

ALARM TRANSFER EQUIPMENT UNITS

EQUIPMENT DESIGN REQUIREMENTS

NO. 5 CROSSBAR AND 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 engineering, manufacture, and installation of alarm transfer equipment.

1.02 This specification is reissued:

- (a) To change list 2 and add list 12 under J98304R, in accordance with SD-95484-01, Issue 13B.
- (b) To change the first sentence in 5.05.
- (c) To convert BSP AA388.066 to the nine digit number BSP 801-601-156.

Description

1.03 The equipment covered by this specification provides for the transfer of alarms from unattended offices which may be ground cutoff panel, battery cutoff panel, No. 1, No. 5, and tandem crossbar or step-by-step. The alarms may be transferred to attended alarm receiving centers which may be in the same or a distant building. The block diagram, Fig. 1, shows typical arrangements

of this equipment. Other miscellaneous alarm extension circuits are also included.

1.04 The alarm sending unit described herein is the equipment which transmits alarm signals from any office which is unattended by maintenance personnel to alarm receiving centers located in

- (a) a switchboard in the same building,
- (b) a distant office, or
- (c) an alarm dispatching center which is attended.

This sending equipment transmits to a receiving unit at the alarm receiving center, which gives combinations of lamp indications only, or lamp and tone indications, to identify the alarm condition. The alarm receiving circuit is arranged to receive alarms from an alarm sending circuit on a 2-wire basis over tip and ring conductors or on a multiwire basis. It also provides for the release of locked-in indications of temporary alarm condition by remote control. A lamp cabinet is provided and equipped with a receiver to permit maintenance personnel to interpret the alarm signals and tones. Provision is also made for using answering jacks and lamps in a switchboard position, if desired, in place of the alarm receiving lamps and keys that are mounted in a key and lamp cabinet on a wall or column.

1.05 The sending and receiving equipment consists of shop-wired relay rack units provided with terminal strips for connecting outside wiring.

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.

EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING	CKTS PER UNIT	MTG PLTS PER UNIT
ED-92153-01	AT&TCo Std	Key & Lamp Cabinet	ED-92153-01	—	—	—
J98304H	AT&TCo Std	No. 5 Crossbar — Alm. Sdg Unit	J98304H-()	SD-95417-01	1	5
J98304J	AT&TCo Std	Alm. Sending Unit — For Other Than No. 5 Crossbar Offices	J98304J-()	SD-95417-01	1	4
J98304K	AT&TCo Std	Distinctive Tone Unit — For Use With Alm. Sdg Unit	J98304K-()	SD-95417-01	1	2
J98304L	AT&TCo Std	Alm. Rec Unit — Alarms From Distant Building	J98304L-()	SD-95418-01	1	4
J98304M	A&M Only	Alm. Rec Unit — Local Alarms Only	J98304M-()	SD-95418-01	1	1
J98304N	A&M Only	Alm. Rec Unit — Distant Alarms	J98304N-()	SD-95418-01	1	1
J98304R	AT&TCo Std	Extension Alm. Rec Unit	J98304R-()	SD-95484-01	1	1
J98304S	AT&TCo Std	No. 5 Crossbar — Extension Alm. Rec Unit	J98304S-()	SD-95484-01	1	1
J98304T	AT&TCo Std	Alm. Rec Unit — Local Alarms Only	J98304T-()	SD-95418-01	1	2

Circuit Schematic Index

CIRCUIT DRAWING	J98304 EQUIP CODE
SD-95417-01	J, K
SD-95418-01	L, M, N, T
SD-95484-01	R, S

2. SUPPLEMENTARY INFORMATION

- 819-000-000—Numerical Index—No. 5 Crossbar System
- 800-600-000—List of General Equipment Requirements Sections
- J23052—816-026-150, 817-040-150—Relay Rack Equipment No. 1 and Tandem Offices—Crossbar Systems

J29201—815-074-150—Miscellaneous Relay Rack Units—Panel Systems

3. DRAWINGS

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

Keysheets

- SD-25760-01—No. 5 Crossbar System
- SD-90250-01—Common Systems

Circuits

- SD-95417-01—Alarm Sending
- SD-95418-01—Alarm Receiving
- SD-95484-01—Extension Alarm

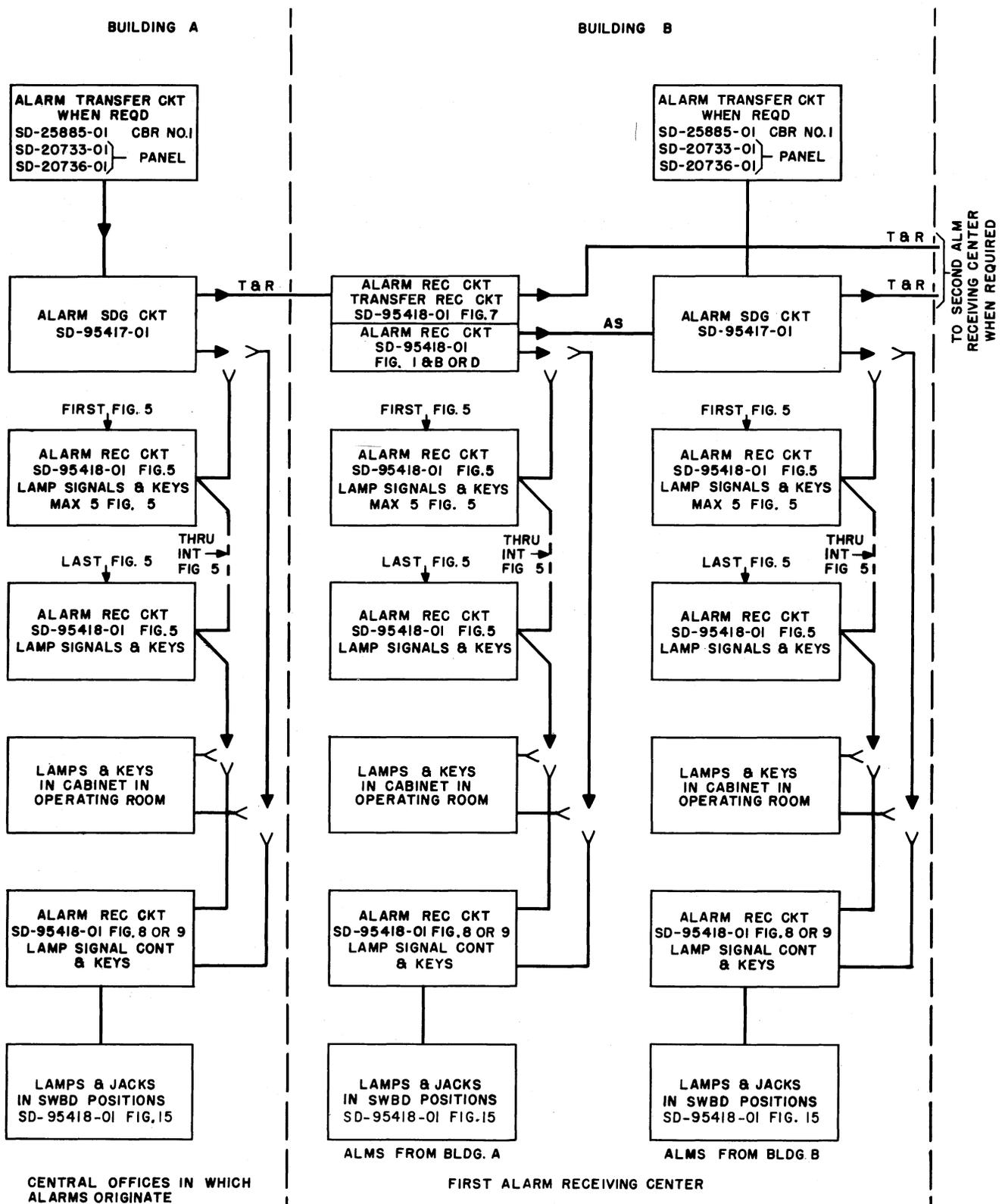


Fig. 1—Alarm Transfer Equipment—Common Systems

- D. One Fig. 17 is furnished in list 1. If more than four B and eight F leads are required, the AR3 relay for the second Fig. 17 shall be located on a miscellaneous basis.
- E. Provide a maximum of five list 2 in addition to list 1. Then provide a maximum of six list 10.
- F. When list 14 is required, list 11 and J98304K must be provided.

J98304J—AT&TCo Std—Alarm Sending Unit—For Other Than No. 5 Crossbar Offices

Equipment—J98304J-()

List 1—Framework, assembly, wiring, and equipment for one alarm sending unit, less wiring and equipment for distinctive tones and timing and interrupter circuits. (See 5.07.)

	WIRE	EQUIP	NOTE:
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Alm.Sending Ckt, SD-95417-01, Fig. 8 & 9, With M, T, W, X, Z, & ZO Wiring	1	1	A, B
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List 2—Wiring and equipment per SD-95417-01, Fig. 8, B option only, required in addition to list 1 when the receiving center is located in a distant building and the same building.

List 3—Wiring and equipment per SD-95417-01, Fig. 11 with T wiring and apparatus; Fig. 15 and 16; and H, and ZS wiring and apparatus and ZA wiring per Fig. 8 required in addition to list 1 when the alarm receiving center is located in a distant building only or in the distant building and the same building.

List 4—Wiring and equipment per SD-95417-01, Fig. 8, R option only, required in addition to list 1 when the alarm receiving center is located in the same building only or in the same building and a distant building.

List 6—Wiring and equipment per SD-95417-01, Fig. 11, with ZA wiring per Fig. 8, required in addition to list 1 when the alarm receiving center is in the same building and distinctive tones are required.

List 7—Wiring and equipment per 95417-01, Fig. 14, ZN option, required in addition to list 1 to provide control of an aisle pilot signal in an alarm receiving center in the same building.

List 8—Wiring and equipment per SD-95417-01, Fig. 16 required in addition to list 1 to provide a -48 volt no-voltage alarm circuit in an alarm receiving center in the same building.

List 9—Equipment per SD-95417-01, Fig. 8, ZR option only, required in addition to list 1.

List 10—Wiring and equipment required in addition to list 1 when loop release of alarms is required per SD-95417-01, Fig. 19.

List 11—Wiring and equipment required in addition to list 1 to provide proper level of low tone when tandem office uses the tone supply of a step-by-step office per SD-95417-01, V option.

List 12—Wiring and equipment per SD-95417-01, YQ option only required in addition to list 3 or 6 when the alarm receiving center is located in the same building or in distant building and same building with distinctive tones.

List 14—Wiring and apparatus required in addition to list 10 when connection to No. 101 ESS maintenance center circuit is required per SD-95417-01, YT option. (See Note C.)

Notes

- A. This unit is surface wired.
- B. Optional wiring not included in above lists shall be furnished and connected in accordance with with circuit note as required. Option ZO shall be omitted when list 7 is specified. Option W shall be omitted when list 11 is specified. Option YP shall be omitted when list 11 is specified.
- C. When list 14 is required, J98304K must be provided.

J98304K—AT&TCo Std—Distinctive Tone Unit—For Use With Alarm Sending Units

Equipment—J98304K-()

List 1—Framework, assembly, wiring, and equipment per SD-95417-01, Fig. 7 and S wiring for one distinctive tone circuit for use with

alarm sending units. (See 5.07.)

List 2—Wiring and equipment per SD-95417-01, Fig. 7, YQ option only required in addition to list 1 when the alarm receiving center is located in same building or in distant building and same building with distinctive tones.

Notes

- A. This unit is surfaced wired.
- B. Wiring required in addition to list 1 when list 2 is not specified in accordance with SD-95417-01, YP option.

J98304L—AT&T Co Std—Alarm Receiving Unit—Alarms From Distant Building

Equipment—J98304L()

- List 1**—Framework, assembly, wiring, and equipment per SD-95418-01, Fig. 1 and B and N wiring, less E wiring and apparatus, required for each type of office in the same building when incoming alarms are supervised at the switchroom of any dial switching or toll office, or at a No. 3, 3C, 3CL, 13-, 14-, or 15-type switchboard, or at any other location (such as a private office).
- List 2**—Wiring and equipment per SD-95418-01, E wiring and apparatus, required in addition to list 1 when incoming alarm signals are supervised at a switchroom of any dial switching or toll office and transferred to a switchboard in the same building as the switchroom or are supervised at No. 3, 3C, 3CL, 13-, 14-, or 15-type switchboard.
- List 3**—Wiring and equipment per SD-95418-01, Fig. 3 required in addition to list 1 when incoming alarm signals are supervised at some location other than a switchroom or a switchboard (such as an office building). (See 5.04.)
- List 5**—Wiring and equipment per SD-95418-01, Fig. 6, less X apparatus, required in addition to list 1 for one tone and test circuit.
- List 6**—Wiring and equipment per SD-95418-01, Fig. 6, X apparatus, required in addition to list 5 when the cable loop is less than ten decibels at 1000 cycles.
- List 7**—Wiring and equipment per SD-95418-01, Fig. 7 required in addition to list 1 when incoming alarm signals are to be transferred

to an alarm receiving center in another building.

- List 8**—Wiring and equipment per SD-95418-01, Fig. 1, Y apparatus only, required in addition to list 1 when incoming alarm signals are supervised at a switchroom of a No. 5 crossbar office.
- List 9**—Wiring and equipment for one switchboard control relay circuit per SD-95418-01, Fig. 8 required in addition to lists 1 and 2 when alarms are supervised at a No. 3, 3C, or 3CL switchboard.
- List 10**—Wiring and equipment for one switchboard control relay circuit per SD-95418-01, Fig. 9 required in addition to list 1 when alarms are supervised at a 13-, 14-, or 15-type switchboard.
- List 11**—Wiring and equipment for a flashing relay circuit per SD-95418-01, Fig. 14 required in addition to list 9 or 10 when the switchboard from which alarms are supervised is in a No. 5 crossbar or step-by-step office.
- List 12**—Wiring and equipment per SD-95418-01, Fig. D and R option, and Q option of Fig. 1, required in addition to list 1 when incoming alarms are supervised in the operating room and key and lamp signals are located in a lamp signal cabinet in the operating room.
- List 13**—Framework, assembly, wiring, and equipment per SD-95418-01, Fig. 1 and B, and ZG wiring and apparatus, required when incoming alarms are supervised at a location other than a switchroom or switchboard (such as a local test desk) and are transferred to a switchroom in a No. 1 or No. 5 crossbar, panel, or step-by-step office in the same building.
- List 14**—Wiring and equipment per SD-95418-01, Fig. D, and Q, R, and Z wiring of Fig. 1, required in addition to list 13. Incoming alarms are supervised at a location other than a switchroom or switchboard and are transferred to a No. 1 or No. 5 crossbar, panel, or step-by-step office in the same building. (See Note C.)
- List 15**—Wiring and equipment per SD-95418-01, Fig. 16 with ZV apparatus required in addition to list 1 for automatic alarm release and registration of load alarms.
- List 16**—Wiring and equipment per SD-95418-01, Fig. 17 required in addition to list 15 for automatic alarm release and registration

of first trial failures.

List 17—Wiring and equipment per SD-95418-01, Fig. 18 required in addition to list 15 when a key cabinet is provided instead of a switchboard.

Notes

- A. This unit is surface wired.
- B. All optional wiring not covered by the above lists shall be furnished as specified in the feature and option table on the circuit.
- C. Connect R wiring when alarms are transferred to a switchroom of a No. 5 crossbar office in the same building. Connect Z wiring for all other types of offices.

J98304M—A&M Only—Alarm Receiving Unit—Local Alarms Only (See Note C.)

Equipment—J98304M-()

List 2—Wiring and equipment per SD-95418-01, Fig. 8 required in addition to list 1 for one switchboard control relay circuit when local alarms are to be supervised at a No. 3, 3C, or 3CL switchboard.

List 3—Wiring and equipment per SD-95418-01, Fig. 9 required in addition to list 1 for one switchboard control relay circuit when local alarms are to be supervised at a 13-, 14-, or 15-type switchboard.

List 4—Wiring and equipment per SD-95418-01, Fig. 10 required in addition to list 1 for one alarm relay circuit when local alarms are to be supervised at the switchroom of a No. 5 crossbar office.

List 5—Wiring and equipment per SD-95418-01, Fig. 14 required in addition to list 2 or 3 or one flashing relay circuit when the supervision of alarms is in a No. 5 crossbar or step-by-step office.

List 6—Wiring and equipment per SD-95418-01, Fig. 3 required in addition to list 1 when incoming alarm signals are supervised at some location other than a switchroom or a switchboard (such as a commercial office). (See 5.04.)

Notes

- A. This unit is surface wired.

B. All optional wiring not covered by the above lists shall be furnished as specified in the circuit.

C. When automatic alarm release and registration of local load and first trial failure alarms are required replace J98304M with J98304T.

J98304N—A&M Only—Alarm Receiving Unit—Distant Alarms—Modification of J98304G (Mfr Disc.) to Provide Transfer of Alarms to Switchboards

Equipment—J98304N-()

List 1—Assembly, wiring, and equipment for one alarm receiving unit, arranged to modify J98304G (Mfr Disc.) to provide for the transfer of alarms to switchboards. (See Note A.)

WIRE EQUIP NOTES

Alm.Receiving Ckt, SD-95418-01, Fig. B, With E & N Wiring, E Wiring & App per Fig. 1	1	1
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List 2—Wiring and equipment for one switchboard control relay circuit per SD-95418-01, Fig. 8 required in addition to list 1 when alarms are supervised at a No 3, 3C, or 3CL switchboard.

List 3—Wiring and equipment for one switchboard control relay circuit per SD-95418-01, Fig. 9 required in addition to list 1 when alarms are supervised at a 13-, 14-, or 15-type switchboard.

List 4—Wiring and equipment for a flashing relay circuit per SD-95418-01, Fig. 14 required in addition to list 2 and 3 when the switchboard from which alarms are supervised is in a No. 5 crossbar office.

Note

- A. This unit is surface wired. It shall be located either directly above or below, preferably directly below, the existing alarm receiving unit per J98304G. Connections between equipment on this unit and equipment on the existing unit shall be run by the installation force in local cable.

J98304R—AT&T Co Std—Extension Alarm Unit—For Receiving Alarm Indications Over a Separate Cable Pair From a Distant Office, PBX, or Cable Protective Device

Equipment—J98304R-()

List 1—Assembly, wiring, and equipment for one extension alarm circuit (one per each outlying alarm source) per SD-95484-01, Fig. 2. (See Notes B and C.)

List 2—Wiring and equipment per SD-95484-01, Fig. A required in addition to list 1 for use with unattended distant office or PBX with normally closed alarm circuits using 48-volt battery supply.

List 3—A&M Only—Wiring and equipment per SD-95484-01, Fig. B required in addition to list 1 for use with PBX with normally open alarm circuits.

List 4—Wiring and equipment per SD-95484-01, Fig. C required in addition to list 1 for use with PBX with 101B or 101F power plant.

List 5—Wiring and equipment per SD-95484-01, Fig. E required in addition to list 1 for class A alarm from cable protection alarm trunk with or without electrolysis switch.

List 6—Wiring and equipment per SD-95484-01, Fig. E, G option required in addition to list 5 for class A alarm when cable protection alarm trunk is from electrolysis protection device.

List 7—Wiring and equipment per SD-95484-01, Fig. E, B option required in addition to lists 5 and 6 for class A alarm when cable protection alarm trunk is from electrolysis protection device and external circuit loop is less than 1000 ohms.

List 8—Wiring and equipment per SD-95484-01, Fig. F required in addition to list 1 for class B alarms from cable protection alarm trunk with or without electrolysis switch.

List 9—Wiring and equipment per SD-95484-01, Fig. F, F option required in addition to list 8 for class B alarm when cable protection alarm trunk is from electrolysis protection device.

List 10—Wiring and equipment per SD-95484-01, Fig. F, H option required in addition to list 8 or 9 when cable protection alarm trunk is from electrolysis protection device and external circuit loop is less than 1000 ohms.

List 11—Wiring and equipment per SD-95484-01,

Fig. 9 required in addition to list 1 for No. 1 crossbar or panel offices and arranged to transmit classes A and B alarms to maintenance centers. (See Notes A and B.)

List 12—Wiring and equipment per SD-95484-01, Fig. G, required in addition to list 1, for use with unattended distant office or PBX with normally closed alarm circuits, using 24-volt battery supply.

Notes

- A. Specify list 11 when required on a once-per-office basis.
- B. Provide optional wiring as specified.
- C. In No. 5 crossbar offices arranged to transmit classes A and B alarms to maintenance center, furnish J98304S unit in addition to list 1 of this unit.

J98304S—AT&T Co Std—Extension Alarm Unit—For No. 5 Crossbar Offices Arranged to Transmit Alarms to Maintenance Centers

Equipment—J98304S-()

List 1—Assembly, wiring, and equipment for one unit arranged to transmit classes A and B alarms to maintenance centers from distant office or PBX per SD-95484-01, Fig. 10. (See Note A.)

List 2—Wiring and equipment per SD-95484-01, Fig. 12 required in addition to list 1 to transmit alarms to maintenance centers from cable protective device.

Note

- A. This unit is intended for use in combination with J98304R unit.

J98304T—AT&T Co Std—Alarm Receiving Unit—Local Alarms Only

Equipment—J98304T-()

List 1—Assembly, wiring, and common equipment per SD-95418-01, Fig. 11 for one alarm cutoff relay circuit for use when local alarms are supervised at the switchroom of any

dial switching or toll office and are transferred to a switchboard; or are supervised at a No. 3, 3C, 3CL, 13-, 14-, or 15-type switchboard without transfer; or are supervised at some location other than a switchroom or switchboard (such as an office building).

List 2—Wiring and equipment per SD-95418-01, Fig. 8 required in addition to list 1 for one switchboard control relay circuit when local alarms are to be supervised at a No. 3, 3C, or 3CL switchboard.

List 3—Wiring and equipment per SD-95418-01, Fig. 9 required in addition to list 1 for one switchboard control relay circuit when local alarms are to be supervised at a 13-, 14-, or 15-type switchboard.

List 4—Wiring and equipment per SD-95418-01, Fig. 10 required in addition to list 1 for one alarm relay circuit when local alarms are to be supervised at the switchroom of a No. 5 crossbar office.

List 5—Wiring and equipment per SD-95418-01, Fig. 14 required in addition to list 2 or 3 for one flashing relay circuit when the supervision of alarms is in a No. 5 crossbar or step-by-step office.

List 6—Wiring and equipment per SD-95418-01, Fig. 3 required in addition to list 1 when incoming alarm signals are supervised at some location other than a switchroom or a switchboard (such as a commercial office). (See 5.04.)

List 7—Wiring and equipment per SD-95418-01, Fig. 16, with ZO, ZT, and ZW apparatus and Fig. 19 required in addition to list 1 for automatic alarm release and registration of load alarms.

List 8—Wiring and equipment per SD-95418-01, Fig. 17, with ZQ, ZR apparatus required in addition to list 7 for automatic alarm release and registration of first trial failure alarms.

List 9—Wiring and equipment per SD-95418-01, Fig. 18 required in addition to list 7 when alarms are supervised at a switchroom or at a location other than a switchroom or switchboard.

List 10—Wiring and equipment per SD-95418-01, Fig. 20 required in addition to list 7 when alarms are supervised at a switchboard or switchroom with transfer of alarms to switchboard in same building.

Notes

- A. This unit is surface wired.
- B. All optional wiring not covered by the above lists shall be furnished as specified in the circuit.

Miscellaneous Equipment

4.01 The alarm sending circuit SD-95418-01 is designed to work directly with associated circuits only in No. 5 crossbar offices. When this circuit is used in other types of central offices, the following alarm transfer circuits will be required.

CIRCUIT	UNIT CODE	TYPE OFFICE
SD-20733-01	J29201AH (23-inch RR)	Battery Cutoff Panel
SD-20736-01	J29201AK	Ground Cutoff Panel
SD-25885-01	J23052CS	No. 1 Crossbar
SD-27063-01	J23066AS	Crossbar Tandem

5. GENERAL NOTES

5.01 In No. 5 crossbar offices, the alarm sending unit shall be located as near as practicable to (and preferably in the same relay rack bay with) the floor alarm control unit and the power and ABS fuse alarm control unit per J28353. The alarm sending and distinctive tone units shall be located below the other alarm units so that the floor alarm control units may grow from the bottom up. In this type office, the wiring and cabling shall be in accordance with the switchboard cabling details per ED-25980-01.

5.02 The key and lamp cabinet per ED-92153-01, located at the alarm receiving center, may be fastened to a switchboard, desk, column, or wall as specified by the customer. Where more than one cabinet is required, the receiver leads shall be multiplied between cabinets and only one receiver used.

5.03 The keys and lamps in the sending circuit control circuit SD-95417-01, Fig. 9, 12, and 13 shall be located on a miscellaneous basis as indicated in the following.

Panel Offices—Floor Alarm Board

No. 1 Crossbar Office—Floor Alarm Cabinet

No. 5 Crossbar Offices—Master Test Frame

5.04 The 7A bell and 687 A49 subset shown on SD-95418-01, Fig. 3 shall be mounted in locations specified by the customer. The keys and lamps shown on SD-95418-01, Fig. 5 shall be mounted in the key and lamp cabinet per ED-92153-01, the AL key per SD-95418-01, Fig. 12 shall be mounted in the cable turning section of the switchboard. The ORL key per SD-95418-01, Fig. 13 shall be mounted in the jack bay of the master test frame in No. 5 crossbar offices; in the floor alarm cabinet in No. 1 crossbar offices; in the floor alarm board or frame in panel offices; on the office alarm frame in step-by-step offices; or in any other locations that may be specified by the customer.

5.05 The relay equipment for extension alarm circuit SD-95484-01, Fig. 4, 7, 8, 9, 10, and 11 shall be located on ED-95114-70. The keys and lamps, Fig. 1, 3, and 6, shall be located on a miscellaneous basis per ED-90554-01 and ED-90470-01. The subset, Fig. 5 shall be located on job basis.

5.06 The jack and lamp equipment shown on SD-95418-01, Fig. 15 shall be mounted on a switchboard.

5.07 When distinctive tones are required, unit equipment per J98304K shall be furnished with alarm sending units per J98304H or J98304J.

5.08 Codes J98304U through J98304Y are unassigned.

List of A&M Only and Mfr Disc. Equipment

EQUIPMENT	RATING	DETAILS	
		LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J98304A	Mfr Disc.	4	J98304H
J98304B	Mfr Disc.	4	J98304J
J98304C	Mfr Disc.	4	J98304F
J98304D	Mfr Disc.	2	J98304E
J98304E	Mfr Disc.	4	J98304G
J98304F	Mfr Disc.	8	J98304P
J98304G	Mfr Disc.	4	J98304L
J98304H, L7,	Mfr Disc.	8	—
L13	Mfr Disc.	11	—
J98304J, L5,	Mfr Disc.	6	—
L13	Mfr Disc.	11	—
J98304L, L4	Mfr Disc.	5	J98304L, L1
J98304M	A&M Only	11	—
L1,	Mfr Disc.	11	J98304T
L2 through L6	A&M Only	11	J98304T
J98304N	A&M Only	6	—
J98304P	Mfr Disc.	8	J98304R & J98304S
J98304R, L3	A&M Only	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.

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