

**MESSAGE REGISTER RACK**  
**UNIT TYPE**  
**EQUIPMENT DESIGN REQUIREMENTS**  
**COMMON SYSTEMS**

**1. GENERAL**

**Scope**

**1.01** This specification, together with the supplementary information listed herein, covers the equipment design requirements for the framework, equipment and circuits to be used in the manufacture and installation of the line message register rack. Equipment covered in this specification may be ordered by specifying the information covered in Part 4.

**Reasons for Reissue**

**1.02** This specification is reissued to incorporate previous appendix changes.

**1.03** To generally bring this specification up-to-date.

**General Description**

**1.04** *The line message register rack (Fig. 1)* contains the message registers associated with the subscriber line circuits. The framework is 11 feet, 6 inches high and is less than 1 foot from front to rear so that it is possible, where desired, to place it in line with local manual, panel, or step-by-step frames.

**1.05** *The capacity of the line message register rack* is 1000 message registers per rack. The message registers are mounted on mounting plates, ten message registers per mounting plate, and the framework and cabling are so designed that one mounting plate may be moved forward at a time for the purpose of inspecting or cleaning the mechanism of the message registers.

**1.06** *Casings:* The line message register rack is arranged to be furnished with or without casings. Where casings are furnished it is standard practice to furnish two complete casings for each

rack, one for the lower and one for the upper portion of the rack. Each casing is composed of a front half and rear half. The two halves of the casing are similar except that the rear portion has a slot at the top and bottom for the cables to pass through and the sliding doors of the front half are equipped with glass while the rear doors have metal panels substituted for the glass.

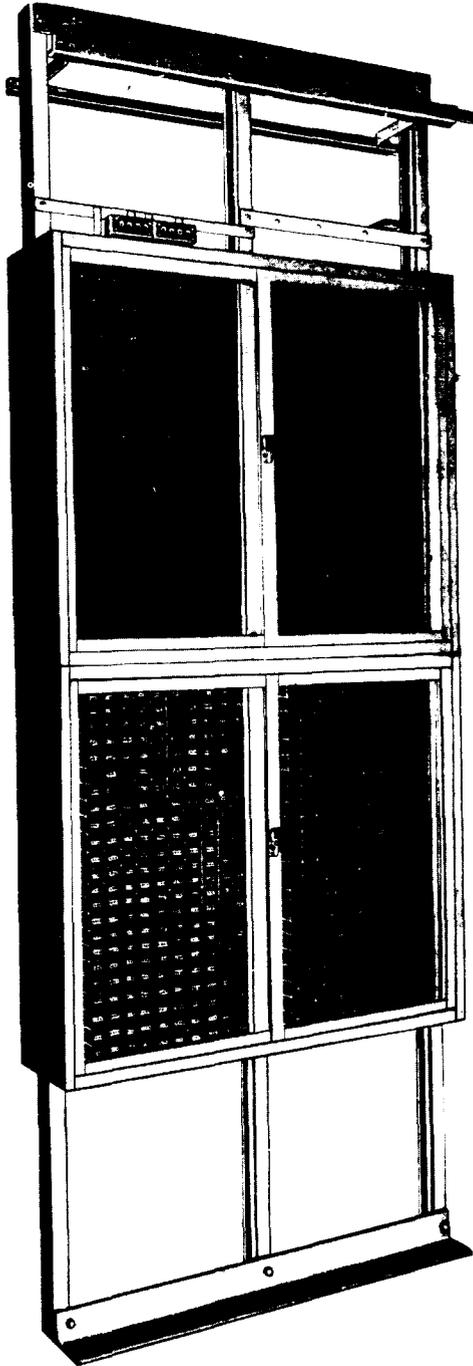
**1.07** *Photographic Recording:* The registers of each rack are mounted and cabled so that it is possible to photograph the 500 registers in the left half of the two casings consecutively without moving the sliding doors. After the sliding doors are moved from the right side to the left side, the 500 registers mounted in the right half of the two casings may then be photographed consecutively.

**1.08** *End Guards:* The line message register rack is designed so that an end guard similar to the other end guards in the office may be mounted at either end.

**1.09** *Masking of Registers:* When photographing the registers, undesirable light reflections produce extraneous markings on the photographic record of the message register readings. To improve this condition, a mask of black paper, Form E2973, which fits snugly inside the register cap and covers, has been developed.

**2. SUPPLEMENTARY INFORMATION**

AA128.002—List of Equipment Design Sections  
800-600-000—List of General Equipment Requirement Sections  
801-000-000—Equipment Design and General Equipment Requirements and Engineering Information—Common Systems  
J99250—814-050-153—815-075-151 — 816-028-151—Line



**Fig. 1—Line Message Register Rack**

Verification and Miscellaneous Relay Rack  
Equipment—ANI—Common Systems

Floor Plan Data—Section 7.1, Sheet 21

Current Drain Data—

SD-21300-01, Panel Office

SD-25000-02, No. 1 Crossbar

SD-25760-02, No. 5 Crossbar,

SD-21359-02, No. 1 Step-by-Step,

SD-31364-02, 350A Office Step-by-Step

### 3. DRAWINGS

#### Keysheets

SD-90250-01—Master Keysheet—Common Systems

#### Framework

ED-90569-70—Frame Assembly

ED-90568-73—Casing Assembly

ED-90838-70—End Guards—Manual and Step-by-Step

ED-20670-01—End Guards associated with 1-Foot,  
3-Inch and 1-Foot, 8-Inch Guard Rails

#### Equipment

ED-90588-10—Line Message Register Rack  
Equipment—Step-by-Step Systems

ED-90588-11—Line Message Register Rack  
Equipment—Panel Systems

ED-25209-14—Line Message Register Rack  
Equipment—No. 1 CBR

#### Wiring and Cabling

ED-90587-01—Cabling Arrangement

### 4. EQUIPMENT

#### Framework

***ED-90569-70—Line Message Register Rack Assembly***

***Group 1***—Framework for one rack.

***Group 2***—1-foot guard rails and support for one rack.

***Group 3***—1-foot, 3-inch guard rails and support for one rack.

***Group 4***—1-foot, 8-inch guard rails and support for one rack.

***Group 5***—Battery supply details for one rack.

***Group 6***—Ground supply details for one rack.

***Group 7***—30C jack mounting details (one set).

***Group 8***—Mounting plate adapter, including 1-foot

by 1/4-inch fillers.

**Group 9**—1-foot guard rail support required for originating end of lineup.

**Group 10**—1-foot, 3-inch guard rail support required for originating end of lineup.

**Group 11**—1-foot, 8-inch guard rail support required for originating end of lineup.

**Group 12**—A&M Only—Recorder talking line mounting details with apparatus mounting plate above register casing.

**Group 13**—Mounting detail for one 395A jack.

**Group 14**—Recorders talking line mounting details with apparatus mounting plate below register casing.

**Group 15**—One set of mounting plate adapters for line verification equipment or message register resistor equipment.

**Group 16**—One set of jack mounting details for line verification jack equipment.

**Group 17**—One set of mounting plate adapters for message register resistor equipment.

**ED-90568-73—Casing Assembly**

**Group 1**—One casing assembly.

**ED-90838-70—End Guard Assemblies**

**Group 5**—End guard for either end of a message register jack equipped with 1-foot guard rails.

**ED-20670-01—End Guard Assemblies**

**Group 1**—End guard for either end of the message register rack equipped with 1-foot, 3-inch guard rails.

**Group 2**—End guard for either end of the message register rack equipped with 1-foot, 8-inch guard rails.

**J97021A—AT&TCo Std—Message Register Resistor Unit—for Message Unit Repetition to PBX Via Third Wire**

**Equipment—J97021A-( )**

**List 2**—Assembly, wiring, and equipment for one unit of 17 message register resistor circuits per SD-99417-01, Fig. 1 (See Note A.) (One 2 by 19 inch mtg plt—No. of circuits 17.)

**Note**

A. This unit shall be mounted on the line message register rack directly above message register per job requirements.

(1) Mounting plate adapters shall be furnished per ED-90569-70.

(2) One resistor is required for each message register.

**J97021B—AT&TCo Std—Message Register Resistor Unit—For Message Unit Repetition to PBX Via Third Wire**

**Equipment—J97021B-( )**

**List 2**—Assembly, wiring, and equipment for one unit of 19 message register resistor circuits per SD-99417-01, Fig. 1. (See Note A.) (One 2 by 23 inch mtg plt—No. of circuits 19.)

**Note**

A. This unit shall be specified when an office does not have space available on the line message register rack or when message registers are provided on a miscellaneous basis.

(1) One resistor is required for each register.

**Message Register Rack Equipment**

**4.01 Message Registers:** The code of the registers is specified on the subscriber line circuit of the system with which the message register rack is to be used. Mounting plates of the No. 671 for 5-type registers and No. 232B or 232D for 14-type registers are used to mount the registers on the rack.

**Talking Line and Test Circuit Equipment**

**4.02 In panel offices,** frame line multiple jack appearances per SD-21271-01, Fig. 2 are provided on the front and rear of alternate message register frames for the use of switchmen. Test line multiple jacks per Fig. 4 and 5 of this drawing are mounted in alternate frames. Message register test relay, buzzer and primary call thru test line jack circuits per Fig. 3, 6, and 12 are furnished on one frame common to the lineup, and multiple

jacks per Fig. 13 are provided in alternate frames. A battery feed jack per Fig. 1 is provided in alternate frames. A +48 volt battery feed jack per Fig. 19 and single wire tie line jack per Fig. 18 are provided in alternate frames for use when message registers are used with party line equipment arranged for remote control zone registration.

**4.03** *In step-by-step offices*, switchman talking line multiple jacks only, per SD-31619-01, Fig. 3 or 7, are provided on the front and rear of alternate frames. Message register test line multiple jacks per Fig. 6B of SD-31610-01 are provided in alternate frames together with an associated call through test line jack. Message register test line relay, jack and buzzer circuits per SD-31610-01, Fig. 1, 2, 3, and 4 are mounted in one frame, common to the lineup, and multiplied to jacks mounted in the rear of alternate frames. Battery supply jacks per SD-31333-01, Fig. 1 and 3, mounted together are provided in alternate frames.

#### **Recorder Talking Lines**

**4.04** Talking line equipment is furnished on the message register rack, when required for use between the message register rack and the traffic recorder desk with dialing or direct line features. The direct line per SD-21271-01, Fig. 7 for panel offices, SD-31587-01, Fig. 1 for step-by-step offices, or SD-12146-01 for manual offices provides a talking circuit but no means of signaling. Since the recorder and reader must make their connection by appointment, use of this direct line is largely restricted to districts where the message register rack and the recorder desk are in the same building.

**4.05** For districts where the message register rack and the recorder desk are not located in the same building, and the circuit capabilities of the direct line would be exceeded, or where the telephone company wishes to provide signaling facilities, a dialing line offering the same facilities to both the reader and the recorder as provided by an ordinary subscriber telephone is available. This dialing line is covered on SD-21271-01, Fig. 9 for panel offices or SD-31587-01, Fig. 3 for step-by-step offices.

**4.06** Provision is made for three recorder talking lines for each 10,000 message rate lines or about one line to each three message register frames. Operator telephone jacks are located in

each of the three frames associated with one circuit. For the dialing line, a hand telephone set is provided with each talking circuit. This telephone set is located on the frame nearest the originating end of the lineup and is mounted between the center and right-hand uprights of the frame below the registers.

**4.07** *Capacitors, relays, resistors, repeating coils*, and similar equipment associated with the miscellaneous circuits on the rack are mounted on an 884AG mounting plate located below the register casing in the left-hand bay. Apparatus common to a talking line which is multiplied through several frames is located on the 884AG mounting plate nearest the originating end of the lineup. Apparatus common to a lineup, such as the buzzer equipment in the message register test line, is mounted on the 884AG mounting plate nearest the center of the ultimate lineup.

**4.08** *Operator telephone sets* per SD-21271-01, Fig. 11; SD-31619-01, Fig. 3 and 7; and SD-31587-01, Fig. 1 and 3, associated with talking line circuits, are furnished only when specifically requested by the telephone company.

#### **5. GENERAL NOTES**

**5.01** *Guard Rails and Supports:* Ladder guard rails and supports for the message register rack are covered on the assembly drawing, ED-90569-70. Groups 2 and 9 cover guard rail supports for racks placed in line with frames having 1-foot guard rails; groups 3 and 10 for 1-foot, 3-inch guard rails, and groups 4 and 11 for 1-foot, 8-inch guard rails. Groups 2 and 3 include ladder guard rails for front and rear of the rack. The originating rack of a lineup is furnished with group 2, 3, or 4 and group 9, 10, or 11. Each additional rack is furnished with group 2, 3, or 4 only.

**5.02** *Fuse Panel:* A standard 40-capacity fuse panel ED-90426-01, Group 5 and mounting details ED-90569-70, Group 5 are furnished with each line message register rack for step-by-step offices where strapped terminals of the registers are connected to battery. ED-90569-01, Group 5 also includes the terminal lug used for grounding the framework in step-by-step offices.

**5.03** *Ground Bar:* The grounding details ED-90569-70, Group 6, include a ground bar the same as is used on a standard 60-capacity fuse

panel together with its terminals mounted on a steel cross member. These details are furnished with each line message register rack in panel or manual offices and in certain step-by-step offices when ground is required for the operation of the message register.

**5.04** Two padlocks should be furnished with each casing, one for the front pair of doors and one for the rear pair of doors. These locks should be Yale & Towne No. 771 padlocks with key change No. 17, or approved substitutes. Two brass keys should be furnished in each office for the sliding door locks in the line message register racks.

**5.05 Growth:** The line message register rack may grow from either left to right or right to left.

**Cabling**

**5.06** Connection of the register leads from the IDF terminal strips to the message register terminals on the rack is established with 6066-type switchboard cables, each cable connecting to 100 registers, as shown on the cabling drawing per ED-90587-01.

**5.07** Battery from a fuse panel at the bottom of the rack in step-by-step offices and ground from a ground bar in local panel and manual offices is connected to a second terminal on each of the message registers by means of 1450-type switchboard cables, each cable providing the battery or ground to 100 registers. A strap wire is run between these battery or ground terminals on the registers and a loop wire, connecting to this strap between the fifth and sixth position on each mounting plate, make the battery or ground lead of the cable common to two plates of registers. This feature, together with the forming of wires from the 6066-type cable to the center of each plate, permits moving the mounting plates forward for maintenance.

**5.08** The 1450 cables attached to each 6066 cable should be approximately 8 feet long and the installer should cut off the excess length of these cables when connecting them. The 1450 cables are connected to the fuse panel in step-by-step offices with two leads to a fuse and to the terminals on the ground bar in manual or panel offices with one lead to a terminal.

**5.09** A No. 4 BRC lead is run down inside the first upright of each line message register rack in a lineup. This lead is connected to the fuse panel in step-by-step offices and to the ground bar in panel and manual offices. It is connected at the top to the battery or ground feeder, as required, by means of a Frankel connector.

**5.10** The line message register rack in step-by-step offices obtains its framework ground by means of No. 6 BRC lead from the ground source to a ground lug located at the top of an upright at the approximate center of the ultimate lineup.

**List of A&M Only and Mfr Disc. Equipment**

EQUIPMENT	RATING	DETAILS	
		LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J97021A, L1	Mfr Disc.	4	J97021A,L2
J97021B, L1	Mfr Disc.	4	J97021B,L2

The above equipment has been replaced as indicated. Where A&M Only items appear, the issue numbers shown are those of the issue in which the rating was first applied.

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