

**OUTPULSER-IDENTIFIER-TRUNK TEST FRAMES  
AUTOMATIC NUMBER IDENTIFICATION-TYPE B  
EQUIPMENT DESIGN REQUIREMENTS  
NO. 1 CROSSBAR, PANEL AND 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 framework, equipment, and circuits to be used in the engineering, manufacture, and installation of the outpulser-identifier-trunk test (OITT) frame used as part of the automatic number identification (ANI) equipment in decoder panel, No. 1 crossbar, and No. 1, 350A, and 355A step-by-step offices.

**1.02** This specification is reissued:

- (a) To provide equipment design information for testing nonbylink noncoin combined operator assistance, special and station toll trunks to TSPS No. 1 office per SD-32315-01, Issues 16D, 18B, and 20B.
- (b) To provide equipment design information for rerating the calling line identification feature to Mfr Disc. per SD-95815-01, Issue 16B.
- (c) To provide equipment design information for testing the ANI-B identifier arranged for No. 1 AMARS and toll in step-by-step offices per SD-95815-01, Issue 17B.
- (d) To provide equipment design information for testing noncoin combined trunks CL13 and combined coin and noncoin trunks CL14 per SD-32315-01, Issue 21A.
- (e) To rate J93402AK, List 1 Mfr Disc.

**CAPACITY**

**1.03** The 11-foot 6-inch high OITT frame is arranged to test ten outpulsers and two identifiers in each of three identifier groups. The panel and crossbar OITT frame can test a maximum of 2000 ANI trunks and the step-by-step OITT frame, a maximum of 1500 ANI trunks.

**1.04** The 9-foot 0-inch high OITT frame is arranged to test six outpulsers and two identifiers in one identifier group and can test a maximum of 500 step-by-step ANI trunks.

**DESCRIPTION**

**1.05** The OITT frame uses a single bay bulb-angle framework 11 feet 6 inches high and 2 feet 5/8 inch long, having a guardrail 10 inches wide or a double bay bulb-angle framework 9 feet 0 inch high and 4 feet 1-1/4 inches long, having a guardrail 10 or 12 inches wide. The frames are arranged for 2- by 23-inch mounting plates.

**1.06** The equipment of the OITT frames is shown in Fig. 1, 2, and 3. The fuse panel and the various groups of mounting plates identified as units are separately manufactured surface-wired units. These and the remaining items of equipment illustrated are interwired with a frame local cable.

**1.07** In addition to the equipment shown, the OITT frame uses a multifrequency receiver, a test network per identifier group, and a trunk test connector per 500 ANI trunks. A control, timing and trunk tip and ring test unit, a panel trunk data and progress test unit, and/or crossbar trunk data and progress test unit, an auxiliary

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J93402, ISSUE 9  
SECTION 814-607-150, 815-409-150, 816-205-150

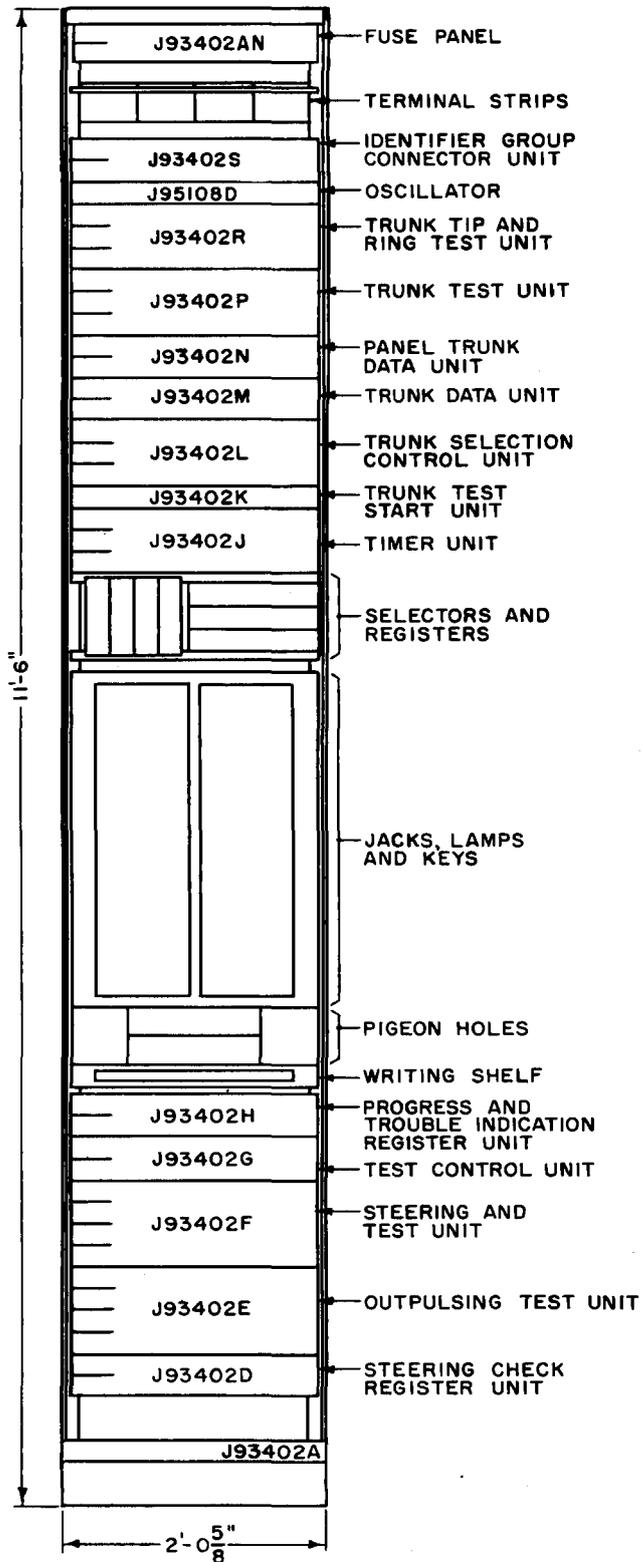


Fig. 1—Panel and No. 1 Crossbar Outpulser-Identifier-Trunk Test Frame

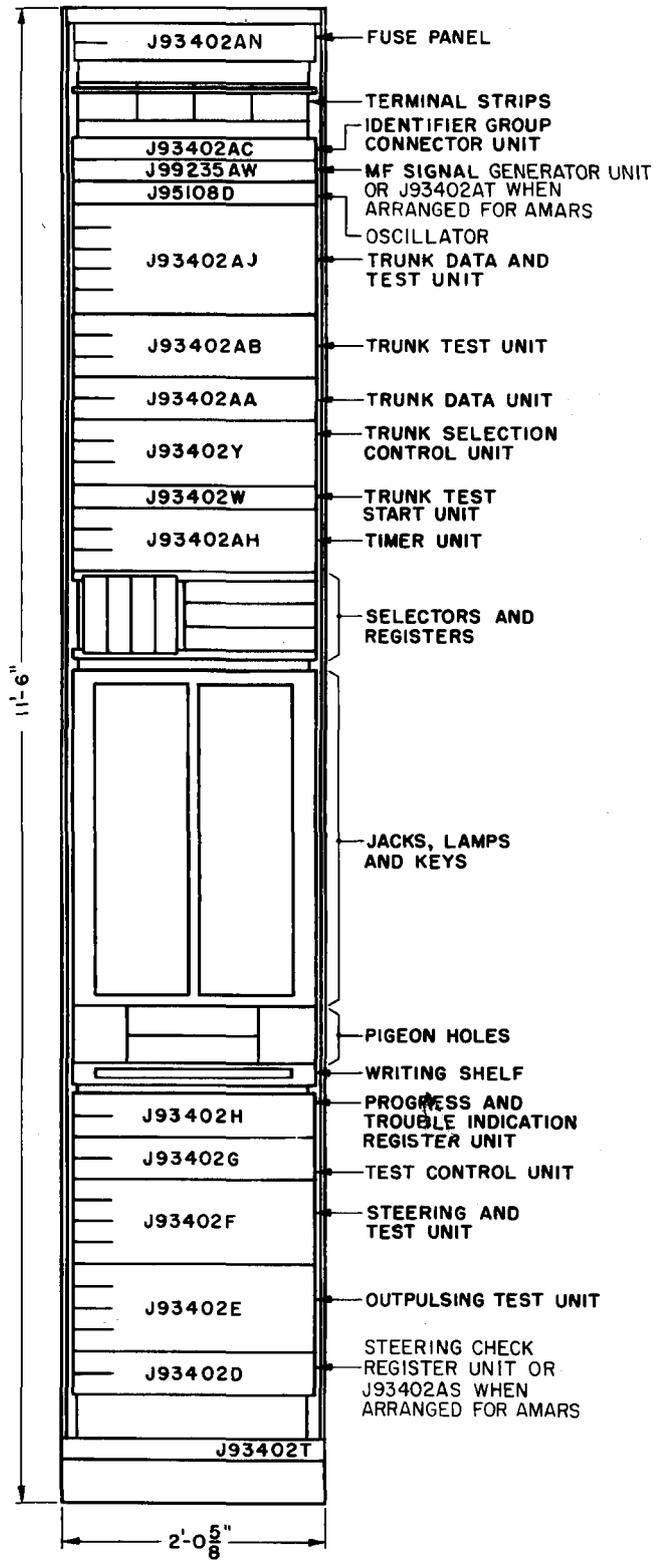


Fig. 2—Step-by-Step Outpulser-Identifier-Trunk Test Frame

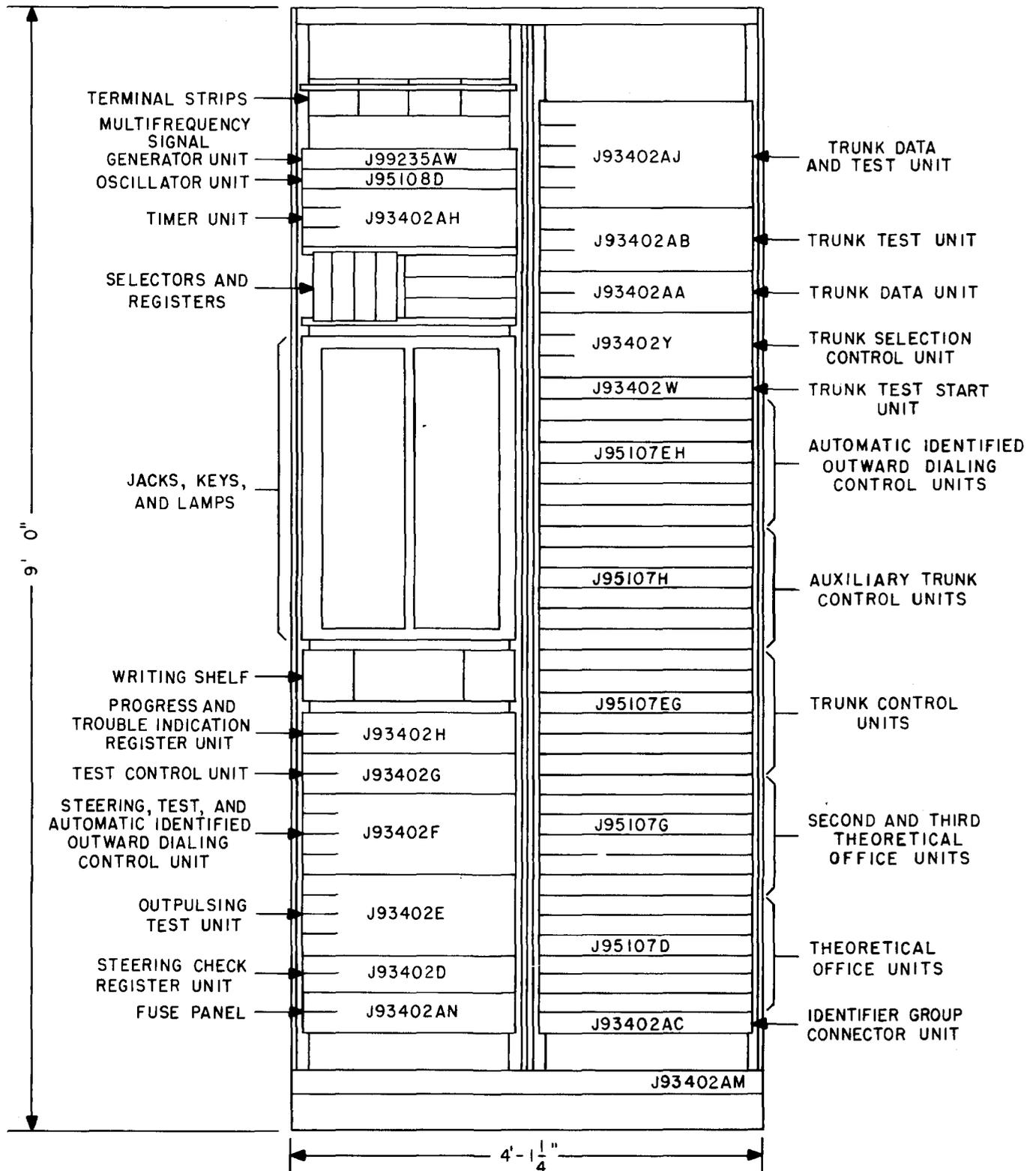


Fig. 3—Step-By-Step Outpulser-Identifier-Trunk Test Frame

OITT unit and an auxiliary control timing and trunk tip and ring test unit may also be required. The multifrequency receiver is located with other such receivers in the building, or on a relay rack. The test network is located on the identifier frame 0 of each associated identifier group. The trunk test connector units for trunks 0 through 499, 500 through 999, 1000 through 1499, and 1500 through 1999 are located on miscellaneous relay racks. The control, timing and trunk tip and ring test unit together with a panel trunk data and progress test unit and/or crossbar trunk data and progress test unit, when required, are located on a miscellaneous relay rack. The auxiliary OITT unit and the auxiliary control timing and trunk tip and ring test unit, when required, are also mounted on a miscellaneous relay rack.

**1.08** Test connections to the trunks are actually established through contacts on relays in the trunks themselves and in the ANI trunk frame miscellaneous circuit. These relays for a specific trunk are controlled by a single contact on the trunk test connector switch. A 5-wire 10-by-10 crossbar switch thus provides test access to 500 trunks.

**1.09** The ANI trunks are tested automatically in sequence or on a particular circuit basis. Each trunk is tested in conjunction with an outputter and an identifier, selected as on regular service calls. Outputters may be tested individually, in conjunction with either of the two associated identifiers on a random or preselected basis. Particular identifier group and outputter and identifier selections for this purpose are key controlled.

**1.10** The preferred location of the OITT frame is in the test or maintenance center adjacent to the ANI trouble ticketer frame. Where this is impractical, these frames should be located near each other and near associated outputter frames.

**1.11** As ANI equipment will frequently be located in available space in existing offices, the frames may be located adjacent to others with guardrails of different widths. This necessitates provision of appropriate junction details.

**1.12** Maintenance facilities for a PBX-AIOD type A1 or A2 station identification frame are provided on the frame to record number identification attempt and failure recounts and to indicate and

control alarm conditions to the station identification frame.

## 2. SUPPLEMENTARY INFORMATION

814-000-000—Numerical Index—Step-by-Step Systems  
815-000-000—Numerical Index—Panel Systems  
816-000-000—Numerical Index—No. 1 Crossbar System  
800-100-000—List of Equipment Design Requirements Sections  
800-600-000—Checking List—General Equipment Requirements  
Floor Plan Data—Section 7.1, Sheet 50  
Current Drain Data—  
SD-21300-01—Panel Office—Battery Cutoff (Not available for Panel Offices—Ground Cutoff)  
SD-25000-02—Crossbar No. 1 Office  
SD-31359-02—Step-by-Step Systems—No. 1  
SD-31364-02—Step-by-Step Systems—No. 350A  
SD-31780-02—Step-by-Step Systems—No. 355A  
814-201-150; 815-300-150; 816-201-150—(J95105) Identifier Frame—Type B

## 3. DRAWINGS

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

### Keysheets

SD-21300-01—Panel System—Battery Cutoff Relay Office  
SD-21680-01—Panel System—Ground Cutoff Relay Office  
SD-25000-01—No. 1 Crossbar System  
SD-31359-01—Step-by-Step Systems—No. 1  
SD-31364-01—Step-by-Step Systems—No. 350A  
SD-31780-01—Step-by-Step Systems—No. 355A

### Equipment

ED-95131-10—Fuse Panel Assembly  
ED-25529-70—Guardrail Junction Details  
ED-91710-70—Bulb-Angle Frame Assembly  
ED-91710-76—Bulb-Angle Frame Assembly  
ED-91837-71—Bulb-Angle Frame Assembly  
J95108D-( )—  
J99235AW-( )—MF Signal Generator Unit  
J99337A-( )—Multifrequency Receiver Unit

**Wiring and Cabling**

	WIRE	EQUIP	NOTES
ED-20622-01—Method of Running Battery and Ground Leads—Single-Sided Frames—Panel Systems			B
ED-20623-01—Method of Running Battery and Ground Leads—Double Sided Frames—Panel Systems			
ED-25346-14—Method of Running Power			
ED-25346-15—Feeders—No. 1 Crossbar			
ED-27114-01—Table of Wire Gauges and Types of Insulation—No. 1 Crossbar			
ED-31351-( )—Method of Running Power Feeders—Step-by-Step Systems			
ED-95093-10—OITT Frame—Switchboard Cabling Details			
SD-80728-01—Battery Distributing Circuit—Step-by-Step Systems			
			SD-95889-01:
			Fig. 1 & 4 to 9
			Fig. 3 With Options
			ZI & ZJ
			Fig. 10 With Option G
			Fig. 11, With Options R,
			S, T, V, Z, ZH, ZI, ZJ,
			ZZ, ZU, YA, YI, YN,
			and YS Only
			Fig. 11
			Misc Ckt, SD-95822-01:
			Fig. 1, With Z App and
			Fig. 2
			Fig. 4
			Fig. 7
			Oscillator Ckt,
			SD-95827-01:
			Fig. 1 With Option Y

**4. EQUIPMENT**

**J93402A—AT&T Co Std—Panel and/or Crossbar  
Outpulser-Identifier-Trunk Test Frame**

**List 1**—Framework, assembly, wiring, and common equipment for one outpulser-identifier-trunk test frame for use with panel and/or crossbar office ANI equipment. (See Notes A and D.)

**List 2**—Apparatus per SD-95815-01, Fig. 10 required in addition to list 1 for each of the first and third identifier groups when the OITT frame is to operate with more than one identifier group.

	WIRE	EQUIP	NOTES
Outpulser-Identifier Test Ckt, SD-95815-01:			C,E,F
Fig. 1, 2, 3 & 5	1	0	
Fig. 4 With Options E, Y, ZA, YB, ZB, ZC & ZD	1	0	
Fig. 6 With Option ZM	3	0	
Fig. 8 Less N, X, Y, Z, ZJ, ZK, ZX, App	1	1	G
Fig. 9	4	1	
Fig. 10	2	0	
Fig. 11	4	0	
Fig. 12	1	0	
Fig. 13 With Option B	1	0	
Fig. 14, 16, 17, 18	1	0	
Trunk Test Ckt,			

**List 3**—Apparatus per SD-95815-01, Fig. 6, IG-lamp only required in addition to list 1 for each identifier group when the OITT frame is to operate with more than one identifier group.

**List 4**—Apparatus per SD-95815-01, Fig. 9 required in addition to list 1 for each of the third, fifth, and seventh outpulsers in the largest outpulser group with which the OITT frame is to operate.

**List 5**—Apparatus per SD-95889-01, Fig. 7 and 11, option J only required in addition to list 1

- to equip one OITT frame for use with crossbar trunks.
- List 6**—Apparatus per SD-95889-01, Fig. 11, option ZS only required in addition to lists 1 and 5 to equip one OITT frame for use with crossbar trunks serving 2-party lines.
- List 7**—Apparatus per SD-95889-01, Fig. 7 and 11, option S only required in addition to list 1 to equip one OITT frame for use with panel trunks.
- List 8**—Apparatus per SD-95889-01, Fig. 8, option Z only; SD-95889-01, Fig. 11, option V only required in addition to lists 1 and 7 to equip one OITT frame for use with panel trunks serving 2-party lines.
- List 9**—Apparatus per SD-95889-01, Fig. 11, option R only required in addition to list 1 to equip one OITT frame for use with more than 50 trunks.
- List 10**—Apparatus per SD-95889-01, Fig. 11, option ZH only required in addition to list 1 to equip one OITT frame for use with from 501 through 1000 trunks.
- List 11**—Apparatus per SD-95889-01, Fig. 11, option T only required in addition to list 1 to equip one OITT frame for use with trunks serving 2-party subscriber lines.
- List 12**—Apparatus per SD-95815-01, Fig. 8, option X or Y only required in addition to list 1 for each of the second pair (offices 2 and 3) or third pair (offices 4 and 5) of groups of 10,000 numbers in the largest identifier group with which the OITT frame is to operate.
- List 13**—Apparatus per SD-95815-01, Fig. 12 required in addition to list 1 to equip one OITT frame for use where lines in a GCO panel office (10,000-line unit) are served by line switches and line finders in combination.
- List 14**—Apparatus per SD-95889-01, Fig. 11, option E only required in addition to list 1 and 7 to equip one OITT frame for use with special toll or operator assistance panel trunks.
- List 15**—Apparatus per SD-95889-01, Fig. 11, option G only required in addition to lists 1 and 5 to equip one OITT frame for use with special toll or operator assistance crossbar trunks.
- List 16**—Apparatus per SD-95889-01, Fig. 11, option ZI only required in addition to lists 1, 9, and 10 to equip one OITT frame for use with from 1001 through 1500 trunks.
- List 17**—Apparatus per SD-95889-01, Fig. 11, option ZJ only required in addition to lists 1, 9, 10, and 16 to equip one OITT frame for use with from 1501 through 2000 trunks.
- List 18**—Apparatus per SD-95815-01, Fig. 14 required in addition to list 1 when automatic identified outward dialing from a PBX is required.
- List 19**—Apparatus per SD-95889-01, App Fig. 11, option ZU only required in addition to list 1 to provide a monitoring arrangement for verifying busy trunks.
- List 20**—Equipment per SD-95815-01, App Fig. 8, option ZK only required in addition to list 1 when outpulsing of a called number to an automatic intercept center by associated outpulsers is required.
- List 21**—Equipment per SD-95815-01, App Fig. 8, option ZJ only required in addition to list 1 when list 20 is not provided. (See Note G.)
- List 22**—Equipment per SD-95889-01, App Fig. 11, option YA only required in addition to list 1 when special toll and operator assistance crossbar coin trunks are arranged for dial-tone-first operation only, or both coin-first and dial-tone-first operation.
- List 25**—Equipment per SD-95815-01, App Fig. 16 required in addition to list 1 for operation with PBX-AIOD-type A1 or A2.
- List 26**—Equipment per SD-95815-01, App Fig. 17 required in addition to list 25 for PBX-AIOD-A2 data link display lamps.
- List 27**—Apparatus per SD-95815-01, Fig. 18 required in addition to list 1 for operation with PBX-AIOD-A1 station identification frame.
- List 28**—Equipment per SD-95889-01, Fig. 11, option YS only required in addition to list 14 and/or 15 to provide for testing panel and/or crossbar No. 1 special toll and operator assistance E and M lead signaling trunks only or both loop signaling and E and M lead signaling trunks.
- List 29**—Equipment per SD-95889-01, Fig. 11, option YI only required in addition to list 14 and/or 15 to provide for testing the automatic return of initial deposit (ARID) of panel and crossbar No. 1 special toll and operator assistance trunks to TSP or TSPS.
- List 30**—Equipment per SD-95889-01, Fig. 11, option YN only required in addition to

list 29 for testing automatic return of initial deposit feature for some but not all panel and/or crossbar No. 1 coin trunks.

### Notes

- A. A unit per J93402N, when required, and units per J93402AN, J93402D, J93402E, J93402F, J93402G, J93402H, J93402J, J93402K, J93402L, J93402M, J93402P, J93402R, J93402S, and J95108D are ordered separately and are mounted on the frame and connected in the shop as shown in Fig. 1. Other components are part of J93402A. J93402N is required when the frame is to operate with panel ANI trunks.
- B. A unit per J93402C is required for each 500 trunks to be tested by the frame. Unequipped trunks on equipped trunk frames are included in the trunk count. These units are located on a relay rack bay near the trunks.
- C. A multifrequency receiver unit per J99337A is required for use with the frame. This unit is located with other multifrequency receivers in the building or on the relay rack.
- D. The frame local cable furnished with list 1 contains that wiring for the specified figures which is not furnished as surface wiring in the coded units. The local cable includes all options. Options M, R, S, T, V, and W wiring is administered at the frame terminal strips.
- E. A test network per SD-95815-01, Fig. 7 is required for each identifier group to be tested by the frame. This network is furnished with and located on identifier frame 0 of each identifier group. It is covered by J95105J.
- F. Connect option G at all times.
- G. Prior to inclusion of lists 20 and 21, apparatus and wiring per option ZJ were always furnished, but were not so designated.
- H. Reserved
- I. Reserved
- J. When testing of panel and/or crossbar No. 1 outgoing E and M signaling coin trunks is required, connect to MF current supply and distribution equipment in an office if available

or furnish a J99235AW MF signal generator unit and mount on a miscellaneous relay rack.

### J93402C—AT&TCo Std—ANI Trunk Test Connector Unit

**List 1**—Framework, equipment, assembly, and wiring per SD-32315-01, Fig. 2 or SD-95889-01, Fig. 2 for one ANI trunk test connector unit, 500-trunk capacity. (See Notes A through C.)

### Notes

- A. The ANI trunk test connector unit is surface wired. EC (end of cycle) and UT (unequipped terminal) wiring is on a job basis.
- B. Trunk positions are assigned in order to the test connector switch crosspoint contacts, reserving contacts for unequipped trunk positions on equipped trunk frames.
- C. The apparatus and wiring of SD-32315-01, Fig. 2 and SD-95889-01, Fig. 2 are identical.

### J93402D—AT&TCo Std—Steering Check Register Unit

**List 1**—Framework, equipment, assembly, and wiring per SD-95815-01, Fig. 4, less options X and Y for one steering check register unit.

**List 2**—Apparatus and wiring per SD-95815-01, Fig. 4, option Y only required in addition to list 1 to equip one steering check register unit for use with more than two groups of 10,000 numbers in any identifier group.

**List 3**—Apparatus and wiring per SD-95815-01, Fig. 4, option X only required in addition to lists 1 and 2 to equip one steering check register unit for use with more than four groups of 10,000 numbers in any identifier group.

**List 4**—Apparatus and wiring per SD-95815-01, Fig. 4, option E only for use with more than six groups of 10,000 numbers in any identifier group.

**List 5**—Apparatus and wiring per SD-95815-01, Fig. 4, option ZA required when AIOD office indexes exceed two and list 2 is not provided.

**List 6**—Apparatus and wiring per SD-95815-01, Fig. 4, option ZB required in addition to list 5

when AIOD office indexes exceed four and list 3 is not provided.

**List 7**—Apparatus and wiring per SD-95815-01, Fig. 4, option ZC required in addition to lists 5 and 6 when AIOD office indexes exceed six and list 4 is not provided.

**List 10**—Apparatus and wiring per SD-95815-01, Fig. 4, options ZD and YB required in addition to list 4 or lists 5, 6, and 7 when AIOD office indexes exceed eight.

#### **J93402E—AT&TCo Std—Outpulsing Test Unit**

**List 1**—Framework, equipment, assembly, and wiring per SD-95815-01, Fig. 3 for one outpulsing test unit.

#### **J93402F—AT&TCo Std—Steering, Test, and AIOD Control Unit**

**List 1**—Framework, equipment, assembly, and wiring per SD-95815-01, Fig. 2, less options Z and ZK for one steering and test unit. (See Note B.)

**List 2**—Apparatus and equipment per SD-95815-01, Fig. 2, option Z only required in addition to list 1 to equip one steering and test unit for use with panel trunks serving 2-party subscriber lines.

**List 3**—Apparatus per SD-95815-01, Fig. 2, option F only required in addition to list 1 to equip one steering and test unit for use with step-by-step special toll or operator assist trunks.

**List 4**—Apparatus and wiring per SD-95815-01, Fig. 13 required in addition to list 1 for control of automatic identified outward dialing features for two AIOD translators. (See Note A.)

**List 5**—Apparatus and wiring per SD-95815-01, Fig. 13, option B only required in addition to list 4 for the third AIOD translator.

**List 6**—Apparatus and wiring per SD-95815-01, Fig. 2, option ZK and YL required in addition to list 1 when used with equipment requiring outpulsing of the called number to an automatic intercept center and AMARS is not provided. (See Note B.)

**List 8**—Equipment and wiring per SD-95815-01, Fig. 2, option ZU only required in addition to list 1 when testing outpulsers in step-by-step offices equipped with ANI-B and with combined 0, 0+, and 1+ coin and noncoin trunks.

**List 9**—Apparatus and wiring required in addition to list 1 to provide for operation with No. 1 AMARS per SD-95815-01, option ZY of Fig. 2. (See Note C.)

**List 10**—Apparatus and wiring required in addition to list 9 when used with equipment requiring outpulsing of the called number to an automatic intercept center per SD-95815-01, option YL. (See Note D.)

#### **Notes**

- A. List 4 includes a 189A mounting plate.
- B. Furnish option ZJ and YD wiring when list 6 is not furnished.
- C. Provide SD-95815-01, option ZX of Fig. 2 when list 9 is not required.
- D. Provide SD-95815-01, option YD of Fig. 2 when list 10 is not required.

#### **J93402G—AT&TCo Std—Test Control Unit**

**List 1**—Framework, equipment, assembly, and wiring per SD-95815-01, Fig. 1, with option K for one test control unit.

**List 2**—Apparatus and wiring required in addition to list 1 to provide for operation with No. 1 AMARS per SD-95815-01, option ZY of Fig. 2. (See Note A.)

#### **Note**

- A. Provide SD-95815-01, option ZX when list 2 is not required.

#### **J93402H—AT&TCo Std—Progress and Trouble Indicator Register Unit**

**List 1**—Framework, equipment, assembly, and wiring per SD-95815-01, Fig. 5, less options N and Z for one progress and trouble indicator register unit.

**List 2**—Apparatus and wiring per SD-95815-01, Fig. 5, option Z only required in addition to list 1 to equip one progress and trouble indicator register unit for use with panel trunks serving 2-party subscriber lines.

**List 3**—Apparatus and wiring per SD-95815-01, Fig. 5, option N only required in addition to list 1 to equip one progress and trouble indicator register unit for use with

step-by-step trunks.

- List 4**—Apparatus and wiring per SD-95815-01, Fig. 11 required in addition to list 1 for each even-numbered outpulser in the largest outpulser group with which the progress and trouble indicator register unit is to operate.
- List 5**—Apparatus and wiring per SD-95815-01, Fig. 6, option ZM only required when an identifier group is associated with more than eight outpulsers.

**Note**

- A. Provide option ZX when operation with No. 1 AMARS is not required.

**J93402J—AT&TCo Std—Timer Unit**

- List 1**—Framework, equipment, assembly, and wiring per SD-95889-01, Fig. 10, for one timer unit.
- List 2**—Apparatus and wiring per SD-95889-01, Fig. 10, option G required in addition to list 1 to equip one timer unit with testing feature for crossbar person-to-person trunks.

**J93402K—AT&TCo Std—Trunk Test Start Unit**

- List 1**—Equipment, assembly, and wiring per SD-95889-01, Fig. 1 for one trunk test start unit.

**J93402L—AT&TCo Std—Trunk Selection Control Unit**

- List 1**—Framework, common equipment, assembly, and wiring per SD-95889-01, Fig. 3, less options N, Q, R, and Z for one 1000-trunk capacity trunk selection control unit equipped for use with 50 trunks.
- List 2**—Apparatus and wiring per SD-95889-01, Fig. 3, option R only required in addition to list 1 to equip one trunk selection control unit for use with more than 50 trunks. (See Note A.)
- List 3**—Apparatus and wiring per SD-95889-01, Fig. 3, option Q only required in addition to lists 1 and 2 to equip one trunk selection control unit for use with more than 100 trunks. (See Note A.)
- List 4**—Apparatus and wiring per SD-95889-01, Fig. 3, option N only required in addition to lists 1, 2, and 3 to equip one trunk

selection control unit for use with more than 200 trunks. (See Note A.)

- List 5**—Apparatus and wiring per SD-95889-01, Fig. 3, option Z only required in addition to lists 1, 2, 3, and 4 to equip one trunk selection control unit for use with more than 500 trunks. (See Note A.)
- List 6**—Apparatus and wiring per SD-95889-01, Fig. 3, option ZI required in addition to lists 1, 2, 3, 4, and 5 to equip one trunk selection control unit for use with more than 1000 trunks. (See Note A.)
- List 7**—Apparatus and wiring per SD-95889-01, Fig. 3, option ZJ required in addition to lists 1, 2, 3, 4, 5, and 6 to equip one trunk selection control unit for use with more than 1500 trunks. (See Note A.)

**Note**

- A. In determining the trunk capacity required for a specific trunk selection control unit, unequipped trunk positions on equipped trunk frames are included in the trunk count.

**J93402M—AT&TCo Std—Trunk Data Unit**

- List 1**—Framework, equipment, assembly, and wiring per SD-95889-01, Fig. 4 for one trunk data unit.
- List 2**—Apparatus and wiring per SD-95889-01, Fig. 5, less option X required in addition to list 1 to equip one trunk data unit for use with crossbar trunks.
- List 3**—Apparatus and wiring per SD-95889-01, Fig. 5, option X only less TP0 and TP1 resistors required in addition to lists 1 and 2 to equip one trunk data unit for use with crossbar trunks serving 2-party subscriber lines.
- List 4**—Apparatus and wiring per SD-95889-01, Fig. 4, option ZL required in addition to list 1 to equip one trunk data unit for use with panel or crossbar trunks.

**J93402N—AT&TCo Std—Panel Trunk Data Unit**

- List 1**—Framework, equipment, assembly, and wiring per SD-95889-01, Fig. 6, with option ZL less option V for one panel trunk data unit.
- List 2**—Apparatus and wiring per SD-95889-01, Fig. 6, option V only required in addition to list 1 to equip one panel trunk data

unit for use with trunks serving 2-party subscriber lines.

- List 3**—Apparatus and wiring per SD-95889-01, Fig. 6, option ZF required in addition to list 1 to equip one panel trunk data unit for use with special toll and operator assistance trunks.

**J93402P—AT&TCo Std—Trunk Test Unit**

- List 1**—Framework, common equipment, assembly, and wiring per SD-95889-01, Fig. 9, less options J, S, and T for one trunk test unit.
- List 2**—Apparatus and wiring per SD-95889-01, Fig. 9, option T only required in addition to list 1 to equip one trunk test unit for use with trunks serving 2-party subscriber lines.
- List 3**—Apparatus and wiring per SD-95889-01, Fig. 9, option J only required in addition to list 1 to equip one trunk test unit for use with crossbar trunks.
- List 4**—Apparatus and wiring per SD-95889-01, Fig. 9, option S only less CT5 and CT6 resistors, required in addition to list 1 to equip one trunk test unit for use with panel trunks.

**J93402R—AT&TCo Std—Trunk Tip and Ring Test Unit**

- List 1**—Framework, equipment, assembly, and wiring per SD-95889-01, Fig. 8, with option ZD for one trunk tip and ring test unit.

**J93402S—AT&TCo Std—Identifier Group Connector Unit**

- List 1**—Common equipment for one identifier group connector unit. (See Note A.)
- List 2**—Apparatus and wiring per SD-95815-01,

Fig. 6, less IG- lamps required in addition to list 1 to equip one identifier group connector unit for use with two identifier groups. (See Note B.)

- List 3**—Apparatus and wiring per SD-95815-01, Fig. 6, less IG2 lamp required in addition to lists 1 and 2 to equip one identifier group connector unit for use with three identifier groups. (See Note B.)
- List 4**—Apparatus and wiring per SD-95889-01, Fig. 5, TP0 and TP1 resistors only required in addition to list 1 to equip one identifier group connector unit for use with crossbar trunks serving 2-party subscriber lines.
- List 5**—Apparatus and wiring per SD-95889-01, Fig. 9, CT5 and CT6 resistors only required in addition to list 1 to equip one identifier group connector unit for use with panel trunks.

**Notes**

- A. List 1 consists of a mounting plate and two unit mounting bars.
- B. When the OITT frame is to operate with one identifier group, no identifier group connector relays are required. List 2 provides these relays for two identifier groups, 0 and 1. List 3 provides them for group 2.
- C. List 3 includes a mounting plate.

**J93402T—AT&TCo Std—Step-by-Step Outpulser-Identifier-Trunk Test Frame 11'-6" High**

- List 1**—Framework, assembly, wiring, and common equipment for one outpulser-identifier-trunk test frame for use with step-by-step offices ANI equipment. (See Notes A and D.)

	WIRE	EQUIP	NOTES		WIRE	EQUIP	NOTES
Outpulser-Identifier Test Ckt, SD-95815-01:		0	C,E	Oscillator Ckt, SD-95827-01:			
Fig. 1 With Options K, ZX & ZY	1	0	U	Fig. 1 With Option Y	1	0	
Fig. 2 With Options ZT, ZU, F, G, ZX & ZY Less Z Wiring	1	0	U,L	MF Signal Generator Ckt, SD-95867-01:			
Fig. 3	1	1		Fig. 1, With Option V	1	0	G
Fig. 4 With Options Y, X, E, ZA, ZB, ZC, ZX, ZY, YI, YJ & YK	1	0	U,T	Misc Ckt, SD-95822-01:			
Fig. 5 With Options N & ZX Less Option Z	1	0	U	Fig. 1, With Y App & Fig. 3	1	1	
Fig. 6 With Options ZM & YE	3	0		Fig. 5 and 6	1	0	
Fig. 8 With Option N Less Option Z	1	1		Fig. 7	39	0	
Fig. 8 With Options F, E, G, ZT, ZU, ZY, ZX, ZA, ZB, ZC, ZD, ZJ, ZK, YC, YD, YF, YG, YH, YI, YJ, YK & YL	1	0	H,F,S, L,U				
Fig. 9	4	1		<b>List 2</b> —Apparatus per SD-95815-01, Fig. 10 required in addition to list 1 for each of the first and third identifier groups when the OITT frame is to operate with more than one identifier group.			
Fig. 10	2	0		<b>List 3</b> —Apparatus per SD-95815-01, Fig. 6, IG-lamp only required in addition to list 1 for each identifier group when the OITT frame is to operate with more than one identifier group.			
Fig. 11	4	0		<b>List 4</b> —Apparatus per SD-95815-01, Fig. 9 required in addition to list 1 for each of the third, fifth, and seventh outpulsers in the largest outpulser group with which the OITT frame is to operate. (See Note R.)			
Fig. 13 With Option B	1	0		<b>List 5</b> —Apparatus per SD-95815-01, Fig. 8, Y or X apparatus only required in addition to list 1 for each of the second pair (offices 2 and 3) or third pair (offices 4 and 5) of groups of 10,000 numbers with which the OITT frame is to operate. (See Note S.)			
Fig. 14 With Options B, ZF, ZG, ZH & ZI	1	0		<b>List 6</b> —Apparatus per SD-32315-01, Fig. 8, Z apparatus only required in addition to list 1 to equip the OITT frame for use with more than 50 trunks.			
Fig. 15	1	0	R	<b>List 7</b> —Apparatus per SD-32315-01, Fig. 8, Y apparatus only required in addition to lists 1 and 6 to equip one OITT frame for use with more than 100 trunks.			
Fig. 16	1	0		<b>List 8</b> —Apparatus per SD-32315-01, Fig. 8, X apparatus only required in addition to lists 1, 6, and 7 to equip one OITT frame for use with more than 200 trunks.			
Fig. 17	1	0		<b>List 9</b> —Apparatus per SD-95815-01, Fig. 8, option F only required in addition to list 1 to equip one OITT frame for use with step-by-step special toll on operator assist trunks.			
Fig. 18	1	0		<b>List 12</b> —Apparatus per SD-32315-01, Fig. 8, option			
Fig. 19 With Options YF, YG & YH	1	0					
Trunk Test Ckt, SD-32315-01:							
Fig. 1	1	0					
Fig. 3, With Options M and K	1	0					
Fig. 4, 6, and 7, With Options A, B, ZG, ZH, ZI, ZJ, ZL and ZM	1	0					
Fig. 5 and 8 Less, Z, M & K App	1	1					
Fig. 9 and 10	1	0					
Fig. 5 and 8 With Options B, A, ZM, ZL, ZR, ZS, YE, YH, YI & YK	1	0					
Fig. 11, 12, 13, 14, 15, 16, 17 and 18 With Options A, B, ZH, ZI, ZJ, ZK, ZL, ZK, ZR, ZU, YE & YF							

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- M only required in addition to lists 1, 6, 7, and 8 to equip one OITT frame for use with from 501 through 1000 trunks.
- List 13**—Apparatus per SD-32315-01, Fig. 8, option K only required in addition to lists 1, 6, 7, 8, and 12 to equip one OITT frame for use with from 1001 through 1500 trunks.
- List 14**—Apparatus per SD-95815-01, Fig. 14, required in addition to list 1 when automatic identified outward dialing from a PBX is required.
- List 15**—Apparatus per SD-32315-01, Fig. 5 and 8, option ZM and Fig. 14 required in addition to list 1 to equip one OITT frame for use with coin and noncoin trunks for person-to-person calls, coin trunks for station-to-station calls, and noncoin common control trunks for special toll and station-to-station calls.
- List 16**—Apparatus per SD-32315-01, Fig. 5 and 8, option ZL only and Fig. 15 required in addition to lists 1 and 15 to equip one OITT frame for use with coin trunks that serve person-to-person and station-to-station calls.
- List 17**—Apparatus per SD-32315-01, Fig. 5 and 8, option A only and Fig. 16 required in addition to lists 1 and 15 to equip one OITT frame for use with noncoin trunks that serve person-to-person calls.
- List 18**—Apparatus per SD-32315-01, Fig. 8, option B only and Fig. 17 required in addition to lists 1 and 15 to equip one OITT frame for use with common control noncoin trunks that serve person-to-person and station-to-station calls.
- List 19**—Apparatus per SD-95815-01, Fig. 8, options ZK and YL only required in addition to list 1 when used with equipment capable of outpulsing called number to an automatic intercept center and AMARS is not provided. (See list 51.)
- List 20**—Apparatus per SD-95815-01, Fig. 8, option ZJ only required in addition to list 1 when list 19 is not furnished and AMARS is not provided. (See Note H and list 52.)
- List 23**—Apparatus per SD-95815-01, Fig. 16 required in addition to list 1 for operation with PBX-AIOD type A1 and A2 station identification frames.
- List 24**—Apparatus per SD-95815-01, Fig. 17 required in addition to list 23 for operation with PBX-AIOD type A2 station identification frame.
- List 25**—Apparatus per SD-95815-01, Fig. 18 required in addition to list 1 for operation with PBX-AIOD type A1 station identification frame.
- List 26**—Apparatus per SD-32315-01, Fig. 18 and Fig. 8, option ZS only required in addition to list 1 for testing combined special toll and dial zero noncoin trunks to TSP No. 1. (See Note K.)
- List 27**—Apparatus per SD-32315-01, Fig. 8, option ZR only required in addition to list 1 for testing coin trunks with automatic return of initial deposit.
- List 28**—Equipment per SD-32315-01, Fig. 8, option YE only required in addition to list 1 to provide for testing of coin trunks that serve special toll and operator assistance station-to-station sent paid calls.
- List 29 through 39**—Reserved
- List 40**—Equipment per SD-95815-01, Fig. 8, option ZU only required in addition to list 1 when testing outpulsers in step-by-step offices equipped with ANI-B and with combined 0, 0+, and 1+ coin and noncoin trunks. (See Note L.)
- List 41**—Equipment per SD-32315-01, Fig. 8, option YK only required in addition to list 1 for testing outgoing nonbylink, common control, coin trunks that serve operator assistance special toll and station toll calls to TSPS No. 1. (See Note M.)
- List 42**—Equipment per SD-32315-01, Fig. 8, option YI only required in addition to list 1 for testing noncoin trunks that serve combined operator assistance, special and station toll calls to TSPS No. 1 (See Note N.)
- List 43**—Equipment per SD-32315-01, Fig. 8, option YH only required in addition to list 1 for testing combined OG coin and noncoin trunks that serve combined operator assistance, special and station toll calls to TSPS No. 1. (See Note N.)
- List 44**—Equipment per SD-32315-01, Fig. 8, option YU only required in addition to list 1 for testing outgoing nonbylink common control noncoin loop pulsing trunks arranged to serve combined operator assistance, special toll and station toll calls to TSPS No. 1 (See Note P.)
- List 45**—Equipment per SD-32315-01, Fig. 8, option YW only required in addition to list 1 for testing outgoing nonbylink common

control noncoin E and M lead signaling trunks arranged to serve combined operator assistance, special toll and station toll calls to TSPS No. 1. (See Note Q).

**List 46**—Apparatus and wiring required in addition to list 1 when operation with No. 1 AMARS and toll is required per SD-95815-01, option ZY of Fig. 8.

**List 47**—Apparatus and wiring required in addition to list 1 when list 46 is not furnished per SD-95815-01 option ZX of Fig. 8. (See Note U.)

**List 48**—Apparatus and wiring required in addition to list 46 for use with more than two groups of 10,000 numbers (offices 2 and 3) in any ID group per SD-95815-01, option YJ and YF of Fig. 8.

**List 49**—Apparatus and wiring required in addition to list 46 for use with more than four groups of 10,000 numbers (offices 4 and 5) in any ID group per SD-95815-01, option YI and YG of Fig. 8.

**List 50**—Apparatus and wiring required in addition to list 46 for use with more than six groups of 10,000 numbers (office 6) in any ID group per SD-95815-01, options YK and YH of Fig. 8.

**List 51**—Apparatus and wiring required in addition to list 46 when AIS is required per SD-95815-01, option YL. (See list 19.)

**List 52**—Apparatus and wiring required in addition to list 46 when AIS is not provided per SD-95815-01, option YD. (See list 20.)

#### Notes

A. Units per J93402D, J93402AN or J93402AS, J93402E, J93402F, J93402G, J93402H, J93402W, J93402Y, J93402AA, J93402AB, J93402AC, J93402AH, J93402AJ, J93402AN, J95108D, and J93402AT or J99235AW are ordered separately and are mounted on the frame and connected in the shop as shown in Fig. 2. Other components are part of J93402T.

B. A unit per J93402C is required to provide access to the trunks to be tested by the frame. The capacity of this unit is 500 trunks. Unequipped trunks on equipped trunk frames are included in the trunk count. The unit is located on a relay rack bay near the trunks.

C. A MF receiver unit per J99337A is required for use with the frame. This unit is located

with other multifrequency receivers in the building or on the relay rack.

D. The frame local cable furnished with list 1 contains that wiring for the specified figures which is not furnished as surface wiring in the coded units. The local cable includes all applicable options. Option W wiring is administered at the frame terminal strips.

E. A test network per SD-95815-01, Fig. 7 or 20, is required for each identifier group to be tested by the frame. This network is furnished with and located on identifier frame 0 of each identifier group. It is covered by J95105J for non-AMARS or J93402AR for AMARS.

F. Connect option G when list 9 is not furnished.

G. One MF signal generator unit per J99235AW, L2 shall be ordered separately and mounted on the frame (non-AMARS) or on miscellaneous relay rack (AMARS) and shall be provided when this frame is arranged to test E and M outgoing coin trunks.

H. Prior to inclusion of lists 19 and 20, apparatus and wiring per option ZJ were always furnished, but were not so designated.

I. Reserved

J. Reserved

K. Connect option YB when list 26 is not furnished.

L. Connect option ZT wiring when list 40 is not furnished.

M. Connect option YP wiring when list 41 is not furnished.

N. Connect options YG and YX wiring when lists 42 and 43 are not furnished. Connect options YS and YY wiring when list 43 is not furnished.

P. Connect option XA wiring when list 44 is not furnished.

Q. Connect option YV wiring when list 45 is not furnished.

R. Apparatus and wiring, required in addition to the third list 4, shall be provided for the ninth

outpulser in the largest identifier group with which the OITT frame is to operate per SD-95815-01, Fig. 15.

- S. Apparatus and wiring required in addition to the second list 5 shall be provided for the seventh office (office 6) AIOD only per SD-95815-01, option E for non-AMARS only.
- T. Apparatus and wiring required in addition to list 1 when AIOD office indices:

EXCEED	FOR INDICES	PER SD-95815-01, OPTION OF FIG. 8	ONLY WHEN THESE ARE NOT REQUIRED
2	2 & 3	ZA	List 5 or 48
4	4 & 5	ZB	Option X or list 49
6	6 & 7	ZC	Option E or
8	8	ZD, YB	list 50

(in any group)

- U. Prior to the inclusion of lists 46 and 47 apparatus and wiring per option ZX was always furnished but not so designated.
- V. Prior to the addition of lists 46 and 47 (AMARS) the MF generator per J99235AW was mounted where the J93402AT unit is mounted and J99235AW is relocated to a miscellaneous relay rack location.

**J93402W—AT&TCo Std—Trunk Test Start Unit**

**List 1**—Equipment, assembly, and wiring per SD-32315-01, Fig. 1 for one trunk test start unit.

**J93402Y—AT&TCo Std—Trunk Selection Control Unit**

**List 1**—Framework, common equipment, assembly, and wiring per SD-32315-01, Fig. 3, less options X, Y, and Z for one 500-trunk capacity trunk selection control unit equipped for use with 50 trunks.

**List 2**—Apparatus and wiring per SD-32315-01, Fig. 3, option Z only required in addition to list 1 to equip one trunk selection control unit for use with more than 50 trunks.

(See Note A.)

**List 3**—Apparatus and wiring per SD-32315-01, Fig. 3, option Y only required in addition to lists 1 and 2 to equip one trunk selection control unit for use with more than 100 trunks. (See Note A.)

**List 4**—Apparatus and wiring per SD-32315-01, Fig. 3, option X only required in addition to lists 1, 2, and 3 to equip one trunk selection control unit for use with more than 200 trunks. (See Note A.)

**List 5**—Apparatus and wiring per SD-32315-01, Fig. 3, option M only required in addition to lists 1, 2, 3, and 4 to equip one trunk selection control unit for use with from 501 through 1000 trunks. (See Note A.)

**List 6**—Apparatus and wiring per SD-32315-01, Fig. 3, option K only required in addition to lists 1, 2, 3, 4, and 5 to equip one trunk selection control unit for use with from 1001 through 1500 trunks. (See Note A.)

**Note**

- A. In determining the trunk capacity required for a specific trunk selection control unit, unequipped trunk positions on equipped trunk frames are included in the trunk count.

**J93402AA—AT&TCo Std—Trunk Data Unit**

**List 1**—Framework, equipment, assembly, and wiring per SD-32315-01, Fig. 4 for one trunk data unit.

**List 3**—Apparatus and wiring per SD-32315-01, Fig. 4, option ZL only required in addition to list 1 for use with coin trunks that serve person-to-person and station-to-station calls.

**List 4**—Apparatus and wiring per SD-32315-01, Fig. 4, option A only required in addition to list 1 for use with noncoin trunks that serve person-to-person calls.

**List 5**—Apparatus and wiring per SD-32315-01, Fig. 4, option ZM only required in addition to list 1 for use with coin and noncoin person-to-person and station-to-station trunks and noncoin common control trunks (maximum one).

**J93402AB—AT&TCo Std—Trunk Test Unit**

- List 1**—Framework, equipment, assembly, and wiring per SD-32315-01, Fig. 7 for one trunk test unit.
- List 3**—Apparatus and wiring per SD-32315-01, Fig. 7, option A only required in addition to list 1 for use with noncoin trunks that serve person-to-person calls.
- List 4**—Apparatus and wiring per SD-32315-01, Fig. 7, option ZM only required in addition to list 1 for use with coin and noncoin person-to-person and station-to-station trunks and noncoin common control trunks (maximum one).
- List 5**—Apparatus and wiring per SD-32315-01, Fig. 7, option YI required in addition to list 4 for noncoin combined trunks (CL13).
- List 6**—Apparatus and wiring per SD-32315-01, Fig. 7, option YH required in addition to list 4 for combined coin and noncoin trunks (CL14).

**J93402AC—AT&TCo Std—Identifier Group Connector Unit**

- List 1**—Common equipment, assembly, and wiring per SD-95822-01, Fig. 6 for one 3-group capacity identifier group connector unit. (See Note A.)
- List 2**—Apparatus and wiring per SD-95815-01, two Fig. 6, less IG- lamps required in addition to list 1 to equip one identifier group connector unit for use with two identifier groups. (See Note A.)
- List 3**—Apparatus and wiring per SD-95815-01, Fig. 6, less IG2 lamp required in addition to lists 1 and 2 to equip one identifier group connector unit for use with three identifier groups. (See Note A.)

**Note**

A. When the OITT frame is to operate with one identifier group, no identifier group connector relays are required. List 2 provides these relays for two identifier groups, 0 and 1. List 3 provides them for group 2.

**J93402AD—AT&TCo Std—Panel and/or Crossbar Control, Timing, and Trunk Tip and Ring Test Unit**

- List 1**—Assembly, wiring, and common equipment for one control, timing, and trunk tip and ring test unit for use with panel and/or crossbar special toll and operator assistance coin and noncoin ANI trunks. (See Note A.)

WIRE      EQUIP      NOTES

Auto Trunk Test Ckt.

SD-95889-01:

Fig. 14 Options ZQ, ZM, YI, YL, YK, and YO	1	0
Fig. 15, Options G and E	1	1

- List 2**—Apparatus per SD-95889-01, Fig. 15, option G only required in addition to list 1 for use with crossbar special toll and operator assistance coin and noncoin ANI trunks.
- List 3**—Apparatus per SD-95889-01, Fig. 15, option E only required in addition to list 1 for use with panel special toll and operator assistance coin and noncoin ANI trunks.
- List 4**—Apparatus per SD-95889-01, Fig. 14, option YO only required in addition to list 1 for testing the ARID feature and/or for panel and/or crossbar No. 1 E and M lead signaling trunks only or both loop signaling and E and M lead signaling trunks.
- List 5**—Apparatus per SD-95889-01, Fig. 14, option YI only required in addition to list 4 for testing the ARID feature of panel and/or crossbar No. 1 special toll and operator assistance trunks to TSP or TSPS.
- List 6**—Apparatus per SD-95889-01, Fig. 14, option YK only required in addition to list 5 for testing the ARID feature in panel coin trunks.
- List 7**—Apparatus per SD-95889-01, Fig. 17 required in addition to list 4 for testing E and M lead signaling trunks only or both loop signaling and E and M lead signaling trunks.

**Note**

A. This unit together with J93402AE and/or J93402AF is located on a miscellaneous relay rack near the OITT frame.

**J93402AE—AT&TCo Std—Panel Trunk Data and Progress Test Unit**

**List 1**—Assembly, wiring, and equipment per SD-95889-01, Fig. 13, with option ZM for one panel trunk data and progress test unit for use with panel special toll and operator assistance coin and noncoin ANI trunks. (See Notes A and B.)

**Notes**

- A. This unit must be provided when J93402AD, Lists 1 and 3 are furnished.
- B. List 1 shall include a local cable that connects this surface-wired unit to the basic unit J93402AD.

**J93402AF—AT&TCo Std—Crossbar Trunk Data and Progress Test Unit**

**List 2**—Assembly, equipment, and wiring per SD-95889-01, Fig. 12 for one crossbar trunk data and progress test unit for use with crossbar special toll and operator assistance coin and noncoin ANI trunks. (See Notes A and B.)

**List 3**—Equipment and wiring per SD-95889-01, Fig. 12, option ZV only required in addition to list 2 for coin-first operation. (See Note C.)

**List 4**—Equipment and wiring per SD-95889-01, Fig. 12, option ZW only required in addition to list 2 for dial-tone-first operation. (See Note D.)

**Notes**

- A. This unit must be provided when J93402AD, Lists 1 and 2 are furnished.
- B. List 2 shall include a local cable that connects this surface wired unit to the basic unit, J93402AD.
- C. Provide option ZX wiring in addition to list 3 when trunks are arranged for coin-first operation only.
- D. Provide option ZY wiring in addition to list 4 when trunks are arranged for dial-tone-first operation only.

**J93402AG—A&M Only—Trunk Data Test Unit**

**List 2**—Equipment, assembly, and wiring to provide for testing of noncoin common control trunks. (See Note A.)

	WIRE	EQUIP	NOTES
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Auto Trunk Test Ckt.  
SD-32315-01:

Fig. 12, Option ZK Only	1	1	A
Fig. 13	1	1	A

**Note**

- A. List 2 contains a local cable for connecting with existing field equipment.

**J93402AH—AT&TCo Std—Timer Unit**

**List 1**—Framework, equipment, assembly, and wiring per SD-32315-01, Fig. 6, and option ZG for one timer unit.

**List 2**—Equipment and wiring per SD-32315-01, Fig. 6, option ZI only required in addition to list 1 to provide testing of coin trunks that serve person-to-person and station sent paid calls.

**List 3**—Equipment and wiring per SD-32315-01, Fig. 6, option ZJ only required in addition to list 1 to provide testing of common control noncoin trunks that serve person-to-person and station-to-station calls.

**List 4**—Equipment and wiring per SD-32315-01, Fig. 6, options ZH and ZM only required in addition to list 1 for use with coin and noncoin person-to-person and station-to-station trunks and noncoin common control trunks (maximum one).

**J93402AJ—AT&TCo Std—Trunk Data and Test Unit**

**List 1**—Framework, equipment, assembly, and wiring per SD-32315-01, Fig. 11 for one trunk data and test unit.

**List 2**—Equipment and wiring per SD-32315-01, Fig. 12 and option ZK required in addition to list 1 to provide testing of coin trunks that serve person-to-person and station-to-station calls. (See Notes A and B.)

- List 3**—Equipment and wiring per SD-32315-01, Fig. 13 required in addition to list 1 to provide testing of noncoin common control trunks that serve person-to-person and station-to-station calls.
- List 4**—Equipment and wiring per SD-32315-01, Fig. 12, option ZR only required in addition to list 1 to provide for testing of coin trunks with return of initial deposit.
- List 5**—Equipment and wiring per SD-32315-01, Fig. 11, option ZU only required in addition to list 1 to provide for testing of noncoin trunks.
- List 6**—Equipment and wiring per SD-32315-01, Fig. 12, option YF only required in addition to list 2 when coin trunk applies to tip only.

**Notes**

- A. Provide option ZZ wiring for testing of coin trunks when trunk applies coin potential to tip and ring.
- B. Provide option YA wiring for testing of coin trunks when the trunk applies coin potential to tip only.

**J93402AK—AT&TCo Std—Auxiliary OITT Unit**

- List 2**—Framework, equipment, assembly, and wiring per SD-32315-01, Fig. 5, B option only for use with noncoin common control trunks that serve person-to-person or station-to-station calls or outgoing nonbylink common control coin trunks that serve operator assistance, special toll and station toll calls to TSPS No. 1. (See Notes A and B.)
- List 3**—Equipment, assembly, and wiring per SD-32315-01, Fig. 21 with options YK and YO wiring required in addition to list 2 for use with outgoing nonbylink common control coin trunks that serve operator assistance, special toll and station toll calls to TSPS No. 1. (See Notes C and D.)

**Notes**

- A. Connect option YP and YN wiring when list 3 is not furnished.
- B. This unit is mounted on a miscellaneous relay rack.
- C. Provide option ZZ wiring for testing of coin trunks when trunk applies coin potential to tip and ring.
- D. Provide option YA wiring for testing of coin trunks when trunk applies coin potential to tip only.

**J93402AL—AT&TCo Std—Auxiliary Control Timing and Trunk Tip and Ring Test Unit**

- List 1**—Assembly, wiring, and common equipment per SD-95889-01, Fig. 16 for one auxiliary control timing and trunk tip and ring test unit for use with panel and/or crossbar No. 1 special toll and operator assistance E and M lead signaling trunks only or both loop signaling and E and M lead signaling trunks to TSP or TSPS. (See Notes A and B.)
- List 2**—Equipment and wiring per SD-95889-01, option YR only required in addition to list 1 for use with panel trunks.

**J93402AM—AT&TCo Std—Outpulser-Identifier-Trunk Test Frame—90' High Frames For Use In Step-By-Step Offices**

- List 1**—Framework, assembly, wiring, and common equipment for one outpulser-identifier-trunk test frame without 5-inch cable rack. (See Notes A and B.)

**Notes**

- A. Provide option YH wiring in addition to list 1 for crossbar No. 1 trunks.
- B. This unit is mounted on a miscellaneous relay rack.

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	WIRE	EQUIP	NOTES
Output-pulser-Identifier Test Ckt, SD-95815-01:			
Fig. 1, 2, 3, 4 & 5, Option ZU Wiring, Less Option Z Wiring	1	0	C
Fig. 8, Option N and ZT Wiring, Less Option Z and Options X, Y, ZJ, ZK, ZN, and ZP App	1	1	D,G
Fig. 8 With Options F and G	1	1	E
Fig. 9	3	1	
Fig. 11	3	0	
Fig. 13 & 14 Option B	1	0	
Fig. 16, 17 & 18	1	0	
Trunk Test Ckt, SD-32315-01:			
Fig. 1	1	0	
Fig. 3, Options M & K	1	0	
Fig. 4, 6 & 7, Options A, B, ZG, ZH, ZI, ZJ, ZL and ZM	1	0	
Fig. 5 & 8 Less Options Z, M & K App	1	1	
Fig. 9 & 10	1	0	
Fig. 5 & 8 Options A, B, YE, ZL, ZM, ZR, and ZS	1	0	
Fig. 11, 12, 13, 14, 15, 16, 17 & 18, Options A, B, YE, YF, ZH, ZI, ZJ, ZK, ZL, ZR & ZU	1	0	
Oscillator Ckt, SD-95827-01:			
Fig. 1 Option Y	1	0	
MF Signal Generator Ckt, SD-95867-01:			
Fig. 1, Option V	1	0	F
Misc Ckt, SD-95822-01:			
Fig. 1, Y App & Fig. 3	1	1	
Fig. 5 & 6	1	0	
Fig. 7	36	0	

**List 2**—Framework, assembly, wiring, and common equipment for one output-pulser-identifier-trunk test frame with 5-inch cable rack. (See Notes A and B.)

	WIRE	EQUIP	NOTES
Output-pulser-Identifier Test Ckt, SD-95815-01:			
Fig. 1, 2, 3, 4 & 5, Option ZU Wiring, Less Option Z Wiring	1	0	C
Fig. 8, Option N & ZT Wiring, Less Options Z & X, Y, ZJ & ZK App	1	0	G
Fig. 8 Options F & G	1	1	E
Fig. 9	3	1	
Fig. 11	4	0	
Fig. 13 & 14, Option B, Fig. 16, 17 & 18	1	0	
Trunk Test Ckt, SD-32315-01:			
Fig. 1	1	0	
Fig. 3 Options M & K	1	0	
Fig. 4, 6 & 7, Options A, B, ZG, ZH, ZI, ZJ, ZK, ZL & ZM	1	0	
Fig. 5 & 8 Less Z, M & K App	1	1	
Fig. 9 & 10	1	0	
Fig. 5 & 8 Options A, B, YE, ZL, ZM, ZR, ZS, YH, YI, YU & YW	1	0	
Fig. 11, 12, 13, 14, 15, 16, 17 & 18 Options A, B, YE, YF, ZH, ZI, ZJ, ZK, ZL, ZR & ZU	1	0	
Oscillator Ckt, SD-95827-01:			
Fig. 1, Option Y	1	0	
MF Sig Generator Ckt, SD-95867-01:			
Fig. 1 Option V	1	0	F
Misc Ckt, SD-95822-01:			
Fig. 1, Y App & Fig. 3	1	1	
Fig. 5 & 6	1	0	
Fig. 7	36	0	

**List 3**—Apparatus per SD-95815-01, Fig. 9 required in addition to list 1 or 2 for each of the third and fifth output-pulsers.

**List 4**—Apparatus per SD-32315-01, Fig. 8, Z apparatus only required in addition to list 1 or 2 to equip the OITT frame for use

- with more than 50 trunks.
- List 5**—Apparatus per SD-32315-01, Fig. 8, Y apparatus only required in addition to list 1 or lists 2 and 4 to equip one OITT frame for use with more than 100 trunks.
- List 6**—Apparatus per SD-32315-01, Fig. 8, X apparatus only required in addition to list 1 or lists 2, 4, and 5 to equip one OITT frame for use with more than 200 trunks.
- List 7**—Apparatus per SD-95815-01, Fig. 8, option F only required in addition to list 1 or 2 to equip one OITT frame for use with trunks.
- List 8**—Apparatus per SD-95815-01, Fig. 14 required in addition to list 1 or 2 when automatic identified outward dialing from a PBX is required.
- List 9**—Apparatus per SD-32315-01, Fig. 5 and 8, option ZM and Fig. 14 required in addition to list 1 or 2 to equip one OITT frame for use with coin and noncoin trunks for person-to-person calls, coin trunks for station-to-station calls, and noncoin common control trunks for special toll and station-to-station calls.
- List 10**—Apparatus per SD-32315-01, Fig. 5 and 8, option ZL only and Fig. 15 required in addition to list 1 or lists 2 and 9 to equip one OITT frame for use with coin trunks that serve person-to-person and station-to-station calls.
- List 11**—Apparatus per SD-32315-01, Fig. 5 and 8, option A only and Fig. 16 required in addition to list 1 or lists 2 and 9 to equip one OITT frame for use with noncoin trunks that serve person-to-person calls.
- List 12**—Apparatus per SD-32315-01, Fig. 8, option B only and Fig. 17 required in addition to list 1 or lists 2 and 9 to equip one OITT frame for use with common control noncoin trunks that serve person-to-person and station-to-station calls.
- List 13**—Apparatus per SD-95815-01, Fig. 8, option ZK only required in addition to list 1 or 2 when used with equipment capable of outpulsing the called number to an automatic intercept center.
- List 14**—Apparatus per SD-95815-01, Fig. 8, option ZJ only required in addition to list 1 or 2 when list 13 is not furnished.
- List 17**—Apparatus per SD-95815-01, Fig. 16, required in addition to list 1 or 2 for operation with PBX-AIOD types A1 and A2 station identification frames.
- List 18**—Apparatus per SD-95815-01, Fig. 17, required in addition to list 17 for operation with PBX-AIOD type A2 station identification frame.
- List 19**—Apparatus per SD-95815-01, Fig. 18, required in addition to list 1 or 2 for operation with PBX-AIOD type A1 station identification frame.
- List 20**—Apparatus per SD-32315-01, Fig. 18 and Fig. 8, option ZS only required in addition to list 1 or 2 for testing combined special toll and dial zero noncoin trunks to TSPS No. 1. (See Note H.)
- List 21**—Apparatus per SD-32315-01, Fig. 8, option ZR only required in addition to list 1 or 2 for testing coin trunks with automatic return of initial deposit.
- List 22**—Apparatus per SD-32315-01, Fig. 8, option YE only required in addition to list 1 or 2 to provide for testing of coin trunks that serve special toll and operator assistance station-to-station sent paid calls.
- List 23**—Equipment per SD-95815-01, Fig. 8, option ZU only required in addition to list 1 or 2 when testing outpulsers equipped combined 0, 0+, and 1+ coin and noncoin trunks. (See Note G.)
- List 24**—Equipment per SD-32315-01, Fig. 8, option YI only required in addition to list 1 for testing noncoin trunks that serve combined operator assistance, special and station toll calls to TSPS No. 1. (See Note K.)
- List 25**—Equipment per SD-32315-01, Fig. 8, option YH only required in addition to list 1 for testing combined OG coin and noncoin trunks that serve combined operator assistance special and station toll calls to TSPS No. 1. (See Note K.)
- List 26**—Equipment per SD-32315-01, Fig. 8, option YU only required in addition to list 1 for testing outgoing nonbylink common control noncoin loop pulsing trunks arranged to serve combined operator assistance, special toll and station toll calls to TSPS No. 1. (See Note L.)
- List 27**—Equipment per SD-32315-01, Fig. 8, option YW only required in addition to list 1 for testing outgoing nonbylink common control noncoin E and M lead signaling trunks arranged to serve combined operator assistance, special toll and station toll calls to TSPS No. 1. (See Note M.)

**Notes**

- A. Units per J93402D, J93402H, J93402W, J93402Y, J93402AA, J93402AC, J93402AH, J93402AJ, J93402AN, J95108D, J99235AW, J95107D, J95107G, J95107H, J95107EG, and J95107EH are ordered separately and mounted in the shop as shown in Fig. 3. Other components are part of J93402AM.
- B. The frame local cable furnished with list 1 or 2 contains that wiring for the specified figures which is not furnished as surface wiring in the coded units. The local cable includes all applicable options. Option W wiring is administered at the frame terminal strips.
- C. A test network per SD-95815-01, Fig. 7 is required and is covered by J95105J. It is furnished with and located on identifier frame 0.
- D. Reserved
- E. Connect option G when list 7 is not furnished.
- F. One MF signal generator unit per J99235AW, L2 shall be ordered separately and mounted on the frame as shown in Fig. 3 and connected in the shop and shall be provided when this frame is arranged to test E and M outgoing coin trunks.
- G. Connect option ZT wiring when list 23 is not furnished.
- H. Connect option YB wiring when list 20 is not furnished.
- I. Unit J93402C provides access to the trunks to be tested. The capacity of this unit is 500 trunks. Unequipped trunks on trunk frames are included in the trunk count.
- J. An MF receiver unit per J99337A is required for use with this frame. This unit is located with other MF receivers in the building or on miscellaneous relay racks.
- K. Connect option YG and YX wiring when lists 24 and 25 are not furnished. Connect option YS and YY wiring when list 25 is not furnished.

L. Connect option XA wiring when list 26 is not furnished.

M. Connect option YV wiring when list 27 is not furnished.

**J93402AN—AT&T Co Std—Outpulser-Identifier-Trunk Test Frame Fuse Panel**

**List 1**—Equipment, assembly, and wiring for one OITT frame fuse panel arranged for step-by-step offices.

	WIRE	EQUIP	NOTES
Misc Ckt, SD-95822-01:			
Fuse Alm, Fig. 5	1	1	
Ckt Fuses, Fig. 7 (max 62 fuse pos)		39	

**List 2**—Equipment and wiring required in addition to list 1 for panel and/or crossbar OITT frames.

	WIRE	EQUIP	NOTES
Misc Ckt, SD-95822-01:			
Fuse Alm, Fig. 4	1	1	A
Ckt Fuses, Fig. 7		8	

**Note**

- A. When list 2 is provided equipment and wiring per SD-95822-01, Fig. 5 is to be removed and replaced by equipment and wiring per SD-95822-01, Fig. 4.

**J93402AP—AT&T Co Std—Trunk Test Unit for Combined OG Coin and Noncoin Trunks that Serve Combined Operator Assistance Special and Station Toll Trunks to TSPS No. 1**

**List 1**—Equipment, assembly, and wiring per SD-32315-01, Fig. 19 only with option XD wiring for one trunk test unit for testing either combined OG coin and noncoin trunks or for noncoin trunks only that serve combined operator assistance, special and

station toll trunks to TSPS No. 1. (See Note B.)

**List 2**—Apparatus and wiring per SD-32315-01, Fig. 19, option YH only with option XB and XC wiring required in addition to list 1 for one trunk test unit for testing combined OG coin and noncoin trunks that serve combined operator assistance, special and station toll calls to TSPS No. 1.

#### Notes

- A. This unit is mounted on a miscellaneous relay rack.
- B. Provide option YI wiring in addition to list 1 for testing noncoin trunks only that serve combined operator assistance, special, and station toll calls to TSPS No. 1.

#### **J93402AR—AT&TCo Std—Test Network Unit (AMARS)**

**List 1**—Assembly, wiring, and equipment for one test network unit per SD-95815-01, Fig. 20. (See Note A.)

#### Note

- A. This unit mounts on the first ID frame of each ID group when used with AMARS (see J95105).

#### **J93402AS—AT&TCo Std—Steering Check Register Unit (AMARS)**

**List 1**—Framework, equipment, assembly, and wiring per SD-95815-01, Fig. 4 and 19 (less option ZX) for one steering check register unit for AMARS.

**List 2**—Apparatus and wiring required in addition to list 1 for use with more than two groups of 10,000 numbers (offices 2 and 3) in any identifier group per SD-95815-01, options YJ and YF.

**List 3**—Apparatus and wiring required in addition to lists 1 and 2 for use with more than four groups of 10,000 numbers (offices 4 and 5) in any identifier group per SD-95815-01, options YI and YG.

**List 4**—Apparatus and wiring required in addition to lists 1, 2, and 3 for use with more than six groups of 10,000 members (office 6) in any identifier group per SD-95815-01, options YK and YH.

**List 5**—Apparatus and wiring required in addition to list 1 when list 2 is not provided for use when AIOD office indices exceed two per SD-95815-01, option ZA.

**List 6**—Apparatus and wiring required in addition to list 5 when list 3 is not provided for use when AIOD office indices exceed four per SD-95815-01, option ZB.

**List 7**—Apparatus and wiring required in addition to list 6 when list 4 is not provided for use when AIOD office indices exceed six per SD-95815-01, option ZC.

**List 8**—Apparatus and wiring required in addition to list 4 or 7 for use when AIOD office indices exceed eight per SD-95818-01, options ZD and YB.

#### **J93402AT—AT&TCo Std—Supplementary Identifier Group Connector Unit (AMARS)**

**List 1**—Assembly, wiring, and equipment for one supplementary identifier group connector unit when more than one identifier group is to operate with the OITT frame to test the No. 1 AMARS identifiers per two SD-95815-01, option YE of Fig. 6 (provides for first and second ID groups 0 and 1).

**List 2**—Wiring and apparatus required in addition to list 1 for the third ID group per SD-95815-01, option YE of Fig. 6.

## 5. GENERAL NOTES AND INDEXES

### Wiring and Cabling

**5.01** The OITT frame is arranged for solderless wrapped connections. ED-27114-01 covers the types and gauges of all wire and cable used in the manufacture and installation of the OITT frame.

**5.02** All coded units covered by this specification are surface-wired. Interwiring between them and to other components on the frame is included in the frame local cable.

**5.03** Power feeders are furnished for the ANI frames in accordance with the applicable listed drawings. The battery distribution system should be connected by a No. 6 drop lead to the fuse panel on the OITT frame. The ground feeder for each row of frames bonded by top angle ground bars should conform to the arrangements of the

particular system to which these frames are connected.

**5.04** The code numbers of the switchboard cables used in cabling the OITT frame are shown on the switchboard cabling drawing, ED-95093-10. This drawing and the CAD figures on the circuit identify the leads involved and their destinations.

**5.05** To modify J93402AG unit for use with common control trunks, it will be necessary to furnish J93402AG, List 2 and to replace the J93402U timer unit with a J93402AH timer unit.

**5.06** On frames not equipped with the J93402AG unit that require facilities to test person-to-person or common control trunks, a J93402AJ and J93402AH unit must be specified.

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

EQUIPMENT	RATING	DETAILS LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J93402A,L23	Mfr Disc.	8	—
L24	Mfr Disc.	6	—
J93402B	Mfr Disc.	7	J93402AN
J93402D,L8 & L9	Mfr Disc.	8	—
J93402F,L7	Mfr Disc.	8	—
J93402T,L10	Mfr Disc.	6	—
L11	Mfr Disc.	6	—
L21	Mfr Disc.	8	—
L22	Mfr Disc.	6	—
J93402U,L1 & L2	Mfr Disc.	6	J93402AH
J93402AA,L2	Mfr Disc.	6	—
J93402AB,L2	Mfr Disc.	6	—
J93402AF,L1	Mfr Disc.	6	J93402AF,L2
J93402AG,L1	Mfr Disc.	6	J93402AJ
L2	A&M Only	6	—
J93402AK,L1	Mfr Disc.	8	—
J93402AM,L15	Mfr Disc.	8	—
L16	Mfr Disc.	8	—

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.

**J93402, ISSUE 9**  
**ISS 9, SECTION 814-607-150, 815-409-150, 816-205-150**

**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	AT&TC <sub>o</sub> RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING
J93402A	Std	Panel and/or Crossbar Outpulsers-Identifier — Trunk Test Frame	J93402A-( )	SD-95815-01 SD-95822-01 SD-95827-01 SD-95889-01
J93402C	Std	ANI Trunk Test Connector Unit	J93402C-( )	SD-32315-01 SD-95889-01
J93402D	Std	Steering Check Register Unit	J93402D-( )	SD-95815-01
J93402E	Std	Outpulsing Test Unit	J93402E-( )	SD-95815-01
J93402F	Std	Steering, Test, and AIOD Control Unit	J93402F-( )	SD-95815-01
J93402G	Std	Test Control Unit	J93402G-( )	SD-95815-01
J93402H	Std	Progress and Trouble Indicator Register Unit	J93402H-( )	SD-95815-01
J93402J	Std	Timer Unit	J93402J-( )	SD-95889-01
J93402K	Std	Trunk Test Start Unit	J93402K-( )	SD-95889-01
J93402L	Std	Trunk Selection Control Unit	J93402L-( )	SD-95889-01
J93402M	Std	Trunk Data Unit	J93402M-( )	SD-95889-01
J93402N	Std	Panel Trunk Data Unit	J93402N-( )	SD-95889-01
J93402P	Std	Trunk Test Unit	J93402P-( )	SD-95889-01
J93402R	Std	Trunk Tip and Ring Test Unit	J93403R-( )	SD-95889-01
J93402S	Std	Identifier Group Connector Unit	J93402S-( )	SD-95815-01 SD-95889-01
J93402T	Std	Step-by-Step Outpulsers-Identifier — Trunk Test Frame 11'-6" High	J93402T-( )	SD-32315-01 SD-95815-01 SD-95822-01 SD-95827-01 SD-95867-01
J93402W	Std	Trunk Test Start Unit	J93402W-( )	SD-32315-01
J93402Y	Std	Trunk Selection Control Unit	J93402Y-( )	SD-32315-01

**J93402, ISSUE 9**  
**SECTION 814-607-150, 815-409-150, 816-205-150**

EQUIPMENT CODE	AT&T Co RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING
J93402AA	Std	Trunk Data Unit	J93402AA-( )	SD-32315-01
J93402AB	Std	Trunk Test Unit	J93402AB-( )	SD-32315-01
J93402AC	Std	Identifier Group Connector Unit	J93402AC-( )	SD-95815-01 SD-95822-01
J93402AD	Std	Panel and/or Crossbar Control, Timing, and Trunk Tip and Ring Test Unit	J93402AD-( )	SD-95889-01
J93402AE	Std	Panel Trunk Data and Progress Test Unit	J93402AE-( )	SD-95889-01
J93402AF	Std	Crossbar Trunk Data and Progress Test Unit	J93402AF-( )	SD-95889-01
J93402AG	A&M Only	Trunk Data Test Unit	J93402AG-( )	SD-32315-01
J93402AH	Std	Timer Unit	J93402AH-( )	SD-32315-01
J93402AJ	Std	Trunk Data and Test Unit	J93402AJ-( )	SD-32315-01
J93402AK	Std	Auxiliary OITT Unit	J93402AK-( )	SD-32315-01
J93402AL	Std	Auxiliary Control Timing and Trunk Tip and Ring Test Unit	J93402AL-( )	SD-95889-01
J93402AM	Std	Outpulser-Identifier -- Trunk Test Frame 9'-0" High Frames for Use In Step-by-Step Offices	J93402AM-( )	SD-32315-01 SD-95811-01 SD-95815-01 SD-95822-01 SD-95827-01 SD-95867-01
J93402AN	Std	Outpulser-Identifier -- Trunk Test Frame Fuse Panel	J93402AN-( )	SD-95822-01
J93402AP	Std	Trunk Test Unit for Combined OG Coin and Noncoin Trunks That Serve Combined Operator Assistance Special and Station Toll Trunks to TSPS No. 1	J93402AP-( )	SD-32315-01
J93402AR	Std	Test Network Unit (AMARS)	J93402AR-( )	SD-95815-01
J93402AS	Std	Steering Check Register Unit (AMARS)	J93402AS-( )	SD-95815-01
J93402AT	Std	Supplementary Identifier Group Connector Unit (AMARS)	J93402AT-( )	SD-95815-01

Circuit Schematic Index

CIRCUIT DRAWING	J93402 EQPT CODE
SD-32315-01	C,T,W,Y,AA,AB,AG,AH,AJ,AK, AM,AP
SD-95811-01	AM
SD-95815-01	A,D,E,F,G,H,S,T,AC,AM,AR,AS, AT
SD-95822-01	A,T,AC,AM,AN
SD-95827-01	A,T,AM
SD-95867-01	T,AM
SD-95889-01	A,C,J,K,L,M,N,P,R,S,AD,AE,AF, AL

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