

## NO. 3A ANNOUNCEMENT SYSTEM

### EQUIPMENT DESIGN REQUIREMENTS

#### COMMON SYSTEMS

#### 1. GENERAL

##### SCOPE

**1.01** This specification, together with the supplementary information listed herein, covers the equipment design requirements for the framework, equipment, and circuits to be used in the manufacture of the No. 3A announcement system. The equipment includes some units of Western Electric Company manufacture and others made by outside suppliers.

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

##### CAPACITY

**1.03** Two types of distributing centers are available in the No. 3A announcement system. One is the main center where the announcement machines are located together with a network of announcement trunks. The other is a subcenter which receives the announcements from the main center and also distributes them over a trunk network. The incoming announcement trunk capacity of each type of distributing center depends on the trunk lengths. The maximum and minimum limits of capacities are as follows. Varying capacities between these limits will be obtained depending on the total losses as outlined in the transmission requirements.

Max — 600 trunks having individual losses of 0 to 0.8 db and three or less subcenters.

Min — 200 trunks having individual losses of 9.6 to 11.5 db and three or less subcenters.

Each subcenter has the same trunk capacity as a main center.

**1.04** Additional capacity can be realized by driving the distributing relays with cut-

through pulses from the announcement machine equipment rather than pulses from the office interrupters. The customer cutoff arrangements are then tied to the message cycle rather than to the independent interrupter timing arrangements, thus eliminating undesirable holding time.

##### DESCRIPTION

**1.05** The No. 3A announcement system is designed to give customers brief informative announcements such as weather forecasts through regular telephone facilities. The announcement may vary in length from approximately 12 seconds to a preset maximum of 4 minutes. The variable cycle recorder-reproducer equipment will automatically conform with variations within the preset maximum. The system can be arranged so that the announcement to the customer is on a timed basis or limited to one or two announcements by use of cut-through pulsing.

**1.06** The essential parts of the system are the recorder-reproducer equipment, distributing units, voice alarm unit, control unit, trunk units, and power unit, all of which are located on relay racks. In addition to the relay rack equipment, an operator control unit, amplifier, and handset are furnished and located on a desk in a quiet room.

**1.07** Recordings of the desired announcements are made by an operator who cuts the machines into service after which the announcements are made automatically by one of the machines under control of the associated circuits.

##### RECORDER-REPRODUCER

**1.08** The KS-16534 recorder-reproducer uses a magnetic drum arrangement whereby announcements are recorded and reproduced. The

duration of the announcement may vary from approximately 12 seconds to 4 minutes.

**1.09** Two recorder-reproducers and associated equipment are furnished in the main center. If exceptional reliability is required, a third machine can be furnished on an optional basis.

#### **CONTROL UNIT**

**1.10** The control equipment consists of a wall-mounted amplifier cabinet and a desk-mounted operator control unit together with a special handset for recording and monitoring. A headset for monitoring only, and a cord and plug assembly to facilitate connection of the operator control unit to an external speech source such as a tape recorder, are furnished on an optional basis. All other equipment is located in the main center.

#### **VOICE ALARM UNIT**

**1.11** This unit detects voice failure on the announcement bus of the distributing circuit and activates the central office alarm system. Under this condition, automatic transfer to standby announcement will not take place. Transfer of announcement equipment under trouble conditions is controlled by the internal voice alarm features in the KS-16534 announcement equipment itself. This alarm circuit should be located in the same or adjacent bay as the announcement machine equipment for ease in operation and maintenance. An individual voice alarm unit for each carrier facility between distributing centers is provided.

#### **OFFICE ALARM**

**1.12** A connection to the central office alarm system at the main center must be made via the distributing circuit.

#### **REMOTE ALARM**

**1.12.1** The system is arranged to operate with remote alarm feature in the subcenter only.

#### **SIGNAL DISTRIBUTION RELAY ALARM**

**1.13** The distributing circuit will provide a central office alarm upon failure of the signal distribution relays. Audible ringing with no

charging will be returned on subsequent calls to either the affected main center or subcenter until trouble is cleared.

#### **DISTRIBUTING UNIT**

**1.14** The distributing unit provides the signals necessary to connect the announcement trunks through to the announcement machines on a timed or cut-through pulsing basis.

**1.15** Duplicate distributing circuits are provided on the unit and a key is used to transfer from one circuit to the other in case of trouble. Each unit will control up to 240 announcement trunks and as many units will be provided in each distributing center as required for the number of trunks employed.

#### **TRUNK CIRCUITS**

**1.16** Announcement trunk circuits give regular customers, through central office equipment, access to the announcements from the distributing centers.

**1.17** The outgoing trunk circuit to subcenters transmit on either a timed or cut-through pulse basis.

#### **SUBCENTERS**

**1.18** Subcenters may be provided in areas where, for trunking reasons, it is economical to provide more than one distributing center. Each subcenter has a control unit which receives the announcements from the main center over two cable pairs and/or over dual carrier facilities. Distributing units connect the subcenter control circuit to the announcement trunk circuits in the same manner as at the main center. The announcement trunk circuits are the same as those used in the main center.

#### **TEST SUPPLY**

**1.19** A 1-milliwatt 1000-cycle supply is provided at the new announcement machine equipment for initial line-up and maintenance purposes.

#### **SPARE FACILITIES**

**1.20** To insure reliability of continuous service with the announcement machines, the following spare facilities should be provided.

- (a) KS-16504, L2 handset
- (b) KS-16536, L2 control unit (operator)
- (c) KS-16537, L2 control unit (amplifier)

**INFORMATION SOURCE**

1.21 A teletypewriter connection or other means of communication may be provided between the central bureau and the source of information used for announcements, but is not a part of this system.

**POWER EQUIPMENT**

1.22 Regular 24- and 48-volt central office battery is used to operate the announcement system circuits.

1.23 The announcement machines and amplifiers in the main center and the amplifiers in the subcenter are operated on commercial 115-volt 60-cycle supply. Where the announcement service is such that interruptions caused by power failure cannot be tolerated, the following battery-driven power plants are recommended for emergency use.

EQUIPMENT	POWER PLANT	CODE	RATING	TRANSFER ALARM EQUIPMENT
Single-Channel Announcement Machine	504A	J86611C, List 1	312VA	J86611A, List 5
*Dual-Channel Announcement Machine	504B	J86617A, List 1	500VA	Included
Subcenter Amplifiers (with dual interoffice trunks)	504A	J86611C, List 1	312VA	J86611A, List 5

\*May include a third machine for emergency announcement facility.

1.24 The control unit (amplifier) in the quiet room is operated on commercial 115-volt 60-cycle supply. When a power failure occurs,

the monitoring function remains while all other control functions are inoperative unless an emergency 115-volt 60-cycle supply is cut in.

**FLOOR PLAN ARRANGEMENTS**

1.25 All central office equipment for this system is arranged to mount on standard 23-inch bulb-angle relay rack framework with a 10-inch base. However, the KS-16534 L1 recorder-reproducer exceeds the guardrail limitation by a considerable amount and special conditions apply to the announcement machine bay.

1.26 The relay rack bays required in the main center will always include one bay per announcement machine and additional bays sufficient to mount any overflow of trunk units. Maintenance requirements and the projection of the recorder-reproducer mechanism into both front and rear aisles dictate that only one announcement machine may be mounted in a bay and that it be mounted at a specific height from the floor in order to provide clearance for track-type rolling ladders. The machine occupies the bottom 5 feet 2 inches of the bay and mounting space above this level is available for the distributing unit, trunk units, and associated equipment. Any additional units are mounted on adjacent or nearby bays which may be located either to the right or left of the machine bay. However, the area over which the announcement system equipment may be distributed is limited by circuit restrictions affecting the length of the announcement distributing loop or speech bus.

1.27 With bay line-ups on standard spacing (3-foot 0-inch or 2-foot 6-inch maintenance aisle and 3 feet 8 inches over-all between maintenance aisles), the front projection of the announcement machine beyond the guardrail does not interfere with passage of a standard 12- or 14-inch wide track-type rolling ladder. The rear projection is such that interference is possible and rear guardrail extensions are provided to protect the machine. It is also recommended that the ladder handrail be located on the side away from the machine bay in both front and rear aisles.

1.28 The direction of slant of the ladder and the addition of guardrail extensions and junction bars to adjacent bays in the line-up

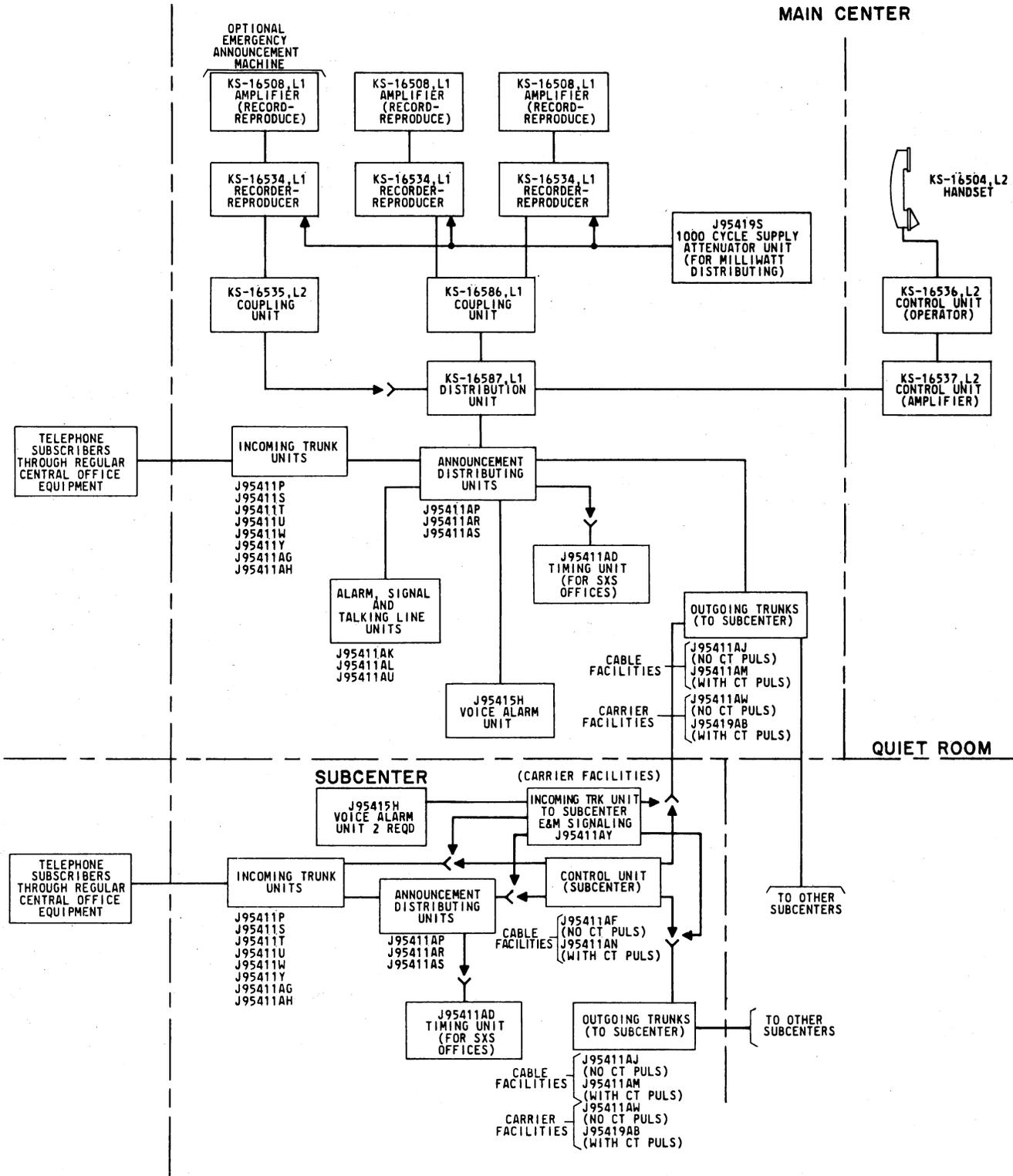


Fig. 1 — Connecting Diagram for Units in No. 3A Announcement System

shall be in accordance with Section 800-614-159. The necessary details are specified on ED-92863-10.

**1.29** The use of a narrow standard 12-inch wide ladder in the wiring aisle will permit easier handling in the reduced aisle space.

**1.30** The inconvenience of reduced aisle space may be avoided, where other space is

available, by locating the machine bays in a column line or an isolated area where aisle restrictions do not apply.

**1.31** The overflow trunk bays in the main center and the bays in the subcenter have no projections beyond the guardrail. Except for the distributing loop length restrictions previously mentioned, no special requirements apply to the location of these bays.

### SUBDIVISIONS OF EQUIPMENT AND DETAILED INDEX

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

CIRCUIT DRAWING	EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CKT PER UNIT	MTG PLT PER UNIT
SD-95777-01	J95411S	A&M Only	Announcement Trunk Unit—Incoming From No. 5 Crossbar Office	J95411S-( )	1	1
SD-96200-01	J95411AP	A&M Only	Announcement Distributing Unit	J95411AP-( )	1	3
SD-96200-01	J95411AR	A&M Only	Distributing Relay Unit—For Distributing Circuit For Use With Dial Office Trunks	J95411AR-( )	3	1
SD-96200-01	J95411AS	A&M Only	Distributing Relay Unit—For Distributing Circuit—For Use With Manual Office Trunks	J95411AS-( )	10	1
SD-96202-01	J95411T	A&M Only	Incoming Trunk Unit From Panel, Panel Tandem, or Crossbar Office—For Operation With Final Heavy Positive Pulse	J95411T-( )	2	3
SD-96249-01	J95411AF	A&M Only	Control Unit—Without Cut-Through Pulses—For Subcenter	J95411AF-( )	1	14
SD-96249-01	J95411AN	A&M Only	Control Unit—With Cut-Through Pulses—For Subcenter	J95411AN-( )	1	14
SD-96250-01	J95411AJ	A&M Only	Timed Announcement Trunk Unit—Outgoing to Subcenter	J95411AJ-( )	1	1
SD-96250-01	J95411AM	A&M Only	Announcement Trunk Unit—Outgoing to Subcenter—With Cut-Through Pulsing	J95411AM-( )	1	2

CIRCUIT DRAWING	EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CKT PER UNIT	MTG PLT PER UNIT
SD-96256-01	J95411AG	AT&TCo Special	Incoming Trunk Unit From Panel Office Final Multiple—Ground Cutoff	J95411AG-( )	3	1
SD-96257-01	J95411AD	A&M Only	Timing Unit—For Use in Step-by-Step Offices	J95411AD-( )	1	5
SD-96258-01	J95411AH	A&M Only	Incoming Trunk Unit From Panel, Panel Tandem, or Crossbar Office—Without Heavy Positive Final Pulse	J95411AH-( )	2	3
SD-96259-01	J95411AK	A&M Only	Monitoring Trunk Unit	J95411AK-( )	2	1
SD-96259-01	J95411AL	A&M Only	Tie Trunk Unit	J95411AL-( )	2	1
SD-96259-01	J95411AU	A&M Only	Talking Line, Teletype Signal—Buzzer and Key Circuit—Machine Trans- fer and Alarm Circuit Unit	J95411AU-( )	1	2
SD-96267-01	J95411U	A&M Only	Incoming Trunk Unit From Local Manual or Tandem Office	J95411U-( )	1	1
SD-96268-01 SD-31518-01	J95411W	A&M Only	Incoming Trunk Unit From Selector Levels of Local or Distant Step-by- Step Offices	J95411W-( )	2	3
SD-96279-01	J95411P	A&M Only	Incoming Trunk Unit From Panel or Crossbar Office—For Use With Operator Class Code	J95411P-( )	1	1
SD-96521-01	J95411AT J95411AB	Mfr Disc. Reserved	Voice Alarm Unit	J95411AT-( )	1	1
SD-95974-01	J95411AW	A&M Only	Timed Announcement Trunk Unit—Outgoing to Subscriber—“E” and “M” Signaling—Dual Carrier Facility	J95411AW-( )	2	1
SD-95975-01	J95411AY	A&M Only	Subcenter Incoming Trunk Unit—Dual Carrier Facilities	J95411AY-( )	1	12

**2. SUPPLEMENTARY INFORMATION**

- 800-600-000 — List of General Equipment Requirement Sections
- 801-000-000 — Equipment Design and General Equipment Requirements and Engineering Information — Common Systems
- A204.567 — Tests and Inspections — Heavy Duty Transcribed Announcement Equipment — Control Circuit
- A438.928 — Apparatus Requirements and Adjusting Procedures — Heavy Duty Transcribed Announcement Equipment
- A509.928 — Piece-Part Data and Replacement Procedures — Heavy Duty Transcribed Announcement Equipment
- 953.604.01 — KS-16534 Recorder-Producer and Associated Amplifier and Control Facilities
- J86565 — Mfr Disc. — Emergency Power Plant
- J86592 — 802-751-151 — 403B Power Plant
- J86611 — 802-802-160 — 504A Power Plant
- J86617 — 802-802-161 — 504B Power Plant
- J94002 — 801-250-150 — Sending Panel — Transmission Measuring Set
- J94071 — 801-250-165 — 71-Type Milliwatt Reference Generators
- J95415 — 801-603-154 — Emergency Announcement System
- J95419 — 801-603-158 — No. 9A Announcement System
- J99206 — 801-025-165 — Equipment Units — Relay Rack Mounted
- KS-5497 — Connector and Cable
- KS-8333 — Voltmeter Relay
- KS-15143 — Cordage
- KS-16504 — Handset
- KS-16508 — Amplifier (Record-Reproduce)
- KS-16534 — Recorder-Reproducer
- KS-16535 — Coupling Unit (Single Channel)
- KS-16536 — Control Unit (Operator)
- KS-16537 — Control Unit (Amplifier)
- KS-16547 — Amplifier
- KS-16586 — Coupling Unit (Dual Channel)
- KS-16587 — Distribution Unit
- Floor Plan Data — Section 7.1, Sheet 44
- Floor Plan Data — Section 9.2, Sheet 4

**3. DRAWINGS**

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

- ED-91490-01 — Miscellaneous Equipment Layouts
- ED-92863-10 — Typical Bay Layout for Main Center
- ED-92871-( ) — Typical Relay Rack Equipment — Subcenter
- ED-95111-10 — Typical Equipment for Recording Room
- SD-96254-01 — Application Schematic — Single Channel System
- SD-96255-01 — Application Schematic — Dual Channel System
- SD-96280-01 — Key Sheet

**4. EQUIPMENT**

*J95411P — A&M Only — Incoming Trunk Unit From Panel or Crossbar Office — For Use With Operator Class Code — One 2- by 23-Inch Mounting Plate — Surface Wired*

Equipment — J95411P-( )

**List 1** — Assembly, common equipment, and wiring per SD-96279-01, Fig. 1 for one incoming trunk unit. (See Note A.)

**List 2** — Equipment and wiring per SD-96279-01, Fig. B required in addition to list 1 when located in No. 1 crossbar office.

**List 3** — Equipment and wiring per SD-96279-01, Fig. A required in addition to list 1 when located in panel office.

**Notes**

A. Provide "W," "X," "Y," and "Z" wiring of the A resistors at all times. Installer shall remove wiring as required to provide the proper A resistance value.

B. Provide optional wiring as required.

*J95411S — A&M Only — Announcement Trunk Unit — Incoming From No. 5 Crossbar Office — One 2- by 23-Inch Mounting Plate — Surface Wired*

Equipment — J95411S-( )

**List 1** — Assembly, equipment, and wiring per SD-95777-01, Fig. 1 for one incoming announcement trunk unit. (See Note A.)

**Notes**

- A. Provide "A," "B," "C," and "D" wiring of the A resistors at all times. Installer shall remove wiring as required to provide the proper A resistance value.
- B. Provide optional wiring as required.

**J95411T** — *A&M Only—Incoming Trunk Unit From Panel, Panel Tandem, or Cross-bar Office—In Same Building or in Distant Office—For Operation With Final Heavy Positive Pulse—Two Circuits—Three 2- by 23-Inch Mounting Plates—Surface Wired*

Equipment — J95411T-( )

**List 1** — Framework, assembly, equipment, and wiring per SD-96202-01, Fig. 1 and A for one incoming trunk with provision for one additional circuit. (See Note A.)

**List 2** — Equipment and wiring per SD-96202-01, Fig. 1 and A required in addition to list 1 for one additional trunk circuit. (See Note A.)

**Notes**

- A. Provide "A," "B," "C," and "D" wiring of the A resistor at all times. Installer shall remove wiring as required to provide the proper A resistance value.
- B. Provide optional wiring as required.

**J95411U** — *A&M Only—Incoming Trunk Unit From Local Manual or Tandem Office—One 2- by 23-Inch Mounting Plate—Surface Wired*

Equipment — J95411U-( )

**List 1** — Assembly, equipment, and wiring per SD-96267-01, Fig. 1 for one incoming trunk circuit. (See Note A.)

**List 2** — Equipment and wiring per SD-96267-01, Fig. A required in addition to list 1 when

the trunk is arranged to operate with local manual office.

**List 3** — Equipment and wiring per SD-96267-01, Fig. B required in addition to list 1 when the trunk is arranged to operate with No. 1 manual tandem office.

**Notes**

- A. Provide "W," "X," "Y," and "Z" wiring of the A resistor at all times. Installer shall remove wiring as required to provide the proper A resistance value.
- B. Provide optional wiring as required.

**J95411W** — *A&M Only—Incoming Trunk Unit From Selector Levels of Local or Distant Step-by-Step Office—Three 2- by 23-Inch Mounting Plates—Surface Wired*

Equipment — J95411W-( )

**List 1** — Framework, assembly, and common equipment per SD-96268-01, Fig. 1 for two trunk circuits with equipment and wiring for one circuit. (See Note A.)

**List 2** — Equipment and wiring per SD-96268-01, Fig. 1 required in addition to list 1 for one additional circuit. (See Note A.)

**List 3** — Equipment and wiring per SD-96268-01, Fig. A required in addition to lists 1 and 2 when digit absorbing is not required.

**List 4** — Equipment and wiring per SD-96268-01, Fig. B and C required in addition to lists 1 and 2 for absorbing one digit.

**List 5** — Equipment and wiring per SD-96268-01, Fig. B and D required in addition to lists 1 and 2 for absorbing two digits.

**List 6** — Equipment and wiring per SD-96268-01, Fig. B and E required in addition to lists 1 and 2 for absorbing three digits.

**List 7** — Equipment and wiring per SD-96268-01, Fig. B and F required in addition to lists 1 and 2 for absorbing four digits.

**List 8** — Equipment and wiring per SD-31518-01, Fig. 12, A resistor and PS lamp only, required in addition to list 1 for alarm circuit on first trunk of group only.

**Notes**

- A. Provide "W," "X," "Y," and "Z" wiring of the A resistor at all times. Installer shall remove wiring as required to provide the proper A resistance value.
- B. Provide optional wiring as required.

**J95411AB — Reserved**

**J95411AD — A&M Only — Timing Unit — For Use in Step-by-Step Offices — Five 2- by 23-Inch Mounting Plates — Surface Wired**

Equipment — J95411AD-( )

- List 1** — Framework, assembly, and equipment per SD-96257-01 equipped and wired for two Fig. 1 and one Fig. 2 for one announcement timing circuit.

**Note**

- A. Provide optional wiring as required.

**J95411AF — A&M Only — Control Unit — Without Cut-Through Pulses — For Subcenter — Fourteen 2- by 23-Inch Mounting Plates**

Equipment — J95411AF-( )

- List 1** — Framework, assembly, equipment, and local cable for one single circuit control unit.

	WIRE	EQUIP	NOTES
Cont Ckt for Subcenter, SD-96249-01:			
Alm & Cont Ckt, Fig. 1, B & G	1	1	A
Alm & Cont Ckt, Fig. D, E, J, & K	1	0	
Tmg Ckt, Fig. 2	2	0	
Alm Lp Ckt, Fig. 5	1	0	B
Tmg Ckt, Fig. 6	2	0	
Interrupter Ckt, Fig. 7	1	0	
Alm Lp Ckt, Fig. 8	1	0	
KS-16547 L1 Ampl per SD-95257-01, Fig. 1	2	2	

- List 2** — Equipment and wiring per SD-96249-01, Fig. D and J required in addition to list 1 for nonloaded cable.

- List 3** — Equipment and wiring per SD-96249-01, Fig. E and K required in addition to list 1 for B-88, B-135, D-88, H-44, or H-88 cable loading.

- List 4** — Equipment and wiring per SD-96249-01, Fig. 2 required in addition to list 1 for one timing circuit for panel, No. 1, or No. 5 crossbar office. (See Note C.)

- List 5** — Equipment and wiring per SD-96249-01, Fig. 4 required in addition to list 1 for one monitoring receiver.

- List 6** — Equipment and wiring per SD-96249-01, Fig. 5 required in addition to list 1 for one alarm lamp circuit for step-by-step, No. 1, or No. 5 crossbar office. (See Note B.)

- List 7** — Equipment and wiring per SD-96249-01, two Fig. 6 and one Fig. 7 required in addition to list 1 for one timing circuit for manual or step-by-step office.

- List 8** — Equipment and wiring per SD-96249-01, Fig. 8 required in addition to list 1 for one alarm lamp circuit for manual or panel office.

**Notes**

- A. Provide "A," "B," "D," "E," "F," "G," "H," "J," "K," and "L" wiring at all times. Installer shall remove wiring as required to provide the proper bridging resistance value.
- B. Provide optional wiring as required.
- C. For a panel or No. 1 crossbar office, timing is obtained from the interrupter frames in accordance with SD-96249-01, Fig. 3.

**J95411AG — AT&T Co Special — Incoming Trunk Unit From Panel Office Final Multiple — Ground Cutoff — One 2- by 23-Inch Mounting Plate — Surface Wired**

Equipment — J95411AG-( )

- List 1** — Assembly, equipment, and wiring per SD-96256-01, Fig. 1 for one incoming trunk unit with provisions for two additional circuits. (See Note B.)

**List 2** — Equipment and wiring per SD-96256-01, Fig. 1 required in addition to list 1 for one additional trunk circuit.

**Notes**

- A. A transmission pad circuit per SD-96256-01, Fig. 2 will be required for each trunk. This pad will be located in the main center and mounted on a miscellaneous basis as shown on ED-91490-01. Provide "T," "V," "W," and "X" wiring at all times. Installer shall remove wiring as required to provide the proper pad resistance.
- B. Provide "Z" and "Y" wiring at all times. Installer shall remove wiring as required, depending on trunk position in group.
- C. The PC register per SD-96256-01, Fig. 3 shall be mounted on the traffic register rack.

**J95411AH — A&M Only — Incoming Trunk Unit From Panel, Panel Tandem, or Crossbar Office in Same Building or in Distant Office — Without Heavy Positive Final Pulse — Three 2- by 23-Inch Mounting Plates — Surface Wired**

Equipment — J95411AH-( )

**List 1** — Framework, assembly, equipment, and wiring per SD-96258-01, Fig. 1 for one incoming trunk unit with provisions for one additional circuit. (See Note A.)

**List 2** — Equipment and wiring per SD-96258-01, Fig. 1 required in addition to list 1 for one additional circuit. (See Note A.)

**Notes**

- A. Provide "W," "X," "Y," and "Z" wiring of the A resistors at all times. Installer shall remove wiring as required to provide the proper A resistance value.
- B. Provide optional wiring as required.

**J95411AJ — A&M Only — Timed Announcement — Trunk Unit — Outgoing to Subcenter — One 2- by 23-Inch Mounting Plate — Surface Wired**

Equipment — J95411AJ-( )

**List 3** — Assembly, equipment, and wiring per SD-96250-01, Fig. 1, for one outgoing trunk circuit for nonloaded facilities. (See Notes A and C.)

**List 4** — Assembly, equipment, and wiring per SD-96250-01, Fig. 3, for one outgoing trunk circuit for loaded facilities. (See Notes A and C.)

**List 5** — Wiring and equipment per SD-96250-01, Fig. 1 or 3, option T only, required in addition to list 3 or 4 in ESS No. 1 offices. (See Note B.)

**Notes**

- A. When subcenters are provided, one list 3 or 4 shall be furnished for each subcenter.
- B. Provide V wiring when option T is not required.
- C. Y and P apparatus may be used in place of Z and Q apparatus when required by government material restrictions.

**J95411AK — A&M Only — Monitoring Trunk Unit — One 2- by 23-Inch Mounting Plate — Surface Wired**

Equipment — J95411AK-( )

**List 1** — Assembly, equipment, and wiring per SD-96259-01, Fig. 7 for one monitoring trunk unit with provisions for one additional circuit. (See Note A.)

**List 2** — Equipment and wiring per SD-96259-01, Fig. 7 required in addition to list 1 for an additional circuit. (See Note A.)

**Notes**

- A. Provide "K," "L," "M," and "N" wiring at all times. Installer shall remove wiring as required to provide the proper H resistance value.
- B. Provisions may be made for the agency providing the announcement information to monitor on the output of the system by furnishing a monitoring trunk per SD-96259-01, Fig. 7.

**J95411AL — A&M Only — Tie Trunk Unit — One 2- by 23-Inch Mounting Plate — Surface Wired**

Equipment — J95411AL-( )

**List 1** — Assembly, equipment, and wiring per SD-96259-01, Fig. 6 for one tie trunk circuit with provisions for one additional circuit. (See Note A.)

**List 2** — Equipment and wiring per SD-96259-01, Fig. 6 required in addition to list 1 for an additional tie trunk circuit. (See Note A.)

**Notes**

- A. Provide optional wiring as required.
- B. The handset per Fig. 20 shall be located on the teletypewriter table and the subset in a convenient location.

**J95411AM — A&M Only — Announcement Trunk Unit — With Cut-Through Pulsing — Outgoing to Subcenter — Two 2- by 23-Inch Mounting Plates — Surface Wired**

Equipment — J95411AM-( )

**List 3** — Assembly, equipment, and wiring per SD-96250-01, Fig. 2 and B, for one outgoing trunk circuit for nonloaded facilities. (See Notes A and C.)

**List 4** — Assembly, equipment, and wiring per SD-96250-01, Fig. 4 and B, for one outgoing trunk for loaded facilities. (See Notes A and C.)

**List 5** — Wiring and equipment per SD-96250-01, Fig. 2 or 4 and B, option T only, required in addition to list 3 or 4 in ESS No. 1 offices. (See Note B.)

**Notes**

- A. When subcenters are provided, one list 3 or 4 shall be furnished for each subcenter.
- B. Provide V wiring when option T is not required.

C. W and M apparatus may be used in place of X and N apparatus when required by government material restrictions.

**J95411AN — A&M Only — Control Unit — With Cut-Through Pulses — For Subcenter — Fourteen 2- by 23-Inch Mounting Plates**

Equipment — J95411AN-( )

**List 1** — Framework, assembly, equipment and local cable for one single circuit control unit.

WIRE EQUIP NOTES

Cont Ckt for Subcenter  
SD-96249-01:

Alm & Cont Ckt, Fig. 9, B, & G	1	1	A
Alm & Cont Ckt, Fig. D, E, J, & K	1	0	
Tmg Ckt, Fig. 2	2	0	
Alm Lp Ckt, Fig. 5	1	0	B
Tmg Ckt, Fig. 6	2	0	
Interrupter Ckt, Fig. 7	1	0	
Alm Lp Ckt, Fig. 8	1	0	
KS-16547 L1 Ampl per SD-95257, Fig. 1	2	2	

**List 2** — Equipment and wiring per SD-96249-01, Fig. D and J required in addition to list 1 for nonloaded cable.

**List 3** — Equipment and wiring per SD-96249-01, Fig. E and K required in addition to list 1 for B-88, B-135, D-88, H-44, or H-88 cable loading.

**List 4** — Equipment and wiring per SD-96249-01, two Fig. 2 required in addition to list 1 for one timing circuit for panel, No. 1, or No. 5 crossbar office. (See Note C.)

**List 5** — Equipment and wiring per SD-96249-01, Fig. 4 required in addition to list 1 for one monitoring receiver.

**List 6** — Equipment and wiring per SD-96249-01, Fig. 5 required in addition to list 1 for one alarm lamp circuit for step-by-step, No. 1, or No. 5 crossbar office. (See Note B.)

**List 7** — Equipment and wiring per SD-96249-01, two Fig. 6 and one Fig. 7 required in addition to list 1 for one timing circuit for manual or step-by-step office.

**List 8** — Equipment and wiring per SD-96249-01, Fig. 8 required in addition to list 1 for one alarm lamp circuit for manual or panel office.

**Notes**

- A. Provide "A," "B," "D," "E," "F," "G," "H," "J," "K," and "L" wiring at all times. Installer shall remove wiring as required to provide the proper bridging resistance value.
- B. Provide optional wiring as required.
- C. For a panel or No. 1 crossbar office, timing is obtained from the interrupter frames in accordance with SD-96249-01, Fig. 3.

**J95411AP — A&M Only — Announcement Distributing Unit — Three 2- by 23-Inch Mounting Plates — Surface Wired**

Equipment — J95411AP-( )

- List 1** — Framework, assembly, common equipment, and wiring per SD-96200-01, Fig. 4 and two Fig. 1 for one distributing unit.
- List 2** — Equipment and wiring per SD-96200-01, Fig. 2 required in addition to list 1 for one signal multiplier circuit required for each 120 trunks or less when maximum capacity of the system exceeds 20 trunks. (See Note B.)
- List 3** — Equipment and wiring per SD-96200-01, Fig. 7 required in addition to list 1 where cut-through pulses from the announcement machine are used to determine the number of announcements furnished to the calling customer. (See Note C.)
- List 4** — Equipment and wiring per SD-96200-01, Fig. 8 required in addition to list 1 for one cut-through pulse checking circuit.
- List 5** — Equipment and wiring per SD-96200-01, Fig. 11 required in addition to list 1 for one machine alarm circuit.
- List 6** — Equipment and wiring per SD-96200-01, Fig. 10 required in addition to list 1 for connection to KS-16534 recorder-reproducer.

**List 7** — Equipment and wiring per SD-96200-01, Fig. 9 required in addition to list 1 for one reset and audible release key and major alarm circuit for main center.

**List 8** — Equipment and wiring per SD-96200-01, Fig. 7, "ZE" option only, required in addition to list 3 when cut-through pulses taken from announcement machine circuit extend to the following subcenter.

**Notes**

- A. Provide optional wiring as required.
- B. The "CO," "RV," and "CT" leads from the signal distributing unit shall be wired by the installer directly to the MO, MV, and CT relays.
- C. Where announcements are furnished to calling customers on a timed interval basis (rather than a fixed number of announcements determined by cut-through pulse counting), timing is obtained from the interrupter frames in accordance with SD-96200-01, Fig. 5 for panel and No. 1 crossbar offices. The J95411AD timing unit and the SD-25870-01 No. 5 crossbar timing circuit are used for step-by-step and No. 5 crossbar offices, respectively.
- D. Distributing relays per SD-96200-01, Fig. 3 (J95411AR) or Fig. 6 (J95411AS) are required for each ten or less announcement trunks and shall be mounted directly above the distributing unit. The "CO," "RV," "CT," and "CT1" leads from the announcement trunks shall be wired by the installer directly to the distributing relays.

**J95411AR — A&M Only — Distributing Relay Unit — For Distributing Circuit — For Use With Dial Office Trunks — One 2- by 23-Inch Mounting Plate — Surface Wired**

Equipment — J95411AR-( )

- List 1** — Assembly, equipment, and wiring per SD-96200-01, Fig. 3 for one relay unit arranged for three groups of relays and equipped with one group of relays (for ten announcement trunks).

**List 2** — Equipment and wiring per SD-96200-01, Fig. 3 required in addition to list 1 for one additional group of relays (for ten additional announcement trunks).

**J95411AS — A&M Only — Distributing Relay Unit — For Distributing Circuit — For Use With Manual Office Trunks — One 2- by 23-Inch Mounting Plate — Surface Wired**

Equipment — J95411AS-( )

**List 1** — Assembly, equipment, and wiring per SD-96200-01, Fig. 6 for one relay unit arranged for ten relays and equipped with one relay (for ten announcement trunks).

**List 2** — Equipment and wiring per SD-96200-01, Fig. 6 required in addition to list 1 for one additional relay for each ten additional announcement trunks.

**J95411AU — A&M Only — Talking Line, Teletype Signal — Buzzer and Key Circuit — Machine Transfer and Alarm Circuit Unit — Two 2- by 23-Inch Mounting Plates — Surface Wired**

Equipment — J95411AU-( )

**List 1** — Framework, assembly, equipment, and wiring per SD-96259-01, Fig. 17 for one unit equipped with one talking line and telephone circuit with jacks and varistor per SD-96259-01, Fig. 19 with provision for one teletype signal circuit, one buzzer key circuit, and one transfer and alarm circuit. (See Note A.)

**List 2** — Equipment and wiring per SD-96259-01, Fig. 10 required in addition to list 3 for one teletype signal circuit.

**List 3** — Equipment and wiring per SD-96259-01, Fig. 21 required in addition to list 1 for one RLS key circuit. (See Note B.)

**List 4** — Equipment and wiring per SD-96259-01, Fig. 24 required in addition to list 3 for one transfer and alarm circuit.

**Notes**

A. The subset per SD-96259-01, Fig. 19 may be

located in the miscellaneous space at the bottom of the announcement machine bay.

B. The buzzer per SD-96259-01, Fig. 21 shall be located as specified by the telephone company.

C. Equipment per SD-96259-01, Fig. 18 (for use outside recording room door) and Fig. 20 (for use in the recording room) shall be located as specified by the telephone company.

**J95411AW — A&M Only — Timed Announcement Trunk Unit — Outgoing to Subcenter — “E” and “M” Signaling — Dual Carrier Facility**

Equipment — J95411AW-( )

**List 1** — Assembly and common equipment for a two-trunk unit with wiring and equipment per SD-95974-01, two Fig. 1.

**List 4** — Wiring and equipment per SD-96250-01, four Fig. 12, required in addition to list 1.

**J95411AY — A&M Only — Subcenter Incoming Trunk Unit — Dual Carrier Facilities**

Equipment — J95411AY-( )

**List 1** — Framework, assembly, local cable, and common equipment for one single-circuit trunk unit.

**WIRE EQUIP NOTES**

Subcenter Incoming Trunk Ckt, SD-95975-01: Transmission, Signal, Control, and Alarm Ckt, Fig. 1, with Z App and Y and Z Wiring	1	1	A
Cut-Through Pulse Ckt, Fig. 2	1	0	

**List 2** — Equipment per SD-95975-01, one Fig. 2 required in addition to list 1 to provide cut-through pulse feature.

**List 3** — Equipment per SD-95975-01, one Fig. 3 required in addition to list 1 to provide a monitoring receiver.

**Notes**

- A. Furnish Y and Z wiring as required.
- B. Installer shall provide X, W, V, T, S, R, Q, N, M, and K wiring as required.
- C. Installer shall provide A or B wiring as required.

**MISCELLANEOUS EQUIPMENT**

**J95415H** — Voice Alarm Unit For Announcement Systems

**J95419S** — 1000-Cycle Supply Attenuator Unit

**J95419AB** — Announcement Trunk Unit — Outgoing to Subscriber—E and M Signaling

**ANNOUNCEMENT MACHINES**

**4.01** The component units of the single-channel announcement machine (optional emergency unit), which are interconnected in accordance with SD-95254-01, are as follows:

One — KS-16535 L2 Coupling Unit

**4.02** The component units of the dual-channel announcement machine, which are interconnected in accordance with SD-95255-01, are as follows:

Two — KS-16508 L1 Amplifier (Record-Reproduce)

Two — KS-16534 L1 Recorder-Reproducer

One — KS-16586 L1 Coupling Unit

One — KS-16587 L1 Distribution Unit

The following equipment is located in the quiet room:

One — KS-16504 L2 Handset

One — KS-16536 L2 Control Unit (Operator)

One — KS-16537 L2 Control Unit (Amplifier)

**4.03** The emergency announcement machine consists of a complete single-channel machine arranged for local remote control. The interconnection information is shown on SD-95255-01.

**4.04** The arrangement and mounting information for the announcement machine components are specified in the typical announcement machine bay layouts shown on ED-92863-10.

**4.05** A monitoring headset per SD-95254-01, Fig. 8 or SD-95255-01, Fig. 9 is available on an optional basis.

**4.06 Alarm and Signal Circuits, SD-96259-01:** Audible and visual alarms may be provided per Fig. 8, 9, and 22.

- (a) The lamps in Fig. 8 shall be located in the recording room as follows:

WB — Use a 15A-3 indicator (white) located on or near the handset on the teletypewriter table for the tie trunk.

TT — Use a 153A-3 indicator (white) located on the right side of the teletypewriter table keyshelf.

TL — Use an 18A-3 indicator. (TL) white, TRNS (TRNS) green, and (BKDN) red. BKDN This indicator shall be placed on the wall facing the recording operator unless otherwise specified.

- (b) The lamps in Fig. 9 shall be located as specified by the telephone company. The type of indicator and color of lamp caps shall be the same as the corresponding lamps in Fig. 8.

- (c) When additional alarm release keys are desired elsewhere in the central office, they may be provided per Fig. 22 and located as specified by the customer.

**4.07 Special Auxiliary Relay Circuit for Supervisor Desk, SD-96259-01:** Fig. 13 shows an auxiliary relay circuit which may be provided on a miscellaneous basis and arranged as shown on ED-91490-01.

**4.08 Special Jack and Lamp Circuits for Use in Operating Room Desks, SD-96259-01:** Fig. 14 and 16 show operating room desk key and lamp circuits for use in connecting with the tie trunk. Existing wiring for spare circuits will generally be available for these figures.

**5. GENERAL NOTES**

**5.01** No provision has been made to mount the announcement machine equipment units on sheet-metal frames because the projection of the equipment beyond the guardrail proves unacceptable for use in the standard floor plan arrangement for the No. 5 crossbar offices. Consequently, in No. 5 crossbar offices the bulb-angle bays of announcement machine equipment as shown on ED-96283-10 must be located either in a column row or an isolated area where the aisle projection can be tolerated.

**INTERRUPTER FRAMES**

**5.02** When announcement equipment is located in panel or crossbar dial offices, duplicate interrupter frames shall be provided where space is not available on existing frames.

**5.03** Odd-numbered announcement trunks shall be connected to the interrupters on one frame and the even-numbered trunks to those on the other frame.

**5.04** In step-by-step offices, timing will be obtained by the use of announcement timing unit, J95411AD.

**POWER**

**5.05** Existing power supplies in the No. 3A announcement system can be used, or later facilities as listed in 1.23 may be used.

Bell Telephone Laboratories, Incorporated

Dept 2361

**LIST OF A&M ONLY AND MFR DISC. EQUIPMENT**

EQUIPMENT	RATING	DETAILS LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J95411A	Mfr Disc.	3	ED-95111-10
L1	Mfr Disc.	2	J95411A,L4
J95411B	Mfr Disc.	2	J95411AA
J95411C	Mfr Disc.	2	J95411AE
J95411D	Mfr Disc.	2	J95411R
J95411E	Mfr Disc.	2	J95411T
J95411F	Mfr Disc.	2	J95411AG
J95411G	Mfr Disc.	2	J95411AF
J95411H	Mfr Disc.	2	J95411U
J95411J	Mfr Disc.	2	J95411W
J95411K	Mfr Disc.	2	J95411AH
J95411L	Mfr Disc.	2	J95411Y
J95411M	Mfr Disc.	2	J95411AD
J95411N	Mfr Disc.	2	J95411P
J95411P,L3	A&M Only	3	—
J95411R	Mfr Disc.	3	{ J95411AP J95411AR J95411AS
J95411Y	Mfr Disc.	4	—
J95411Y,L2	Mfr Disc.	3	J95411Y,L4
J95411AA	Mfr Disc.	3	{ J95419S ED-92863-10 J95411AU
J95411AC	Mfr Disc.	3	J95411AU
J95411AE	Mfr Disc.	3	{ J95411AT ED-92863-10 ED-95111-10
J95411AJ,L1	Mfr Disc.	4	J95411AJ,L3
L2	Mfr Disc.	4	or L4,L5
J95411AM,L1	Mfr Disc.	4	J95411AM,L3
L2	Mfr Disc.	4	or L4,L5
J95411AT	Mfr Disc.	4	J95415G
J95411AW	A&M Only	4	—
J95411AW,L2 & L3	Mfr Disc.	4	J95411AW,L4
J95411AY	A&M Only	4	—

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.