

BELL SYSTEM PRACTICES
Teletypewriter and Data Stations

SECTION P34.105
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AT&T Co Standard

28 CABINETS, TABLES, COVERS, AND HOUSINGS

LIST OF UNITS

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1. GENERAL

1.01 This section lists by code designations, together with a brief description, all 28-type cabinets, end panels, covers, tables, and housings designed to enclose and protect the various components of the 28 line of equipment. Some of the coding information in this section is also covered in Bell System Practice Sections P34.101, P34.102, and P34.103, but will be deleted from those sections when they are reissued.

Note: The 28 transmitter-distributor mounting and cover assemblies are not included in this section, but will be included in BSP Section P34.103 when that section is reissued.

1.02 The 28-type cabinets, etc, covered in this section are available in the following finishes except where stated otherwise. To indicate the desired finish, 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

2. 28 APPARATUS CABINETS AND ASSOCIATED END PANELS AND REPERFORATOR-TRANSMITTER ADAPTER UNIT

2.01 **General:** The 28-type apparatus cabinets are made of gray-green sheet metal. They are designed to accommodate a variety of 28-type equipment and their associated circuitry for use in teletypewriter switching systems. In order to minimize the mechanical transmission of noise, these cabinets are made up of an inner framework on which the equipment is mounted and an outer shell which serves as a noise and dust enclosure. Contact between the framework and shell is at floor level. The top of the cabinet varies according to the particular units it is designed to house. Both the front and rear of the cabinets are enclosed with two full-length sheet-metal doors. Except for the 28A-2 apparatus cabinet, the two front doors have clear plastic panels to allow the operation of the units to be seen. The sides of the cabinet are removable and are coded separately as end panels. If a bank of cabinets is used, an end panel is added to each of the two outer cabinets. If the cabinets are mounted individually, a set of end panels is required for each cabinet. A raceway is provided at the bottom rear of each cabinet to keep the cabling off the floor. For against-the-wall installations this raceway may be fastened in place from inside the cabinet. A junction box containing two 3-wire ac convenience outlets, a fuse box with a capacity of four fuses, a hinged relay rack to hold the electrical components, and two 120-point terminal connectors are provided.

2.02 **28A Apparatus Cabinet:** This cabinet is designed to house two 28 reperforator-transmitter sets mounted side by side on separate pull-out shelves. A hinged hood with a blank control panel forms the top of this cabinet. It measures approximately 60 inches high, 25-1/2 inches wide, and 26-1/4 inches deep. Fig. 1 shows a front view of the 28 apparatus cabinet with two reperforator-transmitter sets mounted in it.

This figure also shows the 28A and 28B end panels mounted on the sides of the cabinet. Fig. 2 is a rear view of the same cabinet.

Fig. 1 & 2

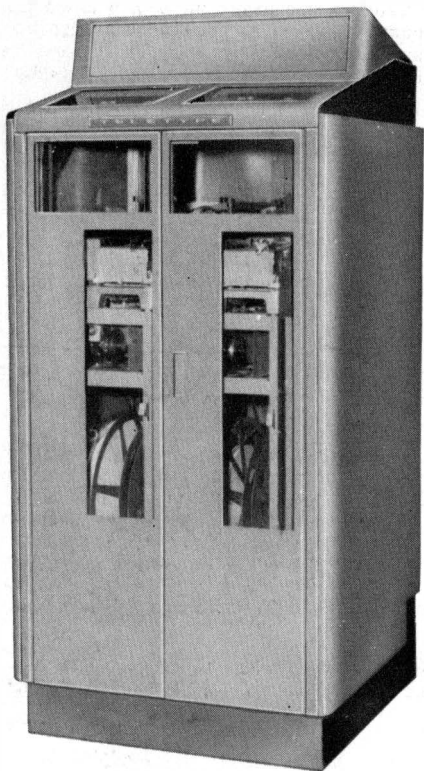


Fig. 1

2.03 28A-1 Apparatus Cabinet: This cabinet is approximately 56 inches high, 25-1/2 inches wide, and 26-1/4 inches deep. It differs from the 28A apparatus cabinet in that it does not have the hinged hood, is arranged to house three 28 typing

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reperforator units on a multiple typing reperforator base, and has a three-gang tape winder on a common sliding shelf.

2.04 **28A-2 Apparatus Cabinet:** This cabinet is the same as the 28A-1 apparatus cabinet, except it is arranged to house six 28 typing reperforator units mounted three each on two multiple typing reperforator bases, and the front doors do not have clear plastic inserts. A tape bin extends across the lower part of both front doors, but is mounted on only one in order to allow the doors to be opened.

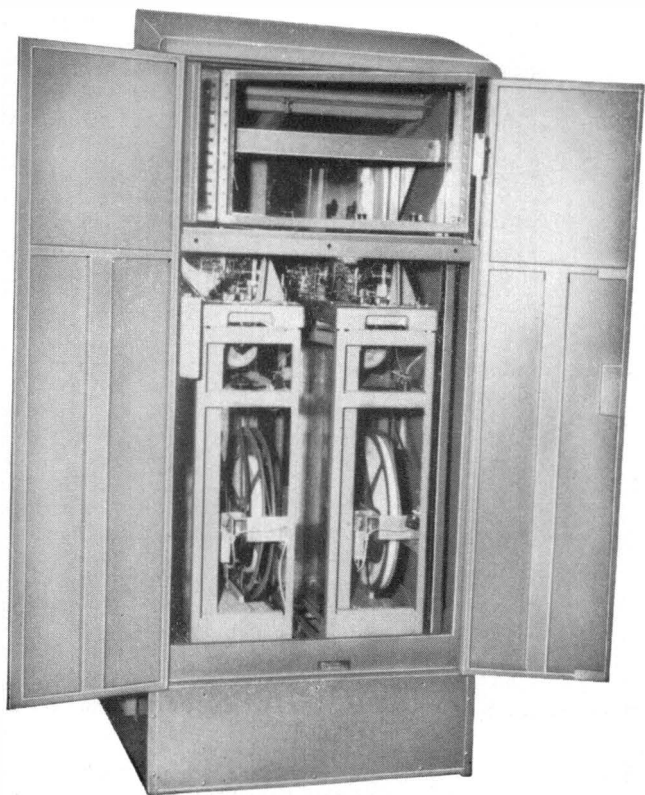


Fig. 2

2.05 **28A-3 Apparatus Cabinet:** This is the same as the 28A-2 apparatus cabinet except it is arranged to house three transmitter-distributor units on a multiple transmitter-distributor base and three 28 typing reperforator units on a multiple typing reperforator base, and has clear plastic inserts in the front doors.

2.06 **28A-4 Apparatus Cabinet:** This cabinet is the same as the 28A-3 apparatus cabinet except it also houses a three-gang tape winder for use with the typing reperforator units.

2.07 **28A-5 Apparatus Cabinet:** This cabinet is the same as the 28A-3 apparatus cabinet except it is arranged to house six transmitter-distributors mounted three each on two multiple transmitter-distributor bases.

2.08 **28B Apparatus Cabinet:** This cabinet is primarily intended for use in the 81D1 teletypewriter system. It is similar to the 28A apparatus cabinet except for the following additional features.

- (a) One TP162361 (500 ma) rectifier to supply direct current for the line relays.
- (b) Mountings for two line relays on the hinged panel inside the cabinet.
- (c) Two 28A reperforator-transmitter adapter units and their mountings.
- (d) Wiring and special apparatus features required for the 81D1 system.

2.09 **28A Apparatus Cabinet End Panel:** This end panel is designed to enclose the right side of an individual cabinet or the right side of a row of 28 apparatus cabinets.

Fig. 1

2.10 **28B Apparatus Cabinet End Panel:** This end panel is designed to enclose the left side of an individual cabinet or the left side of a row of 28 apparatus cabinets.

Fig. 1

2.11 **28A Reperforator-Transmitter Adapter Unit:** This unit provides the features necessary to adapt a 28D reperforator-transmitter set for use in the 81D1 teletypewriter switching system. It is a sheet-metal chassis measuring approximately 9 inches by 9 inches by 5 inches and weighs 16 pounds including all plug-in relays. Other features are:

- (1) A terminal strip which provides for strapping options required for the circuit with which the unit is used.

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- (2) Six 295A dry reed relays to perform various control functions in the incoming line circuit.
- (3) Twenty-three sockets for 291B mercury relays. These relays perform various control functions in circuits other than the incoming line.

Twenty-three 291B mercury relays must be ordered separately for use with this unit.

3. 28 TELETYPEWRITER CABINETS AND COVERS

3.01 **28A** Teletypewriter Cabinet:** This console-type cabinet measures approximately 40-1/2 inches high, 20-1/2 inches wide, and 18-1/2 inches deep, and weighs approximately 75 pounds. It may be used with either an ac or dc power supply. It is designed to house a 28-type teletypewriter base (either send-receive or receiving only), typing unit, motor unit, and electrical service unit. It can be used only for nonselective calling arrangements and requires the use of the 28A electrical service unit. It has the following features:

- (a) Three 10-point terminal blocks
- (b) Copylight
- (c) End-of-line indicator lamp
- (d) Signal bell associated with the S contacts of the teletypewriter.
- (e) Copyholder and line guide mounted on the front of the cover.
- (f) Hinged cradle used to mount the teletypewriter. This allows the teletypewriter to be pivoted forward for access on all sides.
- (g) Shelf in lower section which may be used to mount a rectifier.
- (h) Panel-type door enclosing lower section which may be removed and used as a maintenance tray as shown in Fig. 3.

Fig. 3 shows some of the features of the 28 teletypewriter cabinets and the position of the electrical service unit in the cabinet.

Fig. 3

Manufacture discontinued. Replaced by the 28D teletypewriter cabinet.

3.02 **28B** Teletypewriter Cabinet:** This cabinet is the same size and shape as the 28A. It is for use with dc power only, requires the use of the 28B electrical service unit, and may be modified for use with selective calling. This cabinet is equipped with two 20-point terminal blocks, two

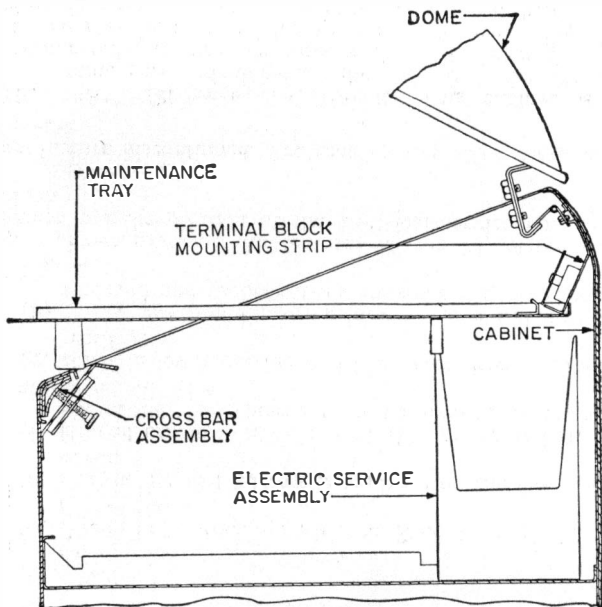


Fig. 3

60-volt copy lamps in parallel with a 700-ohm resistor in series with each lamp, and the wiring to facilitate connecting it to the necessary subscriber set.

Manufacture discontinued. Replaced by the 28D teletypewriter cabinet.

Note: Fig. 4 shows a 28-type teletypewriter cabinet equipped with a directory holder and a 28 KSR. A directory holder is now a standard feature of all 28 KSR, RO, and ASR cabinets.

Fig. 4

3.03 28C Teletypewriter Cabinet:** This cabinet is designed to be table- or shelf-mounted and is the same as the upper portion of the 28B teletypewriter cabinet. It weighs approximately 45 pounds and has the following dimensions: Height—16 inches when closed, and 29 inches with both dome

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and small door open; width—20-1/2 inches; depth—18-1/2 inches.

Manufacture discontinued. Replaced by the 28E teletypewriter cabinet.



Fig. 4

28B TRANSMITTER DISTRIBUTOR
HOUSING

28F TELETYPEWRITER CABINET



Fig. 5

3.04 **28D** Teletypewriter Cabinet:** This cabinet supersedes the 28B teletypewriter cabinet and differs from it in that it uses an ac power supply and is equipped with a transformer and two 6-volt copylights in parallel.

3.05 **28E** Teletypewriter Cabinet:** This cabinet is the same as the upper portion of the 28D teletypewriter cabinet.

3.06 **28F** Teletypewriter Cabinet:** This cabinet is a part of a 28 automatic send-receive set which includes a pivoted transmitter-distributor or a pivoted and fixed transmitter-

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distributor. It measures approximately 39 inches high, 36 inches wide, and 18-1/2 inches deep excluding the 5-1/2 inch depth of the tape-winder compartment, and weighs approximately 185 pounds. Fig. 5 shows a 28 ASR using the 28F teletypewriter cabinet and a 28B transmitter-distributor housing. The 28F** teletypewriter cabinet has the following features: **Fig. 5**

- (a) An opening in the left front surface through which the fixed transmitter-distributor of a 28B transmitter-distributor unit projects.
- (b) Various doors in the dome to provide access to the page copy, the tape reel, the tape punch, and the ribbon spools of the tape printer.
- (c) A cutout panel on the horizontal surface of the left front door of the dome which may be removed and the space used to mount a control panel for additional facilities.
- (d) Suitable terminal blocks on the upper rear wall for making connections to the internal circuits not provided by the terminal blocks on the 28C electrical service unit.
- (e) Copylights of the 6-volt type in the areas of the typing unit, tape punch, and tape reader.
- (f) End-of-line indicator lamp of the 6-volt type.
- (g) A tape-winder compartment in the lower left-hand corner. (The 4A tape winder is used with the 28 ASR. Its description and use are given in BSP Section P31.118.1.)
- (h) A tape storage bin for temporary storage of tape between the tape punch block and the pivoted transmitter.
- (i) A mounting rack in the lower portion of the cabinet which will accommodate as many as eight 19- or 23-inch mounting plates of 1-3/4 or 2-inch widths.
- (j) A 28A copyholder mounted on the right side of the cabinet.
- (k) A directory holder mounted on the left side of the cabinet.

3.07 28G Teletypewriter Cabinet:** This cabinet is a part of a 28 automatic send-receive set which uses a fixed transmitter-distributor unit such as the 28E or 28F. It differs from the 28F teletypewriter cabinet in that the left side of the dome is offset toward the rear to allow space for access to the transmitter-distributor and it does not have a tape storage bin or a tape-winder compartment.

Note: A transmitter-distributor housing having the same code as the transmitter-distributor unit used in a par-

ticular 28 ASR must be ordered to enclose the transmitter-distributor unit after it has been positioned in the 28F or 28G teletypewriter cabinet. For example, if the 28 ASR uses a 28B transmitter-distributor unit, a 28B transmitter-distributor housing must be ordered to enclose it in the 28F teletypewriter cabinet. **Fig. 5**

3.08 28A Teletypewriter Cover: This is a close-fitting teletypewriter cover approximately 17 inches wide. It is furnished in gray-green only and includes the following features:

- (a) End-of-line indicator lamp, busy lamp, copylights, 6-volt copylight transformer, a terminal block for all connections between the transformer and ac power and the transformer and the various lamps. Connections to the terminal block from power are provided through a cord and plug whose total length is approximately 2 feet.
- (b) A base plate equipped with shock mounts. Two cutouts at the rear of the base plate provide space for the typing unit and base cords.
- (c) A mounting bracket set of parts to provide for mounting any standard electrical service unit in a stand below the teletypewriter. This set of parts consists of:
 - (1) A mounting strip to be mounted on the rear wooden wall of the stand. This strip is equipped with two stand-off shoulder screws for mounting the electrical service unit brackets.
 - (2) Two brackets to be mounted at the right- and left-hand ends of the electrical service unit by the present service unit mounting screws. These two brackets have keyhole slots for mounting over the shoulder screws.
 - (3) A plate equipped with two 20-point terminal blocks, a signal bell, and provision for mounting 40 additional terminals. This plate, arranged to mount on the front of the electrical service unit, is fastened by two turned-over projections which engage the upper extensions of the electrical service unit and two screws which mount in holes already provided in the electrical service unit.
 - (4) A hinged cover to provide a guard for the wiring of the electrical service unit and the wiring to the terminal blocks on the plate mounted to the electrical service unit. The vertical portion of the hinged cover is equipped with a magnetic latch to hold it in position.

3.09 **28A-1 Teletypewriter Cover:** This cover is furnished in dark gray enamel and is the same as the 28A teletypewriter cover except that it is not equipped with parts for mounting and covering the electrical service unit.

4. TRANSMITTER-DISTRIBUTOR HOUSINGS

4.01 Transmitter-distributor housings are, in effect, sets of parts used to modify 28F and 28G teletypewriter cabinets to accommodate the various transmitter-distributors used as part of a 28 ASR. Each transmitter-distributor housing should be ordered in the same finish as the cabinet with which it is to be associated. See **Note** following 3.07.

4.02 **28B** Transmitter-Distributor Housing:** This housing is used as a part of a 28 ASR which includes a 28B transmitter-distributor and a 28F teletypewriter cabinet.

4.03 **28C** Transmitter-Distributor Housing:** This housing is used as a part of a 28 ASR which includes a 28C transmitter-distributor and a 28F teletypewriter cabinet.

4.04 **28E** Transmitter-Distributor Housing:** This housing is used as a part of a 28 ASR which includes a 28E transmitter-distributor and a 28G teletypewriter cabinet.

4.05 **28F** Transmitter-Distributor Housing:** This housing is used as a part of a 28 ASR which includes a 28F transmitter-distributor and a 28G teletypewriter cabinet.

4.06 **28G** Transmitter-Distributor Housing:** This housing is used as a part of a 28 ASR which includes a 28G transmitter-distributor and a 28G teletypewriter cabinet.

4.07 **28H** Transmitter-Distributor Housing:** This housing is used as a part of a 28 ASR which includes a 28H transmitter-distributor and a 28G teletypewriter cabinet, and is the same as the 28E transmitter-distributor housing.

5. TYPING REPERFORATOR CABINETS, TABLES, AND COVERS

5.01 **28A Typing Reperforator Cabinet:** This cabinet is a universal type designed for use with the 82B selective calling system and is furnished in gray-green only. It is approximately 77 inches high, 33 inches wide, and 24 inches deep and is mounted on a 4-1/2 inch high base which is slightly smaller than the cabinet dimensions in order to allow for toe clearance. It accommodates four receiving-only typing reperforators and four tape winders. The typing reperforators are mounted two each on two separate sliding tray assemblies. The tape winders are bracket-mounted on a sliding tray beneath

each typing reperforator. The front of the cabinet is enclosed with two full-length doors; each door has two clear plastic windows located so that the operation of each tape winder can be viewed. The rear of the cabinet is enclosed with four removable panels. The cabinet is equipped with a 120-point terminal block and four tape-out lamps.

5.02 28A-1 Typing Reperforator Cabinet: This cabinet is approximately 77 inches high, 33 inches wide, and 24 inches deep, and is furnished in gray-green only. When fully equipped it weighs approximately 400 pounds. It provides housing for six 28 typing reperforators, two each on three sliding shelves. Each shelf is covered by a door which may be raised and pushed into the cabinet out of sight. Each door has two slots through which the tape is fed from a tape chute into two tape bins mounted on the lower portion of the cabinet. Six tape-out indicator lights, mounted three each on two hinged panels, are located in the upper front portion of the cabinet and operate on 115 volts ac. One audible tape-out alarm common to all units is furnished. Four removable panels on the rear of the cabinet provide accessibility for servicing the units. Six cables, each having a 3-point receptacle, are provided to connect the typing reperforators to power. Six cables, each having a 16-point plug, are provided to connect the typing reperforators to their associated signal line, tape-out indicator lights, and tape-out alarm. Terminal block facilities for ac power input and six individual power-line circuits are provided.

5.03 28A Typing Reperforator Cover:** This cover forms a protective enclosure for a table- or shelf-mounted receiving-only typing reperforator unit, base, and motor. It fits around the typing reperforator unit and rests on the lower plate of the typing reperforator base. A clip to hold the cover securely in place is furnished with cover for installation on the base at the time of station assembly. A hinged lid in the cover permits access to the unit to load tape and change ribbons. The lid is equipped with a window for viewing the operation of the tape punch and tape-printer, and with a red translucent button which is illuminated by the tape-out lamp on the typing reperforator base when that lamp is lit. Openings in the rear of the cover permit cable entry and access to the power switch.

Fig. 6

5.04 28A Typing Reperforator Table:** This is a sheet-metal table measuring 25-1/2 inches high, 20-1/2 inches wide, and 18-1/2 inches deep. It is a part of the 28 typing reperforator set. The table top is gray linoleum cemented to a sound-deadened steel subtop. A 2-1/2 inch diameter cable-entry hole

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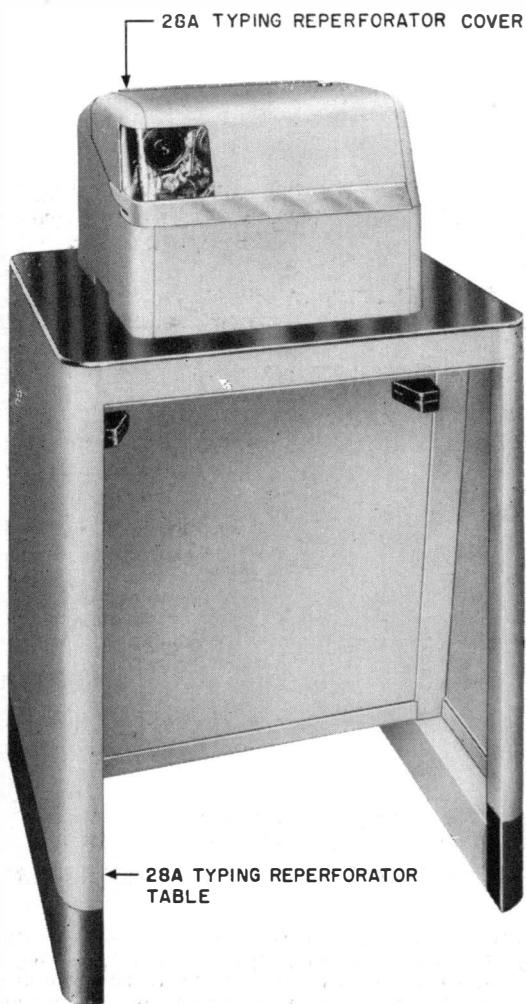


Fig. 6

is located in the rear center of the top. A compartment extending from beneath the top of the table to the kickplate accommodates a 28D electrical service unit. A 9-point terminal board is mounted on the rear table panel inside the compartment. The table has four adjustable mounting feet. Slots are provided in case it is desired to bolt the table to the floor.

Fig. 6

6. REFERENCE TO BELL SYSTEM PRACTICES

6.01 The following Bell System Practices provide additional information that may be required in connection with this practice.

Subject	Section
Cleaning—General Requirements	P30.010
Lubrication	
General Requirements	P30.011
4A Tape Winder	P31.118.1
28 Teletypewriter	P34.601
Requirements and Procedures	
General Teletypewriter	P30.012
4A Tape Winder	P31.118.1
28 Teletypewriter Cabinets	P34.614
28 Typing Reperforator Set	P34.651
Wiring Diagrams	
28 KSR and RO Cabinets and Electrical Service Units	P34.302
28F** Teletypewriter Cabinet	P34.319
28F** Teletypewriter Cabinet With 28C Electrical Service Unit	P34.302
28G** Teletypewriter Cabinet	P34.314
28A Typing Reperforator Cabinet	P34.310
28A-1 Typing Reperforator Cabinet	P34.313

