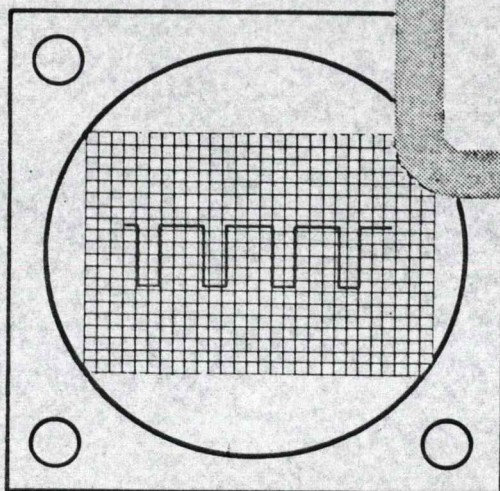


**MAINTENANCE
AND INSTRUCTION MANUAL
FOR
TELEMETRY CALIBRATOR
POWER AND CONTROL
ASSEMBLY**

**(50M66521)
REVISION 'A'**



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TELEMETRY SYSTEMS BRANCH**

SECTION II THEORY OF OPERATION

2.1 SCOPE

This section contains the theory of operation of the Telemetry Calibrator Power and Control Assembly. The operation of the assembly will be covered only in block diagram form in terms of input and output signals of the components.

2.2 OPERATION

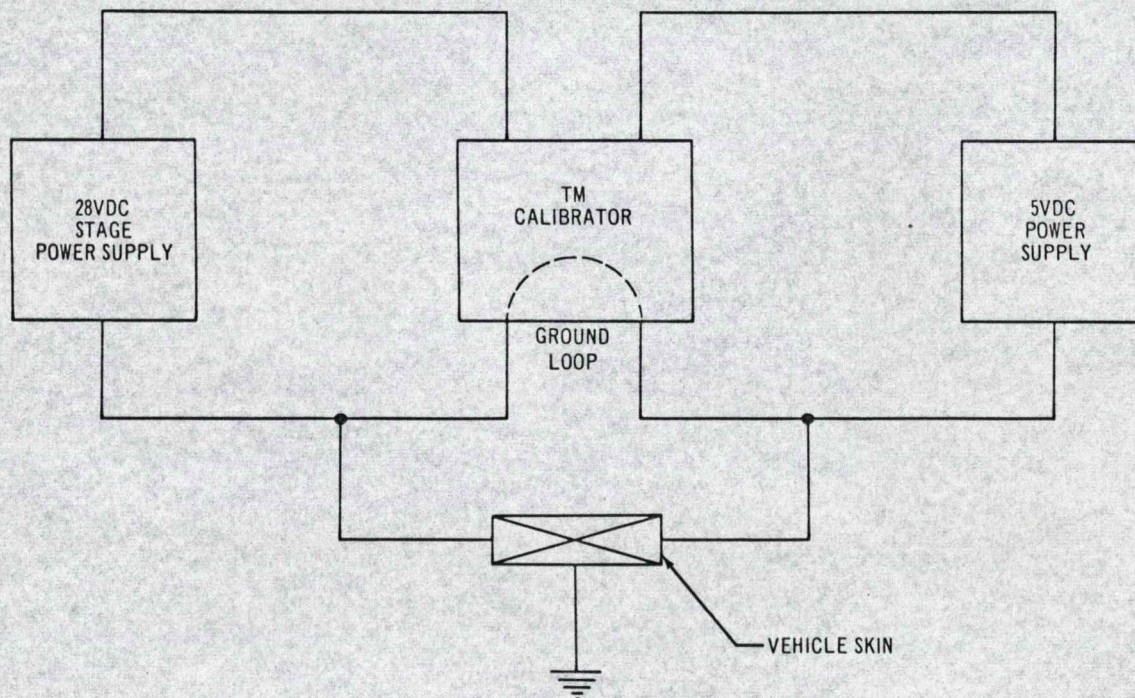
The purpose of the PCA is to isolate the stage 28 vdc power supply from the TM calibrator. Without the PCA, the TM calibrator has inputs from a 5 vdc and a 28 vdc power supply, with both power supply grounds tied together (figure 2-1). The PCA isolates the 28 vdc power supply from the TM calibrator and prevents a ground loop (figure 2-2). In addition to isolating the 28 vdc power supply to the TM calibrator, the PCA contains four relays which apply isolated 28 vdc command signals to the TM calibrator. The diodes limit the amplitude of the reverse voltage caused by the relay coil inductance. See figure 2-3 for the PCA electrical schematic.

2.3 ASSEMBLY COMPONENTS

Table 2-1 lists the components in the PCA. (See figure 2-3 for the electrical schematic.)

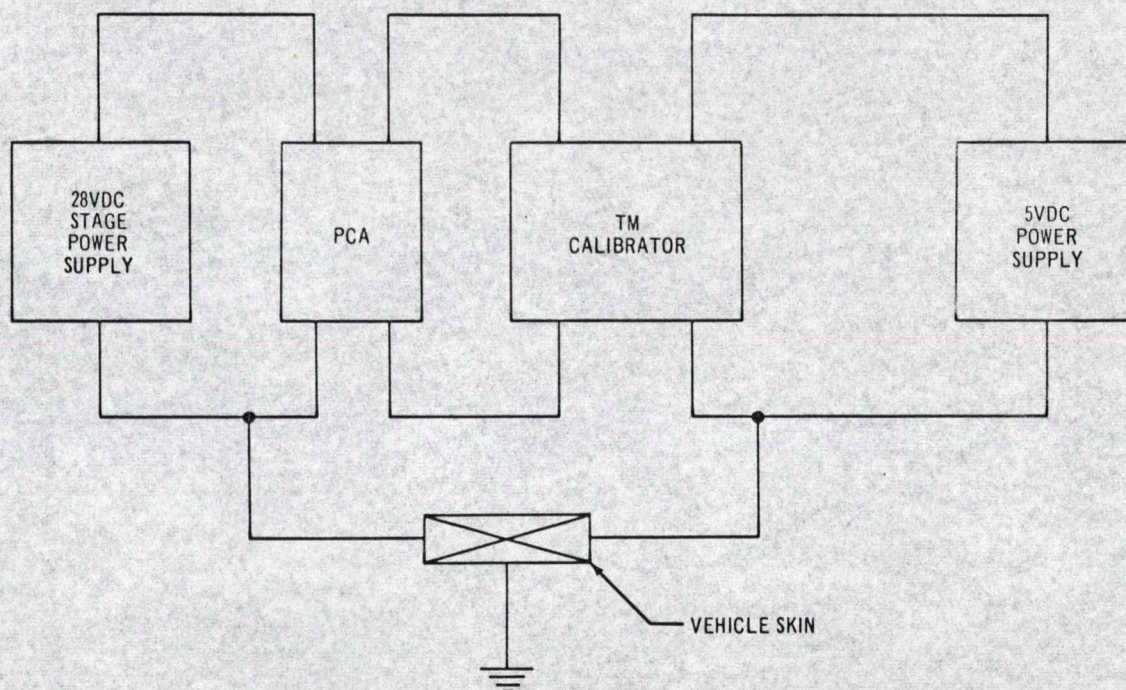
TABLE 2-1. PCA COMPONENTS LIST

a. dc to dc converter	Diode CR1
b. Relay K1	Diode CR2
c. Relay K2	Diode CR3
d. Relay K3	Diode CR4
e. Relay K4	



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FIGURE 2-1. POWER SUPPLY VOLTAGE TO TM CALIBRATOR (WITHOUT PCA)



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FIGURE 2-2. POWER SUPPLY VOLTAGE TO TM CALIBRATOR (WITH PCA)

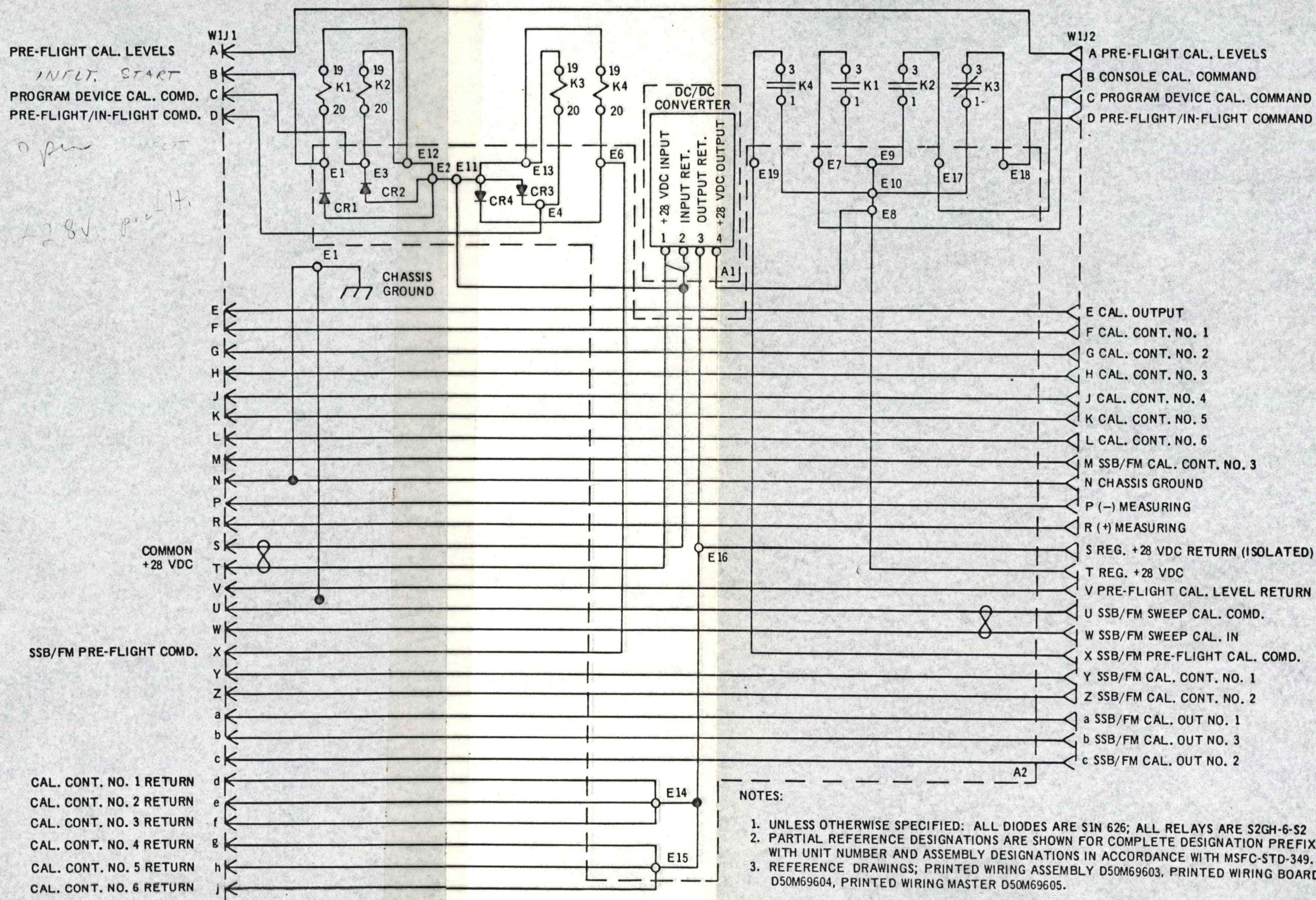


FIGURE 2-3. ELECTRICAL SCHEMATIC OF TM POWER AND CONTROL ASSEMBLY

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