

PM ICU Monitor Board Design

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1 Design Definition for PM ICU Monitor board

The pcb layout is described by circuit diagram A1-5275/011 iss.1.

The layout reference is X-1641-001

Very little of this layout is implemented. The circuit as built implements main bus connections to the spacecraft, and power switching using the spacecraft interface.

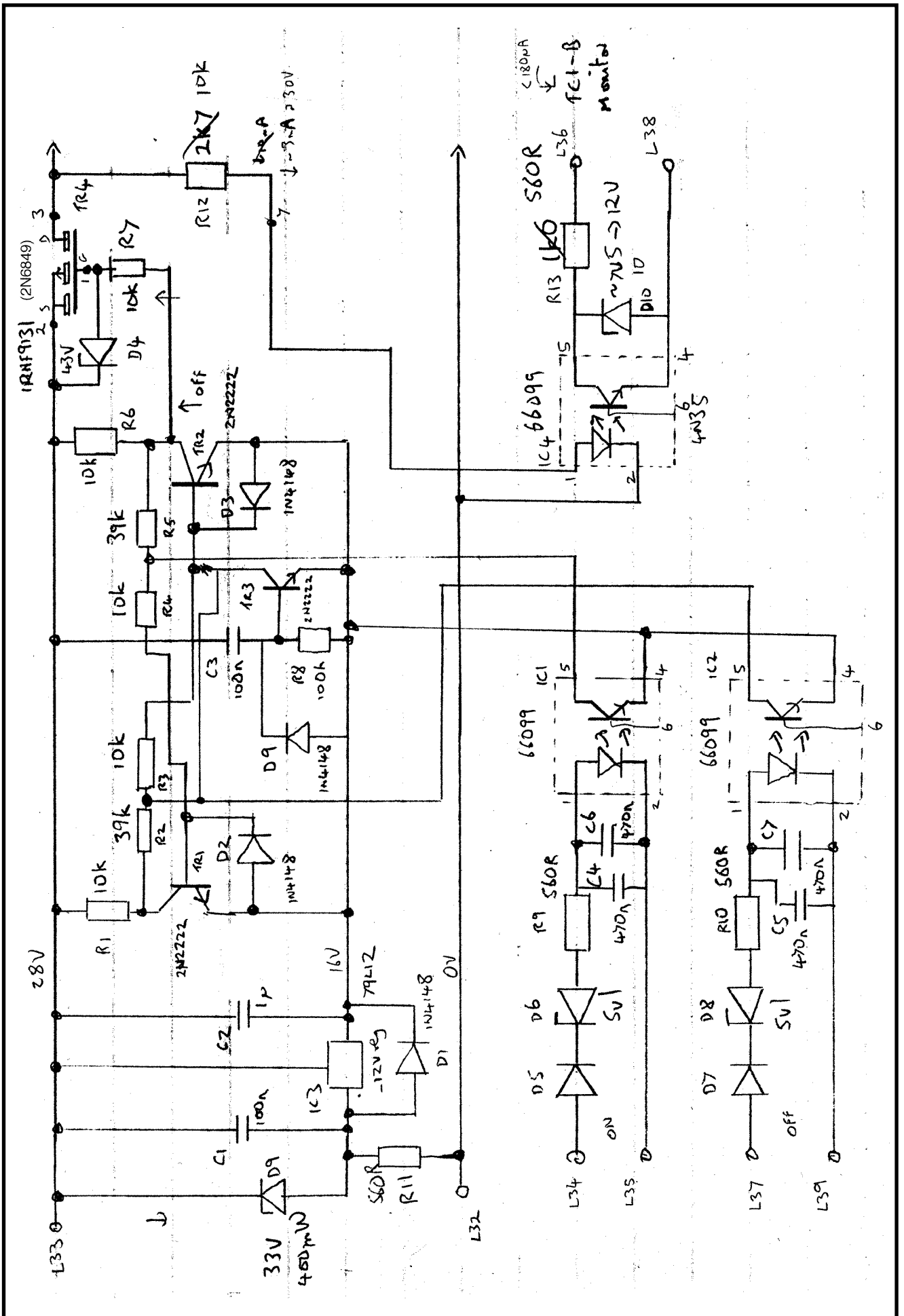
A solid-state version of the main bus power switch is built on the prototype area of the pcb. The circuit for this is currently hand-drawn only, with a hand-drawn component layout diagram ("On-off switch" circuit diagram and layout). Use is made of some of the pcb tracking to connect this circuit to the D-type and Hypertac connectors. The switch meets the requirements of the spacecraft electrical interface except that the heatsinking of the main pass transistor (2N6849) would be marginal if the full instrument were implemented and powered up for an extended period. The current build is more than adequate for the PM.

A very simple external circuit is built around a D-type connector to provide 28V input power and push button on / off switching. See hand-drawn "Power Switching" diagram. It achieves functionality only and makes no attempt to mimic the pulse inputs expected from the spacecraft. Pin 7 on this external connector, otherwise unused, has an electrical connection to this switch circuit.

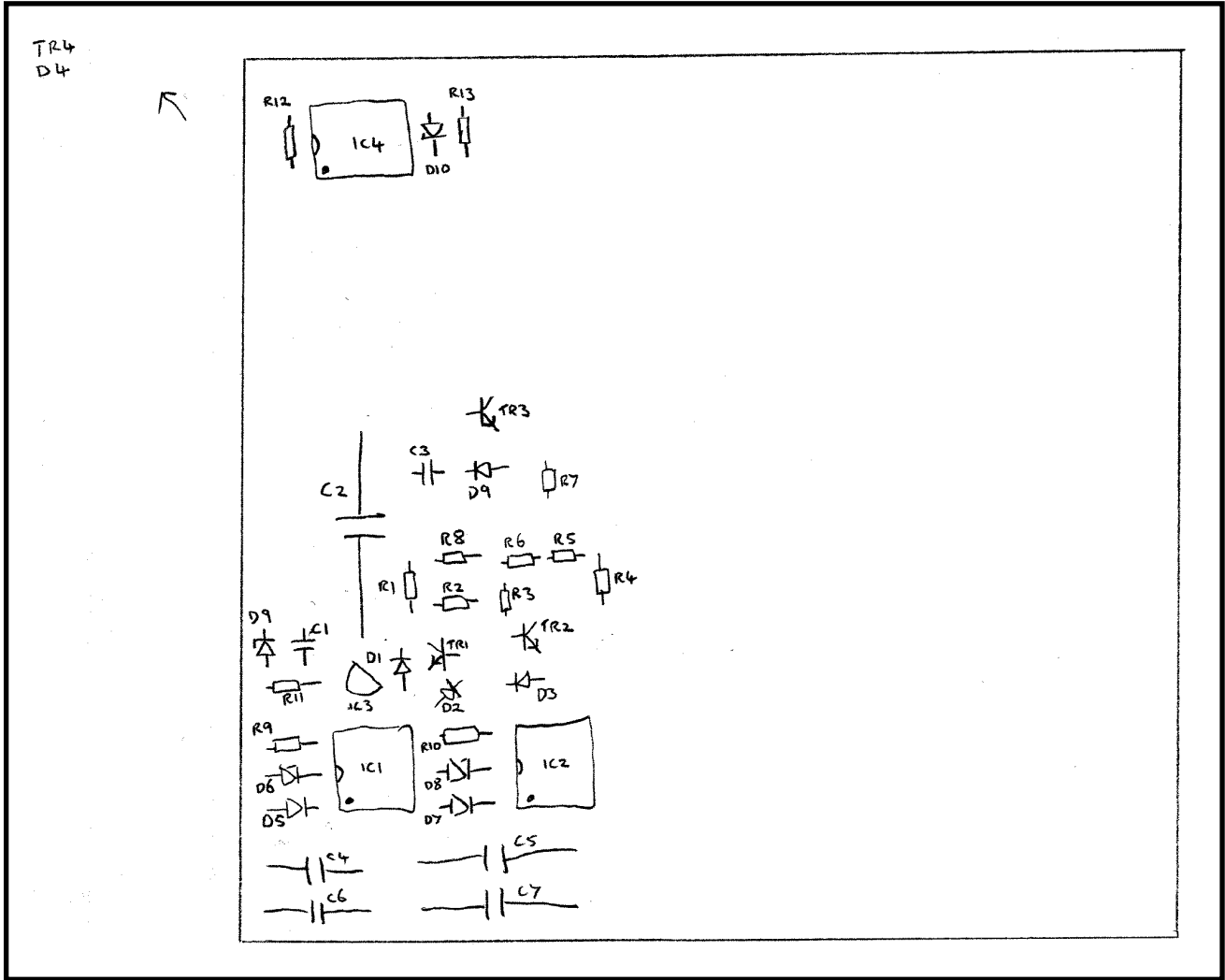
The construction standard will not withstand significant vibration or shock.

The hand-drawn circuits are attached to this document.

Circuit Diagram



Layout Diagram



Cable Diagram

