

TERMINATING SENDER FRAME EQUIPMENT DESIGN REQUIREMENTS

PANEL 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 and installation of the terminating sender frame for use in panel offices not equipped with a "B" switchboard.

1.02 This specification is reissued:

- (a) To change the rating from "AT&TCo Std" to "A&M Only."
- (b) To list WECO ED drawings which replace BTL ED drawings.

Capacity

1.03 The terminating sender frame has a capacity of one start and sequence circuit and four terminating sender units. Each sender group will serve a maximum of 60 trunks and requires one start and sequence circuit. Each sender unit accommodates the apparatus individual to one sender circuit.

General Description

1.04 The terminating sender frame is a steel structure of unit design and of a type generally known as single sided. The frame consists of a single bay and is arranged to mount four sender units and one start and sequence circuit. For protection against interruption of service, a minimum of two sender units shall be provided.

1.05 The terminating sender provides means for the testman at the No. 14 local test desk to select the required line for testing, and also for the dialing "A" operator to complete intercepted and delayed calls and to verify busy lines.

1.06 When a test cord is inserted in the test trunk jack at the local test desk, the associated test trunk first selector is moved off-normal. This starts the proper trunk finder in the sender to hunt the waiting trunk. When this trunk has been selected, the start and sequence circuit is released for the next call. After registration is completed, the sender controls the selections through the first and second selectors on the LTD test selector frame to the test selector on the final

frame and then to the proper subscriber line terminal.

1.07 To complete an intercepted or delayed call or to verify a busy line, the "A" operator inserts a plug in the jack of a dialing incoming selector circuit. This starts the proper trunk finder in the sender to hunt the waiting incoming trunk. When this trunk has been selected, dial tone is sent to the operator and the start and sequence circuit is released for the next call. After registration is completed, the sender controls the selections through the incoming and final selectors to the proper subscriber line.

1.08 Each sender circuit is mounted on a unit which accommodates all the equipment in dustproof metal casings which cover both the apparatus and wiring sides. Four terminal strips and three trunk finders are mounted at the top of the unit. The remainder of the space is occupied by eight 23-inch mounting plates on which are mounted relays, resistances, and condensers. One trunk-finder switch and associated equipment is required for each 20 or less test trunks or incoming selectors to be selected.

1.09 The equipment associated with one start and sequence circuit is mounted directly under the lowest sender casing on the first sender frame of each group.

2. SUPPLEMENTARY INFORMATION

- 815-000-000 - Panel Systems Index
- AA128.002 - List of Equipment Design Requirements Sections
- AA128.006 - List of General Equipment Requirements Sections
- Floor Plan Data - Section 4.13, Sheet 13

3. DRAWINGS

WECO J drawings listed should be ordered by referring to the prefix and base number and requesting the highest suffix dash (-) number.

Key Sheets - Panel System

- SD-21300-01 - Battery on the CO Relay
- SD-21680-01 - Ground on the CO Relay

Framework

- ED-20087-01 - Assembly of Relay Casing
- ED-20150-01 - Framework Limits
- ED-20616-53 - Assembly and Equipment of Combined Jack and Fuse Panel
- ED-20628-51 - Jack Panel Assembly, Panel, and Equipment Test Trunk Sender Frame
- ED-20773-10 - Test Trunk Sender Frame Assembly

Equipment

J22704A-() - Terminating Sender Frame
 J22704B-() - Terminating Sender Unit

Wiring and Cabling

ED-20622-01 - Method of Running and Supporting Frame Battery and Ground Leads
 ED-20772-01 - Local and Switchboard Cable Plan
 ED-20843-01 - Cabling Schematic

4. EQUIPMENT

J22704A (A&M Only) - Terminating Sender Frame

Equipment - J22704A-()
 Local Cable - ED-20772-01, Fig. 1

List 1 - Framework, assembly, common wiring, and equipment of one terminating sender frame, less the sender units.

	<u>Wire</u>	<u>Equip</u>	<u>Notes</u>	<u>See</u>
Framework, ED-20773-01, G1	1			
Combined Jack & Fuse Panel, ED-20616-53, G1	1		D	
Jack Panel, ED-20628-51	1		D	
Sdr Ckt, SD-21645-01	4	0	A	
Sdr Start & Sequence Ckt, SD-21644-01	1	0	B,C	
Misc Ckt, SD-21665-01:				
Fuse Alarm, Fig. 1	1	1		
Frame Line Jacks, Fig. 3	1	1		
Test Battery Supply, Fig. 4	1	1	5.03	
Spare Jack, Fig. 6	1	1		
Sdr Test Jacks, Fig. 8	1	1	E,F	

Notes

- A. The frame local cable containing the common and miscellaneous leads shall be wired between the sender units, start and sequence circuit, and jack and fuse panels. A separate local cable shall be provided for the start and sequence relays.
- B. Three sets of A and B relays are associated with each trunk finder multiple. Provide one set of these relays for each group of selectors on each trunk finder bank. However, when there is only one frame of test selectors, two sets of relays shall be furnished to distribute the load on the senders.
- C. In order to give first choice to approximately the same number of senders, the B1 to B9 leads shall be strapped together at B terminal strip in as many groups as there are senders and each group connected to the B lead of a sender.

- D. The jacks shall be fully equipped even though all the senders are not furnished.
- E. One sender test resistance per SD-21665-01, Fig. 9 shall be provided on the relay rack for each group of senders.
- F. A hand telephone set per SD-21665-01, Fig. 10 or 11 shall be provided as required in accordance with circuit note 108 to provide for low- or high-speed dialing.

J22704B (A&M Only) - Terminating Sender Unit

Equipment - J22704B-()
 Local Cable - ED-20772-01, Fig. 3

List 1 - Framework, assembly, wiring, and equipment of one sender unit, less trunk finder equipment.

	<u>Wire</u>	<u>Equip</u>	<u>Notes</u>	<u>See</u>
Framework, ED-20773-10, G2		1		
Relay Casing, ED-20087-01, Item 24RU		1		
Sdr Ckt, SD-21645-01, Fig. 1, C, & G	1	1	D	
Sdr Ckt Trunk Finder, SD-21645-01:				
Fig. 2 & 3	3	0	A	
Fig. D & E	1	0	D,E	

List 2 - Assembly, wiring, and equipment of trunk finder, required in addition to list 1, for selecting 20 or less trunks.

	<u>Wire</u>	<u>Equip</u>	<u>Notes</u>	<u>See</u>
Sdr Ckt, SD-21645-01, Fig. 2		1		
Sdr Ckt, Trk Finder, SD-21645-01, Fig. 3	1	1	A,B,C	

Notes

- A. Trunk finder selector wiring shall be furnished as part of list 1 and the bank wiring to the terminal strip as part of list 2.
- B. The banks of like numbered trunk finders of all senders shall be multiplied together.
- C. The unequipped terminals of the trunk finder banks of the first sender in a group shall be multiplied to the equipped terminal.
- D. The variable apparatus shall be wired for in all cases, but shall be equipped as required for each particular job.

E. Equip Fig. D when 1200-ohm dialing range is required. Equip Fig. E when 1500-ohm dialing range is required.

5. GENERAL NOTES

5.01 On partially equipped frames, the equipment shall begin at the bottom of the frame or with sender designated A and be equipped in alphabetical order.

5.02 No more than three groups of test selectors or dial incoming selectors shall be connected to one trunk finder bank because the strapping of the S1, S2, and S3 leads at the B relay of the start and sequence circuit is in groups of three.

5.03 One 24-volt battery and high-resistance ground supply per SD-21665-01, Fig. 5 shall be provided in each office for the terminating sender frames.

Wiring

Local

5.04 The frame local cable for the terminating sender frame consists of the wiring between the sender units, the start and sequence unit, the jack and fuse panels.

5.05 A separate local cable shall be provided for the start and sequence circuit.

5.06 The sender unit local cable consists of the wiring individual to one sender circuit.

5.07 A separate local cable shall be provided between each trunk finder bank and its associated terminal strip. A separate local cable shall be furnished at the trunk finder switches on the first sender unit in a group when required to multiple the unequipped to equipped terminals.

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
J22704A	A&M Only	3	-
J22704B	A&M Only	3	-

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