

3

COMMON SYSTEMS  
TRAFFIC REGISTER CABINET CIRCUIT

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<u>SECTION I - GENERAL DESCRIPTION</u>	
<u>1. PURPOSE OF CIRCUIT</u>	

1.01 This circuit provides registers, magnetic counters, control switches and flexible means for associating the registers and magnetic counters with circuits requiring traffic registration.

1.02 It also provides recorder talking line jacks and frame line telephone jacks.

1.03 It also provides controls, power, and protective ground connections, for use with cameras used to photograph the registers.

1.04 It also provides a guard lamp, which lights when the dial tone speed register circuit is in use on a remote control basis.

1.05 It also provides switches to control peg count registration, on three classes of originating traffic in step-by-step offices arranged for AMA.

SECTION II - DETAILED DESCRIPTION1. OPERATION OF REGISTERS AND MAGNETIC COUNTERS

1.01 Each register or counter of a group with a common battery supply jack (RED) has the inner end of its winding wired to a black jack BK (Fig. 1). Jack BK is connected by a cord to jack P (also black) which is wired to a P lead (Fig. 3). The outer ends of the registers are multipled and wired to a red jack RED. Jack RED (Fig. 2) is connected by a cord to jack S, S1, S2, S3 or S4 (also red) which is wired to a S, S1, S2, S3 or S4 lead (Fig. 4). The cords are long enough to permit connection of registers in one bay to P or S leads in an adjacent bay. The connections to leads P, S, S1, S2, S3 or S4 and C are specified in the associated traffic register circuit.

1.02 Each magnetic counter with individual battery jack has the inner ends of its winding wired to a black jack BK (Fig. 12). This jack is patched by a cord to one of the MP jacks (also black) which are wired to the MP leads (Fig. 13). The outer end of the winding of each magnetic counter is wired to a red jack RED. This jack is patched by a cord to one of the MS, MS1 and MS3 jacks (also red) which are wired to the MS, MS1 and MS3 leads (Fig. 14). Connections to these leads are specified in the associated traffic register circuit.

1.03 Lead P or MP usually connects directly to a circuit requiring traffic registration, otherwise it connects to an auxiliary relay in the traffic register circuit. Depending on traffic conditions, pulses are applied through lead P or MP which operate the associated traffic register or counter.

1.04 Leads S, S1, S2, S3, S4, MS, MS1 and MS3 connect to battery either directly or through contacts of relays which are under control of switches C.

2. CONTROL SWITCHES (FIG. 5)

2.01 Registrations, such as group busy and overflow, are usually required on a continuously enabled basis. For these registrations the registers are associated with S leads which have direct battery, as covered in the associated traffic register circuit. Other registrations, chiefly peg count or trunk usage, are required only during certain intervals such as the busy hour. In these cases the S, S1, S2, S3, S4 or P lead is controlled by relays, which in turn, are controlled by switches. The use of these control switches is covered by the connections to the C leads specified in the associated traffic register circuit.

2.02 Control switches are also used for remote control of the dial tone speed register circuit. Operation of switch C places ground on lead C to the traffic register circuit, operating a relay which starts the dial tone speed register circuit in the associated dial central office.

### 3. GUARD LAMP FOR DIAL TONE SPEED REGISTER CIRCUIT (FIG. 15)

3.01 When the dial tone speed register circuit is in use on a remote control basis, operation of a relay in the traffic register circuit connects battery to lead DT, lighting lamp DT.

### 4. RECORDER TALKING LINE JACKS

4.01 Each bay is equipped with jacks to provide communication with the recorder desk, by inserting an operator telephone set.

### 5. FRAME LINE TELEPHONE JACKS

5.01 Communication between two or more frames may be established by plugging operator telephone sets into the TEL jacks of the frames involved. Where two Local Frame Line Circuits are provided, independent communication is possible between either odd- or even-numbered frames.

### 6. PHOTOGRAPHING REGISTERS USING TRAFFIC REGISTER CAMERAS

6.01 Control switches shown in Fig. 5 will be multiplied at the traffic register circuit to the associated control switches in the Traffic Register Camera Control Circuit or the traffic usage recorder circuit.

6.02 Fig. 8 or 16 with Fig. 10 and 11 are used when both cameras are controlled from the traffic usage recorder circuit.

6.03 Fig. 9 or 17 (Q option), and Fig. 10 are used when both cameras are controlled from the Traffic Register Camera Control Circuit.

6.04 Fig. 11 and 19 are used with the traffic usage recorder circuit, and Fig. 17 (N option) is used with the Traffic Register Camera Control Circuit when the two cameras in the same cabinet are to be controlled from separate circuits.

6.05 The plug in Fig. 10 is connected to receptacle UCL or UCP in Fig. 8, 16 or 19 or to TRC- in Fig. 9 or 17, connecting 110-volt ac power supply and central office ground to the KS-14776 camera. When the associated circuits are ready to photograph the registers (usually on the hour or half-hour) ground will be applied over lead CCU, CCP or CCP- as required, operating the associated relay and/or CCP-. The operation of relay CCU or CCP- will close power ground through the plug to the associated receptacle and plug to the camera to cause a photograph to

be taken. When the associated circuit removes power ground from lead CCU, CCP or CCP-, the relay will release, removing power ground from the camera control lead.

### 7. STEP-BY-STEP ROUTE CLASS PEG COUNT SWITCHES (FIG. 18)

7.01 When the ET, FT and LT switches are in the OFF position, ground is connected to the ET, FT and LT leads, to signal the identifier circuit that peg count registrations are to be made for all three of the corresponding classes of traffic. When any switch is in the ON position, ground is connected only to the associated lead, and there is no ground on a lead associated with a switch in the OFF position. Thus ground is connected to at least one of the leads at all times, to satisfy the identifier circuit when it has been set for peg count registration by operation of the paper control switch (Fig. 5).

## SECTION III - REFERENCE DATA

### 1. WORKING LIMITS

1.01 None.

### 2. FUNCTIONAL DESIGNATIONS

2.01 None.

### 3. FUNCTIONS

3.01 Provides registers and magnetic counters to record various traffic conditions such as peg count, overflow, group busy, etc.

3.02 Provides jacks and cords to flexibly associate the registers and magnetic counters with circuits requiring traffic registration.

3.03 Provides jacks and cords to flexibly associate the registers in groups of ten with either direct or controlled battery supply. The magnetic counters are arranged for individual battery supply.

3.04 Provides control switches, which in conjunction with relays in the associated circuits, enable registrations such as peg count which require only periodic operation.

3.05 Provides switches to control peg count registration on three classes of traffic in step-by-step offices with 30'.

3.06 Provides frame line telephone jacks for talking between frames.

3.07 Provides recorder talking line jacks for talking to the recorder desk.

3.08 Provides control relays and receptacles providing power and protective ground for associated traffic register cameras.

3.09 Provides a guard lamp to indicate when the dial tone speed register circuit is in use on a remote control basis.

#### 4. CONNECTING CIRCUITS

4.01 When this drawing is listed on a keysheet the connecting information thereon is to be followed.

##### (a) Traffic Register Circuits

- (1) Crossbar Systems No. 1 and Tandem - SD-25942-01.
  - (2) Crossbar Systems No. 5 - SD-25892-01.
  - (3) Switchboard No. 3C, 3CL - SD-56233-01.
  - (4) SXS Systems - SD-30896-01, SD-31976-01.
  - (5) Intertoll Dialing - SD-56290-01.
  - (6) No. 4 Type Toll - SD-68412-01.
- (b) Local Frame Line Circuit - SD-96379-01.
- (c) Recorder Talking Line Circuit - SD-95532-01.
- (d) 2-Way Automatic Trunk Circuit - SD-55348-01.
- (e) Switchman Talking Line Circuit - SD-32021-01.
- (f) Line Insulation Test Control Circuit - SD-25796-01.
- (g) Traffic Usage Recorder Circuits
- (1) No. 2A and 3A - SD-96549-01.
  - (2) No. 3B - SD-99359-01.
  - (3) No. 4A - SD-95738-01.
- (h) Traffic Register Camera Control Circuit - SD-95797-01.
- (i) SXS Identifier Circuit - SD-31957-01.

#### 5. MANUFACTURING TESTING REQUIREMENTS

5.01 This circuit shall be capable of performing the requirements listed in 3. FUNCTIONS and the Circuit Requirements Table.

#### SECTION IV - REASONS FOR REISSUE

##### B. Changes in Apparatus (Components)

###### B.1 Added

5-Digit Manually Resettable Magnetic Counter - KS-20206, L1, M Option

Hubbell Receptacle, 7250G, UCL or UCR, Fig. 19 (R) Message Register, 14AD 185A Networks, M and K Options

##### D. Description of Changes

D.1 A 5-digit manually resettable magnetic counter (KS-20206, L1) is added as M option.

D.2 Q option is designated and Fig. 19 and N option are added, to provide a means whereby the two cameras mounted on the register cabinet may be controlled from different circuits. At present (prior to Issue 16D) both cameras are controlled from either the traffic usage recorder circuit or the Traffic Register Camera Control Circuit.

D.3 The new 14AD message register is added as K option for use as an alternate to the 14M message register. The 14AD message register is added for use with cameras when an optical character recognition system is employed. The white cover of the 14AD message register is more suitable for the optical character recognition system than the black cover of the 14M message register.

D.4 Notes 101, 102, 103, 104 and 204 are expanded and Note 306 is added in reference to the above changes.

D.5 CAD57 is modified and CAD59 is added in reference to Q and N options and Fig. 19.

D.6 The Connecting Circuits section of this CD has been expanded to add reference to the traffic register circuit used in No. 355A step-by-step offices (SD-31976-01).

D.7 The connecting information in Fig. 3 is expanded to include "Traffic Register Cabinet Circuit" to cover the connection of P leads between cabinets.

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