

## SUPPLEMENT

**SUBJECT: SYNC MONITOR AMP CIRCUIT ADDITION**  
**APPLICABLE SERIAL NO.: 10,201 AND LATER**

A new function is added to the usual operation using three heads; erase, record and playback. The unused tracks of a record head is used for playback purpose in record mode.

TC-854-4 can record and play back the sound on any selected tracks because of four-track four-channel system.

However, the record and playback heads are separately installed. When recording the new sounds on one track while playing back the other track's sounds, the newly recorded sounds are relatively delayed. Of course, the same occasions occur on

the conventional three-head units.

When recording the new materials on two tracks in addition to the other two tracks recorded already, you can make one master tape without delay using the new system as shown in Fig. A.

The newly recorded materials will synchronize to the pre-recorded materials.

SYNC MONITOR AMP (TC-854-4 Serial No. 10201 and later) is added to the conventional TC-854-4 and also SYNC position is added to the REC MODE switch. (See Fig. B.)



Fig. A.

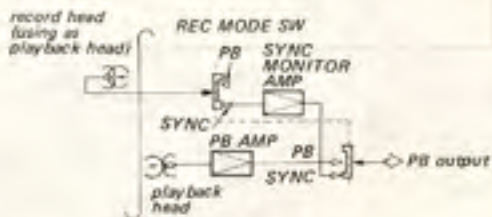


Fig. B.

# TC-854-4

USA Model



## 4-CHANNEL STEREO TAPECORDER

### SPECIFICATIONS

<b>Power Requirements:</b>	AC 120V, 60 Hz, 110W	<b>Flutter and Wow:</b>	0.03% at 15 ips (38 cm/s) 0.04% at 7½ ips (19 cm/s) 0.08% at 3¾ ips (9.5 cm/s)												
<b>Track System:</b>	4-track 4-channel stereo	<b>Inputs:</b>	Eight MIC INPUTs Impedance: 800Ω Maximum sensitivity: 0.2 mV (-72 dB)												
<b>Reel Size:</b>	10½" (267 mm) maximum	<b>Four LINE INPUTs</b>	Impedance: 100 kΩ Maximum sensitivity: 0.06 V (-22 dB)												
<b>Tape Speed:</b>	15 ips (38 cm/s), 7½ ips (19 cm/s), 3¾ ips (9.5 cm/s)	<b>Output:</b>	Four LINE OUTPUTs Impedance: 100 kΩ or more Output level: 0.775 V (0 dB)												
<b>Recording Time</b>	<table><thead><tr><th>Tape speed</th><th>4-track 4-channel</th><th>4-track 2-channel</th></tr></thead><tbody><tr><td>with 2,400 ft tape:</td><td>15 ips (38 cm/s) 1 hour</td><td>2 hours</td></tr><tr><td>with 1,800 ft tape:</td><td>7½ ips (19 cm/s) 45 minutes</td><td>1.5 hours</td></tr><tr><td>with 1,800 ft tape:</td><td>3¾ ips (9.5 cm/s) 1.5 hours</td><td>3 hours</td></tr></tbody></table>	Tape speed	4-track 4-channel	4-track 2-channel	with 2,400 ft tape:	15 ips (38 cm/s) 1 hour	2 hours	with 1,800 ft tape:	7½ ips (19 cm/s) 45 minutes	1.5 hours	with 1,800 ft tape:	3¾ ips (9.5 cm/s) 1.5 hours	3 hours	<b>HEADPHONE output</b>	Load impedance: 8Ω
Tape speed	4-track 4-channel	4-track 2-channel													
with 2,400 ft tape:	15 ips (38 cm/s) 1 hour	2 hours													
with 1,800 ft tape:	7½ ips (19 cm/s) 45 minutes	1.5 hours													
with 1,800 ft tape:	3¾ ips (9.5 cm/s) 1.5 hours	3 hours													
<b>Frequency Response</b>	<table><tbody><tr><td>with SONY SLH tape:</td><td>20~30,000 Hz at 15 ips (38 cm/s) 20~30,000 Hz at 7½ ips (19 cm/s) 20~20,000 Hz at 3¾ ips (9.5 cm/s)</td></tr><tr><td>with standard tape:</td><td>20~28,000 Hz at 15 ips (38 cm/s) 20~25,000 Hz at 7½ ips (19 cm/s) 20~18,000 Hz at 3¾ ips (9.5 cm/s)</td></tr></tbody></table>	with SONY SLH tape:	20~30,000 Hz at 15 ips (38 cm/s) 20~30,000 Hz at 7½ ips (19 cm/s) 20~20,000 Hz at 3¾ ips (9.5 cm/s)	with standard tape:	20~28,000 Hz at 15 ips (38 cm/s) 20~25,000 Hz at 7½ ips (19 cm/s) 20~18,000 Hz at 3¾ ips (9.5 cm/s)	<b>Semiconductors:</b>	101 transistors and 101 diodes								
with SONY SLH tape:	20~30,000 Hz at 15 ips (38 cm/s) 20~30,000 Hz at 7½ ips (19 cm/s) 20~20,000 Hz at 3¾ ips (9.5 cm/s)														
with standard tape:	20~28,000 Hz at 15 ips (38 cm/s) 20~25,000 Hz at 7½ ips (19 cm/s) 20~18,000 Hz at 3¾ ips (9.5 cm/s)														
<b>Signal-to-Noise Ratio:</b>	59 dB (with SONY SLH tape) 56 dB (with standard tape)	<b>Dimensions:</b>	17½" (W) x 22" (H) x 10" (D) (440 x 558.5 x 253 mm)												
		<b>Weight:</b>	61 lb 7 oz (28 kg)												

**SONY**  
**SERVICE MANUAL**

**1-4. MAJOR PARTS LOCATIONS**

— Cabinet front view —



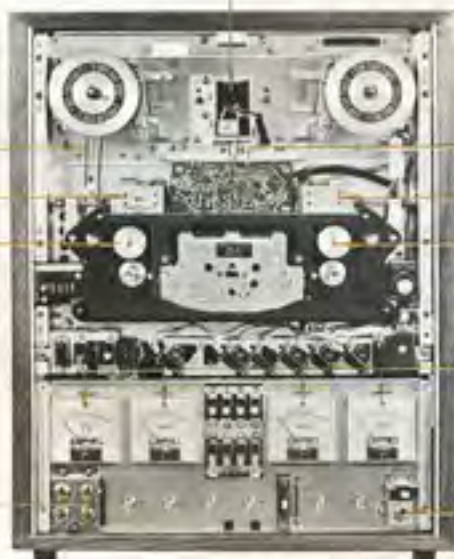
— Jack Panel —





## - Chassis front view -

1-454-060  
solenoid, brake  
(PM902)



3-426-162  
belt, counter

1-454-052  
solenoid, pinch roller  
(PM904)

X-31408-04  
pinch roller ass'y

X-31410-54  
mounted circuit board,  
APS & ATS

1-454-052  
solenoid, pinch roller  
(PM903)

X-31408-04  
pinch roller ass'y

1-624-056 (ME 501 ~ 504)  
meter, VU

1-507-281  
jack, phone, MICROPHONE  
(CNJ504, 506, 508, 510)

1-507-282 (CNJ519)  
jack, binaural; HEADPHONE

## - Chassis back view -

1-205-503 (R903)  
resistor, 68Ω; wire wound

8-832-638-01 (M903)  
motor, take-up reel (IC-638R)

1-205-503 (R904)  
resistor, 68Ω; wire wound

X-31410-62  
mounted circuit board,  
system control

3-141-042  
flywheel

8-836-624-06 (M901)  
motor, capstan (UC-624G1)

1-539-674 (CNP501)  
connector plug, 36-P

1-507-329 (CNJ901)  
jack, 36-P

X-31410-61  
mounted circuit board,  
headphone amp

X-31410-58  
mounted circuit board,  
pb amp

X-31410-60  
mounted circuit board,  
bias osc



1-205-502 (R902)  
resistor, 100Ω; wire wound

8-832-638-01 (M902)  
motor, supply reel (IC-638R)

1-205-511 (R901)  
resistor, 500Ω; wire wound

1-454-059 (PM901)  
solenoid, lifter

X-31410-63  
mounted circuit board,  
capstan servo control

3-141-042  
flywheel

X-31410-69  
mounted circuit board,  
TAPE SPEED switch

1-539-567 (CNP502)  
connector plug, 18-P

1-507-301 (CNJ902)  
jack, 18-P

X-31410-59  
mounted circuit board,  
no amp

## SECTION 2 DISASSEMBLY

### 2-1. REEL PANEL REMOVAL

Remove the four screws marked  $\odot$  in Fig. 2-1.

### 2-2. AMP PANEL REMOVAL

- (1) Remove the control knob marked  $\square$  in Fig. 2-1 by loosening their set screws.
- (2) Remove the four screws marked  $\Delta$  in Fig. 2-1.



Fig. 2-1. Reel panel and amp panel removal

### 2-3. CABINET REMOVAL

- (1) Remove the six screws marked  $\bullet$  in Fig. 2-2.
- (2) Take out the chassis from the cabinet.



Fig. 2-2. Cabinet removal

### MAJOR PARTS LOCATIONS – Continued –

– Head deck top view –

