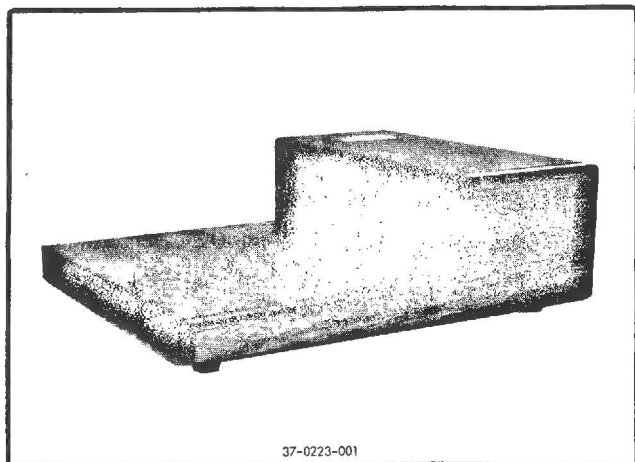


VIKING 352 POWER SUPPLY SERVICE SHEET



37-0223-001

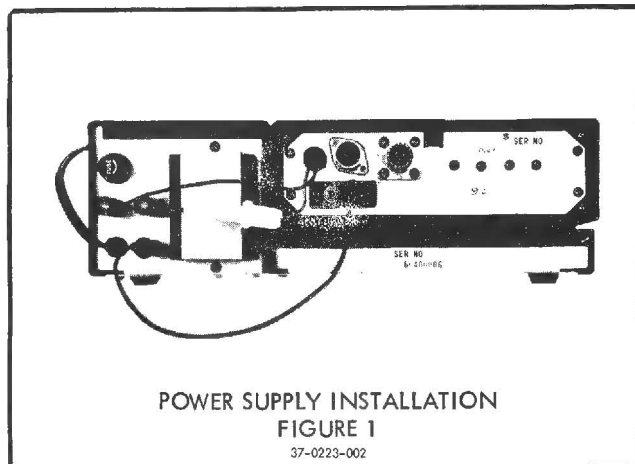
GENERAL

The Viking 352 AC Power Supply, Part No. 239-0144-001, converts the Viking 352 mobile transceiver to base station operation. The power supply provides 13.8 VDC $\pm 10\%$ at 2 amperes from 105 to 128 VAC, 50-60 Hz source. Also included in the power supply cabinet is a built-in speaker. The transceiver is easily attached to the power supply with the provided hardware.

INSTALLATION

Proceed as follows for power supply installation and connection:

1. Place the four sticky back rubber spacers on the power supply mounting tray to support the transceiver.
2. Place the transceiver on the power supply as shown in Figure 1 and tighten the two mounting screws.
3. Connect the black DC lead from the transceiver to the black terminal on the power supply and connect the red lead to the red terminal.
4. To use the speaker in the power supply, connect the supplied cable from the external speaker jack on the transceiver to the speaker jack on the power supply.
5. Connect the line cord to a 117 VAC, 50-60 Hz source.



POWER SUPPLY INSTALLATION
FIGURE 1

37-0223-002

CIRCUIT DESCRIPTION

The power supply uses two transistors connected as a Darlington pair acting as a series pass device to regulate the output voltage to within $\pm 10\%$ of 13.8 VDC as the load varies from 0 to 2 amperes.

Since the base-emitter voltage of Q2 consists of the difference between the load voltage and the zener reference voltage, any change in the load changes the base-emitter bias voltage and transistor conduction. As the load current increases the load voltage decreases; this causes the base-emitter voltage to increase which causes Q2 and Q1 conduction to increase, thus regulating the output voltage.

Conversely, when the load current decreases, the load voltage increases causing the base-emitter voltage to decrease and transistor conduction decreases.

SPECIFICATIONS

Voltage Input	117 VAC $\pm 10\%$
Voltage Output	13.8 VDC $\pm 10\%$ as output current changes from 0-2 amperes
	13.8 VDC $\pm 5\%$ as the AC line voltage varies 117 VAC $\pm 10\%$
Ripple	75 mV P-P maximum at 2 amperes output current
Circuit Protection	1 ampere, 250V fast blow AGC 3 ampere, 250V fast blow AGC
Speaker	8 ohm, 2 watts
Unit Weight	3.65 kg (8 lbs)

List Price: \$69.95



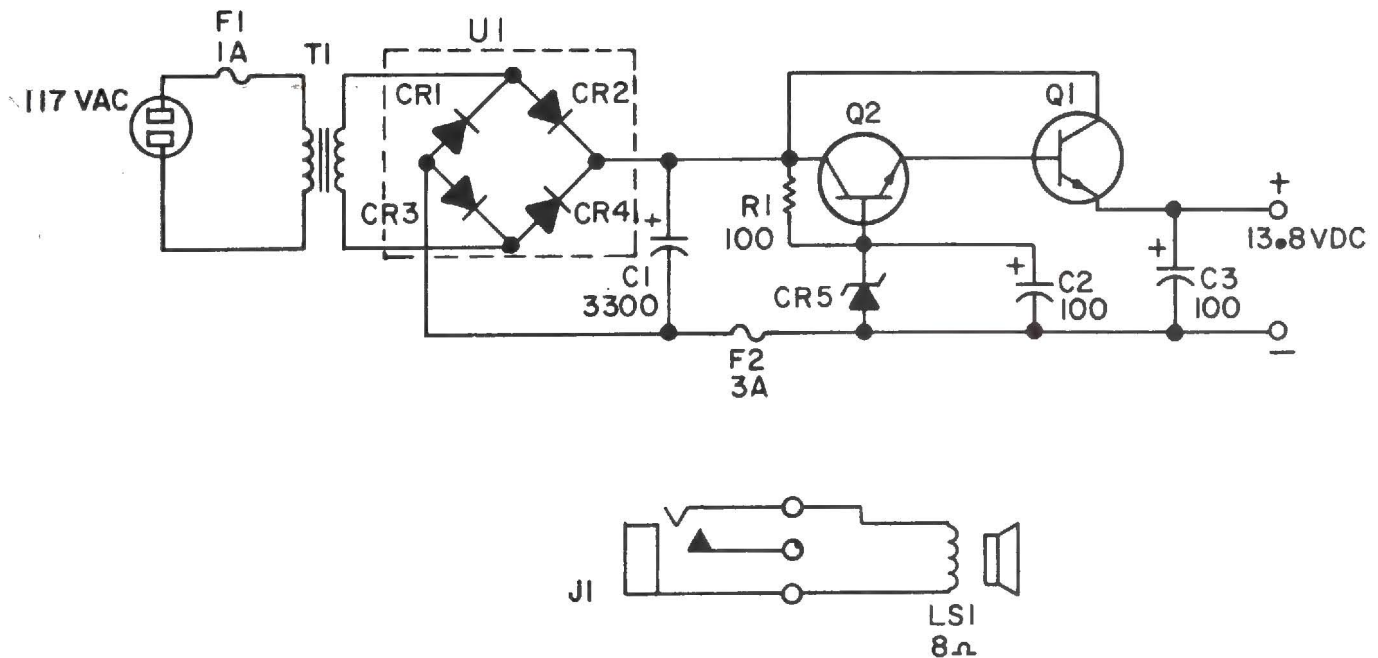
E. F. JOHNSON COMPANY
WASECA, MINNESOTA 56093

5-76EFJ 004-0144-001

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PARTS LIST

C1	3300μF, 35V electrolytic	022-2810-301		Front bezel	022-2832-201
C2	100μF, 16V electrolytic	510-4116-101		Main chassis	022-2817-201
C3	Same as C2			Cabinet	022-2817-202
				Front panel	022-2832-202
CR5	Zener, BZ140	022-2823-301		Speaker mounting plate	022-2817-203
				Q1 cover plate	022-2817-204
F1	Fuse 1A, 250V FB AGC	534-0003-020		Q1 heat sink	022-2813-201
F2	Fuse 3A, 250V FB AGC	534-0003-026		CR1 heat sink	022-2813-202
				Fuseholder	534-1002-001
J1	Speaker jack	515-2001-011			
			U1	Bridge rectifier, KBL-02	022-2823-302
LS1	Speaker, 8 ohm	022-2889-301			
			W1	Speaker cable	022-2823-201
Q1	2SD180 NPN	022-2876-301	W2	AC cord with plug	597-1001-001
Q2	2SD355 NPN	022-2876-302		Strain relief	574-0003-001
				Red terminal	111-0102-001
R1	100 ohm, 1 W, metal oxide	022-2869-301		Black terminal	111-0103-001
				Rear rubber leg	022-2874-301
T1	Power transformer	022-2892-301		Front rubber leg	022-2874-302



SCHEMATIC DIAGRAM