

SECTION 14

POWER ENTRY MODULE

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SECTION 14

POWER ENTRY MODULE

NOTE: Projectors manufactured after January, 1992 may include newer-version Power Entry modules. New features and details are NOT described in this section. For assistance, contact your dealer or Vidikron for assistance.

14.1 TECHNICAL DESCRIPTION

14.1.1 General Description

The Power Entry Module (PEM) accepts 120V or 240V AC input power for distribution to the projector power supplies. A 120V/240V switch located behind the plastic fuse cover on the Power Entry Module is set to the input voltage in use.

The module also includes a +5 and +12 VDC standby power supply. The 5 volt supply is used by the Remote Control module. The 12 volt supply powers the IR sensor and the keypad.

14.2 SERVICING AND ALIGNMENT

14.2.1 Disassembly and Access

Module Location:

- ▶ front slide-out rack

Tools & Equipment Required:

- ▶ 1/4" hex head socket driver

- a) Remove the projector lower front and side panels as described in Section 5-2.

- b) Trace the yellow/green grounding wire from the Power Entry Module to the grounding point on the projector chassis. See Figure 14-1 (item 1). Disconnect the grounding wire.

- c) Remove the two screws securing the front slide-out rack to the projector chassis. Carefully slide the rack out about 3". Disconnect the M18-P1, M18-P2, M18-P3, M18-P4 and M18-P5 connections from the rear of the module.

- d) Remove the two hex head screws (item 2) as shown.

- e) Remove the Power Entry Module from the front slide-out rack as shown by the arrows in Figure 14-1.

14.2.2 Alignment

Service alignments are not necessary. If the Power Entry Module becomes faulty and cannot be repaired, the module must be replaced.

14.3 COMPONENT LAYOUT AND SCHEMATICS

Refer to the following pages for component layouts and schematics of the Power Entry module.

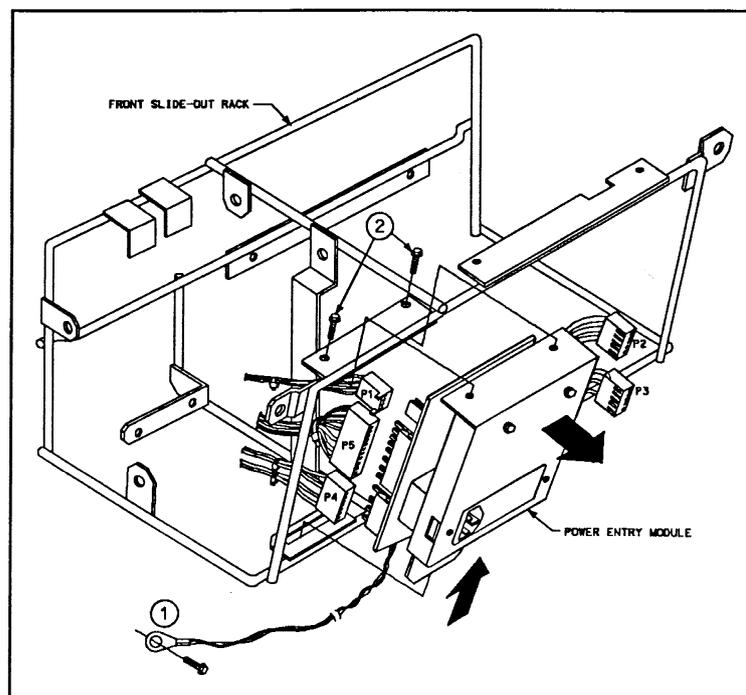
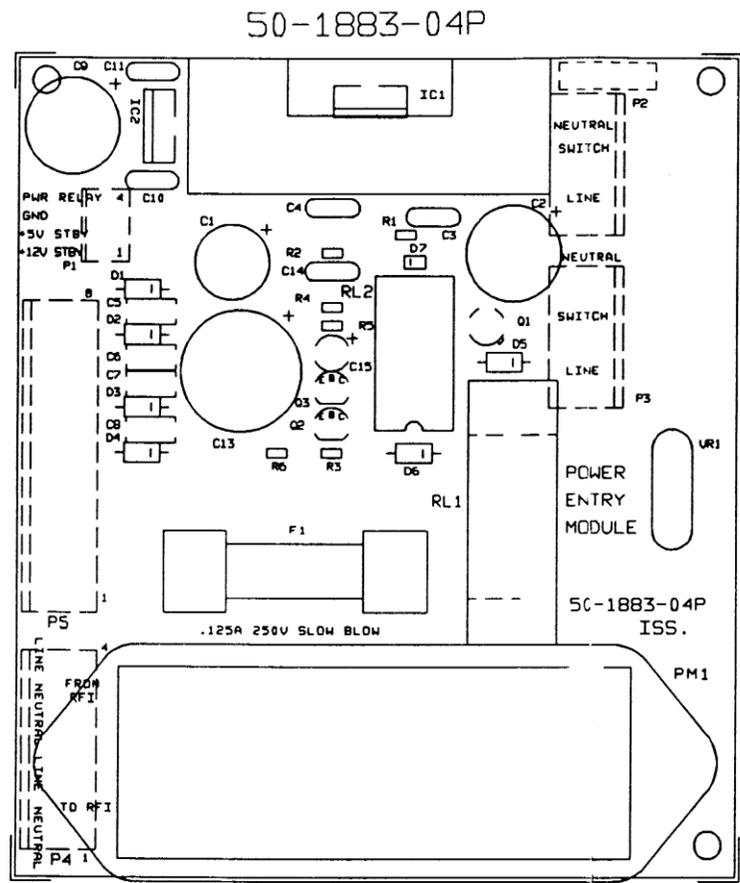
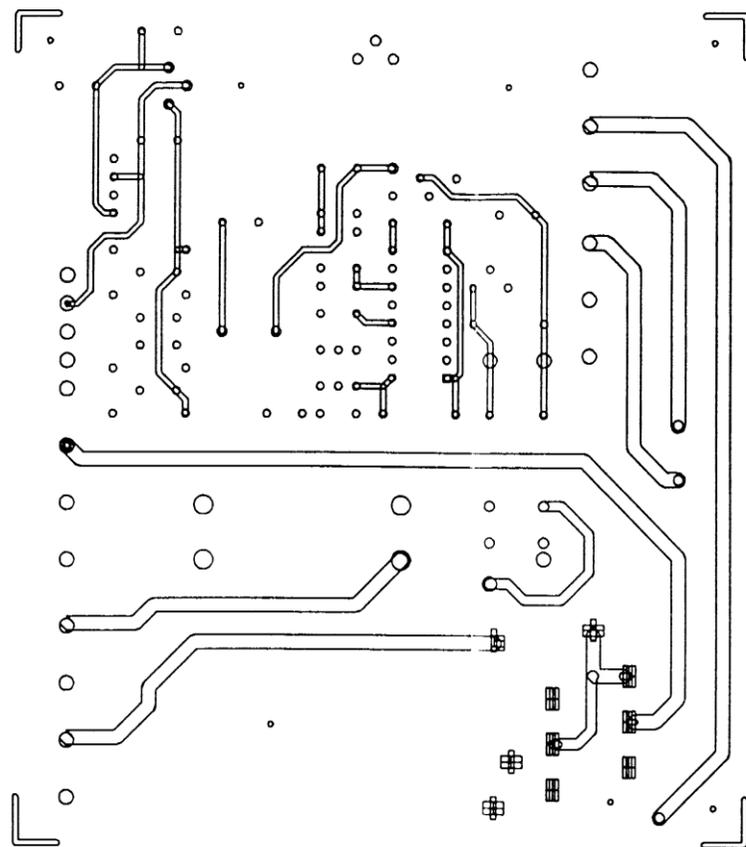


FIGURE 14-1. Power Entry Module Removal

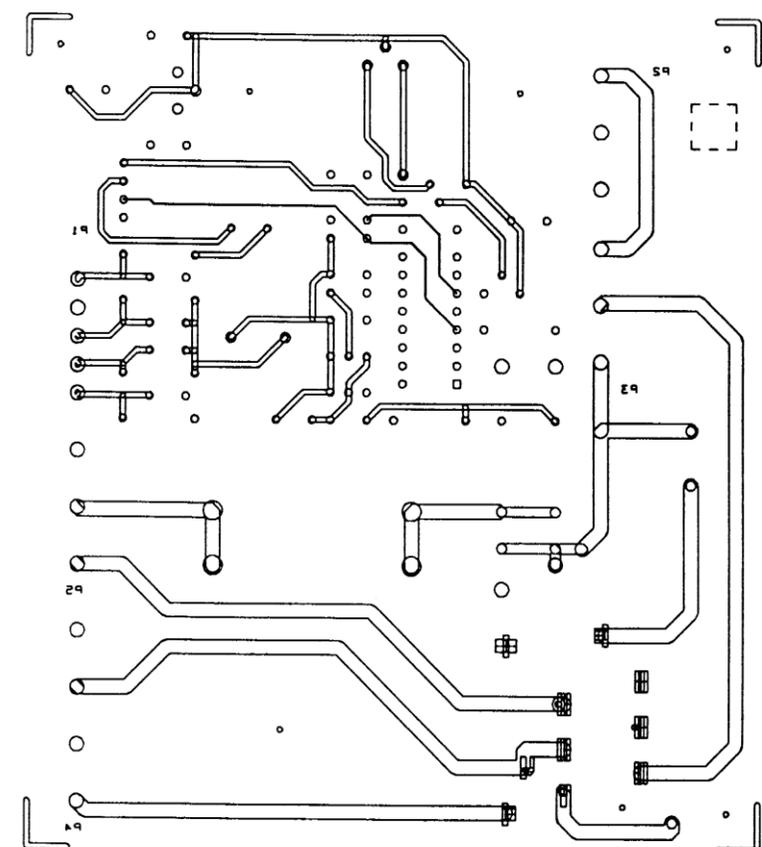
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Component Layout



Solder Side
(Viewed from Component Side)



Component Side

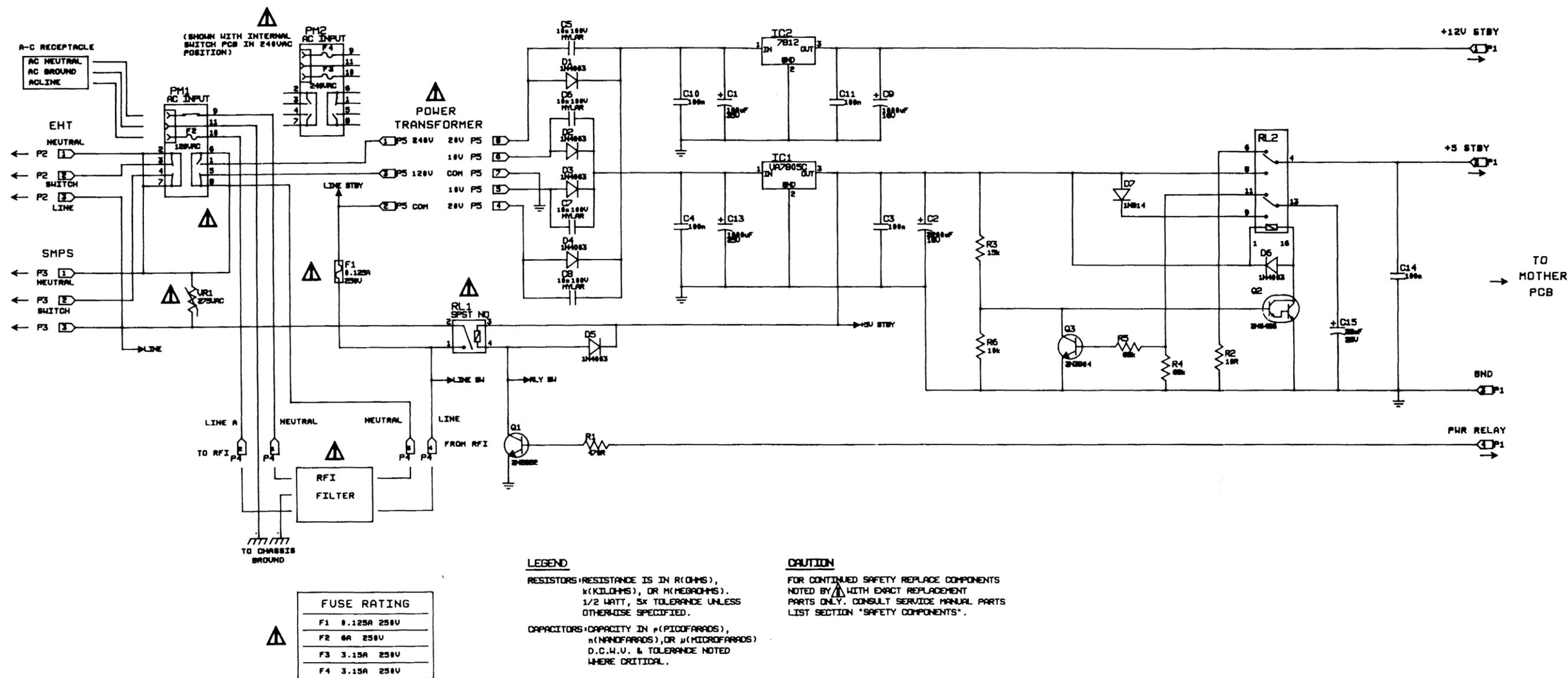


FIGURE 14-3. Power Entry Module Schematic
00-260102-01P

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14.4 PARTS LIST

▲ - CRITICAL SAFETY COMPONENT
(REPLACE WITH IDENTICAL PART)

Item Ref.	Part No.	Description
Integrated Circuits		
IC1	IC-14-002032-01P	MC7805CT, +5 VDC, fixed linear regulator
IC2	IC-14-002018-01P	MC7812CT, +12 VDC, fixed linear regulator
Transistors & Diodes		
Q1	TR-14-000880-01P	2N2222 A, NPN, 30V, 0.8A, 1/2W
Q2	TR-14-000990-01P	2N6426, NPN
Q3	TR-14-000881-06P	2N3904, NPN, 40V, 0.2A, 0.35W
D1-D6	D-14-000525-53P	1N4003, rectifier, 1A, 200V
D7	D-14-000513-01P	1N914, diode, 0.075A, 75V
Capacitors		
C1	C-84-410105-04P	100 OF, 35V, electrolytic
C2	C-44-422203-08P	2200 OF, 16V, electrolytic
C3,C4,C10,C11,C14	C-89-000032-03P	100 nF, 50V, 20%, ceramic, multi layer
C5-C8	C-88-171031-12P	10 nF, 100V box type, mylar
C9	C-44-410203-08P	1000 OF, 16V, electrolytic
C13	C-44-410204-09P	1000 OF, 25V, electrolytic
C15	C-84-422004-01P	22 OF, 25V, electrolytic
Resistors		
R1	R-80-147005-11P	470R, 1/2W, 5%, metal film
R2	R-80-110095-11P	10R, 1/2W, 5%, metal film
R3	R-80-115025-11P	15K, 1/2W, 5%, metal film
R4,R5	R-80-168025-11P	68K, 1/2W, 5%, metal film
R6	R-80-110025-11P	10K, 1/2W, 5%, metal film
Miscellaneous		
▲ F1	F-27-000005-45P	1/8A, 250V, slow blow fuse
▲ F2	F-27-000005-47P	6.0A, slow blow fuse
▲ F3,F4	F-27-000045-05P	ET-4A, 3.15A, 250V, fuse
▲ PM1	A-34-001058-01P	power entry module
RL1	RL-25-000112-01P	relay, SPST, 5VDC
RL2	RL-25-000106-02P	C93406, DPDT relay, MT2, 4.5V coil
▲ VR1	VR-42-000127-01P	V275LA20A, metal oxide varistor

14.5 SPECIFICATIONS

Power Requirements:

Voltage	
120V mode	90 to 132 VAC
240V mode	180 to 264 VAC
Frequency	50 to 60 Hz nominal

Input Fuse (slow blow) Rating:

@ 120V mode	6A
@ 240V mode	4A

Connector P1 Signal Levels:

Pin 4 analog input power relay relay turn on voltage	4.5 to 5.5 VDC
Pin 3 ground	
Pin 2 +5V standby voltage	4.75 to 5.25 VDC
Pin 1 +12V standby voltage	11.4 to 12.6 VDC
ripple at 300 Ma	5 mV