

KENWOOD

SERVICE MANUAL

MC-55, MC-80, MC-85

SW-100A/B

SW-200/2000

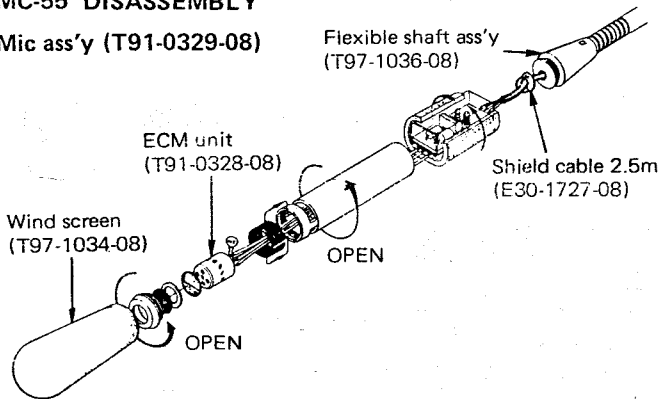
MC-55 SPECIFICATIONS

Type Unidirectional electret condenser microphone
 Impedance Approx. 700Ω
 Sensitivity -50dB (MIC LEVEL MAX)
 Frequency response .. 300-8000Hz
 Power requirement ... 6-15V DC

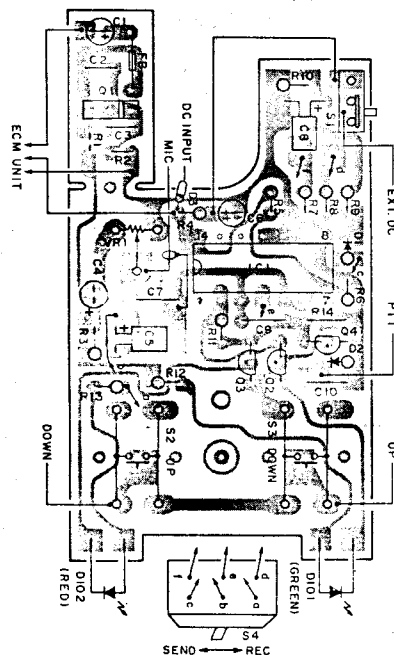
MC-55 DISASSEMBLY

Mic ass'y (T91-0329-08)

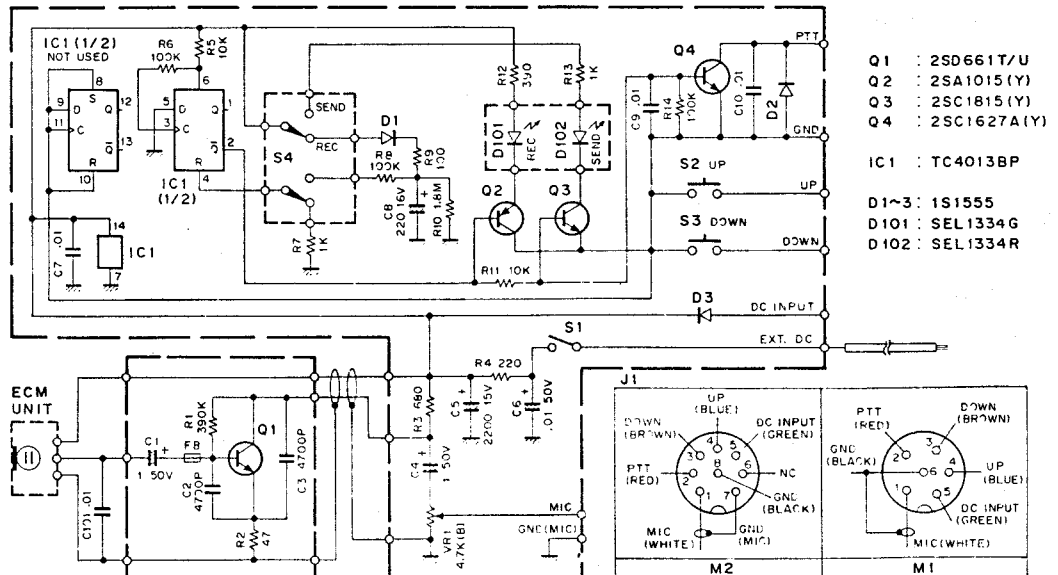
Flexible shaft ass'y (T97-1036-08)



MC-55 PC BOARD
(Component side view)



MC-55 (ORIGINAL) SCHEMATIC DIAGRAM

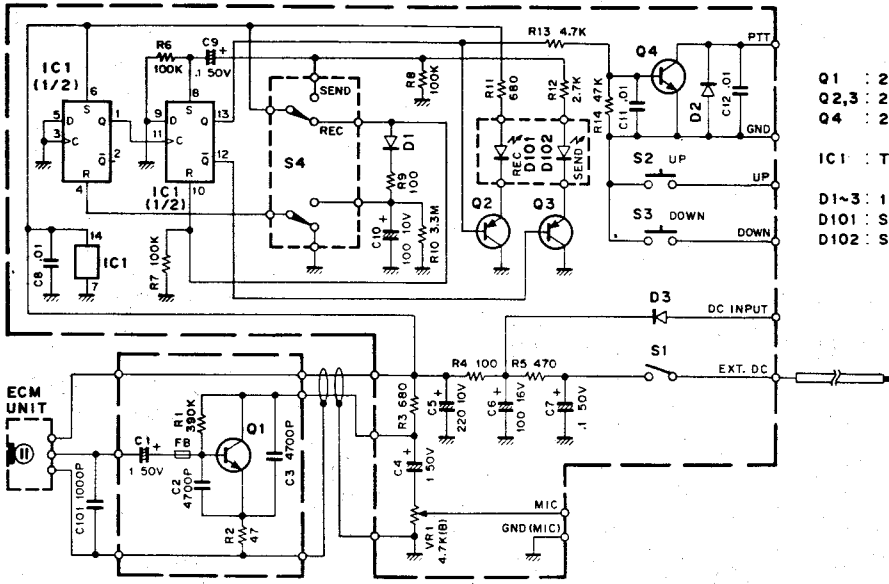


MC-55 PARTS LIST

Part No.	Re- marks	Description	Ref. No.	Q'ty
TC4013BP		C.MOS IC	IC1	1
SEL1334G		LED (Green)	D101	1
SEL1334R		LED (Red)	D102	1
1S1555		Si diode	D1-3	3
2SA1015(Y)		PNP Tr	Q2	1
2SA1048(Y)	N	PNP Tr NEW TYPE ONLY	Q2,3	2
2SC1627A(Y)	N	NPN Tr	Q4	1
2SC1815(Y)	N	NPN Tr	Q3	1
2SD661T/U	N	NPN Tr	Q1	1
A02-0635-08	N	Case (Front)		1
A02-0636-08	N	Case (Rear)		1
B42-2315-08	N	Name plate		1
E03-0156-08	N	Bridge connector Accessory		1
E07-0651-05		6P Metal plug M1	J1	1
E07-0852-05		8P Metal plug M2	J1	1
E30-1727-08	N	Shield cable 2.5m		1
E30-1728-08	N	Mic cable ass'y 8P M2		1
E30-1767-08	N	Mic cable ass'y 6P M1		1
H70-0303-08	N	Carton (inside)		1
J21-2795-08	N	Shift lever mounting hardware		1
K29-0778-08	N	Knob REC-SEND		1
K29-0779-08	N	Knob UP		1
K29-0780-08	N	Knob DOWN		1
K29-0781-08	N	Knob MIC LEVEL		1
R12-1427-08	N	Trim pot. 4.7kΩ (B) MIC LEVEL	VR1	1
S31-1410-08	N	Slide switch POWER	S1	1
S33-2405-08	N	Lever switch SEND-REC	S4	1
S50-1414-08	N	Tact switch UP,DOWN	S2,3	2
T91-0328-08	N	ECM unit		1
T97-0329-08	N	Mic ass'y		1
T97-1034-08	N	Wind screen		1
T97-1036-08	N	Flexible shaft ass'y		1

MC-55/80

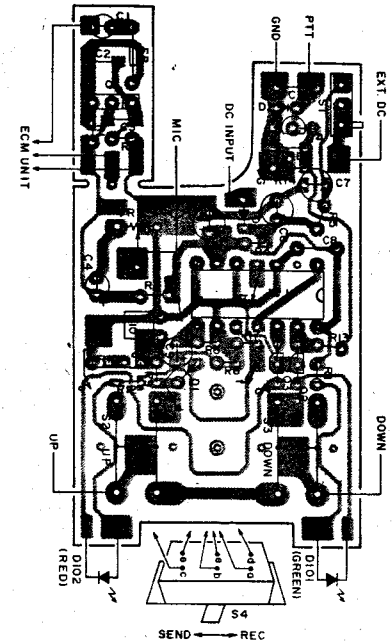
MC-55 [NEW] SCHEMATIC DIAGRAM



- Q1 : 2SD661T/U
- Q2,3 : 2SA1048(Y)
- Q4 : 2SC1627A(Y)
- IC1 : TC4013BP
- D1~3 : 1S1555
- D101 : SEL1334G
- D102 : SEL1334R

MC-55 [NEW] PC BOARD

(Component side view)

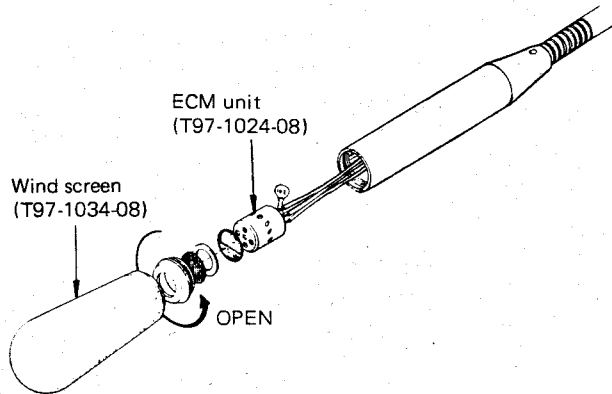


MC-80 SPECIFICATIONS

- Type Ominidirection electret condenser microphone
- Impedance Approx. 700Ω
- Sensitivity -40dB±6dB (VR MAX)
- Frequency response 200-700Hz
- Power supply 6V ("AA" batteries 1.5V x 4)
Batteries not supplied.
- Current consumption Approx. 10mA
(Batteries can be used more than 500 hours)
- Weight Approx. 700g (1.5lbs)

MC-80 DISASSEMBLY

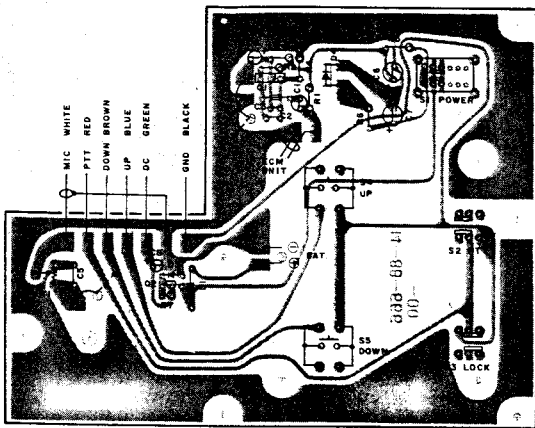
Mic ass'y (T91-0339-08)



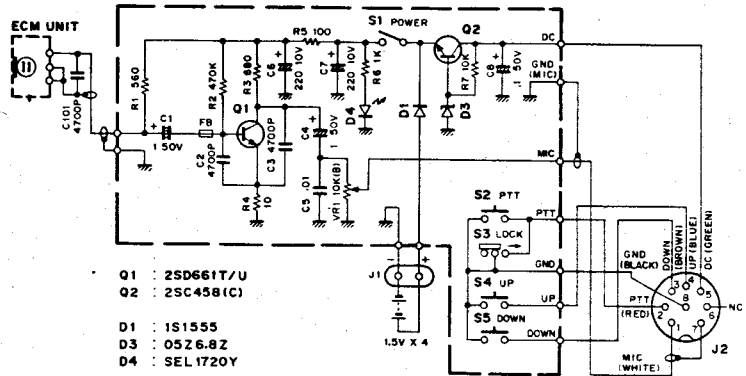
MC-80 PARTS LIST

Part No.	Re- marks	Description	Ref. No.	Q'ty
SEL1720Y	N	LED (Yellow)	D4	1
05Z6.8Z	N	Zener diode (6.8V)	D3	1
1S1555		Si diode	D1	1
2SC458(C)		NPN Tr	Q2	1
2SD661T/U		NPN Tr	Q1	1
A50-0403-08	N	Side panel (L)		1
A50-0404-08	N	Side panel (R)		1
B50-4092-08	N	Instruction manual		1
E07-0852-05		8P Metal plug	J2	1
E30-1766-08	N	MIC cable ass'y		1
E31-3007-08	N	Battery cable	J1	1
H70-0304-08	N	Carton (Inside)		1
J02-0432-08	N	Rubber foot		4
J19-1391-08	N	Battery case "AA" x 4		1
K27-0463-08	N	Knob ass'y (PTT, LOCK, UP/DOWN)		1
R12-3441-08	N	Trim pot. 10kΩ(B) MIC LEVEL	VR1	1
S31-4402-08	N	Slide switch POWER	S1	1
S40-1407-08	N	Push switch LOCK	S3	1
S40-1408-08	N	Push switch PTT	S2	1
S50-1419-08	N	Tact switch UP,DOWN	S4,5	2
T91-0339-08	N	MIC ass'y		1
T97-1024-08		ECM unit		1
T97-1034-08		Wind screen		1

MC-80 PC BOARD (Component side view)



MC-80 SCHEMATIC DIAGRAM



MC-85 SPECIFICATIONS

- Type** Unidirectional electret condenser microphone
- Impedance** Approx. 700Ω
- Sensitivity** MIC LEVEL MAX
 COMP-OFF -40dB±6dB
 COMP-IN -34dB±6dB
- Frequency response** .. NORMAL 300-7000Hz
 LOW CUT Approx. -12dB/300Hz
- Speech compressor** ... Maximum compression level
 35dB±3dB
 Maximum input level
 -30dB±4dB
- Power supply** 6V ("AA" batteries 1.5V x 4)
 Batteries not supplied.
- Current consumption** . Receive Approx. 9mA
 Transmit Approx. 11mA
- Weight** Approx. 1kg (2.2lbs)

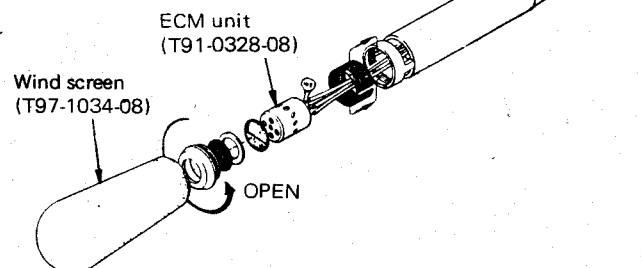
MC-85 PARTS LIST

Part No.	Re- marks	Description	Ref. No.	Q'ty
HD14011BP		C.MOS IC	IC3	1
LA3210		IC	IC1	1
MV-13		Varistor	D3	1
SEL1120R	N	LED (Red)	D13	1
SEL1720Y		LED (Yellow)	D12	1
TC4013BP		C.MOS IC	IC2	1
05Z6.8Z		Zener diode (6.8V)	D1	1
1S1555		Si diode	D2,4-8,101-103	9
1S188AM		Ge diode	D9-11	3
2SC1627A(Y)		NPN Tr	Q4	1
2SC1815(Y)		NPN Tr	Q2	1
2SC458(C)		NPN Tr	Q3	1
2SD661T/U		NPN Tr	Q1	1
A50-0403-08		Side panel (L)		1
A50-0404-08		Side panel (R)		1

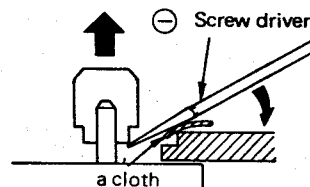
Part No.	Re- marks	Description	Ref. No.	Q'ty
B03-0535-08	N	Ornamental panel		1
B31-0652-08	N	Meter	M1	1
B50-4094-08	N	Instruction manual		1
E07-0852-05		8P Metal plug		1
E30-1765-08	N	MIC cable ass'y		1
E31-3007-08		Battery cable	J1	1
H70-0305-08	N	Carton (Inside)		1
J02-0432-08		Rubber foot		4
J19-1391-08		Battery case "AA" x 4		1
K27-0406-04		Knob push OUTPUT I - III		3
K27-0464-08	N	Knob ass'y (P.T.T., LOCK, UP/DOWN)		1
K27-0465-08	N	Knob MIC LEVEL, COMP		2
R13-3401-08	N	Slide pot. 10kΩ(A) COMP	VR2	1
R13-3402-08	N	Slide pot. 10kΩ(B) MIC LEVEL	VR1	1
S31-4402-08		Slide switch TONE	S2	1
S31-4403-08	N	Slide switch MODE	S1	1
S40-1409-08	N	Push switch LOCK, PTT.	S3,4	2
S42-3406-08	N	Push switch OUTPUT SEL.	S201	1
S50-1419-08	N	Tact switch UP, DOWN	S5,6	2
T91-0328-08		ECM unit		1
T91-0340-08	N	MIC ass'y		1
T97-1034-08		Wind screen		1

MC-85 DISASSEMBLY

Mic ass'y (T91-0340-08)

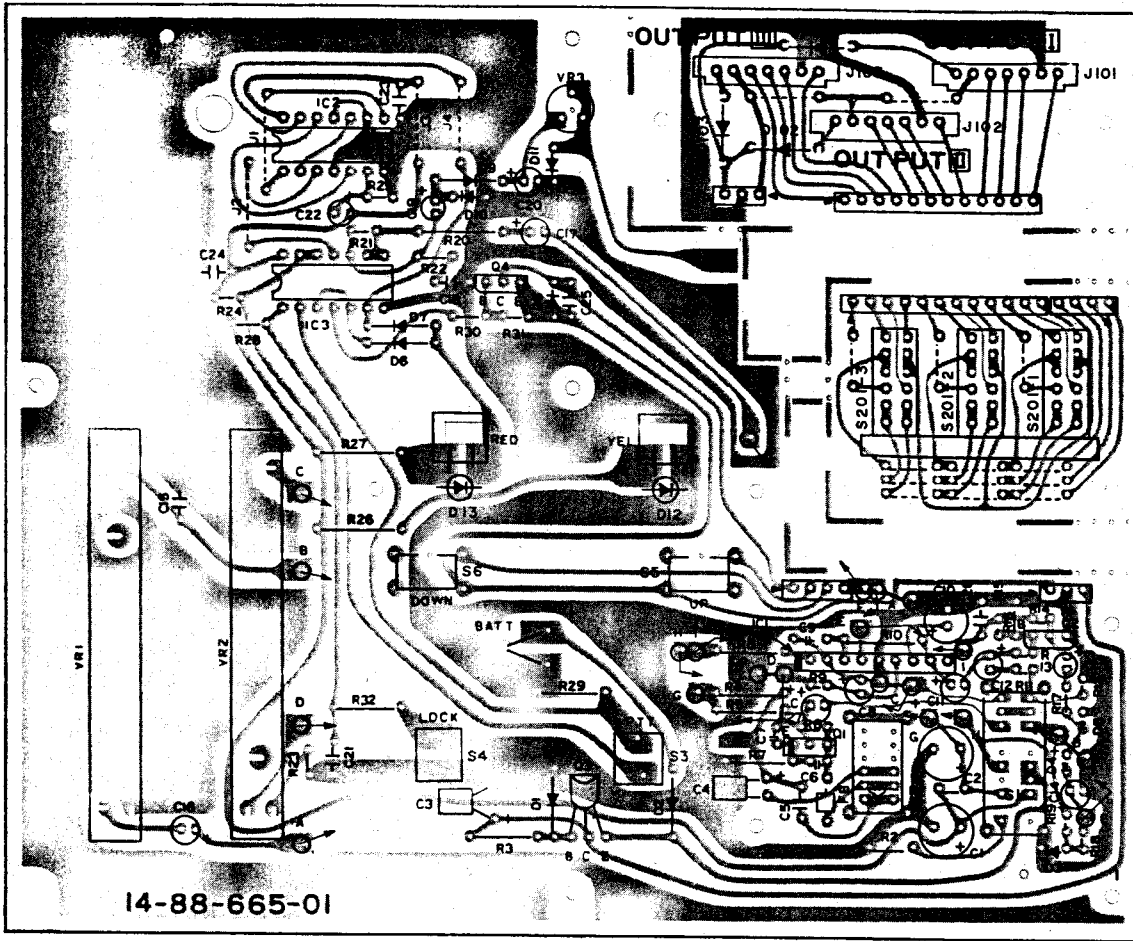


MC-85 REMOVAL METHOD

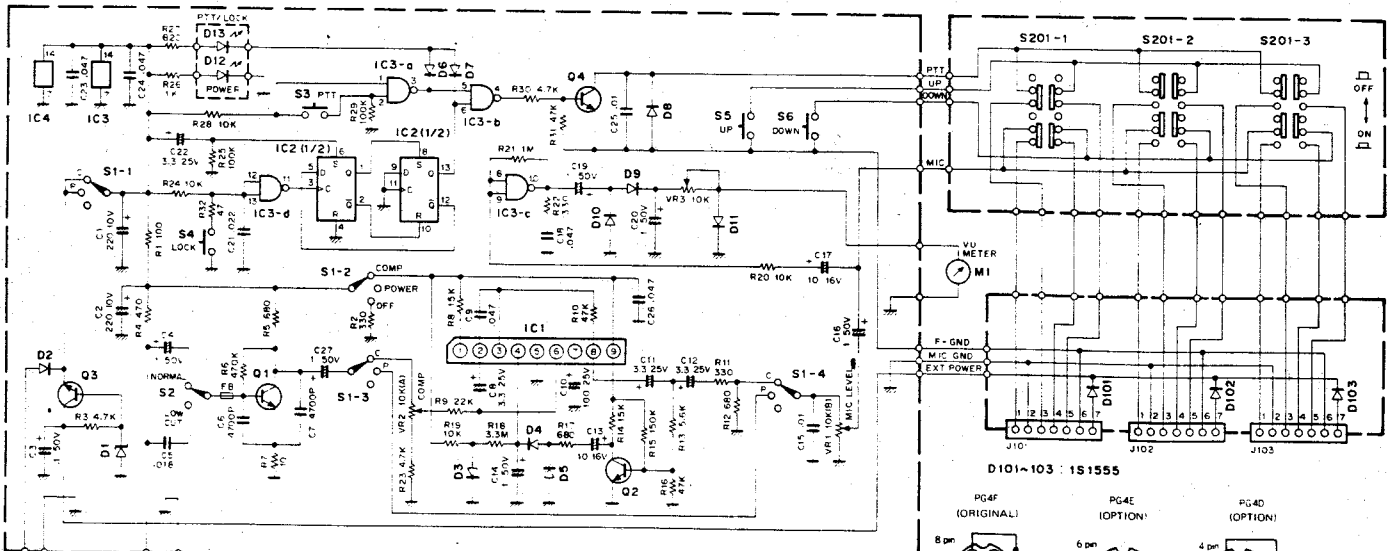


MC-85

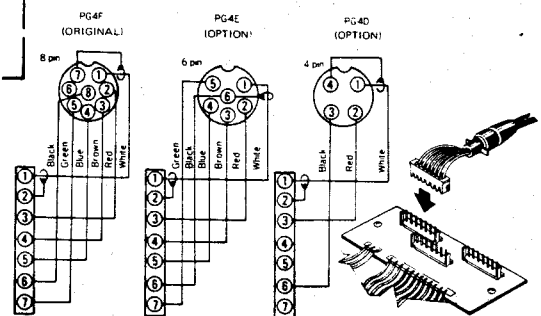
MC-85 PC BOARD (Component side view)



MC-85 SCHEMATIC DIAGRAM



- | | | | | | |
|----|-------------|-----|-----------|---------|----------|
| O1 | 25D6617(U) | IC1 | LA3210 | D1 | 05Z6-8Z |
| O2 | 25C1815(Y) | IC2 | TC4013BP | D2, 4-8 | 1S1555 |
| O3 | 25C458(C) | IC3 | HD14011BP | D9 | MV-13 |
| O4 | 25C1627A(Y) | | | D9-11 | 1S188AM |
| | | | | D12 | SEL1720Y |
| | | | | D13 | SEL1120R |

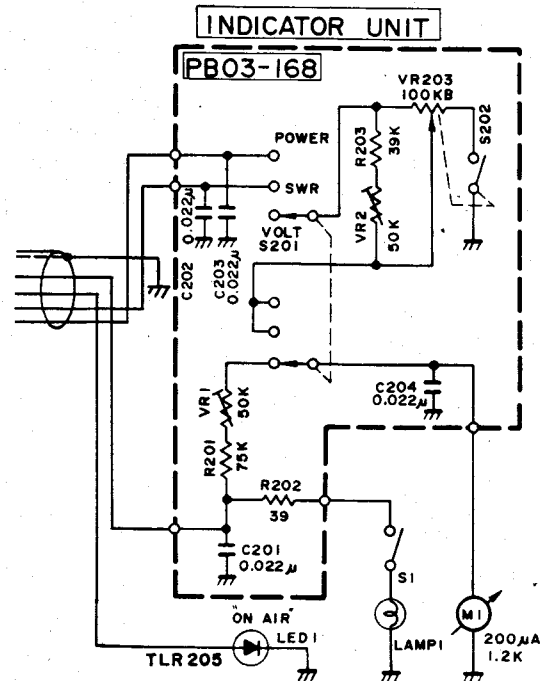


SW-100A/B SPECIFICATIONS

	SW-100A	SW-100B
Impedance	50-52Ω	
Frequency range	1.8-150MHz	140-450MHz
Power meter range	0-150W	
Power measurement accuracy	±10% (full scale)	
Over load [Coupler]	150W continuous 300W PEP	100W continuous 200W PEP
SWR measurement range	1:1-1:3	
DC voltage measurement range	0-20V DC	
Insertion loss	Less than 0.3dB	Less than 0.5dB
Residual SWR	within 1.2	
Power	Less than 15V	
Connector	M type (SO-239)	
Coupler-Display cable length	Approx. 1.5m	
Dimensions	W	H D
[Coupler section]	68 (2.68),	32 (1.26), 52 (2.05)
[Display section]	92 (3.62),	62 (2.44), 36 (1.42)
	() : Inch	
Weight		
[Coupler section]	Approx. 260g (0.6lbs)	
[Display section]	Approx. 90g (0.2lbs)	

SW-100A/B SCHEMATIC DIAGRAM

Display section

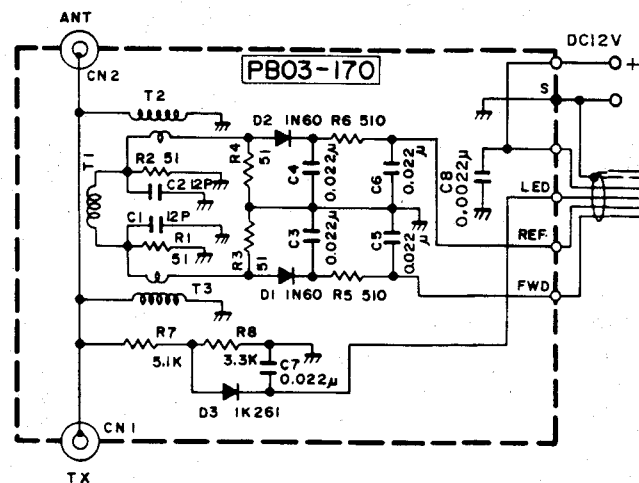


SW-100A/B PARTS LIST

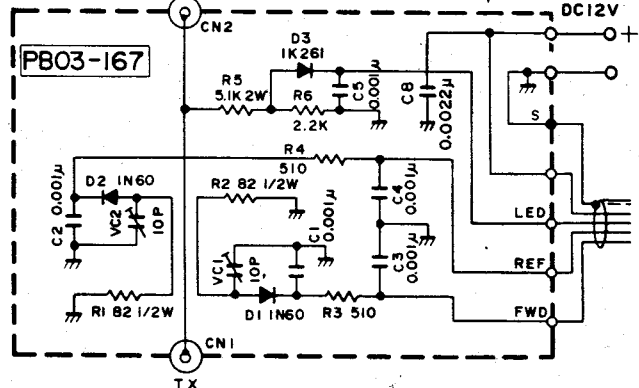
Part No.	Re-remarks	Description	Ref. No.	Q'ty
TLR205		LED (Red)	LED1	1
1K261		Ge diode	D3	1
1N60		Ge diode	D1,2	2
A02-0659-08	N	Rear panel		1
B07-0646-08	N	Meter cover		1
B30-0830-08	N	Lamp	LAMP1	1
B31-0651-08	N	Meter ass'y		1
B50-4047-08	N	Instruction manual		1
E30-1735-08	N	Coupler cable		1
E30-1737-08	N	DC cable		1
J09-0405-08	N	Stand		1
K29-0783-08	N	Knob (CAL)		1
R05-4410-08	N	Trim pot. 100kΩ(B)	VR203	1
S31-1412-08	N	Slide switch LAMP	S1	1
S31-2407-08	N	Slide switch POWER-SWR-VOLT	S201	1
W02-0350-08	N	Coupler ass'y SW-100A		1
W02-0351-08	N	Coupler ass'y SW-100B		1

Coupler section

SW-100A



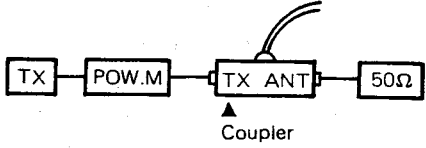
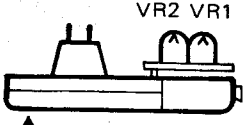
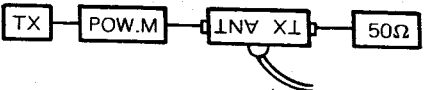
SW-100B



SW-100A/B, 200/2000

SW-100A/B ADJUSTMENT

SW-100A/B () : SW-100B

Item	Condition	Measurement	Adjustment	Specification
Power meter	TX : 14MHz, 50W output (144MHz, 50W output) CAL knob : CAL position Function switch : POWER		50W by VR2	 Display section Within ±7%
SWR meter check	Function switch : SWR			50W within ±10%
VOLT meter	Function switch : VOLT Connect the DC 14V	Display section	14V by VR1	14V±4% (13.44-14.56V)

SW-200/2000 SPECIFICATIONS

Coupler section (Accessories)

	SW-200A	SW-200B	SW-2000
Model	SWC-1	SWC-2	SWC-3
Impedance	50-52Ω		
Frequency range	1.8-150MHz	140-450MHz	1.8-54MHz
Overload	AM/FM CW PEP	200W 300W 400W	HF 1KW 1.5KW 2KW
Insertion loss	Less than 0.3dB	Less than 0.5dB	Less than 0.3dB
Residual SWR	Within 1.2		
Connector	M type (SO-239)		
Detector cable length	Approx. 1.5m		
Dimensions () : Inch	W 68 (2.68)	H 32 (1.26)	D 52 (2.05)
Weight	Approx. 260g (0.6lbs)		

Display section

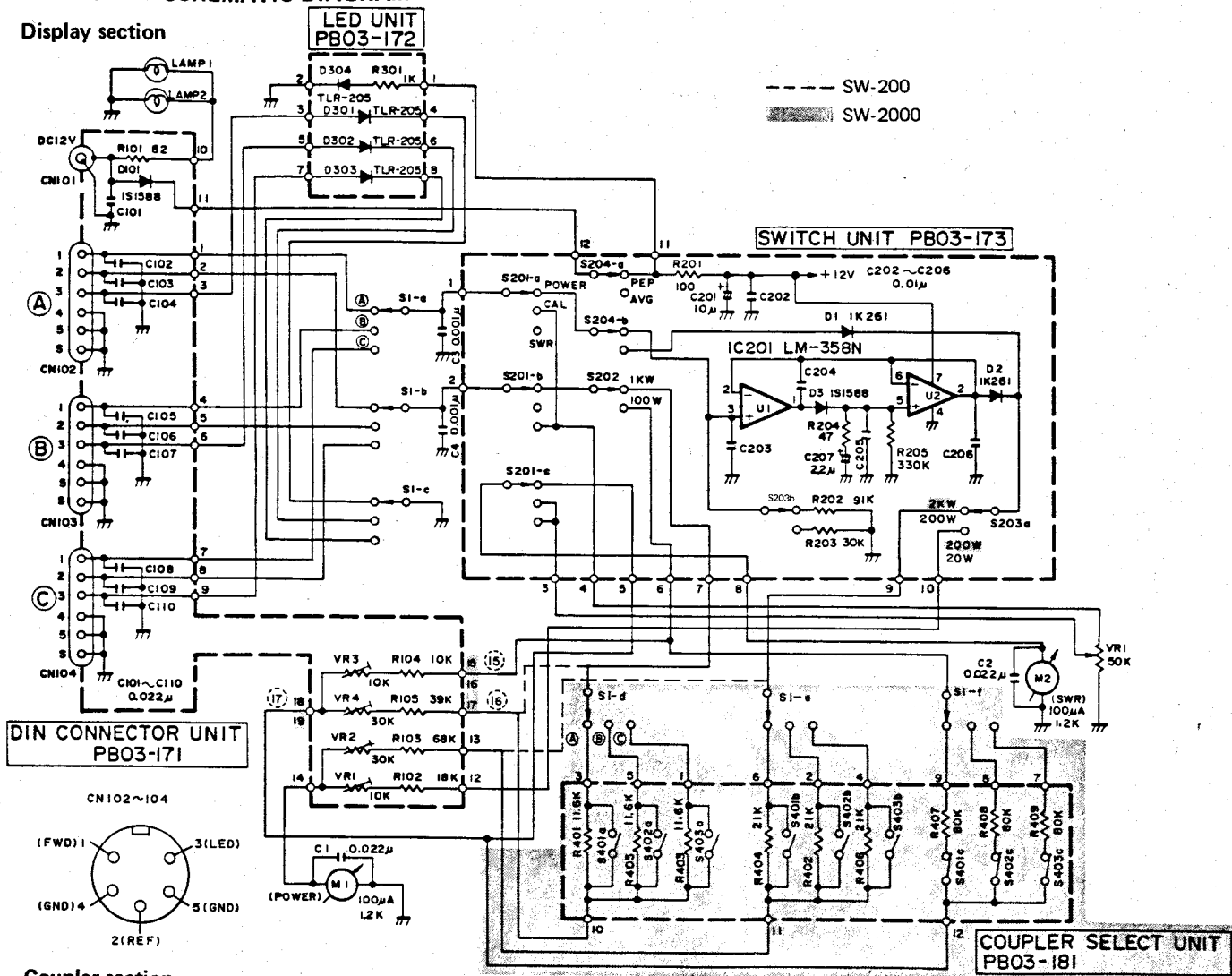
	SW-200A	SW-200B	SW-2000
Power measurement range	FWD REF	0-20, 200W 0-10, 100W	0-200, 2000W 0-100, 1000W
Power measurement accuracy (Full scale)	±10%		1.8-30MHz±10% 50-54MHz-15%
Power measurement mode	AVG, PEP		
SWR measurement range	1 : 1-1 : 10		
Minimum power for SWR measurement	Approx. 3W		Approx. 30W
Coupler connection and display	<ul style="list-style-type: none"> Arbitrary coupler SWC-1,2,3 3-units connectable (SW-2000) Arbitrary coupler SWC-1,2 3-units connectable (SW-200A,B) 3-couplers switchable and display 		
Power consumption	11V-15V DC, MAX 100mA (PEP measurement and meter lamp only)		
Dimensions () : Inch	W 196 (7.72)	H 63 (2.48)	D 78 (3.07)
Weight	Approx. 650g (1.4 lbs)		
Accessories	Red/black DC power cable (1m)		

SW-200/2000 PARTS LIST

Part No.	Re- marks	Description	Ref. No.	Q'ty
LM-358N		OP IC	IC201	1
TLR205		LED (Red)	D301-304	4
1K261		Ge diode	D1,2	2
1S1588		Si diode	D3,101	2
B07-0644-08	N	Meter cover	SW-200	1
B07-0648-08	N	Meter cover	SW-2000	1
B30-0830-08	N	Lamp	LAMP1,2	2
B31-0646-08	N	Meter ass'y	SW-200	1
B31-0647-08	N	Meter ass'y	SW-2000	1
B50-4045-08	N	Instruction manual	SW-200	1
B50-4090-08	N	Instruction manual	SW-2000	1
E03-0157-08	N	Power jack	CN101	1
E06-0553-08	N	5P DIN socket	CN102-104	3
E30-1736-08	N	DC cable Accessory		1
G09-0410-05		D-spring (CAL,COUPLER)		2
K23-0721-04		Knob (CAL,COUPLER)		2
R01-4412-08	N	Pot. 50kΩ(B)	VR1	1
S29-1431-08	N	Rotary switch (COUPLER)	S1	1
S29-2408-08	N	Rotary switch (COUPLER)	S1	1
S33-2404-08	N	Lever switch	S202-204	3
S33-4401-08	N	Slide switch (Rear panel)	S401-403	3
S33-4403-08	N	Lever switch (POW-CAL-SWR)	S201	1

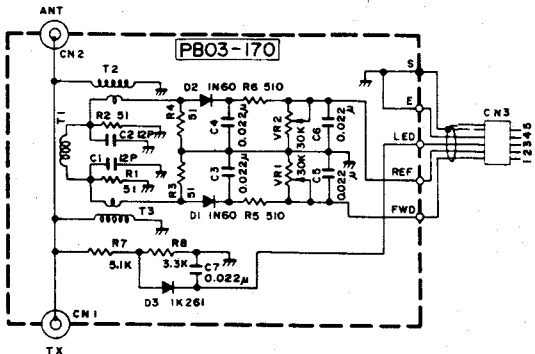
SW-200/2000 SCHEMATIC DIAGRAM

Display section

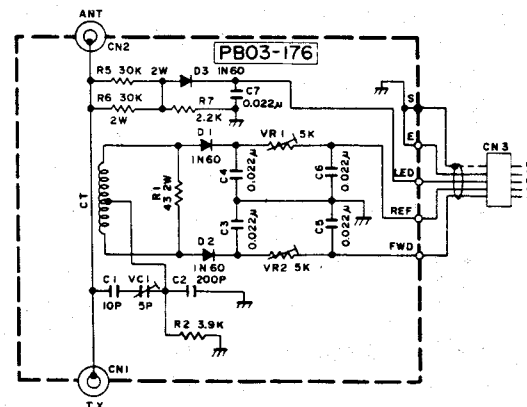


Coupler section

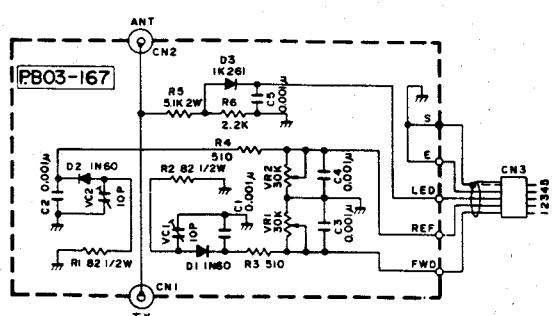
SWC-1 (SW-200A)



SWC-3 (SW-2000)



SWC-2 (SW-200B)



SW-200/2000

SW-200/2000 ADJUSTMENT

Power meter adjustment

- Apply a DC voltage which is the same as the output voltage of the coupler and adjust the power meter reading.

Preparation

- Coupler selector A
- Coupler switch SWC-3 side (For SW-200 only)
- PEP/AVG switch AVG

Measuring instruments

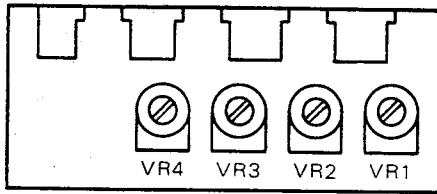
- Voltmeter Digital Voltmeter
- DC variable power supply 0-12V DC

() : SW-2000

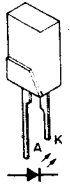
Power range (W)		Condition	Adjustment		Specification		
		Set voltage (V)	Part	Method			
FWD	20 (200)	<p>V: Digital voltmeter</p>	Vf: 2.35 (2.35)	VR1	Full scale	Within ±5%*	
	200 (2K)		Vf: 1.61 (1.61)		Check		10 (100) W
			Vf: 7.80 (10.12)	VR2	Full scale		
	REF		10 (100)		Vr: 1.58 (1.35)		VR3
100 (1K)		Vr: 1.09 (0.94)			Check		5 (50) W
		Vr: 5.48 (6.64)	VR4		Full scale		
		Vr: 3.88 (4.70)			Check		50 (500) W

Adjustment parts locations

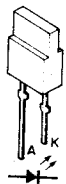
*If the measured value is not as specified, adjust so the error is within the specified value.



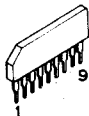
SEL1720Y
SEL1120R



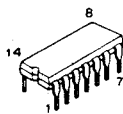
TLR205



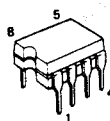
LA3210



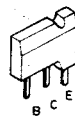
LM358N



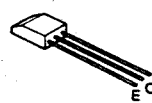
HD14011BP
TC4013BP



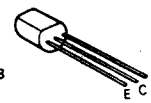
2SD661T/U



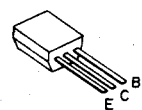
2SC458



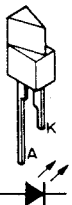
2SA1015
2SC1627
2SC1815



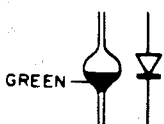
2SA1048



SEL1334G
SEL1334R



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