→ The track number and elapsed playing time of the current track will appear on the display.

- If you press **REPEAT** during program playback, the current track will be played repeatedly.
→ The **REPEAT** and **PROGRAM** flags will be displayed.
- 2 Press **STOP•CLEAR ■** to stop program playback.

Notes:

- If you press any of the CD **DIRECT PLAY** buttons, the system will play the selected disc or track and the stored program will be ignored temporarily. The **PROGRAM** flag also will disappear temporarily from the display. It will reappear when playback of the selected disc ends.
- **REPEAT DISC** mode will be cancelled when program playback begins.

Erasing the program (when playback is stopped)

- Press **STOP•CLEAR ■**.
→ "PROGRAM CLEARED" will be displayed.

Note:

- The program will be erased when the system is disconnected from the power supply or when the CD carousel is opened. If the CD carousel is opened, the tracks belonging to the outer two trays will be erased and the display will show "TRACKS CLEARED".

Shuffle *(only on remote control)*

In shuffle mode, the system plays all the available discs and their tracks in random order. Shuffle may be used also when tracks are programmed.

To shuffle all the discs and tracks**1** Press **SHUFFLE**.

- "SHUFFLE" will be displayed.
- The **SHUFFLE** flag, the disc and the track selected at random appear on the display.
- The discs and the tracks will be played in random order until you press **STOP•CLEAR** ■ .
- If you press **REPEAT** during shuffling, the current track or all available discs will be played repeatedly.
 - "TRACK" or "ALL" will be displayed.
 - The **REPEAT** and **SHUFFLE** flags will be displayed.

2 Press **SHUFFLE** again to resume normal playback.

- The **SHUFFLE** flag disappears from the display.

Note:

- *REPEAT DISC mode will be cancelled when shuffle is selected.*

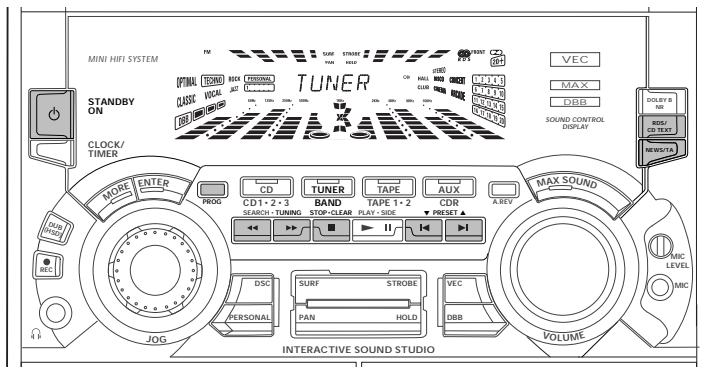
Repeat *(only on remote control)*

You can play the current track, a disc or all available discs repeatedly.

- 1** Press **REPEAT** on the remote control during CD playback to select the various repeat modes.
 - "TRACK", "DISC", "ALL" or "OFF" will be displayed.
 - The **REPEAT** flag appears on the display.
 - The selected track, selected disc or all available discs will now be played repeatedly until you press **STOP•CLEAR** ■ .
- 2** Press **REPEAT** until the "OFF" mode is displayed to resume normal playback.
 - The **REPEAT** flag disappears from the display.

Notes:

- *REPEAT DISC mode is not available during program play or shuffling mode.*
- *You can also repeat shuffling a program.*
 - "REPEAT TRACK" or "REPEAT PROGRAM" will be displayed.
 - *The REPEAT, PROGRAM and SHUFFLE flags appear on the display.*



Note:

- For 'EASY SET' feature, please refer to page 11.

Tuning to radio stations

- 1 Press **TUNER (BAND)** to select TUNER mode.
→ "TUNER" will be displayed.
A few seconds later, the current radio frequency will be displayed.
 - 2 Press **TUNER (BAND)** again to select the desired waveband : FM, MW or LW.
 - 3 Press **TUNING ◀◀ or ▶▶** for more than one second, then release.
→ The display will show "SEARCH" until a radio station with sufficient signal strength is found.
- Repeat this procedure until the desired station is reached.

- To tune to a weak radio station, briefly press **TUNING ◀◀ or ▶▶** repeatedly until the display shows the desired frequency and/or when the best reception has been obtained.

Storing Preset Stations

You can store up to 40 radio stations in the memory. When a preset radio station is selected, the preset number appears next to the frequency on the display.

Automatic programming

- 1 Press **TUNER (BAND)**.
- 2 Press **PROGRAM** for more than one second.
→ The **PROGRAM** flag starts flashing and "AUTO" will be displayed.

- The system will search for every available station in the FM waveband first, then search by the MW and LW wavebands.
- All available radio stations will be stored automatically. The frequency and preset number will be displayed briefly.
- The system will stop searching when all the available radio stations are stored or when the memory for 40 preset radio stations is used.
- The system will remain tuned to the last stored preset radio station.

Notes:

- You can cancel the automatic programming by pressing **PROGRAM** or **STOP•CLEAR ■** (on the system only).
- If you want to reserve a section of preset numbers, for example preset numbers 1 to 9, select preset 10 before starting automatic programming: only the preset numbers 10 to 40 will be programmed.

Manual programming

- 1 Press **TUNER (BAND)**.
- 2 Press **TUNER (BAND)** again to select the desired waveband : FM, MW or LW.
- 3 Press **PROGRAM** for less than one second.
→ The **PROGRAM** flag starts flashing.
→ The next available preset number will be displayed for selection.

- 4 Press **TUNING ◀◀ or ▶▶** to tune to the desired frequency.
- If you wish to store the radio station to another preset number, press **PRESET ▼ or ▲** to select the desired preset number.
- 5 Press **PROGRAM** again.
→ The **PROGRAM** flag disappears and the radio station will be stored.
- Repeat the **steps 3 to 5** to store other preset radio stations.

Notes:

- When 40 radio stations are stored and you attempt to store another radio station, the display will show "FULL". If you want to change an existing preset number, repeat steps 3 and 5.
- You can cancel manual programming by pressing **STOP•CLEAR ■** (on the system only).
- During programming, if no button is pressed within 20 seconds, the system will exit program mode automatically.

Tuning to Preset Radio Stations

- Press **PRESET ▼ or ▲** to select the desired preset number.
→ The preset number, radio frequency, and waveband appear on the display.

Receiving RDS Radio Station



RDS (Radio Data System) is a broadcasting service that allows FM stations to send additional information along with the regular FM radio signal. This additional information can contain:

- **STATION NAME:** The radio station name is displayed.
- **FREQUENCY:** The frequency of the radio station is displayed.
- **PROGRAM TYPE:** The following program types exist and can be received by your tuner: News, Affairs, Info, Sport, Educate, Drama, Culture, Science, Varied, Pop M, Rock M, M.O.R. (middle of the road music), Light M, Classics, Other M, No type.
- **RADIO TEXT (RT):** text messages appear in the display.

When you have tuned to a RDS station, the RDS logo (📡) and the radio station name will appear on the display:

- The display normally shows the radio station name if available.
By repeatedly pressing **RDS** button you can change the type of display information:
→ The display shows in turn:
STATION NAME →
PROGRAM TYPE → RADIO
TEXT → FREQUENCY →
STATION NAME ...

Note:

- When you press the **RDS** button and the display shows "NO RDS", it indicates that either the tuned station is not transmitting RDS signal or it is a non RDS station.

RDS Clock

Some RDS station may be transmitting a real clock time at an interval of every minute.

Setting the time with RDS clock

1 Press **CLOCK/TIMER**.

→ "--:--" or current time appears on the display.

2 Press **CLOCK/TIMER** once more to enter clock setting mode.

→ "00:00" or current time starts flashing.

3 Press **RDS**.

→ The message "SEARCH RDS TIME" will be displayed.

→ If the station does not transmit RDS clock, "NO RDS TIME" will be displayed.

→ When the RDS clock is read, "RDS TIME" will be displayed. The current clock time is displayed for 2 seconds and will be stored automatically.

→ If within 90 seconds, the RDS time is not detected, "NO RDS TIME" will be displayed.

News/TA (Traffic

Announcement) (only available in Radio Station with RDS)

You can activate NEWS or TA function in Standby, Demonstration or any source mode except Tuner mode. Once the News Program Type (for NEWS function) or Traffic Announcement data (for TA function) is detected in any of the selected RDS stations, it will switch to TUNER mode automatically.

NEWS/TA key toggles in the following sequence :

NEWS → TA → OFF → NEWS

To start NEWS or TA function

1 Press **NEWS/TA** to select NEWS function.

→ The **NEWS** flag and "NEWS" will be displayed.

- If you want to select TA function, press **NEWS/TA** again.

→ The **TA** flag and "TA" will be displayed.

2 When NEWS or TA is selected;

- It will search for the first 5 preset RDS stations and wait for the News Program Type / Traffic Announcement data to be available in any of these RDS stations. During the search :

→ The current source activity will remain uninterrupted.

→ If no RDS station is found in the first 5 presets after the search, the

NEWS/TA function will be switched off. The display will show "NO RDS NEWS" or "NO RDS TA" and **NEWS** or **TA** flag will disappear from the display.

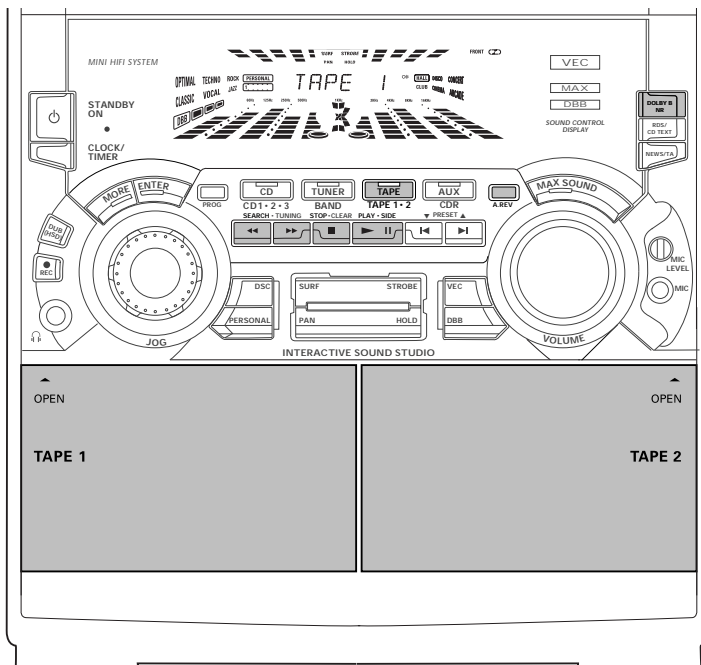
- When NEWS/TA transmission is detected, the system will switch to Tuner mode.
→ The **NEWS** or **TA** flag starts flashing.

To cancel NEWS or TA function

- Press **NEWS/TA** until the **NEWS** or **TA** flag disappears and "TA OFF" is displayed.

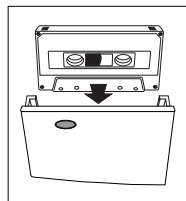
Notes:

- If you are listening to a non RDS TUNER radio station and should you decide to hear NEWS or TA, first select other source (e.g. CD, TAPE or AUX), then press NEWS/TA.
- Before using the NEWS or TA feature, ensure that the first 5 presets are RDS stations.
- The NEWS/TA works only once for each activation.
- During News bulletin or Traffic Announcement, you can press any available source or Tuner function keys to cancel NEWS/TA function and execute the relevant source mode.
- If set is switched to Tuner source, the NEWS/TA function will be cancelled, "NEWS OFF" or "TA OFF" will be displayed immediately after the "TUNER" message.



Loading a tape

- Press **OPEN**.
- The tape deck door opens.
- Load the tape with the open side downward and the full spool to the left.
- Close the tape deck door.



Tape Playback

- 1 Press **TAPE** (TAPE 1•2) to select TAPE mode.
→ "TAPE 1" or "TAPE 2" will be displayed.
- Press **TAPE** (TAPE 1•2) again to select either tape deck 1 or tape deck 2.
- 2 Load the tape into the desired tape deck.
- 3 Press **▶** to start playback.
- 3a** (For Tape Deck 2 only)
Press **▶** (PLAY•SIDE) again to switch playback between side A and B.
→ The **BACK** or **FRONT** flag appears on the display, depending on the side selected.
- 3b** (For Tape Deck 2 only)
Press **A. REV** to select the different type of playback mode (see *auto reverse playback*).
- 4 Press **■** to end playback.

Notes:

- To change side before playback begins, use the **SIDE** button on the remote control.

Auto Reverse Playback (only on tape deck 2)

- Press **A. REV** to select the different playback modes.
- to record or playback on one side of the tape. The tape stops at the end of one side.

- to record or playback on both sides of the tape. The tape then stops.
- to playback continuously on both sides of the tape up to a maximum of 10 times per side unless you press **■**.

Rewind/Fast Forward

When playback is stopped

- 1 You can rewind or fast forward the tape by pressing **◀◀** or **▶▶** respectively.
→ "◀◀◀◀" or "▶▶▶▶" will be displayed depending on which button is pressed.
→ The tape will stop automatically at the end of the rewinding or fast forwarding.
- 2 Press **■** to stop rewinding or fast forwarding.

During playback

- Press and hold **◀◀** or **▶▶** until the desired passage is located.
→ During searching, the sound is reduced to a low volume.
→ When you release **◀◀** or **▶▶**, the tape continues playing.

Notes:

- During rewinding or fast forwarding of a tape, it is also possible to select another source (e.g. CD, TUNER, or AUX).
- Before use, check and tighten slack tape with a pencil. Slack tape may get jammed or may burst in the mechanism.

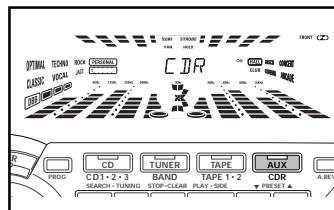
- C-120 tape is extremely thin and is easily deformed or damaged. It is not recommended for use in this system.
- Store the tapes at room temperature and do not put them too close to a magnetic field (for example, a transformer, TV, or speaker).

Dolby B Noise Reduction System

- 1 Press **DOLBY B NR** to switch on Dolby B NR.
 - The **□□ B NR** appears in the display.
- 2 Press **DOLBY B NR** again to switch off Dolby B NR.
 - The **□□ B NR** disappears from the display.

Note:

- A tape recorded with the Dolby B NR system should also be played in the Dolby B NR mode. If you forget to operate the DOLBY NR button, the treble may be reproduced too strongly.



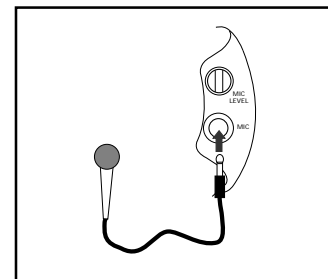
Selecting External Equipment

If you have connected the audio out terminals of the external equipment (TV, VCR, Laser Disc player, DVD player, or CD Recorder) to the AUX/CD-R IN terminals, you can hear the enhanced sound from the system.

- Press **AUX** to select the CDR mode.
 - "CDR" will be displayed.
- Press **AUX** again to select external mode.
 - "AUX" will be displayed.

Notes:

- There are two AUX modes:
 - i. the normal AUX mode.
 - ii. the CDR mode: where the LINE OUT of this mini system is muted. You will not be able to record or listen to the sound from the LINE OUT.
- You are advised not to listen to and record from the same source simultaneously.
- All the sound control features (e.g. DSC, VEC, DBB, etc.) are available for selection.



Microphone Mixing

- 1 Set the **MIC LEVEL** control to the minimum level to prevent acoustic feedback (e.g. a loud howling sound) before you connect the microphone.
- 2 Connect a microphone to the **MIC** socket.
- 3 Press **CD**, **TUNER**, **TAPE** or **AUX**.
- 4 Play the selected source.
- 5 Adjust the volume level with **VOLUME** control.
- 6 Adjust the **MIC LEVEL** control to the mixing level that you want.
- 7 Start singing or talking through the microphone.

Note:

- Keep the mic away from the speakers to prevent howling.

Dubbing tapes *(from tape deck 1 to tape deck 2)*

- 1 Press **TAPE** (TAPE 1•2) to select tape deck 2.
- 2 Load the prerecorded tape into tape deck 1 and a blank tape into tape deck 2.
 - Make sure the tape in tape deck 1 has its full spool to the left.
- 3 *(For Tape Deck 2 only)*
Press **SIDE** on the remote control to select the recording side.
- 4 Press **DUB (HSD) once** for normal speed dubbing or **twice** *(within 2 seconds)* for high speed dubbing.
 - "NORMAL" (normal speed) or "FAST" (high speed) will be displayed, followed by "DUBBING".
 - The **HSD** flag appears on the display during high speed dubbing.
- Dubbing will start immediately.
 - The **REC** flag starts flashing.
- 5 Press **■** to stop dubbing.

Notes:

- At the end of side A, flip the tapes to side B and repeat the procedure.
- Dubbing of tapes is only possible from tape deck 1 to tape deck 2.
- To ensure good dubbing, use tapes of the same length.
- During high speed dubbing in Tape mode, the sound is reduced to a low volume.

- You can listen to another source while dubbing.
- *Dolby NR button has no influence during dubbing (dubbing from tape deck 1 to tape deck 2). An original tape recorded with Dolby B NR automatically produces a copy with Dolby B NR.*

Recording the mixed sound / One Touch Recording

- During microphone mixing, you can record the mixed sound on a tape in tape deck 2 except dubbing mode.
- For One Touch Recording, as soon as you press **REC**, the current source (CD, TUNER or AUX) will be recorded on tape deck 2

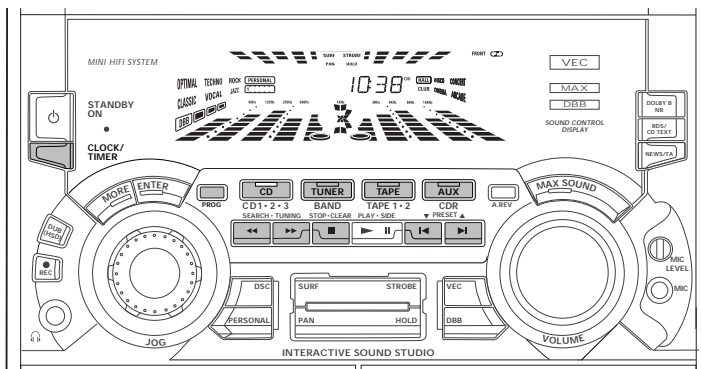
- 1 Load a blank tape in tape deck 2.
- 2 Press **REC** to start recording.
 - The **REC** flag starts flashing.
- 3 Press **■** to stop recording.

Note:

- *When you press RECORD while in TAPE mode, "SELECT SOURCE" will be displayed. One Touch Recording is not possible in TAPE mode.*

Digital Recording via Digital Out

For CD digital recording, please refer to the Instructions Manual of the CD Recorder, digital audio equipment, etc.



Viewing the Clock

You can view the clock (if it is set) while the system is in standby mode or any source mode. It will be displayed for about 7 seconds.

- Press **CLOCK/TIMER** briefly (*on the system only*).
 - "10:38" (the current time) will be displayed.
 - "----" will be displayed if the clock is not set.

Setting the Clock

The clock is set in 24-hour mode, e.g. "00:00" or "23:59". Before setting the clock, you must be in the View Clock mode.

- Press **CLOCK/TIMER** to select clock mode.

- "00:00" or the current time starts flashing.
- Set the hour with ◀◀ or ▶▶.
- Set the minute with ◀ or ▶.
- Press **CLOCK/TIMER** again to store the setting.
 - The clock starts.

- To exit without storing the setting, press ■ on the system.

Notes:

- During clock setting, if no button is pressed within 90 seconds, the system will exit clock setting mode automatically.
- When a power interruption occurs, the clock setting is erased.
- To set the time with RDS clock, see "Receiving RDS Radio Station" under *TUNER* section.

Setting the Timer

- The system can switch on to CD, TUNER, or TAPE 2 mode automatically at a preset time. It can serve as an alarm to wake you up.
- Before setting the timer, make sure the clock is set correctly.
- The timer will always be switched on once it is set.
- The volume of the timer will start to increase from the minimum level until the volume level before the set is switched to standby mode.**

- Press and hold **CLOCK/TIMER** for more than 2 seconds to select timer mode.
 - "00:00" or the last set timer starts flashing. The **TIMER** flag flashes.
 - The last selected source is lit while other available sources are flashing.
- Press **CD**, **TUNER** or **TAPE** to select the desired source.
- Before selecting CD or TAPE, make sure a CD or tape is loaded in the CD tray or tape deck 2.
- Press ◀◀ or ▶▶ to set the hour for the timer to start.
- Press ◀ or ▶ to set the minute for the timer to start.
- Press **CLOCK/TIMER** to store the start time.
 - The timer is now set.
 - The **TIMER** flag remains on the display.

- At the preset time, the timer will be activated.
 - The selected source will be played.

Notes:

- During timer setting, if no button is pressed within 90 seconds, the system will exit timer setting mode automatically.
- If the source selected is TUNER, the last tuned frequency will be switched on.
- If the source selected is CD, playback will begin with the first track of the last selected disc. If the CD trays are empty, the TUNER will be selected instead.
- If the source selected is TAPE, and if the preset time is reached during high speed dubbing, the TUNER will be selected instead.

To switch off the TIMER

- Press **CLOCK/TIMER** for more than 2 seconds.
- Press ■ on the system to cancel the timer.
 - The timer is now switched off.
 - The display will show "OFF" and the **TIMER** flag disappears.

To start the TIMER again (for the same preset time and source)

- Press **CLOCK/TIMER** for more than 2 seconds.
- Press **CLOCK/TIMER** again to store the start time.
 - The timer is now switched on.
 - The **TIMER** flag appears on the display.

Sleep Timer *(only on remote control)*

This feature allows you to select a length of time after which the system will switch to the standby mode automatically.

- Press **SLEEP TIMER** on the remote control repeatedly to select a period of time.
 - The selections are as follows (time in minutes):
60 → 45 → 30 → 15 → OFF → 60 ...
 - "SLEEP XX" or "OFF" will be displayed. "XX" is the time in minutes.
- When you reach the desired length of time, stop pressing the **SLEEP TIMER** button.
 - After this amount of time passes, the system will switch to the standby mode.

To switch off the sleep timer

- Press **SLEEP TIMER** repeatedly until "OFF" is displayed, or press the **STANDBY•ON** button.

Maintenance

Cleaning the Cabinet

- Use a soft cloth slightly moistened with a mild detergent solution. Do not use a solution containing alcohol, spirits, ammonia or abrasives.

Cleaning Discs

- When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the center out.
- Do not use solvents such as benzene, thinner, commercially available cleaners, or antistatic spray intended for analog records.



Cleaning the CD lens

- After prolonged use, dirt or dust may accumulate at the CD lens. To ensure good playback quality, clean the CD lens with Philips CD Lens Cleaner or any commercially available cleaner. Follow the instructions supplied with cleaner.

Cleaning the Heads and the Tape Paths

- To ensure good recording and playback quality, clean the heads, the capstan(s), and pressure roller(s) after every 50 hours of tape operation.
- Use a cotton swab slightly moistened with cleaning fluid or alcohol.
- You can also clean the heads by playing a cleaning tape once.

Demagnetizing the heads

- Use a demagnetizing tape available at your dealer.

Specifications

AMPLIFIER

Output power ⁽¹⁾

FW830C	2 x 200 MPO / 2 x 100 W RMS, 6Ω, 1 kHz, THD 10%
FW870C	2 x 260 MPO / 2 x 130 W RMS, 6Ω, 1 kHz, THD 10%

Signal-to-noise ratio ≥ 75 dBA (IEC)

Frequency response 40 – 20,000 Hz, ± 3 dB

Input sensitivity

Aux/CD-R In 500 mV

Microphone 2.5 mV

Output

Speakers ≥ 6 Ω

Headphones 32 Ω – 1000 Ω

Subwoofer Out 1.5 V ±2dB, > 22,000 Ω

Line Out 500 mV ±2dB, > 22,000 Ω

Digital Out IEC 958, 44.1 kHz

(1) (6 Ω, 1 kHz, 10% THD)

CD PLAYER

Number of programmable tracks 40

Frequency response 40 – 20,000 Hz

Signal-to-noise ratio ≥ 76 dBA

Channel separation ≥ 79 dB (1 kHz)

Total harmonic distortion < 0.02% (1 kHz)

TUNER

FM wave range 87.5 – 108 MHz

MW wave range 531 – 1602 kHz

LW wave range 153 – 279 kHz

Number of presets 40

Antenna

FM 75 Ω wire

AM Loop antenna

TAPE DECK

Frequency response

CrO₂ tape (type II) 60 – 15,000 Hz (5 dB)

Normal tape (type I) 60 – 15,000 Hz (5 dB)

Signal-to-noise ratio (*without Dolby NR*)

CrO₂ tape (type II) ≥ 50 dBA

Normal tape (type I) ≥ 47 dBA

Signal-to-noise ratio (*with Dolby NR*)

CrO₂ tape (type II) ≥ 62 dBA

Normal tape (type I) ≥ 58 dBA

Wow and flutter ≤ 0.4% DIN

SPEAKERS

System 3-way; double port bass reflex

Impedance 6 Ω

Woofer 1 x 6.5"

Tweeter 1 x 2.5"

Polydome Tweeter 2 x 1"

Dimensions (w x h x d) 260 x 310 x 315 (mm)

Weight 4.64 kg each

GENERAL INFORMATION

Material/finish Polystyrene/Metal

AC Power 220 – 230 V / 50 Hz

Power Consumption

Active

FW830C 180 W

FW870C 140 W

Standby

FW830C / FW870C < 18 W

Standby (*energy saving mode*)

FW830C / FW870C < 2 W

Dimensions (w x h x d) 265 x 310 x 390 (mm)

Weight (*without speakers*) 10.4 kg

Subject to modification

Warning! Under no circumstances you should try to repair the set yourself as this will invalidate the guarantee.

Do not open the set as there is a risk of electric shock.

- If a fault occurs, check the points listed below before taking the system for repair.
- Should any problems persist after you have made these checks, consult your nearest dealer or service center.

CD Player Operation

"NO DISC" is displayed.

- The disc is inserted upside down.
- Place CD with printed side up.
- Moisture condensation at the lens.
- Wait until lens has adjusted to normal room temperature.
- There is no disc in the CD tray.
- Insert a CD.
- The CD is dirty, badly scratched or warped.
- Clean or replace the CD.
- The CD lens is dirty or dusty
- See section under Maintenance.

"DISC NOT FINALISED" is displayed.

- The CD-RW or CD-R disc is not properly recorded for the use of a standard CD player.
- Read the instruction booklet of your CD-Rewritable or CD-Recorder on how to finalize a recording.
- The CD is badly scratched or dirty.
- Replace or clean CD.

Radio Reception

Poor radio reception

- The signal is too weak.
- Adjust the antenna.
- Connect an external antenna for better reception.
- The TV or VCR is too close to the stereo system.
- Separate the stereo system from the TV or VCR.

"NO RDS TEXT" is displayed.

- RDS text message is not available.
- Select another RDS station.

Tape Deck Operation

Recording or playback cannot be made or there is a decrease in audio level.

- Dirty tape heads, capstans or pressure rollers.
- See section on tape deck maintenance.
- Magnetic build-up in the record/playback head.
- Use demagnetizing tape.

General

System does not react when any button is pressed.

- Electrostatic discharge.
- Press STANDBY-ON to switch the system off. Remove the AC power plug from the wall outlet, then reconnect the power plug and switch on the system again.

No or poor sound.

- Volume is not turned up.
- Adjust VOLUME.
- The headphones are connected.
- Disconnect the headphones.
- Speakers are not connected or are connected wrongly.
- Check that the speakers are connected correctly.
- Make sure the stripped speaker wire is clamped.

Reversed left and right sound.

- Speakers are connected wrongly.
- Check the speaker connections and location.

Lack of bass sound or apparently imprecise physical location of musical instruments.

- Speakers are connected wrongly.
- Check the speaker connection for proper phasing, red/black wires to red/black terminals.

Remote control has no effect on the system.

- Wrong source is selected.
- Select the source (CD, TUNER, etc.) before pressing the function button, (▶, ◀, ▶, etc.).
- The distance to the system is too large.
- Reduce the distance.
- Batteries are inserted incorrectly.
- Insert the batteries with their polarities (+/- signs) as indicated.
- Batteries are exhausted.
- Replace the batteries.

Timer not working.

- Clock is not set.
- Set the clock.
- Timer is not switched on.
- Press CLOCK/TIMER to switch on the timer.
- Dubbing/recording is in progress.
- Stop dubbing/recording.

Clock setting is erased.

- There was a power failure.
- Reset the clock.

System displays features automatically; buttons flash continuously.

- Demonstration mode is switched on.
- Press and hold ■ (on the system only) for 5 seconds to switch off the demonstration.

A howling sound at external source.

- You hear feedback when you are listening and recording from the same source simultaneously.
- Press AUX to select CDR mode.

All lighted buttons are not lit.

- Equalizer Display is switched on in NITE mode.
- Rotate JOG to other Equalizer Display.