3-WIRE OFFICE SELECTOR TEST FRAME EQUIPMENT DESIGN REQUIREMENTS PANEL SYSTEMS

1. GENERAL

Scope

1.01 This specification, together with the supplementary specifications, keysheets, drawings, equipment explanations and circuit descriptions listed herein, covers the equipment design requirements for the framework, equipment and circuits to be used in the manufacture and installation of the automatic routine office selector test frame in panel offices. This specification covers equipment for testing 3-wire office selectors.

1.02 This specification is reissued to:

(a) Add SD-20041-01, options BF and BH to List 1 of J24201A.

(b) Bring it into conformity with the general Plant Series numbering plan.

Capacity

1.03 The office selector test frame has a capacity of one office selector test circuit with eight connector sequence switches providing for 24 test selectors (3 per connector switch) and six pairs of directing switches. Each pair of directing switches (206 type selectors) has a capacity of 20 tests, making a total capacity of 120 test groups for the frame.

Description

1.04 The 3-wire office selector test framework is a steel structure of a type generally known as a single sided frame consisting of a single bay. It is designed for mounting the apparatus required to gain access to all 3-wire office selectors and thereby make it possible to exercise all these selectors in rotation as a matter of periodical routine, or to reach any one selector or any group of selectors for making individual tests.

1.05 The test circuit gains access to the 3-wire office selectors through control of district selectors used as test selectors for this purpose. These test selectors, when connected to the test circuit, can be made to select any or all of the terminals in the multiple banks of the frame, reaching in this manner the office selectors associated with this multiple. When the test selectors are so assigned on the various district frames as to reach all groups of the district multiple, the test circuit will then have access to all trunks terminating as office selectors. The test selectors are so arranged that they are available for regular service when not required for test purposes.

1.06 The relays, resistances and keys associated with the 3-wire office selector test line are also located on this frame.

1.07 In those cases where the number of office selectors involved is too small to warrant an automatic test frame an office test line circuit is furnished, with the equipment located on one of the office frames.

Subdivision of Framework and Equipment

The equipment covered by this specification is as follows:

J24201A (A&M Only) — Office Selector Test Frame

2. SUPPLEMENTARY INFORMATION

815-000-000 — Panel Systems Index

AA128.006 — List of General Engineering Requirement Specifications

X-61400 — List of Engineering Requirement Specifications — Battery on the Cut-off Relay Offices

X-61500 — List of Engineering Requirement Specifications for Tandem Offices

3. DRAWINGS

Framework

ED-20468-01 — Assembly of Frame
ED-20522-01 — Assembly of Key and Lamp Panel
ED-20275-01 — Assembly of Key Panel Cover
ED-20087-01 — Assembly of Relay Casing
ED-20509-01 — Assembly of Fuse Panel
ED-20081-01 — Hinged Sequence Switch Shaft Guards
ED-20294-01 — Design of Sequence Switch Bars
ED-20150-01 — Framework Limits
ED-20329-01 — Location of Anchor Bolts
ED-20660-01 — Assembly of Writing Shelf

Keysheets — Panel System

SD-21300-01 — Local Office
SD-21301-01 — Tandem Office

Equipment

ED-20470-01 — Equipment of Frame
ED-20033-01 — Apparatus Designation Chart
ED-20622-01 — Method of Running and Supporting Frame Battery and Ground Leads

Wiring and Cabling

ED-20253-01 — Local Power Cable
ED-20472-01 — Local Cabling Plan
ED-20471-01 — Switchboard Cabling Plan

4. FRAMEWORK AND EQUIPMENT

J24201A

List 1 — Covers an Office Selector Test Frame with all wiring and equipment.

	WIRE	EQUIP	SEE NOTES
Office Selector Test Framework ED-20468-01		1	5.03
Key and Lamp Panel ED-20522-01		1	
Key Panel Cover ED-20275-01 Item 7		1	
Relay Casing ED-20087-01 Item 26		1	
Office Selector Frame Equipment ED-20470-01		1	
Fuse Panel ED-20509-01, Item 11		1	
Writing Shelf ED-20660-01, Item 2		1	
Office Selector Circuit ES-20041-01	1	1	5.01
Office Selector Circuit, ES-20041-01, Fig. A to H, X and Y	1	0	
Office Selector Circuit, ES-20041-01, Fig. J, K, and L	1	0	5.02
Equipment per SD-20041-01, Options "BF" and "BH" Only	1	1	
Fuse Alarm SD-21244-01 Fig. 1	1	1	
Motor Transfer SD-21244-01 Fig. 4	1	1	
Frame Line Ckt. SD-21244-01 Fig. 8	1	1	
Frame Test Battery SD-21244-01 Fig. 9	1	1	
Spare Jack SD-21244-01 Fig. 11	1	1	
Test Line, SD-21224-01, Fig. 5	1	0	
Test Line, SD-21224-01, Fig. 6	3	0	
Test Line, SD-21224-01, Fig 7	1	0	

List 2 — Equipment per SD-20041-01, "AZ" option, required in addition to list 1 when connection to recorder test frame is required. (See note A.)

List 3 — Equipment per SD-20041-01, Fig. K, required in addition to list 1 when connection to the unguarded interval test set, the timing test set circuit, or both, is required.

List 4 — Equipment per SD-20041-01, Fig. J required in addition to list 3 when connection of first intermediate and last groups of 25 frames to the unguarded test set is required.

List 5 — Equipment per SD-20041-01, Fig. L, required in addition to lists 1 and 3 when connection to the timing test set circuit is required.

List 6 — Equipment per SD-20041-01, Fig. J, "BC" option required in addition to list 4 when connection of second and third intermediate groups of 25 frames (51 to 75 and 76 to 100) to the unguarded interval test set is required.

Note

A. This list requires changing the district, brush, tens, and units lamps from No. 2G to 2Y and the removal of four resistors.

5. GENERAL NOTES

General

5.01 The frame shall be wired for 24 test selectors and 6 pairs of directing switches, the ultimate of the frame.

5.02 Wiring shall be provided to care for an ultimate of 125 office frames in all cases, per Fig. J, K, and L with options "BA" through "BD" of SD-20041-01. Equipment for either 25, 50, 75, 100, or 125 office frames shall be furnished as required.

5.03 One office selector test frame shall be furnished for each 3000 three-wire office selectors associated with a single unit or common to more than one unit. Where two test frames are furnished, each frame shall be arranged to test the full equipment of office selectors. In such cases separate test selectors will have to be assigned for each test circuit as the circuit will not permit the use of the same test selector by two test circuits. Where less than 300 three-wire office selectors are involved no office selector test frame shall be furnished, unless otherwise specified. In such cases it is not considered economical to furnish an automatic test circuit owing to the small number of 3-wire office selectors equipped. Where no automatic routine test frame is furnished, the office selectors are tested by means of manually operated test sets.

5.04 Distant office selectors are tested by means of a wagon type test set.

5.05 The automatic routine test circuit for testing three-wire office selectors is designed to test them thru the multiple banks of district frames by means of district selectors which shall be assigned as test selectors for this purpose as required, to enable the test circuit to reach all groups on the district multiple which terminate as three-wire office selectors.

5.06 The number of test selectors required on the district frames for each office selector test circuit is equivalent to the number of sub-group in that group of the district multiple having the greatest number of sub-groups. The group accepted, however, as having the greatest number of sub-groups must be a group, of course, on which outgoing trunks to the same office or distant offices will terminate. Groups that are reserved for special purposes such as permanent signal holding lines, lines to desks or test lines, etc, should not be considered in this case.

5.07 In all cases each test selector shall be located so as to make a continuity test of as much of its associated multiple as possible.

5.08 The first selector circuit on each district frame is equipped with the necessary test leads for employing it as a test selector for the automatic routine testing of office or incoming selectors in the same or distant offices. Dialing district selectors must be removed from service when used as test selectors. For this reason they should not be employed as test selectors unless there are groups of trunks to be tested which cannot be reached by other types of districts on the same frame or adjacent frames. In cases where it is necessary to use a selector other than number one circuit on a frame in order to avoid using a district selector it will of course have to be provided with the necessary test leads for employing it as a test selector.

5.09 The district frames chosen for locating test selectors shall be so situated in the lineup of the entire equipment of district frames as to permit the test circuit to have access to all sub-groups in the district and office frame multiple. Each test selector will then have access to a particular group or groups of trunks that cannot be reached by the test selectors on the other frames. In complying with the above it may so happen that certain groups of trunks can be reached by more than one test selector. Where this occurs only one of the test selectors shall be arranged to select such groups, this

being governed by the cross-connections at the directing switches.

5.10 Where two office selector test frames or an incoming selector test frame and an office test selector frame are provided in the same unit a separate test selector is required for each test circuit. In general it will be possible to locate these test selectors on different district frames and still gain access to all the groups in the district multiple to be tested. However where necessary in such cases, the test selectors can be located on the same frame but the selector circuits chosen for this purpose, other than number one circuit, must be equipped with the necessary test leads.

5.11 Each test selector used in connection with the automatic routine test of 3-wire office selectors shall be known as an "Office Test Selector". On the test frame equipment these test selectors shall be assigned circuit numbers from one up for identification purposes.

5.12 The directing switches govern the connector switches in their selection of the test selectors and also the manipulation of the test selectors in their selection of the various groups of trunks in the multiple banks. This control is made flexible by wiring the arcs of the directing switches to terminal strips so that cross-connections can be established, as local conditions require, to regulate these features.

5.13 One directing switch shall be furnished for each twenty tests. Each time the test circuit is compelled to raise a test selector and return it to normal it shall be considered as one test. The test circuit will be obliged to raise a test selector and return it to normal before proceeding with the test, when

A — The test selector has selected all the groups of trunks to be tested in one multiple bank and is ready to enter the next multiple bank, which of course, necessitates the use of another brush on the test selector that can only be tripped by the selector returning to normal.

B — While the circuit is arranged to operate the test selector over two or more consecutive groups of trunks in a bank it cannot test at one operation, two groups which are separated by one or more groups which are not to be tested. In such cases the test selector must be returned to normal and another group selection made to reach the other group, thus requiring another test.

5.14 The necessary number of directing switch banks and associated terminal strips shall be provided to accommodate the ultimate requirements of the office. The 206 type selectors and associated equipment shall be provided as required.

5.15 The drive and motor equipment shall not be furnished as a part of the lists, but shall be furnished separately.

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