

BELL SYSTEM PRACTICES
Teletypewriter and Data Stations

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28 DISTRIBUTORS AND TRANSMITTER-DISTRIBUTOR UNITS, BASES, AND HOUSINGS

LIST OF UNITS

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1. GENERAL

1.01 This section gives a brief description and the code designations of the distributors and transmitter-distributor units, bases, and housings of the 28 line of equipment.

1.02 The transmitter-distributor units, bases, and housings listed in this section are used in the 28 automatic send-receive set (28 ASR) and operate at 60, 75, or 100 words per minute in accordance with the gearing of the 28 ASR. There will be available later other mounting arrangements so that the 28E and 28F transmitter-distributor units can be used in self-contained transmitter-distributor sets.

2. DISTRIBUTORS

Note: Because of the similarity in the names of distributors and transmitter-distributors, these two pieces of equipment were coded in one alphabetical series in order to avoid misunderstanding when ordering. Thus there are:

28A	Distributor
28A-1	Distributor
28B	Transmitter-Distributor Unit and Base
28C	Transmitter-Distributor Unit and Base
28D	Distributor
28D-1	Distributor
28E	Transmitter-Distributor Unit and Base
28E-1	Transmitter-Distributor Base
28E-2	Transmitter-Distributor Base
28F	Transmitter-Distributor Unit and Base

2.01 28A Distributor: This is a multicontact distributor which operates at speeds of 60 and 75 words per minute. It is to be used with the 28 sequence selector or as a part of the 28E-2 transmitter-distributor base in a 28 ASR. The basic function of this distributor is to transmit one or more control characters such as transmitter-start codes and call-directing codes in the 83 selective calling systems.

2.02 28A-1 Distributor: This distributor is the same as the 28A distributor except it is equipped with the TP153921 modification kit which provides the necessary parts to mount the distributor on a 28 receiving or receiving-only teletypewriter, and the TP159361 modification kit which provides the necessary parts to add the terminal-block assembly to a 28B, 28C, 28D, or 28E teletypewriter cabinet.

2.03 28D Distributor: This is a multicontact distributor similar to the 28A, except it is designed to operate at a speed of 100 words per minute. The 28A distributor can be converted to a 28D distributor by changing the cam-sleeve assembly. It is included as a part of the 28E-1 transmitter-distributor base when used in a 28 ASR.

2.04 28D-1 Distributor: This is the same as the 28D distributor, except it is equipped with the TP153921 modification kit which provides the necessary parts to add the distributor to a 28 sending and receiving or receiving-only teletypewriter, and the TP159361 modification kit which provides the necessary parts to add the terminal-block assembly to a 28B, 28C, 28D, or 28E teletypewriter cabinet.

2.05 Additional information on distributors is given in BSP Section P34.630.

3. TRANSMITTER-DISTRIBUTOR UNITS

Note: Conformity must be maintained between transmitter-distributor units, transmitter-distributor bases, transmitter-distributor housings, and teletypewriter cabinets. At the present time, transmitter-distributor units which have a tape reader of the fixed type only, as in the 28E and 28F units, together with their respective bases and housings, are always associated with the 28G teletypewriter cabinet; and transmitter-distributor units which include a pivoted tape reader as in the 28B and 28C units, together with their respective bases and housings, are always associated with the 28F teletypewriter cabinet.

3.01 28B Transmitter-Distributor Unit: This unit has a pivoted transmitter (tape reader), a fixed transmitter (tape reader), and one multicontact distributor. It is designed to be mounted, together with its associated 28B transmitter-distributor base, in a 28 ASR having a 28F teletypewriter cabinet, and is mechanically driven from the 28 ASR through shafting in the base. It reads and distributes from 5-unit code standard 11/16-inch-wide Bell System tape at speeds of 60, 75, and 100 words per minute according to the gearing in the set. The 28B transmitter-distributor unit is a 3-clutch, 2-shaft unit. The three clutches control, independently, the pivoted tape reader, the fixed tape reader, and the distributor. **Fig. 1**

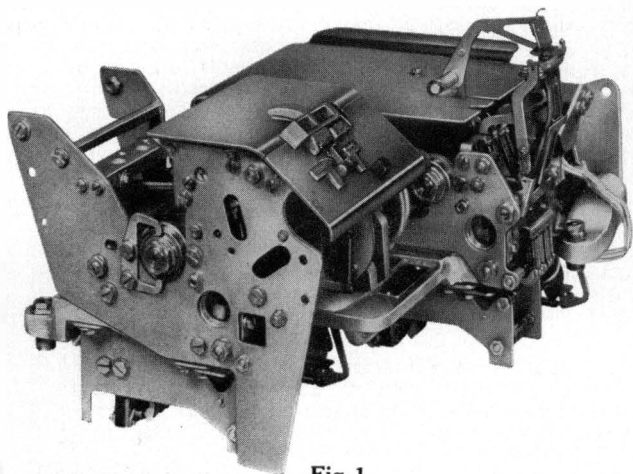


Fig. 1

(a) The pivoted tape reader is located inside the 28F teletypewriter cabinet in line with the punch unit. It feeds and senses chadless tape from the associated punch unit and climbs up the tape to read the last character perforated in the tape. If tape is being perforated when the transmitter is inoperative, the pivoted mechanism will swing away from the perforator and allow the perforated tape to form a loop and feed into a tape storage bin located below the unit. This transmitter has a contact for each sensing pin, an auxiliary contact, a distributor clutch-magnet contact, a sensing tape-out pin contact, and a tape-available contact which opens when the last character in the tape is sensed.

(b) The fixed transmitter is used as an auxiliary to allow an operator to send messages from prepared tape without removing the tape from the pivoted transmitter. The fixed transmitter has a contact for each sensing pin; an auxiliary contact; a distributor clutch-magnet contact; a tape-out pin contact; a tape-lid switch contact which operates when the lid is closed sufficiently to secure the tape; and a tangled-tape contact to stop operation when the tape becomes tangled. The tape-out pin is the riding type and its contact is closed when there is tape in the fixed reader and opens to stop operation of the reader when the end of tape passes by. This transmitter does not have the 3-position manual control switch for "start," "stop," and "freewheeling" which is found in other fixed transmitters.

(c) Both the pivoted and fixed transmitters operate in a feed-read-distribute sequence.

(d) The distributor operates from either the pivoted or fixed reader. It is a multiwire unit arranged for the 5-unit code and generates a neutral signal. The distributor shaft in this unit is actually a **distributor and sensing shaft** and extends across the width of both the fixed and pivoted transmitters. The distributor has two auxiliary contacts.

(e) The internal wiring of the 28B transmitter-distributor unit is connected to the cabinet terminal block by cabling from the 28C electrical service unit. The connectors of the 28C electrical-service-unit cabling mate with the transmitter-distributor-unit connectors which are mounted on the plug mounting bracket of the transmitter-distributor base.

3.02 28C Transmitter-Distributor Unit: This unit consists of a pivoted transmitter and a multicontact distributor and is designed to be mounted with its associated 28C transmitter-distributor base as part of a 28ASR in a 28F teletype-

writer cabinet. The pivoted tape reader is identical with the pivoted tape reader of the 28B transmitter-distributor unit. The distributor is identical with that of the 28B unit except that the long distributor-sensing shaft is replaced by a shorter distributor shaft. The 28C transmitter-distributor unit is capable of operating at speeds of 60, 75, or 100 words per minute in accordance with the gearing of the set. Operation is in a feed-read-distribute sequence.

(a) The internal wiring of the 28C transmitter-distributor unit is connected to the cabinet terminal block by cabling from the 28C electrical service unit. The connector of the 28C electrical-service-unit cabling mates with the transmitter-distributor connector which is mounted on the plug mounting bracket of the transmitter-distributor base.

3.03 28E Transmitter-Distributor Unit: This unit has a fixed transmitter and a distributor which uses a single contact to generate marking and spacing signals in a manner similar to the signal generator of the 28-type keyboard sending and receiving set. It is designed to be mounted on a 28E, 28E-1, or 28E-2 transmitter-distributor base in a 28G teletypewriter cabinet. It operates in a read-feed sequence, distribution taking place during the feeding of the subsequent character. This unit is equipped with a 3-position manual control switch, a tape-lid release button, a tangled-tape lever, and a pair of tape guides. It has a riding tape-out pin contact. It is planned to modify the internal wiring of this unit (shown in Fig. 2) by adding a plug connector so that the 28E transmitter-distributor unit also may be used as part of a self-contained transmitter-distributor.

Fig. 2

(a) The internal wiring of the 28E transmitter-distributor unit is connected to the cabinet terminal block through cabling from the 28F or 28G electrical service unit. As in the 28B and 28C transmitter-distributor units, the cable connector from the electrical service unit mates with the cable connector of the 28E transmitter-distributor unit which is mounted on the plug mounting bracket of the 28E transmitter-distributor base.

3.04 28F Transmitter-Distributor Unit: This is designed for use in a 28G teletypewriter cabinet and has a fixed transmitter, a multicontact distributor, and both a sensing shaft and a distributing shaft. It operates in a feed-read-distribute sequence, and is equipped with a 3-position manual control switch, tape-lid release button, tangled-tape lever, a pair of tape guides, and clutch-magnet arc suppressors. The transmitter has a contact for each sensing pin, an auxiliary contact, and a riding tape-out pin contact; and the distributor has an auxiliary contact.

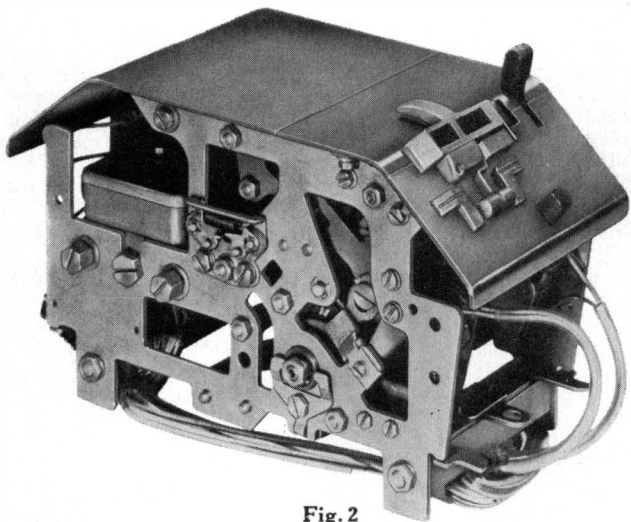


Fig. 2

(a) The internal wiring of the 28F transmitter-distributor unit is terminated in three plug connectors which mate with three plug connectors on the 28F transmitter-distributor base. Part of the base cabling is plug-connected to the electrical-service-unit cabling which in turn is connected to the cabinet terminal block. The remainder of the base cabling is plug-connected to the cable assembly which with the associated cabinet terminal block is part of the 28F transmitter-distributor housing.

4. TRANSMITTER-DISTRIBUTOR BASES

4.01 **General:** In addition to the base casting, each of the 28 transmitter-distributor bases includes a mounting bracket, main shaft and main-shaft pinion, intermediate shaft, coupler shaft and associated couplings, and a gear guard.

4.02 **28B Transmitter-Distributor Base:** This base is designed to mount both the fixed and pivoted transmitter-distributors of the 28B transmitter-distributor unit in a 28F teletypewriter cabinet.

4.03 **28C Transmitter-Distributor Base:** This base is designed to mount a 28C transmitter-distributor unit in a 28F teletypewriter cabinet.

4.04 **28E Transmitter-Distributor Base:** This base is designed to mount a 28E transmitter-distributor unit in a 28G teletypewriter cabinet.

4.05 **28E-1 Transmitter-Distributor Base:** This is the same as the 28E transmitter-distributor base except it is equipped with a 28D distributor or equivalent.

4.06 **28E-2 Transmitter-Distributor Base:** This is the same as the 28E transmitter-distributor base except it is equipped with a 28A distributor or equivalent.

4.07 **28F Transmitter-Distributor Base:** This base is designed to mount the 28F transmitter-distributor unit in a 28G teletypewriter cabinet.

5. TRANSMITTER-DISTRIBUTOR HOUSINGS

Note: See note at the beginning of Part 3.

5.01 The sheet-metal parts of transmitter-distributor housings should be ordered in the same finish as the teletypewriter cabinet. To indicate the desired color, use the appropriate Bell System number suffix from the following table in place of the two asterisks (**) given as part of the code number.

<u>Finish</u>	<u>Bell System Code</u>	<u>Teletype Code</u>
Black wrinkle	37	AA
Dark-brown wrinkle	38	AD
Light-brown wrinkle	39	AC
Gray-green wrinkle	40	AB

5.02 **28B** Transmitter-Distributor Housing:** The 28B** transmitter-distributor housing is used as part of a 28 ASR when the set includes a 28B transmitter-distributor unit and a 28F teletypewriter cabinet. It is made up of the auxiliary cover and housing which enclose the fixed sensing head of the unit and the crossbar which fits around the pivoted sensing head and distributor portion of the unit; the keyboard-control designation plate; the tape guide with roller through which the tape is led from the tape-supply container to the punch unit; and the tape chute which leads the tape from the punch unit to the tape storage bin.

5.03 **28C** Transmitter-Distributor Housing:** The 28C** transmitter-distributor housing is used as part of a 28 ASR when the set includes a 28C transmitter-distributor unit and a 28F teletypewriter cabinet. It is made up of the crossbar which fits around the transmitter-distributor unit, the keyboard-control designation plate, the tape guide with roller, and the tape chute.

5.04 **28E** Transmitter-Distributor Housing:** The 28E** transmitter-distributor housing is used as part of a 28 ASR when the set includes a 28E transmitter-distributor unit and a 28G teletypewriter cabinet. It is made up of the auxiliary housing and crossbar which fit around the 28E transmitter-distributor unit, the tape guide with roller; and the tape-exit plate. (This housing does not include the keyboard-control designation plate.)

5.05 **28F** Transmitter-Distributor Housing:** The 28F** transmitter-distributor housing is used as part of a 28 ASR when the set includes a 28F transmitter-distributor unit and a 28G teletypewriter cabinet. It is made up of the cover and crossbar which fit around the transmitter-distributor unit; the cabinet terminal-block assembly together with associated cover, insulator, and bracket; the cable assembly; the tape guide with roller; and the tape-exit plate. (This housing does not include the keyboard-control designation plate.)

6. REFERENCE BELL SYSTEM PRACTICES

6.01 The following Bell System Practices contain information applicable to distributors and transmitter-distributors:

<u>Subject</u>	<u>Section</u>
Cleaning—General Requirements	P30.010
Lubrication—General Requirements	P30.011
Teletypewriter—General Requirements and Procedures	P30.012
Tools and Maintenance Supplies	P30.301
28B and 28C Transmitter-Distributor Units— Wiring Diagram	P34.306
28B Transmitter-Distributor Unit—Lubrication	P34.603
28C Transmitter-Distributor Unit—Lubrication	P34.602
28A Distributor—Description, Installation, Requirements, Procedures, and Lubrication	P34.630
28C Transmitter-Distributor Unit—Requirements, Procedures, and Disassembly Instructions	P34.631
28B Transmitter-Distributor Unit—Requirements, Procedures, and Disassembly Instructions	P34.632