

Memorandum M-2131

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Digital Computer Laboratory
Massachusetts Institute of Technology
Cambridge, Massachusetts

SUBJECT: MEMORY TEST COMPUTER FUSE ALARM SYSTEM

To: MTC Engineers

From: Robert vonBuelow

Date: May 5, 1953

Abstract: The fuse alarm system in MTC is designed so that if a fuse in any DC line blows, all DC voltages will be removed from the computer. A light goes on at the panel on which the fuse blows, a light goes on at the console, and the chime at the console sounds.

General

There is a long line in MTC which runs through all power distribution panels and the Marginal Checking Fuse Relay Panel. If this line is broken, a relay (K271) which will be located on the Power Supply Control panel, will be deenergized. See SA-54869. Upon deenergization, one pair of contacts on this relay opens to deenergize other relays in the Power Supply Control which in turn break all DC lines. The other pair of contacts on relay K271 closes to energize relay K-9 on the Alarm Relay Panel which is located in the ninth control rack. Contacts on K-9 close to light the console Fuse Alarm light and to operate the chime.

Interim System

Until the Power Supply Control panel becomes available, an interim system is being used. See SA-54870. Opening the interlock line deenergizes a relay (which has been energized by a push button), the contacts of which open to deenergize a DC contactor. This contactor breaks all DC lines.

In addition, there is another relay whose contacts are in series with the contactor. This relay is energized by the -15 volt supply. It assures that the -15 volt supply is applied to the computer before all other voltages.

M.C. Fuse Relay Interlock

The interlock line is broken in the Marginal Checking Fuse Interlock panel as follows: (See SA-54871) Marginal checking line fuses are grouped as shown in the sketch. If a fuse blows the load is disconnected from the line, and the line voltage is applied to relay K-1, K-2, or K-3

through the grasshopper fuse. Contacts on any of these relays will then close to energize relay K-4 which locks in through its own contacts. K-4 contacts also open the interlock to eventually open all DC lines. The interlock on K-4 is necessary since K-1, K-2, and K-3 will deenergize as soon as all DC lines are opened. After the fuse has been replaced, K-4 may be deenergized by operating the push button on the panel.

Power Distribution Panel Interlock

The interlock line is broken on all mods of the Power Distribution Panel by energizing relay K-1, (See SA-54872). When a DC fuse blows on these panels, the line is disconnected from the load and a ground is applied to the coil of relay K-1 through the filter capacitor. Relay K-1 energizes, breaks the interlock line, and applies a direct ground to its coil. Other contacts close to apply 6.3 volts to an indicator lamp on the same panel. After the fuse has been replaced, the relay can be deenergized by operating the push button on the panel.

Signed Robert von Buelow
Robert vonBuelow

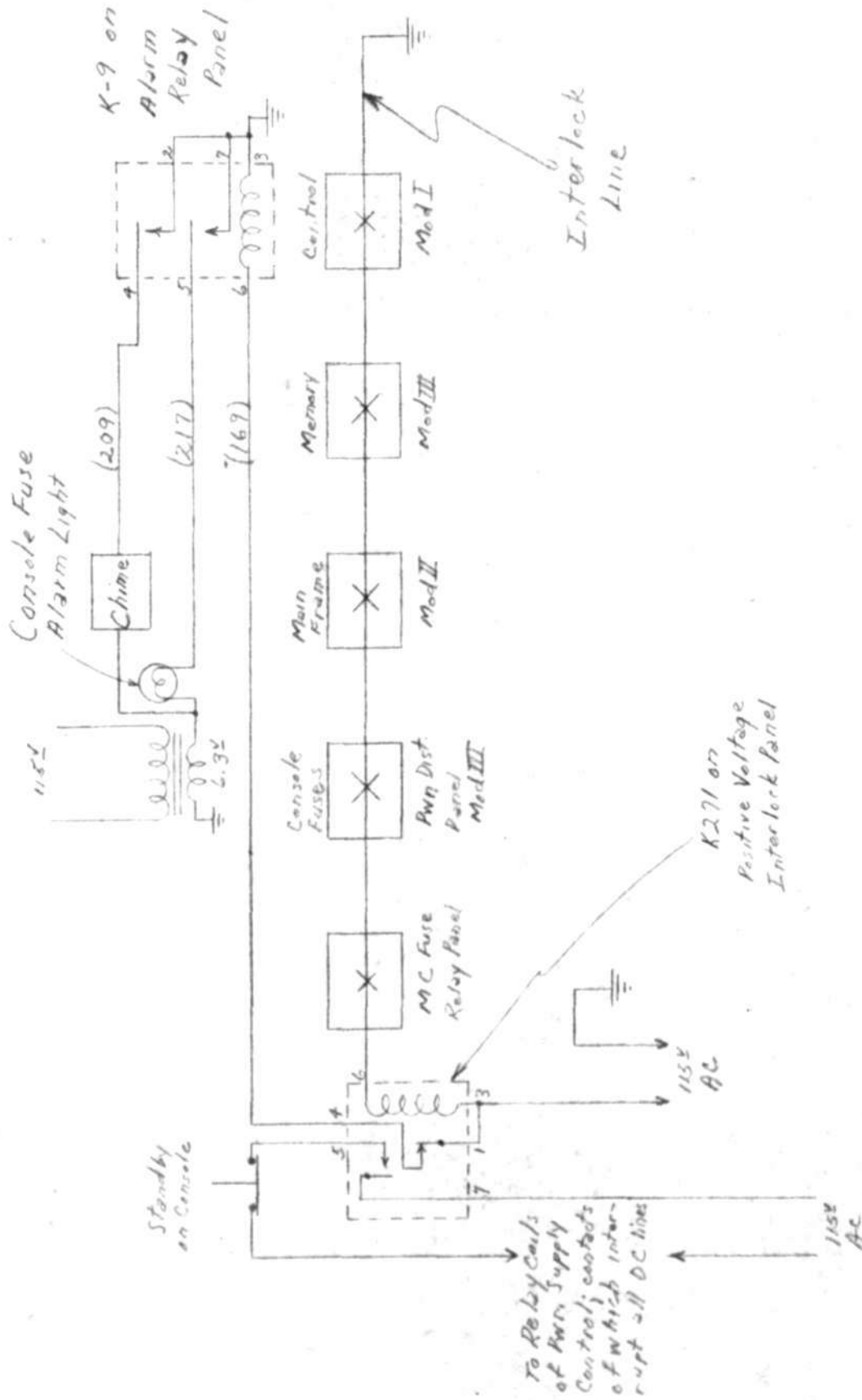
Approved K Olsen
Kenneth H. Olsen

RvB:jrt

Drawings attached:

SA-54869
SA-54870
SA-54871
SA-54872

SA-548'9

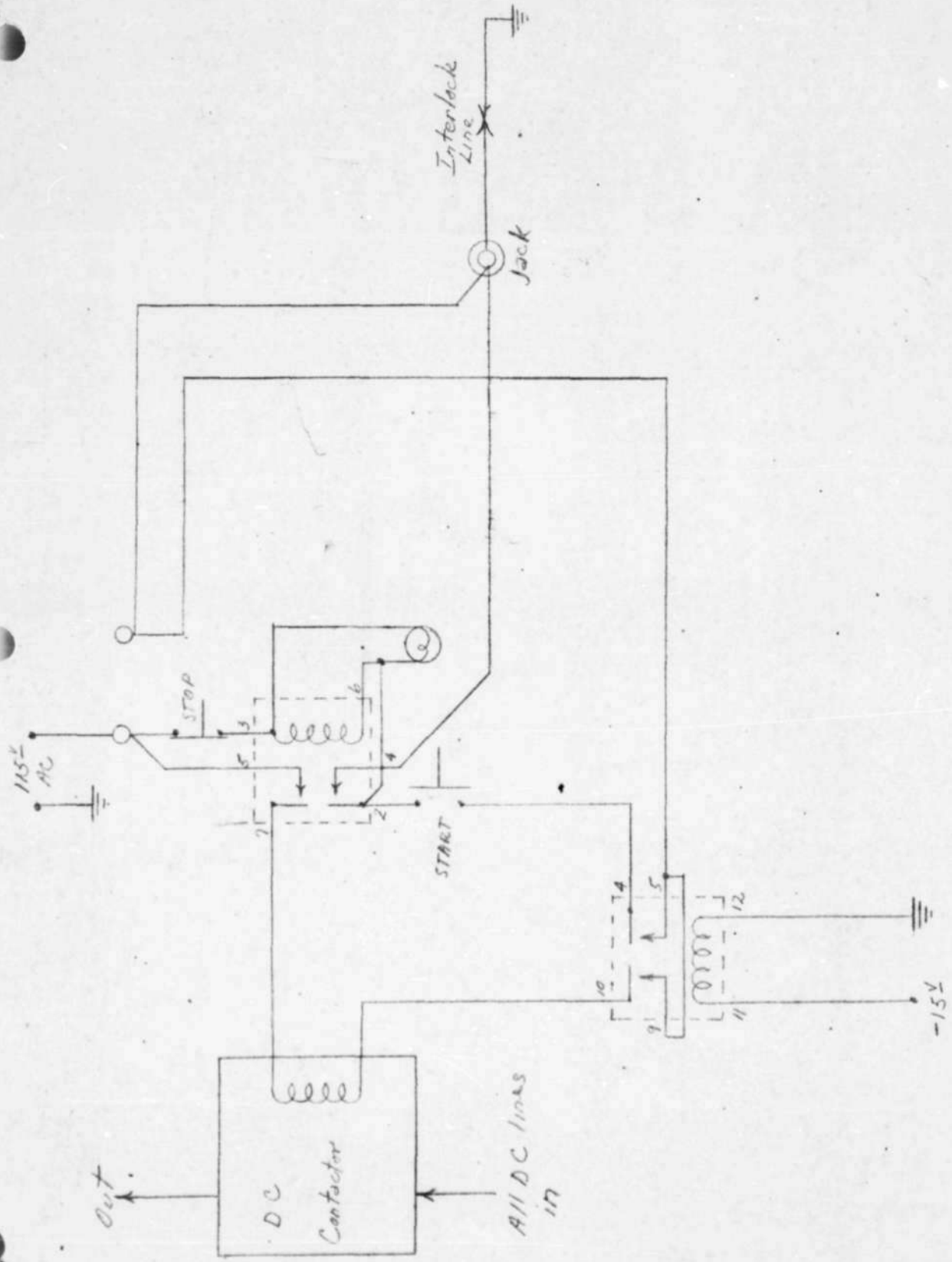


MTC FUSE
ALARM SYSTEM

Pub 54-53

SA-54869v

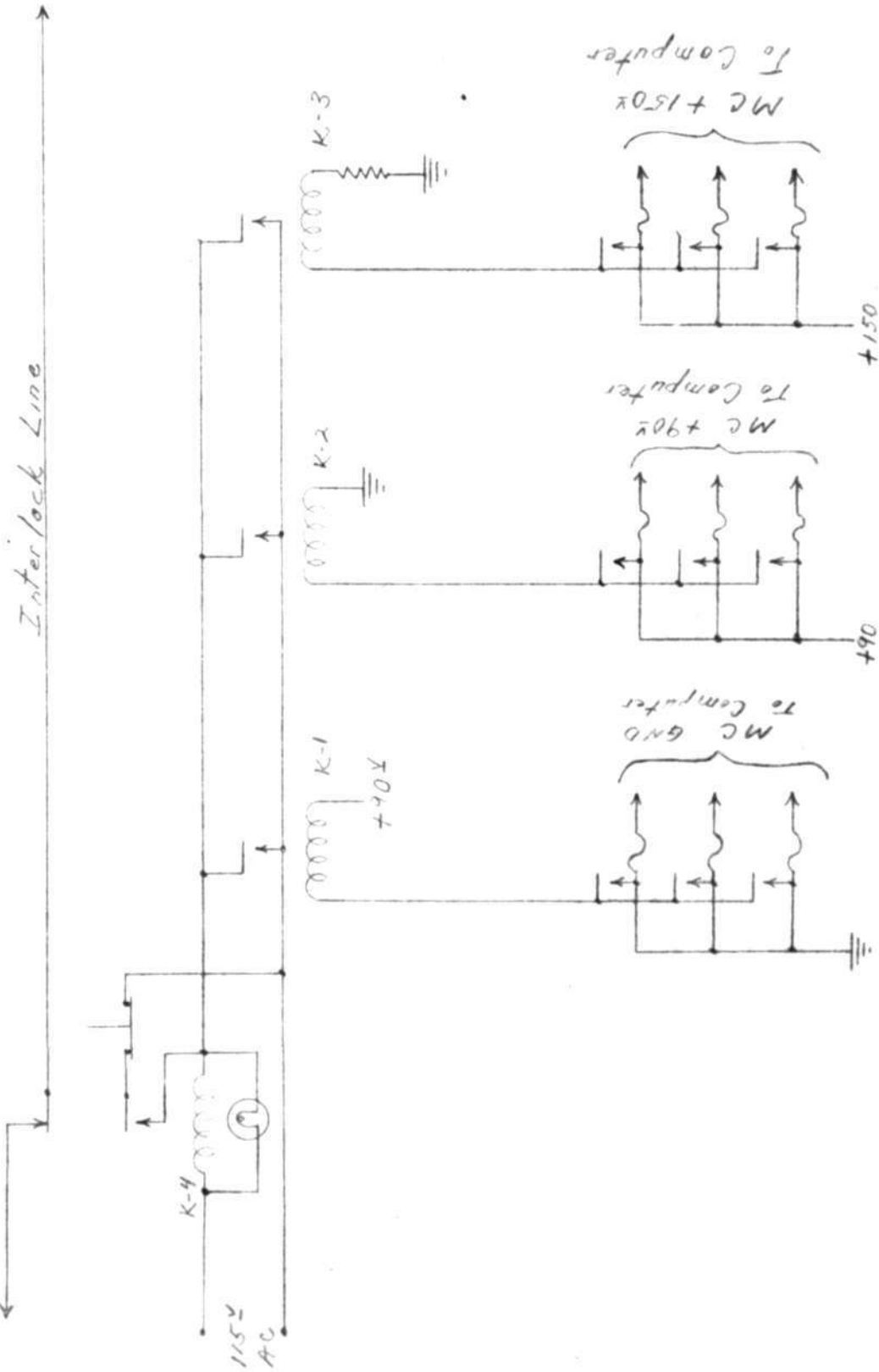
SA-5481



MTC TEMPORARY
ALARM SYSTEM

R.B. 5-4-53 SA-54870 V

SA-548-1

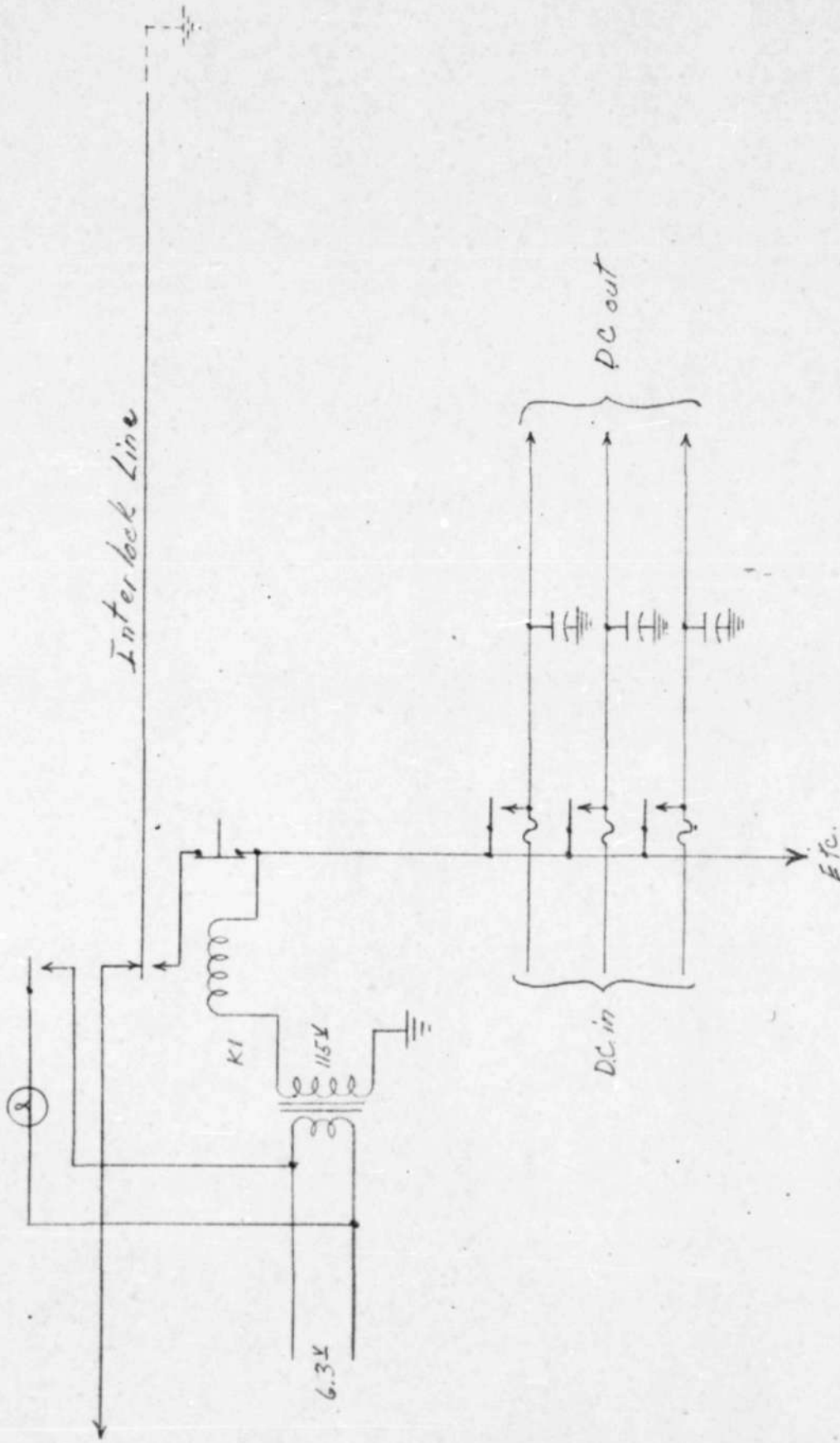


MARGINAL CHECKING
FUSE RELAY INTERLOCK
MTC

R.B. 5-4-58

SA-54871 W

SA-5487



MTC
POWER DISTRIBUTION
PANEL INTERLOCK

R.B. 5-4-63

SA-5487a ✓