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YAMAHA K-09

Natural Sound Stereo Double Cassette Deck

Platine à cassette double stéréo de la série "Natural Sound"

"Natural Sound" Doppel-Stereo-Kassettengerät

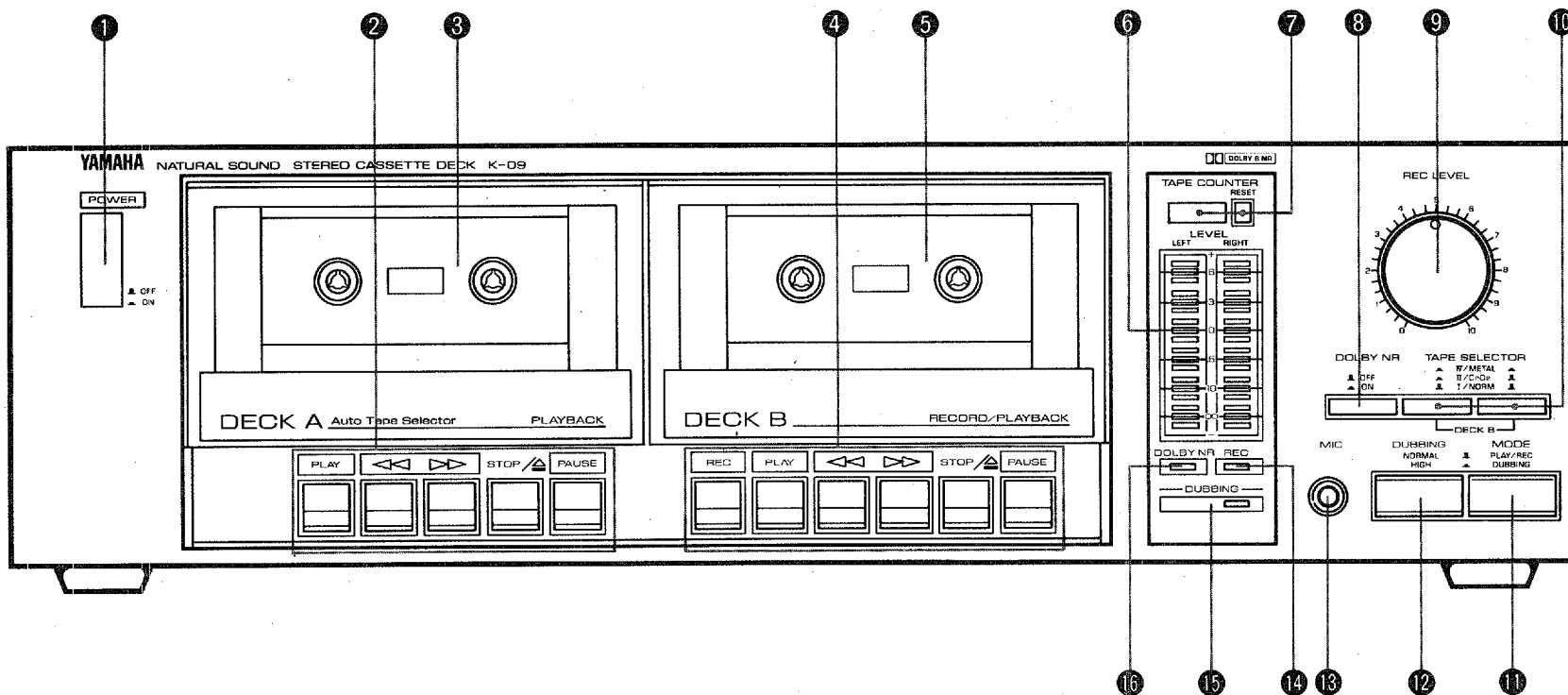
Natural Sound dubbla stereokassettdäck

Registratore a Cassette Stereo a Doppia Piastra a Suono Naturale

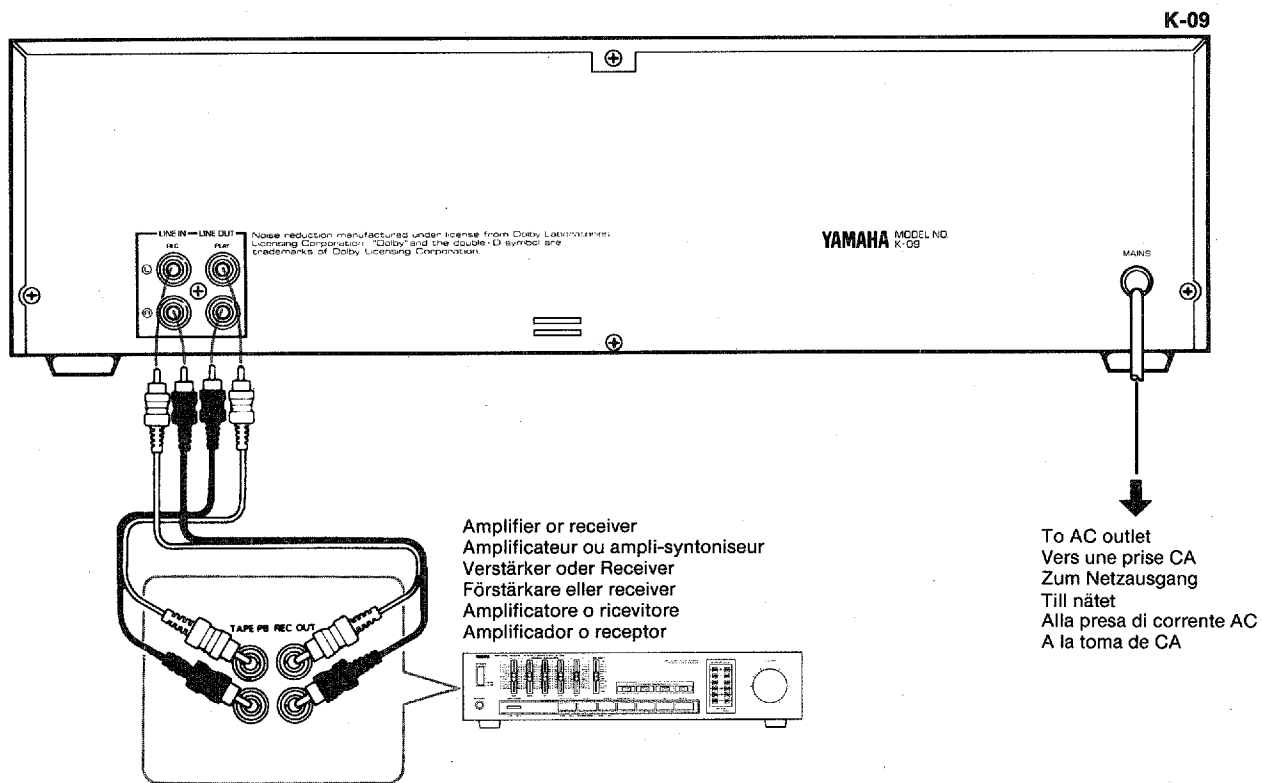
Magnetófono estéreo de dos casetes de sonido natural

CENTER

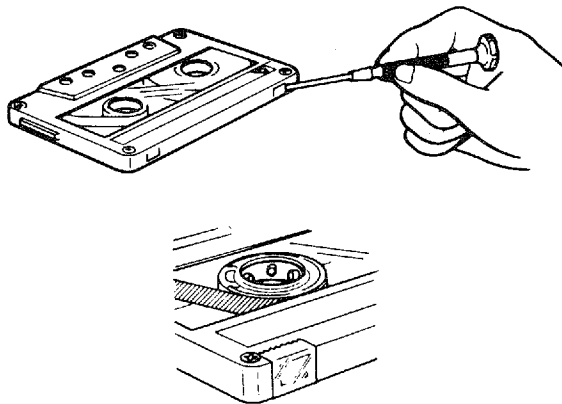
**OWNER'S MANUAL
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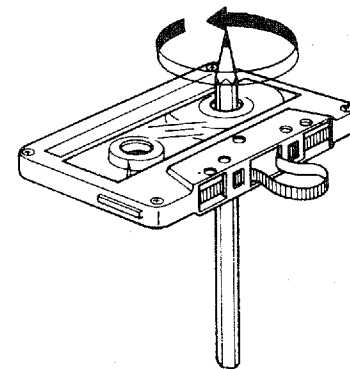
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• Thank you for purchasing the YAMAHA K-09 stereo cassette deck.

CAUTION: READ THIS BEFORE OPERATING YOUR UNIT.

- 1.** This unit is a sophisticated stereo cassette deck. To ensure proper operation for the best possible performance, please read this manual carefully.
- 2.** Choose the installation of your unit carefully. Avoid placing it in direct sunlight or close to source of heat. Also avoid locations subject to vibration and excessive dust, heat, cold or moisture. Keep it away from such sources of hum as transformers or motors.
- 3.** Do not open the cabinet as this may result in damage to the deck or electrical shock. If a foreign object should get into the deck, contact your local dealer.
- 4.** When removing the power plug from the wall outlet, always pull directly on the plug; never pull the cord itself.
- 5.** Do not use force when operating switches and knobs.
- 6.** When moving the deck, be sure to first pull out the power plug and remove all cords connecting the deck to other equipment.
- 7.** Do not attempt to clean this unit with chemical solvents as this may damage the finish. Use a clean, dry cloth.
- 8.** Never allow metallic items (e.g. screwdrivers, tools, etc.) to come near the record/playback head assembly. Doing so may not only scratch or damage the head's mirror-smooth finish, it may change the magnetic characteristics of the heads, causing a deterioration in reproduction performance quality.
- 9.** Although the record/playback head used in this unit is a high quality Permalloy head with outstanding reproduction characteristics, it can become dirty through the use of old tapes or from dust accumulation over time. This can have a serious effect on reproduction quality. Clean the heads regularly with one of the commonly available head cleaners or with cleaning solutions as explained later in this manual.
- 10.** Be sure to read the "Troubleshooting" section of this manual for advice on common operating errors before concluding that your unit is faulty.
- 11.** Keep this manual in a safe place for future reference.
- 12.** Voltage Selector (General Model only)
The voltage selector on the rear panel of this unit must be set for your local mains voltage BEFORE plugging in the AC mains supply.
Voltages are 110/120/220/240V AC, 50/60 Hz.

WARNING

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

SPECIAL INSTRUCTIONS FOR U.K. MODEL

IMPORTANT:

The wires in the mains lead are coloured in accordance with the following code.

Blue: NAUTRAL

Brown: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

FRONT PANEL PARTS AND FUNCTIONS

(See Fig. 1.)

① POWER switch

Press this switch to turn the power on. Press again to turn the power off.

② DECK A main operation buttons

PLAY: Press for playback.

◀◀: Press this button to rapidly rewind the tape during stop mode. To release the fast-rewind mode, press the STOP/▲ button. When the tape is fully rewound, press the STOP/▲ button to release the fast-rewind mode.

▶▶: Press this button to rapidly advance the tape during stop mode. To release the fast-forward mode, press the STOP/▲ button. When the tape is fully forwarded, press the STOP/▲ button to release the fast-forward mode.

STOP/▲:

Durring stop mode: To load a cassette tape, press this button and the cassette compartment will open.

During other modes: Press this button to stop the tape while in any mode.

PAUSE: Pressing this button engages the pause mode. To initiate the playback, press the PAUSE button again.

③ DECK A cassette compartment

Pressing the STOP/▲ button opens the cassette compartment.

Load a cassette tape and depress the cassette compartment to close it.

④ DECK B main operation buttons

During playback and stop mode, these buttons have the same functions as DECK A main operation buttons except for REC button.

REC: Press this button and PAUSE button to engages the Rec Standby mode.

While in this mode, the REC LEVEL meters will function, allowing you to set the recording level of your program source. (Refer to the "SETTING THE RECORDING LEVEL" section of this manual.) To initiate recording from the Rec Standby mode, press the PAUSE button. Pressing the PAUSE button during actual recording engages the Pause mode. To resume recording, press the PAUSE button.

⑤ DECK B cassette compartment

⑥ REC LEVEL meters

Indicate the peak of the signal level during recording or playback over a range from $-\infty$ dB to +6 dB.

⑦ TAPE COUNTER and RESET button

Before recording a tape, press the RESET button to set the TAPE COUNTER "000". This allows you to index the selections.

⑧ DOLBY NR switch

For recording and playback with Dolby NR system, set this switch to ON. Tapes recorded with Dolby NR, should be played back with Dolby NR ON. For recording and playback without Dolby NR, set this switch to OFF.

⑨ REC LEVEL control

Adjusts the input level of the recording signal coming from the rear panel L/R IN/REC jacks, and adjustable signal levels are displayed on the REC LEVEL meters.

⑩ DECK 2 TAPE SELECTORS

When a tape is loaded in DECK B, set these selectors according to the load tape type.

Setting the selectors adjusts for proper bias, level and equalization according to the tape type.

* When a tape is loaded in DECK A, the deck's circuitry will automatically adjust for proper bias, level, and equalization for that type of tape.

⑪ MODE button

Set this button to DUBBING position for dubbing mode. For recording or playback mode, be sure to set this button to PLAY/REC position.

CONNECTIONS

⑫ DUBBING speed button

Used to select the dubbing speed. For standard speed dubbing, set this button to NORMAL position. For double-speed dubbing, set this button to HIGH position.

⑬ MICrophone jack

Connect a stereo microphone to this jack when recording with microphone.

⑭ REC indicator

Lights when the REC button is pressed.

⑮ DUBBING indicator

Lights when the MODE button is set to DUBBING position.

⑯ DOLBY NR indicator

Lights when the DOLBY NR switch is set to ON.

Dolby and the double D mark are trademarks of Dolby Laboratories Licensing Corp. Dolby noise reduction system manufactured under license from Dolby Laboratories Licensing Corp.

■ REAR PANEL CONNECTIONS

(See Fig. 2.)

Make sure that power to both the K-09 and your amplifier (receiver, etc.) are turned off before making connections.

The White plug on the paired connecting cables corresponds to the Left channel and the Red plug corresponds to the Right channel. The LINE OUT/PLAY jacks on the K-09 should be connected to the Tape PB (Playback/Input) jacks on your amplifier, and the LINE IN/REC jacks on the K-09 should be connected to the Rec Out (Rec/Output) jacks on your amplifier. Make sure that the left and right channel connections are properly made, and that the plugs are inserted firmly.

Connect the power cord to an AC outlet or to the AC outlet provided on the rear panel of your receiver or amplifier, etc.

CASSETTE TAPES

■ CASSETTE TAPES

There are many different types of cassette tapes available, however, they all conform to standard specifications so any brand may be used with the K-09.

* **Classification of Cassettes Tapes by Formulation**

Cassette tapes are available in four basic types depending on their formulation, or type of magnetic material and manufacturing process. These four types are commonly known as Normal (I/NORM), Chrome (II/CrO₂), Ferrichrome (III/FeCr), and Metal (IV/METAL), and they each require specific optimum performance.

DECK A of the K-09 has an Auto Tape Selector which automatically adjusts for the proper bias, level and equalization according to the tape formulation — all you have to do is load a cassette and the Auto Tape Selector does the rest.

- * Old-type Metal tape cassette shells do not have the necessary hole for Auto Tape Selector operation. It is recommended that you do not record with this kind of Metal cassette. However, Metal tape cassettes recorded on another deck may be played back with the K-09 at the Chrome (II/CrO₂) settings. All current cassette tapes will have this small opening in the cassette shell, so be sure you use suitable cassettes with the K-09.
- * The K-09 does not have the required setting for Ferrichrome (III/FeCr) tape, since this tape formulation is not widely used. Should you use a Ferrichrome tape, it will be recorded and played back at the Normal (I/NORM) settings. And this will result in an unnatural high frequency emphasis. This effect may be compensated for somewhat by adjusting the tone controls of your amplifier.
- * YAMAHA does not recommended the use of C-120 cassettes since the extreme thinness of the tape makes them susceptible to mechanical and electrical problems.

■ PROTECTING YOUR RECORDINGS

(See Fig. 3.)

All cassette tapes are provided with erasure protection holes to prevent recorded tapes from being accidentally erased. There is a small tab covering the hole on each cassette, and it should be broken off with the screwdriver after recording a tape. Without this tab covering the hole, it is impossible to record on that tape again; thus, you can keep any recorded tape for as long you wish without fear of accidental erasure. Should you wish to use a cassette tape protected in this way for later recording, simply covering the hole with adhesive tape will permit erasure and re-recording.

- * When using Chrome (II/CrO₂) or Metal (IV/METAL) tape, make sure you not cover the hole intended for the tape formulation check.

■ TAKING UP SLACK IN THE TAPE

(See Fig. 4.)

Slack in the tape inside of the cassette shell can be corrected by simply inserting a pencil into one of the spools and winding it until all the slack is taken up.

■ STORAGE OF YOUR CASSETTE

After putting a cassette tape back into its case, store in a location away from exposure to direct sunlight, humidity, high temperatures, and magnetic fields (away from television sets, speakers, etc.). High temperatures and humidity damage the tape itself, while exposure to magnetic fields may cause a loss of recorded material.

OPERATION

RECORDING (DECK B only)

● When recording the signal from the LINE IN/REC jacks

1. Turn on the POWER switch.
2. Make sure that the microphone is disconnected.
3. Open the DECK B cassette compartment by pressing the STOP/▲ button and load a cassette tape with the exposed tape face down.
4. Set the MODE button to PLAY/REC position.
5. Select the type of tape with DECK B TAPE SELECTORS.
6. Select either Dolby NR ON or OFF with DOLBY NR switch.
7. Press the REC and PAUSE buttons. The REC indicator lights and the deck enters Rec Standby mode.
8. Adjust the recording level to optimum point using REC LEVEL meters and REC LEVEL control.
9. To start recording, press the PAUSE button.
 - To temporarily stop the recording, press the PAUSE button. To resume recording, press the PAUSE button again.
10. To stop the recording, press the STOP/▲ button.
 - When the tape reaches its end, the deck stops automatically.

NOTE

When a microphone is connected, the input signal from the LINE IN/REC jacks is disconnected. Disconnect the microphone before recording from LINE IN/REC jacks.

● When using a microphone

Connect a microphone to MICrophone jack and perform the steps of "RECORDING".

■ SETTING THE RECORDING LEVEL

Setting the recording level is an important point for proper recording. Press the REC and PAUSE buttons to engage the Rec Standby mode, and play a section of the program to be recorded. Watch the REC LEVEL meters and adjust the REC LEVEL control so that the average meter reading is between 0 dB and +3 dB, with occasional peaks no higher than +6 dB.

■ DUBBING (from DECK A to DECK B only)

1. Load an original tape in DECK A and a blank tape in DECK B.
 2. Select the type of tape loaded in DECK B with DECK B TAPE SELECTORS.
 3. Set the MODE button to DUBBING position. The DUBBING indicator lights.
 4. Select either NORMAL or HIGH speed with DUBBING speed button.
 5. Press the DECK A PAUSE and PLAY buttons.
 6. Press the DECK B REC button to start dubbing.
 7. To stop dubbing, press the DECK B STOP / ▲ button then press the DECK A STOP / ▲ button.
- * When dubbing, recording is made in the tape loaded in DECK B as it is independent of the setting of the DOLBY NR switch and the same tape as the one in DECK A is made.
When playing back the tape on DECK B (recorded side), set the DOLBY NR switch to the same position as for the tape on DECK A (playback side).
 - * The monitor sound during HIGH speed dubbing becomes double-speed playback sound.
 - * Use tapes of identical length in DECKs A and B.
Use of different length tapes causes halfway cutoff of selections or longer non-recorded sections at the end of the tape.

PLAYBACK (common to both DECKs A and B)

1. Turn on the POWER switch.
2. Open the cassette compartment by pressing the STOP/▲ button and load a recorded cassette tape. When the tape is loaded in DECK B, select the type of tape with DECK B TAPE SELECTORS.
3. Set the MODE button to PLAY/REC position.
4. For a tape recorded with the Dolby NR system, set the DOLBY NR switch to ON. For a tape recorded without using the Dolby NR system, set the DOLBY NR switch to OFF.
5. Press the PLAY button to start playback.
 - To temporarily stop the playback, press the PAUSE button. To resume the playback, press the PAUSE button again.
6. Set the volume and tone controls on the amplifier to adjust sound quality as desired.
7. To stop playback, press the STOP/▲ button.

■ RELAY PLAYBACK (from DECK B to A only)

1. Load cassette tapes to be played back in DECKs A and B.
2. Select the type of tape loaded in DECK B with DECK B TAPE SELECTORS.
3. Set the MODE button to PLAY/REC position.
4. Press the DECK B PLAY button. DECK B starts playback.
5. Press the DECK A PAUSE and PLAY buttons. DECK A enters the pause mode.

After termination of playback one side of the tape on DECK B, DECK B stops and the playback shifts to DECK A. After termination of playback one side of the tape on DECK A, DECK A stops.

After using your K-09 for a certain length of time, it is possible that the sound of your tapes may deteriorate with fading, vibration, or noise as a noticeable result. This is caused by an accumulation of dirt or dust on the heads, capstans, or pinch rollers, and magnetization of the heads. It is advisable to clean the capstan and pinch roller. Use a commonly available cotton swab head cleaning solution to do this, or use a special head cleaning tape. Head demagnetizers are also commonly available.

- When cleaning the heads, be careful not to apply unnecessary pressure.
- When demagnetizing the heads, be sure to follow the instructions of the head demagnetizer carefully.
- For better access to the head assembly, the cassette compartment cover is detachable by pulling upward. To reattach it, reverse the same procedure.

SPECIFICATIONS

Track Configuration	4 track, 2 channel recording and playback stereo double cassette deck
Motor	DC servo motor
Heads	Recording/Playback: Permalloy x 1 Playback: Permalloy x 1 Erase: Double Gap Ferrite x 1
Rapid Transport	140 sec. (C-60)
Wow and Flutter	
WRMS	less than 0.12%
Signal-to-Noise Ratio (3rd harmonic distortion: weighted)	
Dolby NR off	better than 54 dB
Dolby NR on	better than 64 dB
Frequency response	
Normal tape (-20 dB)	35 — 14,500 Hz
CrO₂ tape (-20 dB)	35 — 15,000 Hz
Metal tape (-20 dB)	35 — 16,000 Hz
Harmonic Distortion (315 Hz, 3rd)	1.0%
Input Sensitivity/Impedance	
Microphone	0.6 mV/2.7 k-ohms
Line	50 mV/47 k-ohms
Output Level	
Line	360 mV/1 k-ohms
Channel Separation (3,150 Hz)	40 dB
Cross Talk (125 Hz)	55 dB

GENERAL

Power Supplies

Canada model	120V, 60 Hz
Europe model	220V, 50 Hz
U.K. and Australia models	240V, 50 Hz
General model	110/120/220/240V, 50/60 Hz

Power Consumption

11W

Dimensions (W x H x D)

435 x 124 x 255 mm
(17-1/8" x 4-7/8" x 10-1/16")

Weight

4.2 kg (9 lbs. 4 oz.)

* Specifications subject to change without notice.

● This apparatus complies with requirements of EEC directive 76/889/EEC.

TROUBLESHOOTING

When your cassette deck fails to function properly, before assuming it is faulty, check the following troubleshooting list. It details the corrective action you can take yourself without having to call a service engineer. If you have any doubts or questions, get in touch with your nearest YAMAHA dealer.

Fault	Cause	Cure
Tape doesn't move in recording or playback.	<ul style="list-style-type: none"> ● Power plug not properly plugged in. ● End of tape. 	<ul style="list-style-type: none"> ● Reinsert plug properly. ● Rewind tape or flip it over.
REC button fails to function.	<ul style="list-style-type: none"> ● No cassette tape loaded. ● Protective tab broken off. 	<ul style="list-style-type: none"> ● Load a cassette tape. ● Change to different tape, or cover the hole remaining after removal of tab with adhesive tape.
Sounds become faint and sometimes inaudible.	<ul style="list-style-type: none"> ● Head is dirty. ● Head is magnetized. ● Tape transport section dirty. 	<ul style="list-style-type: none"> ● Clean head using cleaning tape. ● Demagnetize head using head demagnetizer. ● Change to different tape.
Recorded sound is warped.	<ul style="list-style-type: none"> ● Tape is bad (stretched or deformed, etc.). ● Recording tape is itself warped. 	<ul style="list-style-type: none"> ● Replace with a fresh tape. ● As warping of tape itself cannot be rectified, replace with another tape and test.
Recorded sounds are distorted.	<ul style="list-style-type: none"> ● Recording level is too high. 	<ul style="list-style-type: none"> ● Check input level with meter and use lower rec level when recording.
Tape is playing back, but no sound is heard.	<ul style="list-style-type: none"> ● Faulty connection between deck and stereo amplifier. 	<ul style="list-style-type: none"> ● Rewire all connection from beginning.
Excessive noise.	<ul style="list-style-type: none"> ● Head is dirty. ● Head is magnetized. ● Worm out or poor quality tape. ● Connection(s) improperly made. ● Affected by external electrical noise. 	<ul style="list-style-type: none"> ● Clean head. ● Demagnetize head with head demagnetizer. ● Change to better tape. ● Check input and output connections and reinsert properly. ● Move away from electrical appliances (TV, fluorescent light, electric blanket, etc.).
Excessive wow (wavering of the sound).	<ul style="list-style-type: none"> ● Dirty capstan, pinch roller, etc., or poor tape. ● Tape is unevenly wound. 	<ul style="list-style-type: none"> ● Clean capstan, pinch roller, or change to better tape. ● Rewind tape.
Tape stops in the middle of recording or playback.	<ul style="list-style-type: none"> ● Slack tape, or tape spillage wound around capstan. 	<ul style="list-style-type: none"> ● Insert pencil in hole in cassette shell and turn to take up slack.

Fault	Cause	Cure
High frequencies in the playback sound are emphasized and unpleasant to listen to, and noise level (hiss) is also high.	<ul style="list-style-type: none"> ● Dolby NR-recorded tape is played back in OFF position. 	<ul style="list-style-type: none"> ● Playback in Dolby NR position.
Playback sound is muffled and high frequencies are inaudible.	<ul style="list-style-type: none"> ● Normally-recorded tape is played back in DOLBY NR. ● Heads are dirty. ● Heads are magnetized. 	<ul style="list-style-type: none"> ● Playback in OFF position. ● Clean heads and carry out demagnetization with head demagnetizer.
When playing back tapes recorded on other decks, meter deflections are greater (smaller) than when recording.	<ul style="list-style-type: none"> ● Basic levels are different for different cassette decks. 	<ul style="list-style-type: none"> ● This is not a fault.
Recordings cannot be made.	<ul style="list-style-type: none"> ● REC LEVEL control is set too low. 	<ul style="list-style-type: none"> ● Adjust level with the REC LEVEL control.