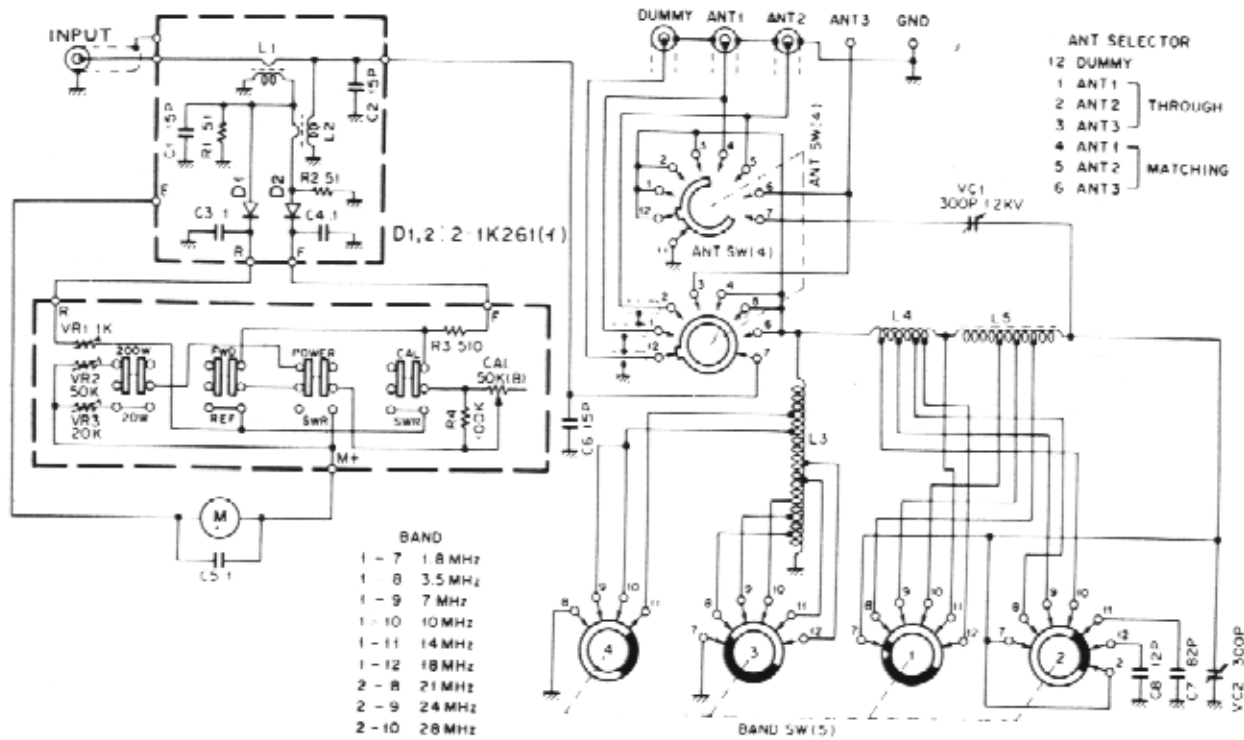


AT-230



SPECIFICATIONS

ANTENNA COUPLER

- Frequency Range** 9 amateur bands from 1.8 to 29.7 MHz
- Input Impedance** 50 Ω
- Output Impedance** 10 to 500 Ω , unbalanced
- Through Power** 200W at max.
- Insertion Loss** Less than 0.5 dB in matched state
- Pi-L** 1.8 MHz only
- Output Impedance** 20 to 500 Ω , 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.
- Net weight** 3.4 kg (7.5 lbs.) approx.
- Impedance** 50 Ω
- Accuracy** Better than $\pm 10\%$ of full scale

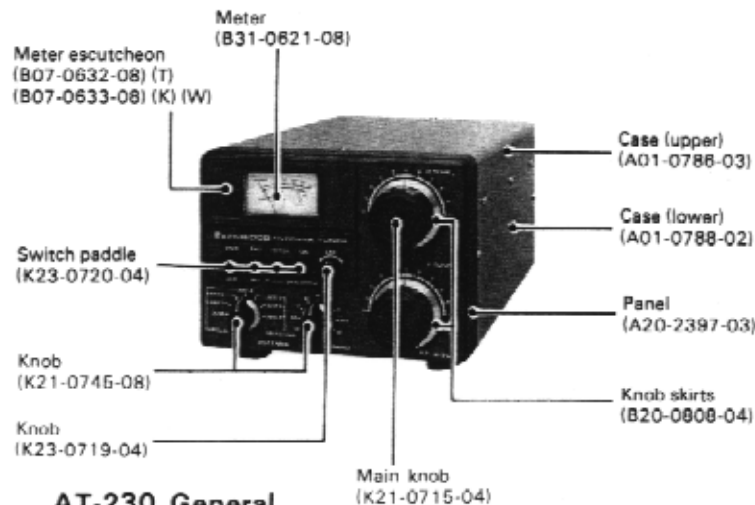
SWR METER

- SWR Detection** Toroid core direction coupler
- Measurable Range** 1.1 to 10
- Min. Power Required** 4W

GENERAL

Connectors

- INPUT** UHF type, 50 Ω
- ANT-1** UHF type
- ANT-2** UHF type
- ANT-3** Stud and wing nut
- Dimensions** W 180 mm (7 3/32")
H 133 mm (5-15/64")
D 288 mm (11-11/32")



AT-230 General

Ref. No.	Parts No.	Description	Re marks
	A01-0788-03	Case (upper)	☆
	A01-0788-02	Case (lower)	☆
	A20-2397-02	Panel	☆
	B07-0632-08	Meter escutcheon (T)	☆
	B07-0633-08	Meter escutcheon (K)(W)	☆
	B20-0808-04	Knob skirt	
	B31-0621-08	Meter	
	B46-0058-00	Warranty card (K)	
	B50-2756-08	Operating manual (K)(W)	☆
	B50-2757-08	Operating manual (T)	☆
VC1, 2	C02-0016-08	Variable cap 300pF 1.2kV	
C7	C91-0419-05	C 82pF 3kV	☆
C8	C91-0402-05	C 12pF 3kV	☆
	D23-0061-04	Bearing	

AT-230

Ref. No.	Parts No.	Description	Re- marks
	E04-0102-05	UHF type receptacle	
	E23-0015-04	Gnd lug $\phi 3$	
	E23-0408-05	Terminal	
	F09-0402-05	Insulating cover	
	F29-0402-08	Insulator	
	G13-0621-04	Cushion	
	H01-2714-04	Carton case (inside)(K)(W)	☆
	H01-2715-04	Carton case (inside)(T)	☆
	H10-2525-02	Packing fixture (R)	☆
	H10-2545-02	Packing fixture (F)	☆
	J02-0049-14	Foot (large)	
	J32-1030-04	Round boss	
	K21-0715-04	Main knob R. X Tune	
	K21-0745-08	Knob. BAND. ANT	
	K23-0719-04	Knob. CAL	
	K23-0720-04	Switch paddle	
L3	L34-0992-08	Coil	☆
L4	L34-0993-08	Coil	☆
L5	L34-0994-08	Coil	☆
	N14-0506-08	Wing nut. M5 ANT3. GND	
	S01-2418-08	Rotary switch. ANT	
	S01-5404-08	Rotary switch. BAND	☆
	W02-0302-08	Switch module	
	W02-0303-08	Detector module	

Switch module (W02-0302-08)

Ref. No.	Parts No.	Description	Re- marks
VR1	R12-1024-05	Trim. pot 1k Ω (B)	
VR2	R12-4020-05	Trim. pot 50k Ω (B)	
VR3	R12-3420-08	Trim. pot 20k Ω (B)	
VR4	R05-3407-08	Pot. 50k Ω (B) CAL	
R3	RD14BB2E511J	Carbon resistor 510 Ω $\pm 5\%$ 1/4W	
R4	RD14BB2E104J	Carbon resistor 100k Ω $\pm 5\%$ 1/4W	
	S36-2026-15	Paddle switch $\times 4$	

Detector module (W02-0303-08)

Ref. No.	Parts No.	Description	Re- marks
C1,2	FM05ZC150J5	Mica 15pF 500V	
C6	FM05ZC150J5	Mica 15pF 500V	
R1,2	RD14BB2E510J	Carbon resistor 51 Ω $\pm 5\%$ 1/4W	
D1,2	V11-7763-26	Diode 2-1K261 $\times 2$	
L1,2	L39-0403-08	Detector coil	

1. INSTRUMENTS

1) Terminated Power Meter

1. Frequency range: 50 MHz or more
2. Input impedance: 50 Ω
3. Power range: 20W and 200W

2) HF Transmitter or Transceiver

- 1) Output: 100W CW
Variable to 10W
Example: TS-830, TS-820S

2. POWER METER ADJUSTMENT

1) Test Equipment Connection

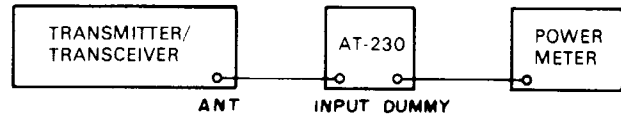


Fig. 1

2) Adjustment

1. Connect as in Fig. 1.
2. 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.

3. 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-230.

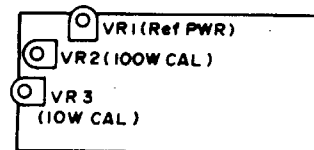


Fig. 2

4. 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

1. Set controls as described in 2.2.
Confirm 100W CW output reading.
2. Unkey the transceiver and reverse the coaxial cable between the INPUT and DUMMY terminals on the AT-230. Move the FWD/REF switch to the REF position.
3. Transmit and adjust VR1 for previously confirmed 100W reading.

DS-2 (W type only)

SPECIFICATIONS

Semiconductor..... 2N4280 × 2
 Rated Final Stage Input
 Power at 13.8 VDC.
 SSB..... 130W PEP
 CW..... 100W
 Power Consumption
 Receive:
 Heaters OFF..... 0.8A
 Heaters ON..... 4.5A
 Transmit..... 15A
 Power Supply..... 12—16 VDC (standard: 13.8V)
 Dimensions..... W 80 mm (3.15")
 H 37 mm (1.46")
 D 69 mm (2.72")
 Weight..... 240g

PARTS LIST

Ref. No.	Parts No.	Description	Re- marks
	B50-2736-00	Operating manual	☆
C1	CE02W1E221	C 220μF 25V	
	E08-1207-05	12P plug	
	E20-0513-05	5P terminal	
	F05-1531-05	Fuse 15A	
	F29-0414-04	Insulating washer	
		H01-2694-03	Carton case (inside)
	H10-2541-04	Cushion	☆
	H25-0029-04	Protective bag	
	H25-0103-04	Protective bag	
	H25-0120-04	Protective bag	
	J13-0029-05	Fuse holder	
	J41-0024-15	Cord bush	
R1	R92-0121-05	Cement resistor 2.4Ω 5W	
R2	R92-0120-05	Cement resistor 220Ω 2.5W	
Q1.2	V30-1161-06	TR 2N4280	

