KENWOOD

DC POWER SUPPLY

KPS-12

OPERATING AND SERVICE MANUAL

The KPS-12 heavy-duty regulated power supply is designed for use with mobile transceivers operating as a fixed station. It is not rated to supply power to more than one transceiver at a time. The KPS-12 may be used for other purposes if the continuous duty current drain is 10A or less. The KPS-12 features current protection.

INSTALLATION AND CONNECTIONS

1. The transceiver may be placed either on top or beside the supply.

2. Connect the KPS-12 to the transceiver with the DC power cable (Red +, Black –) supplied with the transceiver. When installing the cable, the POWER switch should be OFF. If the DC power cable supplied with the transceiver is permanently installed in your vehicle, another cable with connector, or connector only, may be ordered for operating with the KPS-12. (See Parts List on Page 2 and ordering information on Page 4.)

3. Adequate space should be provided between the KPS-12 heat sink and wall, curtain or any adjacent object for good ventilation of both the KPS-12 and the transceiver.

4. The connecting cable between the power supply and transceiver should be as short as possible. If supply and transceiver are not adjacent to each other, the connecting cable should be of heavy wire to minimize the voltage drop. Also, a long connecting cable may act as an RF pick-up and cause spurious oscillation (RF feedback).

SPECIFICATIONS

Power Requirement	:	AC 120 V ± 10 V, 60 Hz
Power Consumption	:	Less than 400 W
Output Voltage	:	13.8 VDC ± 0.1 V
Output Current	:	12 A Intermittent (50% Duty cycle) 10 A Continuous
Ripple Component	:	Less than 1 mV (r.m.s.) (at 10 A output current 120 VAC ± 10 V input)
Regulation	:	Less than ± 0.05 V
Protection Circuit	:	Current-limiting circuit activates at 13 ~ 15 A
Operating Temperature	:	–10°C to +45°C (14°F to 113°F)
Dimensions	:	200 (7-7/8) W x 125 (4-7/8) H x 230 (9) D mm (inch)
Weight	:	About 6.6 kg (14.6 lbs.)
The above specifications are subject to change without notice for further improvement.		
Accessories Supplied	:	Operating Manual

MAINTENANCE

1. The fuse, if blown, may be replaced with the spare 3-A fuse supplied. Before replacing the fuse, remove the AC power cable from the power outlet and determine the cause of the failure. Never use a higher amperage fuse than the one specified.

2. The KPS-12 is factory-adjusted for an output voltage of 13.8 VDC. If the voltage varies greatly from the rated value, adjustment may be made with potentiometer VR-1, mounted on the printed-circuit board, so that the correct output voltage may be obtained as measured with a multimeter or DC voltmeter at the output terminals.

3. The KPS-12 features a current-limiting protection circuit. If the output is shorted or if excessive current is drawn, the output voltage will decrease.

4. The protection circuit will decrease the output voltage when a short-circuit or overcurrent condition occurs. If this happens, turn the POWER switch off. Check for the problem and repair the equipment as necessary.

PARTS LIST

TOTAL

Part Name	Part Number	Qty.
Case (Top)	A01-0903-00	1
Panel and Chassis	A20-2431-00	1
Output Terminal (Red)	E21-0453-08	1
Output Terminal (Black)	E21-0454-08	1
AC Cable	E30-1633-08	1
Heat Sink	F01-0763-00	1
Name Plate	B40-2569-00	1
Foot	J02-0413-08	4
Fuse Holder	J13-0405-08	1
Fuse	J13-3021-05	1
TR Socket	E02-0108-08	2
Power Transformer	L01-8126-00	1
Power Switch with PL.	S36-2407-00	1
TR Q3,Q4 (2N3771)		2
Diode D5,D6 (1N1200A)	V11-7778-00	2
Capacitor C9 (15000 μF 25 V)	C90-0835-00	1
Capacitor C10 (2200 μF 16 V)		1
Capacitor C11 (0.001 μF 50V)		1
Resistor R9,R10 (0.1Ω 5 W)		2
Varistor D7 (150 V)	V11-7765-16	1
AVR Unit	X43-1390-10	1
Shipping Box	H01-2758	1
Operating and Service Manual	B50-3914-00	1

X43-1390-10 AVR UNIT

Parts Name		Description	Part Number	Qty.
IC	Q1	CA723CE		1
TR	Q2	RCA29		1
Diode	D1,D2,D4	1N4002	V11-7763-06	3
Diode	D3	1N4148		1
Capacitor	C1	1000 μF 35 V		1
Capacitor	C2	.1 μF 50 V		
Capacitor	C3,C6	.01 μF 50 V		2
Capacitor	C4	100 μF 25 V		1
Capacitor	C5,C7,C8	.001 μF 50 V		3
Capacitor	C9	15000μF 25 V		1
Resistor	R1	15Ω		1
Resistor	R2	10Ω		1
Resistor	R3	2.4 KΩ		1
Resistor	R4	300Ω		1
Resistor	R5	15 KΩ		1
Resistor	R6	2.2 KΩ		1
Resistor	R7	3 KΩ		1
Resistor	R8	330Ω		1
Potentiometer	VR-1	1 KΩ		1

EXTRA POWER CONNECTOR

Female (Flat)	E09-0203-25	
Female (Round)	E07-0251-05	

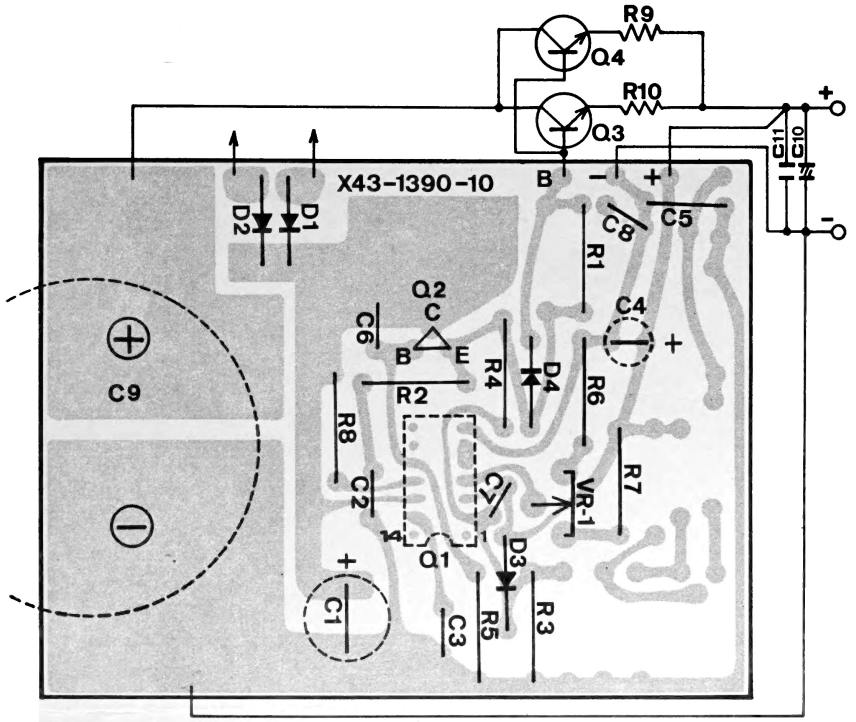
EXTRA POWER CABLE

(With Flat Conn.)	E30-9998-00	See Note 1*
(With Round Conn.)	E30-9993-00	See Note 2**

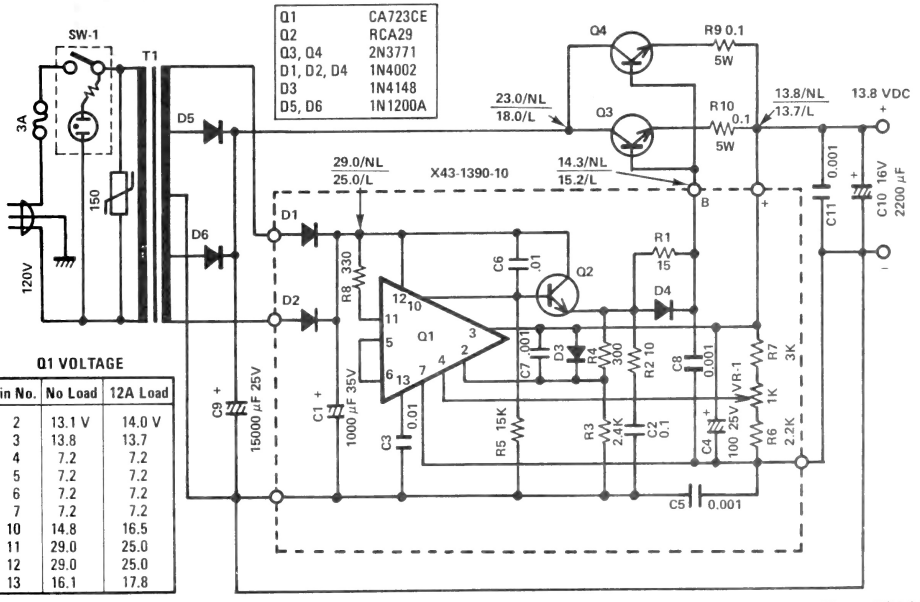
*Note 1 – For Models: TR-7200A, TR-8300, TR-7600, TR-7500, TR-9000, TR-8400

**Note 2 – For Models: TR-7400A, TR7625, TR-7800, TR-7850

PC BOARD AVR UNIT (X43-1390-10)

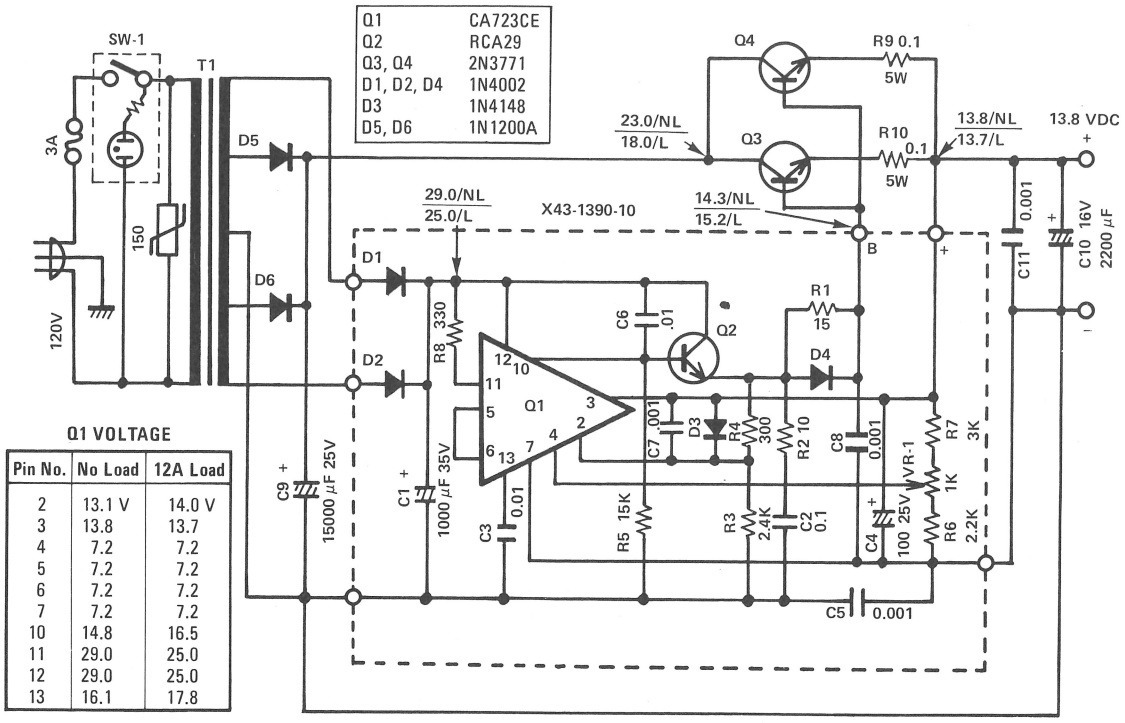


SCHEMATIC DIAGRAM



NOTE: The circuit and ratings may change without notice due to developments in technology.

NL . . . . NO LOAD
L . . . . . 12A LOAD



Q1 VOLTAGE

Pin No.	No Load	12A Load
2	13.1 V	14.0 V
3	13.8	13.7
4	7.2	7.2
5	7.2	7.2
6	7.2	7.2
7	7.2	7.2
10	14.8	16.5
11	29.0	25.0
12	29.0	25.0
13	16.1	17.8

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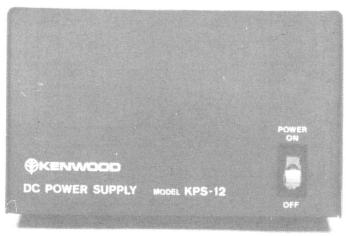
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(14°F to 113°F)

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x 125 (4-7/8) H
x 230 (9) D
mm (inch)

Weight : About 6.6 kg (14.6 lbs.)

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Accessories Supplied : Operating Manual



EXTRA POWER CONNECTOR

Female (Flat)	E09-0203-25	
Female (Round)	E07-0251-05	

EXTRA POWER CABLE

(With Flat Conn.)	E30-9998-00	See Note 1*
(With Round Conn.)	E30-9993-00	See Note 2**

*Note 1 – For Models: TR-7200A, TR-8300, TR-7600, TR-7500, TR-9000, TR-8400

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