

RELAY RACK EQUIPMENT
EQUIPMENT DESIGN REQUIREMENTS
NO. 1 CROSSBAR AND CROSSBAR TANDEM SYSTEMS

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1.02 This specification is reissued:

- (a) To provide equipment information on J23052CS for voice alarm with use of a 7A announcement set in agreement with SD-25885-01, Issue 29D.
- (b) To provide equipment information on J23052CS for data bank alarm signals in agreement with SD-25885-01, Issue 30D.
- (c) To provide equipment information for a Centralized Status, Alarm and Control System (CSACS) control relay unit J23052CX in agreement with SD-25885-01, Issue 31B.
- (d) To provide equipment information on ED-25478-12 for vacant code trunk coin supervisory relays in agreement with SD-25125-01, Issue 11D.
- (e) To provide equipment information on ED-25478-12 when connection to CSACS is required in agreement with SD-25482-01, Issue 19D.
- (f) To provide equipment information for a CSACS usage register unit J23052CY in agreement with SD-28100-01, Issue 1.
- (g) To incorporate previous addendum changes and to revise the section.

CAPACITY

1.03 One relay rack bay drilled for 1-3/4 by 23-inch mounting plates has a capacity of 69 plates.

DESCRIPTION

1.04 The relay rack framework for crossbar offices is 11 feet 6 inches high and 2 feet 5/8 inch wide. The framework for each bay consists of two bulb-angle uprights and a bent steel base 10

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, primarily of the SD-25000 series, to be used in the engineering and installation of the relay rack equipment.

inches wide which permits lining up with other crossbar frames.

1.05 A 224-type terminal strip, which makes relay rack units self-contained within the guardrail, has been adopted for general use. Units using the 203-type and D-type terminal strips will also fit the guardrail requirements and may be used in some cases. The switchboard cable is brought down the rear of the right-hand upright of the bay, and the butted cable carried through insulators in the terminal strip mounting plate of each unit to the front of the terminal strips.

1.06 The local cable or surface wiring connected to the rear of the 224-type terminal strips is brought to the relays on the wiring side in the usual manner.

1.07 While the greater portion of the relay rack equipment in the crossbar office conforms with the design referred to above, a certain amount of equipment is furnished on a miscellaneous basis completely wired by the installation force. Switchboard cables are terminated on the wiring side of this nonunit equipment as shown on ED-92224-10 and -11. Unit and nonunit equipment may be mounted in the same bay.

1.08 Relay rack units and nonunit equipment are mounted from the front of the bay as shown on ED-92224-10.

Equipment Not Designed Specifically for Crossbar

1.09 Units having 181A or F4A, F6A, or F8A terminal strips with either 19- or 23-inch plates should not be mounted on the crossbar relay rack except where existing telephone company equipment is reused, and then they should be modified in accordance with J93001.

1.10 Other unit and nonunit equipment on 19-inch mounting plates may be mounted on the crossbar relay rack by means of adapters. When adapters are used, each adapter shall be approximately the full length of the unit.

Fuse Bays

1.11 Fuse panels and resistance lamps in ringing supply for relay rack equipment are mounted on angle relay rack type bays. The fuse bay or bays will ordinarily be located at the end of the relay rack lineup, but individual floor plan layouts may dictate the location of fuse bays centrally with respect to several small lineups of relay bays. (See 5.08.)

1.12 Talking battery filters in accordance with drawings listed herein are located on the fuse bays.

SUBDIVISIONS OF EQUIPMENT AND DETAILED INDEX

WE J drawings should be ordered by referring to the prefix and base number and requesting the current dash (—) number.

EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING	CKT PER UNIT	PLTS PER UNIT
ED-25634-30	AT&TCo Std	Tandem Office Out- going Repeater to Step-by-Step Office	ED-25634-30 (ED-30754-70)	SD-25634-01	1 (4)	(7)
ED-92082-10	AT&TCo Std	No. 1 Crossbar Office — Incoming Repeater From Step- by-Step Office	ED-92082-10 (ED-30754-70)	SD-95413-01	1 (4)	(7)
J23052E	AT&TCo Std	Free Trunk Unit From Office Secondary Multiple for Use with PBX Trunks	J23052E-()	SD-25120-01	10	12
J23052M	AT&TCo Std	Auxiliary Dial Sub- scriber Line Unit with "A" Switchboard Multiple	J23052M-()	SD-25138-01	10	4
J23052P	AT&TCo Std	Plugging-up Line Unit	J23052P-()	SD-25149-01	10	7
J23052R	A&M Only	Interrupter Checking Unit for District Junctors	J23052R-()	SD-25268-01	3	3
J23052AB	AT&TCo Std	Emergency Line Unit Outgoing to Central Switchboard	J23052AB-()	SD-25416-01	10	14
J23052AC	A&M Only	Emergency Line Unit Incoming to Central Switchboard	J23052AC-()	SD-25417-01	10	11
J23052AE	A&M Only	Sender Make-Busy Frame — Permanent Signal Holding Trunk — for Offices Served by Central "A" Switchboard	J23052AE-()	SD-25418-01	10	11
J23052AH	A&M Only	Subscriber 2-Wire Re- cording Completing Trunk Unit — Arranged for Coin Control — Noncoin and Single Slot Coin — Outgoing to Toll Office	J23052AH-()	SD-25424-01	5	20
J23052AK	AT&TCo Std	Official PBX Trunk Unit — Outgoing to Distant Office	J23052AK-()	SD-25428-01	10	11

EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING	CKT PER UNIT	PLTS PER UNIT
J23052AL	AT&TCo Std	Official PBX Trunk Unit — Incoming From Distant Crossbar Office	J23052AL-()	SD-25429-01	10	10
J23052AP	AT&TCo Std	Dial Terminating Manual Line Unit Central Switchboard	J23052AP-()	SD-25421-01	—	16
J23052AW	AT&TCo Std	Outgoing Trunk Unit for Office Secondary Multiple to No. 2 Repair Service Desk Arranged to Transfer to “A” Switchboard in Different Building Than Repair Service Desk	J23052AW-()	SD-25463-01	2	2
J23052AY	AT&TCo Std	Outgoing Trunk Unit From Subscriber Line Circuit to No. 2 Repair Service Desk Arranged to Transfer to “A” Switchboard in Different Building Than Repair Service Desk to the Trunk Circuit Arranged for Park-on	J23052AY-()	SD-25463-01	1	2
J23052BA	AT&TCo Std	Coin Supervisory Unit — DSA Switch- board End-with Ring- back	J23052BA-()	SD-25445-01	5	15
J23052BB	A&M Only	Outgoing Key pulsing Trunk Unit From Central Switchboard to District Crossbar Office — Coin	J23052BB-()	SD-25446-01	5	22
J23052BG	A&M Only	Outgoing Key pulsing Trunk Unit for Use with Panel Senders From Central Switch- board to Distant Cross- bar Office — Coin	J23052BG-()	SD-25462-01	5	25
J23052BH	A&M Only	Outgoing Key pulsing Trunk Unit for Use with Panel Senders From Central Switch- board to Distant Cross- bar Office — Noncoin	J23052BH-()	SD-25462-01	5	19

EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING	CKT PER UNIT	PLTS PER UNIT
J23052BN	AT&TCo Std	Tandem Office Inter- rupter Circuit Unit for Use with Remote Control Registration Trunks	J23052BN-()	SD-25441-01	5	14
J23052BP	AT&TCo Std	Tandem Office Emer- gency Interrupter Unit for Use with Remote Control Registration Trunks	J23052BP-()	SD-25441-01	1	2
J23052BY	A&M Only	Cord Testing Unit — Special Service and Combination Cords Arranged for Cross- bar Traffic Only	J23052BY-()	SD-25474-01	1	5
J23052BZ	AT&TCo Std	Busy-Tone Unit for Use with Coin First Lines	J23052BZ-()	SD-25081-01	1	1
J23052CF	AT&TCo Std	Vacant Code Inter- cepting or Special Service Trunk Unit — for Use with District Juncture in the Battery Supply Position	J23052CF-()	SD-25507-01	5	3
J23052CQ	A&M Only	Permanent Signal Holding Trunk AMA Conversion Unit	J23052CQ-()	SD-25418-01 SD-25126-01	10	2
J23052CR	A&M Only	Additional Alarm Release Unit Equip- ment for Use with Alarm Transfer Unit J23052CJ	J23052CR-()	SD-25885-01	—	3
J23052CS	AT&TCo Std	Alarm Transfer Unit Equipment for One Alarm Transfer Circuit	J23052CS-()	SD-25885-01	1	16 (2 in.)
J23052CT	AT&TCo Std	Tandem Office Test Trunk Unit for Testing Incoming Trunk Circuits Arranged for Rering	J23052CT-()	SD-25939-01	1	1 (2 in.)
J23052CU	AT&TCo Std	AC Power Service Failure Alarm Trans- fer Unit	J23052CU-()	SD-25885-01	1	2 (2 in.)
J23052CV	AT&TCo Std	Announcement System Alarm Release Unit for Remote Release of	J23052CV-()	SD-25885-01	1	1 (2 in.)

EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING	CKT PER UNIT	PLTS PER UNIT
J23052CV (cont)		Announcement System Alarms from Receiving Office When Alarm Sending Is in Use				
J23052CW	A&M Only	Perm Signal Holding Trunk Receiver Off-Hook Announcement and Tone Timing Control Unit	J23052CW-()	SD-25418-01 Fig. 9	1	1 (2 in.)
J23052CX	AT&TCo Std	CSACS Control Relay Unit	J23052CX-()	SD-25885-01	1	1 (2 in.)
J23052CY	AT&TCo Std	CSACS Usage Register Unit	J23052CY-()	SD-28100-01	10	1
Installer Wired	AT&TCo Std	Overflow Ckt	ED-25478-11 Grp 10 & 11	SD-25081-01 Fig. 1	10	3
Installer Wired	A&M Only	Vacant Code Trk Ckts for Use with Non-Coin Lines in all Offices and with Coin Lines in Offices Where Dist Jctrs Are Equipped with Coin Disposal Features	ED-25478-11 Grp 13 to 19	SD-25272-01 Fig. 1, C, D, E, & F	2	1
Installer Wired	AT&TCo Std	Tst Ckt for Term. Sdr Revertive Impulse Interrupter	ED-25478-11 Grp 28 & 29	SD-25289-01 Fig. 1	1	1
Installer Wired	AT&TCo Std	PBX Aux Line Ckt for Term. Service	ED-25478-11 Grp 32 & 33	SD-25318-01 Fig. 1	5	
Installer Wired	AT&TCo Std	PBX Aux Line Ckt for Originating Service	ED-25478-11 Grp 36 & 37	SD-25318-01 Fig. 2	5	
Installer Wired	A&M Only	Time Alarm Ckts	ED-25478-11 Grp 45, 47 to 49	SD-25126-01 Fig. 2 SD-25424-01 Fig. 2	1 1	
Installer Wired	AT&TCo Std	Timing Cont Ckt for All Markers or Transverters Busy Unit	ED-25478-12 Grp 5, 7, 9 to 12	SD-25482-01 Fig. 1, 2, 3, & B	1	1
Installer Wired	AT&TCo Std	Sleeve Control Circuit for 3-Wire Trunk to No. 12 Local Test Desk	ED-25478-12 Grp 13 & 14	SD-25492-01 Fig. 1	10	1
Installer Wired	AT&TCo Std	Tandem Office Tst Trk Ckt for Term. Calls From Dist OGT Tst Frames and Tandem Trk Ckt Tst Set	ED-25478-12 Grp 17 to 23 & 21A	SD-25461-01 Fig. 1 to 4	6	5

EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING	CKT PER UNIT	PLTS PER UNIT
Installer Wired	AT&TCo Std	Vacant Code Trk Ckt with No-Such-Number Tone or with Inter- rupter Tone for Use with Dist Junctor in Bat. Supply Position	ED-25478-12 Grp 26 to 28	SD-25508-01 Fig. 1, A, & B	10	2
Installer Wired	AT&TCo Prov	A-C Key pulsing Sig- naling Current Supply Control Circuit for Incoming Trunk Test Set	ED-25478-12 Grp 24	SD-25495-01 Fig. 1	1	1
Installer Wired	A&M Only	Tst Bat. Supply & Tel Jk & DP Patching JK Tdm Off	ED-25478-12 Grp 35	SD-25440-01 Fig. 1, 2, 5, & 6	1	1
Installer Wired	A&M Only	Temporary Intercept Ckts for Vacant Code Tone Trks	ED-25478-12 Grp 36 & 38	SD-25272-01 Fig. 4	5	1
Installer Wired	AT&TCo Std	Route Trans Cont Ckt	ED-25478-12 Grp 46, 49, 50, & 51	SD-25473-01 Fig. 1	1	1
Installer Wired	AT&TCo Spl	Transfer Ckts	ED-25478-12 Grp 47	SD-25469-01 Fig. 1	3	
Installer Wired	AT&TCo Spl	Make-Busy Ckts	ED-25478-12 Grp 48	SD-25469-01 Fig. 2	3	
Installer Wired	A&M Only	Misc Ckt, Test Bat. and Talk Lines in No. 1 Crossbar Office	ED-25478-12 Grp 52 to 54	SD-25440-01 Fig. 1, 2, 5, 7, & 12	1	1
Installer Wired	A&M Only	Vacant Code Trk Coin Supv Relays	ED-25478-12 Grp 56	SD-25134-01 Fig. G	15	1
Installer Wired	A&M O Only	Vacant Code Trk Coin Supv Relays	ED-25478-12 Grp 57	SD-25125-01 Fig. B, R Opt	15	1
Installer Wired	AT&TCo Std	Alarm Transfer Ckt	J23052CS Fig. 8	SD-25885-01 Fig. 24, 42, 43, 44, 45, & 108 and Fig. 4, YJ Opt	1	1 (2 in.)
Installer Wired	AT&TCo Std	Alarm Transfer Ckt	J23052CS Fig. 9	SD-25885-01 Fig. 46	11	1 (2 in.)
Installer Wired	AT&TCo Std	Alarm Transfer Ckt	J23052CS Fig. 10	SD-25885-01 Fig. 103, 104, 105, & 112	1	1 (2 in.)
Installer Wired	AT&TCo Std	Alarm Transfer Ckt	J23052CS Fig. 11	SD-25885-01 Fig. 106	10	1 (2 in.)

EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING	CKT PER UNIT	PLTS PER UNIT
Installer Wired	A&M Only	PSHT Tone Control & Timing	J23052AE List 3	SD-25418-01 Fig. 2 & 4	1	5
Installer Wired	A&M Only	PSHT Automatic Release	J23052AE List 7	SD-25418-01 Fig. 8	10	2
Installer Wired	A&M Only	PSHT Automatic Release	J23052AE List 8	SD-25418-01 G or H Option	10	2
Installer Wired	AT&TCo Std	Flexible Transfer Relay Ckt for Emg Line Ckt	J23052AB-() Fig. 2 or 3	SD-25416-01 Fig. 4	10	1
Installer Wired	AT&TCo Std	Permanent Transfer Relay Ckt for Emg Line Ckt	J23052AB-() Fig. 3	SD-25416-01 Fig. 5	10	1
Installer Wired	AT&TCo Std	Transfer Control Relay Ckt for Emg Line Ckt	J23052AB-() Fig. 6	SD-25416-01 Fig. 6	10	1
Installer Wired	AT&TCo Std	Dial Term. Manual Line Ckt for Aux Line Ckt Eqpt	J23052AP-() Fig. 2	SD-25421-01 Fig. 1	40	9
Installer Wired	AT&TCo Std	Dial Term. Manual Line Ckt for Grp Ckt Eqpt	J23052AP-() Fig. 3	SD-25421-01 Fig. 2	80	7
Installer Wired	AT&TCo Std	Dial Term. Manual Line Ckt for Aux Relay Ckt Eqpt	J23052AP-() Fig. 4	SD-25421-01 Fig. 7	10	2
Installer Wired	A&M Only	Cord Testing Ckt for MF Sig Voltage Test of MF-DC Keyset	J23052BY-() Fig. 2	SD-25474-01 Fig. 13	1	1
Installer Wired	A&M Only	Cord Testing Ckt for MF Sig Voltage Test of MF Keyset	J23052BY-() Fig. 3	SD-25474-01 Fig. 14	1	1
Installer Wired	AT&TCo Std	Vacant Code with Recorded Announcement Where Dist Junctors Are Arranged to Hold Over DP	ED-95081-10 Grp 4 & 5	SD-96510-01 Fig. 1	7	1 (2 in.)
Installer Wired	AT&TCo Std	Vacant Code with Recorded Announcement Where Dist Junctors Are Not Arranged to Hold Over DP on Noncoin L	ED-95081-10 Grp 6 or 8	SD-96510-01 Fig. 2 & A	7	2 (2 in.)

EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING	CKT PER UNIT	PLTS PER UNIT
Installer Wired	AT&TCo Std	Vacant Code with Recorded Announce- ment Where Dist Junctors Are Not Arranged to Hold Over DP on Coin L	ED-95081-10 Grp 7 or 9	SD-96510-01 Fig. 2 & B	7	2 (2 in.)
Installer Wired	AT&TCo Std	Overflow Trk with Recorded Announce- ment	ED-95081-10 Grp 2 & 3	SD-96510-01 Fig. 3	5	1 (2 in.)
Installer Wired	AT&TCo Std	Vacant Code with Recorded Announce- ment Where Dist Junctors Are Arranged to Hold Over DP and Voice Failure Alarm Is Required	ED-95081-10 Grp 10 & 11	SD-96510-01 Fig. 5	7	2 (2 in.)

Circuit Schematic Index

CIRCUIT DRAWING	J23052 EQPT CODE
SD-25081-01	BZ, ED-25478-11
SD-25120-01	E
SD-25125-01	ED-25478-12
SD-25126-01	CQ, ED-25478-11
SD-25134-01	ED-25478-12
SD-25138-01	M
SD-25149-01	P
SD-25268-01	R
SD-25272-01	ED-25478-11, ED-25478-12
SD-25289-01	ED-25478-11
SD-25318-01	ED-25478-11
SD-25416-01	AB
SD-25417-01	AC
SD-25418-01	AE, CQ, CW
SD-25421-01	AP
SD-25424-01	AH, ED-25478-11
SD-25428-01	AK
SD-25429-01	AL
SD-25440-01	ED-25478-12
SD-25441-01	BN, BP
SD-25445-01	BA
SD-25446-01	BB
SD-25461-01	ED-25478-12
SD-25462-01	BG, BH
SD-25463-01	AW, AY
SD-25469-01	ED-25478-12
SD-25473-01	ED-25478-12
SD-25474-01	BY
SD-25482-01	ED-25478-12
SD-25492-01	ED-25478-12
SD-25495-01	ED-25478-12
SD-25507-01	CF
SD-25508-01	ED-25478-12
SD-25634-01	ED-25634-30
SD-25885-01	CR, CS, CU, CV, CX
SD-25939-01	CT
SD-28100-01	CY
SD-95413-01	ED-92082-10
SD-96510-01	ED-95081-10

2. SUPPLEMENTARY INFORMATION

- 816-000-000—No. 1 Crossbar System Index
- 817-000-000—Tandem Crossbar System Index
- J20151—816-016-150—Limiting Conductor Lengths Between Frames and Units
- J25551—816-040-150, 817-060-150—End Guards
- J25552—816-017-150, 817-037-150—Frame Lighting and Appliance Outlets—Incandescent Type
- J64001—Transmitting Measuring

- J85505A—Frame and Aisle Lighting—Fluorescent Type
- J93001—Relay Rack Unit Framework and Local Cable
- J93005—816-605-150—Plugging-Up Line Panel
- J97025—Relay Rack—Angle Type
- J99226—Battery Filters
- Floor Plan Data—Section 9.2, Sheet 7

3. DRAWINGS

For additional drawings forming a part of this specification, see listings under Subdivisions of Equipment and Detailed Index.

Keysheets

- SD-25000-01—Crossbar System No. 1
- SD-25435-01—Crossbar Tandem System

Framework

- ED-30754-01—Relay Rack Mounted Shelf Assembly for Switch Plate Units
- ED-90185-50—Repeating Coil Mounting Assembly
- ED-90273-70—Adapter Details
- ED-90782-50—Relay Rack Unit Details
- ED-91205-50—Cable Brackets
- ED-91210-51—Grounding and Connecting Block Details

Equipment

- ED-25594-10—135- and 170-Volt Supply Lamp and Fuse Bay Equipment
- ED-81063-01—22-Volt Supply Panel
- ED-91210-51—Relay Rack Connecting Block Details
- ED-92173-71—Filter Panels—0 Through 50 Amperes
- ED-92175-31—Filter Panels—50 Through 200 Amperes
- ED-95081-10—Vacant Code and Overflow Trunk and Recorded Announcement Equipment for Crossbar Office No. 1
- ED-92242-01—Application of 2-inch plates or units to 1-3/4 inch racks or 1-3/4 inch plates or units to 2-inch racks.

Wiring and Cabling

- ED-91325-01—Filter Panel Power Wiring
- ED-91600-01—Cabling Plan—Vertical Local Wiring—Units Using No. 224-Type Terminal Strips
- ED-91601-01—Cabling Plan—Horizontal Local Wiring—Units Using No. 224-Type

Terminal Strips
 ED-91602-01—Cable Plan—Vertical Local Cable
 Wiring With Common Horizontal
 Arm—Units Using No. 224-Type
 Terminal Strips
 ED-92224-10 and -11—Typical Cabling Drawing for
 Angle Relay Rack

4. EQUIPMENT

ED-25478-11—Miscellaneous Relay Rack Equipment

- Group 11**—Equipment per SD-25081-01, Fig. 1 overflow circuit from office secondary mult.
- Group 15**—Equipment per SD-25272-01, Fig. 1 for one vacant code trunk circuit.
- Group 16**—Equipment per SD-25272-01, Fig. E required in addition to group 15 for use with noncoin lines only.
- Group 17**—Equipment per SD-25272-01, Fig. F required in addition to group 15 for use with noncoin lines or with coin lines in offices where coin district junctor are arranged for seizure of coin, coin supervisory circuit on all calls.
- Group 18**—Equipment per SD-25272-01, Fig. C and Fig. 4 required in addition to group 15 when LT1 or LT4 is used.
- Group 19**—Equipment per SD-25272-01, Fig. D and Fig. 3 or 4 required in addition to group 15 for vacant code trunk when "no-such-number tone" is used for vacant code tone.
- Group 29**—Equipment per SD-25289-01, V or W option for revertive impulse interrupter test circuit.
- Group 33**—Equipment per SD-25318-01, Fig. 1 for PBX auxiliary line circuit for terminating service.
- Group 37**—Equipment per SD-25318-01, Fig. 2 for PBX auxiliary line circuit for originating service.
- Group 47**—Equipment per SD-25424-01, Fig. 2 time alarm circuit for trunk circuit permanent signal holding automatic coin return and disposal test.
- Group 48**—Equipment per SD-25424-01, Fig. 2 time alarm circuit for subscriber 2-wire recording completing trunk circuit outgoing to toll office coin control for use with noncoin and single slot coin box lines.
- Group 49**—Equipment per SD-25126-01, Fig. 2 for

trunk circuit permanent signal holding for use with or without automatic message accounting.

ED-25478-12—Miscellaneous Relay Rack Equipment

- Group 7**—Equipment per SD-25482-01, Fig. 1 for one timing control circuit.
- Group 9**—Equipment per SD-25482-01, Fig. B timing control circuit arranged for decoder test or audible and visual alarm or floor alarm.
- Group 10**—Equipment per SD-25482-01, Fig. 2 for DSA switchboard auxiliary signal circuit in local office.
- Group 11**—Equipment per SD-25482-01, Fig. 3 for DSA switchboard auxiliary signal circuit in distant office.
- Group 12**—Equipment per SD-25482-01, N apparatus for the transverter busy unit when ATLV test frame is provided.
- Group 14**—Equipment per SD-25492-01, Fig. 1 for 3-wire trunk to No. 12 local test desk.
- Group 18**—Equipment per SD-25461-01, Fig. 1 for terminating calls from distant OGT test frame (circuits 1 to 3).
- Group 19**—Equipment per SD-25461-01, Fig. 2 for tandem trunk test set.
- Group 21**—Equipment per SD-25461-01, Fig. 1 for tandem office test trunk (circuits 4 to 6).
- Group 22**—Equipment per SD-25461-01, Fig. 3 for incoming trunks arranged to rering TX operation.
- Group 23**—Equipment per SD-25461-01, Fig. 4 for 2-stage multifrequency operation.
- Group 24**—Equipment per SD-25495-01, Fig. 1 for AC keypulsing signaling current supply.
- Group 27**—Equipment per SD-25508-01, Fig. 1 and A for one vacant code trunk when variable pitch tone is required.
- Group 28**—Equipment per SD-25508-01, Fig. 1 and B for one vacant code trunk circuit where interrupter tone is required.
- Group 35**—Equipment per SD-25440-01, Fig. 1, 5, and 6 for test battery and continuous dial pulsing patching jack miscellaneous circuit for crossbar tandem office racks having outgoing dial pulse repeaters.
- Group 38**—Equipment per SD-25272-01, Fig. 4, X option for one temporary intercept circuit for vacant code tone trunk.
- Group 47**—Equipment per SD-25469-01, Fig. 1 for one transfer circuit for each six trunks

in same trunk hunting group.

Group 48—Equipment per SD-25469-01, Fig. 2 for one trunk make-busy circuit for each PBX trunk.

Group 49—Equipment per SD-25473-01, Fig. 1 for marker group 0 for any but only one of route relays 4-9 of markers 0-7 requiring route transfer control.

Group 50—Equipment per SD-25473-01, Fig. 1 for marker group 1 for any but only one of route relays 4-9 markers 0-7 requiring route transfer control.

Group 51—Equipment, per SD-25473-01, Y option for control key in distant building.

Group 52—Equipment per SD-25440-01, Fig. 1, 2, and 5 for miscellaneous circuit test battery and talk lines in crossbar No. 1 office, one for each alternate bay or for middle bay of three in same lineup.

Group 53—Equipment per SD-25440-01, Fig. 7 required in addition to group 52 for MF supply socket in crossbar No. 1 office having auxiliary incoming trunks associated with MF incoming trunks.

Group 54—Equipment per SD-25440-01, Fig. 12 required in addition to group 52 for AC current supply jack and key in crossbar No. 1 office for relay rack bays having permanent signal holding trunks that include AC test in their circuit requirement table.

Group 55—Mounting plate required for 15 vacant code trunk coin return supervisory relays (required for dial-tone-first).

Group 56—Apparatus required in addition to group 55 for coin return supervisory relay per SD-25134-01, Fig. G.

Group 57—Apparatus required in addition to group 55 for one coin return supervisory relay per SD-25125-01, Fig. B, R option.

Group 58—Apparatus required in addition to group 9 per SD-25482-01, K option when connection to a Centralized Status, Alarm and Control System (CSACS) is required.

ED-25634-30—Tandem Office Outgoing Repeater to Step-by-Step Office

Group 1—Assembly, wiring, and equipment per SD-25634-01, Fig. 1 and M apparatus, required for one outgoing repeater, less repeating coil, arranged for battery and ground pulsing.

Group 2—Assembly, wiring, and equipment per SD-25634-01, Fig. 1 and N apparatus, required for one outgoing repeater, less repeating coil, arranged for loop pulsing.

Group 10—Equipment per SD-25634-01, Fig. 1, V apparatus and connections, required in addition to group 1 or 2 for one 94E repeating coil for trunk impedance ratio of 0.81 to 1.25 and for all office impedances.

Group 11—Equipment per SD-25634-01, Fig. 1, S apparatus and connections, required in addition to group 1 or 2 for one 94F repeating coil for trunk impedance ratio above 1.25 and for all office impedances.

Group 12—Equipment per SD-25634-01, Fig. 1, Z apparatus and connections, required in addition to group 1 or 2 for one 94F repeating coil for trunk impedance ratio up to 0.8 and for all office impedances.

Group 13—Equipment per SD-25634-01, Fig. 1, E apparatus and connections, required in addition to group 1 or 2 for one 120C repeating coil for trunk impedance ratio 0.81 to 1.25 and for all office impedances.

Group 14—Equipment per SD-25634-01, Fig. 1, H apparatus and connections, required in addition to group 1 or 2 for one 120D repeating coil for trunk impedance ratio 0.51 to 0.8 and office impedance greater than 1100 ohms.

Group 15—Equipment per SD-25634-01, Fig. 1, F apparatus and connections, required in addition to group 1 or 2 for one 120D repeating coil for trunk impedance ratio 1.26 to 2.0 and office impedance greater than 735 ohms.

Group 16—Equipment per SD-25634-01, Fig. 1, J apparatus and connections, required in addition to group 1 or 2 for one 120E repeating coil for trunk impedance ratio of 1.26 to 2.0 and for office impedance of 735 ohms or less.

Group 17—Equipment per SD-25634-01, Fig. 1, G apparatus and connections, required in addition to group 1 or 2 for one 120E repeating coil for trunk impedance ratio of 0.51 to 0.8 and for office impedance of 1100 ohms or less.

Group 18—Equipment per SD-25634-01, Fig. 1, K apparatus and connections, required in addition to group 1 or 2 for one 120F repeating coil for trunk impedance

ratio above 2.0 and for all office impedances.

Group 19—Equipment per SD-25634-01, Fig. 1, P apparatus and connections, required in addition to group 1 or 2 for one 120F repeating coil for trunk impedance ratio up to 0.5 and for all office impedances.

Notes

A. Repeaters per ED-25634-30 shall be mounted on the relay rack bays by means of a shelf assembly per ED-30754-70 Group 3, which mounts four repeaters per shelf.

ED-92082-10—No. 1 Crossbar Office—Incoming Repeater from Step-by-Step Office

Group 1—Assembly, wiring, and equipment per SD-95413-01, Fig. 1, for one incoming repeater arranged to repeat dial pulses and reverse battery supervision.

Notes

- A. Group 1 includes a repeater base-mounted unit and an externally mounted jack and resistance.
- B. One shelf assembly per ED-30754-70, Group 3, is required for each four repeaters as shown on ED-92082-10, Fig. 1.
- C. One bay framework per ED-91183-30, Group 2, with jack and resistance mountings and cable brackets as shown on ED-92082-10, Fig. 1, is required for each ten shelves of repeaters.
- D. All wiring external to the repeater unit is installer wiring.
- E. Number 298A plug and 1011E handset equipped with 240B plug are required for testing purposes and should be furnished as specified by the telephone company.

J23052E—AT&TCo Std—Free Trunk Unit from Office Secondary Multiple for Use With PBX Trunks

Equipment—J23052E-()

List 1—Framework, assembly, wiring, and common equipment for one unit of ten trunk circuits.

WIRE EQUIP NOTES

Free Trk Ckt,
SD-25120-01:
Fig. 1

10 0

List 2—Equipment per SD-25120-01, Fig. 1, required in addition to list 1 for one trunk circuit.

J23052M—AT&TCo Std—Auxiliary Dial Subscriber Line Unit With "A" Switchboard Multiple

Equipment—J23052M-()

List 1—Framework, assembly, wiring, and common equipment for one unit of ten auxiliary line circuits.

WIRE EQUIP NOTES

Aux L Ckt, SD-25138-01:
Fig. 1 with X
Wiring

10 0

List 2—Equipment per SD-25138-01, Fig. 1 required in addition to list 1 for one auxiliary line circuit.

List 3—102A insulators as required for 18-type resistors.

Notes

- A. Wiring to be connected per SD-25138-01, Fig. 1, X wiring, required in addition to list 1 for noncoin lines, postpay coin lines, and lines used as trunks to PBX except PBX 700C, 701A, 702A, 710C, 711A, 740A, 740B, or 740C.
- B. The key and jack are located in the A switchboard.

J23052P—AT&TCo Std—Plugging-Up Line Unit (See Note A.)

Equipment—J23052P-()

List 1—Framework, assembly, wiring, and common equipment for one unit of ten line circuits.

WIRE EQUIP NOTES

Plugging-Up L Ckt,
SD-25149-01:
Fig. 1

10 0

List 2—Equipment per SD-25149-01, Fig. 1 required in addition to list 1 for one line circuit.

Note

A. The lamps, jack, and key are located in the A switchboard. The patching cords and main distributing frame (MDF) jacks are ordered as part of the MDF equipment.

J23052R—A&M Only—Interrupter Checking Unit for District Junctors

Equipment—J23052R-()

List 1—Framework, assembly, wiring, and common equipment for one unit arranged for six test relay circuits and three alarm lamp circuits.

WIRE EQUIP NOTES

No. 1 or Tdm Off.
Interrupter Checking Ckt,
SD-25268-01:
Alarm Timing Interrupter
Ckt, Fig. 2
Tst Rel Ckt, Fig. 3
Alarm Lp Ckt, Fig. 5

1 1
6 2
3 1

List 2—Wiring and equipment per SD-25268-01, Fig. 1 required in addition to list 1 for one alarm timing circuit. (See Note A.)

List 3—Equipment per SD-25268-01, Fig. 3 required in addition to list 1 for two additional test relay circuits.

List 5—Equipment per SD-25268-01, Fig. 5 required in addition to list 1 for each additional alarm lamp circuit.

Note

A. Wiring and equipment per list 2 is required once with each marker group. Both wiring and equipment shall be furnished on the first checking unit for the group.

J23052AB—AT&T Co Std—Emergency Line Unit Outgoing to Central Switchboard
(See Note A.)

Equipment—J23052AB-()

List 1—Framework, assembly, wiring, and common equipment for one unit of ten emergency line circuits.

WIRE EQUIP NOTES

Emer L Ckt, SD-25416-01:
Fig. 1, With Y & Z
Wiring

10 0

List 2—Equipment per SD-25416-01, Fig. 1, less W and X apparatus, required in addition to list 1 for one emergency line circuit.

List 3—Equipment per SD-25416-01, Fig. 1, W apparatus, required in addition to list 2 when trunk impedance is 1100 ohms or less (repeating coil).

List 4—Equipment per SD-25416-01, Fig. 1, X apparatus, required in addition to list 2 when trunk impedance is greater than 1100 ohms (repeating coil).

List 5—A&M Only—Equipment per SD-25416-01, Fig. 2 required in addition to list 1 for one transfer circuit for five lines. (See Note A, C, and E.)

List 6—A&M Only—Equipment per SD-25416-01, Fig. 3 required in addition to list 1 for one transfer circuit for ten lines where emergency trunks are permanently assigned. (See Note A, D, and E.)

Notes

A. In addition, there are options involving wiring only as follows.

1. Wiring to be connected per SD-25416-01, Fig. 1, Y wiring, required in addition to list 2 when PBX line requires ground removed from tip.
2. Wiring to be connected per SD-25416-01, Fig. 1, Z wiring, required in addition to list 2 for single-party and PBX lines other than those requiring ground removed from tip.

- B. The transfer switches associated with the emergency line circuits should be located adjacent to or in the same bay as the emergency line units and on a miscellaneous basis.
- C. Equipment per SD-25416-01, Fig. 4 required in addition to list 1 for one transfer relay circuit arranged for flexible trunk connections.
- D. Equipment per SD-25416-01, Fig. 5 required in addition to list 1 for one transfer relay circuit arranged for permanent trunk connections.
- E. Equipment per SD-25416-01, Fig. 6 required in addition to each 12 Fig. 4 or Fig. 5 for one transfer relay control circuit.

J23052AC—A&M Only—Emergency Line Unit Incoming to Central Switchboard

Equipment—J23052AC()

List 1—Framework, assembly, wiring, and common equipment for one unit of ten emergency line circuits.

WIRE EQUIP NOTES

Emer L Ckt, SD-25417-01:
Fig. 1, With W & X
Wiring

10 0

List 2—Equipment per SD-25417-01, Fig. 1, less W, X, and Z apparatus, required in addition to list 1 for one emergency line circuit. (See Note A.)

List 3—Equipment per SD-25417-01, Fig. 1, X option connected, required in addition to list 2 when 34-ohm sleeve is required for cord talking battery.

List 4—Equipment per SD-25417-01, Fig. 1, W option connected, required in addition to list 2 when 350-ohm sleeve is required for cord talking battery.

List 5—Equipment per SD-25417-01, Fig. 1, Z apparatus, required in addition to list 2 when trunk impedance is 1100 ohms or less (repeating coil).

List 6—Equipment per SD-25417-01, Fig. 1, Y apparatus, required in addition to list 2 when trunk impedance is greater than 1100 ohms (repeating coil).

List 7—Equipment per SD-25417-01, Fig. 2 required in addition to list 1 for ten line circuits (See Note A.)

List 8—Mounting plate required in addition to list 1 when list 4 is furnished.

List 9—102A insulators for list 4 as required.

Note

A. The transfer switch associated with the emergency line circuit should be located adjacent to or in the same bay as the emergency equipment and is to be wired by the installation force.

J23052AE—A&M Only—Sender Make-Busy Frame—Permanent Signal Holding Trunk—For Offices Served by Central Switchboard (See 5.07 and Note F.)

Equipment—J23052AE()

List 3—Framework, assembly, and equipment for tone control and timing circuit per SD-25418-01, Fig. 2 and 4. (See Note A.)

List 4—Framework, assembly, wiring, and common equipment for one unit of ten trunk circuits.

WIRE EQUIP NOTES

Perm Sig Holding Trk Ckt,
SD-25418-01:

Fig. 1, 5 & D, With Q
& R Wiring

10 0 B

List 5—Equipment per SD-25418-01, Fig. 1, 5, and D, Q apparatus, required in addition to list 4 for one PSH trunk circuit for use with message-register-type district junctors.

List 6—Equipment per SD-25418-01, Fig. 1, 5, and D, R apparatus, and supplementary local cable for TI relays and H, T, and U terminal strips, required in addition to list 4 for one PSH trunk circuit for use with AMA district junctors.

List 7—Wiring and equipment for each No. 1A key equipment release circuit per SD-25418-01, Fig. 8 required in addition to list 4 for each ten lists 5 or 6 equipped.

List 8—Wiring and equipment per SD-25418-01, Fig. 1, G or H and X options only, required in addition to lists 5 and 6 for each list 5 or 6 equipped. (See Notes C, D, and E.)

Notes

- A. The 106D output transformer is located on the fuse bay having the tone supply terminals.
- B. List 4 contains Q and R wiring less that portion between the contacts of the TI relays and the H, T, and U terminal strips, and between the windings of the TI relays and the 19PU resistors. List 5 covers equipment for one PSH trunk for use in marker groups arranged for message register operation. List 6 covers equipment and wiring for one PSH trunk for use in marker groups equipped for AMA. The added wiring comprises a supplementary local cable between the TI relays and resistances and the H, T, and U terminal strips.
- C. List 8 includes the FL capacitor and FL resistor for each trunk which, because of lack of space within the unit, are mounted on a plate outside of the unit. This equipment is installer wired. This plate shall be mounted as near the unit equipment as possible. If X option is furnished as a part of list 6, it shall be omitted from list 8.
- D. Option G shall be furnished when this circuit is used in an office arranged for AMA.
- E. Option H shall be furnished when this circuit is used in an office not arranged for AMA.
- F. For automatic application of announcement and receiver off-hook tone feature see J23052CW and J99235DE.
- G. The ZA wiring shall be furnished when automatic application and receiver off-hook tone feature is not required.

J23052AH—A&M Only—Subscriber 2-Wire Recording Completing Trunk Unit—Arranged for Coin Control—Noncoin and Single Slot Coin—Outgoing to Toll Office(See Note A.)

Equipment—J23052AH-()

List 1—Framework, assembly, wiring, and common equipment for one unit of five trunk circuits.

Recording Compl Trk
Ckt, SD-25424-01:
Fig. 1, A, & B

WIRE EQUIP NOTES

5 0

List 2—Equipment per SD-25424-01, Fig. 1, less A and B apparatus, required in addition to list 1 for one trunk circuit without number checking.

List 3—Equipment per SD-25424-01, Fig. 1, A apparatus, required in addition to list 2 where the trunk impedance is 1100 ohms or less (repeating coil).

List 4—Equipment per SD-25424-01, Fig. 1, B apparatus, required in addition to list 2 where the trunk impedance is greater than 1100 ohms (repeating coil).

Note

- A. The jacks and lamps are located in the switchboard, and the time alarm equipment, SD-25424-01, Fig. 2, is located on the miscellaneous relay rack.

J23052AK—AT&TCo Std—Official PBX Trunk Unit—Outgoing to Distant Office

Equipment—J23052AK-()

List 1—Framework, assembly, wiring, and common equipment for one unit of ten trunk circuits.

WIRE EQUIP NOTES

Official PBX Trk Ckt,
SD-25428-01:
Fig. 1

10 0

List 2—Equipment per SD-25428-01, Fig. 1 required in addition to list 1 for one trunk circuit.

J23052AL—AT&TCo Std—Official PBX Trunk Unit—Incoming from Distant Crossbar Office

Equipment—J23052AL-()

List 1—Framework, assembly, wiring, and common equipment for one unit of ten trunk circuits.

	WIRE	EQUIP	NOTES
Official PBX Trk Ckt, SD-25429-01: Fig. 1	10	0	

List 2—Equipment per SD-25429-01, Fig. 1 required in addition to list 1 for one trunk circuit.

List 3—102A insulators as required for 18-type resistors.

J23052AP—AT&T Co Std—Dial Terminating Manual Line Unit Central Switchboard
(See 5.20)

Equipment—J23052AP-()

List 1—Framework, assembly, wiring, and common equipment for one unit of 2-pulse circuits and one transfer circuit. (See Note A.)

	WIRE	EQUIP	NOTES
No. 1 Dial Terminating Manual Line Ckt Central A Swbd, SD-25421-01:			
Grp Ckt, Fig. 2	6	0	
Puls Ckt, Fig. 3	2	2	
Trfr Ckt, Fig. 4	1	1	
Aux Rel Ckt, Fig. 7	4	4	
Fig. 8	2	2	

List 2—Common equipment for one resistance mounting plate for 40 lines per SD-25421-01, Fig. 1.

List 3—Common equipment of relay mounting plate for relays for five circuits for 40 lines per SD-25421-01, Fig. 1.

List 4—Equipment per SD-25421-01, Fig. 1 required in addition to list 2 and 3 for one line circuit.

List 5—Framework and common equipment for 80 lines required for group circuits when the number of lines in the office exceeds 60. (See Note A.)

List 6—Equipment per SD-25421-01, Fig. 2 required in addition to list 1 or 5 for one group circuit. (See Note A.)

List 7—Common equipment of relay mounting plate for relays and terminal strips for five circuits per SD-25421-01, Fig. 7, required in addition to list 1 when the number of lines exceeds 40.

List 8—Equipment per SD-25421-01, Fig. 7, required in addition to lists 1 and 7 for ten line circuits.

Note

A. It is desirable to divide the dial terminating lines into approximately equal groups, A and B, in order to evenly load each of the two sets of common equipment. Each ten lines of each group are associated with one of the G and LG group relays. The first 60 lines, that is, 0 through 29 of group A and 0 through 29 of group B, are associated with G and LG relays mounted on the unit. Subsequent lines are associated with additional miscellaneous-mounted G and LG relays.

J23052AW—AT&T Co Std—Outgoing Trunk Unit for Office Secondary Multiple to No. 2 Repair Service Desk Arranged to Transfer to "A" Switchboard in Different Building Than Repair Service Desk

Equipment—J23052AW-()

List 1—Framework, assembly, wiring, and common equipment per SD-25463-01, Fig. 1, for one 2-trunk unit, wired and equipped for one trunk circuit only (surface wired) for one trunk circuit.

	WIRE	EQUIP	NOTES
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OGT Ckt, SD-25463-01: Fig. 1	1	1	
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List 2—Wiring and equipment per SD-25463-01, Fig. 1 required in addition to list 1 for one additional trunk circuit.

List 3—Wiring and equipment per SD-25463-01, Fig. 1, Z apparatus, required in addition to list 2 or 3 for one trunk circuit for use where ringing induction is not furnished at switchboard end of trunk.

List 4—Wiring and equipment per SD-25463-01, T option required in addition to list 1 or 2, when this trunk (1) is not associated with a trunk circuit arranged for park-on operation or (2) is associated with a trunk circuit arranged for park-on operation that

is also equipped with a preempting circuit.
(See Note A.)

Note

A. In addition there are options involving wiring only as follows:

1. Provide Q wiring per SD-25463-01, when this trunk is associated with a trunk circuit arranged for park-on operation that is also equipped with a preempting circuit (J93016CT), otherwise provide K wiring.
2. When this trunk is associated with a trunk circuit arranged for park-on operation but is not equipped with a preempting circuit feature (J93016CT), then provide either M wiring for access to outgoing trunk per SD-25463-01, Fig. 2 (J23052AY); or N wiring for individual access to the park-on trunk.

J23052AY—AT&T Co Std—Outgoing Trunk Unit from Subscriber Line Circuit to No. 2 Repair Service Desk Arranged to Transfer to "A" Switchboard in Different Building Than Repair Service Desk to the Trunk Circuit Arranged for Park-on

Equipment—J23052AY-()

List 1—Framework, assembly, wiring, and equipment for one unit of one trunk circuit, surface wired.

	WIRE	EQUIP	NOTES
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OGT Ckt, SD-25463-01: Fig. 2	1	1	
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List 2—Wiring and equipment per SD-25463-01, T option required in addition to list 1 when this trunk is not associated with a trunk circuit arranged for park-on operation. (See Note A.)

Note

A. In addition there are options involving wiring only as follows:

1. Provide Y wiring per SD-25463-01, when this trunk is not associated with an outgoing trunk per SD-25463-01, Fig. 1 (J23052AW).
2. When this trunk is associated with a trunk circuit arranged for park-on operation that is not equipped with a preempting circuit (J93016CT) then provide either M wiring for access to outgoing trunk per SD-25463-01, Fig. 1 (J23052AW); or N wiring for individual access to the park-on trunk.

J23052BA—AT&T Co Std—Coin Supervisory Unit—DSA Switchboard End—With Ringback

Equipment—J23052BA-()

List 1—Framework, assembly, wiring, and common equipment for one unit of five trunk circuits.

	WIRE	EQUIP	NOTES
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Cn Supv Ckt, SD-25445-01: Fig. 1 & B	5	0	
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List 2—Equipment per SD-25445-01, Fig. 1 and B, S, T, and V wiring, required in addition to list 1 for one trunk circuit. (See Note A.)

List 3—Equipment per SD-25445-01, Fig. 1, W apparatus (120C repeating coil), required in addition to list 2 for one trunk with impedance of 1100 ohms or less.

List 4—Equipment per SD-25445-01, Fig. 1, X apparatus (120D repeating coil), required in addition to list 2 for one trunk with impedance greater than 1100 ohms.

List 5—Equipment per SD-25445-01, Fig. 1, Z apparatus, required in addition to list 2 for one trunk circuit for 34-ohm sleeve

condition.

- List 6**—Equipment per SD-25445-01, Fig. 1, Y apparatus, required in addition to list 2 for one trunk circuit for 350-ohm sleeve condition.

Note

- A. The S, T, and V straps shall be cut as required for conductor loops in accordance with Circuit Note 101.

J23052BB—A&M Only—Outgoing Keypulsing Trunk Unit from Central Switchboard to Distant Crossbar Office—Coin

Equipment—J23052BB-()

- List 1**—Framework, assembly, wiring, and common equipment for one unit of five trunk circuits.

WIRE EQUIP NOTES

OGT Ckt, SD-25446-01:

Fig. 1, 2, 3, A, & B,
With M, V, W, X, Y,
& Z Wiring

5 0

- List 2**—Equipment per SD-25446-01, Fig. 1, N and Q wiring, required in addition to list 1 for one trunk circuit. (See Note A.)

- List 3**—Equipment per SD-25446-01, Fig. 1, R apparatus (120C repeating coil), required in addition to list 2 for one trunk with impedance of 1100 ohms or less.

- List 4**—Equipment per SD-25446-01, Fig. 1, U apparatus (120D repeating coil), required in addition to list 2 for one trunk with impedance greater than 1100 ohms.

- List 5**—Equipment per SD-25446-01, Fig. 2 required in addition to list 2 for coin control for one trunk circuit.

- List 6**—Equipment per SD-25446-01, Fig. A and 1, Z option, required in addition to list 2 for one trunk circuit for single-office operation with keypulsing on calling cord only.

- List 7**—Equipment per SD-25446-01, Fig. 3, A, and 1, Y wiring, required in addition to list 2 for one trunk circuit for single-office operation with keypulsing on both calling and answering cords.

- List 8**—Equipment per SD-25446-01, Fig. B and

V wiring, and Fig. 1, M and X options, required in addition to list 2 for multioffice operation with keypulsing on calling cord only.

- List 9**—Equipment per SD-25446-01, Fig. 3 and B and W wiring, and Fig. 1, X wiring, required in addition to list 2 for multioffice operation with keypulsing on both calling and answering cords.

Note

- A. The N and Q trunk compensation straps shall be cut as required in accordance with Circuit Note 102.

J23052BG—A&M Only—Outgoing Keypulsing Trunk Unit for Use With Panel Senders from Central Switchboard to Distant Crossbar Office—Coin

Equipment—J23052BG-()

- List 1**—Framework, assembly, wiring, and common equipment for one unit of five trunk circuits.

WIRE EQUIP NOTES

OGT Ckt, SD-25462-01:

Fig. 1, 3, A, B, C, & D,
With J, K, N, V, W, X, Y,
& Z Wiring

5 0

- List 2**—Equipment per SD-25462-01, Fig. 1, N and Q wiring, required in addition to list 1 for one trunk circuit. (See Note A.)

- List 3**—Equipment per SD-25462-01, Fig. 1, R apparatus (120C repeating coil), required in addition to list 2 for one trunk circuit.

- List 4**—Equipment per SD-25462-01, Fig. 1, U apparatus (120D repeating coil), required in addition to list 2 for one trunk circuit.

- List 5**—Equipment per SD-25462-01, Fig. 3 required in addition to list 2 for coin control for one trunk circuit.

- List 6**—Equipment per SD-25462-01, Fig. A and 1, J and Z options, required in addition to list 2 for one trunk circuit for single-office operation with keypulsing on calling cord only.

- List 7**—Equipment per SD-25462-01, Fig. A and 1, K and Y options, required in addition to list 2 for one trunk circuit for single-office

operation with keypulsing on both calls and answering cords.

List 8—Equipment per SD-25462-01, Fig. B and V wiring, and Fig. 1, X and Z options, required in addition to list 2 for one trunk circuit for multioffice operation with keypulsing on calling cord only.

List 9—Equipment per SD-25462-01, Fig. B and W wiring, and Fig. 1, X and Y options, required in addition to list 2 for one trunk circuit for multioffice operation with keypulsing on both calling and answering cords.

List 10—Equipment per SD-25462-01, Fig. C required in addition to list 2 for one trunk circuit for 20-cycle controlled ringing.

List 11—Equipment per SD-25462-01, Fig. D required in addition to list 2 for one trunk circuit for simplex controlled ringing.

Note

A. Trunk compensation resistors shall be furnished in all cases and cut as required.

J23052BH—A&M Only—Outgoing Keypulsing Trunk Unit for Use With Panel Senders from Central Switchboard to Distant Crossbar Office—Noncoin

Equipment—J23052BH-()

List 1—Framework, assembly, wiring, and common equipment for one unit of five trunk circuits.

	WIRE	EQUIP	NOTES
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OGT Ckt, SD-25462-01:
 Fig. 1, A, B, C, & D,
 With J, K, N, V, W, X, Y,
 & Z Wiring

5	0	
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List 2—Equipment per SD-25462-01, Fig. 1, N and Q wiring, required in addition to list 1 for one trunk circuit. (See Note A.)

List 3—Equipment per SD-25462-01, Fig. 1, R apparatus (120C repeating coil), required in addition to list 2 for one trunk with impedance of 1100 ohms or less.

List 4—Equipment per SD-25462-01, Fig. 1, U apparatus (120D repeating coil), required in addition to list 2 for one trunk with

impedance greater than 1100 ohms.

List 5—Equipment per SD-25462-01, Fig. A and 1, J and Z options, required in addition to list 2 for one trunk circuit for single-office operation with keypulsing on calling cord only.

List 6—Equipment per SD-25462-01, Fig. A and 1, K and Y options, required in addition to list 2 for one trunk circuit for single-office operation with keypulsing on both calling and answering cords.

List 7—Equipment per SD-25462-01, Fig. B and V wiring, and Fig. 1, X and Z options, required in addition to list 2 for one trunk circuit for multioffice operation with keypulsing on calling cord only.

List 8—Equipment per SD-25462-01, Fig. B and W wiring, and Fig. 1, X and Y options, required in addition to list 2 for one trunk circuit for multioffice operation with keypulsing on both calling and answering cords.

List 9—Equipment per SD-25462-01, Fig. C required in addition to list 2 for one trunk circuit for 20-cycle controlled ringing.

List 10—Equipment per SD-25462-01, Fig. D required in addition to list 2 for one trunk circuit for simplex controlled ringing.

Note

A. Trunk compensation straps shall be furnished in all cases and cut as required.

J23052BN—AT&T Co Std—Tandem Office Interrupter Circuit Unit for Use With Remote Control Registration Trunks

Equipment—J23052BN-()

List 1—Framework, assembly, wiring, and common equipment for unit of five circuits.

	WIRE	EQUIP	NOTES
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Interrupter Ckt,
 SD-25441-01:
 Fig. 1

5	0	
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List 2—Equipment per SD-25441-01, Fig. 1 required in addition to list 1 for one trunk circuit.

J23052BP—AT&T Co Std—Tandem Office Emergency Interrupter Unit for Use With Remote Control Registration Trunks

Equipment—J23052BP-()

List 1—Framework, assembly, wiring, and equipment for one circuit unit.

	WIRE	EQUIP	NOTES
Emer Interrupter Ckt, SD-25441-01: Fig. 2	1	1	

J23052BY—A&M Only—Cord Testing Unit—Special Service and Combination Cords Arranged for Crossbar Traffic Only

Equipment—J23052BY-()

List 1—Framework, assembly, wiring, and equipment for one cord unit.

	WIRE	EQUIP	NOTES
Cord Testing Ckt, SD-25474-01: Bat. & Grd Supply, Fig. 1	1	1	
Cn Tst, Fig. 2	1	0	
Ring. Tst, Fig. 3	1	1	
AC Continuity Tst, Fig. 4 Thru AC Continuity Tst, Fig. 5	1	1	
Slv Rel Tst, Fig. 6	1	1	
Supv Rel Tst Int Ckt, Fig. 7	1	1	
Flash Tst, Fig. 8	1	1	
Repeated Supv & Delayed Charge Tst, Fig. 9	1	0	

List 2—Equipment per SD-25474-01, Fig. 2 required in addition to list 1 where cords are equipped for coin control.

List 3—Equipment per SD-25474-01, Fig. 9 required in addition to list 1 where cords are equipped for completion of intercepted calls.

List 4—Equipment per SD-25474-01, Fig. A required

in addition to list 1 for subset for individual line offices. (See Note A.)

List 5—Equipment per SD-25474-01, Fig. B required in addition to list 1 for subset for 4-party semiselective or 2-party selective offices. (See Note A.)

List 6—Equipment per SD-25474-011, Fig. C required in addition to list 1 for subset for 4-party selective offices. (See Note A.)

Notes

A. In addition, there are options involving wiring only as follows.

1. Wiring Z in SD-25474-01, Fig. 2, to be connected in list 2 where 110-volt positive battery is used for coin collect and 110-volt negative for coin return.
2. Wiring Y in SD-25474-01, Fig. 2, to be connected in list 2 where 110-volt negative battery is used for coin collect and 110-volt positive for coin return.

B. The subsets of lists 4, 5, and 6 shall be mounted as specified by the telephone company in a location where they can be heard by the test employee at the switch.

J23052BZ—AT&T Co Std—Busy-Tone Unit for Use With Coin First Lines

Equipment—J23052BZ-()

List 1—Assembly, wiring, and equipment for one busy-tone unit per SD-25081-01, Fig. 4, surface wired.

J23052CF—AT&T Co Std—Vacant Code Intercepting or Special Service Trunk Unit—For Use With District Junctor in the Battery Supply Position (See 5.08)

Equipment—J23052CF-()

List 1—Framework, assembly, wiring, and common equipment for one unit of five trunk circuits.

	WIRE	EQUIP	NOTES
Vac Cd Incpt or Special Serv Trk Ckt, SD-25507-01: Fig. 1 & 2	5	0	

List 2—Equipment per SD-25507-01, Fig. 1 required in addition to list 1 for one vacant code intercepting trunk.

List 3—Equipment per SD-25507-01, Fig. 2 required in addition to list 2 for operation as special service trunk.

J23052CQ—A&M Only—Permanent Signal Holding Trunk AMA Conversion Unit

Equipment—J23052CQ-()

List 1—Framework, assembly, and common equipment for one AMA conversion unit for PSH trunks. (See Notes A and B.)

List 2—Equipment and wiring for one PSH trunk per SD-25126-01, Fig. 1, W apparatus only, required in addition to list 1.

List 3—Equipment and wiring for one PSH trunk per SD-25418-01, Fig. 5 or Fig. 6, R option required in addition to list 1.

Notes

A This unit is for use in modifying the following units of PSH trunks to operate with AMA: J23052H, Lists 1 and 2 or Lists 3 and 4; J23052AD, Lists 1 and 2; J23052AE, Lists 1 and 2 or Lists 4 and 5. The modification is accomplished by removing the repeating coils and mounting bars and substituting the above applique unit.

B. This unit is surface wired, the wiring consisting of three leads from each relay through A insulator to the terminal strips, one lead from each relay winding to the associated resistance, and ground straps.

J23052CR—A&M Only—Additional Alarm Release Unit Equipment for Use With Alarm Transfer Unit J23052CJ

Equipment—J23052CR-()

List 1—Framework, assembly, wiring, and common equipment for additional alarm release equipment required where alarm transfer unit per J23052CJ is installed.

WIRE EQUIP NOTES

Alarm Trfr Ckt,SD-25885-01:		
Alarm Release for Orig Ckt, Fig. 26	1	1
Alarm Release for Term. Ckt, Fig. 27	3	1
Sub Sdr Lk Alarm Release Ckt, Fig. 28	5	1
AMA Alarm Release Ckt, Fig. 29	1	0
Alarm Release for L Lk & Term. Sdr Lk Ckt, Fig. 31	3	1
Alarm Release Rel Ckt, Fig. 35	1	1
Alarm Trfr Rel Ckt, Fig. 40	1	1

List 2—Equipment per SD-25885-01, Fig. 27 required in addition to list 1 for each additional terminating marker group served by the same alarm transfer circuit, maximum two lists 2 required.

List 3—Equipment per SD-25885-01, Fig. 28 required in addition to list 1 for each additional ten subscriber sender link frames served by the same alarm transfer circuit, maximum three lists 3 required.

List 4—Equipment per SD-25885-01, Fig. 29 required in addition to list 1 to release AMA line link alarms.

List 5—Equipment per SD-25885-01, Fig. 31 required in addition to list 1 for each additional terminating marker group served by the same alarm transfer circuit, maximum two lists 5 required.

List 6—Equipment per SD-25885-01, Fig. 28, required in addition to list 1, without list 4, when auxiliary subscriber sender link frames are required. (Serves two originating marker groups.)

List 7—Equipment per SD-25885-01, YC option of Fig. 27 required in addition to list 1 or 2 to release alarm for the direct access pretranslator connector (one list 7 per terminating marker group—maximum three list 7).

Note

A. Wiring and equipment per SD-25885-01, Fig. 42, 43, 44, 45, 46, 106, 108, or 112 may be ordered as required for offices equipped with alarm transfer equipment per J23052CJ. The equipment

for these figures is installer-wired and is shown on J23052CJ-().

**J23052CS—AT&TCo Std—Alarm Transfer Unit
Equipment for One Alarm Transfer
Circuit**

Equipment—J23052CS-()

List 1—Framework, assembly, wiring, and common equipment for one unit of one circuit.

	WIRE	EQUIP	NOTES
Alarm Trfr Ckt, SD-25885-01: Fig. 1, 4, 8, 13, 14, 15, 18, 23, 26, 30, 35, 39, 40, 41, 48, 101 & 110	1	1	
Fig. 2 & 10	4	0	A
Fig. 3	5	1	
Fig. 5, 7, 12, 17, 19, 20, 21, 25, 29, 32, 33, 34, 47, 49, & 50	11	0	B
Fig. 9 & 24	2	0	A
Fig. 11, 27, & 31	3	1	
Fig. 28	5	1	

List 2—Equipment per SD-25885-01, Fig. 2 required in addition to list 1 for each floor of equipment associated with one alarm transfer circuit. (See Note E.)

List 3—Equipment per SD-25885-01, Fig. 3 required in addition to list 1 for each additional five or less keypulsing sender link or coin supervisory link frames served by one alarm transfer circuit.

List 4—Equipment per SD-25885-01, Fig. 5 required in addition to list 1 for an additional five or less ringing fuse panels served by one alarm transfer circuit.

List 6—Equipment per SD-25885-01, Fig. 7 required in addition to list 1 when the alarm transfer circuit serves more than five and up to ten coin supervisory link frames.

List 7—Equipment per SD-25885-01, Fig. 9 required in addition to list 1 for each group of ten, 1 through 10 or 11 through 20, coin supervisory units not arranged for overtime coin collection. (See Note A.)

List 8—Equipment per SD-25885-01, Fig. 10 required in addition to list 1 for each group of five

coin supervisory units, 1 through 5, 6 through 10, 11 through 15, or 16 through 20, arranged for overtime coin collection. (See Note A.)

List 9—Equipment per SD-25885-01, Fig. 11 required in addition to list 1 for each additional ten or less keypulsing sender link or coin supervisory link frames up to a total of 24 served by one alarm transfer circuit.

List 10—Equipment per SD-25885-01, Fig. 12 required in addition to list 1 when a varying number of permanent signal overflows is required to bring in an alarm. (See Note B.)

List 11—Equipment per SD-25885-01, Fig. 17 required in addition to list 1 when the first permanent signal overflow is required to bring in an alarm.

List 12—Equipment per SD-25885-01, Fig. 19 required in addition to list 1 when it is desired to transfer CDO alarms in connection with the extension alarm circuit.

List 13—Equipment per SD-25885-01, Fig. 20 required in addition to list 1 when it is desired to transfer PBX alarms in connection with the extension alarm circuit.

List 14—Equipment per SD-25885-01, Fig. 21 required in addition to list 1 when it is desired to transfer the controller trouble indicator alarm.

List 15—Equipment per SD-25885-01, Fig. 22, 25, and 29 required in addition to list 1 when it is desired to transfer and release AMA alarms. (See Notes G and H.)

List 16—Equipment per SD-25885-01, Fig. 24 required in addition to list 1 for each five PBX block allotter circuits (of the first PBX block allotter unit only) when it is desired to transfer the alarms for all trunks busy. (There are a maximum of two lists 16 required.) (See Note C.)

List 17—Equipment per SD-25885-01, Fig. 27 required in addition to list 1 for each additional terminating marker group served by the same alarm transfer circuit, maximum two lists 17 required.

List 18—Equipment per SD-25885-01, Fig. 28 required in addition to list 1 for each additional ten subscriber sender link frames served by the same alarm transfer circuit, maximum three lists 18 required.

List 19—Equipment per SD-25885-01, Fig. 31 required in addition to list 1 for each additional terminating marker group served

by the same alarm transfer circuit, maximum two lists 19 required.

List 20—Equipment per SD-25885-01, Fig. 32 required in addition to list 1 to provide for transfer of alarms associated with 3A Announcement System when office alarms are transferred with tone distinction.

List 21—Equipment per SD-25885-01, Fig. 33 required in addition to list 1 to provide for transfer of alarms associated with 4A Announcement System when office alarms are transferred with tone distinction. (See Note K.)

List 22—Equipment per SD-25885-01, Fig. 34 required in addition to lists 1 and 20 or 21 to provide distinctive tone signals when office alarms associated with 3A and/or 4A Announcement Systems are transferred to a receiving center.

List 23—Equipment per SD-25885-01, Fig. 47 required in addition to list 1 to provide for the transfer of alarms within the same building.

List 24—Equipment per SD-25885-01, Fig. 49 required in addition to list 1 for first preference local option relay circuit.

List 25—Equipment per SD-25885-01, Fig. 50 required in addition to list 1 for second preference local option relay circuit.

List 26—Equipment per SD-25885-01, Fig. 102 required in addition to list 1 for second preference local option relay circuit.

List 27—Reserved.

List 28—Reserved.

List 29—Reserved.

List 30—Equipment per SD-25885-01, Fig. 28, required in addition to list 1, without list 15, when auxiliary subscriber sender link frames are required. (Serves two originating marker groups.)

List 31—Equipment and wiring per SD-25885-01, Fig. 111, and YB options, required in addition to list 1, to transfer alarm signals for calling line identification. (See Note F.)

List 32—Equipment per SD-25885-01, YC option of Fig. 27, required in addition to list 1 or 17 to release alarm for the preference control circuit for the direct access pretranslator connector. (One list 32 per terminating marker group—maximum three list 32.)

List 33—Equipment per SD-25885-01, Fig. 25 required in addition to list 1 to release alarm for dynamic overload control circuit when list 15 is not provided. (See Note H.)

Notes

A. SD-25885-01, Fig. 9 and 10, shall be universally wired and equipped as required to meet job conditions.

B. The 25A terminal punchings, arranged for use on U-type relays, have been furnished on the rear of U1, U3, U5, U7, U9, and T0 through T3 relays, inclusive. The multiple lead between these relays shall be connected to these punchings and straps between them and the relay contacts added, as required, to gain the requirements specified in Circuit Note 102.

C. SD-25885-01, Fig. 24 circuits 3 and 4; Fig. 42, 43, 44, 45, 46, 103, 104, 105, 106, 108, 112, 113, 114, 117, 118 and YJ App of Fig. 4 shall be furnished as required to meet job requirements. The equipment for these figures is shown in installer-wired mounting plate figures on J23052CS-().

D. Wiring and equipment per list 24 or 25 shall be furnished as required by the customer to meet job requirements.

E. Provide YD wiring per SD-25885-01 in addition to list 2 when a wideband remote switch circuit is associated with the alarm transfer circuit. Also provide YD apparatus—(RSU) resistor lamp on the miscellaneous fuse bay.

F. Provide YE wiring of SD-25885-01 in addition to list 31 when trouble ticketer recording is required with CLI.

G. Wiring required per SD-25885-01, YG option for AMA alarm release.

H. Wiring required per SD-25885-01, YF option for dynamic overload control alarm release.

J. Wiring required per SD-25885-01, YJ option to provide for an auxiliary alarm transfer relay.

K. Wiring per SD-25885-01, YK option is required in addition to list 21 for voice alarm with use of a 7A announcement set.

J23052CT—AT&T Co Std—Tandem Office Test Trunk Unit for Testing Incoming Trunk Circuits Arranged for Rering

Equipment—J23052CT-()

- List 1*—Assembly, wiring, and equipment for one test trunk unit for one circuit per SD-25939-01, Fig. 1, less Y and Z apparatus.
- List 2*—Wiring and equipment for Y apparatus when trunk CS relay is adjusted to a range of 8000 ohms.
- List 3*—Wiring and equipment for Z apparatus when trunk CS relay is adjusted to a range of 5500 ohms.

J23052CU—AT&TCo Std—AC Power Service Failure Alarm Transfer Unit

Equipment—J23052CU-()

- List 1*—Framework, assembly, wiring, and common equipment for one alarm transfer unit for ac power service failure alarm when 301C power plant is not used.

	WIRE	EQUIP	NOTES
Alarm Trfr Ckt, SD-25885-01:			
Fig. 36	1	1	
Fig. 37 & 38	1	0	

- List 2*—Equipment per SD-25885-01, Fig. 37 required in addition to list 1 to equip transformer circuit for 105- to 125-volt power supply.
- List 3*—Equipment per SD-25885-01, Fig. 38 required in addition to list 1 to equip transformer circuit for 210- to 250-volt power supply.

J23052CV—AT&TCo Std—Announcement System Alarm Release Unit for Remote Release of Announcement System Alarms From Receiving Office When Alarm Sending Is in Use

Equipment—J23052CV-()

- List 1*—Assembly, wiring, and equipment for one alarm release unit per SD-25885-01, Fig. 107 and 109.
- List 2*—Equipment and wiring required in addition to list 1 for an additional AR19 relay per SD-25885-01, Fig. 107.

J23052CW—A&M Only—Permanent Signal Holding Trunk Receiver Off-Hook Announcement and Tone Timing Control Unit

Equipment—J23052CW-()

- List 1*—Assembly, equipment, and wiring for one receiver off-hook announcement and tone timing control circuit per SD-25418-01, Fig. 9.

- List 2*—Wiring and equipment required in addition to list 1, when coin districts are not arranged to call in coin supervisory circuit on all calls, per SD-25418-01, ZL option. (Required with J23052AD unit only.)

J23052CX—AT&TCo Std—Centralized Status, Alarm and Control System (CSACS) Control Relay Unit

Equipment—J23052CX-()

- List 1*—Assembly, wiring, and equipment for one CSACS control relay unit per SD-25885-01, Fig. 115. (See Note A.)

Note

- A. This unit plus keys and lamps per SD-25885-01, Fig. 116 mounted as shown on ED-25448-01 must be provided when CSACS is required in place of alarm sending.

J23052CY—AT&TCo Std—No. 1 Crossbar Office Centralized Status, Alarm and Control System Usage Register Unit

Equipment—J23052CY-()

- List 1*—Assembly, wiring, and equipment required to arrange one Centralized Status, Alarm and Control System (CSACS) usage register unit for one originating marker group, terminating marker group, or transverter group per SD-25100-01, two Fig. 1.
- List 2*—Apparatus and wiring required in addition to list 1 for each circuit requiring a CSACS usage count per SD-28100-01 Fig. 2. (Maximum 10 list 2.)

5. GENERAL NOTES

- 5.01** The equipment covered by this specification shall be mounted on relay rack frameworks designed for rear of bay cabling where the equipment is mounted on the front of the uprights. This equipment may be mounted on existing relay rack frameworks only where all equipment in the bay is arranged for rear of bay cabling and equipment mounted from the front of the bay. A vacant space on existing front of bay cabled relay racks

may be used to mount 19-inch mounting plate equipment, when required in the office.

5.02 The method of mounting the various units as well as the miscellaneous equipment is shown on ED-92224-10. In the location of equipment on the relay rack, as far as practical, like equipment should be located in the same and adjacent bays.

5.03 Test posts, test jacks, and telephone jacks per SD-25440-01 will be mounted in accordance with ED-91210-51, usually on an added or existing mounting plate, approximately 6 feet from the floor. This equipment should be at the right end of the plate, the remainder of the plate being available for miscellaneous equipment. It should be furnished in alternate bays starting with the second bay of lineup. Test posts may be located in spare position of 230 or similar jack mounting when available by using sleeves per ED-91210-51, Fig. 1.

5.04 Battery leads will be run in switchboard cable from the relay rack equipment to the associated fuse panels. In general, it will be desirable to have one cable from a number of relay rack units in the same bay.

5.05 All the cross-connections will be made on the horizontal side of the MDF as indicated on the Crossbar System circuits listed herein, unless otherwise specified. Wherever Panel System circuits are used in the crossbar office showing cross-connections on either side of the intermediate distributing frame (IDF) or other distributing frames, they will be interpreted as HMDF unless otherwise specified. Where existing equipment, terminated on distributing frames other than MDF, is to be cross-connected, the crossbar equipment tie cable will be provided when necessary.

5.06 The equipment arranged to mount on 19-inch relay rack will be mounted on 23-inch relay rack by means of adapter details per ED-90273-70, in accordance with ED-91510-01. The adapter details in all cases shall extend approximately the full length of the unit instead of using short adapters on each side of the unit.

5.07 Certain operator class trunks, such as vacant code, PSH, and single-slot coin recording completing trunks, require a coin disposal feature for use in offices where the coin district junctor is not arranged for seizure of the coin supervisory

circuit on all calls. This feature is furnished in recording completing trunks per J23066J. In offices where the district junctor circuit is arranged for seizure of the coin supervisory circuit on all calls, PSH trunks should be furnished per J91104CS and J23052AE, and single-slot coin recording completing trunks per J23066J. In such offices, the district junctor may also be arranged to be in the talking battery condition for vacant code trunks, in which case the vacant code tone trunks should be furnished per ED-25478-11, Group 36 and 37, and vacant code intercepting trunks per J91104CY. If the district junctor is not in the talking battery condition but is arranged for seizure of the coin supervisory circuit on vacant code calls, the vacant code tone trunks should be furnished per ED-25478-11, Group 13 to 19.

Location of Fuses for Relay Rack Equipment

5.08 Fuses associated with relay rack equipment will be located on fuse panels mounted on angle relay rack type fuse bays per J97025. These bays will, in general, be grouped in a convenient location at the main cross-aisle end of alternate lineups of relay rack over ten bays long, or on every third lineup for less than ten bays in ultimate length. For cases where one or two bays of relay equipment are used to fill out rows of crossbar frames, a common fuse bay will be provided in a convenient location for a group of relay rack bays.

5.09 Where relay racks are located on more than one floor, fuse bays will be provided on each floor, all equipment on one floor to be fused on that floor.

5.10 Fuse panels will be arranged with talking battery at the bottom with voltages increasing toward the top of the bay.

5.11 Resistance lamps which are required for coin battery, ringing, etc, will be located on mounting plates at the top of the bay in which their associated fuses are located. Spare space between the ultimate fuse and lamp requirements may be used for relay rack units or miscellaneous relay equipment.

5.12 All ringing and coin control circuits shall be fused with 3-type fuses which have their fuse wire protected by a porcelain tube, for example, 35J, 35K, etc.

Cabling

5.13 The method of running switchboard cables to the equipment listed in this specification is illustrated on ED-92224-10 and -11. In accordance with general standard practices, large switchboard cables serving convenient numbers of circuits or units in the same bay shall be used, butted near the first equipment to which they are formed and connected. There may be exceptions to this general rule, and these will be taken care of on the specific equipment units.

5.14 In general, 24-gauge cables are used. However, 22-gauge cables are specified on unit equipment drawings and circuit drawings when multiple lamp leads are included or when there are other limitations on conductor resistance. No. 20-gauge cables are used for battery leads from the fuse bay to two or more circuits served by the same fuse or where a small number of conductors are required.

5.15 The test trunk circuit connections from the office link frame include an S lead in addition to the T, R, and S1 leads, which are cabled to the distributing frame on a 3-wire basis from the link frame and cross-connected as required. The S lead must be cabled directly from the distributing frame terminal strip assigned to the miscellaneous circuit for the tandem trunk frame to the office link frame. The test trunk assignment, therefore, shall be obtained from the telephone company to permit the cabling of the S lead.

Grounding

5.16 Relay rack bay frameworks will be grounded by means of a 1- by 1/8-inch copper bus bar mounted on the top angle in accordance with ED-91210-51. This bus bar will also supply signal ground for the circuits mounted on these bays through the use of a bare-tinned 6-wire extending the full height of each bay on the local cable side in accordance with ED-92224-10.

Talking Battery Supply

5.17 Talking battery filters of the required capacity per ED-91323-01 or ED-91450-01, wired per SD-96211-01, are in general located on each fuse bay serving the talking battery fuse panels in that bay. Bays having less than 10-ampere talking battery drain, however, may be connected

to filters in an adjacent bay if there is enough excess filter capacity available there. The filters will be located at the top of the bay.

Bay Layout

5.18 In general, there are no restrictions on the arrangement of equipment on a relay rack bay except those of cabling convenience, keeping like equipment together, and appearance. In cases where the equipment contains jacks or keys, notes are shown on the drawings recommending location at convenient heights from the floor. The limitation of lead lengths as covered in J20151 and cabling convenience are the factors to be considered in the locations of the various relay rack bays. To minimize the keypulsing loop resistance for combination and sender monitor switchboard positions, where the cord circuit equipment is not mounted in the rear of the switchboard, the keyset and cord splitting units should be located on bays adjacent to the bays on which the associated combination cord circuit units are mounted. For maintenance reasons, the interrupter checking units per J23052R should be located on the same floor with and as near as possible to the associated district junctor or tandem trunk frames.

Official PBX Trunks

5.19 Official PBX trunks per J23052E are from office secondary multiple on PBX trunks. Official PBX trunks per J23066AB are from line number to DSA board acting as official PBX. Trunks per J23052AK are from line number to DSA board in a distant office where trunks per J23052AL are used at the DSA end.

Central Switchboard

5.20 Relay rack equipment required in connection with a central switchboard is covered by various units and miscellaneous equipment listed herein. In an office served by a central switchboard, J23052AE provides PSH trunks handled at the local sender make-busy frame. J23052AB provides an emergency manual service for certain normally dial lines and is associated with J23052AC located at the A board office. Local and toll intercepting, trouble intercepting, and verification request calls are handled by trunk unit J23066U located at the A board office. Vacant code intercepting trunks J91104CY are provided at the central A board office to connect directly to the office secondary

multiple at the local office. At the A board, J23052BA provides means to collect an overtime coin call through a coin supervisory circuit located on the miscellaneous frame in the local office. Manual lines with dial terminating service in an office served by a central switchboard are per J23052AP. These units include common equipment for directing originating calls through regular channels to the special service trunk group to the central switchboard special service operator. For reaching the calling station on delayed A board toll calls and for verification of other calls to no-test crossbar incomings, J23066H is required in the A board office. Plugging-up lines in the crossbar office served by a central switchboard are handled on the plugging-up line frame covered in J93005.

5.21 The emergency manual line equipment referred to above is brought into play in cases of failure of dial service and provides manual service for certain lines. Transfer of normally dial lines to these circuits is effected by cross-connection at the main distributing frame or, where specified, by manually operated transfer switches on the relay rack. A switch in the crossbar office transfers five lines and also transfers five interoffice trunk pairs from their normal connection to special service, intercepting, or other trunk relay circuits to the emergency lines. Another manually operated switch at the A board office transfers ten corresponding line circuits terminated in answering jacks and ten trunk pairs. Two switches at the outgoing end must, therefore, be operated in conjunction with one switch at the incoming end.

The answering jacks are used for completing calls to, as well as receiving calls from, these lines.

Crossbar Tandem Office

5.22 In general, the relay rack arrangements for tandem offices are similar to those for local crossbar offices as outlined in the notes covered herein. The 135- and 170-volt registration battery supply lamp and fuse panels shall be furnished in accordance with ED-25594-01 and located on the fuse bays with the lamps at the top. The 22-volt ac supply and associated fuse panels which are located on the miscellaneous frame in a local crossbar office shall be located on an angle relay rack fuse bay in tandem offices. The 23-inch transformer unit per J86724C shall be furnished for this purpose and located immediately above its associated fuse panels. Fuse panels for the 48-volt signal battery supply for the tandem office relay-rack-mounted equipment shall be located in the customary manner on a relay rack fuse bay located with the tandem relay racks. However, the fuses required for the 24-volt talk and signal battery, the 48-volt talk battery, and the ringing supply required for the miscellaneous trunks and tie lines to the various maintenance desks shall be located on available fuse panels associated with local equipment.

5.23 When vacant code or overflow trunks are arranged for recorded announcement in a No. 1 crossbar office, equipment per SD-96510-01, Fig. 3 and 4 and Note 102 shall be furnished.

List of A&M Only and Mfr Disc. Equipment

		DETAILS				DETAILS	
		LAST	REPLACING	EQUIPMENT	RATING	LAST	REPLACING
EQUIPMENT	RATING	SHOWN	EQUIPMENT			SHOWN	EQUIPMENT
		IN ISSUE				IN ISSUE	
				J23052BB	A&M Only	8	—
				J23052BC	Mfr Disc.	5	—
J23052A	Mfr Disc.	4	J23066M	J23052BD	Mfr Disc.	4	J91104CU
J23052B	Mfr Disc.	4	J23066AE				& J99235AK
J23052C	Mfr Disc.	1	J23052CA	L2			J23066BD,L3
J23052D	Mfr Disc.	4	J23066R	& L19	Mfr Disc.	2	& L30
J23052F	Mfr Disc.	4	J23066J	J23052BE	Mfr Disc.	8	J91104BG
J23052G	Mfr Disc.	5	J23052BW	J23052BF	Mfr Disc.	8	J91104BG
J23052H	Mfr Disc.	8	J91104CS	J23052BG	A&M Only	3	—
J23052J	Mfr Disc.	4	J23066AA	J23052BH	A&M Only	3	—
J23052K	Mfr Disc.	5	ED-25478-11,	J23052BJ	Mfr Disc.	5	—
			Grp 15-19	J23052BK	Mfr Disc.	4	J23066S
J23052L	Mfr Disc.	5	ED-25478-12,	J23052BL	Mfr Disc.	5	—
			Grp 38	J23052BM	Mfr Disc.	5	J27250J
J23052N	Mfr Disc.	4	J23066AC	L3	Mfr Disc.	2	J23052BM,L4
J23052Q	Mfr Disc.	4	J23066N	J23052BR	Mfr Disc.	2	J23052CC
J23052R	A&M Only	2	J27551M	J23052BS	Mfr Disc.	2	J91104AM
L4	Mfr Disc.	2	J23052R,L1	J23052BT	Mfr Disc.	2	J91104AN
J23052S	Mfr Disc.	5	J23052CF	J23052BU	Mfr Disc.	4	J23066E
J23052T	Mfr Disc.	2	J23052CP	J23052BW	Mfr Disc.	5	J23052CF
J23052U	Mfr Disc.	2	J23052CM	J23052BY	A&M Only	8	—
J23052V	Mfr Disc.	2	J23052CN	J23052CA	Mfr Disc.	4	J23066B
J23052W	Mfr Disc.	1	J23052BU	J23052CB	Mfr Disc.	5	—
J23052X	Mfr Disc.	1	J23052BU	J23052CC	Mfr Disc.	2	J23052CK
J23052Y	Mfr Disc.	4	J23066AB	J23052CD	Mfr Disc.	4	J23066AD
J23052Z	Mfr Disc.	4	J23066U	J23052CE	Mfr Disc.	4	J23066AA
J23052AA	Mfr Disc.	1	J23052BD	J23052CG	Mfr Disc.	5	—
J23052AB,L5				J23052CH	Mfr Disc.	2	J23052CL
& L6	A&M Only	8	—	J23052CJ	Mfr Disc.	3	J23052CS
J23052AC	A&M Only	8	—	J23052CK	Mfr Disc.	4	J23066F
J23052AD	Mfr Disc.	5	J23052AE	J23052CL	Mfr Disc.	4	J23066G
J23052AE	A&M Only	3	J99206AS	J23052CM	Mfr Disc.	5	—
L1			J23052E,L4	J23052CN	Mfr Disc.	5	—
& L2	Mfr Disc.	3	to L6	J23052CP	Mfr Disc.	4	J23066C
J23052AF	Mfr Disc.	4	J23066H	J23052CQ	A&M Only	3	—
L2	Mfr Disc.	3	J23052AF,L7	L4	Mfr Disc.	3	—
			& L8	J23052CR	A&M Only	3	J23052CS
J23052AG	Mfr Disc.	5	—	J23052CS			
J23052AH,	A&M Only	2	J23052F	L5	Mfr Disc.	8	—
L2	Mfr Disc.	8	—	J23052CW	A&M Only	8	—
J23052AJ	Mfr Disc.	5	J23052H				
J23052AM	Mfr Disc.	4	J23066D				
J23052AN	Mfr Disc.	4	J23066T				
J23052AR	Mfr Disc.	1	J23052BD				
J23052AS	Mfr Disc.	5	J91104AJ				
J23052AT	Mfr Disc.	5	—				
J23052AU	Mfr Disc.	5	J23052CB				

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.

Bell Telephone Laboratories, Incorporated

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