

SERVICE MANUAL

MODEL NO.

4 BAND STEREO RADIO
CASSETTE RECORDER

CS-360



Code No. 29-360-000-91

TYPE. H,BH,HU,BHU,HG,BHG

DATE OF ISSUE 3/1982

SPECIFICATIONS

GENERAL

Semiconductors: 4 ICs, 22 transistors, 1 FET, 19 diodes, 6 LED's
Power source: Batteries DC 9V (UM-2 x 6)
AC110 ~ 120V/220 ~ 240V
switchable 50/60 Hz
Household AC power
(thru AC adaptor)
100mm ϕ x 2
Speakers: 100mm ϕ x 2
Dimensions (W x H x D): 420 x 147.5 x 76 (mm)
Weight: 2 kg

RADIO SECTION

Frequency range: FM 87 ~ 109 MHz
SW₂ 6.8 ~ 22.5 MHz
SW₁ 2.1 ~ 7.3 MHz
MW515 ~ 1,650 kHz
Intermediate frequency: FM 10.7 $\pm$ 0.3 MHz
SW₂, SW₁, MW,
468 kHz
Sensitivity: FM (IHF, distortion 3%)
19 $\pm$ 4 dB (at 88, 96 MHz)
21 $\pm$ 4 dB (at 108 MHz)
SW₂ (S/N 10 dB)
30 $\pm$ 5 dB (at 7 MHz)
24 $\pm$ 5 dB (at 14 MHz)
12 $\pm$ 6 dB (at 22 MHz)
SW₁ (S/N 10 dB)
45 $\pm$ 4 dB (at 2.3 MHz)
42 $\pm$ 4 dB (at 4.0 MHz)
44 $\pm$ 4 dB (at 7.0 MHz)
MW (S/N 10 dB)
48 $\pm$ 4 dB (at 600 kHz)
45 $\pm$ 4 dB (at 1,000 kHz)
45 $\pm$ 4 dB (at 1,440 kHz)

FM stereo separation: 20 $\pm$ 5 dB (at 1 kHz)

TAPE RECORDER SECTION

Tape speed: 4.8 cm/s.
Recording system: AC bias
Erasing system: AC erase
Record bias frequency: 55 $\pm$ 0.5 kHz
-0 kHz
Distortion: Less than 1.0% (PB)
Less than 1.5% (REC/PB)
Frequency response: Normal tape: 40 ~ 12,500 Hz
Signal to noise ratio: More than 45/43 dB
(Un-weighted) [DC/AC] (PB)
More than 40/38 dB
[DC/AC] (REC/PB)
Erasing ratio: More than 60 dB
Separation: More than 40 $\pm$ 6 dB (REC/PB)
Output: 2.5W + 2.5W (MAX)
FF time: 90 $\pm$ 5s. (at C-60)
Rewind time: 90 $\pm$ 5s. (at C-60)
Automatic stop system: Mechanical auto stop
Pinch roller pressure: 125 $\pm$ 15 g
Wow and flutter: Less than 0.08% (WRMS)
Take-up torque: 35 $\pm$ 15 g-cm
-5 g-cm
FF & rewind torque: 100 $\pm$ 20 g-cm
-10 g-cm
Input terminals: MIC: 0.3mV/3k Ω
LINE IN: 300V/47k Ω
Output terminals: LINE OUT Pin x 2
EXT, SP 2.75V/3 Ω
PHONES 0.15V/18 Ω

• Specifications and external appearance are subject to change without notice due to product improvement.

AIWA Co., Ltd. Tokyo Japan

DISASSEMBLY INSTRUCTION

1. Removing the Back cover

- 1) Remove 6 screws. (See figure 1)

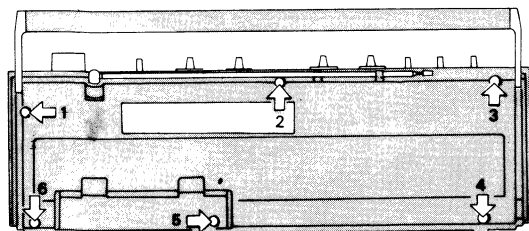


Fig. 1

4. Removing the main chassis

- 1) Remove the 9 knobs. (See figure 2, 3)
- 2) Remove 3 screws. (See figure 3)

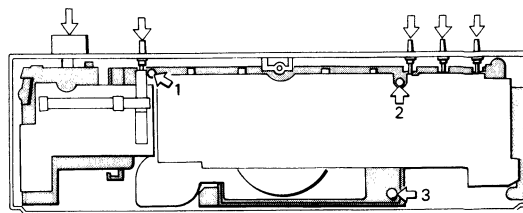


Fig. 3

2. Removing the REC/PB circuit board

- 1) Remove the 4 knobs. (See figure 2)
- 2) Remove the cushion and 4 screws. (See figure 2)

3. Removing the Tuner circuit board

- 1) Remove 4 screws. (See figure 2)

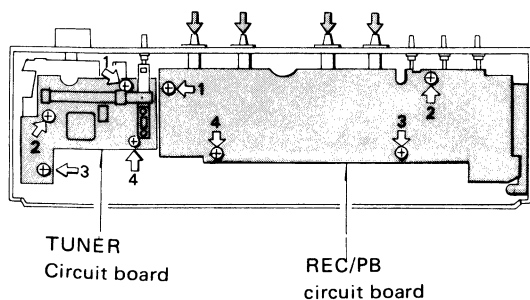


Fig. 2

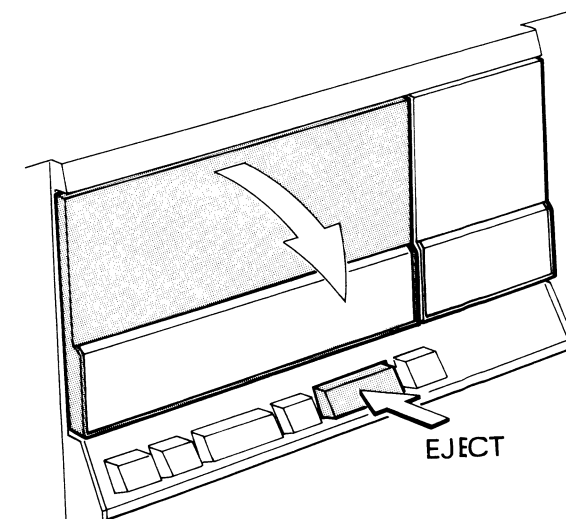


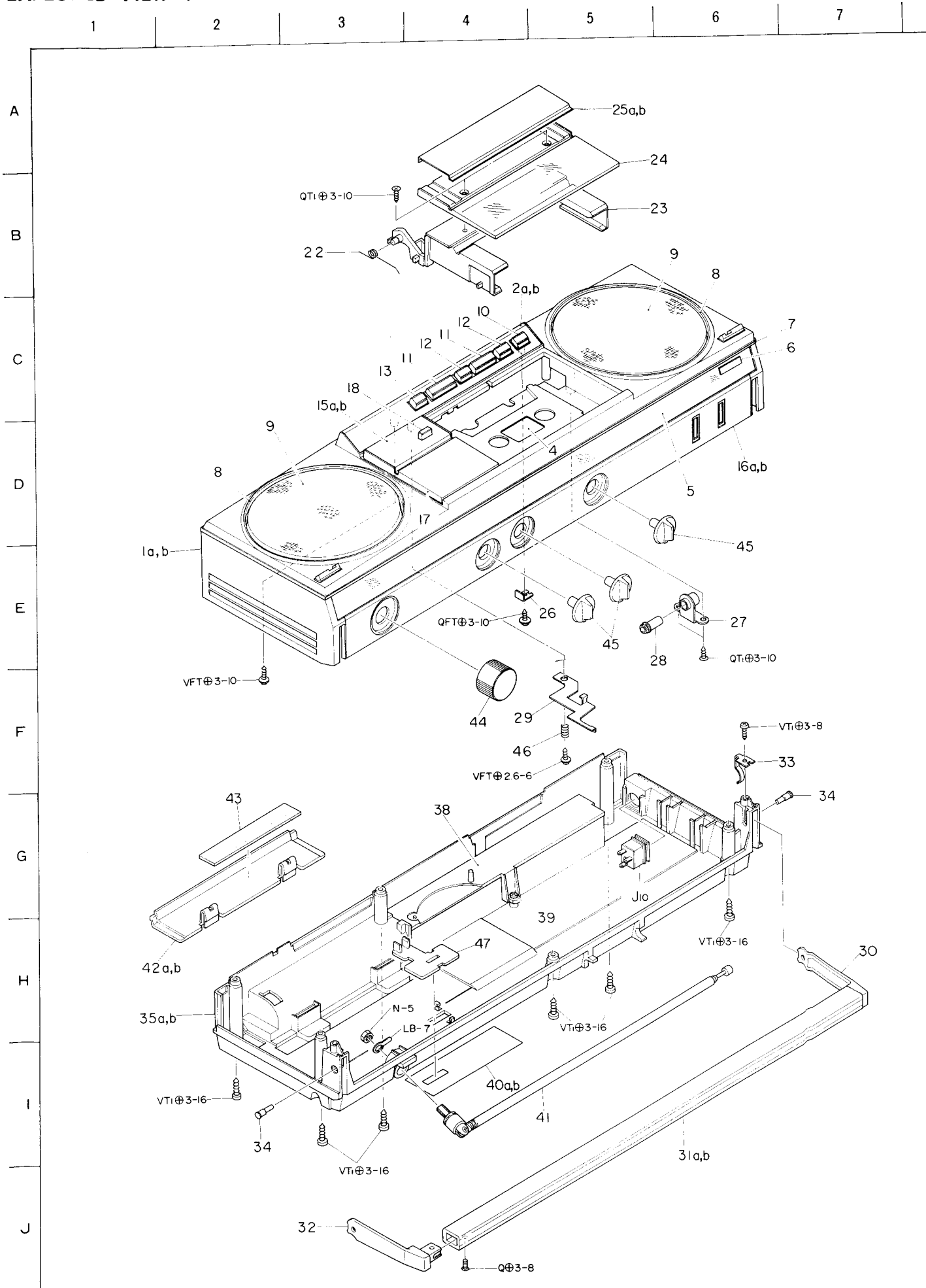
Fig. 4

Note: Be careful so that the panel is not damaged by the tuning shaft when installing the main chassis again.

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Lined area for writing the memo.

EXPLODED VIEW-1



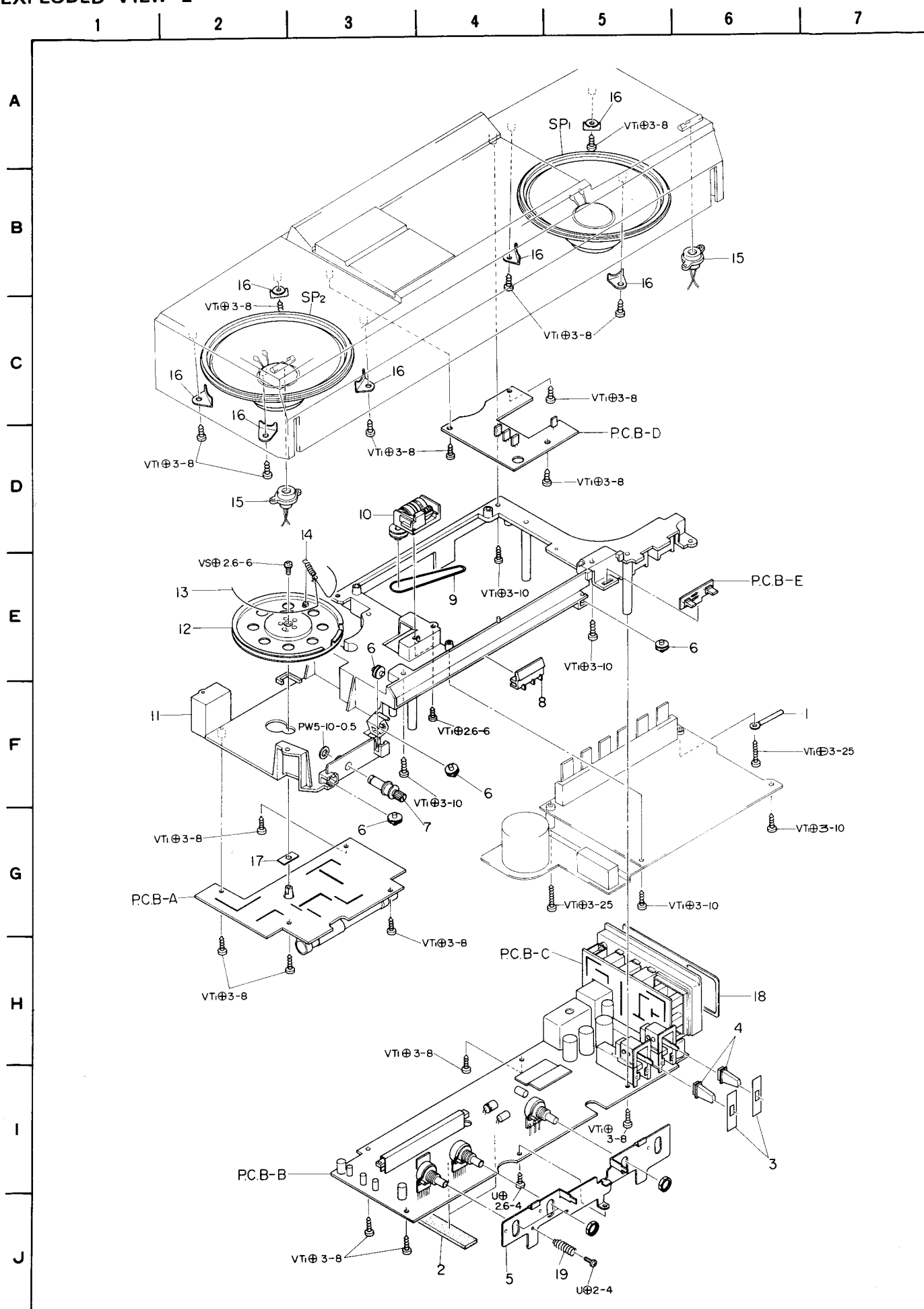
PARTS LIST

MECHANICAL PARTS

■ *mark in this part list shows exclusive part.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1 ~ 21	09-017-890-01		Main cabinet ass'y (H, HU, HG model only)	*	1
1 ~ 21	09-017-889-01		Main cabinet ass'y (BH, BHU, BHG model only)	*	1
1-1a	82-595-001-01		Cabinet S. Main (H, HU, HG model only)	*	1
1-1b	82-595-056-01		Cabinet B, Main (BH, BHU, BHG model only)	*	1
1-2a	82-595-093-01		Control panel ass'y (H, HU, HG model only)	*	1
1-2b	82-595-094-01		Control panel ass'y (BH, BHU, BHG model only)	*	1
1-3	82-595-248-01		Plats, LED	*	1
1-4	82-386-033-01		Label, Tape indicator		1
1-5	82-595-029-01		Window, Dial H	*	1
1-6	82-595-015-01		Badge, AIWA	*	1
1-7	82-595-011-01		Heating	*	1
1-8	82-595-009-01		Ring Speaker	*	2
1-9	82-595-008-01		Panching, Speaker	*	2
1-10	82-595-016-11		Push-button, REC	*	1
1-11	82-595-022-11		Push-button A	*	2
1-12	82-595-023-11		Push-button B	*	2
1-13	82-595-017-11		Push-button, PAUSE	*	1
1-14	82-595-229-01		Push-button metal fitting ass'y	*	1
1-15a	82-595-047-01		Name, MS window (H, HU, HG model only)	*	1
1-15b	82-595-062-01		Name H. B., MS window (BH, BHU, BHG only)	*	1
1-16a	82-595-086-01		Top panel H ass'y (H, HU, HG model only)	*	1
1-16b	82-595-087-01		Top panel H B ass'y (BH, BHU, BHG model model)	*	1
1-17	82-595-046-01		MS window H	*	1
1-18	82-595-043-01		Push-button, RESET	*	1
1-19	87-321-096-01		QT ₁ + 3 - 10		2
1-20	87-261-033-21		V + 2 - 4		4
1-21	87-450-411-01		LB - 1		1
1-22	82-591-214-01		T-spring, Cassette box		1
1-23	82-595-084-01		Cassette box ass'y	*	1
1-24	82-595-040-01		Cassette lid	*	1
1-25a	82-595-088-01		Cassette lid name ass'y (H, HU, HG model only)	*	1
1-25b	82-595-089-01		Cassette lid name B ass'y (BH, BHU, BHG model only)	*	1
1-26	82-541-235-01		Metal fitting, Tweeter		1
1-27	82-595-239-01		Oil damp metal fitting ass'y	*	1
1-28	82-534-264-01		Gear, Oil damp	*	1
1-29	82-595-220-21		P-spring, Counter reset	*	1
1-30	82-576-094-01		Metal fitting L, Carrying handle	CS-350	1
1-31a	82-595-010-11		Handle grip (H, HU, HG model only)	*	1
1-31b	82-595-059-01		Handle grip (BH, BHU, BHG model only)	*	1
1-32	82-576-093-01		Metal fitting R, Carrying handle	CS350	1
1-33	82-595-225-01		Plate spring, Carrying handle	*	1
1-34	82-595-214-01		Shaft, Carrying	*	2
35 ~ 39	09-017-872-01		Back cover ass'y (H, HU, HG model only)	*	1
35 ~ 39	09-017-891-01		Back cover ass'y (BH, BHU, BHG model only)	*	1
1-35a	82-595-002-11		Cabinet, Rear (H, HU, HG model only)	*	1
1-35b	82-595-057-11		Cabinet, Rear (BH, BHU, BHG model only)	*	1
1-36	82-576-236-01		Spring, Battery	*	1
1-37	87-038-032-01		Terminal plate, Battery		2
1-38	82-595-018-01		Holder, Battery	*	1
1-39	87-351-095-21		VT ₁ + 3 - 8		2
1-40a	82-595-028-01		Name plate, Spec. (H, HU, HG model only)	*	1
1-40b	82-595-064-01		Name plate, Spec. (BH, BHU, BHG model only)	*	1
1-41	87-043-040-01		Whip antenna		1
1-42a	82-595-007-01		Battery room lid (H, HU, HG model only)	*	1
1-42b	82-595-058-01		Battery room lid (BH, BHU, BHG model only)	*	1
1-43	82-595-247-01		M cushion, Battery room lid	*	1
1-44	82-595-019-01		Knob, TUNING	*	1
1-45	82-591-027-21		Knob, VOLUME	CS-W7	3
1-46	82-595-241-01		C-spring, RESET	*	1
1-47	82-595-068-01		Knob, BAND	*	1

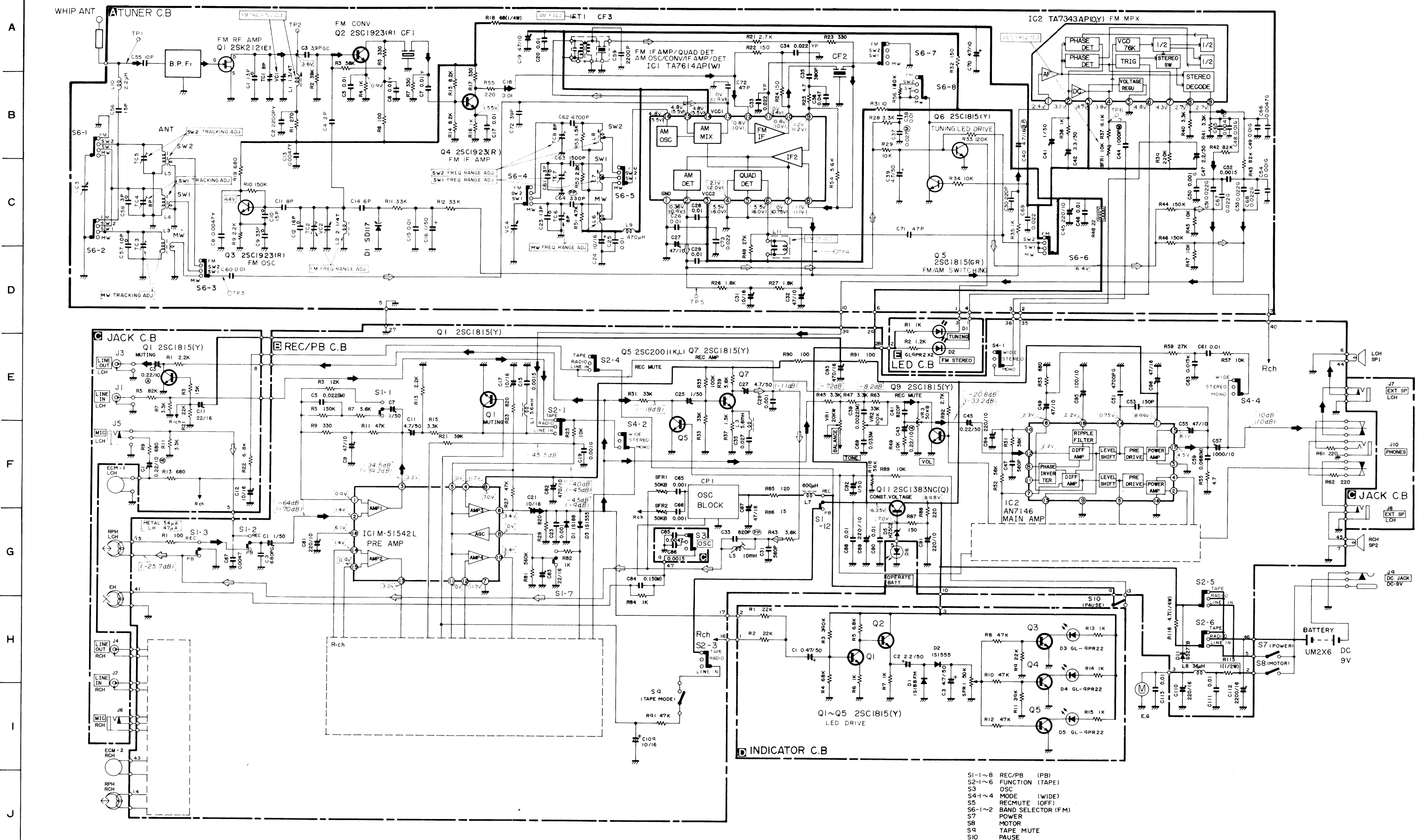
EXPLODED VIEW-2

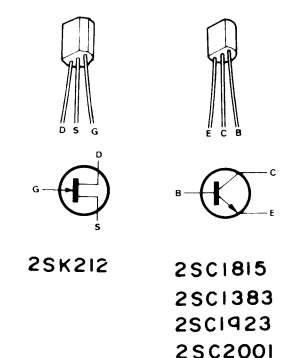
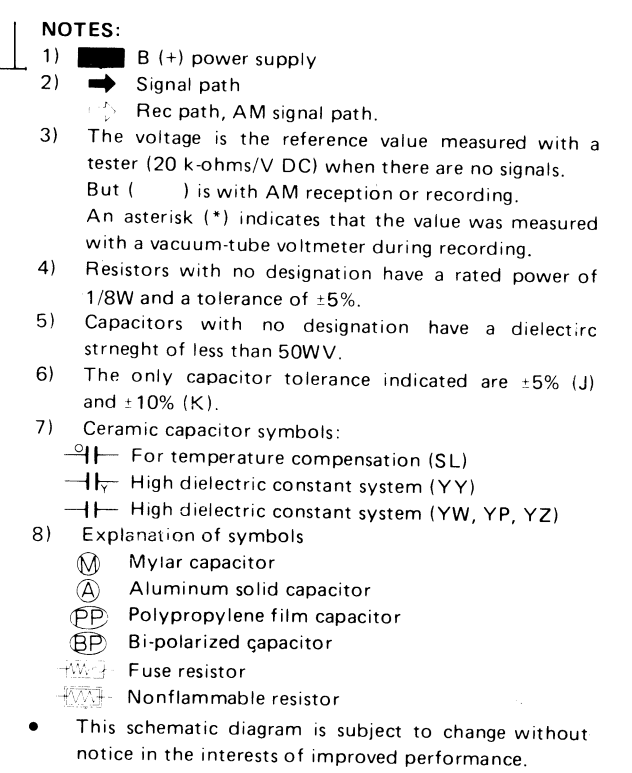


ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
1	82-595-855-01		Printed indiv., Packing	*	1	
2	82-595-852-01		Cushion L, Printed indiv.	*	1	
3	82-595-853-01		Cushion R, Printed indiv.	*	1	
4	82-576-863-01		Pad. Auxiliary	CS0350	1	
5	87-056-606-61		Poly-vinyl sack		1	
6	82-595-904-01		Instructions booklet	*	1	
7	87-051-171-11		Poly-vinyl sack		1	
8	87-056-009-51		Distributors list (H, BH, HG, BHG model only)		1	
9 a	87-056-045-01		Guarantee card U (HU, BHU model only)		1	
9 b	87-056-059-01		Guarantee card G (HG, BHG model only)		1	
10	87-056-050-01		Safety instruction (HU, BHU model only)		1	
11	87-056-057-01		Service station list (HU, BHU model only)		1	
12	82-916-750-01		Tape cassette, DMC-165		1	
13	86-481-801-01		AC adapter, AC-903H (H, BH model only)		1	
14	86-481-805-01		AC adapter AC-903HU (HU, BHU model only)		1	
15	87-032-845-01		Siemens plug (H, BH model only)		1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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ELECTRICAL MAIN PARTS LIST

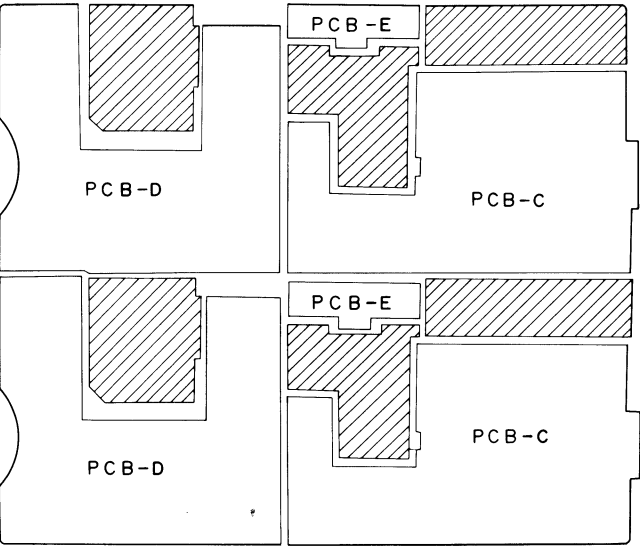
Symbol No.	Part No.	Description
≪ TUNER CIRCUIT BOARD SECTION ≫		
PCB-A	82-576-672-11	Tuner circuit board
IC1	87-027-766-01	IC, TA7614AP (W)
IC2	87-027-867-01	IC, TA7343P
Q1	87-026-183-01	FET, 2SK212 (E)
Q2,3,4	89-319-232-01	Transistor, 2SC1923 (R)
Q5	89-318-155-01	Transistor, 2SC1815 (GR)
Q6	89-318-154-01	Transistor, 2SC1815 (Y)
D1	87-017-004-01	Diode, SD-117
L1	87-006-016-01	FM antenna coil, 1-3/4t
L2	87-006-017-01	FM OSC coil, 2-1/4t
L3,4	82-576-648-01	MW, SW ₁ bar antenna coil
L5	82-576-650-01	SW ₂ antenna coil
L6	87-007-098-01	MW OSC coil
L7	82-576-679-01	SW ₁ OSC coil
L8	82-576-680-01	SW ₂ OSC coil
L9	87-003-051-01	Choke coil, 470μH
L10	88-005-121-01	Choke coil, 2.2μH
L11	87-008-195-01	FM quad coil
BPF1	87-030-082-01	FM band pass filter
CF1,2	87-008-153-01	FM ceramic fileter, 230K
CF3	87-008-231-01	AM ceramic filter
IFT1	87-008-232-01	AM IFT
VC1,2,3,4	87-011-120-01	PVC
TC2,3,5,7		
TC1,4,6,8		
S6		
SFR1	87-021-677-01	Semi-fixed resistor, 10kΩ-B
R48	87-029-057-01	< Resistor > 22Ω Nonflammable
C40	87-015-464-01	< Capacitors > 4.7μF 16V Electrolytic BP
C63	87-014-033-01	100PF PP
C64	87-014-045-01	330PF PP
≪ REC/PB CIRCUIT BOARD SECTION ≫		
PCB-B	82-595-601-21	REC/PB circuit board
IC1	82-027-714-01	IC, M51542L
IC2	87-027-540-01	IC, AN7146
Q1,2,7,8	89-318-154-01	Transistor, 2SC1815 (Y)
9,10	89-320-011-21	Transistor, 2SC2001 (K, L)
Q5,6		Transistor, 2SC1383NC (Q)
Q11		Diode, 1S188 (FM)
D1,2		Diode, 1S1555
D3,4	87-027-097-01	Diode, 1S1555
D5	87-027-555-01	Zener diode, HZ5C2
D11	87-027-365-01	Diode, S5277B
L1,2,3,4	87-005-088-01	Micro inductor coil, 5.6mH
L5,6	82-595-619-01	Trap coil
L7	82-401-661-01	Choke coil, 600μH
L8	87-003-065-01	Choke coil, 36μH
VR1	82-595-610-01	Volume, 20kΩ-W (BALANCE)
VR2	82-595-608-01	Volume, 100kΩ-A (TONE)
VR3	82-595-607-01	Volume, 50kΩ-B (VOLUME)
J10	87-049-061-01	Jack, 6.3φ (PHONES)
S1	87-031-656-01	Slide switch (REC/PB)
S2	82-595-611-01	Slide switch lever (FUNCTION)
S4	82-595-612-01	Slide switch lever (MODE)
SFR1,2	87-021-307-01	Semi-fixed resistor, 50kΩ-B
CP1	82-595-627-01	OSC block
	87-033-144-01	Pin, 1φ

Symbol No.	Part No.	Description
< Capacitors >		
C82,102	87-015-660-01	470μF 10V Electrolytic
C33,34	87-014-055-81	820PF PP
C43,44	87-015-312-01	0.22μF 10V Aluminum solid
≪ JACK CIRCUIT BOARD SECTION ≫		
PCB-C	*	Jack circuit board
Q1,2	89-318-154-01	Transistor, 2SC1815 (Y)
J1,2,3,4,5,6,7,8	82-595-628-01	Jack plate ass'y (LINE OUT, LINE IN, MIC, EXT-SP)
S3	82-576-610-01	Slide switch (OSC)
< Capacitor >		
C1,2,3,4	87-015-312-01	0.22μF 10V Aluminum solid
≪ INDICATOR CIRCUIT BOARD SECTION ≫		
PCB-D	*	LED-2 circuit board
Q1,2,3,4,5	89-318-154-01	Transistor, 2SC1815 (Y)
D1	88-052-188-11	Diode, 1S188 (FM)
D2	87-027-097-01	Diode, 1S1555
D3,4,5,6	87-027-716-01	LED, GL9PR22 (LEVEL, OPERATE/BATT)
≪ LED CIRCUIT BOARD SECTION ≫		
PCB-E	*	LED-1 circuit board
D1,2	87-027-354-01	LED, GL9PR2
≪ MISCELLANEOUS ≫		
RPH	87-046-209-01	REC/PB head
EH	87-046-210-01	Erase head
M	87-045-176-01	Motor
SP1,2	82-595-615-01	Speaker
ECM1,2	87-041-016-01	MIC, ECM B3
J9	87-049-008-01	DC jack
S7	87-031-537-01	Micro switch (MAIN)
S8,10	87-031-548-01	Leaf switch (MOTOR, PAUSE)
S9	87-031-649-01	Leaf switch (TAPE MUTE)
	82-576-638-01	ANT lead
	82-595-626-01	ANT earth

Note; Combination Circuit Board

The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

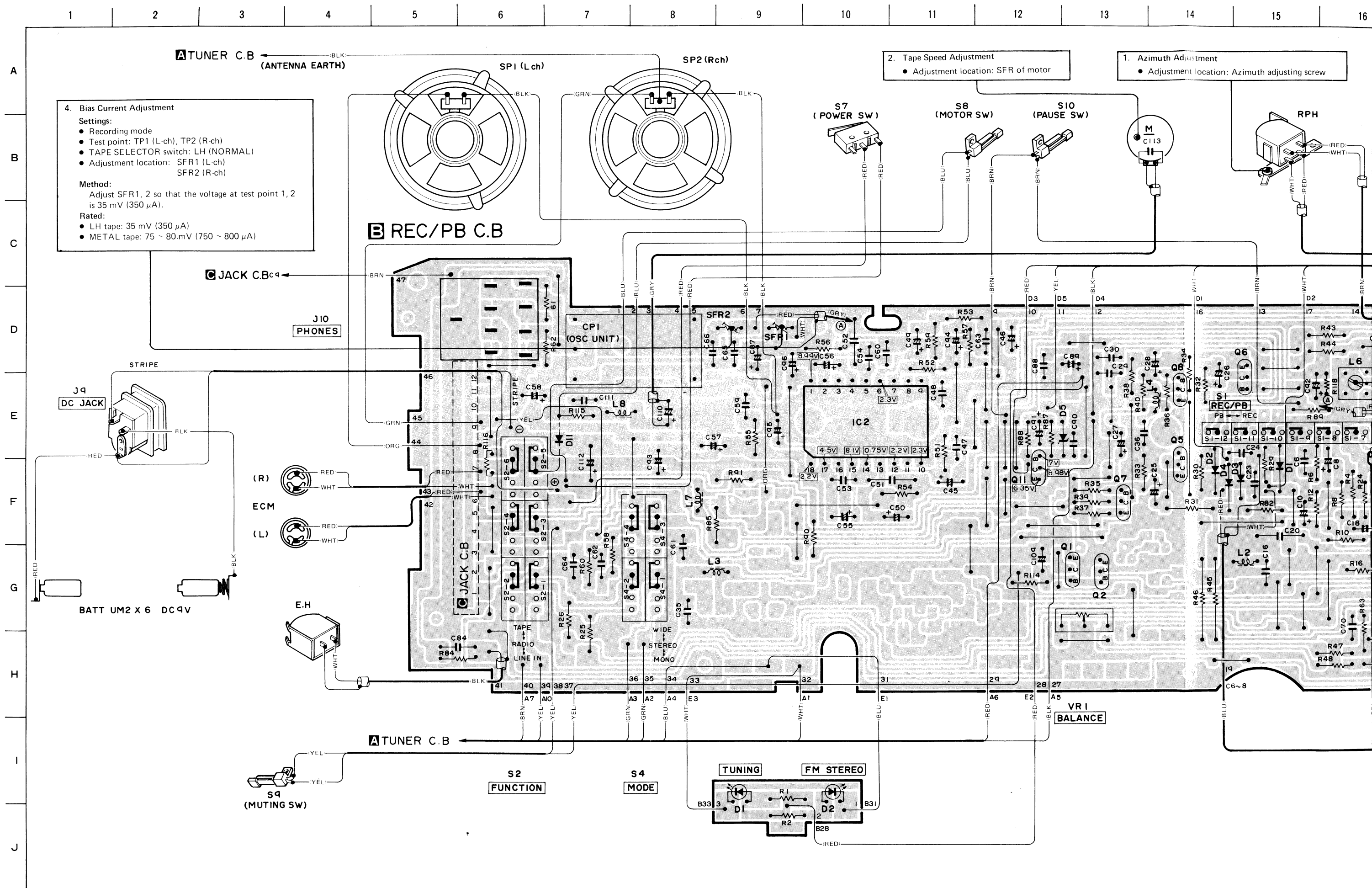
Combination circuit board 82-595-629-01



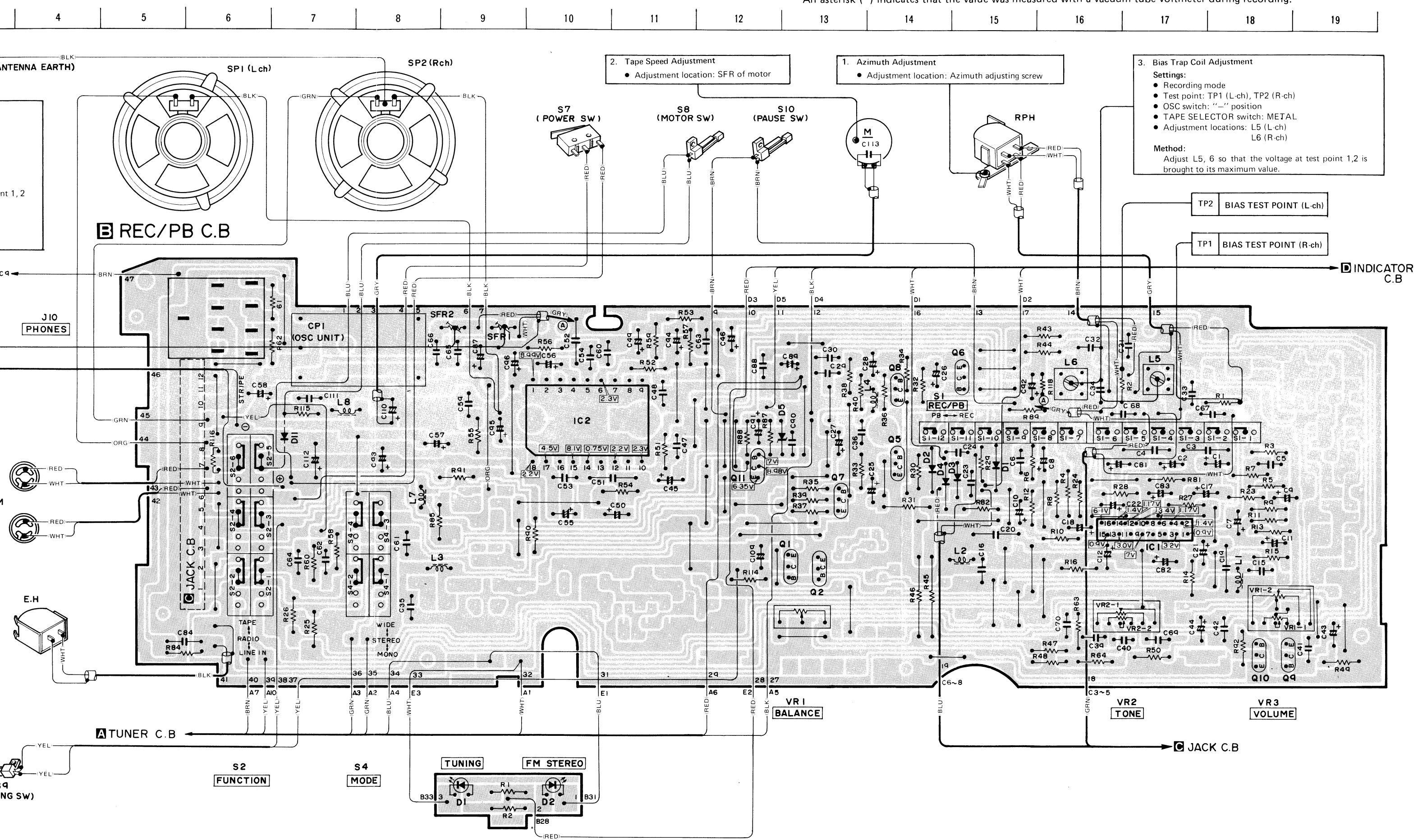
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WIRING-1

NOTES (1)  B(+) Pattern  Others pattern
(2) The voltage is the reference value measured with a tester (200V type).
An asterisk (*) indicates that the value was measured with a tester.

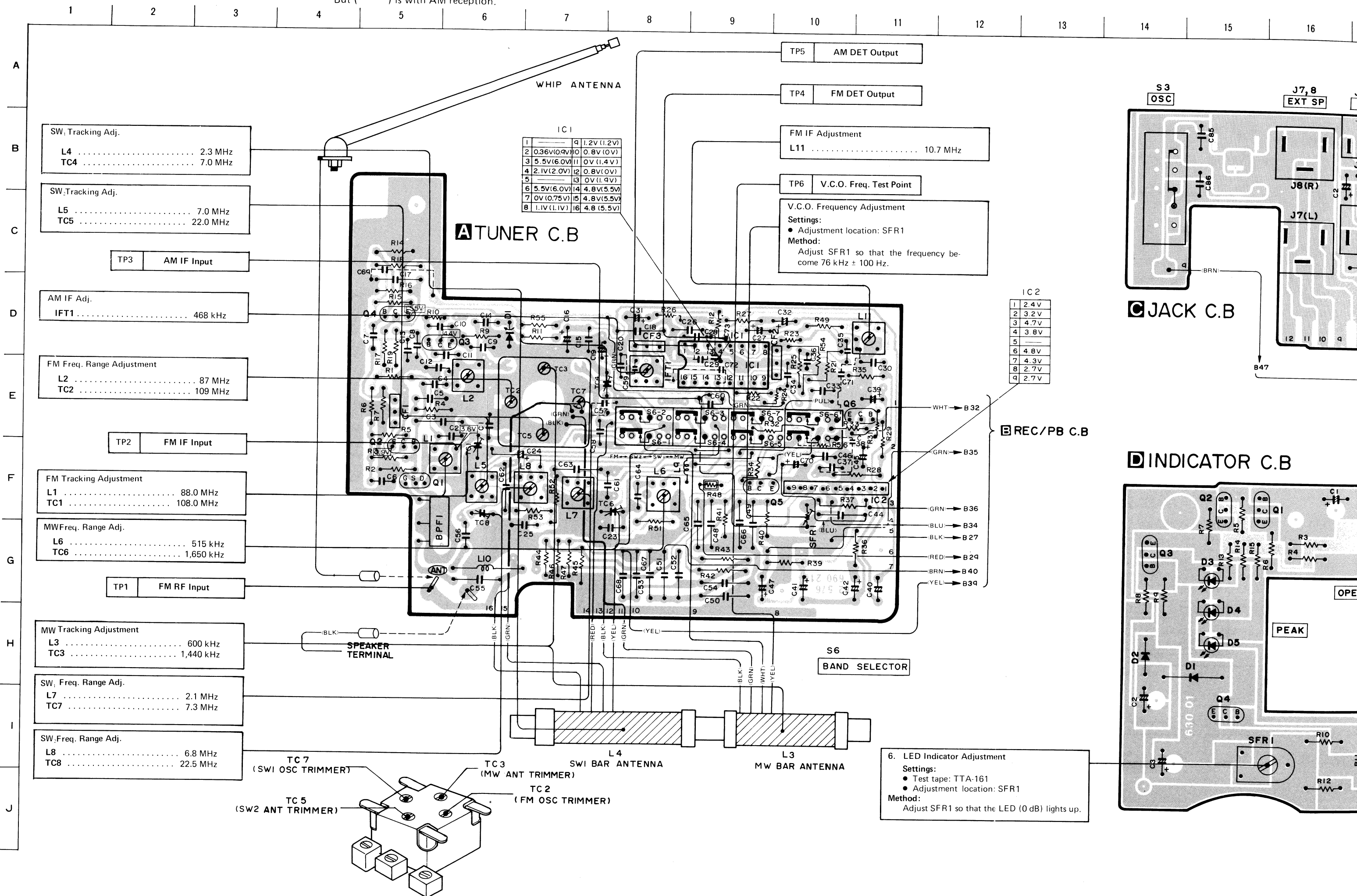


NOTES (1) B(+) Pattern Others pattern
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.



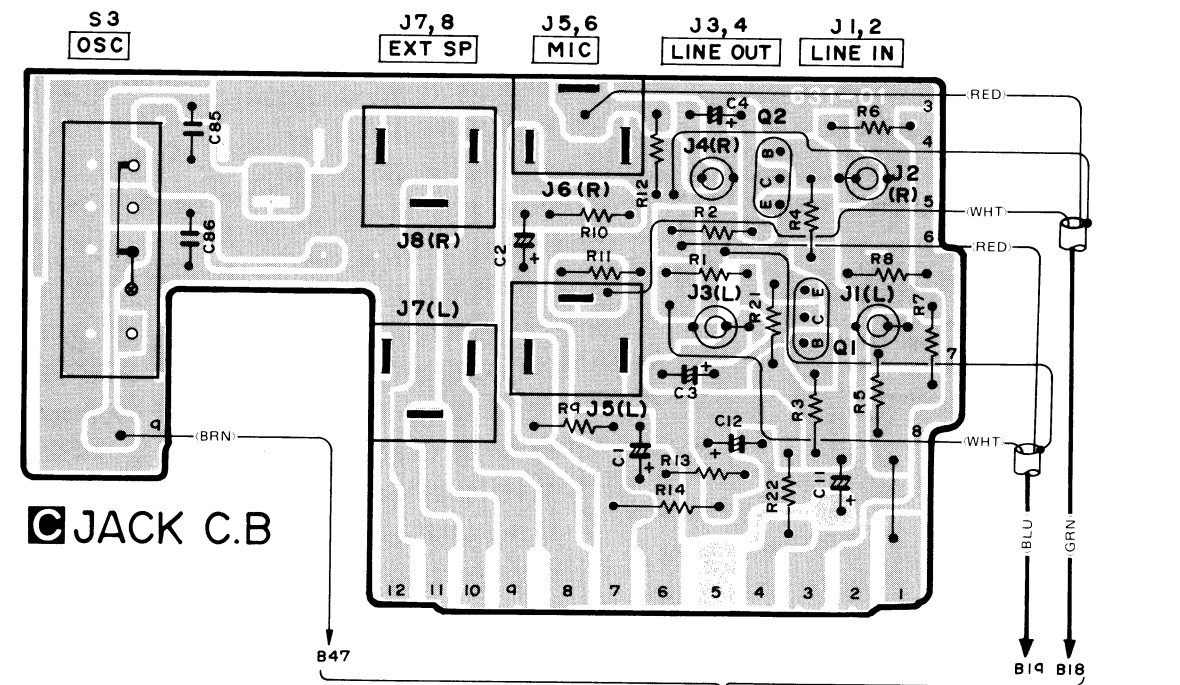
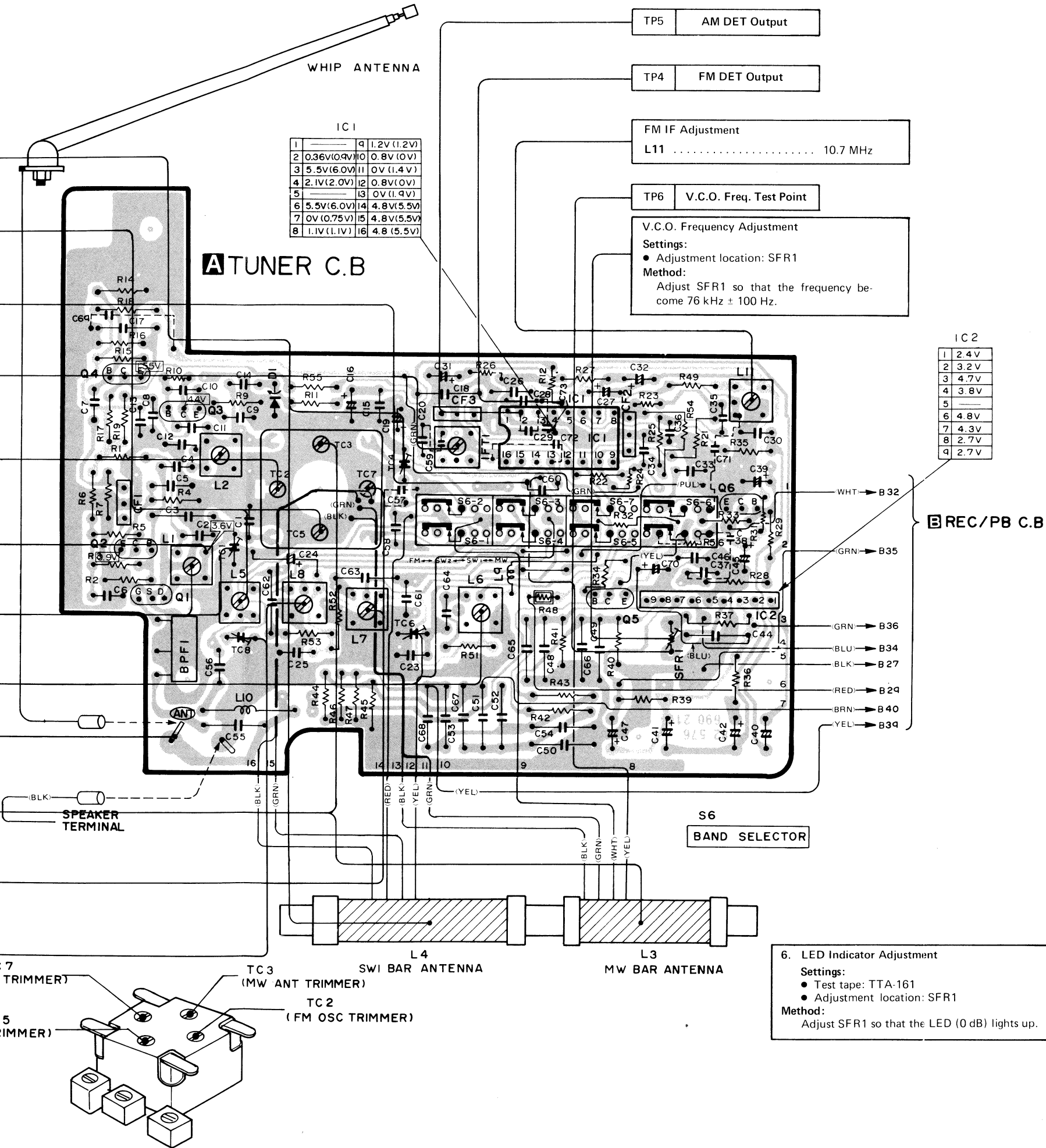
- NOTES (1) B(+) Pattern Others pattern
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
But () is with AM reception.

WIRING-2



- (1) B(+) Pattern Others pattern
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
But () is with AM reception.

4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
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REC/PB C.B

INDICATOR C.B

