

WM-32/33/43

SERVICE MANUAL

WM-32:
AEP Model

WM-33:
AEP Model
UK Model

WM-43:
US Model

AK 16

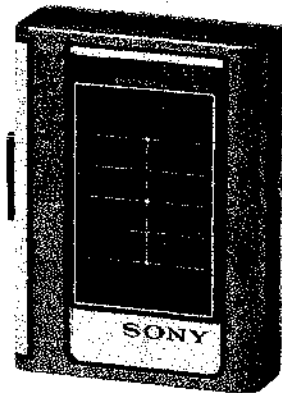
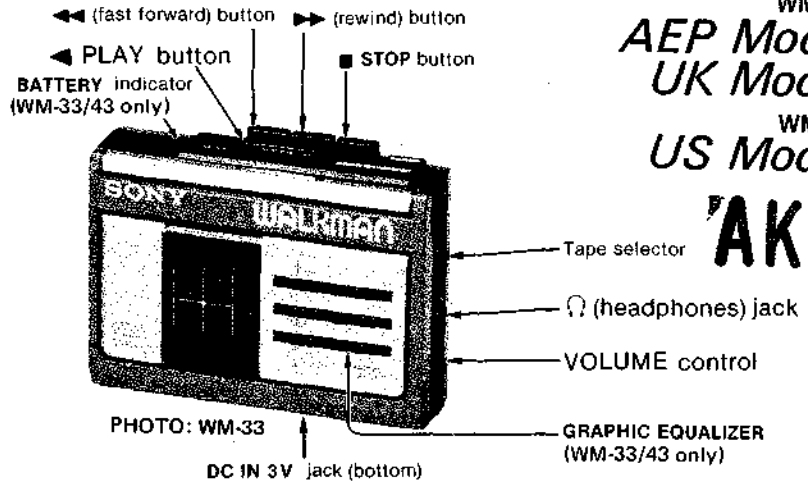


PHOTO: WM-32



SPECIFICATIONS

Similar Mechanism Set WM-31/41

Tape track 4-track 2-channel stereo
 Fast winding time Approx. 3min. 20sec. with Sony C-60 cassette
 Frequency response 40-14,000Hz (with the tape selector set to CrO₂/METAL)
 40-14,000Hz (with the tape selector set to NORMAL)
 Power output 15mW + 15mW at DC operation (at 10% harmonic
 distortion) load impedance 32 ohms
 Power requirements
 3V DC
 Two IEC designation R6 (size AA) batteries
 External batteries (used in the optional Sony EBP-500
 battery case): two IEC designation R20 (size D)
 batteries
 DC IN 3V jack accepts:
 optional Sony AC-D2 AC power adaptor
 optional Sony DCC-70 car battery cord for use on
 12V car battery

Battery life

Batteries	Continuous playback hours
Sony SUM-3(NS) New Super batteries	Approx. 4
Sony AM3 alkaline batteries	Approx. 8

For maximum performance we recommend the use of alkaline batteries.

Dimensions

WM-32 : Approx. 88.1 × 120 × 33.5 mm (w/h/d)
 (3 1/2 × 4 3/4 × 1 1/8 inches)
 WM-33/43 : Approx. 120 × 88.1 × 35.2 mm (w/h/d)
 (4 3/4 × 3 1/2 × 1 7/16 inches)
 not incl. projecting parts and controls

Weight

WM-32 : Approx. 215 g (7.6 oz)
 WM-33/43 : Approx. 220 g (7.8 oz)
 incl. batteries, not incl. other accessories

Accessories supplied Stereo headphones (open-air type, 1)
 Belt clip (1)



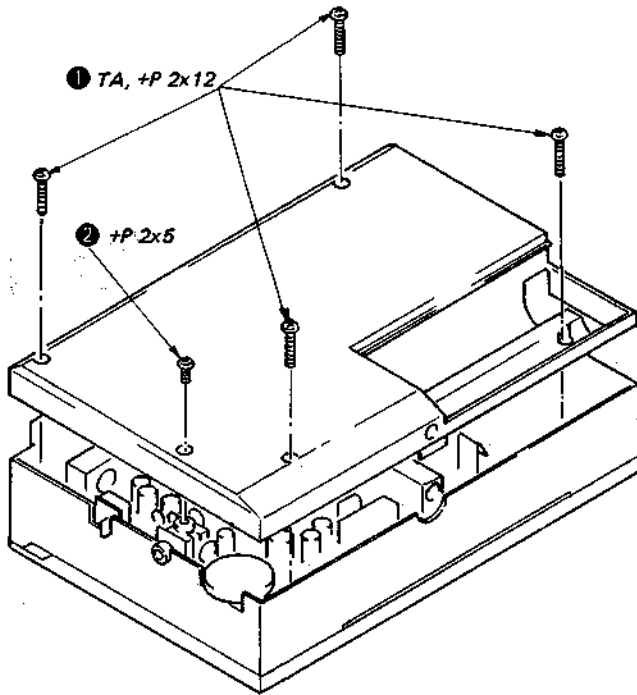
STEREO CASSETTE PLAYER
SONY®

TC

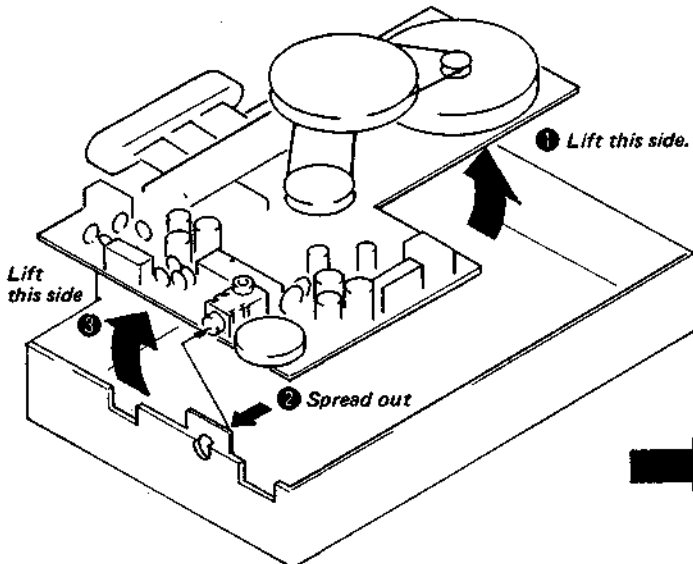
SECTION 1 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

CABINET (REAR) REMOVAL



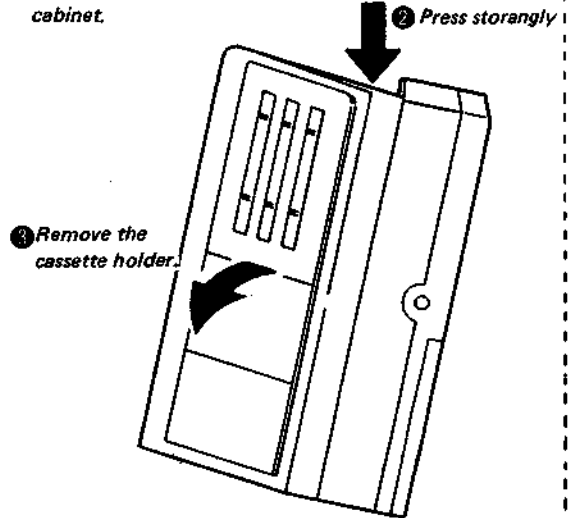
MAIN BOARD & TRANSPORT MECHANISM REMOVAL



CASSETTE HOLDER REMOVAL

- * Serial number less than 235,601. (WM-33:AE)
- * Serial number less than 77,001. (WM-33:UK)

It is possible to do this process without remove rear cabinet.

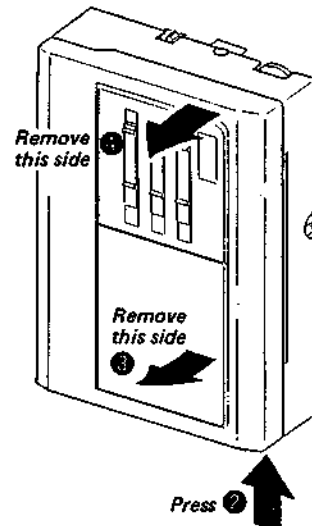
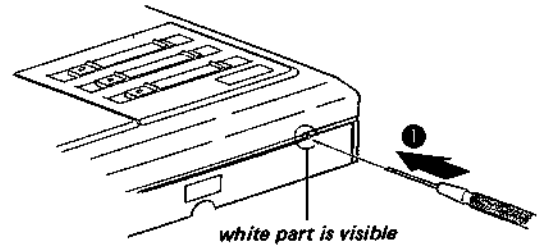


- 1 Stand the cabinet aslant on solid object like a desk and so on.

CASSETTE HOLDER REMOVAL

- * WM-43
- * Serial number less than 235,601 and later. (WM-33:AE)
- * Serial number less than 77,001 and later. (WM-33:UK)

- 1 Prick a thin driver into the gap between the cabinet and the cassette holder. (Cassette holder stopper is off with a click)



SECTION 2
ADJUSTMENTS

2-1. MECHANICAL ADJUSTMENTS

PRECAUTION

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

Torque Measurement

Torque	Meter Reading	Torque Meter
Forward	22-45g·cm (0.3-0.63oz·inch)	CQ-102C
Fast Forward	55-150g·cm (0.77-2.1oz·inch)	CQ-201B
Rewind	55-150g·cm (0.77-2.1 oz·inch)	CQ-201B
Back Tension	0.5-2g·cm (0.007-0.028 oz·inch)	CQ-102C

Tape Tension Measurement

Meter	Meter Reading
CQ-403A	more than 100g (3.57 oz)

2-2. ELECTRICAL ADJUSTMENTS

CASSETTE Section

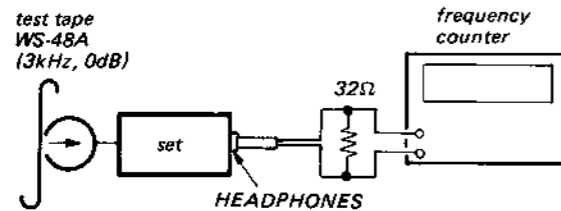
Tape Speed Adjustment

Setting:

VOL control: mechanical mid

Procedure:

Mode: playback



Specifications:

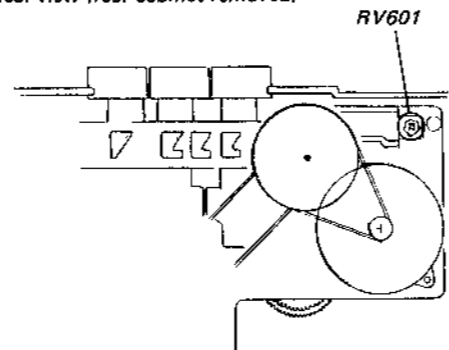
Digital frequency counter
2,990 - 3,010 Hz

Adjust RV601

Frequency difference between beginning and end of tape should be within ± 1% (30 Hz).

Adjustment Location: main board

Rear view (rear cabinet removed)

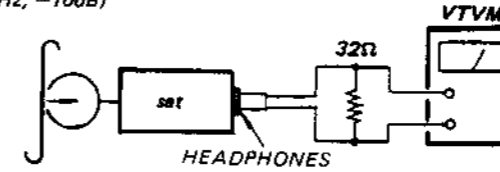


Playback Head Azimuth Adjustment

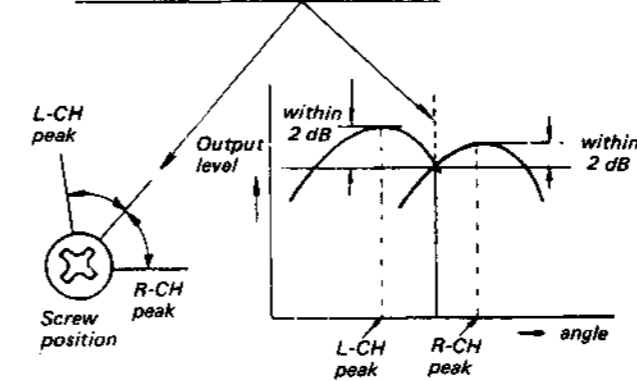
Procedure:

- Mode: playback

test tape
P-4-A063
(6.3kHz, -10dB)



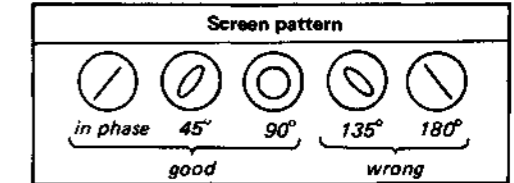
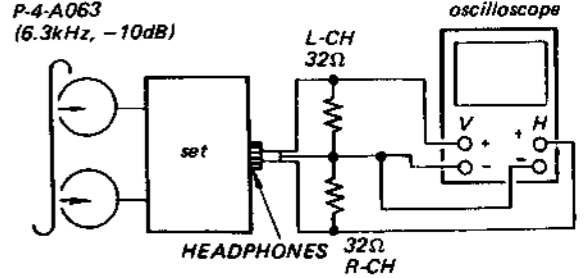
- Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 2dB.



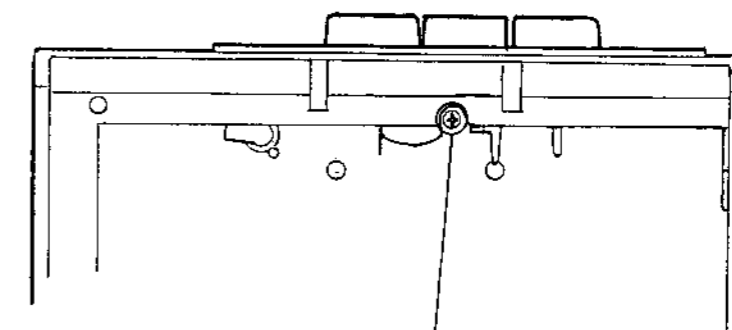
- Phase Check

Mode: playback

test tape
P-4-A063
(6.3kHz, -10dB)



Adjustment Location:



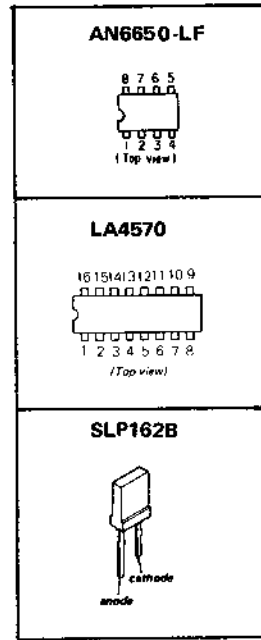
azimuth adjustment screw.

SECTION 3
DIAGRAMS

Note:

- □ : adjustment for repair.
- ○ : parts extracted from the component side.
- ● : parts extracted from the conductor side.

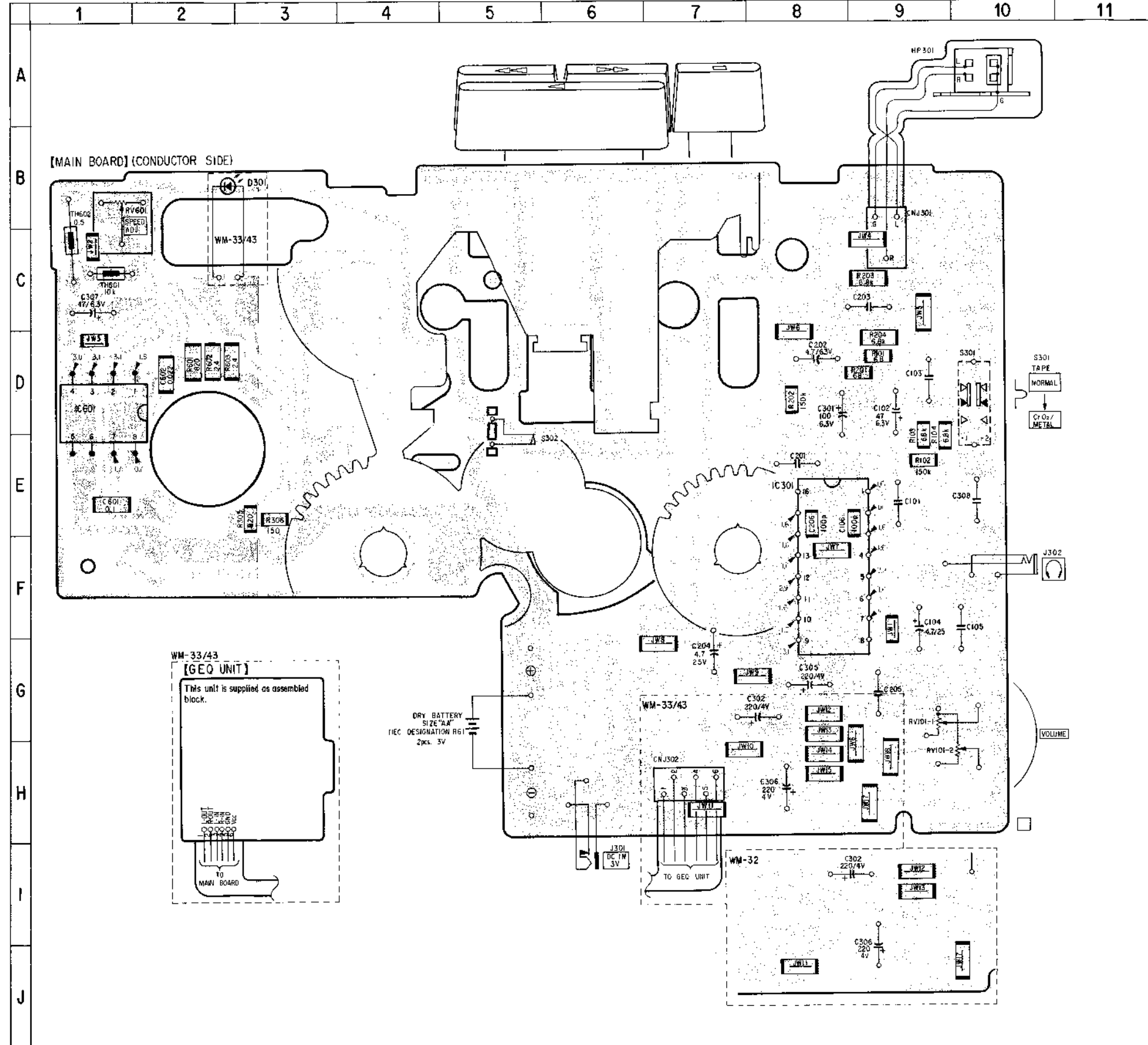
• Semiconductor Lead Layouts



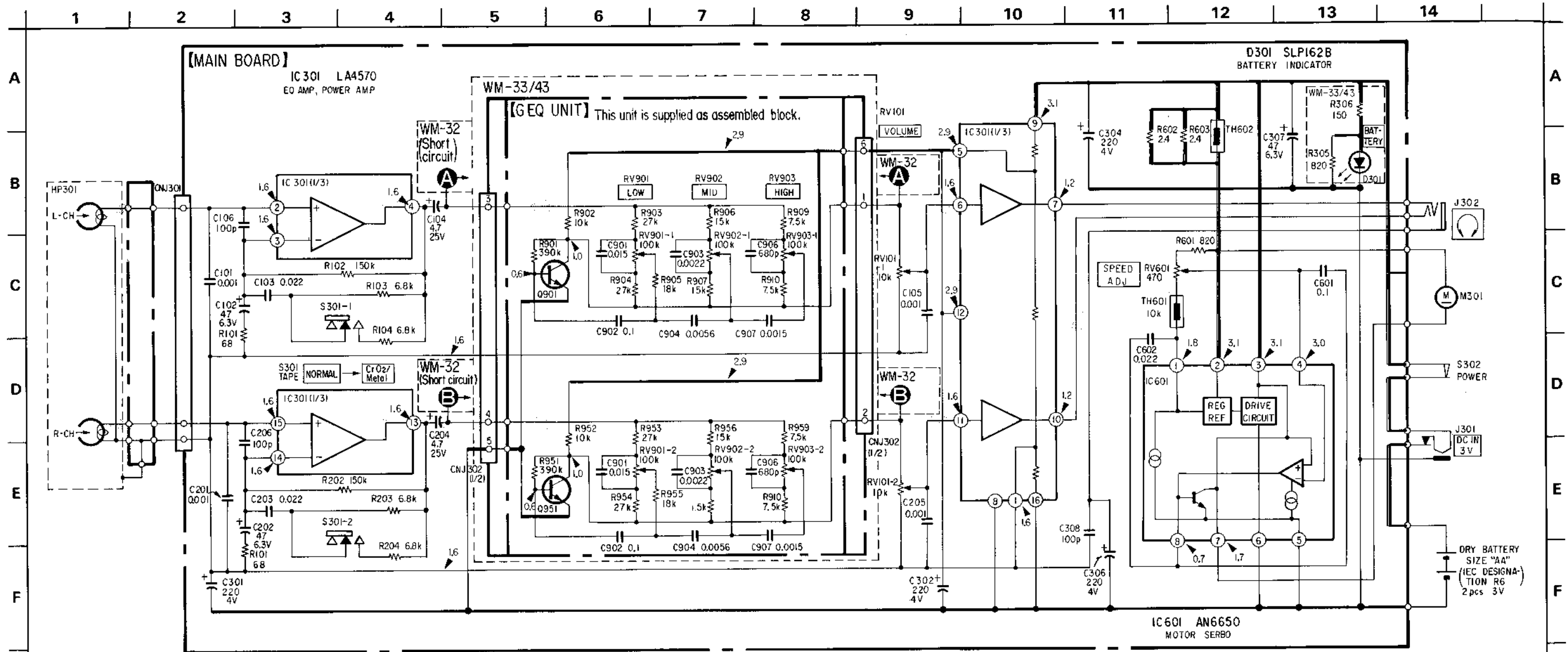
• SEMICONDUCTOR LOCATION

Ref. No.	Location
IC301	F-8
IC601	D-1
D301	B-3

3-1. MOUNTING DIAGRAM



3-2. SCHEMATIC DIAGRAM



Note:

- All capacitors are in μF unless otherwise noted. pF: μpF
- 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{8}\text{W}$ or less unless otherwise specified.
- : signal path.
- Switch

Ref. No.	Switch	Position
S301	TAPE	NORMAL
S302	POWER	OFF

- : B+ bus.
- : adjustment for repair.
- Power voltage is 3.1V and fed with from dry battery. Voltages are dc with respect to ground in \blacktriangleright (PLAY) mode with VOM (DC 50K Ω/V). Voltage variations may be noted due to normal production tolerances.

