





CIRCULATION  
 GENERAL  
 SUFFIX  
 AMENDT  
 PAPER  
 W

# RELAY UNIT Q415 CONNECTED FOR G/AC IN, LOOP OUT

Q(L)446

## CIRCUIT OPERATIONS

4 Panels-3  
12-2-64.

### 1. OUTGOING CALL

Lifting the handset at the calling station operates relay IL. IL1 connects earth to the intercom engaged wire. Pressing the calling button (KR) extends earth via SA5 to operate relay JG. JG1 operates relay S to earth on intercom engaged wire. Relay JG holds via JG3, S3 and EL5 to earth on intercom engaged wire. S1 and S2 complete calling loop to tie line and relay LB operates. LB1 disconnects hold path of relay JG. LB2 operates relay SA when JG2 restores. SA2 completes speech path. SA5 provides station engaged condition. Circuit is prepared for speech when answer received from distant end.

### 2. INCOMING CALL

Incoming ringing current operates relay RR. RR1 operates relay R0. R01 extends RR1 earth to operate main station buzzer. R03 holds relay R0.

When main station answers relay IL operates. IL1 connects earth to intercom engaged wire to operate relay S via R04. S1 and 2 connect line to relay LB which operates. LB1 holds relay S. S5 releases relay R0. LB2 operates relay SA. SA2 completes speech path. SA5 provides station engaged condition.

### 3. CLEARING

When multiple station clears first, replacing handset releases relay IL. IL1 removes earth from intercom engaged wire and releases relay S. S1 and 2 remove loop from tie line and release relay LB. LB2 releases relay SA.

When distant end clears first, relay LB releases. LB1 releases relays S and JG (JG is only operated on outgoing calls) LB2 releases relay SA.

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CIRCUIT OPERATIONS (CONTD.)

4 Panels--4

4. EXCHANGE CALLS (see note 4)

Exchange calls received on a multiple station may be extended to the tie line. The tie line is called as described in para. 1, and an answer received. The control button (KB) is then pressed. Earth from KB2 is extended to operate relay EL. Relay EL via EL4 holds with relay S via LB1 to earth at EL5. SA1 and EL1 provide exch. line engaged condition. When distant end clears relay LB releases. LB1 releases relays EL and S. LB2 releases relay SA.