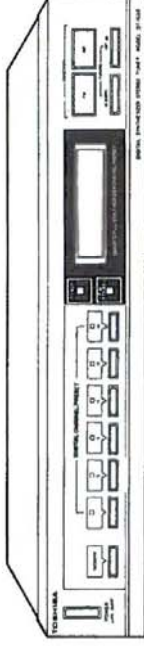




ST-S33

DIGITAL SYNTHESIZER STEREO TUNER

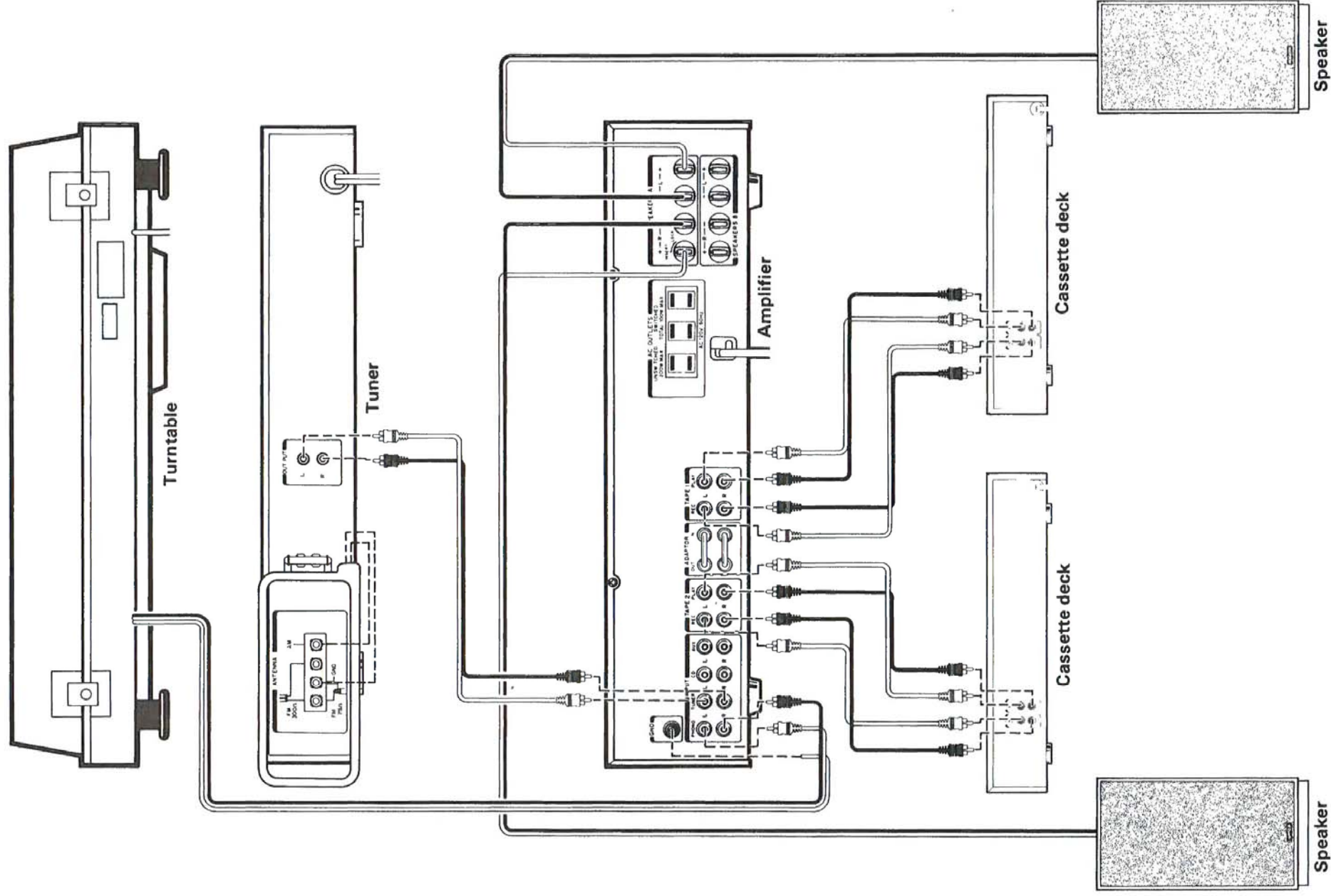


WARNING:

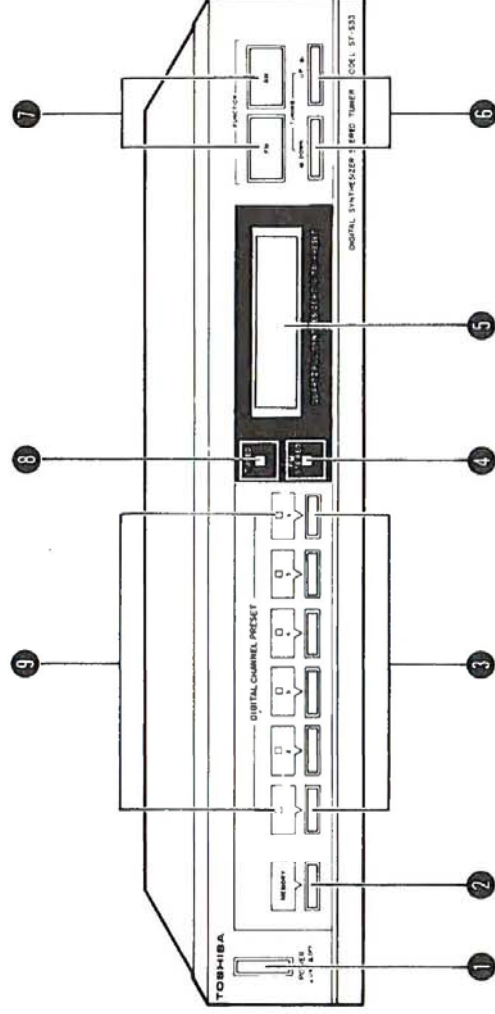
TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

<p>CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN</p>	<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL</p>
	<p>The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user 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.</p>
	<p>The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.</p>
<p>The space below is provided to record the Serial Number of this unit. The Serial Number can be found on the back of the product. Model No. _____ Serial No. _____ Retain this information for future reference.</p>	
<p>SHOULD YOUR UNIT REQUIRE SERVICE, PLEASE REFER TO "TOSHIBA SERVICE PROCEDURE" ON PAGE 5.</p>	

System Connections



Front Panel Facilities



1 POWER switch

Depress this switch once to turn power on, depress again to turn the power off.

Note:

OFF position: This unit remains connected to mains supply in the OFF position. Disconnect the power cord when the unit is not going to be used for a long time.

2 MEMORY button

Use this button when placing frequencies in the memory preset channels ('1' to '6'). Press this button ('MEMORY' appears in the display) and then one of the preset channel buttons to place the currently tuned frequency in that channel. If no preset channel button is pressed, the 'MEMORY' display goes out after about 5 seconds.

3 DIGITAL CHANNEL PRESET buttons (1 ~ 6)

Use these buttons to:

- (1) Preset a frequency.
- (2) Recall a preset frequency.

4 FM STEREO indicator

Lights when an FM stereo broadcast is being received.

5 Display

Shows the tuned frequency.

6 UP/DOWN TUNING buttons

Each time the UP or DOWN button is pressed, the tuned frequency increases or decreases in the following manner.

Connections

(1) If you use a 300 ohm FM aerial, connect it to the 300 ohm terminals. Use the 75 ohm terminals if you use a 75 ohm aerial.

(2) When listening to the AM band, set the loop antenna on the rear panel to the angle that gives the best reception. If reception is still not satisfactory, remove the

FM: 0.2 MHz steps

AM: 10 kHz steps

If either button is held down more than half a second, the tuned frequency will continue to increase or decrease until the button is released.

7 FUNCTION buttons

FM: for FM broadcasts

AM: for AM broadcasts

8 TUNED indicator

Lights when a radio broadcast is precisely tuned.

9 DIGITAL CHANNEL PRESET indicator

Note:

In order to retain the contents of the memory, a small electric current flows through the unit even when the POWER switch is turned to OFF position. When the unit is not used for a long period of time, it should be unplugged. If there is a power supply interruption of more than two or three days, the preset information in the memory will be lost. If the contents of the memory are lost, the information must be reset. To prevent loss of the memory contents, do not unplug the power cord or turn off the switch at the wall socket for any length of time during normal use.

loop antenna from the rear panel and place it in the location that gives the best reception.

(3) Connect the output jacks of the tuner to the tuner input jacks of your amplifier, making sure that the L and R cables are not reversed.

Operations

■ Manual Tuning

1. Press the FM or AM function button **7**.
2. Press the UP or DOWN button **6** to tune in the desired frequency. The tuned frequency changes in 0.2 MHz steps in the FM band, 10 kHz in the AM band. Hold either button down to continuously increase or decrease the tuned frequency.

■ Preset Tuning

With the built-in preset feature, up to 6 FM stations and 6 AM stations can be stored.

By setting the DIGITAL CHANNEL PRESET button **3**, the required station can be quickly received.

1. Tune in the desired station.
2. Press the MEMORY button **2**.
3. Press the DIGITAL CHANNEL PRESET button **3** of the channel where the station is to be stored.

Press the MEMORY button **2**, and the MEMORY indicator lights for about 5 seconds. Press the DIGITAL CHANNEL PRESET button **3** while the indicator is lit.

Other stations can be preset in the same manner. The preset stations can be easily changed for other stations by following the preset procedure once again.

With the power cord connected, the preset stations are maintained even the POWER switch **1** is set to OFF (□).

Note: If the power cord is left disconnected for a few days, the preset frequencies may be changed. In this case, preset the stations once again.

A power failure of a few hours will not affect the preset frequencies.

Specifications

■ General Data

Power supply: AC 120V, 60 Hz
Power consumption: 6W
Dimensions: 420 (W) x 72 (H) x 282 (D) mm
Weight: 2.8 kg

■ FM Tuner Section

Frequency range: 87.9 ~ 107.9 MHz
(0.2 MHz step)
Sensitivity: 0.95 μ V 10.8 dBf
Harmonic distortion: MONO 0.1%
STEREO 0.15%
SN ratio: MONO 76 dB
STEREO 70 dB
Frequency Response: 30 ~ 15000 Hz ^{+0.5}dB _{-2.5}
Selectivity: 50 dB (\pm 400 kHz)
Image Rejection: 40 dB
IF Rejection: 95 dB
Capture Ratio: 1.5 dB
Spurious Response: 75 dB
AM Suppression: 65 dB
Stereo Separation: 45 dB (at 1 kHz)
Output: 600 mV

■ AM Tuner Section

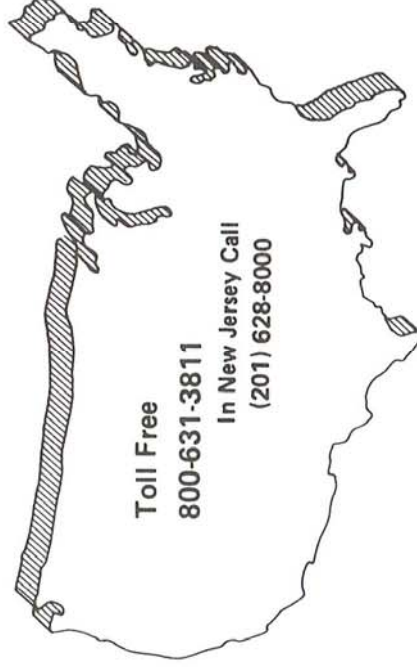
Frequency range: 530 ~ 1610 kHz (10 kHz step)
Sensitivity
(S/N 20 dB): 400 μ V/m (10 μ V)
Selectivity: 25 dB
Image rejection: 40 dB
S/N: 50 dB

Specifications subject to change without notice.

TOSHIBA SERVICE PROCEDURE

IN THE CONTINENTAL UNITED STATES . . .

Should your unit require service, CALL



for the nearest TOSHIBA Authorized Service Station.

Please present your bill of sale to the Authorized Service Station when applying for warranty service. If service is not available in your local area, you are to contact TOSHIBA Service Centers listed below for further information, or carefully pack the product (preferably in the original carton) and ship the product prepaid and insured to the most convenient TOSHIBA Service Center.

Toshiba America Inc. Service Center

82 Totowa Road	19500 South Vermont Ave.	3300 Royalty Row	2900 MacArthur Blvd.
Wayne, New Jersey 07470	Torrance, Cal. 90502	Irving, Texas 75062	Northbrook, Ill. 60062
Phone Number: (201) 628-8000	Phone Number: (213) 538-9960 (213) 770-3300	Phone Number: (214) 438-5814	Phone Number: (312) 564-1200

IN HAWAII . . .

Toshiba Hawaii Inc.

Service Department
327 Kamakee Street,
Honolulu, Hawaii 96814
Phone Number:
(808) 521-5377

Safety Instructions

CAUTION: PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS GIVEN IN THIS LEAFLET, THE OWNER'S MANUAL FOR THIS UNIT AND THOSE MARKED ON THE UNIT. RETAIN THIS LEAFLET FOR FUTURE REFERENCE.

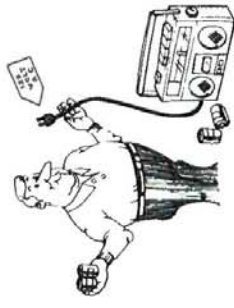
This set has been designed and manufactured to assure personal safety. However, improper use can result in electric shock or fire hazard. The safe-guards incorporated in this unit will protect you if you observe the following procedures for installation, use and servicing. This unit is fully transistorized and does not contain any parts that can be repaired by the user.

Do not remove the cabinet cover, or you may be exposed to dangerous voltages. Refer servicing to qualified service personnel.

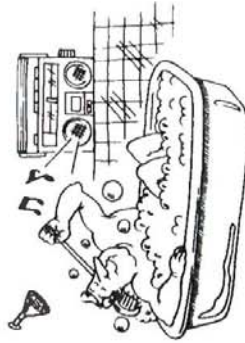
1. After unpacking the unit, read the owner's manual carefully, and follow all the operating and other instructions.



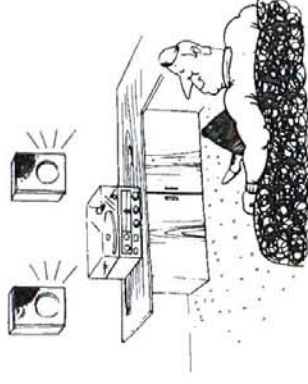
2. This unit should be operated only from the type of power source indicated on the unit or as indicated in the owner's manual. If you are not sure of the type of power supply in your home, consult your sales person or your local power company. For equipment designed to be operated on battery power, refer to the operating instructions.



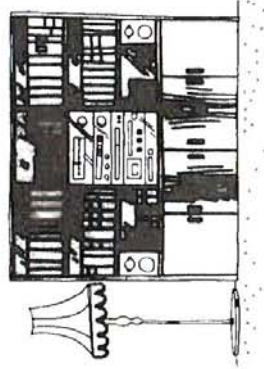
3. Do not expose this unit to rain or use near water. —For example, near a bathtub, washbowl, kitchen sink, washing machine, in a wet basement, or near a swimming pool.



4. To mount the unit on a wall or ceiling, follow the recommended instructions in the owner's manual.

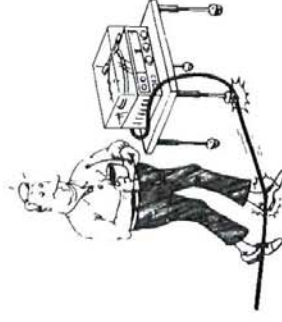


5. Slots and openings in the cabinet and in the back or bottom provide ventilation to prevent the unit overheating. For safety and to ensure reliable operation of the equipment, these openings should not be blocked or covered. They should never be covered with a cloth or other material, and the bottom openings should not be blocked by placing the unit on a bed, sofa, or similar surface. Never place the equipment in a fitted unit such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.



6. To prevent overheating, place the unit well away from heat sources such as radiators, heat registers, stoves and so on, and never place the unit on other equipment that produces heat, such as power amplifiers.

7. 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 particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.



8. Do not overload wall outlets, extension cords, or the power outlets on the unit, as this can result in a fire or electric shock.

9. If an outside antenna is connected to the equipment, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1981, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

- a. Use No. 10 AWG (5.3 mm²) copper, No. 8 AWG (8.4 mm²) aluminum, No. 17 AWG (1.0 mm²) copper-clad steel or bronze wire, or larger, as ground wire.
- b. Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 m) to 6 feet (1.83 m) apart.
- c. Mount antenna discharge unit as close as possible to where lead-in enters house.

10. An outside antenna system should not be located near overhead power lines or electric light or power circuits, or where an accident may allow the antenna system to touch power lines or circuits. When installing an outside antenna system, take every precaution to prevent the possibility of touching a power line or circuits as such contact can be fatal.

11. For added protection before and during a lightning storm, or when equipment is to be left unattended and not used for a long period of time, unplug the equipment from the wall outlet and disconnect the antenna. This will prevent damage to equipment that might be caused by power line surges or by lightning attracted to the antenna.

12. If an indoor antenna is used (either built-into the set or installed separately), never allow any part of the antenna to touch the metal parts of other electrical appliances such as a lamp, TV set, etc.

13. When you want to use the unit with a cart or stand, please consult with your sales person about the proper cart or stand recommended by the manufacturer. To use the unit on an unstable cart or stand may result in an injury to the person, damage to the unit, or other dangerous conditions.

14. When the cabinet requires cleaning, use only a soft damp cloth. Never use benzene, thinner or other solvents for cleaning.

15. Please take care that objects will not fall into the unit and liquids are not spilled through the openings into the unit, to prevent possible shock or fire hazard.

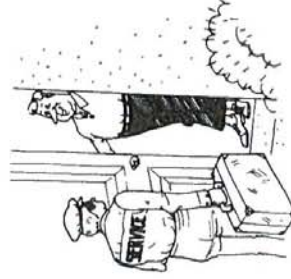
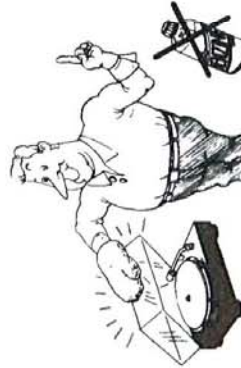
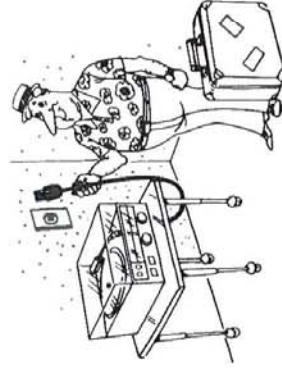
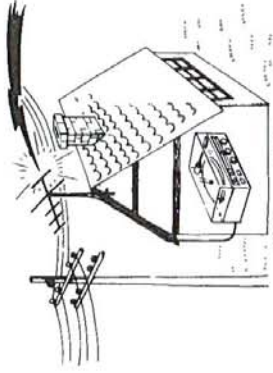
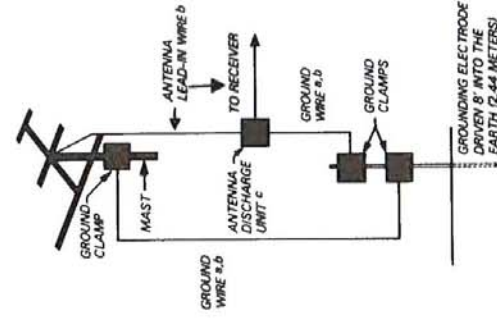
16. Unplug the unit from the wall outlet, and refer servicing to qualified service personnel under the following conditions.

- a. If the power cord or plug is damaged.
- b. If any object or liquid has entered the equipment.
- c. If the unit has been exposed to rain.
- d. If the unit does not appear to operate normally or exhibits a marked change in performance.
- e. If the unit has been dropped or the case damaged.

Do not attempt to service the equipment except as described in the owner's manual. All other servicing may require extensive work by a qualified technician.

17. Upon completion of any servicing or repairs, request the service shop's assurance that only Factory Authorized Replacement Parts with the same characteristics as the original parts have been used, and that routine safety checks have been performed to guarantee that the equipment is in safe operating condition.

REPLACEMENT WITH UNAUTHORIZED PARTS MAY RESULT IN FIRE, ELECTRIC SHOCK, OR OTHER HAZARDS.





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