



MOTOROLA INC.

Communications
Group

MOTOROLA BATTERY PACK

MODEL RTP-1002A

1. DESCRIPTION

The RTP-1002A is a battery pack and charger designed to be mounted to the back of the R-2001 Communications System Analyzer. The unit contains battery capacity to operate the R-2001 for approximately one hour. A constant current charging system is capable of recharging the batteries in 16 hours.

2. OPERATION

2.1 The RTP-1002A Battery Pack is automatically engaged when no ac power is present, and the power switch is either in the ON or STANDBY positions. When ac power is applied, the R-2001 automatically switches the RTP-1002A Battery Pack out of the circuit and draws its power from the ac power source.

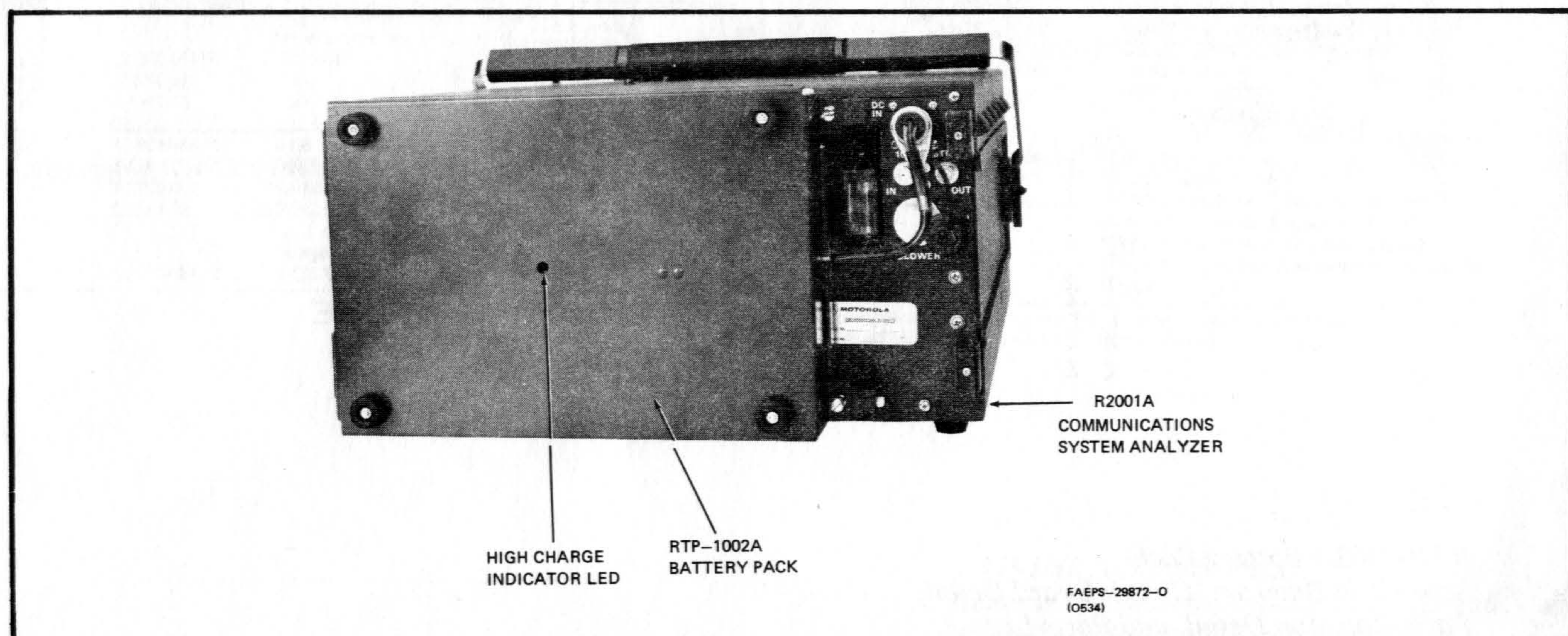
2.2 When the power switch is in the OFF or STANDBY position and ac power is applied to the R-2001, the RTP-1002A Battery Pack draws dc current from the R-2001 to activate the charging circuit. The charging circuit delivers approximately 750 mA of current until the battery voltage reaches 14 volts. As the

battery voltage reaches 14 volts, the current drops to approximately 25 mA and the high-charge indicator LED extinguishes.

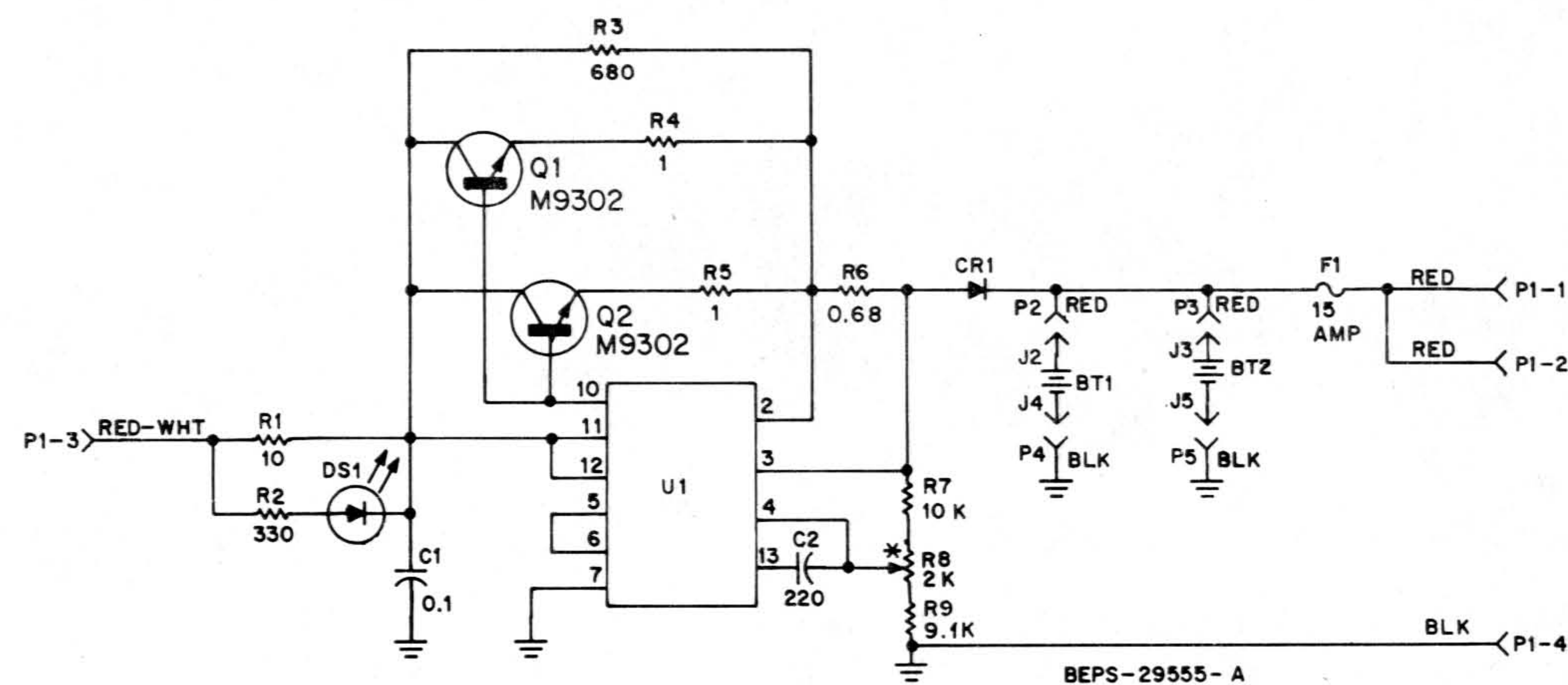
2.3 When the R-2001 systems analyzer is used with the RTP-1002A Battery Pack, it is recommended to keep the power switch in the STANDBY position whenever possible. This extends the time the battery is able to operate the R-2001 Communications System Analyzer. The low trickle charge rate enables the batteries to be left on charge indefinitely without damage due to overcharging.

CAUTION

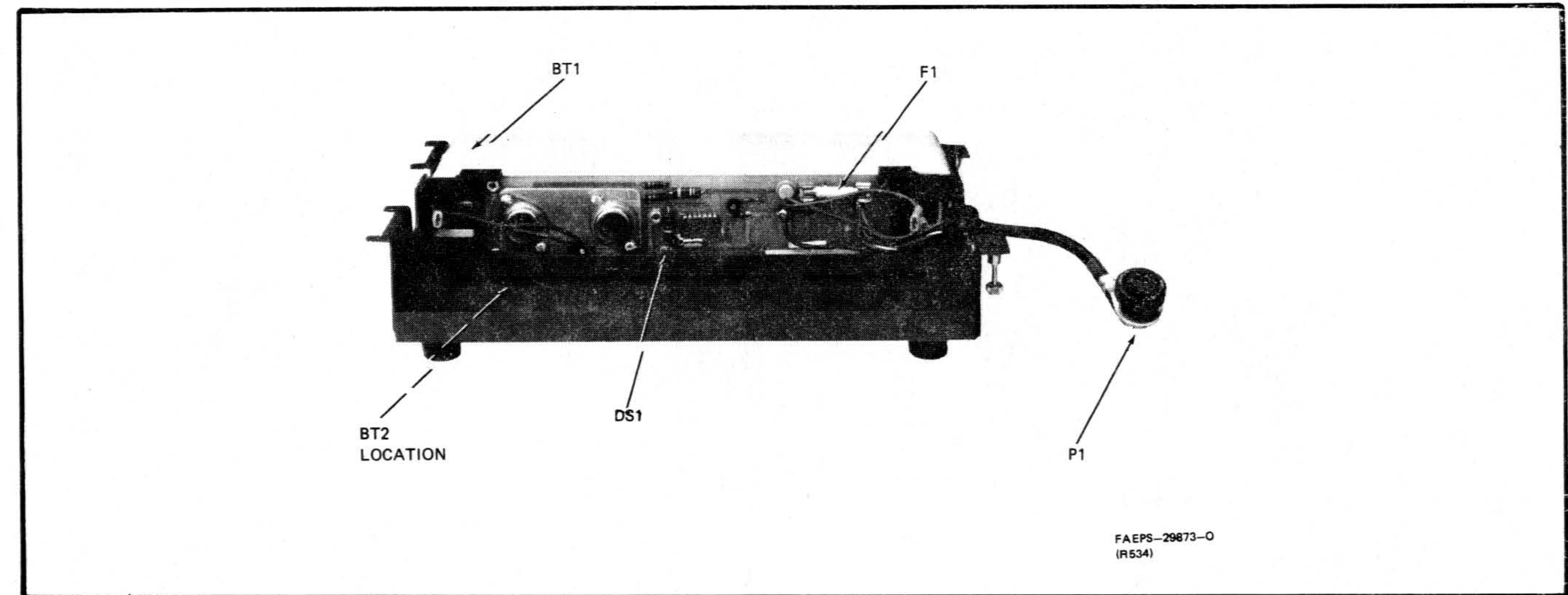
Do NOT permit battery discharge below 10.4 V dc as indicated on CRT in DVM display mode; immediately turn unit "OFF". Allowing battery discharge below this level may result in permanent damage to the battery. The R-2001 should be plugged into ac power (117/234 V ac) with the power switch in "OFF" or "STANDBY" position to recharge the batteries.



RTP-1002A Battery Pack Mounting Detail



* WITH THE BATTERIES REMOVED (BT1 AND BT2) AND A 30-OHM, 10 WATT RESISTOR IN PLACE OF THE BATTERIES, SET R8 FOR 14.45V ± 50MV USING A DIGITAL VOLTMETER ACROSS THE BATTERY TERMINALS.



RTP-1002A Battery Pack Parts Location Detail

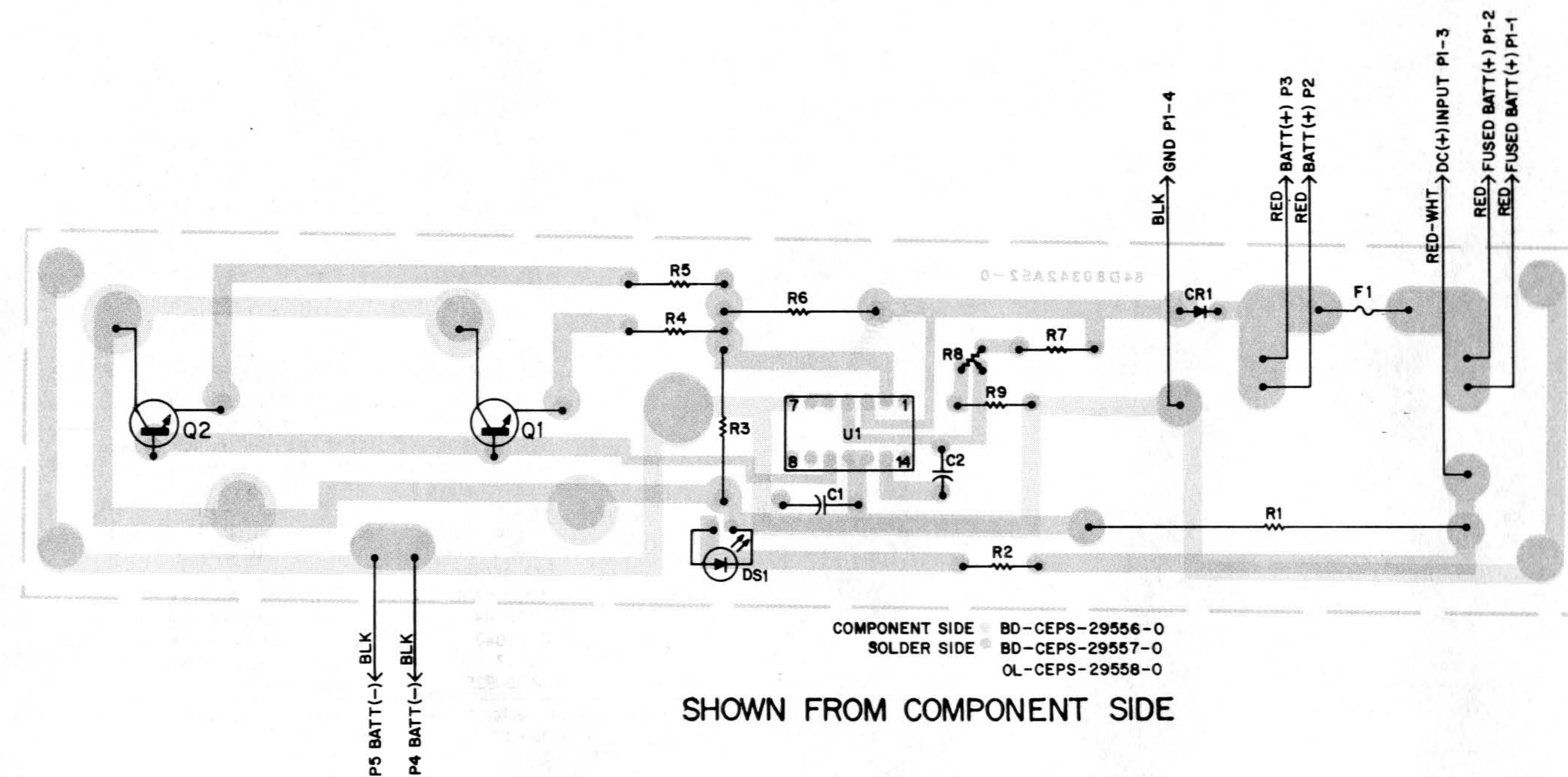
parts list

RTP-1002A Battery Pack PL-6816-A

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
BT1, 2	60-80340A88	battery, 12 V: 6-cell
C1	8-82096J18	capacitor, fixed: .1 uF ± 10%; 250 V
C2	21-83596E10	220 pF ± 20%; 500 V
CR1	48-82525G01	diode: (see note) silicon
DS1	48-82019L05	light emitting diode: LED
F1	65-804906	fuse: 15A slow blow
Q1, 2	48-869302	transistor: (see note) NPN; type M9302
R1	17-80344A60	resistor, fixed: ± 10%; 1/4 W: unless otherwise stated
R2	6-124C37	330
R3	6-126C45	680; 1 W
R4, 5	6-125B70	1 ± 5%; 1/2 W
R6	17-80344A71	0.68 ± 5%; 2 W
R7	6-124A73	10k ± 5%
R8	18-80342A10	variable: 2k ± 20%; 1/2 W
R9	6-124A72	9.1k ± 5%
U1	51-80342A59	integrated circuit: (see note) MC1723CL

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
non-referenced items		
1-80304A71		BATTERY CASE includes:
27-80335A41		CASE, battery
3-80340A89		SCREW, captive: 6-32 x 21/32"; 2 used
41-80342A53		SPRING, clip
15-80340A92		COVER, battery case
1-80304A72		CIRCUIT BOARD ASSEMBLY includes:
42-82690A01		CLIP, fuseholder: 2 used
43-865080		STANDOFF, threaded: 4 used
1-80304A73		LEAD ASSEMBLY, battery (red) includes:
30-10310A26		WIRE, No. 16 stranded: 4-1/2" used
29-859118		CONTACT, receptacle
1-80304A74		LEAD ASSEMBLY, battery (black) includes:
10-134301		WIRE, No. 16 stranded: 4-1/2" used
29-859118		CONTACT, receptacle
3-120938		SCREW, machine: 4-40 x 5/16"; 4 used
4-7667		WASHER, lock: No. 4 external tooth; 4 used
64-80342A54		PLATE, heatsink
1-80303A91		CABLE ASSEMBLY includes:
15-10811A08		HOUSING, connector: 4-pin
9-83741F01		CONTACT, receptacle: 4 used
42-80340A90		CLAMP, cable
2-2888		NUT, hex: 5/8-24
2-7005		NUT, hex: 6-32; 4 used
4-7666		WASHER, lock: No. 6 external tooth; 4 used
14-80340A91		INSULATOR BOARD
75-82566B01		FOOT, rubber: 4 used
3-80342A46		SCREW, machine: 6-32 x 1/2"; 4 used
3-136774		SCREW, machine: 4-40 x 1/4"; 5 used
3-132840		SCREW, machine: 8-32 x 5/8"; 2 used
4-7667		WASHER, lock: No. 4 external tooth; 5 used
42-850925		CLAMP

note: For optimum performance, replacement diodes, transistors and integrated circuits must be ordered by Motorola part numbers.



SHOWN FROM COMPONENT SIDE

RTP-1002A Battery Pack
Schematic Diagram, Circuit Board Detail,
Parts Location Detail, and Parts List
Motorola No. PEPS-29554-A
(Sheet 1 of 2)
6/29/81-SK

RTP-1002A Battery Pack
Schematic Diagram, Circuit Board Detail,
Parts Location Detail, and Parts List
Motorola No. PEPS-29554-A
(Sheet 2 of 2)
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