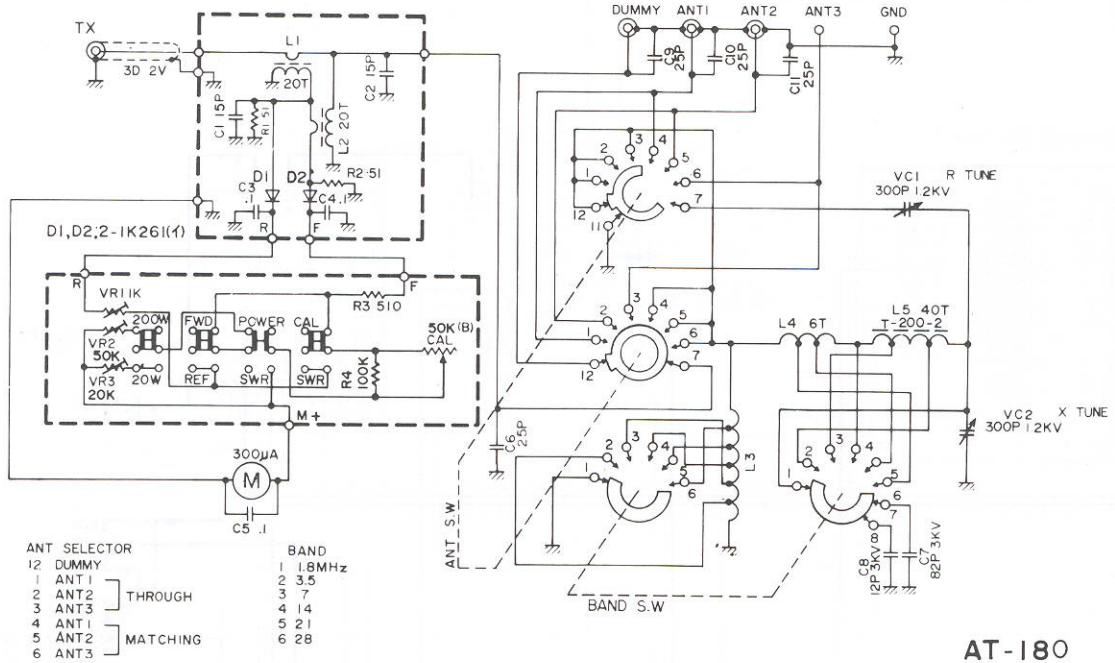


AT-180/SCHEMATIC DIAGRAM/SPECIFICATIONS



SPECIFICATIONS

ANTENNA COUPLER

Frequency Range 6 amateur bands from 1.8 to 29.7 MHz

Input Impedance 50Ω

Output Impedance 50 to 500Ω, unbalanced

Through Power 200W at max.

Insertion Loss Less than 0.5 dB in matched state

PL 1.8 MHz only

Output Impedance 20 to 500Ω, unbalanced

Through Power 100W at max.

WATTMETER

Type Through-line wattmeter

Frequency Range 1.8 to 30 MHz

Measurable RF Power Up to 20/200W, switched

Kinds of RF Power Forward or reflected power, switched.

Impedance 50Ω

Accuracy Better than ± 10% of full scale

SWR METER

SWR Detection Toroid core direction coupler

Measurable Range 1.1 to 10

Min. Power Required 4W

GENERAL

Connectors

INPUT UHF type, 50Ω

ANT-1 UHF type

ANT-2 UHF type

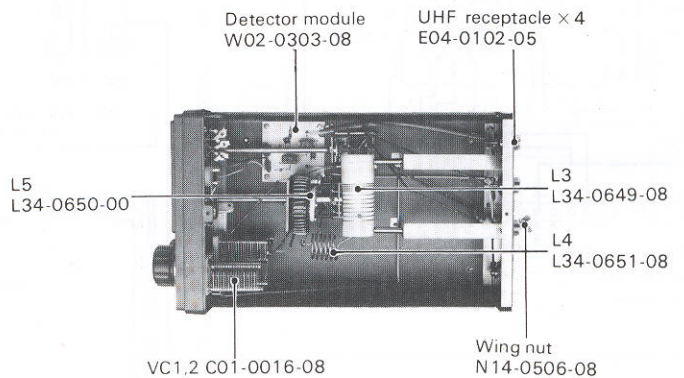
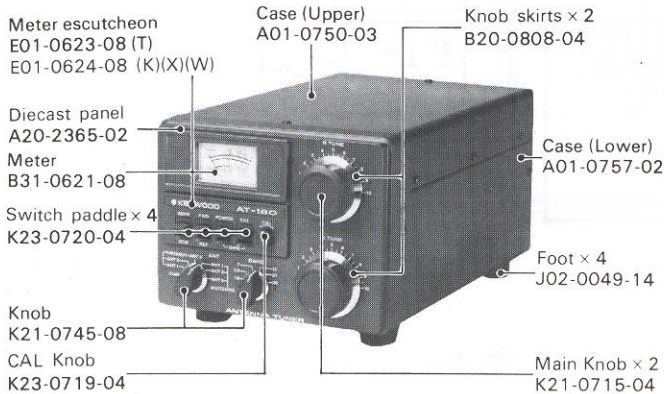
ANT-3 Stud and wing nut

GND Stud and wing nut

Dimensions W 166 mm (6-17/32")
 H 153 mm (6")
 D 190 mm (7-1/2")

Net Weight 2.8 kg (6.2 lbs.) approx.

EXTERNAL /INTERNAL VIEW



PARTS LIST ADJUSTMENT

GENERAL

☆ : New Parts

Ref No	Parts No.	Description	Re- marks
	A01-0750-03 A01-0757-02 A20-2365-02	Case (Upper) Case (Lower) Diecast panel	☆ ☆ ☆
	B01-0623-08 B01-0624-08 B20-0808-04 B31-0621-08 B46-0058-00 B50-2678-08	Meter escutcheon (T) Meter escutcheon (K) (W) Knob skirts Meter Warranty card (K) Operating manual	☆ ☆ ☆ ☆ ☆
	D23-0061-04 D32-0018-04	Bearing × 2 Shaft stopper	
	E04-0102-05 E23-0015-04 E23-0408-05	UHF receptacle × 4 Ground lug Terminal × 2	
	F09-0402-05 F29-0402-05	Insulating cover Insulator	
	G13-0621-04	Cushion	
	J02-0049-14 J32-1034-04 J32-0714-04	Foot × 6 Round boss × 2 Hex. boss × 2	
	K21-0715-04 K21-0745-08 K23-0719-04 K23-0720-04	Main knob × 2 R.X. TUNE Knob × 2 BAND. ANT Knob CAL Switch paddle × 4	
L3	L34-0649-08	Coil	
L4	L34-0651-08	Coil	
L5	L34-0650-08	Coil	
	S01-2418-08 S01-2419-08	Rotary switch ANT Rotary switch BAND	☆ ☆
VC1.2 C5	C02-0016-08 CK45F1H104Z	Variable capacitor 300pF 1.2kV Ceramic capacitor 0.1μF	☆ ☆
C6	FM05ZC250J5	Mica capacitor 25pF 500V	
C7	C91-0419-05	Ceramic capacitor 82pF 3kV	
C8	C91-0420-05	Ceramic capacitor 12pF 3kV	
C9 ~ 11	FM05ZC250J5	Mica capacitor 25pF 500V	
	N14-0506-08	Wing nut × 2	
	H01-2648-08 H01-2649-08 H12-0464-08 H20-0372-04	Packing case (T) Packing case (K) (W) Cushion Protective cover	
	W02-0302-08 W02-0303-08	Switch module Detector module	☆ ☆

SWITCH MODULE (W02-0302-08)

Ref No	Parts No.	Description	Re- marks
VR1	R12-1024-05	Semi-fixed resistor 1kΩ (B)	
VR2	R12-4020-05	Semi-fixed resistor 50kΩ (B)	
VR3	R12-3420-08	Semi-fixed resistor 20kΩ (B)	
VR4	R05-3407-08	Potentiometer 50kΩ (B) CAL	
R3	RD14BB2E511J	Carbon resistor 510Ω ±5% 1/4W	
R4	RD14BB2E104J	Carbon resistor 100kΩ ±5% 1/4W	
	S36-2026-15	Paddle switch × 4	

DETECTOR MODULE (W02-0303-08)

Ref No.	Parts No.	Description	Re- marks
C1.2 C3.4	FM05ZC150J5 CK45F1H104Z	Mica capacitor 15pF 500V Ceramic capacitor 0.1μF +80%, -20%	
R1.2	RD14BB2E510J	Carbon resistor 51Ω ±5% 1/4W	
D1.2	V11-7763-26	Diode 2-1k261 × 2	
L1.2	L39-0403-08	Detector coil	

1. INSTRUMENTS

1) Terminated Power Meter

- Frequency range: 50 MHz or more
- Input impedance: 50Ω
- Power range: 20W and 200W

2) HF Transmitter or Transceiver

- Output: 100W CW
Variable to 10W.
Example: TS-180, TS-820S

2. POWER METER ADJUSTMENT

1) Test Equipment Connection

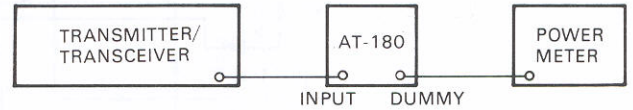


Fig. 1

2) Adjustment

- Connect as in Fig. 1.
- Unless otherwise specified, controls should be set as follows:

ANT SW	DUMMY
BAND SW	14
200W/20W SW	200W
FWD/REF SW	FWD
POWER/SWR SW	POWER
CAL/SWR SW	SWR

Tune up the transceiver at 14.175 MHz.

- Adjust the transceiver for 100W output at the power meter (adjusted by the carrier level control).
Adjust VR2 on the switch unit for a meter reading of 100 on the AT-180.

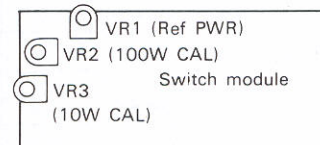


Fig. 2

- As in step 3, lower transceiver output to 10W and adjust VR3 for a meter indication of 10 on the 20W scale.

3. CALIBRATION OF REF POWER

1) Connection

As in Fig. 1.

2) Adjustment

- Set controls as described in 2.2.
Confirm 100W CW output reading.
- Unkey the transceiver and reverse the coaxial cables between the INPUT and DUMMY terminals on the AT-180. Move the FWD/REF switch to the REF position.
- Transmit and adjust VR1 for previously confirmed 100W reading.