MEASUREMENT OF CONCENTRATOR TRUNK USAGE USING THE CONCENTRATOR TRUNK USAGE RECORDER CIRCUIT SD-96549-01

1. GENERAL

1.01 This section describes the method of using the concentrator trunk usage recorder circuit to record usage of line concentrator trunks in CCS's (100 call seconds) per trunk group, and auxiliary usage per partial trunk group.

1.02 This section is reissued to describe the use of the auxiliary traffic usage registration feature.

1.03 This circuit is controlled by either an optional 24-hour program clock timer or by one of two traffic camera control circuits: (1) the traffic register camera control circuit, or (2) the traffic usage recorder circuit.

1.04 A 100-second interval timer, two No. 206 selectors, several relays, a key, and an optional program timer constitute the major circuit components which are mounted on an 8- by 23-inch mounting plate. A 24-volt step-down transformer is also provided to furnish the ac supply for the timers.

1.05 Fig. 1 shows layout of trunk usage recorder viewed from apparatus side.

1.06 Ten concentrator trunk groups, consisting of as many as ten trunks per group, can terminate trunk-busy leads on terminal strips of this unit. This arrangement enables this circuit to record a trunk-busy indication on an individual traffic register for each trunk group during each scanning period. In addition, auxiliary registration of traffic usage may be taken of the last two, three, or four trunks of each group. This is accomplished when the 206A selector switch rapidly scans the ten trunk groups for grounds on individual trunk-busy leads, once every 100 seconds.

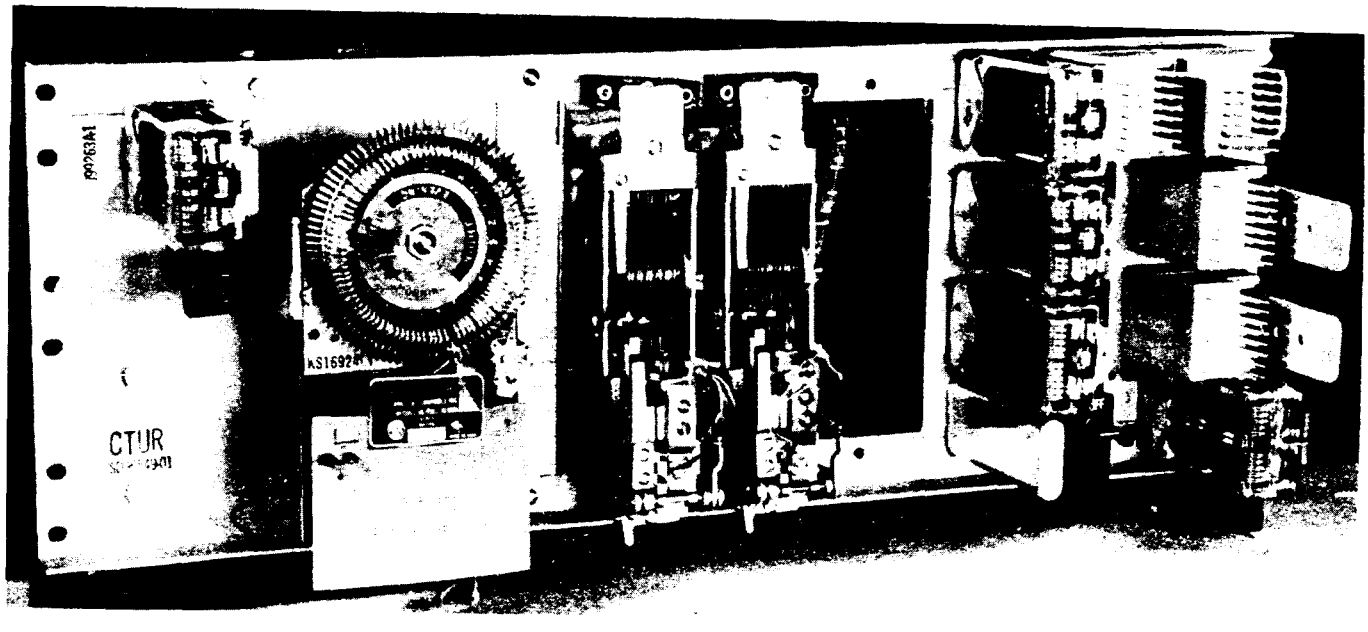

Fig. 1 – Concentrator Trunk Usage Recorder

2. APPARATUS

2.01 No separate apparatus is furnished or required since this circuit is wired directly to the other office circuits.

3. PREPARATION

3.01 If operation of the concentrator trunk usage recorder is not desired while the associated camera control circuit is being used, the OFF key on this recorder shall be operated.

3.02 The OFF key, if used, must be operated before the recorder starts, or else the recorder circuit will continue to operate for an entire hour before stopping.

3.03 If accurate camera recordings are to be taken, the OFF key must be released at least 98 seconds before the programed starting time to allow the circuit to resynchronize.

3.04 Traffic registers associated with this circuit are connected directly to battery and will operate directly from ground supplied through this circuit.

3.05 A line concentrator trunk correctly taken out of service will not register a busy indication to this recorder.

3.06 Auxiliary registration is determined by cross-connecting information listed in the circuit.

4. OPERATION

4.01 This circuit is controlled from the traffic register camera control circuit by operating the camera key which places the starting ground on the C- lead to the concentrator trunk usage recorder. If the traffic usage recorder circuit controls this circuit instead, the peg count key of that circuit is operated to extend ground on the C- lead to start circuit operation.

4.02 The optional 24-hour Tork Model 0-8001-SK program time switch is normally provided even though the camera control circuits are available to control this circuit. This is to allow the timer to be used for limited scanning during the time the camera control circuit is operating, or to provide separate and independent programing. The timer is always provided when camera control is not available.

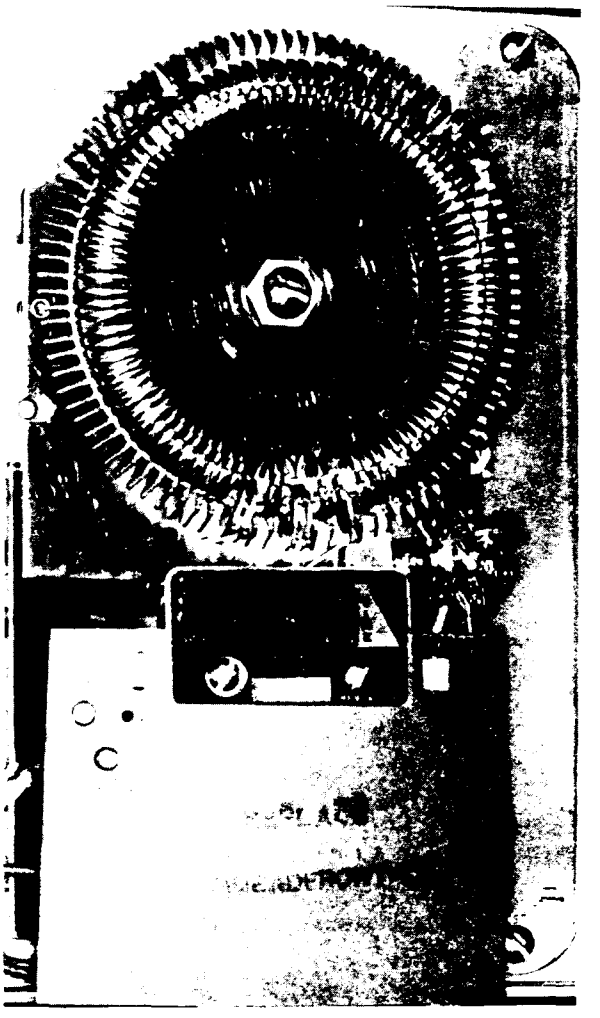

Fig. 2 – Program Timer

4.03 The program timer is mounted on the recorder as shown in Fig. 1, while Fig. 2 shows the timer separately.

4.04 The program timer can be programed to provide any combination of starting times throughout the week. The dial on the timer has 96 slots; each slot equals approximately 15 minutes of "ON" time. Tilting one tab on the rim of the dial outward, as illustrated in Fig. 1, will cause the trip arm switch on the timer to start the circuit beginning at the quarter hour desired for one hour. However, for example, if a 3-hour sequence of traffic measurement is desired, the tabs are tilted outward at 8:00 a.m., 8:45 a.m., 9:00 a.m., 9:45 a.m., and 10:00 a.m. as illustrated in Fig. 2. To assure that a variation in tab "ON" time does not affect the continuous operation of

the circuit from one hour until the next, an extra tab is set at the last quarter hour of all except the last hour of programed operation.

4.05 A 7-day calendar wheel is provided on the program timer as shown in Fig. 2. This 7-spoke wheel rotates once each week. Operation of this circuit may be omitted beginning after midnight by inserting the black knurled screws into the tapped holes in the spokes for those days to be omitted.

4.06 When it is necessary to set the timer, the 7-spoke wheel must first be set to the correct day. This is done by turning the dial counterclockwise until the fixed tab turns the 7-spoke wheel. Next, turn the 7-spoke wheel by hand until the spoke that indicates the present day of the week is pointing downward. During operation of the timer, the present day is always in this position.

4.07 Finally, the dial of the clock timer can be set to the correct time by turning it counterclockwise until the correct time is opposite the time arrow on the nameplate. Caution should be taken to notice whether the time is set for morning or evening.

4.08 A record of each trunk scan cycle is made by a cycle count register in the traffic register circuit. For each hour of recorder operation, 36 registrations are made.

5. REPORT

5.01 Any record required should be entered on the proper form.