

SELECTOR REPEATERS
10- AND 20-CAPACITY SELECTOR REPEATER SHELVES
EQUIPMENT DESIGN REQUIREMENTS
STEP-BY-STEP SYSTEMS

1. GENERAL

Scope

1.01 This specification, together with the supplementary information listed herein, covers the equipment design requirements for the manufacture and installation of selector repeater and branch office selector equipment in No. 1, 350A, and 355A dial offices. Selector repeater double-shelf units, as well as single-shelf units for branch office selectors, are available in 10-switch capacity for mounting on universal switch frames, or 20-switch capacity for mounting on selector frames with DTA, as specified. The remainder of the equipment in a branch office is identical with the No. 1, 350A, or 355A dial office equipment

1.02 This specification is reissued:

- (a) To add drawings SD-31359-02-02, SD-31364-02, SD-31780-02, ED-31274-10, ED-31286-10, and ED-32283-10.
- (b) To remove reference to no-such number tone (vacant level tone) which has been rated Mfr Disc.
- (c) In codes J38806P and J38806R, Note A was changed.

Capacity

1.03 The capacities of the universal switch frame for ten capacity switch shelves, or of DTA-type selector bays for 20 capacity switch shelves are as follows:

	FRAME HEIGHT	
	9 FT 0 IN.	11 FT 6 IN.
Branch Office Selector Single Shelves	6	8
Selector Re- peater Double Shelves	3	4
Description		

1.04 The branch office is a satellite of a central office area where the community of interest makes it desirable to use one numbering plan for both, but where the distance between the two offices, or some other factor, makes it economical to provide separate switching equipments, and where the switching equipment in the satellite office includes selector repeaters. This allows calls in the branch office area to be completed over switches at that point while calls to the rest of the central office area are completed over equipment in the main office or in another office.

1.05 The design of the branch office permits unattended operation. Toll and intercepted calls are referred to an operator in the main office and trouble conditions cause an alarm circuit to extend different indications for different classes of trouble to the maintenance staff in the main office.

S
er-
ng

Equipment

- ED-30872-01 – Selector Repeater – With Automatic Release of Trunks on Permanent Signals – For Use Where Main Office Is Panel, No. 1 Crossbar, or Crossbar Tandem – For Use in No. 1, 350A, and 355A Offices
- ED-31262-10 – Trunk Selector – Typical Bay Equipment
- ED-31274-10 – Selector Frame Equipment With DTA – No. 1 or 350A Offices
- ED-31275-10 – Test, Talking Line, and Battery Equipment – For Use in No. 1 and 350A Offices
- ED-31276-10 – Auxiliary Alarm and Testing Equipment – For Use in No. 355A Offices
- ED-31286-10 – Typical Selector Equipment Universal Switch Frame – No. 1 or 350A Offices
- ED-31292-() – Typical Arrangements for Switch Frames Arranged To Mount Line Finder, Selector, Connector, and Miscellaneous Switch Units
- ED-31711-01 – Selector Repeater – Without Automatic Release of Trunks on Permanent Signals – For Use in 350A Offices
- ED-31914-01 – Selector Repeater – With Automatic Release of Trunks on Permanent Signals – For Use in No. 350A or 355A Offices
- ED-31917-01 – Selector Repeater – For Use in 355A Offices for Areas Using X11 Service Codes
- ED-32283-10 – Selector Shelf Equipment Stamping of Auxiliary Terminal Strip
- ED-95131-01 – Modular Fuse Panel Assembly
- J38806M-() – Selector Repeater Shelf – For Use in No. 350A or 355A Offices – Double Shelf – 10-Switch Capacity (Arranged for Solderless Wrapped Connections)
- J38806N-() – Selector Repeater Shelf – For Use in No. 1, 350A, or 355A Offices – Double Shelf – 10-Switch Capacity – For Use

Where Main Office Is Panel, No. 1 Crossbar, or Crossbar Tandem (Arranged for Solderless Wrapped Connections)

J38806P-() – Selector Repeater Shelf – For Use in No. 350A Offices – Double Shelf – 20-Switch Capacity – Left or Right (Arranged for Solderless Wrapped Connections)

J38806R-() – Selector Repeater Shelf – For Use in No. 1 or 350A Offices – Double Shelf – 20-Switch Capacity – For Use Where Main Office Is Panel, No. 1 Crossbar, or Crossbar Tandem (Arranged for Solderless Wrapped Connections)

Wiring and Cabling

- ED-30278-01 – M1R Cords
- ED-30301-01 – Vacant Levels and Unused Terminals on DTA-Type Selector Banks
- ED-30301-02 – Vacant Levels of Non DTA-Type Selector Banks
- ED-30499-01 – Traffic Diagram
- ED-30500-01 – Cabling Schematic
- ED-30502-01 – Method of Cross-Connecting Main Office Trunks
- ED-30506-01 – Method of Cross-Connecting Line Finders and Selector Repeaters
- ED-30780-() – Switchboard Cabling and Power Feeders for Universal Switch Frames – No. 1 or 350A Office
- ED-30791-13 – Switchboard Cabling Power Feeders for DTA-Type Selector Frames
- ED-31265-10 – Typical Shelf Wiring
- ED-31268-10 – Typical Fuse Panel, Wiring, and Equipment Arrangements
- ED-31283-10 – Cabling Plan for Trunk Selectors
- ED-31293-() – Switchboard Cabling Plan for Universal Switch Frames – 355A Office

Circuits

- SD-30872-01
 - SD-31711-01
 - SD-31914-01
 - SD-31917-01
- } – Selector Repeater Circuits
- SD-32102-01 – Switch Trouble Alarm Circuit

4. EQUIPMENT

Switches

ED-30872-01—Selector Repeater—With Automatic Release of Trunks on Permanent Signals—For Use Where Main Office Is Panel, No. 1 Crossbar, or Crossbar Tandem—For Use in No. 1, 350A, and 355A Offices

ED-31711-01—Selector Repeater—Without Automatic Release of Trunks on Permanent Signal—For Use in No. 350A Offices

ED-31914-01—Selector Repeater—With Automatic Release of Trunks on Permanent Signals—For Use in No. 350A or 355A Offices

ED-31917-01—Selector Repeater—For Use in No. 355A Offices for Areas Using X11 Service Codes

Shelf Units

J38806M (AT&T Co Std)—Selector Repeater Shelf—For Use in No. 350A or 355A Offices—Double Shelf—10-Switch Capacity (Arranged for Solderless Wrapped Connections)

Equipment—J38806M-()
Shelf Wiring—ED-31265-10

List 1—Framework, assembly, wiring, and equipment for one shelf of ten selector repeaters arranged for automatic release on permanent signal (less the selector repeaters and banks).

	WIRE	EQUIP	SEE NOTES
Sel Rep Ckts, Jk Wrg Universal for SD-31914-01, Fig. 1 and SD-31917-01, Fig. 1	10	10	A
Sw Tbl Alm Ckt, SD-32102-01: Perm Sig Rel Ckt, Fig. 1 With M Option	1	1	D
Dial Tone Coil, Fig. 2 Less X Option	1	1	

	WIRE	EQUIP	SEE NOTES
Rls Mag Alm Ckt, Fig. 3	2	2	
Busy-Tone Key, Fig. 4	1	1	
Fuse Alm Ckt, Fig. 6	1	1	
Guard Lamp, Fig. 10	1	1	

List 2—Wiring and equipment per SD-32102-01, Fig. A and C, required in addition to list 1 for use in No. 350A offices.

List 3—Wiring and equipment per SD-32102-01, Fig. B and D, required in addition to list 1 for use in No. 355A offices.

List 4—Wiring and equipment per SD-32102-01, X option only, required in No. 355A offices only in addition to list 1 for all selector repeater units, except those connected to prepay coin trunks.

List 5 (A&M Only)—Framework, assembly, wiring, and equipment for one shelf of ten selector repeaters not arranged for automatic release on permanent signal (less the selector repeaters and banks) (for use in No. 350A offices only).

	WIRE	EQUIP	SEE NOTES
Sel Rep Ckt, Jk Wrg for SD-31711-01, Fig. 1, With A Wiring	10	10	B
Sw Tbl Alm Ckt, SD-32102-01: Dial Tone Coil, Fig. 2, Less X Option	1	1	
Rls Mag Alm Ckt, Fig. 3	1	1	
Busy-Tone Key, Fig. 4	1	1	
Fuse Alm Ckt, Fig. 6	1	1	
Perm Sig Lamp, Fig. 7	1	1	
Guard Lamp, Fig. 10	1	1	

List 6 (A&M Only)—Equipment per SD-32102-01, Fig. 8, less Fig. 2 without X option, required in addition to list 5 for connection to prepay coin trunks arranged for coin first operation.

List 7—Wiring and equipment per SD-32102-01, Fig. 1, N option only, required in addition to list 1 when automatic processing of permanent signal is required. (See Note D.)

Notes

A. The shelf per list 1 when equipped with banks per J32310P, List 2 may be used for the following selector repeaters:

ED-31914-01—Selector Repeater
ED-31917-01—Selector Repeater

B. The shelf per list 5 when equipped with banks per J32310P, List 2 may be used for selector repeaters per ED-31711-01.

C. The Z resistor required when calls are to be routed over main office trunks per SD-32123-01, Fig. E or F, is furnished as part of relay rack unit J33017CF.

D. Omit M option when list 7 is provided in addition to list 1.

J38806N (AT&TCo Std)—Selector Repeater Shelf—For Use in No. 1, 350A, or 355A Offices—Double Shelf—10-Switch Capacity—For Use Where Main Office Is Panel, No. 1 Crossbar, or Crossbar Tandem (Arranged for Solderless Wrapped Connections)

Equipment—J38806N-()
Shelf Wiring—ED-31265-10

List 1—Framework, assembly, wiring, and equipment for one shelf of ten selector repeaters arranged for automatic release on permanent signal and to transmit dial tone from the main office to a subscriber of the branch office (less selector repeaters and banks).

	WIRE	EQUIP	SEE NOTES
--	------	-------	-----------

Sel Rep Ckts, Jk Wrg for SD-30872-01, Fig. 1	10	10	A
Sw Tbl Alm Ckt, SD-32102-01: Perm Sig Rel Ckt, Fig. 1,			

	WIRE	EQUIP	SEE NOTES
--	------	-------	-----------

With M Option	1	1	B
Rls Mag Alm Ckt, Fig. 3	2	2	
Fuse Alm Ckt, Fig. 6	1	1	
Busy-Tone Key, Fig. 9	1	1	
Guard Lamp, Fig. 10	1	1	

List 2—Wiring and equipment per SD-32101-01, Fig. A and C, required in addition to list 1 for use in No. 350A offices.

List 3—Wiring and equipment per SD-32102-01, Fig. B and D, required in addition to list 1 for use in No. 355A offices.

List 4—Wiring and equipment per SD-32102-01, Fig. 1, N option only, required in addition to list 1, when automatic processing of permanent signal is required. (See Note B.)

Notes

A. The shelf per list 1, when equipped with banks per J32310P, List 2 may be used for selector repeaters per ED-30872-01. It is arranged as indicated for use when dial tone is to be transmitted from the main office to subscribers in the branch office. When selector repeaters with the "special" arrangement per SD-30872-01, E option, for dial tone transmittal from the selector repeaters are required, shelf dial tone wiring and equipment shall be furnished, as required and mounted on the shelf.

B. Omit M option when list 4 is provided in addition to list 1.

J38806P (A&M Only)—Selector Repeater Shelf—For Use in No. 350A Offices—Double Shelf—20-Switch Capacity—Left or Right (Arranged for Solderless Wrapped Connections)

Equipment—J38806P-()
Shelf Wiring—ED-31265-10

List 1—Framework, assembly, wiring, and common equipment for one left shelf of 20 selector repeaters arranged for automatic release on permanent signal (less selector repeaters and banks).

	WIRE	EQUIP	SEE NOTES
Sel Rep Ckt, Jk Wrg for SD-31914-01, Fig. 1	20	20	A
Sw Tbl Alm Ckt, SD-32102-01: Perm Sig Rel Ckt, Fig. 1, With M Option & Fig. A	1	1	B
Dial Tone Coil, Fig. 2, Less X Option	1	1	
Rls Mag Alm Ckt, Fig. 3	4	4	
Fig. C	1	1	
Busy-Tone Key, Fig. 4	1	1	
Fuse Alm Ckt, Fig. 6	1	1	
Guard Lamp, Fig. 10	1	1	

List 2—Framework, assembly, wiring, and common equipment for one right shelf of 20 selector repeaters as indicated in list 1. (This list is identical with list 1, except for shelf framework assemblies and layout of equipment.)

List 3—Wiring and equipment per SD-32102-01, Fig. 1, N option only, required in addition to list 1 or list 2 when automatic processing of permanent signal is required. (See Note B.)

Notes

- A. The shelves per lists 1 and 2, when equipped, respectively, with banks per J32302BA, Lists 5 and 6 (for list 1) and Lists 7 and 8 (for list 2), may be used for mounting selector repeaters per ED-31914-01.
- B. Omit M option when list 3 is provided in addition to list 1 or 2.

J38806R (AT&TCo Std)—Selector Repeater Shelf—For Use in No. 1 or 350A Offices—Double Shelf—20-Switch Capacity—For Use Where Main Office Is Panel, No. 1 Crossbar, or Crossbar Tandem (Arranged For Solderless Wrapped Connections)

Equipment—J38806R-()
Shelf Wiring—ED-31265-10

List 1—Framework, assembly, wiring, and common equipment for one left shelf of 20 selector repeaters arranged for automatic release on permanent signal and to transmit dial tone from the main office to subscribers in the branch office (less selector repeaters and banks).

	WIRE	EQUIP	SEE NOTES
Sel Rep Ckt, Jk Wrg for SD-30872-01, Fig. 1	20	20	A
Sw Tbl Alm Ckt, SD-32102-01: Perm Sig Rel Ckt, Fig. 1, With M Option & Fig. A	1	1	B
Rls Mag Alm Ckt, Fig. 3	4	4	
Fig. C	1	1	
Fuse Alm Ckt, Fig. 6	1	1	
Busy-Tone Key, Fig. 9	1	1	
Guard Lamp, Fig. 10	1	1	

List 2—Framework, assembly, wiring, and common equipment for one right shelf of 20 selector repeaters as indicated in list 1. (This list is identical with list 1, except for shelf framework assemblies and layout of equipment.)

List 3—Wiring and equipment per SD-32102-01, Fig. 1, N option only, required in addition to list 1 or list 2 when automatic processing of permanent signal is required. (See Note B.)

Notes

- A. The shelves per lists 1 and 2, when equipped, respectively, with banks per J32302BA, Lists 5 and 6 (for list 1) and Lists 7 and 8 (for list 2), may be used for mounting selector repeaters per ED-30872-01. The shelves are arranged as indicated for use when dial tone is to be transmitted from the main office to subscribers in the branch office. When selector repeaters with the "special" arrangement per SD-30872-01, E option, for dial tone transmitted from the selector repeaters are required, shelf dial tone wiring and equipment shall be furnished as required, and mounted on the shelf.

- B. Omit M option when list 3 is provided in addition to list 1 or list 2.

Miscellaneous Equipment

J32302BA-()—Selector Bank Multiple Assembly With DTA (Solderless Banks)

J32310P-()—Selector Bank Multiple Assembly Without DTA (Solderless Banks and Terminal Strips)

5. GENERAL NOTES

5.01 In No. 350A offices having selector repeaters without automatic release of trunks on permanent signals, the H lead of a particular level of the selector repeaters and branch office selectors shall be multiplied throughout all divisions except in the case of vacant levels. For vacant levels, only the T, R, and S leads are multiplied for the number of intercepting trunks involved.

(a) X wiring is specified where the fourth lead is required for succeeding switches. There the H lead shall be advanced to the succeeding switch along with the T, R, and S leads in the switchboard cable.

(b) Y wiring (ground on the H lead) is specified for selector levels serving other than main office trunks. The installer shall provide this ground strapping in the bank terminal strip on which the outgoing jumpers or cable is terminated. This ground shall be provided in a manner similar to grounding the S leads of unused trunks.

(c) Z wiring (ground on the H lead through a resistor) is specified for bank levels serving main office trunks. There will be no working trunks outgoing from such levels in the branch office, but it is necessary to insure that the H terminal on which the hunting switch wiper stops is connected to ground through a Z resistor. The installer shall wire the H terminals of the first three trunks on such a level to Z resistors furnished as part of relay rack unit J33017CF. Trunks 4 to 10 shall be made busy.

(d) A wiring is specified where a fourth lead is required from the zero level to master office trunks to provide coin tone to the operator on calls from coin lines when more than one class of service is served by the same group.

5.02 In No. 350A offices having selector repeaters with automatic release of trunks on permanent signals, and in No. 355A offices, the H lead of the selector repeaters is multiplied only on those levels having access to master office trunks or branch office selectors.

5.03 In No. 355A offices, the H lead of the branch office selectors is multiplied as covered in 5.01.

List of A&M Only and Mfr Disc. Equipment

The following 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.

EQUIPMENT	RATING	DETAILS	
		LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J38806A	Mfr Disc.	5	—
L1	Mfr Disc.	1	J38806A,L2
L2	Mfr Disc.	5	J38806H,L5
J38806B	Mfr Disc.	6	J33017AK
J38806C	Mfr Disc.	6	J33017AK
J38806D	Mfr Disc.	5	—
L1	Mfr Disc.	4	J38806D,L2
L2	Mfr Disc.	5	J38806H,L1
J38806E	Mfr Disc.	3	J38806G
J38806F	Mfr Disc.	5	—
L1	Mfr Disc.	5	J38806H,L1
J38806G	Mfr Disc.	6	J33022M
L1	Mfr Disc.	5	J38806G,L3
J38806H	Mfr Disc.	6	J38806M
L5	A&M Only	5	—
L6	A&M Only	6	—
J38806J	Mfr Disc.	6	J38806N
J38806K	Mfr Disc.	6	J38806P
J38806L	Mfr Disc.	6	J38806R
J38806M,L5			
&L6	A&M Only	6	—
J38806P	A&M Only	8	—

Bell Telephone Laboratories, Incorporated

Dept 5824