

## TELERAPID AUTOMATIC DIALER

### 1. GENERAL

- 1.01 This section covers the Telerapid 125 and TR350 automatic telephone dialers.
- 1.02 This section is reissued to change the title and to include the Telerapid 125 automatic dialer which is similar to the Telerapid TR350. Various figures have been added to bring the information up to date. Due to extensive changes, marginal arrows have been omitted.
- 1.03 Either Telerapid dialer may be used at any common battery dial telephone station.

### 2. DESCRIPTION

- 2.01 The Telerapid automatic dialer is a device for dialing any one of fifty predetermined telephone numbers.
- 2.02 Each Telerapid dialer has two directory cards under plastic windows. Each directory card has 25 spaces for inscribing the names or telephone numbers of the customers who may be dialed by this device. The directory card on the left side is numbered 1 to 25 and on the right side, 26 to 50. (See Figs. 1 and 2.)



Fig. 1—Telerapid 125 Automatic Dialer



Fig. 2—Telerapid TR350 Automatic Dialer

2.03 The party to be called is selected by sliding the selector knob until the pointer of the selector appears directly opposite the name of the desired party. The handset is then removed from its mounting. When dial tone is heard, the lever on the front of the Telerapid should be depressed as far as it will go and then released. The Telerapid will then pulse the number of the name which has been selected. One exception to this procedure occurs in the case of central office calls from extensions of dial PBXs. In these cases, after hearing the PBX dial tone, the customer manually dials the code to select a trunk to the central office and waits for central office dial tone before pressing the lever. Telephone numbers which do not appear on the directory cards of the Telerapid must be dialed in the regular manner using the dial on the telephone set.

2.04 Conversation may begin as soon as the called party answers although the Telerapid has not completed its operating cycle.

### 3. INSTALLATION

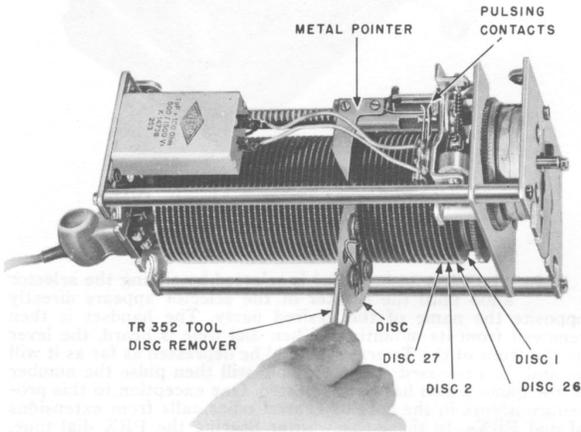
3.01 Both Telerapids may be placed flat on a table or desk, or one end may be raised about two inches by means of a bracket whose angular detents are pressed into the slots of the Telerapid base plate. (See Figs. 1 and 2.)

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3.02 For access to the discs, remove the base plate of the Telerapid by releasing the spring catch which holds it in place. Regardless of the number of discs which are cut for dialing from either Telerapid, 50 discs always must be in place on the respective shafts. The discs for use may be cut either before delivery or afterwards by the installer. The discs require no other adjustment than seeing that they are placed in the proper spaces with the spring side toward the lever end of the shaft, and that the slotted opening is in alignment with the shaft before pressing them firmly into place.

3.03 To remove a disc from the main shaft, slide selector knob to the desired number on directory card, lay the Telerapid on its side, and remove base. The metal pointer inside the dialer housing points to the disc to be removed. Insert the TR352 tool between the discs until the up-turned positions at the end of the two fingers engage the openings in the disc to be removed. A slight outward pull will dislodge the disc from the main shaft. (See Fig. 3.) The TR352 tool may be used on either Telerapid dialer. If this tool is not available, the disc can be removed by carefully using long-nosed pliers.

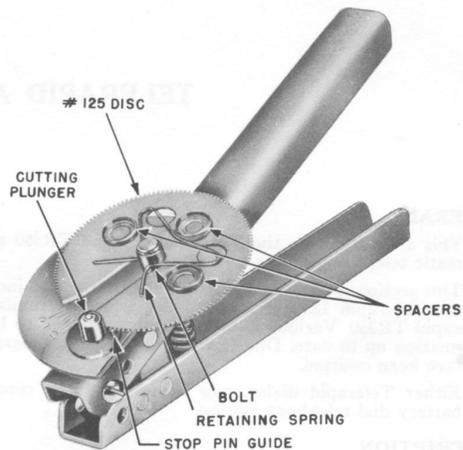
3.04 The discs for the Telerapid 125 and TR350 cannot be interchanged.



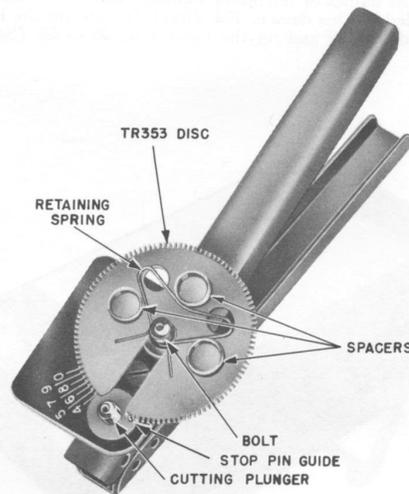
**Fig. 3—Telerapid Interior**

**Cutting Telerapid Discs 125 and TR353**

3.05 The disc for Telerapid 125 has 125 teeth, for Telerapid TR350, 102 teeth; each tooth represents one pulse. The discs are stamped **125** (Telerapid 125) and **102** (Telerapid TR350). In cutting the discs, only the special cutting tools 125Z or TR351 (for Telerapid 125 or TR350, respectively), each of which is capable of cutting three teeth per operation, must be used. Slide the disc, with the side holding the retainer spring facing up, onto the bolt nearest the handle of the cutting tool in such a position that the slot in the disc is toward the cutting plunger. (See Fig. 4 or 5.) To begin cutting the disc, rotate the disc clockwise so that the stop-pin guide is inserted between the second and third teeth, and then with counterclockwise pressure exerted on the disc operate the cutting tool. This operation will cut only the corner of the first tooth and permits the rider of the dialer to slide more readily over the teeth. **The stop-pin guide always must be inserted between teeth of the disc and counterclockwise pressure exerted on the disc when operating the cutting tool.**



**Fig. 4—Cutting Tool 125Z**



**Fig. 5—Cutting Tool TR351**

3.06 Since the cutting guide may not be accurate under all conditions, the teeth always should be counted to the right of the cutting plunger when setting up digits. To set up the first digit, the disc is rotated clockwise until the necessary teeth have been counted to the right of the cutting plunger. For example, if the first digit is P, R, S, or 7, the first seven teeth are not cut off. Always **include** the first partially cut tooth in counting digits and **be sure stop-pin guide is inserted between teeth of disc before cutting.** The cutting plunger cuts a maximum of three teeth and a portion of the fourth in one cutting operation.

3.07 Between the first and second digit, and each succeeding digit, five teeth always should be removed (except as

noted below). In removing the five teeth, remove three teeth with the first cut, then rotate disc clockwise two teeth, insert on stop-pin guide, and operate cutting tool. This will remove two teeth and the corner of the first tooth for next digit. After the desired number has been set up, the remaining teeth must be cut off in 2-tooth cuts after the first three teeth have been cut. Fig. 6 illustrates a disc cut with the call number RUtnam 6-9000.

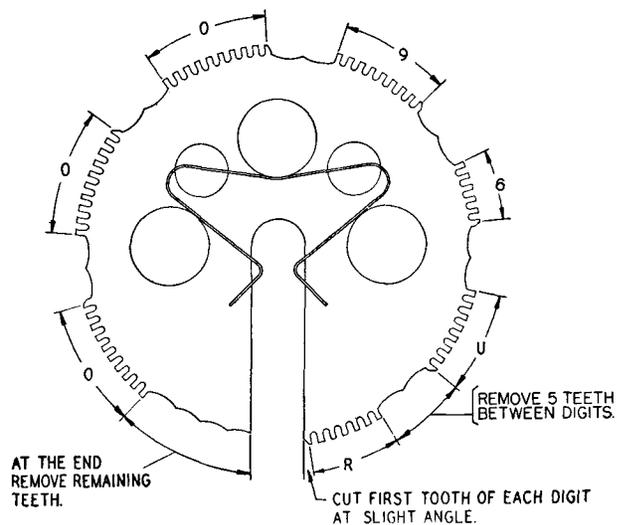


Fig. 6—Telerapid Dialer Cut Code Disc

3.08 When more than seven digits are involved in a telephone number, and the total pulses for the digits plus the interdigital spaces of five exceed a total of 125 for Telerapid 125 or 102 for Telerapid TR350, the interdigital spaces may be reduced to a minimum of three teeth. This, however, would be considered a satisfactory operating minimum for direct loops to crossbar and panel offices. When operating into step-by-step offices or PBXs the interdigital space never should be less than five teeth.

4. CONNECTIONS

4.01 Both Telerapids are connected to the telephone circuit through a 3-conductor cord which has a plug that can be inserted into either Telerapid in only one position. These cords and plugs may be interchanged on either Telerapid. The Telerapid circuit is designed so that during operation a short circuit is placed across the station set. Although this short circuit effectively eliminates pulsing clicks in the receiver, clicks are noticeable when the short circuit is applied or removed. The varistor across the U1 receiver of the set prevents these clicks from being pronounced when either Telerapid is associated with a 500-type telephone set. However, when used with other telephone sets, a 37B varistor should be placed across the receiver circuit in the telephone set mounting. (See Section C65.882, Varistors. 3A, 4A, 5A, 33A, and 37 Types, Connections.)

4.02 Figs. 7 through 11 show the connections necessary at the most common installations.

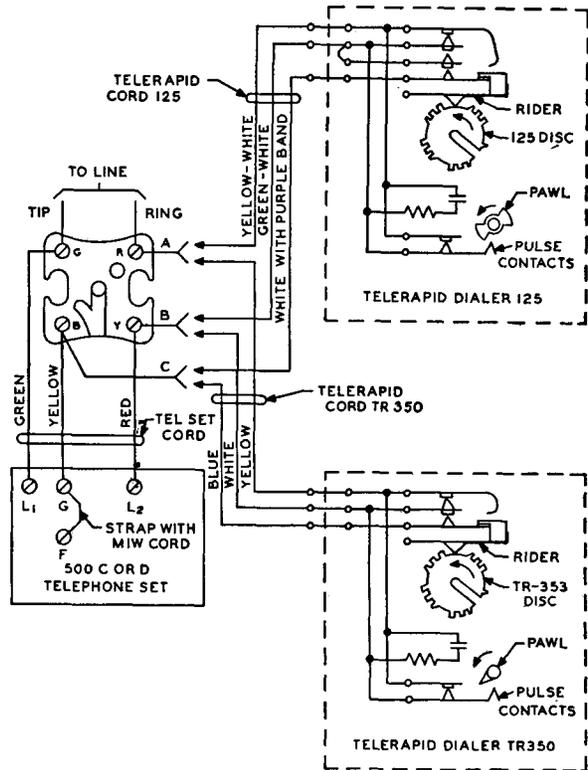


Fig. 7—Telerapid Dialers 125 and TR350 for 500-type Telephone Set

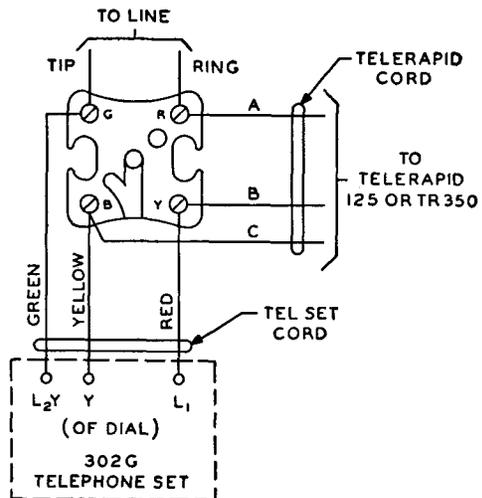


Fig. 8—Telerapid 125 or TR350 for 302-type Telephone Set

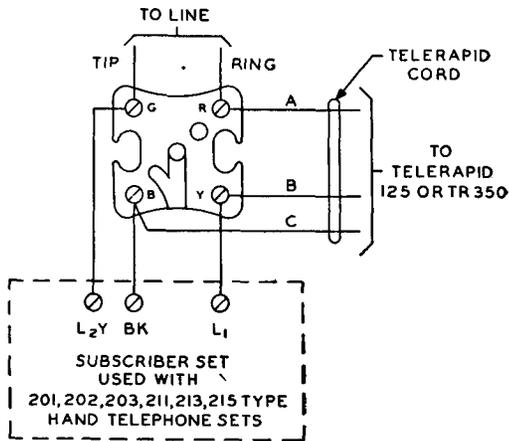


Fig. 9—Telerapid 125 or TR350 for 201, 202, 203, 211, 213, and 215-type Hand Telephone Sets

4.03 Figs. 10 and 11 show connections which can be made using 410- and 510-type telephone sets with any wiring option.

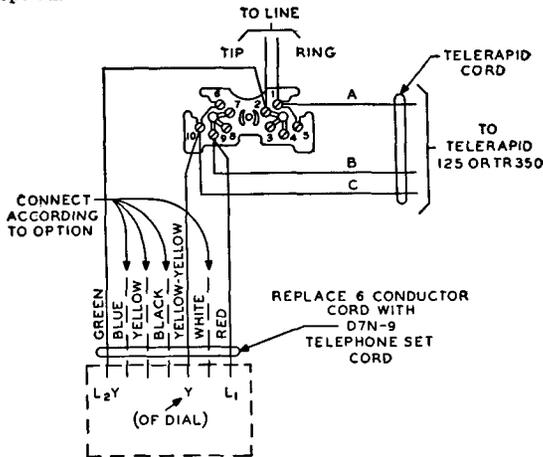


Fig. 10—Telerapid 125 or TR350 for 410B Telephone Set

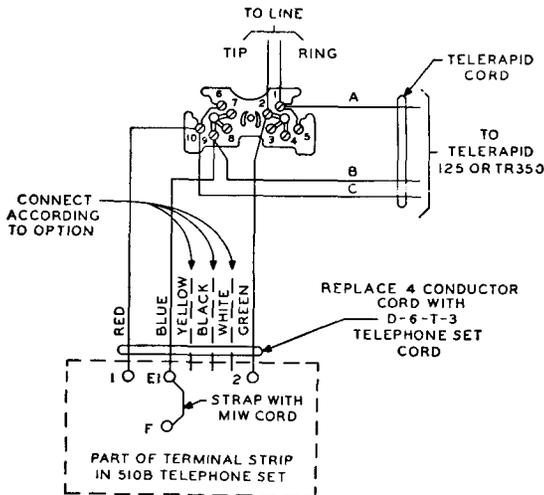


Fig. 11—Telerapid 125 or TR350 for 510B Telephone Set

## 5. MAINTENANCE

5.01 If the machine is tested from message rate, automatic ticketing, or other measured services, care should be taken to insure that the customer is not billed for such test calls. No adjustments of the Telerapid should be made in the field. **The entire Telerapid should be replaced if it does not operate correctly.** If the Telerapid is replaced for any reason, the code discs and directory cards should be transferred to the new Telerapid.

5.02 Because the line circuit is wired through the Telerapid, **the contacts in the plug, which connect the Telerapid to the telephone set, are arranged so that they automatically close when the plug is removed from the Telerapid** for any reason. This facilitates the removal of the Telerapid for servicing, replacement of disc, etc.

5.03 To remove or replace the directory cards for changes or additions in the numbers to be dialed in either Telerapid, unscrew and remove the lower nameplate and loosen the two screws holding the Telerapid nameplate in place.

## 6. SUPPLIES

6.01 Following is a list of supplies which may be needed in connection with the installation and maintenance of the 125 and TR350 Telerapid automatic dialers.

INDEX	ORDERING INFORMATION AND DESCRIPTION
Card	<b>SET, CARD, DIRECTORY, FOR TELERAPID 125 OR TR350 DIALERS.</b> Two cards for directory with 25 spaces on each card, one numbered 1 through 25, the other numbered 26 through 50.
Cord and Plug	<b>CORD, EQUIPPED WITH PLUG FOR TELERAPID 125 OR TR350.</b> Both the 125 and TR350 Telerapid cords are covered with black fabric and are about 5 feet long equipped with plugs at one end and spade tips at the other end. Each cord can be interchanged in either Telerapid. (See Fig. 7.)
Dialer	<b>DIALER, TELEPHONE, AUTOMATIC TELERAPID 125 OR TR350.</b> Both dialers are equipped with 50 discs and will dial 50 telephone numbers when discs are prepared for this use.
Disc	<b>DISC, TELERAPID 125 OR TR350.</b> The Telerapid disc 125 has 125 teeth, and TR350 has 102 teeth, which can be used only with the Telerapid 125 and TR350 automatic telephone dialers, respectively.
Tool	<b>TOOL, CUTTING, DISC, TELERAPID 125Z OR TR351.</b> The 125Z and TR351 cutting tools are used to cut teeth on the 125 and TR351 discs, respectively. <b>TOOL, REMOVING, DISC, TELERAPID TR352 AND 125.</b> This tool has two bent fingers and will remove discs from either Telerapid.
Window	<b>SET, WINDOW, FOR TELERAPID TR350.</b> The set consists of two Allymer CR-39 plastic windows to cover directory cards. The set also may be used with Telerapid 125.