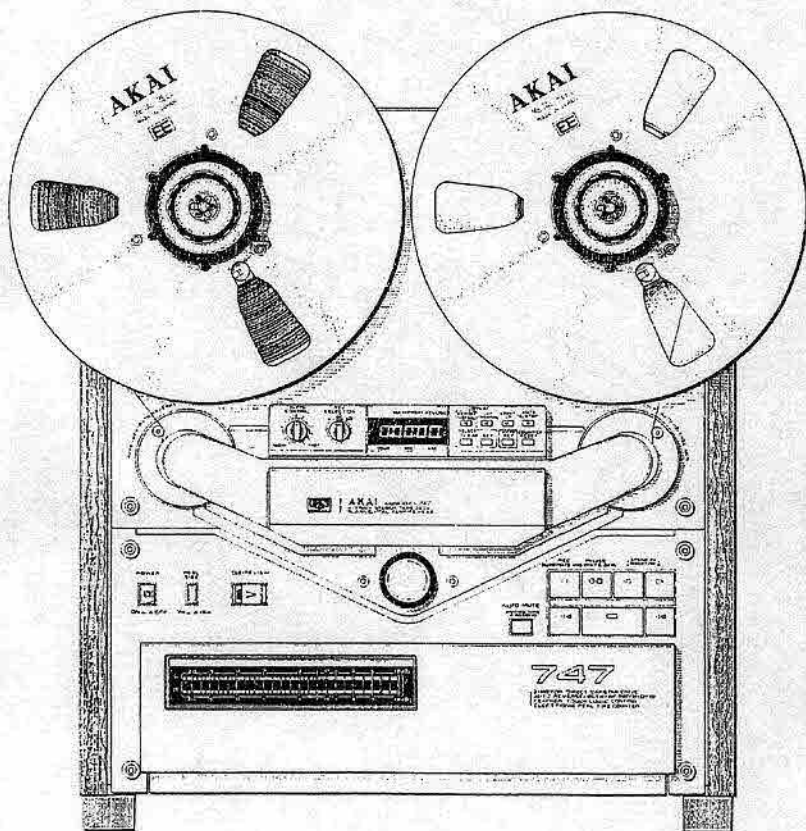
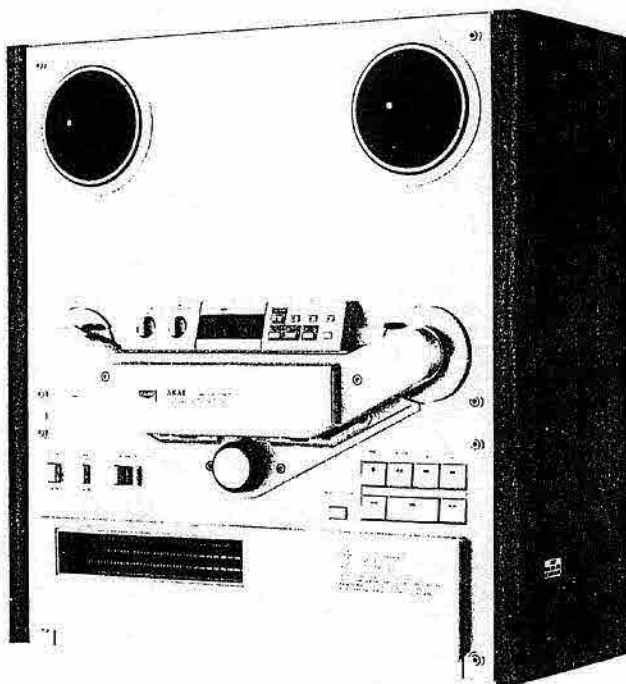


# AKAI SERVICE MANUAL



STEREO TAPE DECK

MODEL **GX-747**



## STEREO TAPE DECK

### MODEL GX-747

THIS MANUAL IS APPLICABLE TO BOTH SILVER AND BLACK PANEL MODELS

SECTION 1	SERVICE MANUAL .....	3
SECTION 2	PARTS LIST .....	49
SECTION 3	SCHEMATIC DIAGRAM .....	64

SECTION 1

**SERVICE MANUAL**

TABLE OF CONTENTS

I.	SPECIFICATIONS .....	4
II.	DISMANTLING OF UNIT .....	5
III.	CONTROLS .....	6
IV.	PRINCIPAL PARTS LOCATION .....	7
V.	VOLTAGE AND CYCLE CONVERSION .....	8
	1. VOLTAGE CONVERSION .....	8
	2. CYCLE CONVERSION .....	8
VI.	DESCRIPTION OF CIRCUIT OPERATION .....	9
	1. OUTLINE .....	9
	2. DETAILS AND FEATURES OF EE TAPE .....	9
	3. EXPLANATION OF EACH OPERATING PRINCIPLES .....	11
VII.	MECHANISM ADJUSTMENT .....	22
	1. GUIDE ROLLER LOOSE PLAY ADJUSTMENT .....	22
	2. MICRO SWITCH POSITION ADJUSTMENT .....	22
	3. REEL TABLE HEIGHT ADJUSTMENT .....	23
	4. CAPSTAN SHAFT LOOSE PLAY ADJUSTMENT .....	23
	5. BRAKE BAND POSITION ADJUSTMENT AND BRAKE TENSION ADJUSTMENT .....	23
	6. PINCH ROLLER POSITION ADJUSTMENT .....	24
	7. PAUSE PLUNGER POSITION ADJUSTMENT .....	24
	8. PINCH ROLLER PRESSURE ADJUSTMENT .....	24
	9. TAPE SPEED ADJUSTMENT .....	25
VIII.	HEAD ADJUSTMENT .....	26
IX.	ELECTRICAL ADJUSTMENT .....	28
	1. CLOCK FREQUENCY ADJUSTMENT .....	28
	2. PHOTO TRANSISTOR SENSITIVITY .....	28
X.	DC RESISTANCE OF VARIOUS COILS .....	32
XI.	CLASSIFICATION OF VARIOUS P.C BOARDS .....	33
	1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS .....	33
	2. COMPOSITION OF VARIOUS P.C BOARDS .....	34

For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

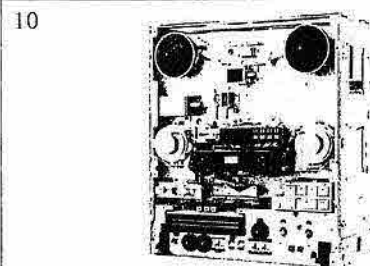
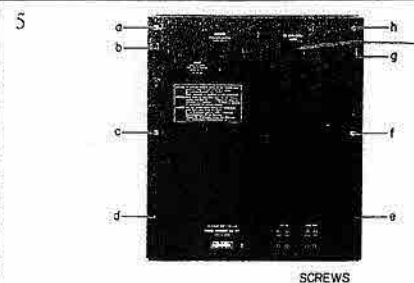
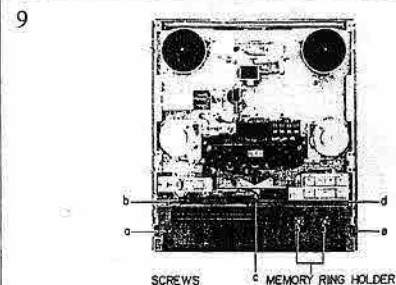
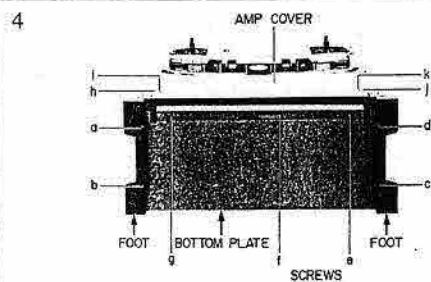
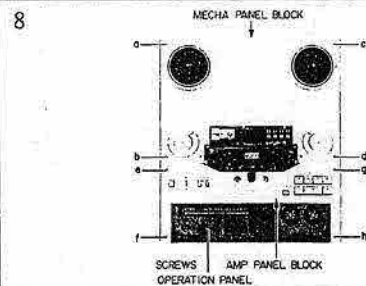
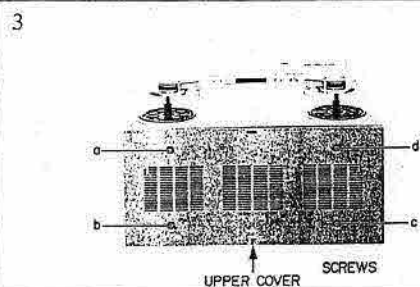
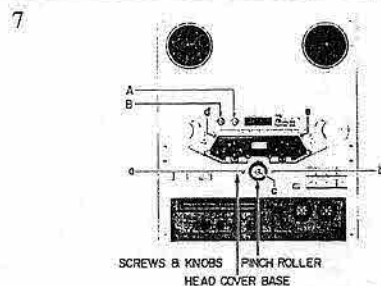
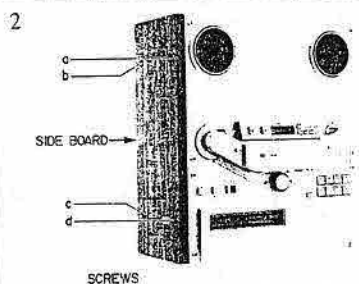
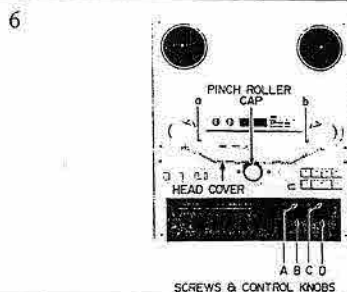
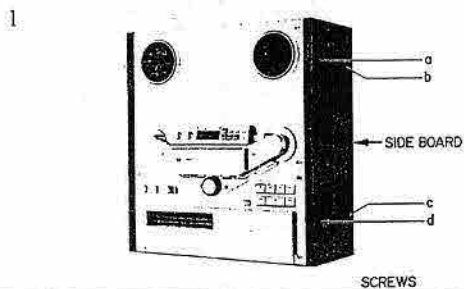
# I. SPECIFICATIONS

TRACK SYSTEM	4 Track 2 Channel Stereo System
REEL CAPACITY	Up to 10" reel
HEADS	GX head for Recording x 2 GX head for Playback x 2 Erase head x 2
MOTORS	AC Servo motor for capstan drive x 1 AC Eddy current motor for reel drive x 2
TAPE SPEED	19 cm/s $\pm$ 0.8% (7-1/2 ips.) 9.5 cm/s $\pm$ 1.0% (3-3/4 ips.)
WOW & FLUTTER	Less than 0.03% WRMS, 0.07% DIN 45500 at 19 cm/s Less than 0.04% WRMS, 0.09% DIN 45500 at 9.5 cm/s
TAPE WINDING TIME	75 sec. using 360 m (1,200 ft.) Tape
FREQUENCY RESPONSE	25 to 33,000 Hz $\pm$ 3 dB at 19 cm/s 25 to 26,000 Hz $\pm$ 3 dB (0 VU) 25 to 25,000 Hz $\pm$ 3 dB at 9.5 cm/s 25 to 15,000 Hz $\pm$ 3 dB (0 VU)
SIGNAL TO NOISE RATIO	Better than 65 dB at 19 cm/s DIN 45500
HARMONIC DISTORTION	Less than 0.4% at 19 cm/s
INPUT	MIC: 0.25 mV (input impedance 5.0 kohms) Required microphone impedance: 600 ohms Line: 70 mV (input impedance 100 kohms)
OUTPUT	Line: 0.775 V at 0 VU Required load impedance: more than 20 kohms Phone: 100 mV/8 ohms at 0 VU
DIN	Input: 2 mV (input impedance 10 kohms) Output: 0.3 V Required load impedance: more than 20 khoms
POWER REQUIREMENTS	100 V, 50/60 Hz for Japan 120 V, 60 Hz for USA & Canada 220 V, 50 Hz for Europe except UK 240 V, 50 Hz for UK & Australia 110 V/120 V/220 V/240 V, 50/60 Hz switchable for the other countries.
POWER CONSUMPTION	JPN 80W CSA, AAL 140W U/T 140W
DIMENSIONS	440 (W) x 483 (H) x 256 (D) mm (17.3 x 19.0 x 10.1 inches)
WEIGHT	21 kg (46.4 lbs)

\* For improvement purposes, specifications and design are subject to change without notice.

## II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.



### III. CONTROLS

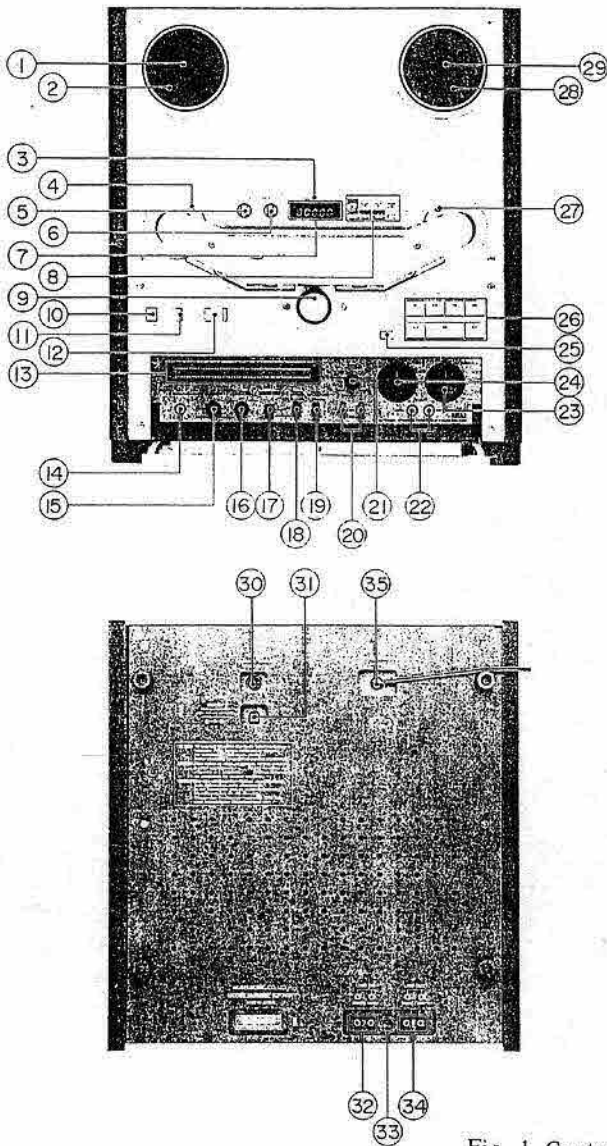


Fig. 1 Controls

- |  |  |
|--|--|
| 1. BUILT-IN REEL RETAINER                | 18. TAPE SPEED SELECTOR                              |
| 2. SUPPLY REEL TABLE                     | 19. TAPE SELECTOR SWITCH                             |
| 3. MEMORY REVERSE INDICATOR              | 20. TRACK SELECTOR SWITCHES                          |
| 4. LEFT TENSION ARM (SENSING PIN)        | 21. BIAS ADJUSTMENT VOLUME                           |
| 5. PITCH CONTROL                         | 22. MICROPHONE JACKS                                 |
| 6. REVERSE SELECTOR SWITCH               | 23. LINE INPUT CONTROLS                              |
| 7. ELECTRONIC DIGITAL REAL TIME COUNTER  | 24. MICROPHONE INPUT CONTROLS                        |
| 8. AUTO TIME COUNTER SYSTEM              | 25. AUTO MUTE BUTTON                                 |
| 9. PINCH ROLLER                          | 26. OPERATING BUTTONS                                |
| 10. POWER SWITCH                         | 27. RIGHT TENSION ARM (SENSING PIN)                  |
| 11. REEL SIZE SELECTOR                   | 28. TAKE-UP REEL TABLE                               |
| 12. CUE/REVIEW LEVER                     | 29. BUILT-IN REEL TABLE                              |
| 13. LED BAR METERS (JPN MODEL VU METERS) | 30. REMOTE CONTROL JACK                              |
| 14. HEADPHONE JACK                       | 31. AC ADAPTER JACK                                  |
| 15. OUTPUT LEVEL CONTROL                 | 32. LINE IN JACKS                                    |
| 16. TIMER START SWITCH                   | 33. DIN JACK (Some Models do not have this facility) |
| 17. MONITOR SELECTOR                     | 34. LINE OUT JACKS                                   |
|  | 35. POWER CORD                                       |

# IV. PRINCIPAL PARTS LOCATION

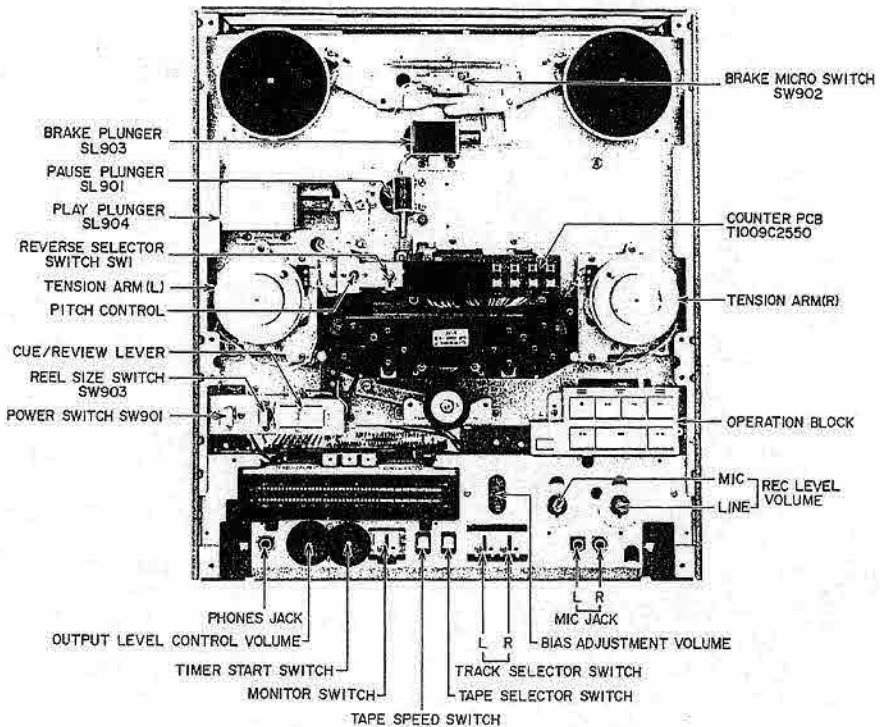


Fig. 2 Front View

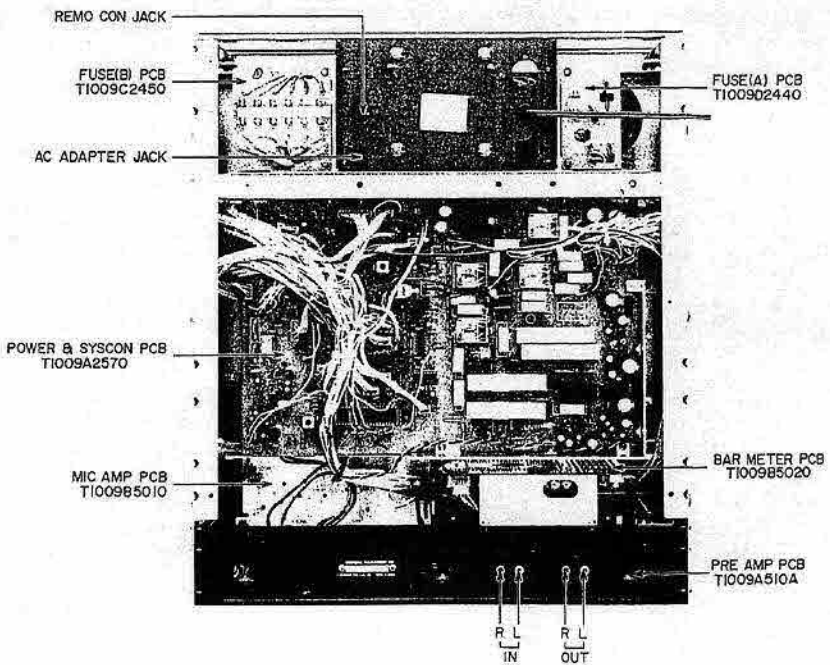


Fig. 3 Rear View

# V. VOLTAGE AND CYCLE CONVERSION

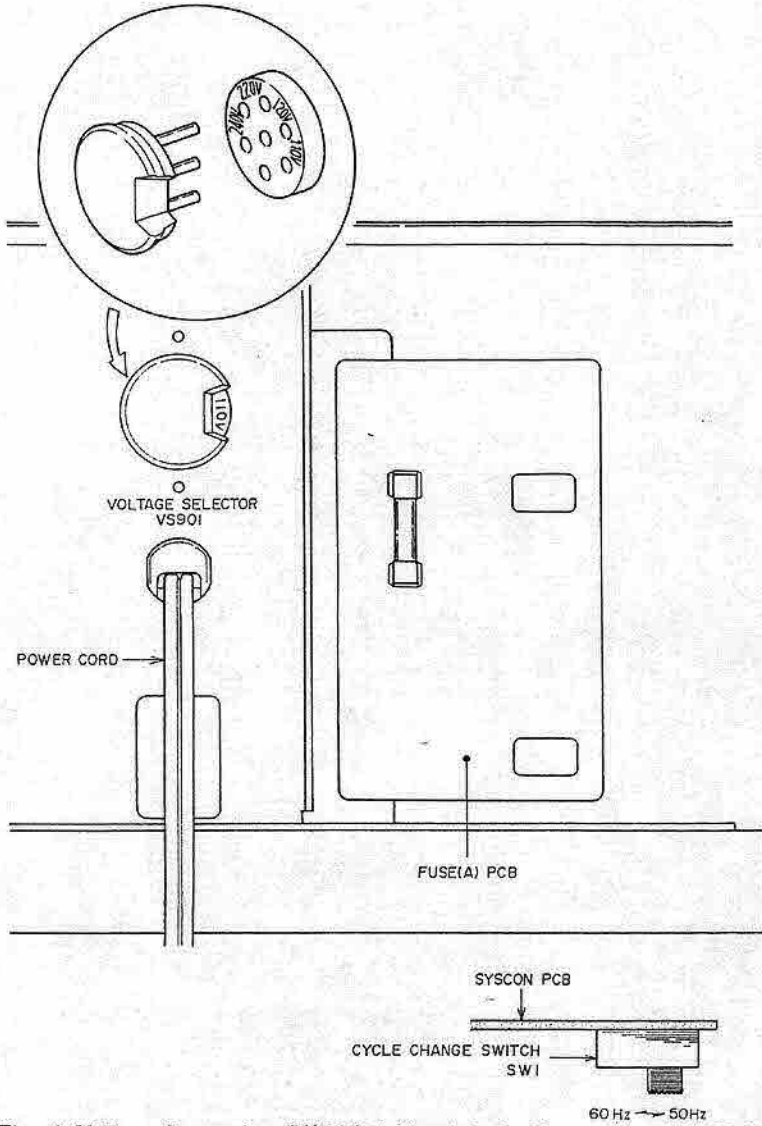


Fig. 4 Voltage Conversion (U/T Model) and Cycle Conversion (U/T, JPN Model)

## 1. VOLTAGE CONVERSION (Refer to Fig. 4)

- 1) JPN Model (100V, 50/60 Hz)  
 CSA, AAL Model (120V, 60 Hz)  
 CEE Model (220V, 50 Hz)  
 UK, SAA Model (240V, 50 Hz)  
 Voltage can not be switched.
- 2) U/T Model (110V/120V/220V/240V, 50/60 Hz)  
 Remove the back board and look for the voltage selector on the upper right portion of the machine. Change the position of voltage selector plugs so that the voltage to be used coincides with the voltage shown through the opening of voltage selector plug. Fuse change is not necessary.

## 2. CYCLE CONVERSION (Refer to Fig. 4)

Cycle can be converted only in U/T, JPN Model. Remove the back board and select the position of switch located in the recess at right portion of Syscon P.C Board to correspond to the frequency of power to be used. Move the switch to the right for 50 Hz and to the left for the 60 Hz.



