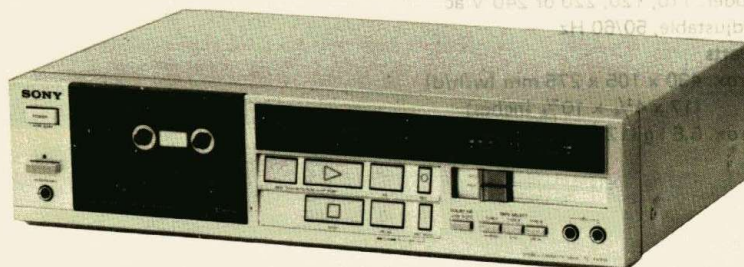


TC-FX210

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model



'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

Tape Transport Mechanism Type TCM-130VII

SPECIFICATIONS

Recording System: 4-track 2-channel stereo
Fast-forward and rewind time: Approx. 100 sec. (with C-60 cassette)
Bias frequency: 105 kHz
Signal-to-noise ratio: (NAB, at peak level)

Dolby NR switch	OFF	ON
Cassette		
TYPE IV (Sony METALLIC)	58dB	65dB
TAPE II (Sony UCX)	56dB	63dB
TAPE I (Sony BHF or HFX)	54dB	61dB

Outputs: Line outputs (phone jacks)
Output level 0.44 V (−5dB) at load impedance 50k ohms
Load impedance over 10k ohms
Headphone output
Output level −28dB at a load impedance of 8 ohms

0 dB = 0.775 V

— Continued on page 2 —

Total harmonic distortion: 1.0 % (with Sony METALLIC cassette)
Frequency response: DOLBY NR OFF

- With TYPE IV cassette (Sony METALLIC)
20-17,000 Hz
30-15,000 Hz (±3dB)
30-13,000 Hz (±3dB, 0VU recording)
30-15,000 Hz (DIN)
- With TYPE II cassette (Sony UCX)
20-17,000 Hz
30-14,000 Hz (±3dB)
30-15,000 Hz (DIN)
- With TYPE I cassette (Sony BHF or HFX)
20-16,000 Hz
30-13,000 Hz (DIN)

Wow and flutter: 0.05 % WRMS (NAB)
±0.14 % (DIN)

Inputs: Microphone inputs (phone jacks)
Sensitivity 0.25 mV (−70dB)
For low-impedance microphone
Line inputs (phone jacks)
Sensitivity 77.5 mV (−20dB)
Input impedance 50k ohms

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

STEREO CASSETTE DECK
SONY[®]



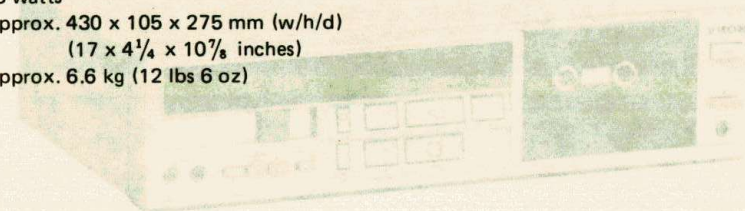
General

Power requirements: US, Canadian model: 120 V ac, 60 Hz
AEP model: 220 V ac, 50/60 Hz
(240 V ac adjustable by authorized Sony personnel)
UK model: 240 V ac, 50/60 Hz
(220 V ac adjustable by authorized Sony personnel)
E model: 110, 120, 220 or 240 V ac adjustable, 50/60 Hz

Power consumption: 10 watts

Dimensions: Approx. 430 x 105 x 275 mm (w/h/d)
(17 x 4¹/₄ x 10⁷/₈ inches)

Weight: Approx. 6.6 kg (12 lbs 6 oz)



Dolby and the double D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

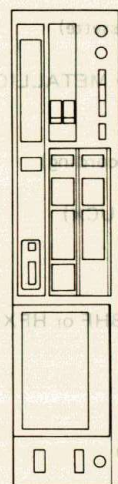
SPECIFICATIONS

Recording System: 4-track 2-channel stereo
Bias frequency: 105 kHz
Signal-to-noise ratio: (NAB at peak level)
Load impedance over 10k ohms
Head Output level: 200 mV
Impedance 50k ohms

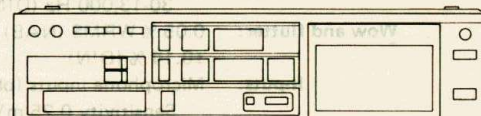
NOTES ON REPAIR

When the mechanism section is operated with the set in an upside-down position, misoperation may result. For repair while operating the mechanism section, perform with the set in its normal position or standing on its side.

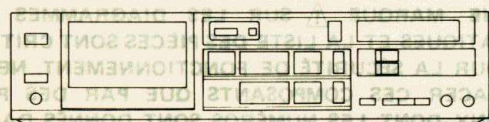
Dolby NR switch	OFF	ON
Cassette		
TYPE IV (Sony METALIC)	5dB	6dB
TYPE II (Sony UCX)	5dB	6dB
TYPE I (Sony BII or HFX)	8dB	6dB



good



wrong



good

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARK
ON THE SCHEMATIC DIAGRAMS AND IN THE
PARTS LIST ARE CRITICAL TO SAFE OPERATION.
REPLACE THESE COMPONENTS WITH SONY PARTS
WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS
MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!

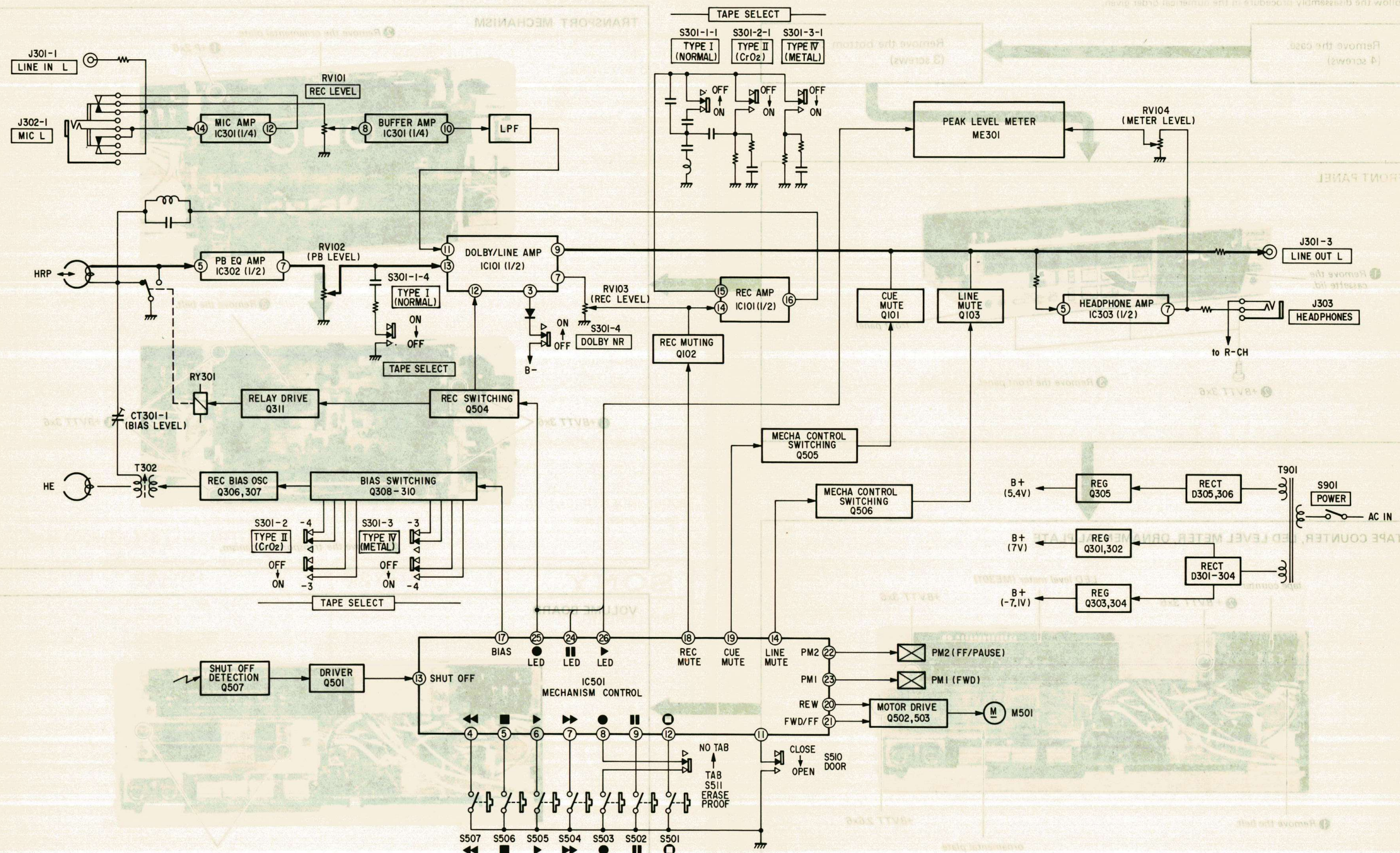
LES COMPOSANTS IDENTIFIÉS PAR UNE THÈME ET
MARQUE SUR LES DIAGRAMMES SCHE-
MATIQUES SONT CRITIQUES POUR LE FONCTIONNEMENT SÛR.
REPLACEZ CES PIÈCES SEULEMENT PAR DES PIÈCES
DONT LES NUMÉROS APPARAÎSSENT DANS CE
MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR
SONY.

STEREO CASSETTE DECK
SONY



SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM



SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

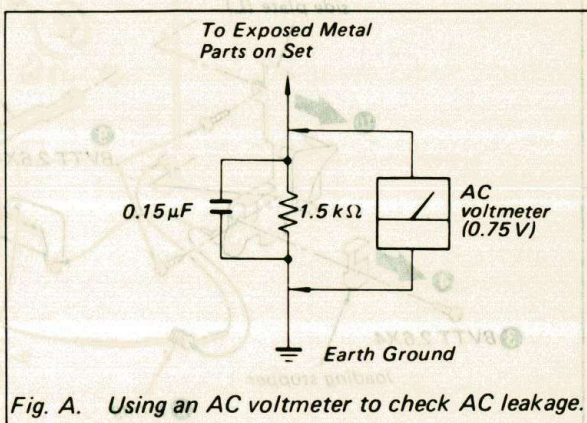
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

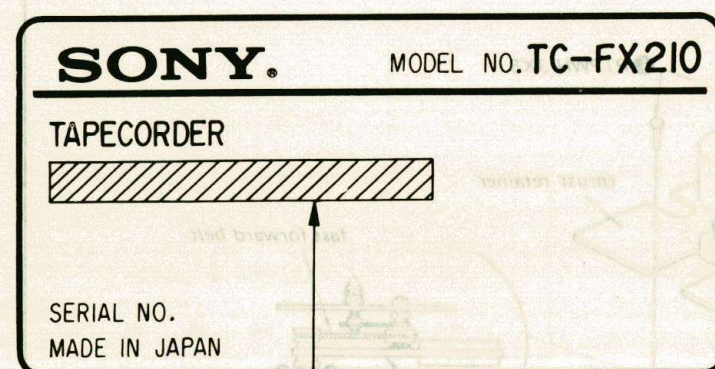
1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)



MODEL IDENTIFICATION

— Specification Label —



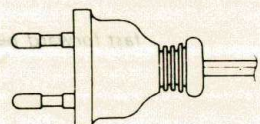
US, Canadian model: AC: 120V 60Hz 10W
 AEP model: AC: 220V~50/60Hz 10W
 UK model: AC: 240V~50/60Hz 10W
 E model: AC: 110, 120, 220, 240V~50/60Hz 10W

— Power Cord —

E₂ model: parallel-blade plug
 1-551-472-00



E₃ model: euro-plug
 1-555-734-00



SECTION 2
DISASSEMBLY

• Follow the disassembly procedure in the numerical order given.

Remove the case.
(4 screws)

Remove the bottom plate.
(3 screws)

FRONT PANEL

1 Remove the cassette lid.

2 +BVTT 3x6

3 Remove the front panel.

TAPE COUNTER, LED LEVEL METER, ORNAMENTAL PLATE

tape counter

LED level meter (ME301)

2 + BVTT 3x6

+BVTT 3x6

1 Remove the belt.

+BVTT 2.6x6

ornamental plate

TRANSPORT MECHANISM

2 Remove the ornamental plate.

1 +P 2x6

3 Remove the belt.

4 +BVTT 3x6

4 +BVTT 3x6

5 Remove the transport mechanism.

VOLUME BOARD

+PS 3x5

CASSETTE HOLDER / FULCRUM PLATE / SIDE PLATE (R/L) / PISTON

1 - 4 9 10 Side plate (R/L)

6 7 Cassette holder

1 BVTT 2.6X4

side plate (R)

side plate (L)

piston

9 BVTT 2.6X4

fulcrum plate

cassette holder

3 BVTT 2.6X4

loading stopper

8 spring

THRUST RETAINER / CAPSTAN BELT / FAST FORWARD BELT

1 2 thrust retainer

1 PTPWH 3X8

thrust retainer

fast forward belt

4

capstan belt (N)

motor

SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

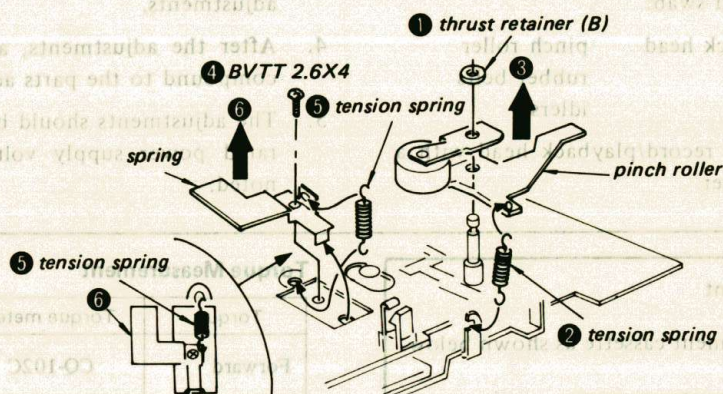
PINCH ROLLER/SPRING

PRECAUTION

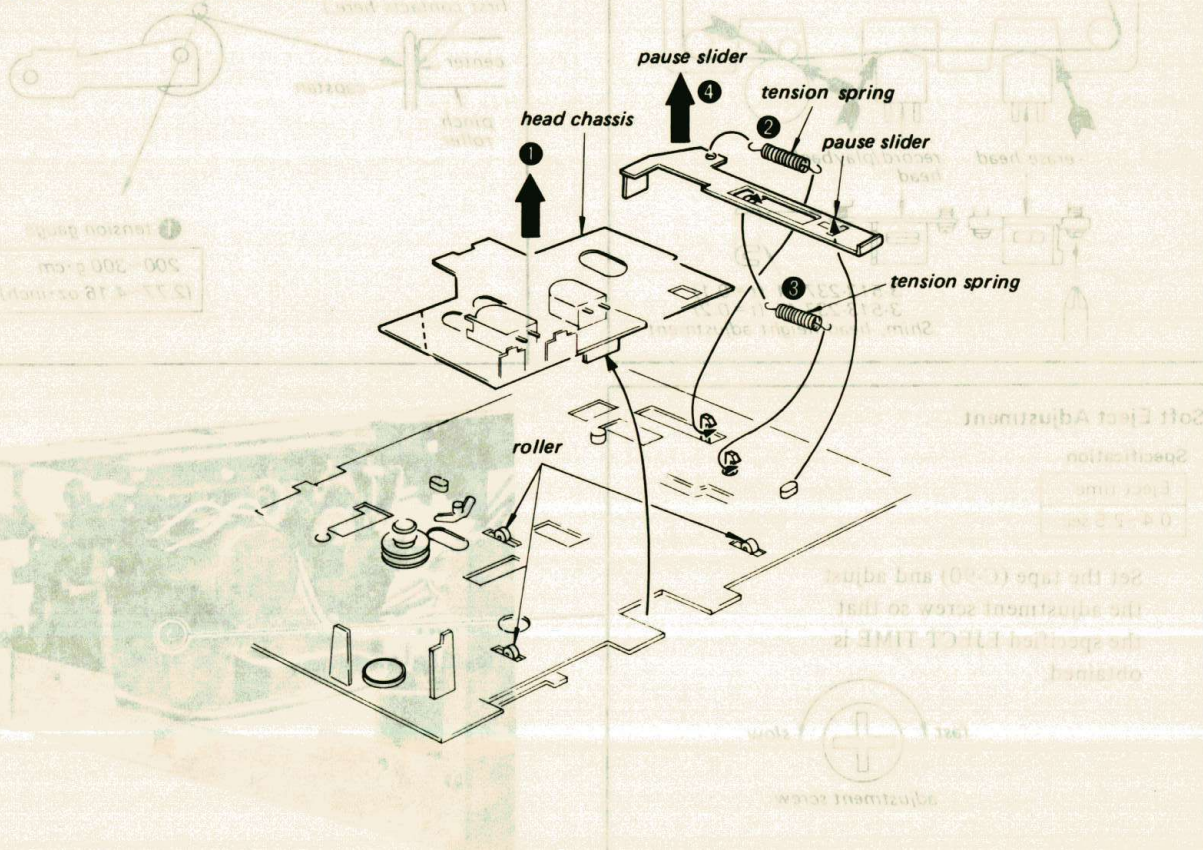
1. Clean the following parts with a denatured alcohol-moistened swab:
pinch roller
tape head
capstan

2. Demagnetize the record/playback head.
After the adjustment, apply suitable locking tape to the parts adjusted.

3. Do not use a magnetized screwdriver for the adjustments.
Adjustments should be performed with the supply voltage unless otherwise specified.



HEAD CHASSIS/PAUSE SLIDER



SECTION 3 ADJUSTMENTS

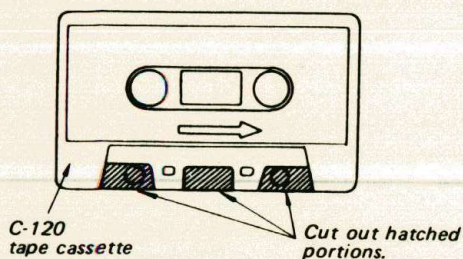
3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

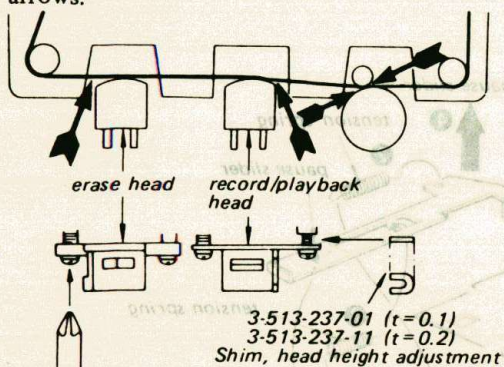
1. Clean the following parts with a denatured-alcohol-moistened swab:
 record/playback head pinch roller
 erase head rubber belts
 capstan idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Head Height Adjustment

1. Prepare an adjustment cassette as shown below.



2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at the portions shown by the arrows.



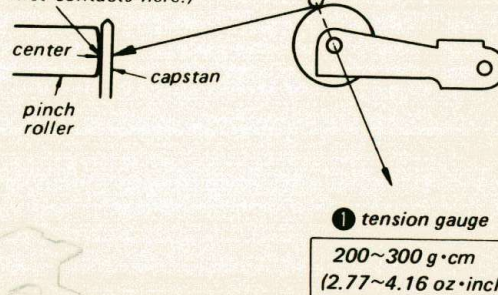
Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	28~60g·cm (0.39~0.83 oz·inch)
Back Tension	CQ-102C	2.2~6.5 g·cm (0.03~0.09 oz·inch)
Fast Forward and Rewind	CQ-201B	80~165 g·cm (1.1~2.28 oz·inch)

Pinch Roller Pressure Measurement

— Playback Mode —

② Slowly return the pinch roller and read the spring scale just when the pinch roller starts rotating.
 (The capstan should first contacts here.)

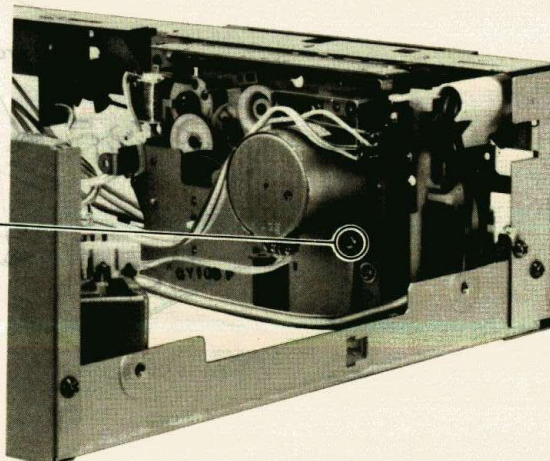
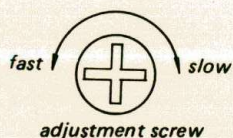


Soft Eject Adjustment

Specification

Eject time
0.4~2.5 sec.

Set the tape (C-90) and adjust the adjustment screw so that the specified EJECT TIME is obtained.



3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

- Set the TAPE switches according to the tape as follows.

Tape	Tape Switch
CS-15	TYPE I NORMAL
CS-26	TYPE II CrO ₂
CS-40	TYPE IV METAL

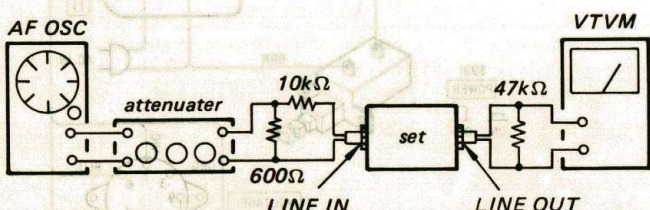
- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch: OFF
TAPE SELECT switch: TYPE I NORMAL

- Standard Record:

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

Record Mode



Standard Input Level

	MIC	LINE IN
source impedance	300Ω	10kΩ
input level	0.77mV (−60dB)	0.25V (−10dB)

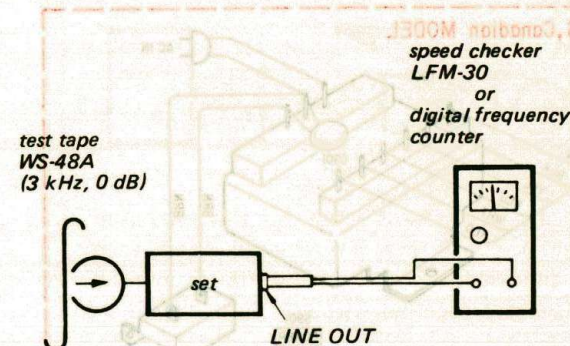
Standard Output Level

	HEADPHONES	LINE OUT
load impedance	8Ω	47kΩ
output level	31mV (−28dB)	0.435V (−5dB)

Capstan Motor Speed Adjustment

Procedure:

Mode: playback

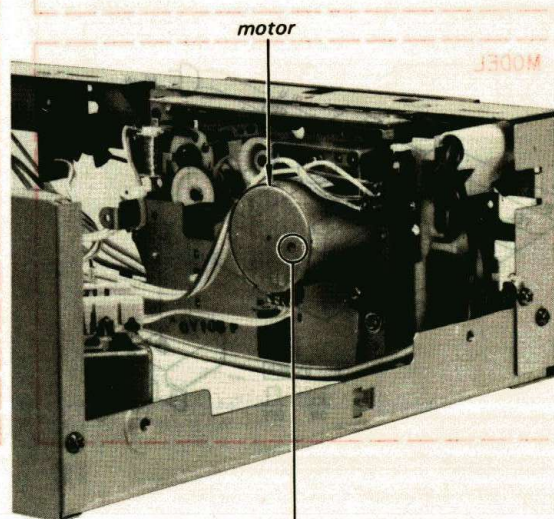


Specification:

Speed checker	Digital frequency counter
−0.8~+0.8%	2,975~3,025Hz

Frequency difference between the beginning and the end of the tape should be within 0.8% (25Hz).

Adjustment Location:

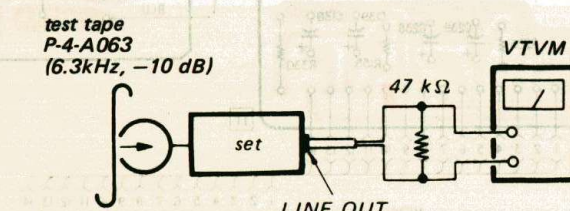


Adjust the speed by using screwdriver. When turning the screw clockwise, speed is faster.

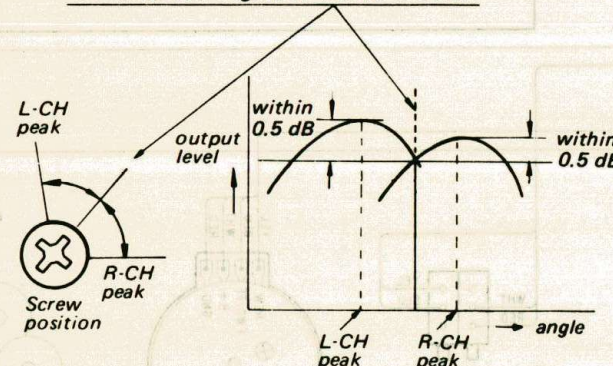
Record/playback Head Azimuth Adjustment

Procedure:

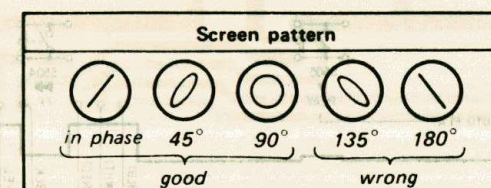
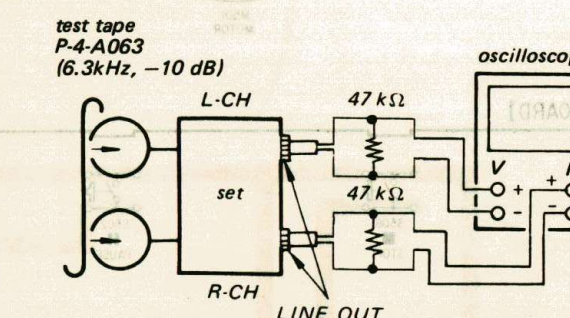
1. Mode: playback



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5 dB.



3. Phase Check
Mode: playback



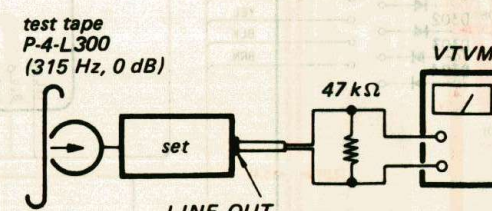
Adjustment Location:



Playback Level Adjustment

Procedure:

Mode: playback



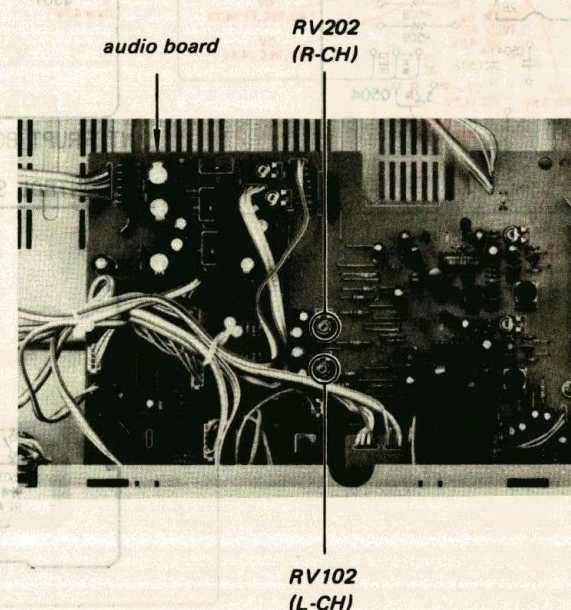
Specification:

LINE OUT level: 0.45 ~ 0.50 V
(−4.9 ~ −3.9 dB)

Level difference between channels:
less than 0.5 dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:



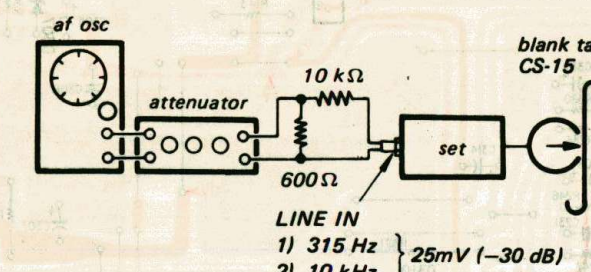
Record Bias Adjustment

Setting:

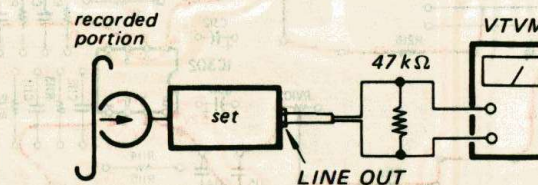
REC LEVEL control: standard record
(See page 11)

Procedure:

1. Mode: record



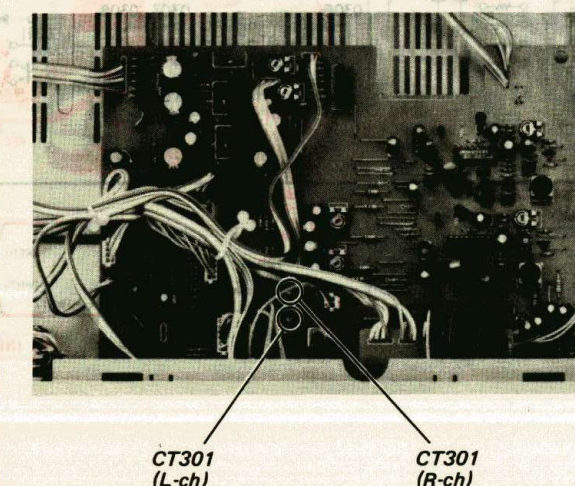
2. Mode: playback



Play back the tape recorded in step 1. Confirm that the LINE OUT level of 10kHz signal is 0dB relative to that of 315Hz. If not, adjust the CT301 and repeat steps 1 and 2.

Adjustment Location:

— Audio board —



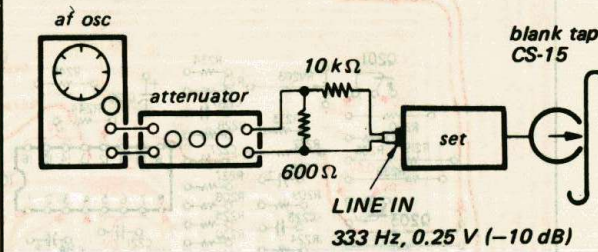
Record Level Adjustment

Setting:

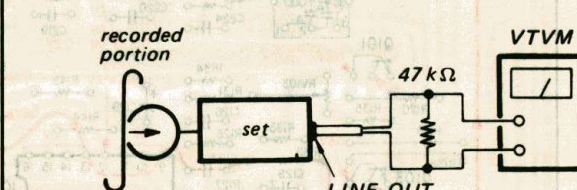
REC LEVEL control: standard record
(See page 11)

Procedure:

1. Mode: record



2. Mode: playback

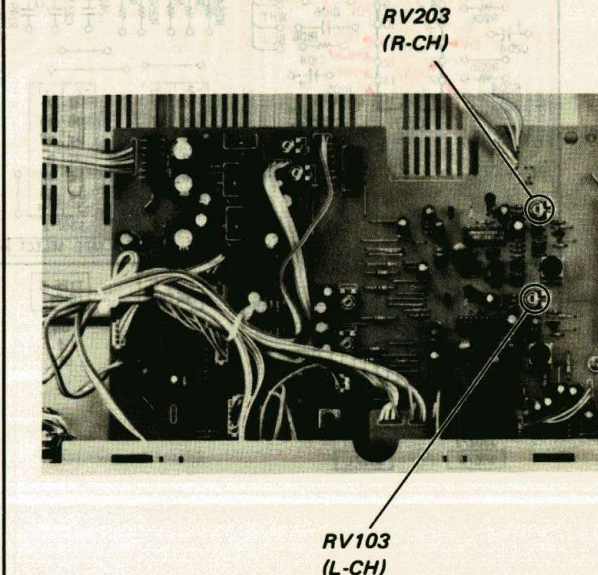


Specification:

LINE OUT level: 0.39 ~ 0.49 V
(−6 ~ −4 dB)

Adjustment Location:

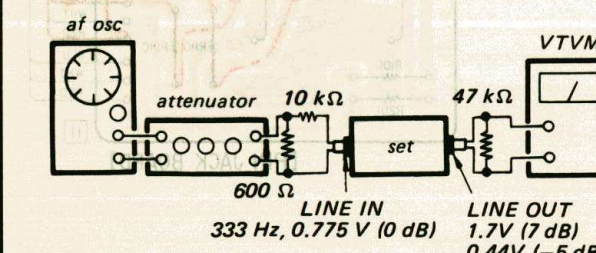
— Audio board —



Level Meter Calibration

Procedure:

1. Mode: record



2. Set the REC LEVEL control so that the LINE OUT level is 0.44V (−5dB).

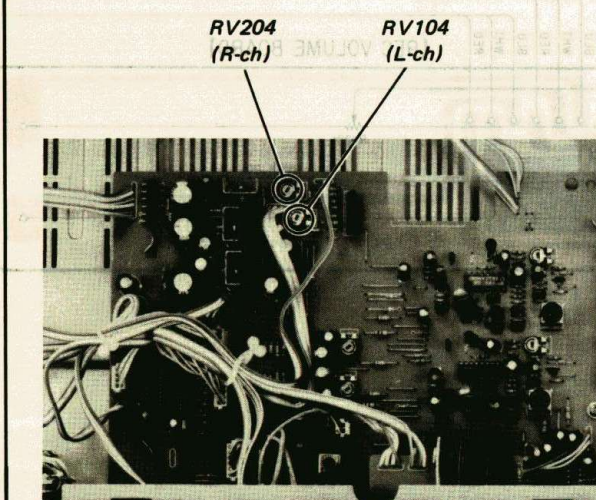
3. Adjust RV401 and RV402 so that the light in the 5th segment from the left of the LED meter goes on.

4. Set the REC LEVEL control so that the LINE OUT level is 1.9V (8dB). Make sure that lights in the segments go on.

Note: Slide the REC LEVEL control rightward slowly.

Adjustment Location:

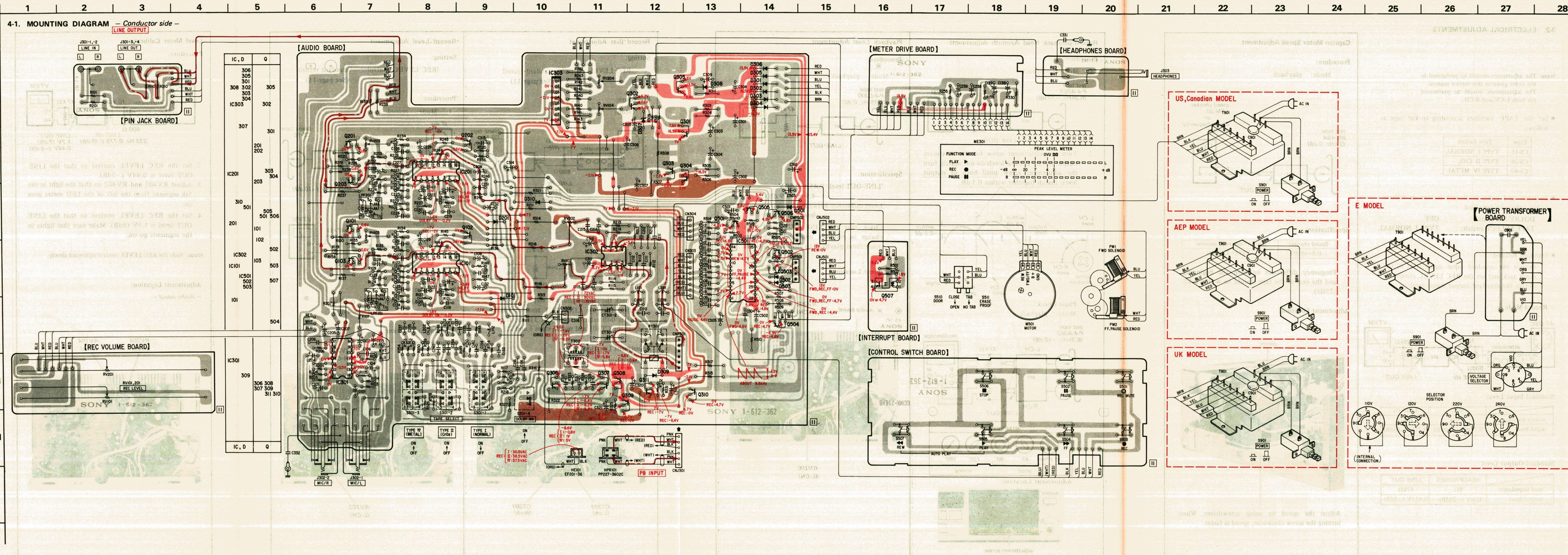
— Audio board —



TC-FX210	TC-FX210
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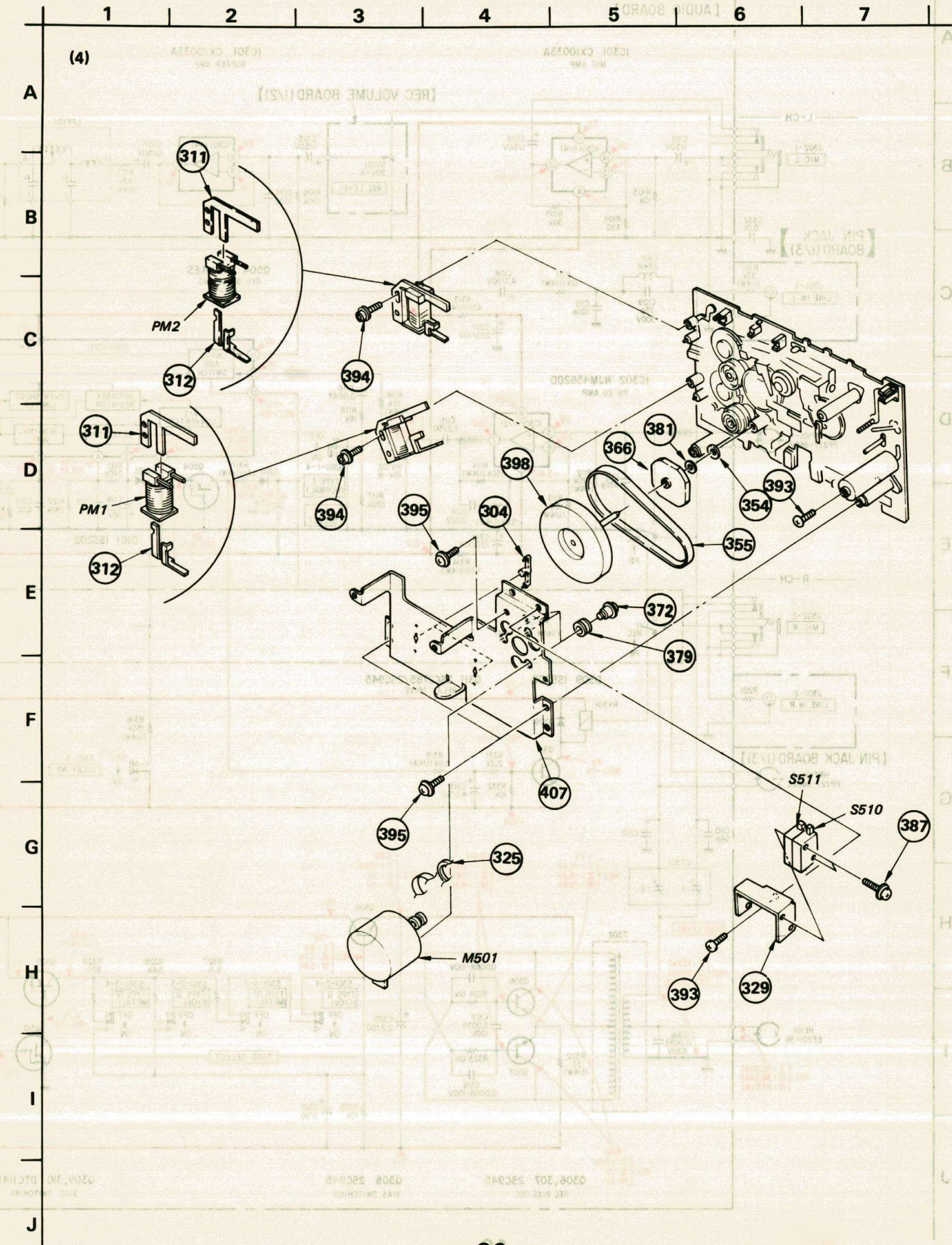
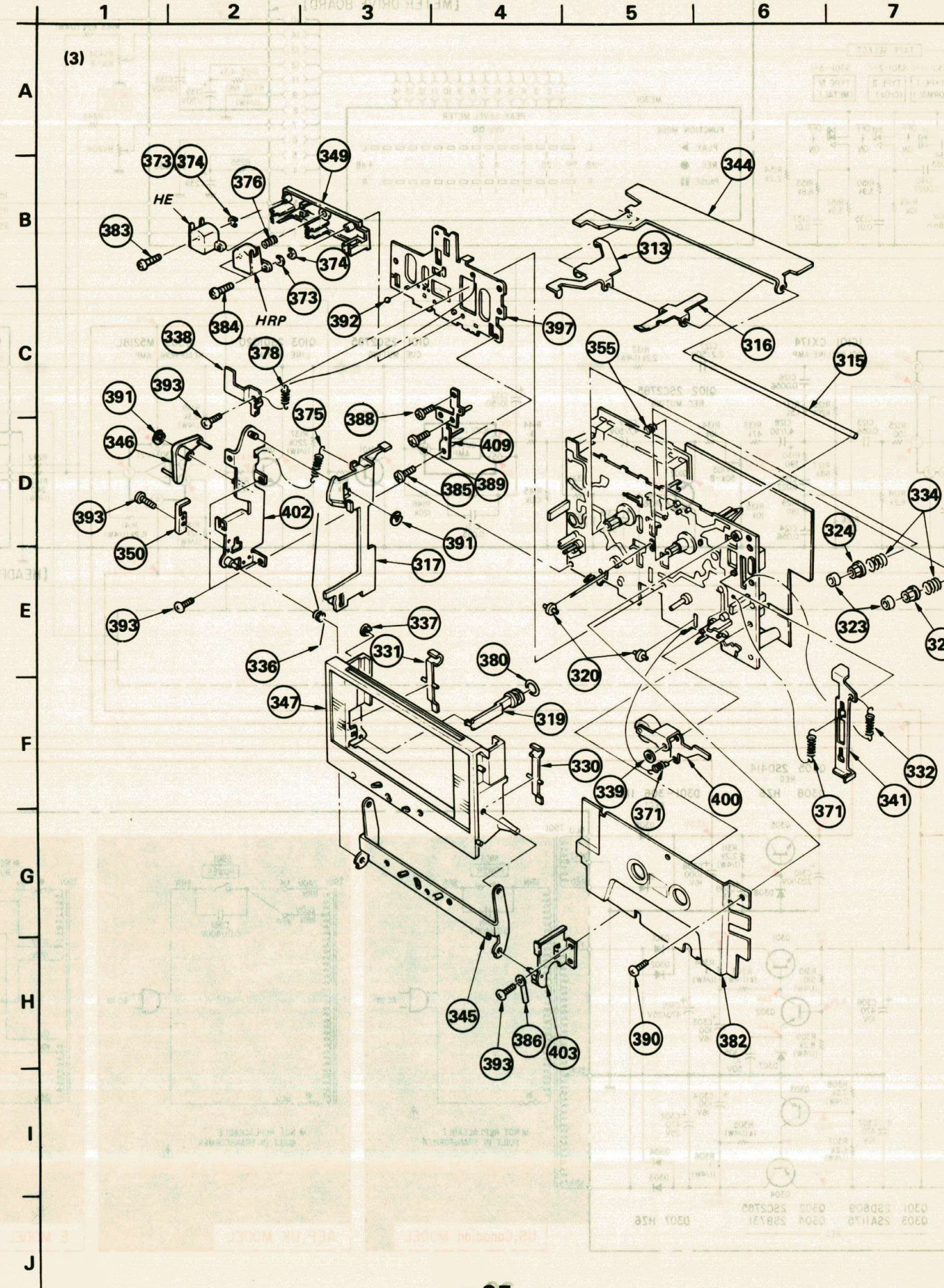
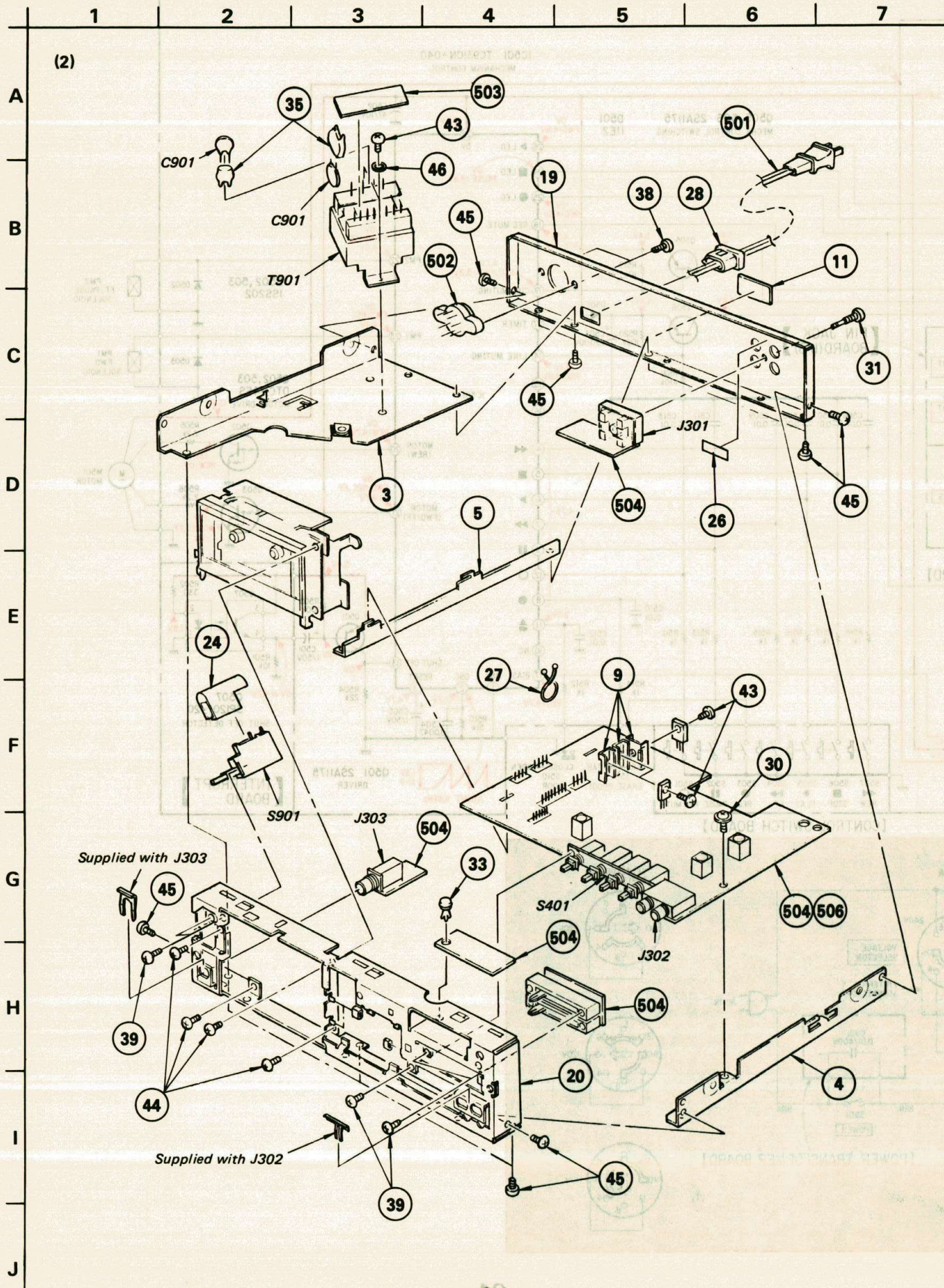
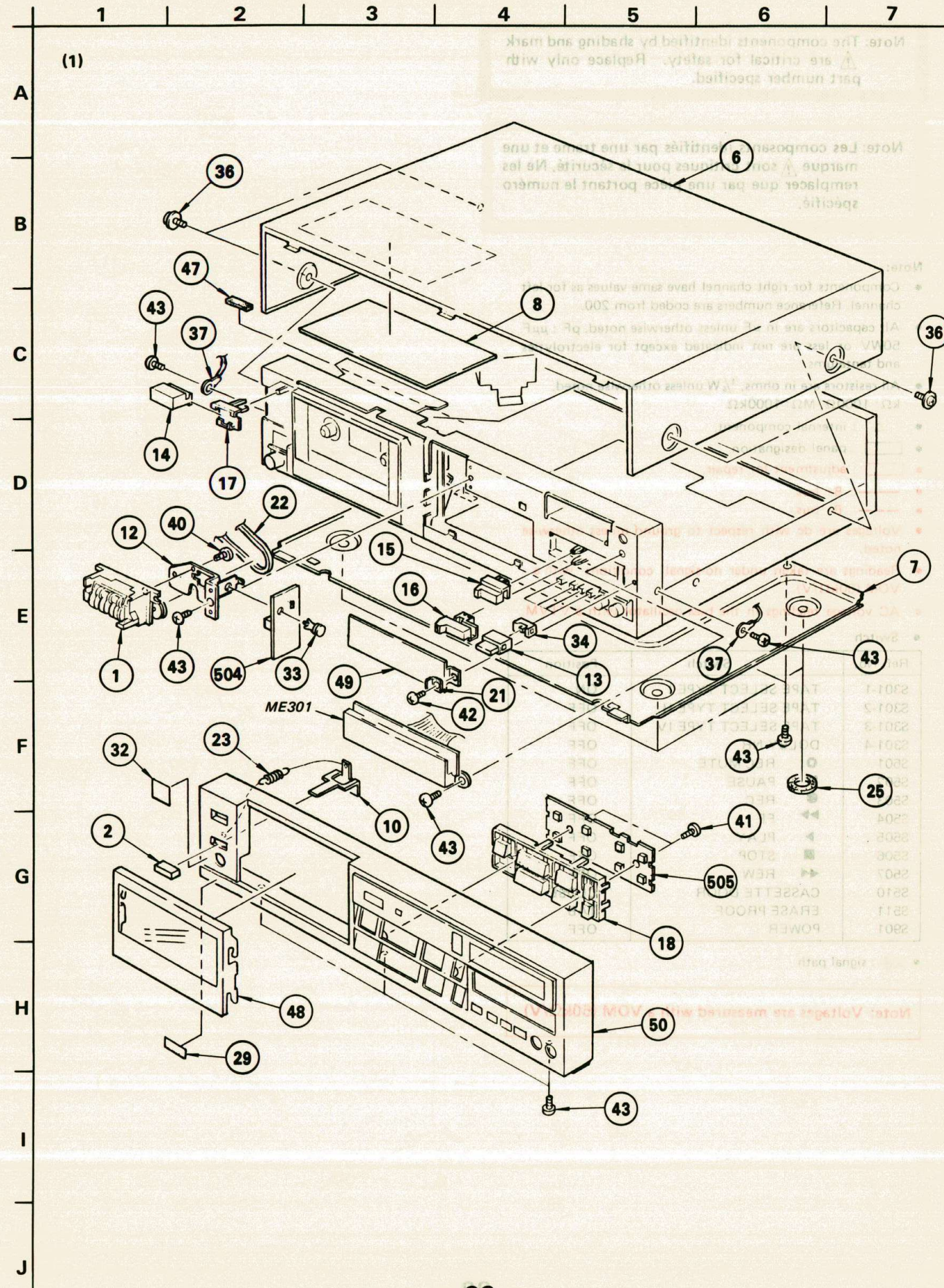
LINE OUTPUT

- ○ : parts extracted from the component side.
- ● : parts extracted from the conductor side.
- [] : indicates side identified with part number.
- [] : B+ pattern
- [] : B- pattern
- [] : signal path
- [] : L-CH signal path
- [] : R-CH signal path





SECTION 5
EXPLODED VIEWS AND PARTS LIST



1

2

3

4

5

6

7

(5)

A

B

C

D

E

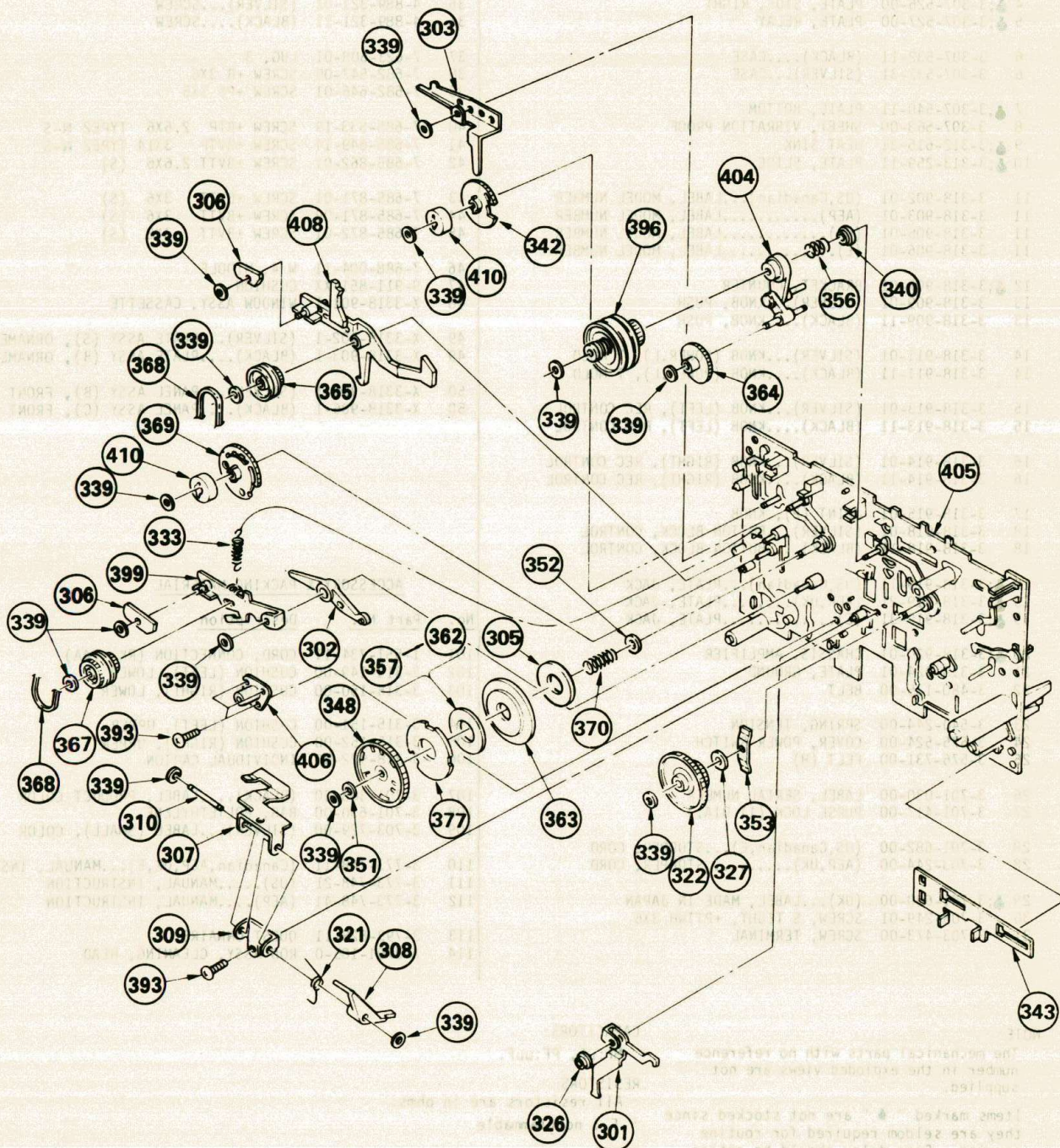
F

G

H

I

J



GENERAL SECTION

No.	Part No.	Description
1	1-548-574-21	COUNTER, TAPE (NORMAL TYPE)
2	3-304-419-31	(BLACK)...BUTTON, EJECT
2	3-304-419-41	(SILVER)...BUTTON, EJECT
3	3-307-525-11	PLATE, SIDE, LEFT
4	3-307-526-00	PLATE, SIDE, RIGHT
5	3-307-527-00	PLATE, RELAY
6	3-307-532-11	(BLACK)...CASE
6	3-307-532-31	(SILVER)...CASE
7	3-307-540-11	PLATE, BOTTOM
8	3-307-563-00	SHEET, VIBRATION PROOF
9	3-312-615-31	HEAT SINK
10	3-313-259-11	PLATE, SLIDE
11	3-318-902-01	(US,Canadian)...LABEL, MODEL NUMBER
11	3-318-903-01	(AEP)...LABEL, MODEL NUMBER
11	3-318-905-01	(UK)...LABEL, MODEL NUMBER
11	3-318-906-01	(E)...LABEL, MODEL NUMBER
12	3-318-907-01	BRACKET, COUNTER
13	3-318-909-01	(SILVER)...KNOB, PUSH
13	3-318-909-11	(BLACK)...KNOB, PUSH
14	3-318-911-01	(SILVER)...KNOB (POWER.L), T MOLD
14	3-318-911-11	(BLACK)...KNOB (POWER.L), T MOLD
15	3-318-913-01	(SILVER)...KNOB (LEFT), REC CONTROL
15	3-318-913-11	(BLACK)...KNOB (LEFT), REC CONTROL
16	3-318-914-01	(SILVER)...KNOB (RIGHT), REC CONTROL
16	3-318-914-11	(BLACK)...KNOB (RIGHT), REC CONTROL
17	3-318-915-01	JOINT (P), KNOB
18	3-318-918-01	(SILVER)...BUTTON BLOCK, CONTROL
18	3-318-918-11	(BLACK)...BUTTON BLOCK, CONTROL
19	3-318-919-11	(US,Canadian)...PLATE, JACK
19	3-318-919-21	(AEP,UK)...PLATE, JACK
19	3-318-919-31	(E)...PLATE, JACK
20	3-318-920-01	CHASSIS, AMPLIFIER
21	3-318-924-01	PLATE, GROUND
22	3-480-135-00	BELT
23	3-540-244-00	SPRING, TENSION
24	3-575-524-00	COVER, POWER SWITCH
25	3-576-731-00	FELT (H)
26	3-701-030-00	LABEL, SERIAL NUMBER
27	3-701-417-00	PURSE LOCK (11 DIA.)
28	3-701-682-00	(US,Canadian,E)...STOPPER, CORD
28	3-703-244-00	(AEP,UK)...STOPPER, CORD
29	3-701-690-00	(UK)...LABEL, MADE IN JAPAN
30	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6
31	3-703-473-00	SCREW, TERMINAL

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
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CAPACITORS:

MF:μF, PF:μuF.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

MMH: mH, UH: μH

SEMICONDUCTORS

In each case, U: μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

GENERAL SECTION

No.	Part No.	Description
32	3-703-710-01	STICKER, SONY SYMBOL (12)
33	4-812-134-11	RIVET, NYLON, 3.5
34	4-864-307-00	RING
35	4-875-455-01	(AEP,UK,E)...CAVER, CAPACITOR
36	4-889-321-01	(SILVER)...SCREW
36	4-889-321-11	(BLACK)...SCREW
37	7-623-508-01	LUG, 3
38	7-682-547-09	SCREW +B 3X6
39	7-682-646-01	SCREW +PS 3X5
40	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S
41	7-685-649-14	SCREW +BVTP 3X14 TYPE2 N-S
42	7-685-862-01	SCREW +BVTT 2.6X6 (S)
43	7-685-871-01	SCREW +BVTT 3X6 (S)
44	7-685-871-09	SCREW +BVTT 3X6 (S)
45	7-685-872-01	SCREW +BVTT 3X8 (S)
46	7-688-004-11	W 4, MIDDLE
47	9-911-851-XX	CUSHION
48	X-3318-901-1	WINDOW ASSY, CASSETTE
49	X-3318-902-1	(SILVER)...PLATE ASSY (S), ORNAMENTAL
49	X-3318-903-1	(BLACK)...PLATE ASSY (B), ORNAMENTAL
50	X-3318-905-1	(SILVER)...PANEL ASSY (B), FRONT
50	X-3318-906-1	(BLACK)...PANEL ASSY (C), FRONT

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
101	1-551-734-11	CORD, CONNECTION (RK-74A)
102	3-315-149-00	CUSHION (LEFT), LOWER
103	3-315-150-00	CUSHION (RIGHT), LOWER
104	3-315-151-00	CUSHION (LEFT), UPPER
105	3-315-152-00	CUSHION (RIGHT), UPPER
106	3-318-922-00	INDIVIDUAL CARTON
107	3-701-308-00	(BLACK)...LABEL, PRODUCT COLOR
108	3-701-630-00	BAG, POLYETHYLENE
109	3-703-729-00	(SILVER)...LABEL (SMALL), COLOR
110	3-773-748-11	(Canadian,AEP,UK,E)...MANUAL, INSTRUCTION
111	3-773-748-21	(US)...MANUAL, INSTRUCTION
112	3-773-748-41	(AEP)...MANUAL, INSTRUCTION
113	3-793-828-11	QUESTIONNAIRE
114	X-3701-105-0	ROD ASSY, CLEANING, HEAD

MECHANISM SECTION

No.	Part No.	Description
301	3-307-301-00	LEVER (RELAY), FWD SELECT
302	3-307-307-00	LEVER, FWD
303	3-307-308-00	LEVER, FF
304	3-307-309-00	RETAINER (A), THRUST
305	3-307-313-00	PLATE, YOKE
306	3-307-315-00	ARBOR, MOVABLE
307	3-307-319-00	RETAINER, TAKE-UP GEAR
308	3-307-328-00	LEVER, TAKE-UP SELECTION
309	3-307-329-00	PLATE, FULCRUM, SELECTION LEVER
310	3-307-330-00	PIN, FULCRUM PLATE
311	3-307-332-00	ARBOR, FIXED
312	3-307-333-00	ARBOR, TRIGGER
313	3-307-337-00	LEVER, REC DETECTION
314	3-307-338-00	LEVER, METAL DETECTION
315	3-307-339-00	SHAFT, DETECTION LEVER
316	3-307-344-00	LEVER, HALF RETAINER
317	3-307-345-00	SLIDER, EJECT
318	3-307-346-00	LEVER, DETECTION
319	3-307-347-00	PISTON
320	3-307-348-00	ROLLER
321	3-307-355-00	SPRING
322	3-307-360-00	GEAR (S), REEL
323	3-307-362-00	CAP, REEL
324	3-307-363-00	CLAW (N), REEL
325	3-307-366-00	BELT, FAST FORWARD
326	3-307-367-00	BUSHING, SELECT LEVER
327	3-307-369-00	FELT, LIMITER
328		
329	3-307-370-00	BRACKET, SWITCH
330	3-307-371-00	SPRING (LEFT)
331	3-307-372-00	SPRING (RIGHT)
332	3-307-374-00	SPRING, TENSION
333	3-307-378-00	SPRING, TENSION
334	3-307-380-00	SPRING, COMPRESSION
335	3-307-382-00	SPRING
336	3-307-383-00	SPRING
337	3-307-390-00	BUSHING, LOADING SPRING
338	3-307-391-00	SPRING
339	3-307-394-00	RETAINER (B), THRUST
340	3-307-395-00	RETAINER, SPRING
341	3-307-397-00	SLIDER, PAUSE
342	3-307-401-00	GEAR, FF CAM
343	3-307-403-00	SLIDER, FWD
344	3-307-404-00	RETAINER, DETECTION SWITCH
345	3-307-405-00	PLATE, FULCRUM, CASSETTE HOLDER

NOTE:

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MECHANISM SECTION

No.	Part No.	Description
346	3-307-406-00	LEVER, EJECT
347	3-307-407-31	HOLDER, CASSETTE
348	3-307-412-00	GEAR, TAKE-UP REEL
349	3-307-414-00	BRACKET, HEAD
350	3-307-416-00	STOPPER, LOADING
351	3-307-465-00	RETAINER, TAKE-UP
352	3-307-467-00	RETAINER, SPRING
353	3-307-475-00	PLATE, TENSION, BACK
354	3-307-482-00	WASHER, LUMILER
355	3-307-483-00	BELT (R), CAPSTAN
356	3-307-486-00	SPRING, COMPRESSION
357	3-307-493-01	SPACER
358	3-307-493-11	SPACER
359	3-307-493-21	SPACER
360	3-307-493-31	SPACER
361	3-307-493-41	SPACER
362	3-307-493-51	SPACER
363	3-307-953-00	MAGNET, REEL TABLE
364	3-307-970-00	GEAR, FR
365	3-312-405-00	PULLEY, DRIVING
366	3-312-406-00	GEAR (T), PINION
367	3-312-408-00	GEAR (B), CONVERSION
368	3-312-409-00	BELT, DRIVING
369	3-312-412-00	GEAR (B), CAM, FWD
370	3-312-429-00	SPRING, COMPRESSION
371	3-312-432-00	SPRING, TENSION
372	3-570-027-00	SCREW, MOTOR
373	3-513-237-01	PLATE
374	3-513-237-11	PLATE
375	3-531-541-00	SPRING, TENSION
376	3-539-237-00	SPRING (3), COMPRESSION
377	3-561-827-00	PLATE (A), HYSTERESIS
378	3-570-895-02	SPRING, TENSION
379	3-570-118-00	CUSHION, MOTOR
380	3-575-392-00	RING, PISTON
381	3-701-438-11	WASHER, 2.5
382	3-307-533-00	PLATE, ORNAMENTAL, MD
383	3-701-465-00	SCREW, LOCK
384	3-701-466-00	SCREW, LOCK
385	3-701-467-00	SCREW, LOCK
386	3-701-822-00	HOLDER, WIRE
387	7-621-760-05	+PSW, 2.6X16
388	7-621-770-20	SCREW +B 2X5
389	7-621-772-00	SCREW +B 2X3
390	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT

CAPACITORS:

MF:μF, PF:μuF.

RESISTORS

- All resistors are in ohms.
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COILS

MMH: mH, UH: μH

SEMICONDUCTORS

In each case, U: μ, for example:
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MECHANISM SECTION

No.	Part No.	Description
391	7-624-105-04	STOP RING 2.3, TYPE -E
392	7-671-111-11	STEEL BALL 1.5MM
393	7-685-860-04	SCREW +BVT 2.6X4 (S)
394	7-687-204-21	TOTSU PTPWH 2X6 NON-SLIT, TYPE2
395	7-687-246-21	SCREW, TOTSU PTPWH 3X8, TYPE2
396	A-2142-022-A	PULLEY ASSY, FR
397	X-3307-301-0	CHASSIS (N) ASSY, HEAD
398	X-3307-302-5	FLYWHEEL (N) ASSY
399	X-3307-305-0	LEVER ASSY, FWD LOCK
400	X-3307-307-0	PINCH ROLLER (N) ASSY
401		
402	X-3307-309-0	PLATE (LEFT) ASSY, SIDE
403	X-3307-310-0	PLATE (RIGHT) ASSY, SIDE
404	X-3307-312-0	LEVER ASSY, FR
405	X-3307-330-1	CHASSIS (N) ASSY, MECHANICAL
406	X-3307-338-0	BEARING ASSY, CAPSTAN
407	X-3307-345-0	RETAINER ASSY, THRUST
408	X-3307-348-0	LEVER ASSY, FF LOCK
409	X-3307-920-0	PLATE ASSY, ADJUSTMENT
410	1-452-202-00	MAGNET

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	Δ.1-534-817-XX	(AEP,G-AEP)...CORD, POWER
501	Δ.1-551-472-00	(E2).....CORD, POWER
501	Δ.1-555-734-00	(E3).....CORD, POWER
501	Δ.1-551-628-00	(US,Canadian)...CORD, POWER
501	Δ.1-551-963-00	(UK:SILVER)....CORD, POWER
501	Δ.1-556-562-00	(UK:BLACK).....CORD, POWER
502	Δ.1-526-576-51	(E)...SELECTOR, POWER VOLTAGE
503	Δ.1-605-860-00	(E)...PC BOARD, POWER
504	Δ.1-612-362-11	PC BOARD, AUDIO
505	Δ.1-612-363-11	PC BOARD, CONTROL SW
506	Δ.A-2056-221-A	PC BOARD ASSY, AUDIO
C101	1-123-380-00	ELECT 1MF 20% 50V
C104	1-123-380-00	ELECT 1MF 20% 50V
C105	1-123-380-00	ELECT 1MF 20% 50V
C106	1-162-037-00	CERAMIC 100PF 5% 50V
C107	1-123-356-00	ELECT 10MF 20% 50V
C108	1-123-369-00	ELECT 4.7MF 20% 50V
C109	1-107-167-00	MICA 75PF 5% 500V
C110	1-107-165-00	MICA 56PF 5% 500V
C111	1-161-271-00	CERAMIC 100PF 5% 50V
C112	1-161-322-00	CERAMIC 820PF 10% 50V
C114	1-130-624-00	FILM 0.022MF 5% 50V
C115	1-123-381-00	ELECT 2.2MF 20% 50V
C116	1-162-112-00	CERAMIC 0.0047MF 30% 25V
C118	1-131-409-00	ELECT(SOLID) 0.33MF 20% 16V
C119	1-130-632-00	FILM 0.1MF 5% 50V
C120	1-130-620-00	FILM 0.01MF 5% 50V
C121	1-130-627-00	FILM 0.039MF 5% 50V
C122	1-123-356-00	ELECT 10MF 20% 50V
C123	1-130-629-00	FILM 0.056MF 5% 50V
C124	1-130-629-00	FILM 0.056MF 5% 50V
C125	1-130-625-00	FILM 0.027MF 5% 50V
C126	1-108-573-00	MYLAR 0.0056MF 5% 50V
C127	1-124-183-00	ELECT 2.2MF 20% 25V
C128	1-123-369-00	ELECT 4.7MF 20% 50V
C129	1-123-369-00	ELECT 4.7MF 20% 50V
C131	1-130-626-00	FILM 0.033MF 5% 50V
C132	1-123-356-00	ELECT 10MF 20% 50V
C133	1-108-577-00	MYLAR 0.0082MF 5% 50V
C134	1-108-567-00	MYLAR 0.0033MF 5% 50V
C135	1-130-620-00	FILM 0.01MF 5% 50V
C137	1-130-620-00	FILM 0.01MF 5% 50V
C138	1-123-356-00	ELECT 10MF 20% 50V
C139	1-123-380-00	ELECT 1MF 20% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C140	1-108-565-00	MYLAR 0.0027MF 5% 50V
C301	1-123-336-00	ELECT 470MF 20% 25V
C302	1-123-336-00	ELECT 470MF 20% 25V
C303	1-123-320-00	ELECT 100MF 20% 16V
C304	1-123-320-00	ELECT 100MF 20% 16V
C305	1-123-356-00	ELECT 10MF 20% 50V
C306	1-123-310-00	ELECT 470MF 20% 10V
C307	1-123-310-00	ELECT 470MF 20% 10V
C308	1-123-324-00	ELECT 1000MF 20% 16V
C309	1-123-318-00	ELECT 33MF 20% 16V
C310	1-123-308-00	ELECT 220MF 20% 10V
C311	1-123-308-00	ELECT 220MF 20% 10V
C312	1-123-308-00	ELECT 220MF 20% 10V
C313	1-123-369-00	ELECT 4.7MF 20% 50V
C314	1-123-318-00	ELECT 3.3MF 20% 16V
C315	1-123-369-00	ELECT 4.7MF 20% 50V
C316	1-129-708-00	FILM 0.0033MF 10% 630V
C317	1-130-287-00	FILM 0.0039MF 5% 100V
C318	1-130-293-00	FILM 0.0068MF 5% 100V
C319	1-130-293-00	FILM 0.0068MF 5% 100V
C320	1-123-381-00	ELECT 2.2MF 20% 50V
C321	1-123-380-00	ELECT 1MF 20% 50V
C331	1-162-113-00	CERAMIC 0.01MF 30% 16V
C332	1-162-113-00	CERAMIC 0.01MF 30% 16V
C501	1-123-380-00	ELECT 1MF 20% 50V
C502	1-123-306-00	ELECT 47MF 20% 10V
C503	1-123-308-00	ELECT 220MF 20% 10V
C504	1-108-571-00	MYLAR 0.0047MF 5% 50V
C505	1-123-380-00	ELECT 1MF 20% 50V
C506	1-162-113-00	CERAMIC 0.01MF 30% 16V
C507	1-162-113-00	CERAMIC 0.01MF 30% 16V
C508	1-162-113-00	CERAMIC 0.01MF 30% 16V
C509	1-162-113-00	CERAMIC 0.01MF 30% 16V
C510	1-162-113-00	CERAMIC 0.01MF 30% 16V
C511	1-162-113-00	CERAMIC 0.01MF 30% 16V
C512	1-162-113-00	CERAMIC 0.01MF 30% 16V
C513	1-162-113-00	CERAMIC 0.01MF 30% 16V
C901	Δ.1-161-744-00	CAP, CERAMIC 10000PF FZ 400V
Δ.CNP301	1-560-064-00	PIN, CONNECTOR 6P
Δ.CNP302	1-560-060-00	PIN, CONNECTOR 2P
Δ.CNP303	1-560-065-00	PIN, CONNECTOR 8P
Δ.CNP501	1-560-062-00	PIN, CONNECTOR 4P
Δ.CNP502	1-560-062-00	PIN, CONNECTOR 4P
Δ.CNP504	1-560-062-00	PIN, CONNECTOR 4P
CT301	1-141-225-00	CAP, TUNING, TRIMAR

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D101	8-719-107-94	DIODE 1SS202
D201	8-719-107-94	DIODE 1SS202
D301	8-719-200-02	DIODE 10E-2
D302	8-719-200-02	DIODE 10E-2
D303	8-719-200-02	DIODE 10E-2
D304	8-719-200-02	DIODE 10E-2
D305	8-719-200-02	DIODE 10E-2
D306	8-719-200-02	DIODE 10E-2
D307	8-719-910-64	DIODE HZ6B1L
D308	8-719-910-68	DIODE HZ6C2L
D309	8-719-107-94	DIODE 1SS202
D310	8-719-107-94	DIODE 1SS202
D501	8-719-200-02	DIODE 10E-2
D502	8-719-107-94	DIODE 1SS202
D503	8-719-107-94	DIODE 1SS202
D504	8-719-107-94	DIODE 1SS202
D505	8-719-107-94	DIODE 1SS202
D506	8-719-107-94	DIODE 1SS202
HE	8-825-724-00	HEAD, ERASE (EF-201-36)
HRP	8-825-507-60	HEAD, REC/PB (PP227-3602C)
IC101	8-759-905-57	IC CX-174-2
IC201	8-759-905-57	IC CX-174-2
IC301	8-759-101-56	IC CX10033A
IC302	8-759-705-62	IC NJM45620-D
IC303	8-759-600-02	IC M5218L
IC501	8-759-202-05	IC TC9310N-040
J301	1-507-908-11	JACK, PIN 4P (LINE IN, LINE OUT)
J302	1-507-797-21	JACK, LARGE TYPE (MIC)
J303	1-507-796-21	JACK (HEADPHONES)
L101	1-408-929-00	MICRO INDUCTOR 27MMH
L102	1-408-922-00	MICRO INDUCTOR 6.8MMH
L201	1-408-929-00	MICRO INDUCTOR 27MMH
L202	1-408-922-00	MICRO INDUCTOR 6.8MMH
LPF101	1-231-388-00	FILTER, LOW PASS
LPF201	1-231-388-00	FILTER, LOW PASS
M501	X-3307-308-3	MOTOR (N) ASSY
ME301	1-520-463-11	LED BLOCK (LEVEL METER)
PM1	1-454-316-00	SOLENOID, PLUNGER
PM2	1-454-316-00	SOLENOID, PLUNGER
Q101	8-729-245-83	TRANSISTOR 2SC2458
Q102	8-729-245-83	TRANSISTOR 2SC2458
Q103	8-729-811-24	TRANSISTOR 2SD1012

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q201	8-729-245-83	TRANSISTOR 2SC2458
Q202	8-729-245-83	TRANSISTOR 2SC2458
Q203	8-729-811-24	TRANSISTOR 2SD1012
Q301	8-729-180-93	TRANSISTOR 2SD809
Q302	8-729-245-83	TRANSISTOR 2SC2458
Q303	8-729-117-54	TRANSISTOR 2SA1175
Q304	8-729-173-13	TRANSISTOR 2SB731
Q305	8-729-141-43	TRANSISTOR 2SD414
Q306	8-729-194-57	TRANSISTOR 2SC945-P
Q307	8-729-194-57	TRANSISTOR 2SC945-P
Q308	8-729-194-57	TRANSISTOR 2SC945-P
Q309	8-729-900-61	TRANSISTOR DTA114ES
Q310	8-729-900-80	TRANSISTOR DTC114ES
Q311	8-729-194-57	TRANSISTOR 2SC945-P
Q501	8-729-117-54	TRANSISTOR 2SA1175
Q502	8-729-900-80	TRANSISTOR DTC114ES
Q503	8-729-900-80	TRANSISTOR DTC114ES
Q504	8-729-900-61	TRANSISTOR DTA114ES
Q505	8-729-117-54	TRANSISTOR 2SA1175
Q506	8-729-117-54	TRANSISTOR 2SA1175
Q507	8-719-902-90	PHOTO INTERRUPTOR SPI201-20
R101	1-247-167-00	CARBON 33K 5% 1/4W
R103	1-247-855-00	CARBON 10K 5% 1/6W
R104	1-247-819-00	CARBON 330 5% 1/6W
R105	1-247-866-00	CARBON 30K 5% 1/6W
R106	1-247-879-00	CARBON 100K 5% 1/6W
R107	1-246-485-00	CARBON 3.3K 5% 1/4W
R108	1-247-831-00	CARBON 1K 5% 1/6W
R109	1-247-851-00	CARBON 6.8K 5% 1/6W
R110	1-247-139-00	CARBON 2.2K 5% 1/4W
R111	1-246-499-00	CARBON 12K 5% 1/4W
R112	1-246-529-00	CARBON 220K 5% 1/4W
R113	1-247-107-00	CARBON 100 5% 1/4W
R114	1-246-524-00	CARBON 130K 5% 1/4W
R115	1-247-149-00	CARBON 5.6K 5% 1/4W
R116	1-246-499-00	CARBON 12K 5% 1/4W
R117	1-247-887-00	CARBON 220K 5% 1/6W
R118	1-247-861-00	CARBON 18K 5% 1/6W
R119	1-247-811-00	CARBON 150 5% 1/6W
R120	1-247-855-00	CARBON 10K 5% 1/6W
R121	1-247-888-00	CARBON 240K 5% 1/6W
R122	1-247-888-00	CARBON 240K 5% 1/6W
R123	1-247-859-00	CARBON 15K 5% 1/6W
R124	1-247-850-00	CARBON 6.2K 5% 1/6W
R125	1-247-807-00	CARBON 100 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R126	1-247-867-00	CARBON 33K 5% 1/6W
R127	1-247-875-00	CARBON 68K 5% 1/6W
R128	1-247-898-00	CARBON 620K 5% 1/6W
R129	1-247-813-00	CARBON 180 5% 1/6W
R130	1-247-821-00	CARBON 390 5% 1/6W
R131	1-247-835-00	CARBON 1.5K 5% 1/6W
R132	1-247-139-00	CARBON 2.2K 5% 1/4W
R133	1-247-871-00	CARBON 47K 5% 1/6W
R134	1-247-855-00	CARBON 10K 5% 1/6W
R135	1-247-855-00	CARBON 10K 5% 1/6W
R136	1-247-831-00	CARBON 1K 5% 1/6W
R137	1-246-529-00	CARBON 220K 5% 1/4W
R138	1-247-847-00	CARBON 4.7K 5% 1/6W
R139	1-246-485-00	CARBON 3.3K 5% 1/4W
R140	1-246-499-00	CARBON 12K 5% 1/4W
R141	1-246-495-00	CARBON 8.2K 5% 1/4W
R142	1-246-458-00	CARBON 240 5% 1/4W
R143	1-246-516-00	CARBON 62K 5% 1/4W
R144	1-247-831-00	CARBON 1K 5% 1/6W
R145	1-247-879-00	CARBON 100K 5% 1/6W
R146	1-247-881-00	CARBON 120K 5% 1/6W
R147	1-247-885-00	CARBON 180K 5% 1/6W
R148	1-247-855-00	CARBON 100 5% 1/6W
R149	1-247-807-00	CARBON 10K 5% 1/6W
R150	1-247-845-00	CARBON 3.9K 5% 1/6W
R152	1-247-845-00	CARBON 3.9K 5% 1/6W
R153	1-247-851-00	CARBON 6.8K 5% 1/6W
R154	1-247-839-00	CARBON 2.2K 5% 1/6W
R155	1-247-846-00	CARBON 4.3K 5% 1/6W
R303	1-247-131-00	CARBON 1K 5% 1/4W
R304	1-247-131-00	CARBON 1K 5% 1/4W
R305	1-247-131-00	CARBON 1K 5% 1/4W
R306	1-247-131-00	CARBON 1K 5% 1/4W
R307	1-246-492-00	CARBON 6.2K 5% 1/4W
R308	1-246-494-00	CARBON 7.5K 5% 1/4W
R309	1-246-495-00	CARBON 8.2K 5% 1/4W
R310	1-246-472-00	CARBON 910 5% 1/4W
R311	1-247-139-00	CARBON 2.2K 5% 1/4W
R313	1-247-123-00	CARBON 470 5% 1/4W
R314	1-247-123-00	CARBON 470 5% 1/4W
R315	1-247-149-00	CARBON 5.6K 5% 1/4W
R316	1-246-525-00	CARBON 150K 5% 1/4W
R317	1-247-135-00	CARBON 1.5K 5% 1/4W
R320	1-247-879-00	CARBON 100K 5% 1/6W
R321	1-247-846-00	CARBON 4.3K 5% 1/6W

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " Δ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA.... : μA..., UPA.... : μPA..., UPC.... : μPC,
UPD.... : μPD...

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R322	1-246-437-00	CARBON 33 5% 1/4W
R323	1-247-857-00	CARBON 12K 5% 1/6W
R324	1-247-857-00	CARBON 12K 5% 1/6W
R325	1-247-855-00	CARBON 10K 5% 1/6W
R327	1-247-854-00	CARBON 9.1K 5% 1/6W
R328	1-247-849-00	CARBON 5.6K 5% 1/6W
R329	1-247-829-00	CARBON 820 5% 1/6W
R330	1-246-469-00	CARBON 680 5% 1/4W
R331	1-247-839-00	CARBON 2.2K 5% 1/6W
R332	1-247-855-00	CARBON 10K 5% 1/6W
R501	1-247-855-00	CARBON 10K 5% 1/6W
R502	1-247-819-00	CARBON 330 5% 1/6W
R503	1-247-879-00	CARBON 100K 5% 1/6W
R504	1-247-863-00	CARBON 22K 5% 1/6W
R505	1-247-839-00	CARBON 2.2K 5% 1/6W
R506	1-247-839-00	CARBON 2.2K 5% 1/6W
R507	1-247-115-00	CARBON 220 5% 1/4W
R508	1-247-121-00	CARBON 390 5% 1/4W
R509	1-247-111-00	CARBON 150 5% 1/4W
R510	1-247-872-00	CARBON 51K 5% 1/6W
R511	1-247-831-00	CARBON 1K 5% 1/6W
R512	1-247-831-00	CARBON 1K 5% 1/6W
R513	1-247-831-00	CARBON 1K 5% 1/6W
R514	1-247-831-00	CARBON 1K 5% 1/6W
R515	1-247-831-00	CARBON 1K 5% 1/6W
R516	1-247-831-00	CARBON 1K 5% 1/6W
R517	1-247-831-00	CARBON 1K 5% 1/6W
R518	1-247-831-00	CARBON 1K 5% 1/6W
R519	1-247-855-00	CARBON 10K 5% 1/6W
R520	1-247-879-00	CARBON 100K 5% 1/6W
R521	1-247-879-00	CARBON 100K 5% 1/6W
RV101	1-230-358-11	RES, VAR, SLIDE 20K/20K (REC LEVEL)
RV102	1-226-236-00	RES, ADJ, CARBON 10K
RV103	1-226-238-00	RES, ADJ, CARBON 50K
RV104	1-226-236-00	RES, ADJ, CARBON 10K
RV201	1-230-358-11	RES, VAR, SLIDE 20K/20K (REC LEVEL)
RV202	1-226-236-00	RES, ADJ, CARBON 10K
RV203	1-226-238-00	RES, ADJ, CARBON 50K
RV204	1-226-236-00	RES, ADJ, CARBON 10K
RY301	1-515-495-00	RELAY

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S301	1-554-747-11	SWITCH, PUSH (4KEY) (TAPE SELECT, DOLBY NR)
S501	1-554-303-00	SWITCH, KEY BOARD
S502	1-554-303-00	SWITCH, KEY BOARD
S503	1-554-303-00	SWITCH, KEY BOARD
S504	1-554-303-00	SWITCH, KEY BOARD
S505	1-554-303-00	SWITCH, KEY BOARD
S506	1-554-303-00	SWITCH, KEY BOARD
S507	1-554-303-00	SWITCH, KEY BOARD
S510	1-554-422-00	SWITCH, PUSH (EJECT DET)
S511	1-554-422-00	SWITCH, PUSH (ERASE PROOF)
S901	1-553-318-00	SWITCH, PUSH (AC POWER)(1 KEY)
T302	1-433-267-00	TRANSFORMER, OSCILLATOR
T901	1-447-356-00	(US,Canadian)...TRANSFORMER, POWER
T901	1-447-357-00	(E).....TRANSFORMER, POWER
T901	1-447-358-11	(AEP,UK).....TRANSFORMER, POWER

NOTE:

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CAPACITORS:

MF:μF, PF:μF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable.

COILS

MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:

UA....: μA..., UPA....: μPA..., UPC....: μPC,

UPD....: μPD...

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Sony Corporation

English
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