# OUTPULSER FRAME
# 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 frame in decoder panel, No. 1 crossbar, and No. 1, 350A, and 355A step-by-step offices arranged for automatic number identification, type B (ANI-B).

**1.02** This specification is reissued to:

(a) Provide requirements for the reduction of impulse noise on the KP signal to improve detection.

(b) Provide requirements for the reduction of circuit impulse noise for AMARC and toll identifiers.

### CAPACITY

**1.03** An ANI-B System may consist of frameworks 11 feet 6 inches high for installation in Common Systems offices of 9 feet 0 inches high for installation only in step-by-step offices.

**1.04** The 11-foot 6-inch high outputlser frame has a capacity of two outpulsers, two outpulser party test units or step-by-step office units, two or three outpulser theoretical office units per outpulser, and two MF generator units.

**1.05** The 9-foot 0-inch high outpulser frame has a capacity of two outpulsers and two step-by-step office units. The MF generator units are mounted on miscellaneous relay rack and the theoretical office units, when required, are mounted on the outpulser, identifier, trunk test frame.

**1.06** A maximum of six outpulsers may be required in an ANI-B System that makes use of 9-foot 0-inch high frameworks. A maximum of ten outpulsers may be required where 11-foot 6-inch frameworks are used. These outpulsers are associated with a maximum of two identifier frames to form an identifier group.

### DESCRIPTION

**1.07** The Automatic Number Identifier type B System referred to as ANI-B, provides a high-speed one-at-a-time identification of the calling customer directory number on CAMA calls from single- and 2-party lines and PBX trunks. A system which makes use of 11 foot 6 inch frames serves a maximum of six central offices (panel, No. 1 crossbar, or step-by-step) in a building and is referred to as an identifier group. Any one of the six offices may be used for PBX AIOD. In the event all six offices are equipped for regular service, special provision is made to add a seventh office for AIOD service only. One or more identifier groups may be provided in a building.

**1.08** A system which makes use of 9-foot 0-inch high frames is limited to serve only one step-by-step central office. If AIOD service is required in addition to the regular service, provision is made to add a second office for AIOD service only. Only one identifier group is provided in a building.

**1.09** After the calling number has been identified, it is MF outpulsed to the CAMA office. One of the units furnished in a local office for this purpose is the outpulser.

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**1.10** After the called number has been recorded in the tandem or toll office, the trunk bids for an outpulser through the outpulser connector. The outpulser seizes an identifier which identifies the calling line number and causes this number to be registered in the outpulser. Check relays associated with the digit registers, check that each digit is registered on a 2-out-of-5 basis. If the calling customer is on a multiparty line or if a trouble condition prevents identification, this information is registered in the outpulser. The outpulser then MF pulses the calling line number to the CAMA office.

**1.11** The outpulsers in this system are associated with a trouble ticketer frame. When one of the outpulsers encounters trouble, a trouble ticket is printed by a No. 1A message ticketer on the trouble ticketer frame. Outpulsers that find the ticketer busy will be released at once but will light a (display lost) lamp to indicate the outpulser that attempted to record a trouble.

**1.12** The outpulser frame consists of a bulb-angle-type framework, 11 feet 6 inches high and 2 feet 5/8 inch long, equipped as shown in Fig 1 or 9 feet 0 inches high and 2 feet 5/8 inch long. The frame has a fuse panel, jack panel, and a mounting plate for miscellaneous equipment. This mounting plate is located at the top of the frame. Two or three additional mounting plates of common equipment are mounted at the top of the first outpulser frame.

**1.13** The outpulser circuit as shown in Fig 2 consists of a number of functional surface-wired units interconnected by a frame local cable when mounted on an 11-foot 6-inch high framework. This frame is also available in bulb-angle-type framework 9 feet 0 inch high and 2 feet 5/8 inch long for step-by-step offices. When 9-foot 0-inch framework is used, all units except the trunk control unit, the auxiliary trunk control unit, and the AIOD control unit are mounted on the framework, as shown in Fig 3 and 4 and interconnected by a frame local cable. The latter three units, when required, are mounted on the outpulser, identifier, trunk test frame and interconnected to the outpulser frame with switchboard cable. Figure 5 shows the interrelation of circuits within the outpulser and the relation of the outpulser to other circuits.

**1.14** The party test unit is a functional surface-wired unit 4 inches high. It is equipped, one per outpulser, in buildings with 2-party panel offices

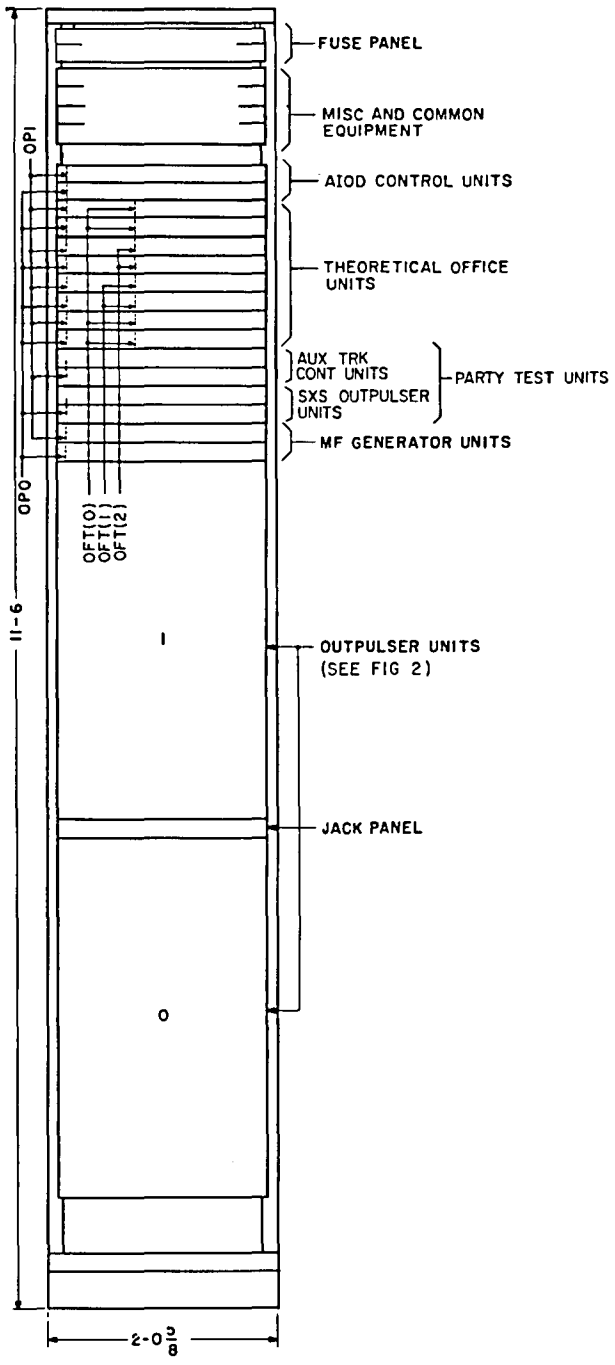


**Fig 1—11-Foot 6-Inch Outpulser Frame**

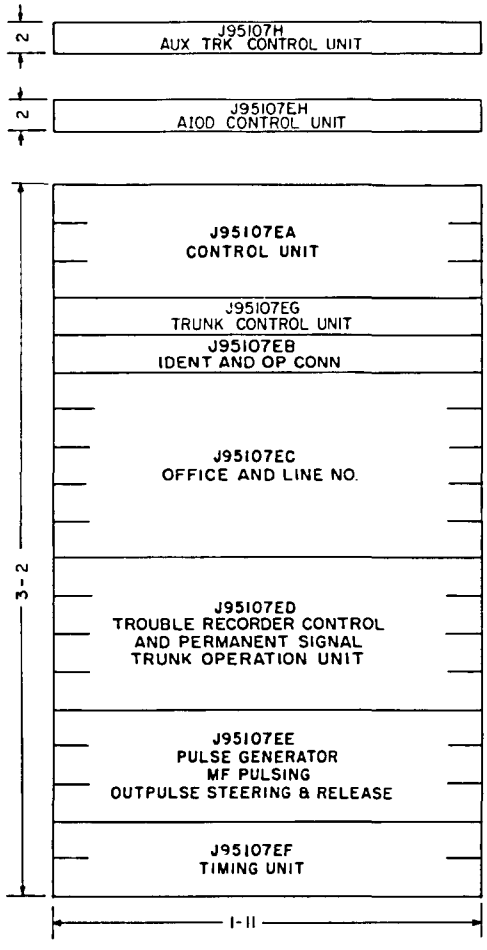


**Fig 2—Outpulser Unit Associated With 11-Foot 6-Inch Outpulser Frame**

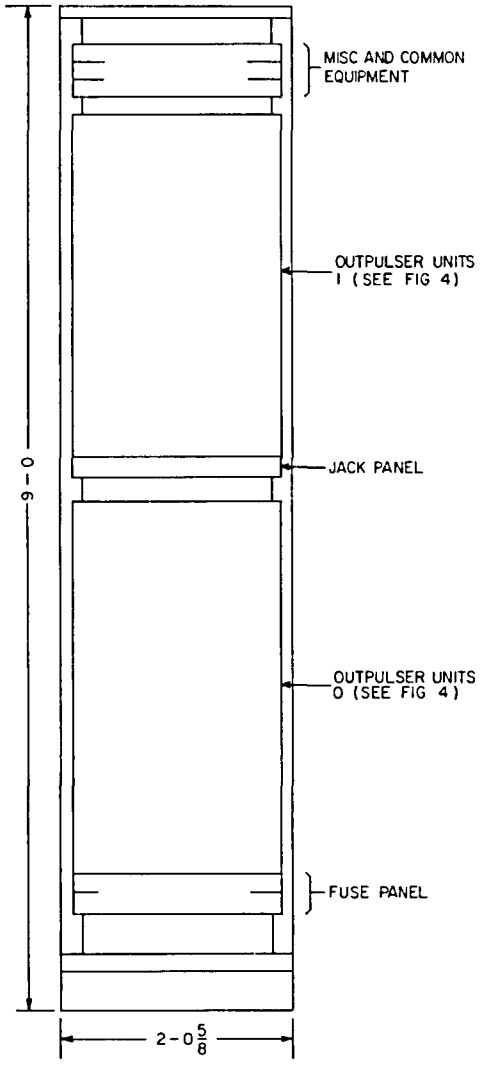


**Fig 3—9-Foot Outpulser Frame**

(see Fig 1). This circuit determines which of two parties on a line is calling. In crossbar offices, party identification is made in the sender and passed on to the identifier via the trunk, outpulser link, and outpulser. In step-by-step offices, party test information is obtained from the ANI step-by-step trunks.

**1.15** The step-by-step office unit is a functional surface-wired unit 2 inches high. It is equipped, one per outpulser, when the outpulser is used with a step-by-step office.

**1.16** In buildings where both physical and theoretical offices or numbers are encountered, translation will be made by the outpulser through the outpulser theoretical office unit. The outpulser theoretical office unit is a single-plate surface-wired unit which is furnished one unit per theoretical office per outpulser. These units are designated OFT- for each outpulser where the dash is the number of the physical office with which these units are associated. These units are mounted near the top of 11-foot 6-inch high outpulser frameworks. When 9-foot 0-inch high outpulser frameworks are used, these units are mounted on the outpulser, identifier, trunk test frame.

**1.17** The MF frequencies are generated by single-plate MF generators associated with each outpulser or by a building MF current supply. One MF signal generator unit per J99235AW is required for each outpulser unit in offices where an MF current supply is not available. On 11-foot 6-inch frames the MF units are mounted above the second outpulser on a frame. When 9-foot 0-inch frames are used these

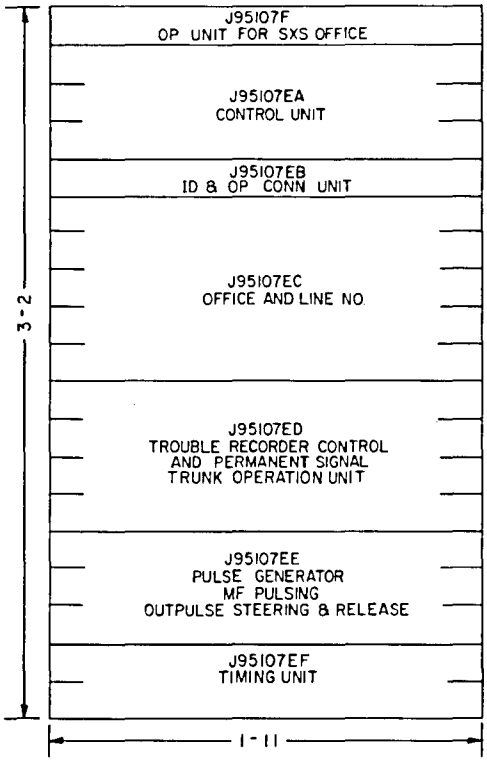


**Fig 4—Outpulser Unit Associated With 9-Foot Outpulser Frame**

units are mounted on miscellaneous relay racks as close to the outpulser frames as possible. When more than ten MF generator units are indicated from the ultimate requirements of a building, the provision of building MF supply per J98609 should be considered.

#### Floor Plan Arrangement

**1.18** The outpulser frames should preferably be located near other ANI, type B frames. As ANI equipment will frequently be located in available space in existing offices, the frame may be located adjacent to others with guardrails of different widths. This will necessitate provision of appropriate junction details.

### 2. SUPPLEMENTARY INFORMATION

800-600-000—List of General Equipment Requirements Sections
814-000-000—Step-by-Step Systems Index
815-000-000—Panel Systems Index
816-000-000—No. 1 Crossbar System Index
J98609—801-620-151—Multifrequency Current Supply
J99235—801-025-166—Equipment Units, Relay Rack Mounted, Common Systems per SD-95867-01
Floor Plan Data—Section 7.1, Sheet 47
Current Drain Data—
SD-21300-01—Panel System—Battery Cutoff (not available for ground cutoff)
SD-25000-02—No. 1 Crossbar System
SD-31359-02—No. 1 Step-by-Step System
SD-31364-02—No. 350A Step-by-Step System
SD-31780-02—No. 355A Step-by-Step System

### 3. DRAWINGS

For additional drawings forming a part of this specification, see listings under **SUBDIVISIONS OF EQUIPMENT AND DETAILED INDEX.**

#### Keysheets

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

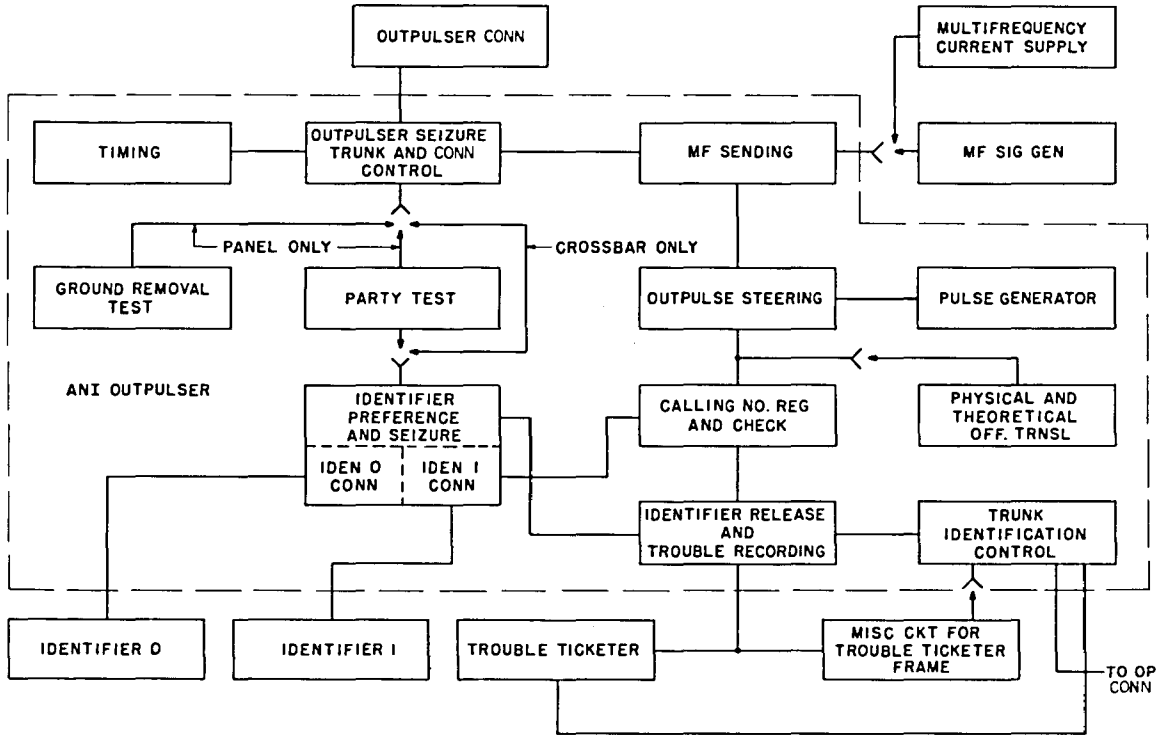


**Fig 5—Typical System Block Diagram**

### Framework

ED-25278-30—Jack, Key, and Lamp Panel
ED-25529-70—Guardrail Junctions
ED-91710-70—Bulb-Angle Frame Assembly
ED-91710-76—Bulb-Angle Frame Assembly
ED-91837-71—Bulb-Angle Frame Assembly
ED-95131-10—Fuse Panel Assembly

### Wiring and Cabling

ED-25346-14,-15,-16—Method of Running Power Feeders No. 1 Crossbar
ED-27114-01—Table of Wire Gauges and Type of Insulation—No. 1 Crossbar
ED-95089-11—Switchboard Cable Details—Outpulser Frame
ED-99431-10—Method of Running Power Feeders—Common Systems
SD-80728-01—Battery Distributing Circuit—Step-by-Step Systems

### Equipment

SD-95867-01—MF Signal Generator

## 4. EQUIPMENT

***J95107A—AT&TCo Std—Outpulser Frame—11 Feet 6 Inches High***

*List 1*—Framework, assembly, wiring, and common equipment for one outpulser frame arranged to mount two outpulsers. (See Notes A and B.) (See Table A.)

| | WIRE | EQUIP | NOTES |
|---|---|---|---|
| Jack, Key, and Lamp Panel, ED-25278-30: | | | |
| GR5 | | 1 | |
| Outpulser Misc Ckt, SD-95820-01: | | | |
| Fig 1 | 1 | 1 | |
| Fig 6 | 34 | 0 | |
| Fig 3, 5, 7 | 1 | 0 | C |
| Fig 2 | 2 | 1 | C |
| Fig 4 | 2 | 0 | |

| | WIRE | EQUIP | NOTES |
|---|---|---|---|
| Outpulser Circuit, SD-95811-01: | | | |
| Fig 2, 3, 5, 6, 11, & 12 | 2 | 0 | A,I |
| Fig 1 and 4 with ZI and ZK wiring | 2 | 0 | A,H,I |
| Fig 7 | 10 | 0 | |
| Fig 8 | 3 | 0 | |
| Fig 9 with Option YA | 2 | 0 | |
| Fig 10 | 14 | 0 | |
| Fig 13 | 2 | 0 | |
| Fig 14 with Option ZD | 2 | 0 | G |
| Fig 15, 17 | 2 | 0 | |
| Fig 16 | 18 | 0 | |
| Fig 19, 20 | 2 | 0 | |
| Fig 21 | 2 | 0 | |
| MF Sig Generator, SD-95867-01, Fig 1 | 2 | 0 | B |

*List 2*—Equipment per SD-95820-01, Fig 2, required in addition to list 1 for the second outpulser on a frame.

*List 3*—Equipment required in addition to list 1 for one group of five outpulsers.

| | WIRE | EQUIP | NOTES |
|---|---|---|---|
| Outpulser Misc Ckt, SD-95820-01: Fig 3 Less Option T | | 1 | C |
| Outpulser Ckt, SD-95811-01, Fig 7 | | 1 | C |

*List 4*—Equipment per SD-95811-01, Fig 7, required in addition to list 3 for each outpulser other than the first outpulser in a system.

*List 5*—Equipment per SD-95820-01, Fig 7, required in addition to list 1 to provide TEL jack in panel or No. 1 crossbar offices.

*List 6*— Equipment per SD-95820-01, Fig 5, required in addition to list 1 to provide SWMN jack and fuse alarm relay in step-by-step offices.

*List 7*—Equipment per SD-95820-01, Fig 4, required in addition to list 1 when party test feature is required in a panel office.

*List 8*—Local Cable required in addition to list 1 to connect three outpulser theoretical office units per J95107D to one outpulser unit per J95107E. (See Note D.)

*Notes*

A. The frame local cable contains the battery and ground leads for the MF generator units and the outpulser units. All wiring for the miscellaneous equipment on each outpulser frame and for the common equipment on the first outpulser frame shall also be included in the frame local cable.

B. Outpulser units per J95107E, outpulser party test units J95107C, outpulser theoretical office units per J95107D, MF generator units per J99235AW, and a fuse panel per J95107K are ordered separately and are mounted on the frame and connected in the shop as shown on the frame equipment layout.

C. The mounting plate for relays FA and MA and MB terminal strips is furnished with list 1. The other three mounting plates and MC and MD terminal strips are furnished with list 3. Lists 3 and 4 are required only on the first outpulser frame of an ANI system.

D. This wiring shall be included in the frame local cable furnished with list 1 and shall be looped at the positions of unequipped relays and units.

E. One MF signal generator unit per J99235AW is required for each outpulser in offices where an MF supply is not available. The MF unit shall be mounted as shown on J95107A-( ). When a larger number (over ten) of MF generator units is indicated, for the ultimate requirements of a building, the telephone company should be requested to study the possibility of providing a building MF supply per J98609.

F. A maximum of three theoretical office units is furnished per outpulser. The wiring specified in list 8 includes all wiring involving contacts of relays 1TH, 2TH, 3TH, 4TH, and 5TH, P ground from the frame fuse panel, and the A battery lead from the outpulser unit.

G. Connect ZD wiring when used in a panel and/or No. 1 crossbar office, or in step-by-step offices when special toll or operator assistance feature is not specified.

H. Connect ZI wiring when a major alarm on a second trial failure, or on a display lost condition and an alarm on a line verification failure is specified (A&M Only).

I. Wiring per SD-95811-01, Fig 18, shall be furnished when equipment will be used for outpulsing of called number to an automatic intercept center. Otherwise, furnish ZO wiring.

*J95107C—AT&TCo Std—Outpulser Party Test Unit for Panel Offices*

*List 1*—Assembly, equipment, and wiring per SD-95811-01, Fig 9, required when party test feature is to be furnished in a panel office.

*J95107D—AT&TCo Std—Outpulser Theoretical Office Unit*

*List 1*—Assembly, wiring, and equipment for one theoretical office unit per SD-95811-01, Fig 8, less M, N, P, Q, and R apparatus, and Fig 13 (maximum three units per outpulser).

*List 2*—Equipment per SD-95811-01, Fig 8, R, Q, P, N, or M apparatus, required in addition to list 1 for each block of 1000 numbers having same thousands digits and having both physical and theoretical numbers. The relays shall be designated and equipped per list 2 as follows:

| RELAY DESIGNATION | APPARATUS OPTION | REQUIRED FOR BLOCK OF 1000 NUMBERS |
|---|---|---|
| 1TH | R | First |
| 2TH | Q | Second |
| 3TH | P | Third |
| 4TH | N | Fourth |
| 5TH | M | Fifth |

*List 3*—Wiring and apparatus per SD-95811-01 option YW required in addition to list 1 for crossbar No. 1 LIT directory number translation.

*Note*

A. Theoretical offices shall be designated OFT- for each outpulser. The dash is the number of the physical office with which these units are associated.

*J95107F—AT&TCo Std—Outpulser Unit for Step-by-Step Office*

*List 1*—Assembly, equipment, and wiring per SD-95811-01, Fig 11, required when the outpulser is used in a step-by-step office.

*List 2*—Apparatus per SD-95811-01, Fig 11, option XB only, required in addition to list 1 when operation with identifiers used with No. 1 or 1A and toll (SD-1C593-01) is required.

*J95107G—AT&TCo Std—Second and Third Theoretical Office and Office Index Unit*

*List 2*—Assembly and common equipment for one unit arranged for second and third theoretical office and for office index 3 to 8 associated with AIOD.

*List 3*—Equipment and wiring per SD-95811-01, Fig 13, required in addition to list 2 for second or third theoretical offices required in the same 10,000 customer number block. (See Note A.)

*List 4*—Equipment and wiring per SD-95811-01, Fig 16, required in addition to list 2 for each office code which must be translated. For offices 4, 5, 6, 7, 8, and 9, AIOD only. (See Note B.)

*List 5*—Equipment and wiring per SD-95811-01, Fig 17, required in addition to list 4 when two or more PBX-AIOD translators are required.

*Notes*

A. When this unit is furnished and the three theoretical offices are in one 10,000 number series only, one J95107D unit should be furnished per identification group.

B. A maximum of six list 4 may be provided on this unit only after three list 2 are provided on J95107EH.

*J95107H—AT&TCo Std—Auxiliary Trunk Control Unit*

*List 1*—Equipment, wiring, and assembly per SD-95811-01, Fig 21, for one auxiliary trunk control unit for use with step-by-step combined coin and noncoin (0, 0+, 1+) trunks.

*J95107J—AT&TCo Std—Outpulser Frame—9 Feet 0 Inch High—For Use in Step-by-Step Offices*

*List 1*—Framework, assembly, wiring, and common equipment for one 9-foot 0-inch outpulser frame without 5 inch cable rack arranged to mount two outpulser units. (See Notes A, B, and E.) (See Table B.)

| | WIRE | EQUIP | NOTES |
|---|---|---|---|
| Misc Ckt, SD-95820-01: | | | |
| Fig 1 with Option W, | | | |
| Fig 5 | 1 | 1 | |
| Fig 3 | 1 | 0 | C |
| Fig 6 | 34 | 0 | |
| Fig 2 | 2 | 1 | C,D |
| Outpulser Ckt, | | | |
| SD-95811-01: | | | |
| Fig 2, 3, 5, 6, 11, & 12 | 2 | 0 | |
| Fig 1 & 4 | 2 | 0 | |
| Fig 7 | 6 | 0 | |
| Fig 10 | 4 | 0 | |
| Fig 19, 20 | 2 | 0 | |

*List 2*—Framework, assembly, wiring, and common equipment for one 9-foot 0-inch outpulser frame with 5-inch cable rack arranged to mount two outpulser units. (See Notes A, B, and E.)

| | WIRE | EQUIP | NOTES |
|---|---|---|---|
| Misc Ckt, SD-95820-01: | | | |
| Fig 1 with Option W | | | |
| Fig 5 | 1 | 1 | |
| Fig 3 | 1 | 0 | C |
| Fig 6 | 34 | 0 | |
| Fig 2 | 2 | 1 | C,D |
| Outpulser Ckt, | | | |
| SD-95811-01: | | | |
| Fig 1, 2, 3, 4, 5, 6, 11, 12 | 2 | 0 | |
| Fig 10 | 4 | 0 | |
| Fig 19 & 20 | 2 | 0 | |
| Fig 7 | 6 | 0 | |

*List 3*—Equipment per SD-95820-01, Fig 2, required in addition to list 1 or 2 when a second outpulser is mounted on frame.

*List 4*—Equipment per SD-95820-01, Fig 3, less option T, and SD-95811-01, Fig 7, required in addition to list 1 or 2 for one group of five outpulsers. (See Note C.)

*List 5*—Equipment per SD-95811-01, Fig 7, required in addition to list 4 for each outpulser other than the first outpulser in a system. (See Note C.)

*List 6*—Equipment per SD-95820-01, Fig 3, option T only, required in addition to list 4 to provide for preference chain and alarm transfer when more than five outpulsers are provided.

*List 7*—Apparatus required in addition to list 1 when connection to theoretical office units is required. (See Note C.)

*Notes*

A. The frame local cable contains the battery and ground leads for the outpulser units. All wiring for the miscellaneous equipment on each outpulser frame and for the common equipment on the first outpulser frame is also included in the frame local cable.

B. Units J95107EA, J95107EB, J95107EC, J95107ED, J95107EE, J95107EF, and J95107F are ordered separately and are mounted on the frame and connected in the shop as shown on the frame equipment layout.

C. The mounting plate for relays FA and terminal strips MA, MB, ME, and MF is furnished with list 1 or 2. List 4 provides terminal strips MC and MD and their mounting plate. The remaining mounting plate is furnished as required. Lists 4 and 5 are required only on the first outpulser frame of an ANI System. List 7 provides terminal strips ME and MF.

D. The +130V supplies are fused at both the outpulser frame and the miscellaneous fuse bay. One 1/2-ampere fuse at the fuse bay supplies one outpulser frame.

E. The miscellaneous −48V TBS and +130V TBS fuses are located at the miscellaneous fuse bay and are furnished once per identifier group.

### *J95107K—AT&TCo Std—Outpulser Frame Fuse Panel*

*List 1*—Assembly, equipment, and wiring for one outpulser frame fuse panel.

| | WIRE | EQUIP | NOTES |
|---|---|---|---|
| Misc Ckt, SD-95820-01: | | | |
| Ckt Fuses, Fig 6 | | | |
| (Max 22 Fuse Pos) | | 17 | |
| Fuse Alm Ckt, | | | |
| Fig 8 & 10 | 1 | 1 | A,B |

*List 2*—Equipment and wiring required in addition to list 1 for the second outpulser on a frame.

| | WIRE | EQUIP | NOTES |
|---|---|---|---|
| Misc Ckt, SD-95820-01: | | | |
| Ckt Fuses, Fig 6 (Max 22 Fuse Pos) | | 17 | |
| Fuse Alm Ckt, Fig 8 | 1 | 1 | A,B |

*List 3*—Equipment and wiring per SD-95820-01, Fig 9, required addition to list 1 for the −24V and −110V battery feeder, fuse alarm, and circuit fuse for use in panel offices when party test unit is furnished.

*List 4*—Equipment and wiring per SD-95820-01, Fig 9, required in addition to list 2 for −24V and −110V battery feeder, fuse alarm, and circuit fuse for use in panel offices when party test unit is furnished for the second outpulser on a frame.

*Notes*

A. The +130V, −24V, and −110V supplies are fused at both the outpulser frame and the miscellaneous fuse bay. The +130V and −110V supplies have 1/2-ampere fuses at the fuse bay and the −24V supply has a 1-1/3 ampere fuse at the fuse bay. For each supply, one fuse at the fuse bay supplies one outpulser frame.

B. The miscellaneous −48V TBS and +130V TBS fuses are at the miscellaneous fuse bay. The miscellaneous fuse is furnished one per outpulser frame and −48V TBS and +130V TBS fuses are furnished one per group of outpulsers.

### *J95107EA—AT&TCo Std—Line Control and Outpulser Busy, Outpulser Make Busy, Information Digit and Trunk Control, Information Digit Translation and Check, and Identifier Release Unit*

*List 1*—Assembly and wiring for one outpulser subunit per SD-95811-01, Fig 1.

*List 2*—Equipment and wiring per SD-95811-01, Fig 18, required in addition to list 1 where outpulsing of called number to automatic intercept center is reqired. (See Note A.)

*List 3*—Apparatus per SD-95811-01 option YJ required in addition to list 1 when connection to a centralized status alarm and control system (CSACS) is required

*List 4*—Apparatus per SD-95811-01, Fig 1, option XB only, required in addition to list 1 when operation with identifiers used with No. 1 or 1A and toll (SD-1C593-01) is required.

*List 5*—Apparatus per SD-95811-01, Fig 18, option XD only required in addition to list 2 when operation with identifiers used with No. 1 or 1A and toll (SD-1C593-01) is required.

*Note*

A. Furnish ZO wiring when list 2 is not provided.

### *J95107EB—AT&TCo Std—Identifier and Outpulser Connector Unit for Second Identifier*

*List 1*—Assembly and wiring for one outpulser subunit per SD-95811-01, Fig 2, required when second identifier is furnished.

### *J95107EC—AT&TCo Std—Outpulser Office and Line Number Unit*

*List 1*—Assembly and wiring for one outpulser subunit per SD-95811-01, Fig 3. (See Note B.)

*List 2*—Assembly and wiring required in addition to list 1 for calling office registration circuit per SD-95811-01, Fig 10, furnished one per office. (See Note A.)

*List 5*—Wiring and apparatus per SD-95811-01, option YO required in addition to list 1 when operation with the identifiers arranged for use with No. 1 AMARC and toll in step-by-step offices is required.

*List 6*—Apparatus per SD-95811-01, Fig 3, option XF only, required in addition to list 5 when automatic identification of outward dialed calls from PBX stations is required.

*Notes*

A. A maximum of seven list 2 may be provided on this unit.

B. Furnish wiring per SD-95811-01, Fig 18, where outpulsing of called number to automatic intercept center is required. Otherwise, furnish ZO wiring.

### *J95107ED—AT&TCo Std—Trouble Recorder Control and Permanent Signal Trunk Operation Unit*

*List 1*—Assembly, equipment, and wiring for one outpulser subunit per SD-95811-01, Fig 4, less Y apparatus, and Fig 12, wiring only. (See Note C and 5.06.)

*List 2*—Equipment per SD-95811-01, Fig 4, Y apparatus, required in addition to list 1 when trunk lockup feature for trouble testing is furnished.

*List 3*—Equipment per SD-95811-01, Fig 12, required in addition to list 1 for operation with permanent signal trunks.

*List 6*—Equipment per SD-95811-01, Fig 4, ZH and ZL apparatus only, required once per outpulser in addition to list 1 when the seventh office is required for PBX-AIOD service, or when AIOD office indexes exceed six, or when more than one translater is served. (See Notes A and B.)

*List 7*—Equipment and wiring per SD-95811-01, Fig 19, with option YF, required in addition to list 3 for use with calling line identification. (See Note C.)

*List 8*—Wiring and apparatus per SD-95811-01, option YJ required in addition to list 1 when connection to a centralized status alarm and control system (step-by-step) or to telecommunication alarm surveillance and control system (No. 1 crossbar only).

*List 9*—Wiring and apparatus per SD-95811-01, option YW, required in addition to list 1 for crossbar No. 1 LIT directory number translation.

*List 10*—Apparatus per SD-95811-01, Fig 4, option XB only, required in addition to list 1 when operation with identifiers used with No. 1 or 1A and toll (SD-1C593-01) is required.

*List 11*—Apparatus per SD-95811-01, Fig 12, option XE only, required in addition to list 3 when operation with identifiers used with No. 1 or 1A AMARC and toll (SD-1C593-01) is required.

*List 12*—Apparatus per SD-95811-01, Fig 4, option XG only, required in addition to list 6 when operation with identifiers used with No. 1 or 1A AMARC and toll (SD-1C593-01) is required.

*List 13*—Apparatus per SD-95811-01, Fig 4, option XH only, required in addition to list 2 when operation with identifiers used with No. 1 or 1A AMARC and toll (SD-1C593-01) is required.

*Notes*

A. Connect ZH wiring when seventh office is required for PBX-AIOD service.

B. Connect ZL wiring when AIOD office indexes exceed six or when more than one translator is served.

C. Furnish wiring per SD-95811-01, Fig 18, wiring only where outpulsing of called number to automatic intercept center is required. Otherwise, provide ZO wiring.

D. Connect ZP wiring when list 7 is not furnished.

***J95107EE—AT&TCo Std—Outpulser Steering and Release, Start Pulsing, Information Digit, MF Pulse Sending, and Pulse Generator Unit***

*List 1*—Assembly and wiring for one outpulser subunit per SD-95811-01, Fig 5. (See Note A, and paragraph 5.06.)

*List 2*—Wiring and equipment per SD-95811-01, Fig 5, option XA only, required in addition to list 1 to provide a delay of the KP signal.

*Note*

A. Furnish ZO wiring per SD-95811-01 only when outpulsing of called number to automatic intercept center is not required.

***J95107EF—AT&TCo Std—Work Timing, Party Test and Abandoned Call Timing Overall Timing, Trouble Ticketer Timing, and Audible Alarm Indication Unit***

*List 1*—Assembly and wiring for one outpulser subunit per SD-95811-01, Fig 6. (See 5.06.)

*List 2*—Wiring and equipment per SD-95811-01, Fig 6, option ZF only, required in addition to list 1 for PBX-AIOD service.

*List 3*—Apparatus per SD-95811-01, Fig 6, option XB only, required in addition to list 1 when operation with identifiers used with No. 1 or 1A AMARC and toll (SD-1C593-01) is required.

***J95107EG—AT&TCo Std—Trunk Control Unit***

*List 1*—Equipment, wiring, and assembly per SD-95811-01, Fig 14, for one trunk control unit for use with step-by-step special toll and operator assistance trunks.

*J95107EH—AT&TCo Std—AIOD Control Unit*

*List 1*—Assembly, wiring, and equipment per SD-95811-01, Fig 15, required for PBX-AIOD service.

*List 2*—Wiring and equipment per SD-95811-01, Fig 16, required in addition to list 1 for each PBX office code to be translated. (See Note A.)

*List 3*—Apparatus per SD-95811-01, Fig 15, option XC only, required in addition to list 1 when operation with identifiers used with No. 1 or 1A AMARC and toll (SD-1C593-01) is required.

*Note*

A. A maximum of three list 2 may be provided on this unit. Additional equipment is provided on J95107G when required.

## 5. GENERAL NOTES AND INDEXES

**5.01** Outpulser frames shall be numbered 0, 1, and 2 for the first ANI System in a building and 100, 101, and 102 for the second ANI System in a building. Outpulser units shall be numbered 0, 1 on each outpulser frame.

**5.02** Outpulser frames are furnished with 10-inch guardrails and may be lined up with frames having other guardrail widths. The method of joining guardrails of different widths is covered on ED-25529-70.

**5.03** The outpulser can be made busy to service by the insertion of a make-busy plug in the associated outpulser make-busy jack at the trouble ticketer frame.

**5.04** Either identifier may be made busy to any one outpulser by the insertion of a make-busy plug in the proper I-BOP jack at the trouble ticketer frame. If one identifier has been made busy to any outpulser, the second identifier cannot be made busy to the same outpulser.

### Wiring and Cabling

**5.05** The outpulser 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 outpulser frame.

**5.06** Frame local cable and switchboard cable for subunits J95107EE and J95107EF is terminated on R and P terminal strips of J95107ED.

**5.07** The code numbers of the switchboard cables to be used in cabling the outpulser frames are shown on ED-95089-11.

**5.08** Battery and ground feeders shall be provided in accordance with the battery and ground feeder drawing listed for the system with which these feeders are to be associated. The battery drop wire to the frame fuse panel shall be No. 6 wire in all cases. When the outpulser frames are in line with other frames having top angle ground bars, they shall be connected to these frames by these ground bars. A battery feeder is required for each outpulser and these feeders shall be connected to their associated 20-ampere fuses on each outpulser frame fuse panel.

**5.09** Interconnections between units on the outpulser frame are made with frame local cable. When 9-foot 0-inch high outpulser frames are used, the J99235AW MF signal generator units are mounted on miscellaneous relay rack. The connections between these units and the outpulser frame are made with switchboard cable and their battery and ground supplies are fused at a miscellaneous fuse panel. The J95107EG trunk control unit, J95107H auxiliary trunk control unit, J95107EH AIOD control unit, J95107D outpulser theoretical office unit, and the J95107G second and third theoretical office and office index unit, when required, are mounted on the outpulser, identifier, trunk test frame. The connections between these units and the outpulser frame are made with switchboard cable and their battery and ground supplies are fused at the outpulser frame fuse panel.

### Cross-Connections

**5.10** If physical and theoretical office translation is not necessary, the office translation punchings on J and K terminal strips on the outpulser unit are cross-connected directly to the proper MF frequency punchings on L terminal strip. If physical and theoretical office translation is required, the office translation punchings on J and K terminal strips are extended in frame local cable or switchboard cable to the corresponding punchings on THB terminal strip on the associated theoretical office unit. These leads then pass through contacts on relays OFP and OFT and appear on physical and theoretical office punchings on terminal strip OF on the theoretical office

unit. These punchings are then cross-connected, using local cable or switchboard cable, to the proper MF frequency punchings on terminal strip L on the outpulser unit. Further translation of thousands and hundreds blocks of numbers having both physical and theoretical numbers requires additional cross-connections on the theoretical office unit. These cross-connections are explained in detail in Notes 106 and 107 of SD-95811-01.

**5.11** Codes J95107L through J95107DY are unassigned.

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

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

| EQUIPMENT | RATING | DETAILS LAST SHOWN IN ISSUE | REPLACING EQUIPMENT |
|---|---|---|---|
| J95107A,L9 | Mfr Disc | 8 | — |
| J95107B | Mfr Disc | 7 | J95107K |
| J95107E | * | 7 | — |
| J95107G,L1 | Mfr Disc | 3 | J95107G, L2 to 5 |
| J95107ED L4 & L5 | Mfr Disc | 4 | J95107ED, L6 |
| J95107EC, L3, L4 | Mfr Disc | 8 | — |

* J95107E was removed on Issue 8 since manufacuring information was never prepared for the unit.

## TABLE A

## OUTPULSER UNIT FOR USE WITH 11 FT 6 IN OUTPULSER FRAME

| OUTPULSER UNITS SHALL BE EQUIPPED AND CONNECTED AS SPECIFIED IN THIS TABLE TO COMPLETE ONE OUTPULSER CIRCUIT | | | | | |
|---|---|---|---|---|---|
| UNIT | | | QUANTITY TO BE PROVIDED | | DESCRIPTION OF OPTION |
| QUANTITY | J CODE | LIST NO. | ALWAYS | FOR OPTION INDICATED | |
| 1 | J95107EA | 1 | 1 | | |
| | | 2 | | 1 | Provide when outpulsing of called line to automatic intercept center is required. |
| | | 3 | | 1 | CSACS |
| | | 4 | | 1 | No. 1 or 1A or toll identifiers |
| | | 5 | | 1 | |
| 1 | J95107EB | 1 | | 1 | Furnish one for second identifier. |
| 1 | J95107EC | 1 | 1 | | |
| | | 2 | | 1 | Furnish one per office. |
| | | 5 | | 1 | AMARC and toll identifiers. |
| | | 6 | | 1 | AIOD from PBX stations. |
| 1 | J95107ED | 1 | 1 | | |
| | | 2 | | 1 | Provide when trunk lockup feature is required. All offices except 2-party panel. |
| | | 3 | | 1 | Provide when permanent signal trunks are furnished. |
| | | 6 | | 1 | Provide when the seventh office is required for PBX-AIOD service or when PBX-AIOD office indexes exceed six or when more than one translator is served. |
| | | 7 | | 1 | Provide when calling line identification is required. |
| | | 8 | | 1 | CSACS or TASC. |
| | | 9 | | 1 | Crossbar No. 1 LIT Directory Number Translation. |
| | | 10 | | 1 | AMARC and Toll Identifiers. |
| | | 11 | | 1 | |
| | | 12 | | 1 | |
| | | 13 | | 1 | |
| 1 | J95107EE | 1 | 1 | | |
| | | 2 | | 1 | Delay of KP signal. |
| 1 | J95107EF | 1 | 1 | | |
| | | 2 | | 1 | Provide when PBX-AIOD service is required. |
| | | 3 | | 1 | AMARC and Toll identifiers. |

TABLE A (Contd)

OUTPULSER UNIT FOR USE WITH 11 FT 6 IN OUTPULSER FRAME

| OUTPULSER UNITS SHALL BE EQUIPPED AND CONNECTED AS SPECIFIED IN THIS TABLE TO COMPLETE ONE OUTPULSER CIRCUIT | | | | | |
|---|---|---|---|---|---|
| UNIT | | | QUANTITY TO BE PROVIDED | | DESCRIPTION OF OPTION |
| QUANTITY | J CODE | LIST NO. | ALWAYS | FOR OPTION INDICATED | |
| 1 | J95107EG | 1 | | 1 | Provide for use with step-by-step special toll and operator assistance trunks. |
| 1 | J95107EH | 1 | | 1 | Provide when PBX-AIOD service is required. |
| | | 2 | | 1 | Provide for each additional PBX office code to be translated. |
| | | 3 | | 1 | AMARC and toll identifiers. |
| 1 | J95107H | 1 | | 1 | Provide for use with step-by-step combined coin and noncoin trunks. |

## TABLE B

## OUTPULSER UNIT FOR USE WITH 9 FT OUTPULSER FRAME

| OUTPULSER SUBUNITS SHALL BE EQUIPPED AND CONNECTED AS SPECIFIED IN THIS TABLE ON 9-FOOT 0-INCH HIGH FRAMES IN STEP-BY-STEP OFFICES | | | | | |
|---|---|---|---|---|---|
| UNIT | | | QUANTITY TO BE PROVIDED | | DESCRIPTION OF OPTION |
| QUANTITY | J CODE | LIST NO. | ALWAYS | FOR OPTION INDICATED | |
| 1 | J95107EA | 1 | 1 | | |
| | | 2 | | 1 | Provide when outpulsing of called line to automatic intercept center is required. |
| | | 3 | | 1 | CSACS |
| | | 4 | | 1 | No 1 or 1A or toll identifiers |
| | | 5 | | 1 | |
| 1 | J95107EB | 1 | | 1 | Furnish one for second identifier. |
| 1 | J95107EC | 1 | 1 | | |
| | | 2 | | 1 | Furnish one per office. |
| | | 5 | | 1 | AMARC and toll identifiers. |
| | | 6 | | 1 | AIOD from PBX stations. |
| 1 | J95107ED | 1 | 1 | | |
| | | 2 | | 1 | Provide when trunk lockup feature is required. All offices except 2-party panel. |
| | | 3 | | 1 | Provide when permanent signal trunks are furnished. |
| | | 6 | | 1 | Provide when the seventh office is required for PBX-AIOD service or when PBX-AIOD office indexes exceed six or when more than one translator is served. |
| | | 7 | | 1 | Provide when calling line identification is required. |
| | | 8 | | 1 | CSACS or TASC. |
| | | 9 | | 1 | Crossbar No 1 LIT Directory Number Translation. |
| | | 10 | | 1 | AMARC and Toll Identifiers. |
| | | 11 | | 1 | |
| | | 12 | | 1 | |
| | | 13 | | 1 | |
| 1 | J95107EE | 1 | 1 | | |
| | | 2 | | 1 | Delay of KP signal. |
| 1 | J95107EF | 1 | 1 | | |
| | | 2 | | 1 | Provide when PBX-AIOD service is required. |
| | | 3 | | 1 | AMARC and Toll identifiers. |
| 1 | J95107F | 1 | 1 | | |

## SUBDIVISIONS OF EQUIPMENT AND DETAILED INDEX

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

| EQUIPMENT CODE | AT&TCo RATING OF UNIT | TITLE | EQUIPMENT DRAWING | CIRCUIT DRAWING |
|---|---|---|---|---|
| J95107A | Std | Outpulser—11 Feet 6 Inches High | J95107A-( ) | SD-95811-01<br>SD-95820-01 |
| J95107C | Std | Outpulser Party Test Unit for Panel Offices | J95107C-( ) | SD-95811-01 |
| J95107D | Std | Outpulser Theoretical Office Unit | J95107D-( ) | SD-95811-01 |
| J95107F | Std | Outpulser Unit for Step-by-Step Office | J95107F-( ) | SD-95811-01 |
| J95107G | Std | Second and Third Theoretical Office and Office Index Unit | J95107G-( ) | SD-95811-01 |
| J95107H | Std | Auxiliary Trunk Control Unit | J95107H-( ) | SD-95811-01 |
| J95107J | Std | Outpulser Frame—9 Feet 0 Inch High—For Use in Step-by-Step Offices | J95107J-( ) | SD-95811-01<br>SD-95820-01 |
| J95107K | Std | Outpulser Frame Fuse Panel | J95107K-( ) | SD-95820-01 |
| J95107EA | Std | Line Control and Outpulser Busy, Outpulser Make Busy, Info Digit and Trunk Control, Info Digit Translation and Check, and Identifier Release Unit | J95107EA-( ) | SD-95811-01 |
| J95107EB | Std | Identifier and Outpulser Conn Unit for Second Identifier | J95107EB-( ) | SD-95811-01 |
| J95107EC | Std | Outpulser Office and Line Number Unit | J95107EC-( ) | SD-95811-01 |
| J95107ED | Std | Trouble Recorder Control and Perm Signal Trunk Operation Unit | J95107ED-( ) | SD-95811-01 |
| J95107EE | Std | Outpulser Steering and Release, Start Pulsing, Info Digit, MF Pulse Sending, and Pulse Generator Unit | J95107EE-( ) | SD-95811-01 |
| J95107EF | Std | Work Timing, Party Test and Abandoned Call Timing, Overall Timing, Trouble Ticketer Timing, and Audible Alarm Indication Unit | J95107EF-( ) | SD-95811-01 |
| J95107EG | Std | Trunk Control Unit | J95107EG-( ) | SD-95811-01 |
| J95107EH | Std | AIOD Control Unit | J95107EH-( ) | SD-95811-01 |

**Circuit Schematic Index**

| CIRCUIT DRAWING | J95107 EQPT CODE |
|---|---|
| SD-95811-01 | A,C,D,F,G,H,J,EA,EB,EC, ED,EE,EF,EG,EH |
| SD-95820-01 | A,J,K |

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