

CONION®

INSTRUCTION MANUAL

4-BAND STEREO RADIO DOUBLE CASSETTE RECORDER

with BURGLAR ALARM



MODEL C-100-SERIES

ONEY ONKYO CO., LTD. KOBE, JAPAN

Thank you very much for purchasing the C-100. This unit has many superior features as described below. For optimum performance please read this instruction manual carefully.

● Features

- Strong 45W music output (RMS 30W), 10% THD.
- The unit can be powered by AC power supply dry batteries or car battery using the 3-way power supply system.
- A burglar alarm uses infrared rays to detect approaching forms. Place this device close to valuable objects to prevent theft.
- The three-way speaker system, including 20cm woofers, is powerful enough to reproduce sounds ranging from low to high frequencies.
- The double-cassette mechanism allows dubbing.
- The tape 1 section has a full-auto stop function, and the tape 2 section has an auto reverse function.
- The MSSI (Music Start Search Installation) function repeats or quickly finds any desired music.
- The spare tape holder can store three spare cassette tapes. (Utility Model applied for).
- The LED tape running indicator allows checking of tape movement. (Utility Model applied for).
- The VU meter indicates both recording levels and playback levels. This also functions as a battery checker and tuning meter during radio broadcast reception.
- The loudness switch delivers deeper sounds at low volumes.
- The Mic mixing function allows mixing to be changed as desired.
- The flywheel tuning mechanism makes tuning smooth.
- The FM stereo LED indicator lights when an FM stereo broadcast is received.
- The FM AFC circuit assures stable FM reception.
- The dial scale is illuminated when the unit draws AC power.
- The FM muting switch eliminates interstation noise.
- The advanced auto stop mechanical logic control unit included in the deck facilitates soft touch operation. The one-touch recording mechanism is also very convenient.
- The cassette lid opens smoothly due to the soft ejection system.
- The three-position tape selector allows normal, chrome, and metal tapes to be played.
- The recording level control properly adjusts recording levels for each tape used. It also has a selection pushbutton for automatic recording.
- The recording indicator lights when a tape is recorded.
- The monitor jack is used conveniently for recording and playback.
- The power indicator uses 14 horizontally-lined LEDs to display output power.
- A stereo/mono selector switch is provided.

● Precautions

- (1) Do not expose to high temperature (such as direct sunlight or proximity to a heater), high humidity, dust or vibration.
- (2) Before turning on power, check for proper connections.
- (3) Set the volume control knob at a low level before turning on power. Failure to do so will result in sudden, annoying loud sounds from the speakers, and may result in breakage.
- (4) Do not expose to strong magnetic fields, such as near a TV set. Noise or hum may result.
- (5) If you do not use the AC source for a long period, the AC cord should preferably be disconnected from the household socket.
- (6) The C-100 uses a high quality cassette mechanism that is electrically operated. If the unit is used for an extended period without battery replacement, an automatic circuit functions to protect the cassette mechanism from adverse effects due to low voltage. As a result, the cassette lid may not open at such times. If this problem occurs, operate the unit on AC power. If the cassette lid still does not open, do not force the lid. Instead, take the unit to a repair shop.

● Name of parts

- | | | | | | |
|----|----------------------------------|----|---|----|---|
| 1 | Tape selection switch for tape 1 | 25 | Music start search installation (MSSI) button | 49 | Reset button |
| 2 | Tape selection switch for tape 2 | 26 | Dubbing button | 50 | Right speaker (Woofer) |
| 3 | Loudness switch | 27 | Cassette lid for tape 2 | 51 | Tape run indicator for tape 1 |
| 4 | MODE/FM MUTE switch | 28 | Bass control knob | 52 | Monitor jack |
| 5 | Band selection knob | 29 | Treble control knob | 53 | Right tape run indicator for tape 2 |
| 6 | Tuning knob | 30 | Balance control knob | 54 | Spare tape holder |
| 7 | Volume control knob | 31 | Left VU level/Battery, check meter | 55 | Left tape run indicator for tape 2 |
| 8 | Function knob | 32 | Right VU level/Tuning meter | 56 | Headphone jack |
| 9 | Record level control knob | 33 | Record indicator | 57 | Left speaker (Woofer) |
| 10 | Record mode button | 34 | FM stereo indicator | 58 | Left speaker (Tweeter) |
| 11 | Program button | 35 | Left output power indicator | 59 | Left built-in mic |
| 12 | Fast forward button for tape 2 | 36 | SENSOR (Burglar alarm) | 60 | Left speaker (Midrange) |
| 13 | Fast forward button for tape 2 | 37 | Carrying handle | 61 | EXT. FM antenna |
| 14 | STOP/EJECT button for tape 2 | 38 | Dial pointer | 62 | Right mic jack |
| 15 | Mixing level knob | 39 | Right output power indicator | 63 | Left mic jack |
| 16 | Mic mixing jack | 40 | Rod antenna | 64 | PHONO/AUX selection switch |
| 17 | Pause button for tape 1 | 41 | SENSOR button | 65 | Grand terminal |
| 18 | STOP/EJECT button for tape 1 | 42 | SENSOR button indicator | 66 | PHONO/AUX jack |
| 19 | FF/CUE button for tape 1 | 43 | Power button indicator | 67 | Beat cancel switch |
| 20 | REW/REV button for tape 1 | 44 | Power button | 68 | EXT. speaker jack (right) |
| 21 | PLAY button for tape 1 | 45 | Right speaker (Midrange) | 69 | EXT. speaker jack (left) |
| 22 | RECORD button for tape 1 | 46 | Right built-in mic | 70 | AC power jack |
| 23 | Cassette lid for tape 1 | 47 | Right speaker (Tweeter) | 71 | DC power jack |
| 24 | Edit button | 48 | Tape counter | 72 | AC voltage selection switch (F, FF, FL, only) |
| | | | | 73 | Battery compartment lid |

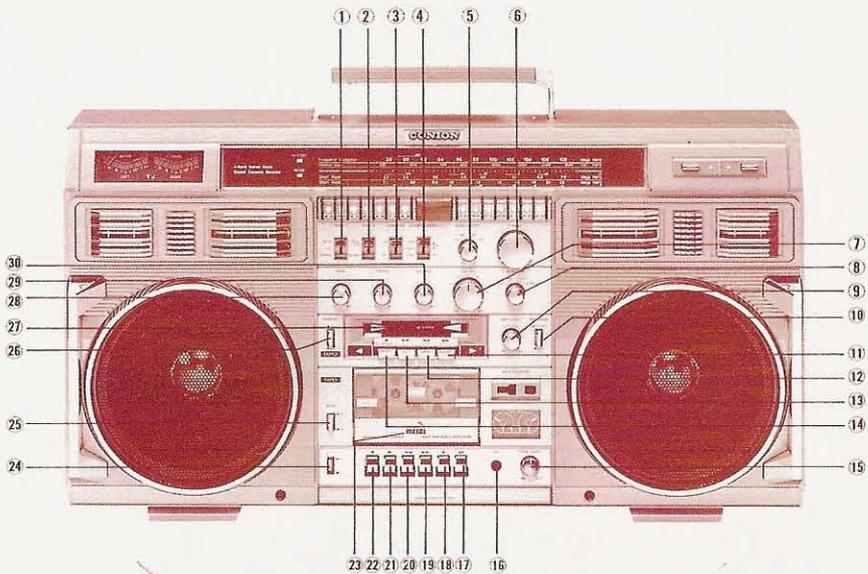


Fig. 1

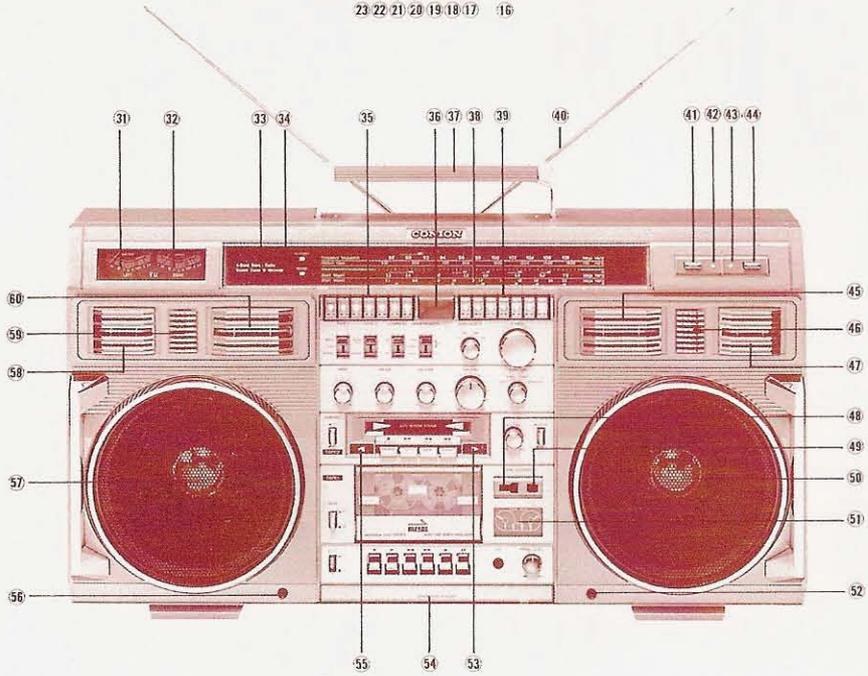


Fig. 1

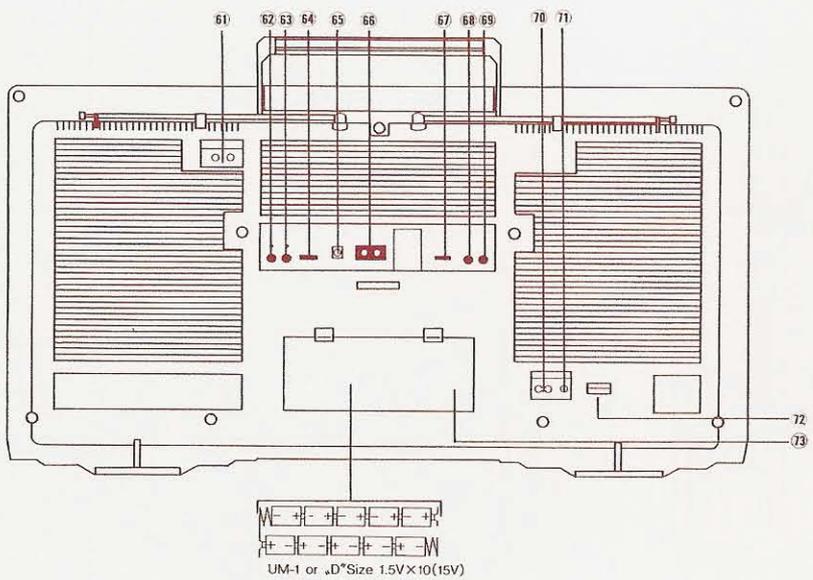


Fig. 2

● Loudness switch

When listening to music at low sound volume, set this switch to ON. Low and high frequency sounds are emphasized. You can enjoy music in wider ranges even at low sound volume.

● Tape running indicator

The tape running indicator shows tape running condition for easy check. In the playback/recording mode, LED lighting from left to right is repeated at a slow speed. In the fast forward mode, LED lighting from left to right is repeated at a high speed. In the rewind mode, LED lighting from right to left is repeated at a high speed. (Fig. 8)

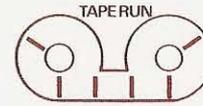


Fig. 8

● Burglar alarm

An infrared burglar alarm is included in the unit. Set this device before you go to sleep or leave the house to prevent burglary. It detects an area up to 3 or 4 meters ahead and 30° wide.

● How to use the burglar alarm

- (1) Direct the front side of the unit in the desired direction.
- (2) Turn sensor button (41) on.
- (3) The burglar alarm is activated one minute later. Be sure to move away from the sensor before one minute elapses or it will sound the alarm.
- (4) To stop the alarm, turn the sensor button off.

*We recommend that AC power be used when the burglar alarm is used. If batteries are used, the alarm will not sound for a long time.

*The burglar alarm device may sometimes malfunction due to strong wind or sunlight. Place the unit where it will not be adversely affected by the elements.

● Antenna adjustment

● FM antenna

To receive FM broadcasts, extend the rod antenna and direct it where the best reception is obtained.

● AM antenna

The built-in bar antenna functions to receive AM broadcasts. Because the bar antenna is directive, the unit must be directed to obtain the best reception.

- (1) If reception is poor, connect a commercially available T-shaped antenna to the external FM antenna terminal on the rear panel, extend it to its proper shape, and secure it when the best reception is obtained.
- (2) For stable reception in remote areas or in weak signal areas due to tall buildings, install an outdoor FM antenna. Connect a 75Ω cable to the antenna terminal.

● Connecting external speakers

Use external speakers with an impedance of 8Ω or more.

● Beat cancel switch

Normally this switch is set at (II). When recording an AM broadcast, beat sound may be caused when a broadcast is received. To cancel the beat, set this switch to (III) or (I).

BEAT CANCEL

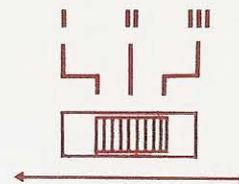


Fig. 9

● Radio broadcasting reception

- (1) Set function knob (8) to RADIO.
- (2) Turn power button (44) on.
*The power indicator will light.
- (3) Select the desired broadcast band using BAND SELECT knob (5).
- (4) Select the desired station by turning TUNING knob (6). The best reception is obtained when the tuning meter pointer swings the most.

Notes: ● To receive an FM broadcast, set the MODE/FM MUTE switch to STEREO.

● When an FM stereo broadcast is received in the FM reception mode, the FM STEREO indicator will light.

● When AC power is used, the illumination lamp for the dial scale will light. However, the lamp will not light when DC power is used.

● Tape I playback

- (1) Set Function knob (8) to TAPE.
- (2) Press STOP/EJECT button (18) to open the cassette lid. Load the desired cassette tape in the cassette holder. (Load the tape, facing the playback side to the front side of the unit as shown below.) Then close the cassette lid.
- (3) Select Tape selection switch according to tape type.
- (4) Press Play button (21). The tape is played and sound is delivered from speakers.
- (5) When the tape is taken up to the end, Play button (21) returns automatically.
To play the same section again, rewind the tape by pressing REW/REV button. To play the opposite side, turn over the cassette tape.
- (6) To stop playback in the middle, press the STOP/EJECT button.

● Recording level

When REC MODE button is set to AUTO, the ALC circuit (Automatic Level Control) ensures automatic recording.

When REC MODE button is set to MANUAL, the recording level can be controlled by REC LEVEL control knob (9).

When REC button (22) for tape 1 is pressed, the VU meter indicates the recording level. The best recording level is around 0.

Note: Even when volume and tone control knobs (7), (28), and (29) are turned during recording, recording levels and frequencies are not changed.

● Recording of radio broadcasting

(1) Press STOP/EJECT button (18) to open the cassette lid, load a cassette tape, and close the cassette lid.

(2) Select the desired broadcasting band with BAND selection knob (5).

(3) Select the desired broadcasting station with Tuning knob (6).

(4) Select the tape selection switch according to tape type.

(5) Press Pause button (17).

(6) Press REC button (22) and adjust recording level.

(7) Press Pause button (17) again.

Temporarily stop is released and recording starts.

(8) To stop recording in the middle, press STOP/EJECT button (18).

*When the tape is taken up to the end, recording stops automatically.

● Record player connection

(1) Connect a record player with a magnetic cartridge to the PHONO/AUX terminal on the rear panel.

(2) Set the input selector on the rear panel to PHONO.

● Playback of record player

(1) Set Function knob (8) to PHONO.

Note: When a player is connected to the AUX terminal, set the switch to AUX.

(2) Operate the record player. (For record player operating instructions, refer to the operation manual for the record player connected.)

● Recording of record player sound

(1) Set Function knob (8) to PHONO/AUX.

(2) Open cassette lid (23), load a cassette tape, and close cassette lid.

(3) Select Tape selection switch according to tape type.

(4) Press Pause button (17).

(5) Press REC button (22).

(6) Adjust recording level with Record level control knob (9).

(7) Operate the record player.

(8) When Pause button (17) is pressed again, recording starts.

● Recording from an external source

(1) Set the input selector on the rear panel to AUX.

(2) Connect the AUX terminal on the rear panel to the output terminal on the external unit. Set FUNCTION knob (8) to PHONO/AUX.

(3) Place a cassette tape into the cassette holder.

(4) Set the TAPE SELECTION switch to the proper position for each tape.

(5) Press PAUSE button (17).

(6) Press REC button (22), and adjust the recording level using the REC level knob.

(7) Press PAUSE button (17) once again to begin recording.

● Mic mixing

Connect microphones to mic mixing jack (16) for mic mixing. With this connection, the microphone output can be simultaneously recorded together with the output from the radio receiver or with any external source. Mic mixing is also possible during cassette tape play, radio broadcasting reception and play of any external source.

*Adjust mixing amount with Mic mixing knob (16).

*Be sure to disconnect the microphone plugs when mic mixing is not used.

● Headphone and monitor jacks

● If you want to listen through the stereo headphones, connect them to the headphone jack or the monitor jack.

● Press the dubbing button to monitor playback or recording of tape 1.

● Sleep timer

According to the length of an inserted cassette tape, the radio turns off automatically at a predetermined time allowing you to drop off to sleep when listening to your desired program. Fully wound tapes give the following playing time.

C-30 cassette tape 15 min

C-60 cassette tape 30 min

C-90 cassette tape 45 min

C-120 cassette tape 60 min

1. Insert the cassette tape into the cassette lid of tape 1 according to the length of your predetermined time.

2. Set the POWER button (44) to the sleep position.

3. Set the FUNCTION knob (8) to the RADIO position. For listening to the radio, push in the play button (21) and for recording, push in the REC button (22).

4. When the tape comes to the end of the reel, the radio turns off automatically and the electric power is cut off.

● Cleaning

● After an extended period of use, the heads, pinch roller, capstan, etc. will be stained, causing noise and unstable sounds.

To clean them, open the cassette lid and carefully wipe the heads, pinch roller and capstan with a soft cloth slightly dampened with high-quality alcohol.

● To clean the cabinet, wipe it with a soft cloth slightly dampened with water. Do not use thinner or benzene.

If used, the cabinet surface will be damaged.

● Fast forward and rewinding

- (1) To rapidly forward the tape a long distance, press FF/CUE button(19).When the tape has been taken up to the end, fast forward stops automatically.
- (2) To rapidly rewind the tape a long distance, press REW/REV button(20).When the tape has been taken up to the end, re-winding stops automatically.
- (3) To stop fast forward or rewinding in the middle, press STOP/EJECT button (18).

● Cue and review

- (1) To rapidly forward the tape a short distance during playback, press the FF/CUE button. While the button is held down, the tape is fast forwarded. When the button is released, playback is resumed immediately.
- (2) To rapidly rewind the tape a short distance during playback, press the REW/REV button. While the button is held down, the tape is rewound. When the button is released, playback is resumed immediately.

● Pause button

To temporarily stop the tape during playback or recording, press Pause button (17)until it is locked. Before recording, lock this button, press REC button(22) and adjust recording level. Next, press Pause button(17), and recording starts. By following this procedure, recording failure is prevented.

Note: When the tape is stopped for an extended period, do not use the Pause button.

● Tape counter

To reset the tape counter to 000, press the tape counter reset button. Counter reading changes as the tape runs. The reading can be used conveniently when searching for the desired playback section of the tape or the next recording start section.

● MSSl function

This function is used to search for the beginning of any piece of recorded music, and to automatically play the tape from that beginning.

● Use of MSSl function

(MSSl function is effective only for tape 1)

- (1) Set the MSSl button (25) to ON. The MSSl indicator lights.
- (2) Play tape 1.
- (3) To skip the piece of music being played and go to the next one, press FF./CUE button (19) for tape 1 (release hand after the button is locked). When the beginning of the next piece of music is reached, the play mode is automatically restored.
- (4) To repeat the piece of music which has just been played, press REW/REV button (20) for tape 1. When the beginning of the piece is reached, the play mode is automatically restored.

● Precautions

The MSSl function operates by searching relatively long no-signal portions on the tape. Therefore, it may not operate normally in the following cases, but this is normal. Consequently, this function should be used according to the sound recorded on tape.

- The tape includes intermittent sounds, such as conversations.
- The tape includes a portion with a long period of “pianissimo” (very weak signal) or no-signal portion in the music.
- The tape includes pieces with low recording levels.
- The tape has short intervals between the pieces.
- The tape has intervals of great noise or hum between the pieces.

● Edit switch

When the edit switch is pressed in the recording mode, a no-signal portion is obtained. This function can be used conveniently to cut CM messages or narrations accurately during air checks or to provide proper no-signal portions between pieces of music.

● Tape 2 playback

- (1) Set FUNCTION knob (8) to tape 2.
- (2) Set TAPE SELECTION switch (2) to the proper position for each tape.
- (3) Load a cassette tape with the tape facing the front. Once the cassette tape is loaded, it will be automatically played.
- (4) When tape side A faces up, press the program button. Side A will be played when the left tape running indicator lights.
- (5) To play side B, press the program button so that the right running indicator lights.
- (6) To stop tape in the middle of playback, press the eject button.
- (7) When the left running indicator is lit, press button ◀◀ to fast forward the tape, and press button ▶▶ to rewind the tape. When the right running indicator is lit, press button ▶▶ to fast forward the tape and press button ◀◀ to rewind the tape.

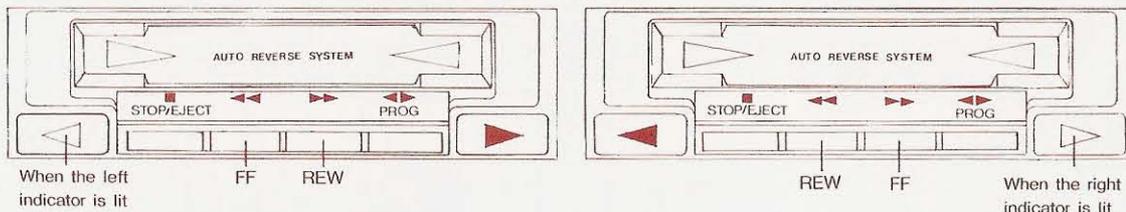


Fig. 10

● Dubbing

Dubbing is used to copy tapes from tape 2 to tape 1 at the same level.

- (1) Turn the dubbing button on.
 - (2) Load the cassette tape to be recorded into the tape 1 cassette holder. Press PAUSE and REC buttons.
 - (3) Load the cassette tape to be played into the tape 2 cassette holder.
 - (4) Press PAUSE button for the tape 1 once again. Dubbing will begin.
- To monitor the dubbing, turn FUNCTION knob (8) to TAPE 2, or connect optional headphones to monitor jack (52).
 - To hear the radio or the record player, turn FUNCTION knob (8) to RADIO or PHONO/AUX.

● Handling of cassette tapes

● Precautions for accidental erasure

Accidental erasure protection tabs are provided for cassette cases to prevent any accidental erasure or recording.

To prevent any erasure of the sound recorded on side A, break and remove the tab for side A with a screwdriver or any similar object. To prevent any erasure of side B sound, break and remove the tab for side B in the same way. (Fig. 3) To record sound on the cassette without the tabs, attach cellophane tape pieces over the holes. (Fig. 4)

“SAFETY TAB”
for B side

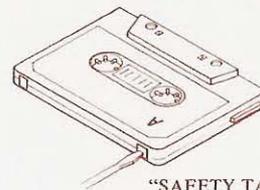


Fig. 3

“SAFETY TAB”
for A side

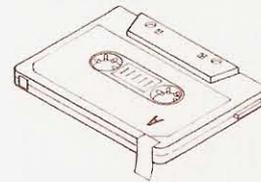


Fig. 4

● Checking of tape slack

Check tape for slack before using. If slack tape is used, tape tear or winding may occur. Remove the slack by winding the tape with a pencil or any other proper implement. (Fig. 5)

*It is not recommended to use a C-120 long-play cassette tape, since it is thin and tends to be deformed or damaged.

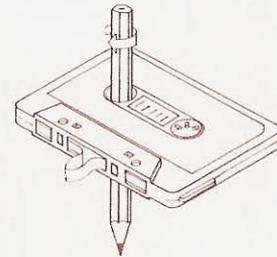


Fig. 5

● Tape selection switch

- Select tape selection switch (1) or (2) according to tape type.

Tape type	Tape selection switch
Normal tape	NORMAL
Chromium tape	CrO ₂
Ferri-chromium tape	CrO ₂ / Playback Normal/Recording
Metal tape	METAL

● Use of 3-way power supply system

● Operation from AC power supply

AC power supply voltage differs from country to country. Set the VOLTAGE selection switch on the rear panel to the proper position. <<F, FF, FL only>>

A) When the unit is operated on 115V (110 ~ 120V), set the VOLTAGE selection switch to the 120V position.

<<F, FF, FL only>>

B) When the unit is operated on 230V (220 ~ 240V), set the VOLTAGE selection switch to the 240V position.

<<F, FF, FL only>>

*When the unit is operated on 220V only. <<FLE only>>

● Operation by DC power

Remove the AC cord from the AC socket, and you can operate the unit using dry batteries or a car battery.

● How to use dry batteries

Open the battery lid of the rear panel, and load ten UM-1/“D” size/R20/HP2 1.5V batteries in the battery holder. Be sure they are positioned correctly.

● How to use the car battery

Connect the EXT DC socket on the rear panel to the cigarette lighter socket on the car. (Fig. 7)

Note: When the batteries are weak, recording and playback may become unstable or malfunction, even when radio reception is normal. Be sure to replace the batteries before important recording because the cassette deck motors consume much electricity.

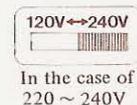
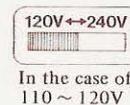


Fig. 6



Fig. 7

● Control of sound volume and quality

- Turn VOLUME control knob (7) clockwise to increase sound volume.
- Adjust BALANCE control knob (30) to have a proper balance between sound volumes of right and left speakers. When the control knob is turned clockwise from the center position, the sound volume of the left speaker increases. When it is turned counterclockwise from the center position, the sound volume of the left speaker increases. Normally, the optimum balance is obtained when the control knob is set at the center position. Control the knob as desired according to listening position.
- When listening to an FM stereo broadcast, first set MODE/FM MUTE switch (4) to MONO, and adjust so that the sound is heard from the center. After adjustment, return the setting of switch (4) to STEREO.

● Specifications

Please ensure the Model Number on the Model plate at rear side of the body before you read the specification.

		MODELS	C-100F:FF	C-100FL	C-100FLE
GENERAL					
Power source	(AC. 50/60Hz. V)		120/240	120/240	220
Total output power	(Music. W)		45	45	45
	(RMS. W)		30	30	30
Power consumption	(W)		48(F) 28(FF)	48	46
Speaker impedance	(Ω)		5.4	5.4	5.4
Dimensions	((W) x (H) x (D). mm)		754 x 401 x 204	754 x 401 x 204	754 x 401 x 204
Weight	(Kg)		11.8	11.8	11.8
BAND					
FM. Frequency range	(MHz)		88-108	88-108	88-108
Usable Sensitivity	(μ V)		6	6	6
IF rejection	(dB)		60	60	60
Image rejection	(dB)		40	40	40
ACS 400KHz	(dB)		40	40	40
3dB limiting sens	(μ V)		6	6	6
FM stereo separation	(dB)		35	35	35
MW. Frequency range	(KHz)		530-1,600	530-1,600	530-1,600
Usable Sensitivity	(μ V/m)		250	250	250
IF rejection	(dB)		35	35	35
Image rejection	(dB)		40	40	40
SW1 Frequency range	(MHz)		2.3-7	6-18	6-18
Usable Sensitivity	(μ V/m)		250	100	100
Image rejection	(dB)		25	15	15
SW2 Frequency range	(MHz)		7-22		
Usable Sensitivity	(μ V/m)		100		
Image rejection	(dB)		15		
LW. Frequency range	(KHz)			150-280	150-280
Usable Sensitivity	(μ V/m)			600	600
IF rejection	(dB)			40	40
Image rejection	(dB)			35	35
TAPE 2 (playback tape deck)					
Track system	(track/channel)		4/2	4/2	4/2
Tape speed	(cm/sec)		4.8	4.8	4.8
Wow-flutter	(WRMS%)		0.2	0.2	0.2
Crosstalk	(dB)		45	45	45
Separation	(dB)		40	40	40
S/N ratio	(dB)		45	45	45
TAPE 1 (Recording/Playback tape deck)					
Track system	(track/channel)		4/2	4/2	4/2
Recording system	(bias)		AC(85KHz)	AC(85KHz)	AC(85KHz)
Erasing system	(erase)		AC	AC	AC
Tape speed	(cm/sec)		4.8	4.8	4.8
Wow-flutter	(WRMS%)		0.09	0.09	0.09
Crosstalk	(dB)		45	45	45
Separation	(dB)		40	40	40
S/N ratio	(dB)		45	45	45
TAPE 1, 2, frequency response					
	(NORMAL. Hz)		100-10,000	100-10,000	100-10,000
	(CrO ₂ . Hz)		100-12,500	100-12,500	100-12,500
	(METAL. Hz)		100-14,000	100-14,000	100-14,000
AUDIO					
Input sens/Imp.	(AUX mV/K Ω)		150/47	150/47	150/47
	(M.M. mV/K Ω)		2.5/47	2.5/47	2.5/47
DIN JACK/Imp	(Input K Ω /Output K Ω)		100/10	100/10	100/10
Tone control action	(Bass. Hz/dB)		100/±8	100/±8	100/±8
	(Treble. KHz/dB)		10/±8	10/±8	10/±8
Loudness control effect	(Hz/dB)		100/+6	100/+6	100/+6
	(KHz/dB)		10/+4	10/+4	10/+4
DC Supply					
EXT. DC.	(DC. V)		15V	15V	15V
Battery	(DC. V)		15V (battery "D" size x 10)	15V (battery "D" size x 10)	15V (battery "D" size x 10)
Car Battery	(DC. V)		13.2	13.2	13.2
ACCESSORIES					
Demonstration tape					
T-shaped (Dipole) antenna					
Speaker connection cord					
OPTION ACCESSORIES					
Speaker System					
FM. Microphone					

*Design and specifications are subject to change without notice to improve the efficiency of the set.