

ICF-5900W

US Model
Canadian Model
UK Model
AEP Model
E Model



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FM/AM MULTI-BAND RECEIVER

SPECIFICATIONS

Power Requirements: 4.5 V dc, three batteries size D (IEC designation R20)

US and Canadian Model

120 V ac, 60Hz with Sony ac power adaptor AC-110

UK, AEP and E Model

220 – 240V ac (100, 110–127V adjustable)
50/60Hz with optional Sony ac power adaptor AC-3W
AC-456C (West Germany Model)

or 12V car battery with optional Sony car battery cord DCC-127H

Power Output: 1,900mW dc (Total Harmonic Distortion 10%)

Power Consumption: **US and Canadian Model**

6W ac (60Hz) with Sony ac power adaptor AC-110

UK, AEP and E Model

7.4VA (50Hz) 6.8VA (60Hz) with optional ac power adaptor AC-3W

Circuit Systems: FM/MW: Superheterodyne

SW: Dual conversion superheterodyne

Frequency Range: FM: 87.5 – 108 MHz

SW₁: 3.9 – 10 MHz (77 – 30m)

SW₂: 11.7 – 20 MHz (25.6 – 15m)

SW₃: 20 – 28 MHz (15 – 10.7m)

MW: 530 – 1,605 kHz

Antennas: FM/SW: Telescopic antenna, external antenna terminals

MW: Built-in ferrite-rod antenna, external antenna terminal

Speaker: 10 cm (4 inches) dia.

Dimensions: Approx. 223 (W) x 234 (h) x 102 (d) mm

8 3/4 (W) x 9 1/4 (h) x 4 (d) inches

(Including projecting parts and controls)

Weight: Approx. 2.2 kg, 4 lb 7 oz

(Including batteries)

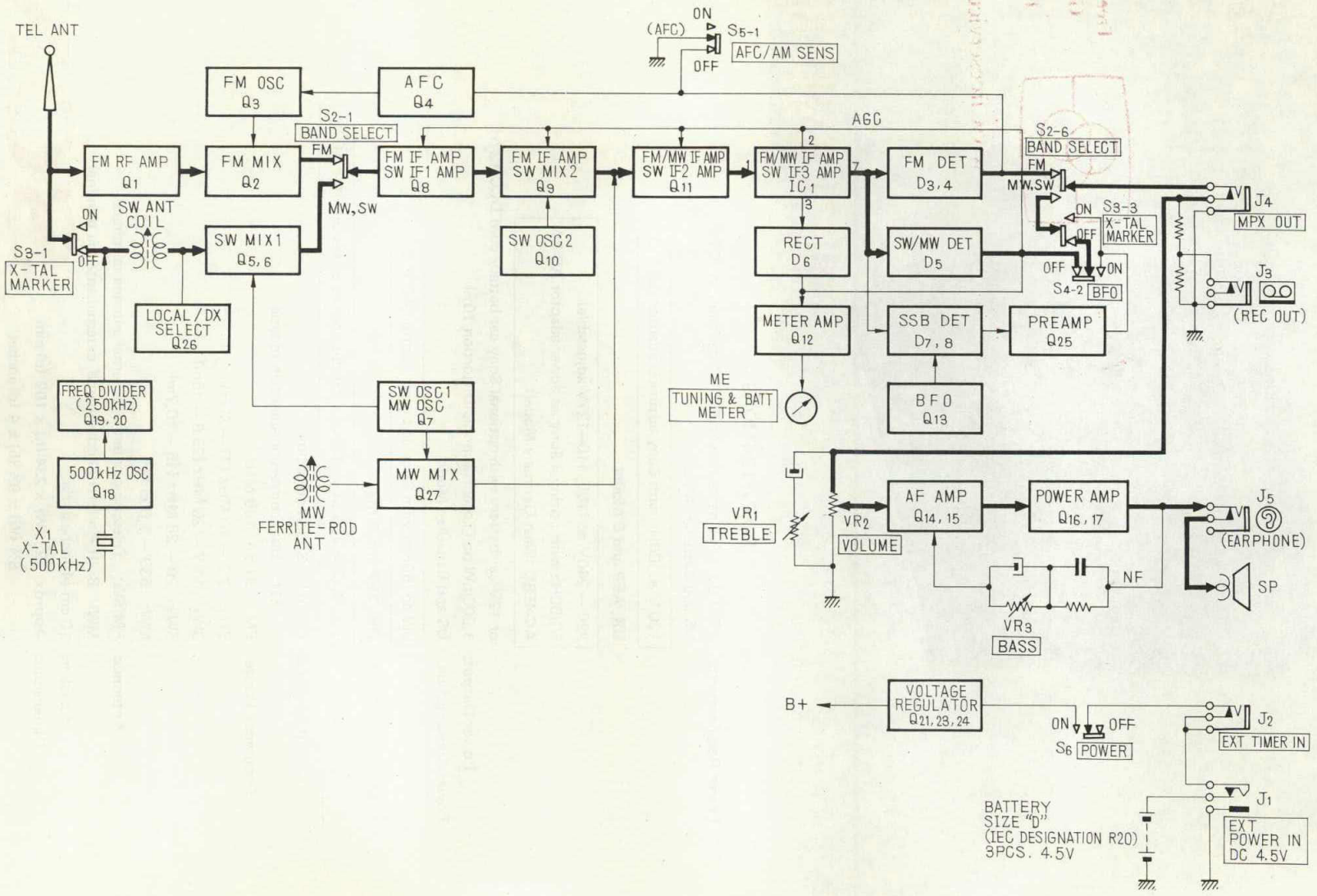
SONY®

SERVICE MANUAL

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1-1. BLOCK DIAGRAM

SECTION 1
OUTLINE



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SECTION 2 DISASSEMBLY

ADJUSTMENT COVER REMOVAL
Remove a screw (B3 x 5).

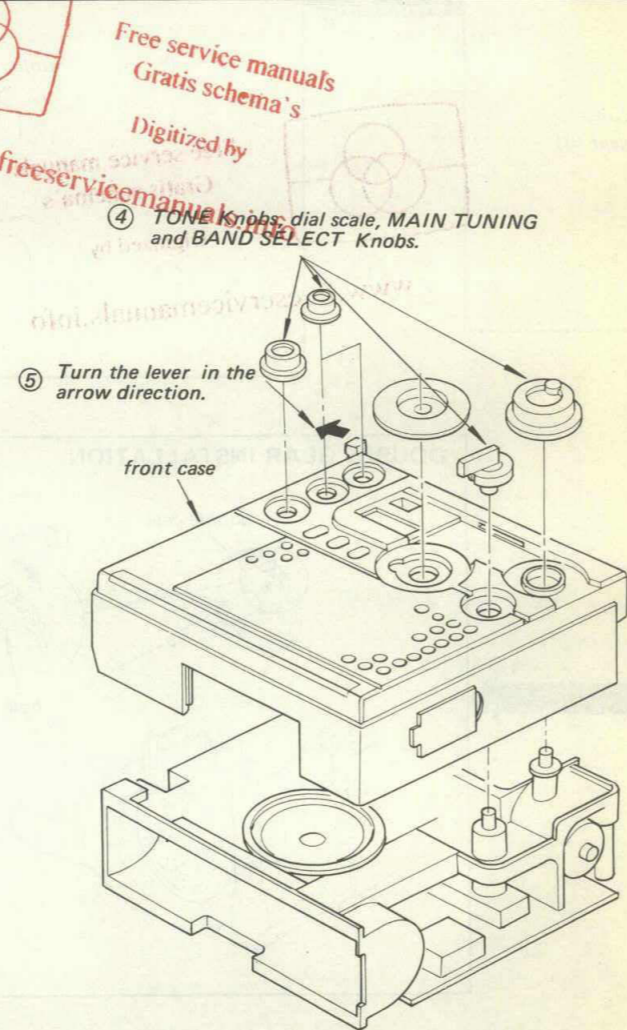
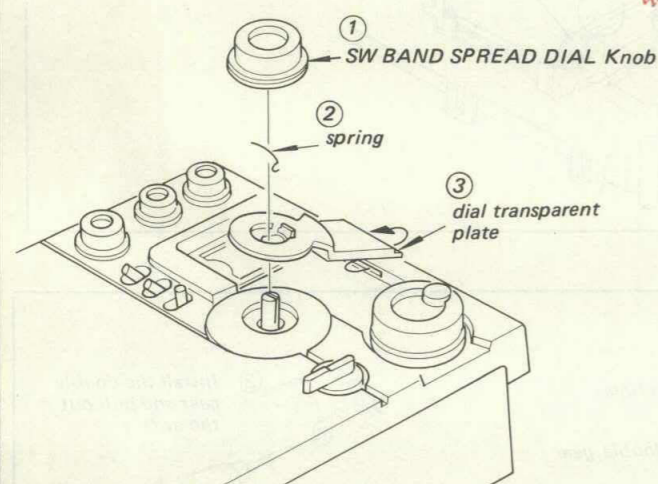
- SW FREQUENCY SCALE ADJUSTMENT
- SW OSC 2 ADJUSTMENT
- MARKER ADJUSTMENT

REAR CASE REMOVAL
Remove four screws (TA, P3 x 52).

- SW TRACKING ADJUSTMENT
- SW MIXER 1 ADJUSTMENT
- SW OSC 2 ADJUSTMENT
- MARKER ADJUSTMENT

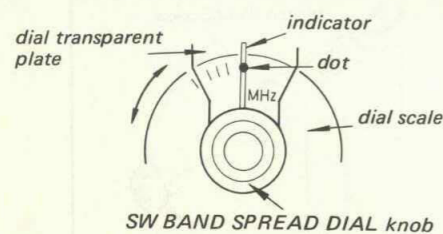
- FM IF ADJUSTMENT
- FM FREQUENCY COVERAGE ADJUSTMENT
- FM TRACKING ADJUSTMENT
- AM IF ADJUSTMENT
- MW FREQUENCY COVERAGE ADJUSTMENT
- MW TRACKING ADJUSTMENT
- BFO ADJUSTMENT

FRONT CASE REMOVAL



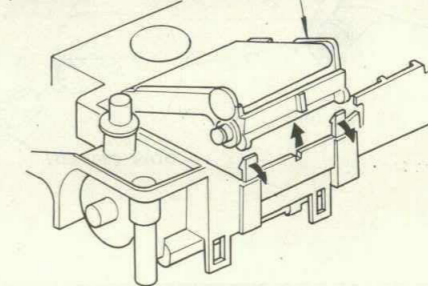
SETTING OF SW BAND SPREAD DIAL

1. Turn the SW BAND SPREAD DIAL knob fully counterclockwise and secure it with hand.
2. Turning the dial scale, match the dot to the indicator.

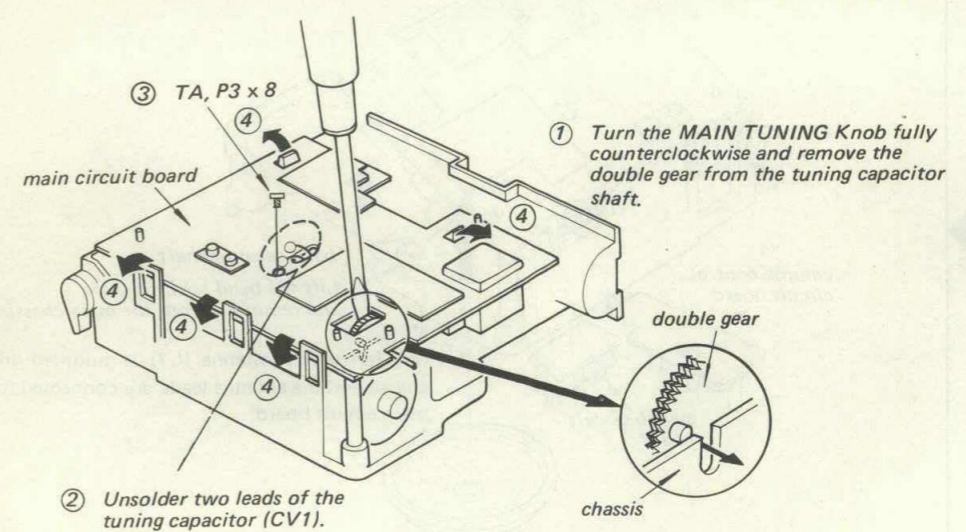


DIAL FILM CHASSIS REMOVAL

- 1 Turn the tuning shaft fully counterclockwise (minimum frequency position.)
- 2 Raise the dial film chassis.



MAIN CIRCUIT BOARD (1) REMOVAL



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DIAL FILM ATTACHMENT (1)

② Pull the drive gear (B) in the direction of A and turn it clockwise to eliminate any slack of the dial film. Holding the dial film not to be unwound, further turn the gear about 90° clockwise to wind up the spring.

DIAL FILM POSITIONING

① Turn the tuning shaft fully counter-clockwise and hold it not to turn clockwise.

② Turn the drive subgear so that the markings on the dial film place as illustrated in the inset.

MAIN CIRCUIT BOARD (2) REMOVAL

Lift the band selector shaft and remove it from the main chassis.

Note: MW ferrite-rod antenna (L7) is mounted on the chassis and the antenna leads are connected to the main circuit board.

DOUBLE GEAR INSTALLATION

① match the holes.

② Install the double gear and pull out the awl.

SW DIAL GEAR (B) INSTALLATION

match the bosses.

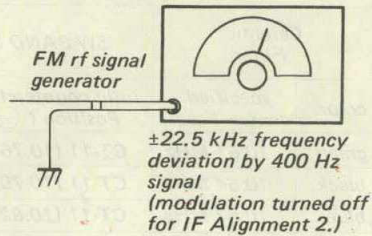
SECTION 3 ELECTRICAL ADJUSTMENTS

FM/AM SECTION

SETTING:
AFC/AM SENS switch : OFF/LOCAL
BAND SELECT switch : MW or FM

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM SECTION



109.5 MHz (108 MHz)	CT1
86.5 MHz (87.5 MHz)	L4
Adjust for a maximum reading on VOM ①.	
FM TRACKING ADJUSTMENT	

(): West Germany model

86.5 MHz (87.5 MHz)	L6
109.5 MHz (108 MHz)	CT2
Adjust for a maximum reading on VOM ①.	
FM FREQUENCY COVERAGE ADJUSTMENT	

(): West Germany model

MW/SW SECOND IF ALIGNMENT	
Adjust for a maximum reading on VOM ①.	
455 kHz (468 kHz)	IFT3

(): UK model

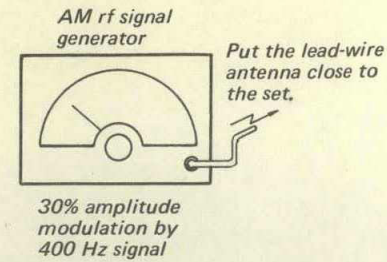
BFO ADJUSTMENT
Setting : BFO switch : ON
BAND SELECT switch : MW
no modulation

Procedure :
1. Tune the set to 1,400 kHz.
2. Adjust L25 for zero beating (*).

Note:
* Zero beating means the point that the beating just disappears.

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AM SECTION



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

MW TRACKING ADJUSTMENT	
L7	620 kHz
CT3	1,400 kHz

MW FREQUENCY COVERAGE ADJUSTMENT	
CT4	1,680 kHz
L11	520 kHz

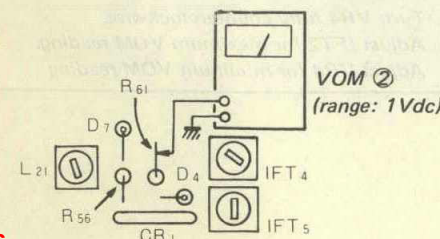
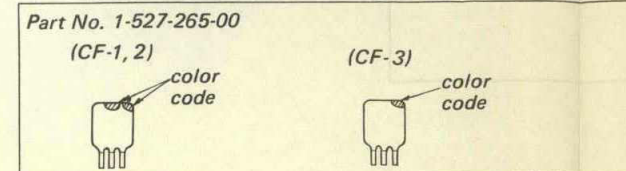
FM I-F ALIGNMENT 1 (*Specified Center Freq. with modulation)	
Adjust for a maximum reading on VOM ①.	
IFT 1	
IFT 4	
IFT 5	

Note:

CERAMIC FILTERS	
Color	*Specified Center Freq.
green	10.61 MHz
black	10.64 MHz
blue	10.67 MHz
red	10.70 MHz
orange	10.73 MHz
white	10.76 MHz
yellow	10.79 MHz

FM IF ALIGNMENT 2 (*Specified center freq. with modulation)	
Adjust for OV reading on VOM ②.	
IFT 5	

Note:
The color code of the ceramic filters (CF1, 2, 3) should coincide with those on the circuit board.



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SW SECTION (1)

SETTING:

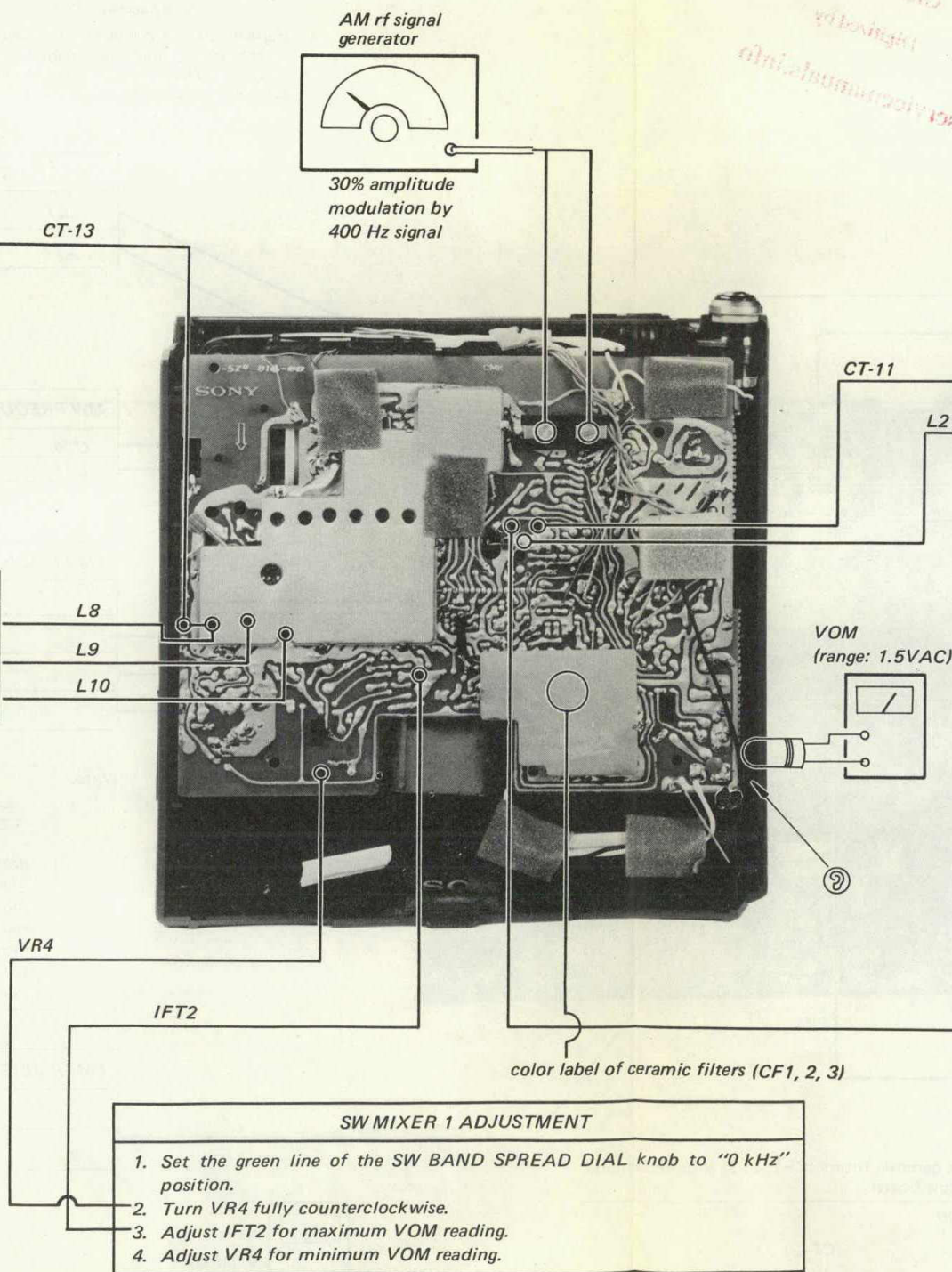
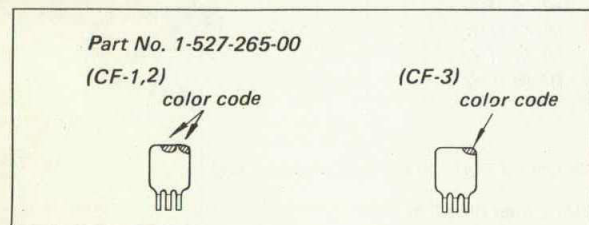
- AFC/AM SENS Switch: OFF/LOCAL
 BAND SELECT Switch: SW1
 X-TAL MARKER Switch: OFF
 BFO Switch: OFF
 MAIN TUNING: f min

MARKER LEVEL ADJUSTMENT

1. BAND SELECT switch: SW3
2. X-TAL MARKER switch: ON
3. Turn the MAIN TUNING Knob to tune in 28MHz and adjust for zero beating.
4. Adjust CT13 so that the TUNING & BATT METER reads within 5 - 6.

SW TRACKING ADJUSTMENT			
4.0 MHz	SW1	L8	
12.0 MHz	SW2	L9	
21.0 MHz	SW3	L10	

Note:
 The color code of the ceramic filters (CF1, 2, 3) should coincide with those on the circuit board.



SW OSC 2 ADJUSTMENT
 (After this adjustment, perform MARKER adjustment.)

Ceramic Filter	specified center Freq.	SW BAND SPREAD DIAL SETTING	
		fully counterclockwise Position (⊖ side)	fully clockwise Position (⊕ side)
green	10.61 MHz	CT-11 (10.76 MHz)	L21 (10.46 MHz)
black	10.64 MHz	CT-11 (10.79 MHz)	L21 (10.49 MHz)
blue	10.67 MHz	CT-11 (10.82 MHz)	L21 (10.52 MHz)
red	10.70 MHz	CT-11 (10.85 MHz)	L21 (10.55 MHz)
orange	10.73 MHz	CT-11 (10.88 MHz)	L21 (10.58 MHz)
white	10.76 MHz	CT-11 (10.91 MHz)	L21 (10.61 MHz)
yellow	10.79 MHz	CT-11 (10.94 MHz)	L21 (10.64 MHz)

Specification: 300 kHz ±3 kHz

Note:
 1) Adjust L21 for the maximum level and set it to the peak position in the counterclockwise direction.
 2) Do not adjust L21 to the image frequency.

SW MIXER 1 ADJUSTMENT

1. Set the green line of the SW BAND SPREAD DIAL knob to "0 kHz" position.
2. Turn VR4 fully counterclockwise.
3. Adjust IFT2 for maximum VOM reading.
4. Adjust VR4 for minimum VOM reading.

MARKER ADJUSTMENT
 This adjustment should be performed after the SW OSC 2 adjustment.

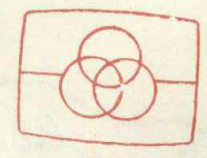
1. Set the green line of the SW BAND SPREAD DIAL knob to "0 kHz" position.
2. Set BFO switch to ON and X-TAL MARKER switch to OFF.
3. Tune the set to the specified center frequency of fm i-f circuit and adjust AM rf signal generator for zero beating.
4. Set X-TAL MARKER switch to ON and increase the output level of the AM rf signal generator to 100 dB.
5. Adjust CT-12 for zero beating.
6. Change the frequencies of the AM rf signal generator and confirm that the noise of beating does not vary. If necessary, repeat 3 - 6 steps again.

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SW SECTION (2)

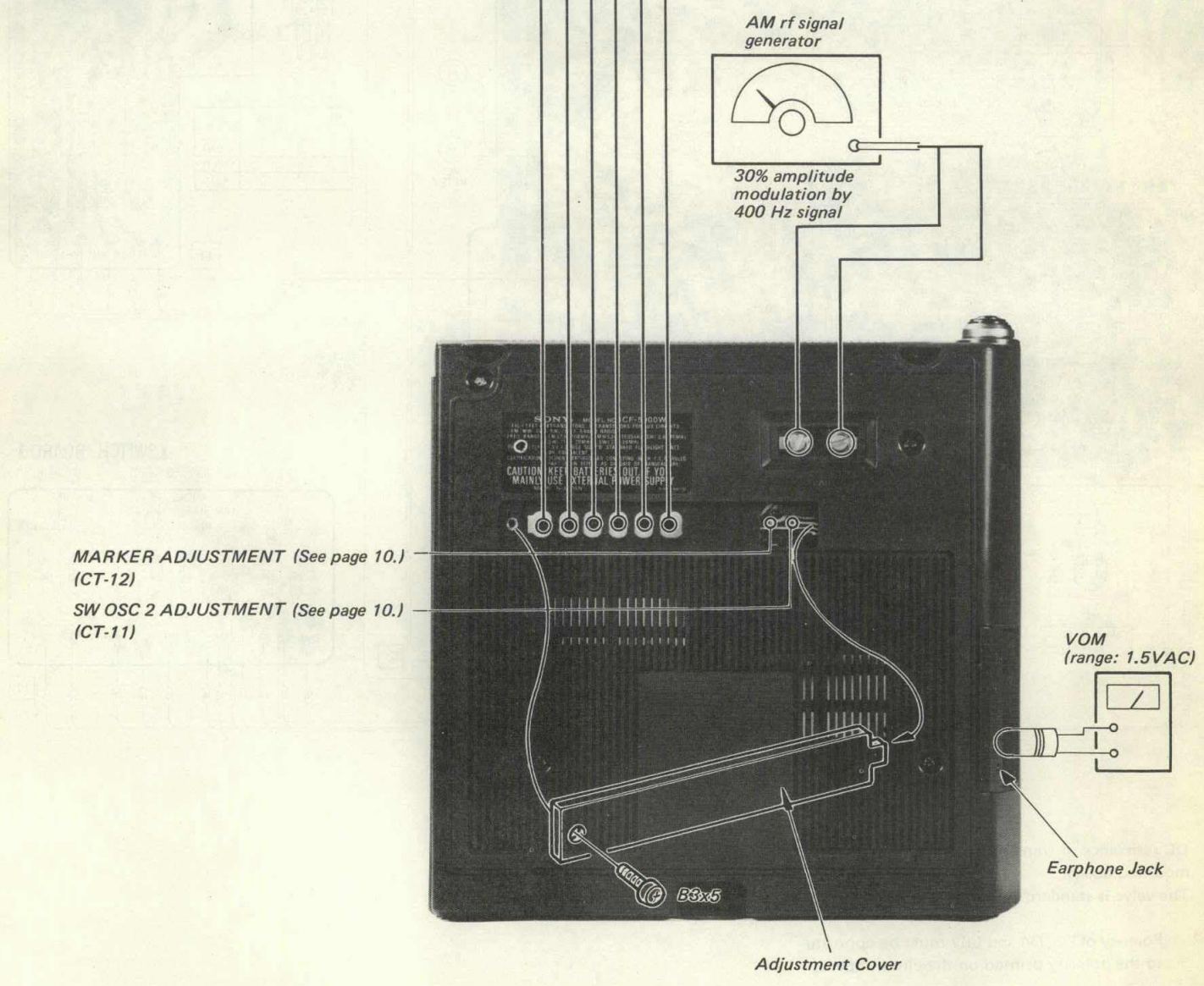
SETTING :
SW BAND SPREAD DIAL : 0 kHz
AFC/AM SENS switch : OFF/LOCAL
BFO switch : OFF
X-TAL MARKER switch : OFF

SW FREQUENCY SCALE ADJUSTMENT		
Adjust for a maximum reading on VOM.		
SW3	21.0 MHz	L14
	27.5 MHz	CT-10
SW2	12.0 MHz	L13
	19.5 MHz	CT-9
SW1	9.5 MHz	CT-8
	4.0 MHz	L12



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SECTION 4 DIAGRAMS

4-1. MOUNTING DIAGRAM — Conductor Side —

[]: replacement parts

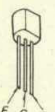
Q1: 2SK42



Q21: 2SA677
[2SA678]



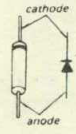
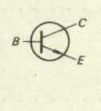
Q2: 2SC930



D1, 2, 5, 6, 12, 13, 15: 1S1555

D3, 4: 1T26
[1T261]

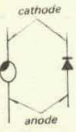
D7, 8: 1T23
[1T22A]



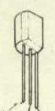
Q3, 5, 6: 2SC668



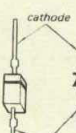
D9: MV5L



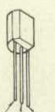
Q4, 8 ~ 11, 26, 27: 2SC1908
[2SC710]



D14: 1S2222



Q7, 13, 18 ~ 20: 2SC710

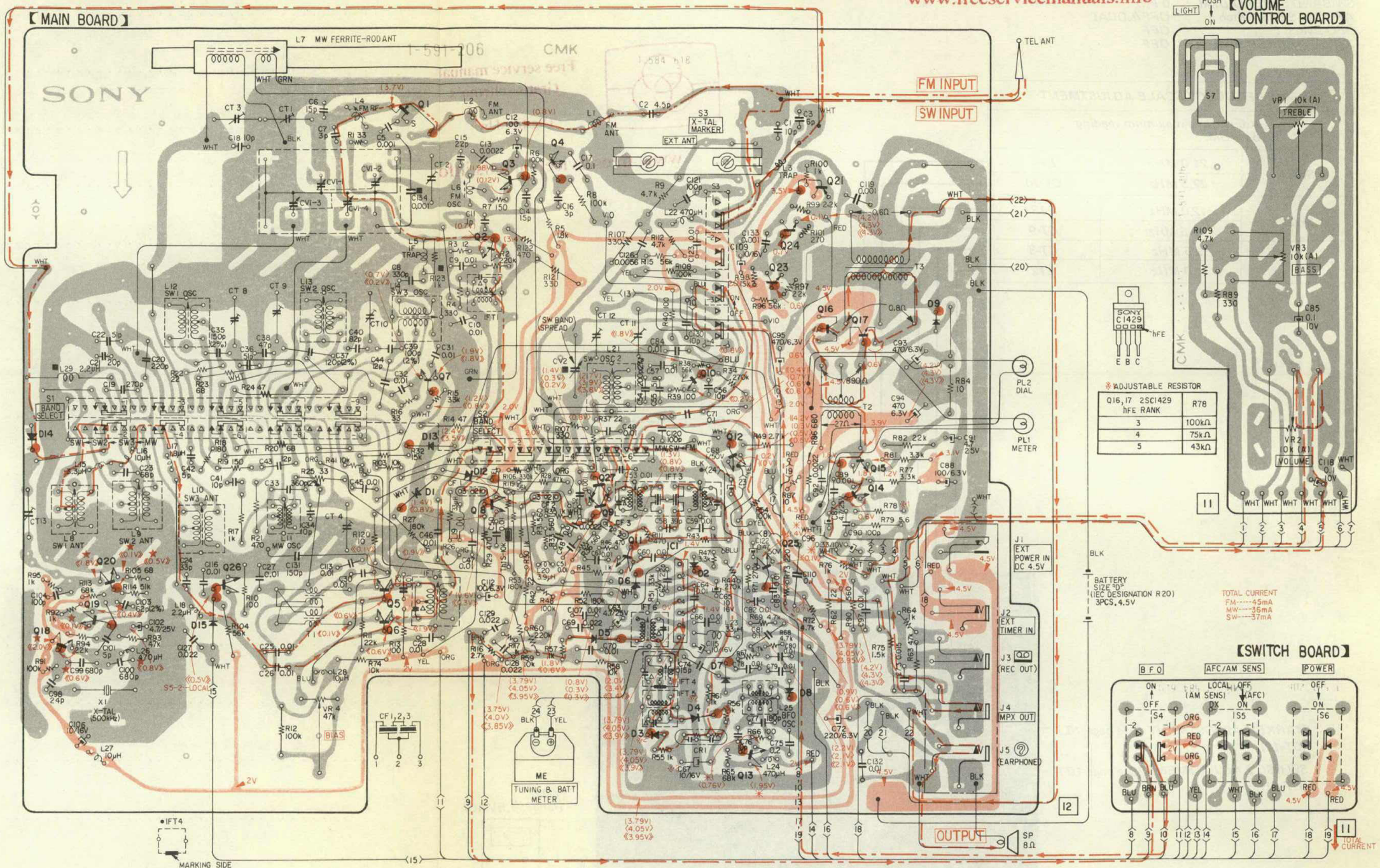


Q12, 14, 15, 23, 24, 25: 2SC1363
[2SC634A]



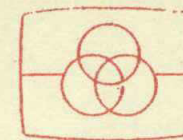
Q16, 17: 2SC1429

D	Q
	IC
1	1
4	3
24	21
23	9
16	17
10	7
14	13
12	15
27	14
8	9
11	2
20	25
26	6
5	1
19	5
15	19
6	18
7	8
8	7
4	4
3	3
13	13



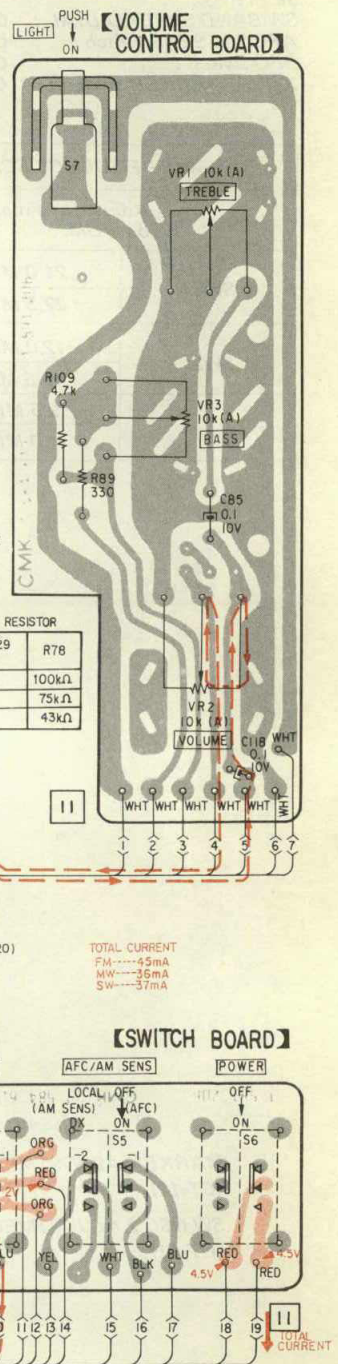
Note

- indicates parts on the conductor side.
- indicates lead wire connection on the conductor side.
- indicates lead wire connection through the component side.
- B + pattern.
- FM signal or SW signal path.
- SW signal path.
- FM signal path.
- DC resistance of transformer is measured on the mounted board. The valve is standard value.
- *2: Polarity of D3, D4 and C67 must be opposite to the polarity printed on the circuit board.

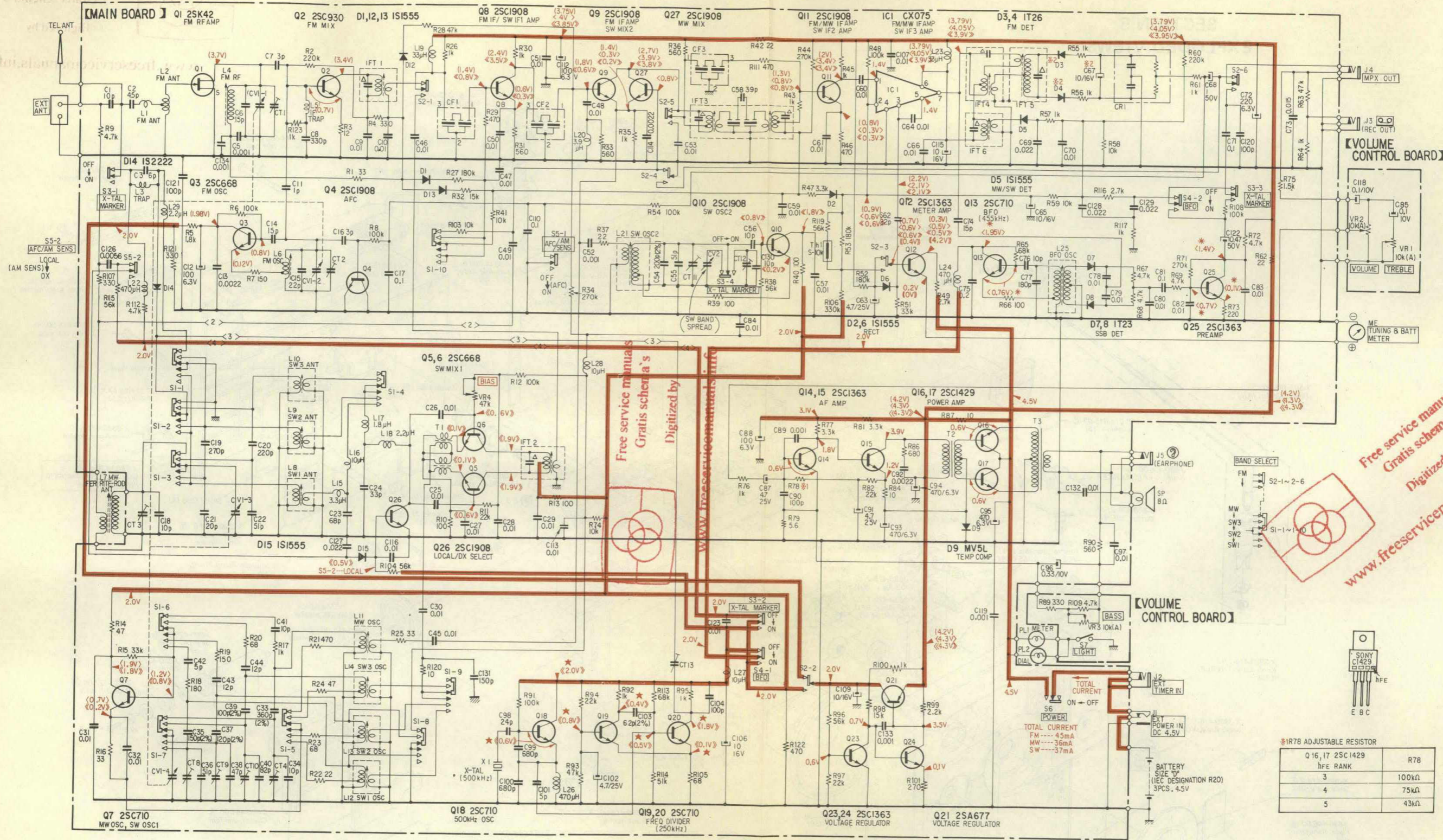


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4-2. SCHEMATIC DIAGRAM



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Note:

- All capacitors are in μF unless otherwise noted. 50 or less working voltages are not indicated except for electrolytic type. $p = \mu\text{F}$
- All resistors are in Ω , 1/8W, unless otherwise noted. $k = 1,000$ $M = 1,000 k$
- Δ indicates internal components.
- \square indicates chassis ground.
- --- indicates B + circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings are taken under load with a VOM (20k Ω/v).

- (): FM < > : MW < > : SW
- (()): Optimum receiving
- *: BFO SWITCH (S4).....ON
- *: X-TAL MARKER SWITCH (S3).....ON
- no mark: common
- Voltage variations may be noted due to normal production tolerances.
- Voltage between base and emitter are measured with 2.5V range.
- indicates designation on the panel.
- indicates the adjustment for repair.

Switch Mode:

Ref. No.	Switch	Position
S1	BAND SELECT	MW
S2	BAND SELECT	FM
S3	X-TAL MARKER	OFF
S4	BFO	OFF
S5	AFC	OFF
	AM SENS	LOCAL
S6	POWER	OFF
S7	LIGHT	OFF

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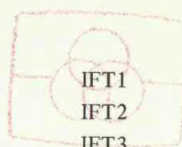
SECTION 6
ELECTRICAL PARTS LIST

Note: Circled letters (A) to (Z) are applicable to European models only.

Note: Circled letters (A) to (Z) are applicable to European models only.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
SEMICONDUCTORS			COILS			CAPACITORS					
Transistors			All coils are microinductor unless otherwise noted.			All capacitors are in μF and of ceramic unless otherwise noted. 50 and/or less working voltages are not noted except for electrolytic type. (p = μF , elect = electrolytic)					
Q1	(E) 2SK42		L1	1-401-526-00 (A) FM Ant		C1	1-102-947-11 (A) 10 p		C45~51	1-101-923-11 (A) 0.01	
Q2	(B) 2SC930		L4	1-425-888-00 (B) FM RF		C2	1-101-579-11 (A) 4.5 p		C52	1-101-455-11 (A) 0.001	
Q3	(B) 2SC668		L6	1-405-568-00 (B) FM Osc		C3	1-102-808-11 (A) 6 p		C53	1-101-923-11 (A) 0.01	
⇒ Q4	(B) 2SC710		L7	1-401-541-XX (D) MW Ferrite-rod Ant		C5	1-102-074-11 (A) 0.001		C54	1-107-264-11 (B) 200 p ±2% silvered mica	
Q5, 6	(B) 2SC668		L8	1-401-643-00 (B) SW1 Ant		C6	1-102-951-11 (A) 15 p		C55	1-102-757-11 (A) 51 p	
⇒ Q8~11	(B) 2SC710		L9	1-401-644-00 (B) SW2 Ant		C7	1-102-936-11 (A) 3 p		C56	1-102-947-11 (A) 10 p	
⇒ Q12	(B) 2SC634A		L10	1-401-645-00 (B) SW3 Ant		C8	1-102-820-11 (A) 330 p		C57	1-101-923-11 (A) 0.01	
Q13	(B) 2SC710		L11	1-405-520-00 (B) MW Osc		C9, 10	1-101-923-11 (A) 0.01		C58	1-102-965-11 (A) 39 p	
⇒ Q14, 15	(B) 2SC634A		L12	1-405-710-00 (B) SW1 Osc		C11	1-102-934-11 (A) 1 p		C59~61	1-101-923-11 (A) 0.01	
Q16, 17	(C) 2SC1429		L13	1-405-711-00 (B) SW2 Osc		C12	1-121-413-11 (A) 100 6.3 V elect		C62	1-102-959-11 (A) 22 p	
Q18~20	(B) 2SC710		L14	1-405-712-00 (B) SW3 Osc		C13	1-102-121-11 (A) 0.0022		C63	1-121-395-11 (A) 4.7 25 V elect	
⇒ Q21	(B) 2SA678		L15	1-407-184-XX (A) 3.3 μH		C14	1-102-951-11 (A) 15 p		C64	1-101-923-11 (A) 0.01	
⇒ Q23~25	(B) 2SC634A		L16	1-407-157-XX (A) 10 μH		C15	1-102-751-11 (A) 22 p		C65	1-121-651-11 (A) 10 16 V elect	
⇒ Q26, 27	(B) 2SC710		L17	1-407-181-XX (A) 1.8 μH		C16	1-102-936-11 (A) 3 p		C66	1-101-923-11 (A) 0.01	
			L18	1-407-182-XX (A) 2.2 μH		C17	1-101-797-11 (A) 0.1 (boundary layer)		C67	1-121-651-11 (A) 10 16 V elect	
			L19	1-407-163-XX (A) 33 μH		C18	1-102-947-11 (A) 10 p		C68	1-121-391-11 (A) 1 50 V elect	
			L20	1-407-185-XX (A) 3.9 μH		C19	1-107-095-11 (A) 270 p silvered mica		C69	1-105-677-12 (A) 0.022 mylar	
			L21	1-405-713-00 (B) SW Osc 2		C20	1-107-093-11 (A) 220 p silvered mica		C70	1-101-923-11 (A) 0.01	
			L22	1-407-661-XX (A) 470 μH		C21	1-102-958-11 (A) 20 p		C71	1-101-797-11 (A) 0.1 (boundary layer)	
			L23	1-407-163-XX (A) 33 μH		C22	1-101-882-11 (A) 51 p		C72	1-121-419-11 (A) 220 6.3 V elect	
			L24	1-407-661-XX (A) 470 μH		C23	1-101-888-11 (A) 68 p		C73	1-105-675-12 (A) 0.015 mylar	
			L25	1-405-714-00 (B) BFO Osc		C24	1-102-963-11 (A) 33 p		C74	1-102-951-11 (A) 15 p	
			L26	1-407-661-XX (A) 470 μH		C25~32	1-101-923-11 (A) 0.01		C75	1-101-798-11 (A) 0.2 (boundary layer)	
			L27, 28	1-407-157-XX (A) 10 μH		C33	1-107-265-11 (B) 360 p ±2% silvered mica		C76	1-102-947-11 (A) 10 p	
			L29	1-407-182-XX (A) 2.2 μH		C34	1-102-947-11 (A) 10 p		C77	1-102-705-11 (A) 180 p	
						C35	1-107-263-11 (B) 150 p ±2% silvered mica		C78~80	1-102-923-11 (A) 0.01	
						C36	1-102-695-11 (A) 51 p		C81	1-101-797-11 (A) 0.1 (boundary layer)	
						C37	1-107-262-11 (B) 120 p ±2% silvered mica		C82, 83	1-105-673-12 (A) 0.01 mylar	
						C38	1-102-887-11 (A) 47 p		C84	1-101-923-11 (A) 0.01	
						C39	1-107-261-11 (B) 100 p ±2% silvered mica		C85	1-127-019-11 (A) 0.1 10 V solid aluminum	
						C40	1-102-700-11 (A) 82 p		C87	1-121-395-11 (A) 4.7 25 V elect	
						C41	1-102-947-11 (A) 10 p		C88	1-121-413-11 (A) 100 6.3 V elect	
						C42	1-102-942-11 (A) 5 p		C89	1-101-455-11 (A) 0.001	
						C43, 44	1-102-949-11 (A) 12 p		C90	1-102-973-11 (A) 100 p	
									C91	1-121-395-11 (A) 4.7 25 V elect	
									C92	1-102-121-11 (A) 0.0022	
									C93~95	1-121-424-11 (B) 470 6.3 V elect	
									C96	1-127-021-11 (A) 0.33 10 V solid aluminum	
									C97	1-105-673-12 (A) 0.01 mylar	

⇒: Due to replacement parts, the descriptions are different from the diagrams.



Note: Circled letters (A) to (Z) are applicable to European models only.

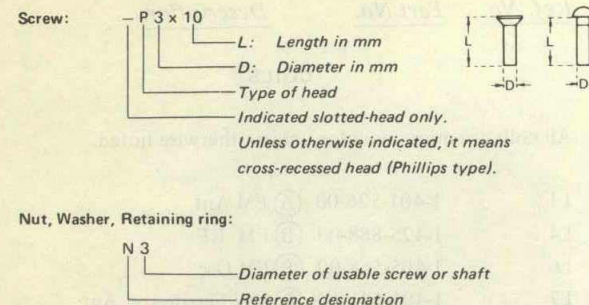
Ref. No.	Part No.	Description
C98	1-102-960-11 (A) 24 p	
C99, 100	1-102-116-11 (A) 680 p	
C101	1-102-942-11 (A) 5 p	
C102	1-121-395-11 (A) 4.7	25 V elect
C103	1-107-259-11 (B) 62 p	±2% silvered mica
C104	1-102-973-11 (A) 100 p	
C106	1-121-651-11 (A) 10	16 V elect
C107	1-101-923-11 (A) 0.01	
C109	1-121-651-11 (A) 10	16 V elect
C110	1-101-797-11 (A) 0.1	(boundary layer)
C112	1-121-413-11 (A) 100	6.3 V elect
C113	1-101-923-11 (A) 0.01	
C114	1-102-121-11 (A) 0.0022	
C115	1-121-651-11 (A) 10	16 V elect
C116	1-101-923-11 (A) 0.01	
C118	1-127-019-11 (A) 0.1	10 V solid aluminum
C119	1-101-455-11 (A) 0.001	
C120, 121	1-102-973-11 (A) 100 p	
C122	1-121-726-11 (A) 0.47	50 V elect
C123	1-101-923-11 (A) 0.01	
C126	1-105-670-12 (A) 0.0056	mylar
C127	1-101-924-11 (A) 0.022	
C128, 129	1-105-677-12 (A) 0.022	mylar
C130	1-107-061-11 (A) 10 p	silvered mica
C131	1-101-361-11 (A) 150 p	
C132	1-101-923-11 (A) 0.01	
C133, 134	1-102-074-11 (A) 0.001	
CT1 ~4	1-141-138-XX (A) Trimmer	
CT8, 10	1-141-180-00 (B) Trimmer	
CT9, 11	1-141-171-00 (B) Trimmer	
CT12	1-141-178-00 (B) Trimmer	
CT13	1-141-138-XX (A) Trimmer	
CV1	1-151-196-00 (F) Tuning	
CV2	1-151-312-00 (E) Tuning	

Ref. No.	Part No.	Description
RESISTORS		
Regular-type ¼ W carbon resistors are omitted. Check the schematic diagram for the resistance values. (k = 1000)		
VR1 ~3	1-224-559-00 (B) 10 kΩ, variable, TREBLE, VOLUME, BASS	
VR4	1-224-647-XX (B) 47 kΩ, adjustable	
SWITCHES		
S1	1-514-316-00 (D) Slide, BAND SELECT (MW/SW)	
S2	1-514-861-XX (B) Slide, BAND SELECT (FM)	
S3	1-514-821-21 (C) Slide, X-TAL MARKER	
S4 ~6	1-516-977-00 (B) Lever Slide, BFO, AFC/AM SENS, POWER	
MISCELLANEOUS		
ANT	1-501-155-00 (J) Antenna, telescopic	
CF1, 2, 3	1-527-265-00 (E) Filter, ceramic	
CR1	1-231-202-00 (B) Encapsulated Component	
J1 ~5	1-507-369-XX (E) Jack, EXT POWER IN DC 4.5 V, EXT TIMER IN, REC OUT, MPX OUT, earphone	
ME	1-520-248-00 (H) TUNING & BATT METER	
PL1, 2	1-518-169-XX (B) Lamp, 4.5 V 40 mA; meter, dial	
SP	1-502-584-00 (H) Speaker	
X1	1-527-269-51 (K) Crystal, 500 kHz	

ACCESSORIES & PACKING MATERIALS

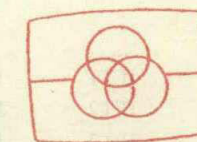
Part No.	Description
X-3844-608-0	(D) Shoulder Strap Ass'y
X-3880-411-0	(B) Cushion Ass'y, upper
1-463-129-00	(K) Adaptor, ac plug; AC-110 (US model)
1-463-130-00	(K) Adaptor, ac plug; AC-110 (Canadian model)
1-504-059-11	(C) Earphone, ME-20H
3-880-467-11	(D) Carton
3-880-470-00	(B) Cushion, side
3-880-490-00	(B) Bag, plastic; unit
3-993-144-31	(B) Manual, instruction; French (Canadian model)
3-995-759-21	(B) Manual, instruction (US, Canadian model)
3-995-759-41	(B) Manual, instruction (AEP, UK model)
3-995-759-51	(B) Manual, instruction (E model)

HARDWARE NOMENCLATURE



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	



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