

YAMAHA K-540

*Natural Sound Stereo Cassette Deck
Dolby* B-C Noise Reduction
Music Search, Forward and Reverse Intro Scan
4-Digit Linear Real Time Counter
Zero to Memory Repeat Play, Full Repeat Play
Auto Rec Mute, Auto Source Change*

Thank you for purchasing the YAMAHA K-540 stereo cassette deck.

CENTER

OWNER'S MANUAL



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IMPORTANT

Please record the serial number of your unit in the space below.

Model: **K-540**

Serial No:

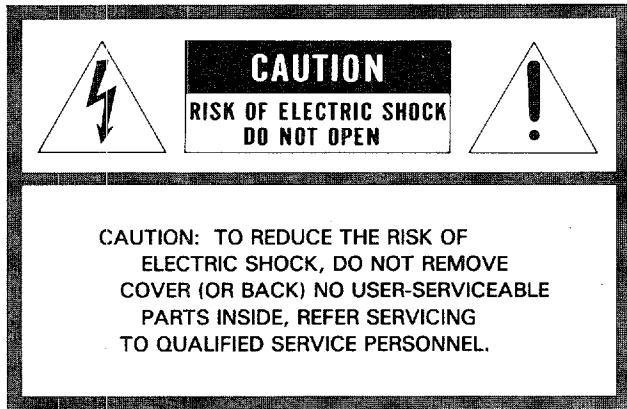
The serial number is located on the rear of the unit.

Retain this Owner's Manual in a safe place for future reference.

WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

K-540



• Explanation of Graphical Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY INSTRUCTIONS

- 1** Read Instructions — All the safety and operating instructions should be read before the appliance is operated.
- 2** Retain Instructions — The safety and operating instructions should be retained for future reference.
- 3** Heed Warnings — All warnings on the appliance and in the operating instructions should be adhered to.
- 4** Follow Instructions — All operating and other instructions should be followed.
- 5** Water and Moisture — The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near swimming pool, etc.
- 6** Carts and Stands — The appliance should be used only with a cart or stand that is recommended by the manufacturer.
- 7** Wall or Ceiling Mounting — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
- 8** Ventilation — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug or similar surface that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
- 9** Heat — The appliance should be situated away from heat sources such as radiators, stoves, or other appliances that produce heat.
- 10** Power Sources — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
- 11** Power-Cord Protection — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying receptacles, and the point where they exit from the appliance.
- 12** Cleaning — The appliance should be cleaned only as recommended by the manufacturer.
- 13** Nonuse Periods — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
- 14** Object and Liquid Entry — Care should be taken so that objects do not fall into and liquids not spilled into the inside of the appliance.
- 15** Damage Requiring Service — The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the cabinet damaged.
- 16** Servicing — The user should not attempt to service the appliance beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.



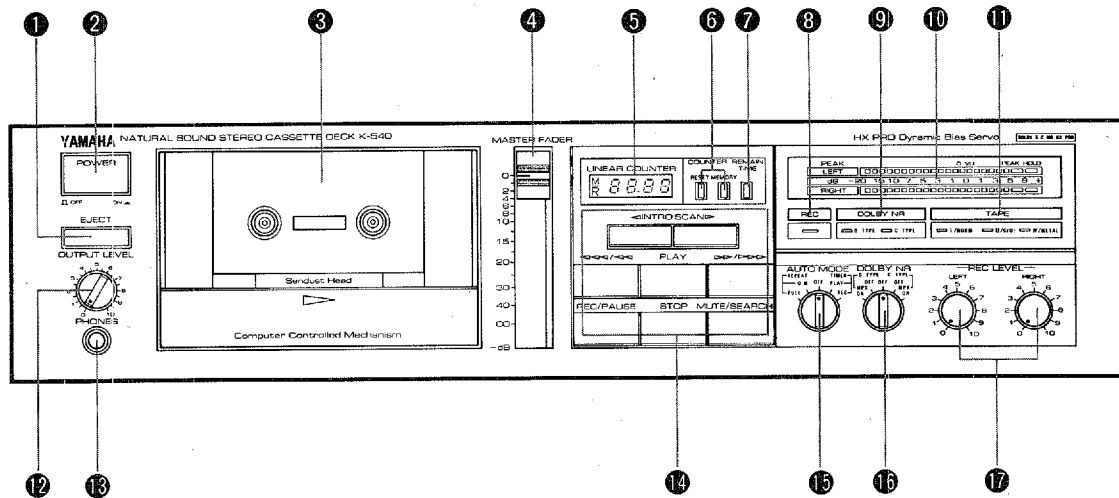
CAUTION: READ THIS BEFORE OPERATING YOUR UNIT.

- 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 Sendust 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.



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FRONT PANEL PARTS AND FUNCTION



1 EJECT button

To load a cassette tape, press the EJECT button and the cassette compartment will open. Depress the cassette compartment to close it.

2 POWER switch

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

3 Cassette compartment

4 MASTER FADER control

Used to adjust the range of the recording level set by the REC LEVEL controls. With this control, you can fade out the recording sound. Normally, set this control to "0" position.

- The MASTER FADER control will function only during recording.

5 LINEAR COUNTER

Displays the tape running time and recording remaining time in minutes and seconds.

6 COUNTER RESET/MEMORY buttons

RESET: Press this button to zero the LINEAR COUNTER.
MEMORY: Press this button while the LINEAR COUNTER displays the desired reading. Press the button again to release the memory function. When the memory position is set, the tape automatically stops during fast forward or rewind mode.

7 REMAIN TIME button

Press this button to display the recording time remaining in the cassette. When the MEMORY button is pressed, pressing this button displays the recording time remaining after the point at which the MEMORY button is pressed.

8 REC indicator

When the REC/PAUSE button is pressed, the Rec Standby mode will be engaged, and this indicator will light. It will flicker during the Auto Rec Mute mode.

9 DOLBY NR indicators

The corresponding DOLBY NR indicator will light up when the DOLBY NR selector is turned on.

10 PEAK level meters

Indicate the peak of the signal level during recording and playback over a range from -20 dB to +8 dB.

11 TAPE type indicators

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

- Automatic tape selection does not function for the old type metal tapes which do not have a detection hole on the cassette shell.
- This deck is not suited for use with Ferrichrome (FeCr) tapes.



12 OUTPUT LEVEL control

Used to adjust the output level at the PHONES jack and LINE OUT/PLAY jacks on the rear. Normally, set this control to "10".

13 PHONES jack

Connect a set of headphones to this jack for monitoring recording or playback.

14 Operation buttons

INTRO SCAN: Press one of these buttons to play back the beginning of the selection for about 15 seconds in the selected direction.

<<<</<<: Press this button to rapidly rewind the tape. To release the rewind mode, press the STOP button. When the button is kept pressed, the tape is rewound at a high speed.

PLAY: Press for playback. It is also necessary to use this button to engage the Record mode.

>>/>>>: Press this button to rapidly advance the tape. To release the fast forward mode, press the STOP button. When the button is kept pressed, the tape is advanced at a high speed.

REC/PAUSE: Pressing this button engages the Rec Standby mode, and REC indicator will light. While in this mode, the PEAK level meters will function, allowing you to monitor the recording signal level of your program source. (Refer to the "SETTING RECORDING LEVEL" section of this manual.) To initiate recording from the Rec Standby mode, press the PLAY button. Pressing the REC/PAUSE button during actual recording engages the Rec Pause mode. To resume recording, press the PLAY button.

STOP: Press this button to stop the tape while in any mode.

MUTE/SEARCH:

During Recording: When the MUTE/SEARCH button is pressed at any time during recording, a 4-second blank interval is automatically recorded on the tape (Auto Rec Mute mode). Then, the Rec Pause mode is engaged automatically.

In order to record a blank interval longer than 4 seconds, press the MUTE/SEARCH button and hold it in for the desired length of time. After the button is released, the 4-second blank interval will also be recorded automatically, then the Rec Pause mode is engaged automatically.

To resume recording, press the PLAY button.

During Playback: By pushing either the >>/>>> or <<<</<< button simultaneously with this button, the tape will be advanced to the beginning of the selection either before or after the one being listened to, from which point play will be resumed.

15 AUTO MODE selector

FULL REPEAT: One side of the cassette is repeatedly played back 8 times from beginning to end.

O-M REPEAT: Desired section can repeatedly be played back 8 times between "0.00" on the LINEAR COUNTER reading and the counter number memorized with the COUNTER MEMORY button.

TIMER PLAY: By using a commercially available audio timer, this function permits timer activated playback, so you can wake-up to your favorite music, etc.

TIMER REC: By using a commercially available audio timer, this function allows you to carry out unattended recording.

- Be sure to set this selector to OFF when not using the repeat playback feature or the timer feature. If power is turned on with a cassette loaded in the deck and the selector in the TIMER REC position, the record mode will be engaged and the prerecorded contents of the tape will be erased.

16 DOLBY NR selector

Dolby noise reduction is an extremely effective method of reducing background hiss on tapes. The K-540 incorporates both DOLBY B and C NR system. Tapes recorded with DOLBY B NR should be played back with DOLBY NR selector set to B TYPE, and tapes

recorded with DOLBY C NR should be played back with DOLBY NR selector set to C TYPE. Tapes not DOLBY NR encoded should be played back with DOLBY NR off. When the selector is set to MPX ON position, the built-in MPX filter functions in combination with each DOLBY NR system.

- 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.

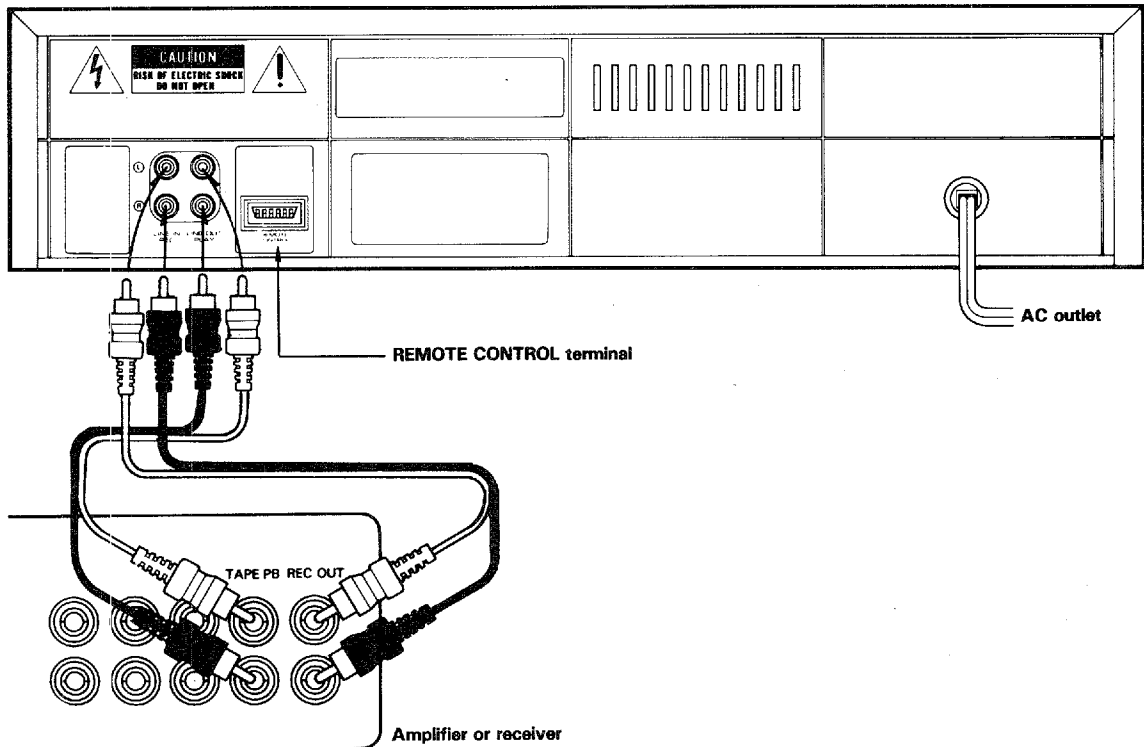
17 REC LEVEL controls

Used to adjust the input level of the signal coming from the rear panel LINE IN/REC jacks for recording, and the adjustable signal level is displayed on the PEAK level meters.

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CONNECTIONS

REAR PANEL 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-540 should be connected to the Tape PB (Playback/Input) jacks on your amplifier, and the LINE IN/REC jacks on the K-540 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, integrated amplifier, or control amplifier, etc. Make sure that power to both the K-540 and your amplifier (receiver, etc.) are turned off before making connections. With the REMOTE CONTROL terminal on the rear of the K-540, system remote control through the amplifier is possible. Connect the terminal to the amplifier with the flat cable supplied to the amplifier. For details of operation, refer to the Owner's Manual of the amplifier.

CASSETTE TAPES

CASSETTE TAPES

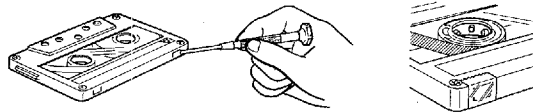
There are many different types of cassette tapes available, however, they all conform to standard specifications so any brand may be used with the K-540.

- 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 (FeCr), and Metal (IV/Metal), and they each require specific bias, level, and equalization settings for optimum performance.
The K-540 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-540 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-540.
- The K-540 does not have the required setting for Ferrichrome (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 recommend the use of C-120 cassettes since the extreme thinness of the tape makes them susceptible to mechanical and electrical problems.



RECORDING AND PLAYBACK

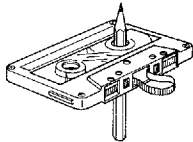
■ PROTECTING YOUR RECORDINGS



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 as 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 (III/CrO₂), or Metal tape, make sure you do not cover the hole intended for the tape formulation check.

■ TAKING UP SLACK IN THE TAPE



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 will damage the tape itself, while exposure to magnetic fields may cause a loss of recorded material.

■ SETTING RECORDING LEVEL

In order to make recordings with the best possible signal-to-noise ratio, it is important to set the recording level at the highest level possible without introducing distortion. Push the REC/PAUSE button to engage the Rec Standby mode, and play a section of the program to be recorded. Watch the PEAK level meters and adjust the REC LEVEL controls so that the average meter reading is between -5 dB and +3 dB, with occasional peaks no higher than +5 dB.

The peak value over the 0 dB is held for a while.

■ RECORDING

1. Make sure that the AUTO MODE selector is set to the OFF position, then turn on the POWER switch.
 2. Open the cassette compartment by pressing the EJECT button and load a cassette tape with the exposed tape face down.
 3. Select DOLBY B or C NR with DOLBY NR selector. To record FM broadcast, set the DOLBY NR selector to either MPX ON position.
 4. Press the REC/PAUSE button to engage the Rec Standby mode.
 5. Play the program source to be recorded, and adjust the recording level using the REC LEVEL controls.
 6. Press the PLAY button to start recording.
 7. To temporarily stop the recording, press the REC/PAUSE button. To resume recording, press the PLAY button again.
 8. To stop recording, press the STOP button.
 9. When MUTE/SEARCH button is pressed during recording, a 4-second blank interval is automatically recorded on the tape, then the Rec Pause mode is engaged.
- * When the <<</>>> button is pressed during recording, the tape is automatically rewound to the point at which the recording has been started. When the tape counter is reset to "0.00" during recording, pressing the <<</>>> button during

recording stops the tape at the counter reading of "0.00".

■ PLAYBACK

1. Make sure that the AUTO MODE selector is set to the OFF position, then turn on the POWER switch.
2. Open the cassette compartment by pressing the EJECT button and load a recorded cassette tape.
3. For tapes recorded with DOLBY NR system, set the DOLBY NR selector.
4. Press the PLAY button to start playback.
5. To stop playback, press the STOP button.

■ INTRO SCAN

During playback, press either of the INTRO SCAN buttons. The beginning of each selection is played back for about 15 seconds in the selected direction. Press the PLAY button while the beginning of the desired selection is being played back to set the unit to normal play mode. During intro scan operation, the LINEAR COUNTER shows the number of the selection. In the reverse intro scan mode, "--" sign is displayed.

■ FULL REPEAT PLAYBACK

Set the AUTO MODE selector to FULL REPEAT and start playback. The one side of the cassette is repeatedly played back 8 times. During full repeat playback, the LINEAR COUNTER shows "R".

■ 0-M REPEAT PLAYBACK

With this function, the desired section can be played back repeatedly 8 times.

1. Set the AUTO MODE selector to 0-M REPEAT.
2. Select the beginning of the desired section to be repeated and press the COUNTER RESET button.
3. Select the end of the desired section to be repeated and press the COUNTER MEMORY button.

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4. Press the <<<</>>>> button.

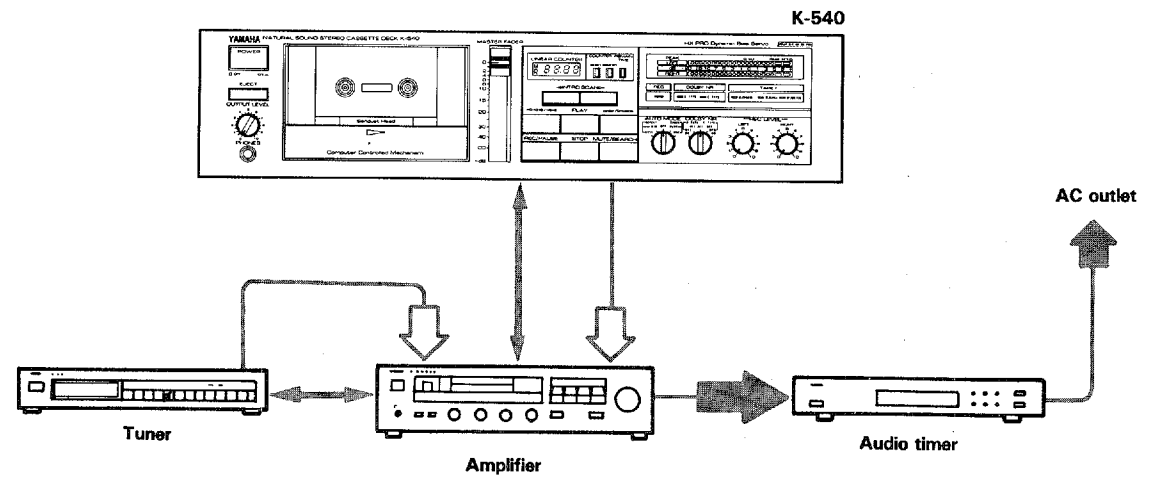
The cassette is rewound to the point at which the COUNTER RESET button is pressed, then played back repeatedly.

- The length of the start and end points of the 0-M repeat section should be more than 5 seconds.
- The 0-M repeat can be carried out between minus counter reading to 0.00.

• Auto Source Change

When the tape reaches its end during playback and the auto stop feature functions, the signal applied to the LINE IN/REC jacks can be heard continuously. When your amplifier or receiver is equipped with a REC OUT selector, use it to select the signal to be applied to the LINE IN/REC jacks. The level of the signal can be adjusted with the REC LEVEL controls of this unit.

■ TIMER RECORDING/PLAYBACK



When using the AUTO MODE selector in combination with a commercially available audio timer, it is possible to make recordings and initiate playback at any time automatically by presetting the deck in advance.

• Timer Recording

1. Make sure that all power cord connections between the timer and amplifier are properly made. No change in any of the other connections between deck and amplifier, etc., is necessary.

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MAINTENANCE

2. After turning on the power to each component, select the station on your tuner which you want to record and turn down the volume on your amplifier. This will have no effect on the recording signal level. Remember to set the proper recording level.
3. Set the timer to the desired times. It is advisable to set the timer to begin recording slightly before the actual recording time, and end slightly after the actual recording time, so that you leave some room for later editing.
4. Set the AUTO MODE selector to the TIMER REC position.
5. The timer will send power to the amplifier, tuner and deck at the preset time, turning all the components on and initiating the recording mode.

CAUTION:

If the tape cannot be ejected after timer recording, turn the AUTO MODE selector OFF and the K-540's POWER switch ON; the tape can then be ejected.

• Timer Playback

1. All connections are the same as for timer recording.
2. Turn on the amplifier and adjust the Volume and Tone controls.
3. Set the input mode selector of your amplifier to the Tape mode.
4. Set the timer to the time you wish to start and stop playback.
5. Set the AUTO MODE selector to the TIMER PLAY position.
6. At the preset time, the timer will turn power on to the amplifier and tape deck and begin playback. It will shut power OFF, at the preset time as well ending playback.

After using your K-540 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 and 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 cassette tape deck
Motor	DC servo motor (capstan), Flat torque DC motor (Reel) DC motor (Mechanism drive)
Heads	
Rec/play head	Sendust
Erase head	Double gap ferrite
Wow and Flutter	
W.RMS	No more than 0.05%
W.Peak	No more than \pm 0.08%
Fast Winding time (C-60)	About 70 seconds, About 45 seconds (High speed)
Signal-to-Noise Ratio	
(Dolby off)	more than 59 dB
(Dolby B on)	more than 66 dB
(Dolby C on)	more than 74 dB
Frequency Response (– 20 dB)	
Normal Tape	25 - 17,000 Hz, \pm 3 dB
CrO₂ Tape	25 - 19,000 Hz, \pm 3 dB
Metal Tape	25 - 20,000 Hz, \pm 3 dB
Harmonic Distortion	No more than 1.0%
Inputs Sensitivity/Impedance	
Line	60 mV/40 k-ohms
Outputs	
Reference level/Load impedance	
Line	360 mV/1.5 k-ohms
Phones	1.2 mW/8 ohms
Power Requirements	AC 120 V, 60 Hz
Power Consumption	18 W
Dimensions (W x H x D)	435 x 112 x 273 mm (17-1/8" x 4-3/8" x 10-3/4")
Weight	4.4 kg (9 lbs. 11 oz.)

Specifications subject to change without notice.

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TROUBLESHOOTING

When your cassette deck fails to function properly, before assuming it is faulty, check it according to 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.

Symptom	Cause	Remedy
Tape doesn't move in recording or playback.	<ul style="list-style-type: none"> Power plug not properly plugged in. 	<ul style="list-style-type: none"> Reinsert plug properly.
REC/PAUSE 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"> Heads are dirty. Heads are magnetized. Worn out or poor quality tape. 	<ul style="list-style-type: none"> Clean head using cleaning tape. Demagnetize head using head demagnetizer. Change to different tape.
Playback sounds are poorly balance.	<ul style="list-style-type: none"> DOLBY NR selector not properly set. 	<ul style="list-style-type: none"> Playback in the position in which was recorded.
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 recording level when recording.
Excessive noise.	<ul style="list-style-type: none"> Heads are dirty. Heads are magnetized. Worn 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.
Fails to record.	<ul style="list-style-type: none"> REC LEVEL controls too low. Protective tabs broken off. MASTER FADER control too low. 	<ul style="list-style-type: none"> Adjust REC LEVEL controls. Change tape or cover protective hole with adhesive tape. Adjust MASTER FADER control.
Repeat does not operate.	<ul style="list-style-type: none"> Repeat mode is not set. 	<ul style="list-style-type: none"> Check setting of AUTO MODE selector.

