

INTERCEPTING TRUNK FINDER FRAME AND ASSOCIATED RELAY RACK UNITS 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 an intercepting trunk finder frame, trunk finder supplementary frame, associated unit equipment, and other relay rack equipment required in a panel office served by a central A switchboard in a distant office.

1.02 This specification is reissued to:

- (a) Add a reference in 1.11 concerning the maximum capacity of the trunk finder and outgoing trunk circuits associated with AIS.
- (b) To revise J21401B, List 8 and to add Notes F and G.
- (c) To add J21401H.

CAPACITY

	PER GROUP	
	ONE GR FR	TWO GR FR
<i>Intercepting Trunk Finder Frame</i>		
Intercepting Trunk Bank Capacity	400 or 800	400
Trunk Finder Elevators	42 or 56	28
Trunk Finder and Outgoing Trunk Units	5	2
Trip, Start, and Allotter Unit	1	1
<i>Trunk Finder Supplementary Frame</i>		
Trunk Finder and Outgoing Trunk Units		3

Trunk Finder and Outgoing Trunk Units

Trunk Finder and Outgoing Trunk Circuits

Trip, Start, and Allotter Unit

Trip Circuits
Start Circuits
Emergency Trip Circuit
Emergency Start Circuit
Allotter Circuit
Test Line Circuits
Miscellaneous Frame Circuit

Manual Subscriber Line Switch Unit

Manual Subscriber Line Circuits

PER GROUP	
ONE GR FR	TWO GR FR

5

10

1

1

1

1

2

1

10

DESCRIPTION

1.03 The intercepting, special service, and miscellaneous equipment covered herein are required in an office served by a central A switchboard in another building.

1.04 *Intercepting Trunk Equipment:* The purpose of the intercepting trunk finder equipment is to concentrate the various intercepting trunks into a small group of outgoing trunks to a central A switchboard located in a distant office. The relay equipment for the intercepting and verification request trunks from the final multiple, the trouble intercepting trunks from the plugging-up panel, and the vacant incoming multiple trunks are located on the relay rack and appear on the multiple banks. By the aid of start leads from these circuits, an elevator associated with an outgoing trunk is sent to the proper bank terminal.

1.05 *Intercepting Trunk Finder Frame:* The intercepting trunk finder frame consists of a double-sided structure, 11 feet 6 inches high, similar to a 2-bay line finder frame. The elevator equipment is located in the center bay and is cabled to the trunk finder and outgoing trunk units, which are located in the side bays or on the trunk finder supplementary frame. A trip, start, and allotter unit is located in the side bay associated with the front of the frame, or if the frame serves two groups, a trip, start, and allotter unit is located in each bay.

1.06 When a capacity of 400 intercepting trunks is required, full banks are used with a maximum of 42 trunk finder circuits which is the capacity of the allotter switches.

1.07 When a capacity of 800 intercepting trunks as shown in Fig. 1 is required, split banks are used with 400 trunks located on each half of the banks. In this case, a second selector is required per trunk finder and outgoing trunk circuit so as to obtain access to all the trunks. This arrangement reduces the capacity of the frame to 28 trunk finder and outgoing trunk circuits with two elevators in each circuit. Both selectors of the trunk finder and outgoing trunk circuit should be on the same side of the frame.

1.08 When two groups are to be located on the same frame, split banks are used with one group using the elevators associated with one half of the multiple banks, and the other group using the elevators on the other half of the center bay. With this arrangement, each group has a capacity of 400 trunks and 28 trunk finder circuits.

1.09 *Trunk Finder Supplementary Frame:* This frame consists of one single-sided bay arranged to mount trunk finder and outgoing trunk units. This frame is only required when there is not enough room on the intercepting trunk finder frame to mount all of the trunk finder and outgoing trunk units.

1.10 *Trunk Finder and Outgoing Trunk Units:* These units have a capacity of five trunk finder and outgoing trunk circuits. They are universally wired for one or two elevators and can be equipped as required. These trunk finder and outgoing trunk units are mounted on the intercepting trunk finder frame or trunk finder supplementary frame.

1.11 When this equipment is required to work with combined regular and trouble intercept traffic or with an announcement machine, with or without regular and trouble intercept traffic, additional equipment will be required in connection with the trunk finder and outgoing trunk units. The wiring for this equipment is included in J21401B, List 1 and the equipment is covered by lists 6 and 7, respectively. When this equipment connects to automatic intercept, a maximum of 30 circuits shall be provided.

1.12 *Trip, Start, and Allotter Unit:* One trip, start, and allotter unit is required per group. This unit is located on the intercepting trunk finder frame. In addition to the trip, start, and allotter circuits, the unit contains the test line equipment required for testing the trunk finder and outgoing trunks. The make-busy relays and jacks, for making the trunk finders busy, and various test and talking jacks are also located in this unit.

1.13 *Intercepting and Verification Request Trunks:* These circuits are connected from the final frame multiple banks to the banks of the trunk finder frame as shown in Fig. 2, and are used for connecting calls as follows:

- (a) From vacant final terminals.
- (b) From lines on which the number has been changed.
- (c) From lines on which a directory error has been made.
- (d) From lines which have been discontinued.
- (e) Verification request calls from other operators to a distant central A operator.

1.14 *Trouble Intercepting Trunks:* These circuits run from the plugging-up panel frame to the trunk finder multiple banks. They are used to extend calls, which have been directed to lines that are out of order and have been plugged up for observation and test, to a distant central A intercepting operator.

1.15 *Vacant Incoming Multiple Trunks:* These circuits are required as a means of intercepting calls dialed in error to subscriber line terminals that do not exist. They also provide a means of intercepting calls to final frames temporarily removed

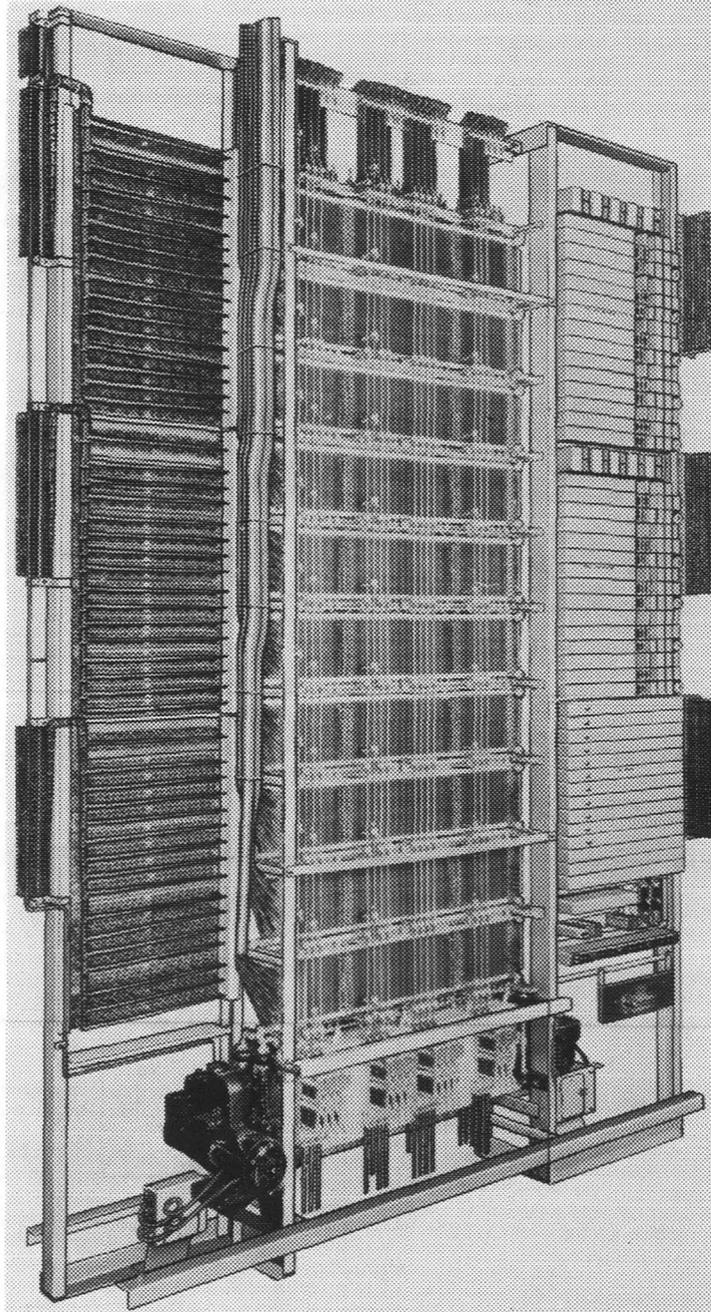


Fig. 1—Intercepting Trunk Finder Frame Arranged for One Group of 800-Trunk Capacity

from service to permit bank replacement or other similar installation or maintenance work.

1.16 Manual Subscriber Lines: This circuit is associated with subscriber lines not equipped with dials. Relay rack units containing the manual subscriber line switches are multiplexed to the outgoing special service trunks shown in Fig. 3 so as to

permit the use of the same group of outgoing trunks to the distant central A office. Designation cards mounted beside the switches on the unit indicate the special service trunk number assigned to each bank terminal.

1.17 Coin Control Equipment: When the coin collection is controlled by the central A

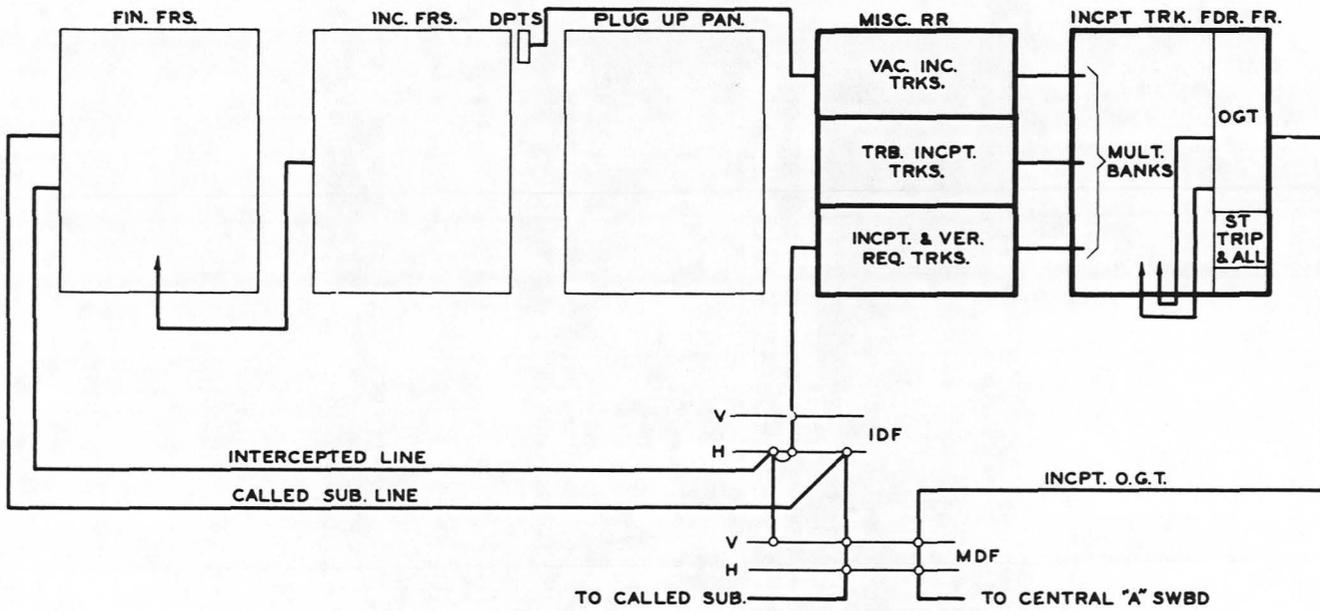


Fig. 2—Traffic Schematic—Intercepting and Verification Service

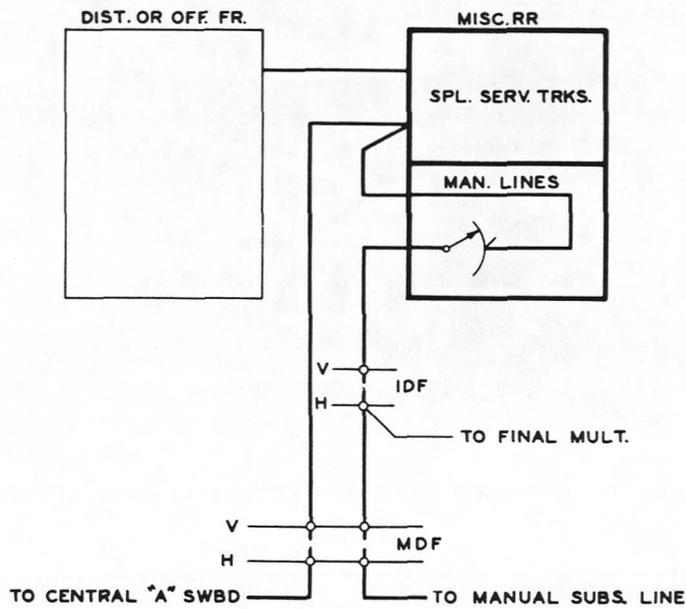


Fig. 3—Traffic Schematic—Outgoing Special Service and Manual Subscriber Lines

operator on recording completing trunks and long distance incoming selectors, the keys in the central A switchboard operate equipment on the relay rack and incoming frames in this office.

1.18 When the coin collection is controlled by the toll operator on the above trunks, the key in the toll switchboard operates a coin control trunk per J99206C associated with each trunk in this office.

1.19 Battery Jacks: Battery supply jacks are furnished on the relay rack near the special service trunk units to supply the necessary potential to the test sets used for testing these trunks.

1.20 Clocks: Clock equipment will only be required when the office is arranged for the zone and overtime feature or when clock peg count registers are required. Where no clock pulses are available, electric clocks shall be furnished for general building use as specified by the telephone company.

1.21 Auxiliary Intercept Test Trunk Unit: One auxiliary intercept test trunk unit mounted in the side bay is required per frame for automatic intercept service.

1.22 ANI Control Unit: The ANI control unit, which is mounted on a miscellaneous relay rack, contains five circuits which are cabled to a trunk finder and outgoing trunk unit (five circuits). A maximum of six units (30 circuits) may be specified for each identifier group that is associated with an AIC. The block diagram in Fig. 4, showing the automatic intercept arrangement, is an alternate to the intercept arrangement shown in Fig. 2 and 3.

2. SUPPLEMENTARY INFORMATION

800-600-000—List of General Equipment Requirements Sections
 815-000-000—Panel Systems Index
 X-61400—List of Engineering Requirements Specifications
 Floor Plan Data—Section 4.2, Sheet 12

3. DRAWINGS

Keysheet and Circuits

SD-21300-01—Battery on CO Relay Offices
 SD-21680-01—Ground on CO Relay Offices
 SD-21939-01—Test Line Circuit for GCO Offices
 ES-240037—Intercepting Trunk from Vacant Incoming Multiple in GCO Offices

Framework

ED-20081-01—Frame Designation Bar
 ED-20293-01—Framework Limits
 ED-20509-01—Assembly of Fuse Panel
 ED-20796-01—Assembly of Frame Units
 ED-20798-01—Assembly of Frames and Jack Panel
 ED-90395-03—Assembly of Relay Rack Unit
 ED-90948-01—Assembly of Blank Apparatus Panel

Equipment

ED-20804-01—Typical Relay Rack
 ED-21546-01—Manual Subscriber Relay Rack Unit
 ED-21555-01—Miscellaneous Trunk Equipment
 ED-21560-01—Trunk Finder and Outgoing Trunk Unit
 ED-21561-01—Trip, Start, and Allotter Unit
 ED-21562-01—Intercepting Trunk Finder Frame
 ED-90146-01—Master Clock
 ED-90411-01—Designation Cards
 ED-91526-01—Miscellaneous Relay Rack Equipment
 —Coin Control Circuit Equipment
 J21401A-()—A&M Only—Intercepting Trunk Finder Frame
 J21401B-()—A&M Only—Trunk Finder and Outgoing Trunk Unit
 J21401C-()—A&M Only—Trip, Start, and Allotter Unit
 J21401G-()—A&M Only—Auxiliary Intercept Test Trunk Unit
 J21401H-()—A&M Only—ANI Control Unit—For Use With AIS

Wiring and Cabling

ED-20623-01—Method of Running and Supporting Frame Battery and Ground Leads (Double-Sided Frames)
 ED-20797-01—Switchboard Cabling Plan
 ED-20805-01—Typical Cabling Scheme
 ED-21546-02—Line Switch Unit Local Cable
 ED-21560-02—Trunk Finder and Outgoing Trunk Unit Local Cable

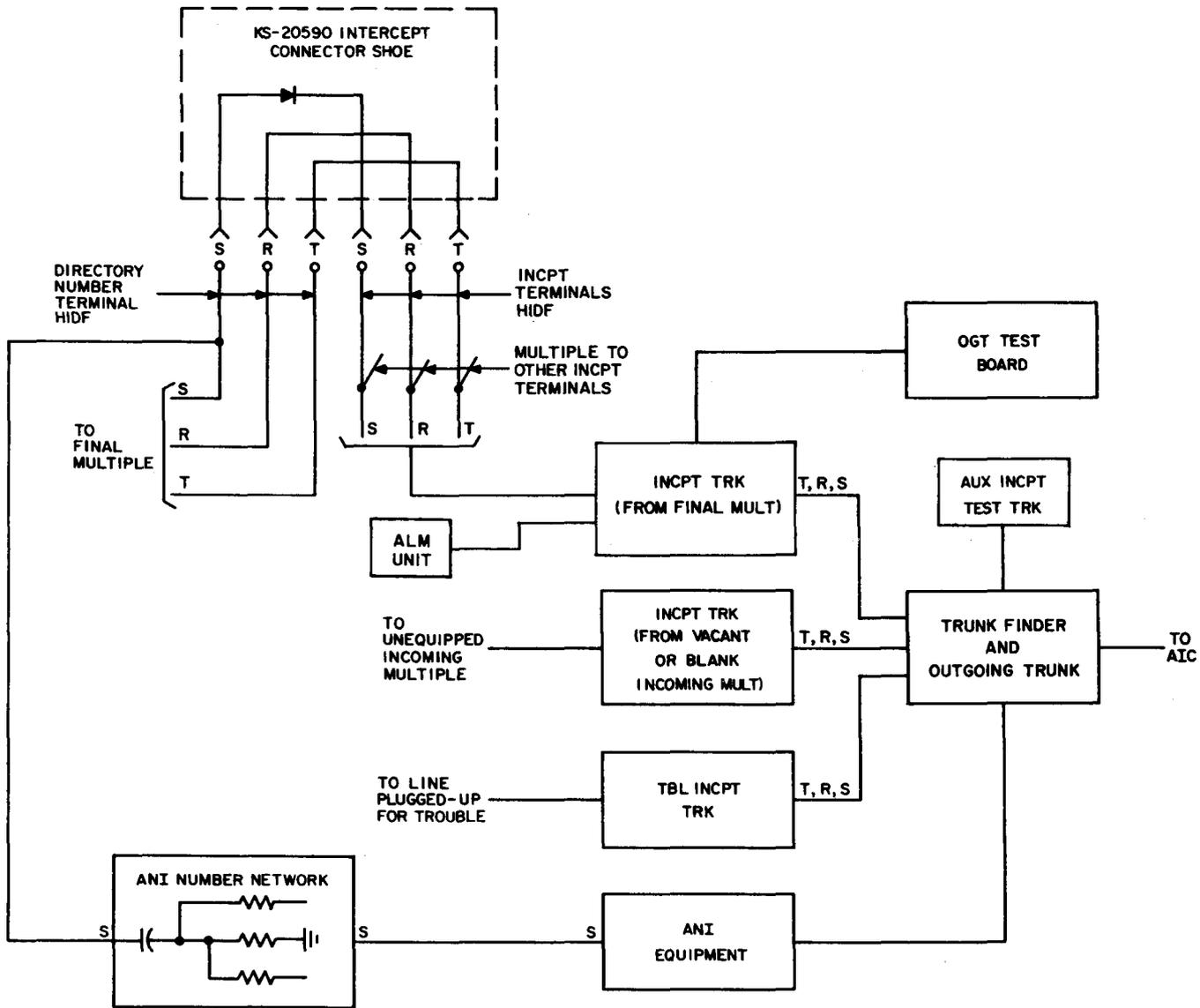


Fig. 4—Panel Intercept Facilities for Automatic Intercept

ED-21561-02—Trip, Start, and Allotter Unit Local Cable

ED-21562-02—Intercepting Trunk Finder Frame Local Cable

ED-90440-01—Relay Rack Unit Local Cable

4. EQUIPMENT

J21401A—A&M Only—Intercepting Trunk Finder Frame

Equipment—ED-21562-01

Local Cable—ED-21562-02 (see Note C)

List 1—Framework, assembly, and equipment for one intercepting trunk finder frame arranged for two groups of 400 intercepting and verification request trunks (400 capacity each group) less trunk finder and trip units (see 5.01, 5.05, and Note I).

	WIRE	EQUIP	NOTES
Fr Assy, ED-20798-01: Item 1		1	A,B
Supl Fr Assy, ED-20798-01: Item 2		As Spec	5.15
Fuse Pnl Assy, ED-20509-01: Item 38		1	

List 2—Framework, assembly, wiring, and common equipment for one intercepting trunk finder frame arranged for one group of intercepting trunks less trunk finder and trip units (see 5.01 and 5.05).

	WIRE	EQUIP	NOTES
Fr Assy, ED-20798-01: Item 1		1	A,B,C
Supl Fr Assy, ED-20798-01: Item 2		As Spec	5.15
Fuse Pnl Assy, ED-20509-01: Item 38		1	D
Jk Pnl Assy, ED-20798-01: Item 3		1	E
Trk Fdr & OGT Ckt, SD-21560-01		As Spec	I
Test Line Jks, SD-21699-01: Fig. 2, or SD-21939-01: Fig. 2	1	1	K,L
Test Line Ckt, Jk & Key Eqpt, SD-21699-01: Fig. 1 or SD-21939-01: Fig. 1		As 2 Spec	F,G 5.07
Misc Ckt, SD-21562-01: Motor Stop, Fig. 4 With X and Z Wiring	1	1	H
Test Bat Supply, Fig. 7	1	1	
Spare Jk, Fig. 9	1	1	
Fr Line Jks, Fig. 10	1	1	
Inter Jks, Fig. 11	1	1	
Test Patching Jks, Fig. 12	1	1	
Make-Busy Jks, Fig. 14	21	21	G

Notes

A. The cable supports, terminal strip details, bearing plate assemblies, commutator supports, jack panel mounting details, etc, which are not always used shall be furnished as required. A test battery connecting block shall also be furnished for each side of the frame.

- B. The trip rods, trip magnets, and multiple banks shall be furnished as required.
- C. A frame local cable, consisting of leads from the miscellaneous terminal strip at the top of the rear bay and running to the TBS connecting block, drive-motor contacts, and jack panel, is required only on the rear bay of a frame arranged for one group of trunks.
- D. The fuse panel shall be located on the front bay of a frame arranged for only one group of trunks and on both sides of a frame when arranged for two groups of trunks.
- E. The jack panel shall be located on the rear bay of a frame arranged for only one group of trunks.
- F. The relay portion of the test line circuit is furnished as part of the trip, start, and allotter unit.
- G. The make-busy jacks, test line jacks, and keys shall be wired and equipped in all cases. The test lines shall be universally wired so that the second Fig. 2 may be associated with another group or with the second half of the same group.
- H. The leads to the frame drive contacts on the rear of the frame shall be run to the terminal strip and cabled over to the FB relay located in the trip, start, and allotter unit on the front of the frame. Connect Z wiring when the trunk finder frame is driven by its own motors. When both the trunk finder frame and line finder frame are driven by the same motors, connect Y wiring for the side of the frame driven by the motor on the line finder frame and X wiring for the side of the frame driven by the motor on the trunk finder frame. Y wiring is ordered in J21401C, List 1.
- I. Elevator rods, commutator bar, and clutches shall be furnished as required. The relay portion of the trunk finder and outgoing trunk circuit shall be furnished as part of the trunk finder and outgoing trunk unit.
- J. Apparatus blanks for unequipped clutch positions shall be ordered as required.

- K. Ground for the T1 key, where the jack panel only is used, shall be obtained from the A jack.
- L. One patching cord per J99213A, L6 shall be furnished per office.

J21401B—A&M Only—Trunk Finder and Outgoing Trunk Unit

Equipment—ED-21560-01
Local Cable—ED-21560-02

- List 1**—Framework, assembly, wiring, and common equipment for one trunk finder and outgoing trunk unit.

	WIRE	EQUIP	NOTES
Unit Assy, ED-20796-01: Item 1		1	
Tr Fdr & OGT Ckt, SD-21560-01: Fig. 1, A & C, and A, Z, ZI, ZJ & ZK Wiring Fig. E, F & G and A Wiring	5	0	
	5	0	

- List 2**—Equipment required in addition to list 1 for one trunk finder and outgoing trunk circuit per SD-21560-01, Fig. 1 and A and ZI and ZK options (see Notes A, B, and D and 5.14 and 6.01).

- List 4**—Equipment required in addition to list 1 to equip one trunk finder and outgoing trunk circuit to have access to the second set of 400 intercepting trunks in the same group, per SD-21560-01, W apparatus (see Note C).

- List 5**—Equipment per SD-21560-01, Fig. C, required in addition to list 1 for each trunk finder and outgoing trunk circuit that is arranged for regular intercept traffic.

- List 6**—Equipment per SD-21560-01, Fig. E, required in addition to list 1 for each trunk finder and outgoing trunk circuit arranged for

regular and trouble intercept traffic (unassigned number combined with changed number).

- List 7**—Equipment per SD-21560-01, Fig. F, required in addition to list 1 for each trunk finder and outgoing trunk circuit arranged for regular (change number), trouble, and machine intercept traffic (unassigned number).

- List 8**—Equipment and wiring required in addition to list 2 to arrange each trunk finder and outgoing trunk circuit for connection to SD-21560-01, Fig. G (automatic intercept service) (see Notes E, F, and G).

Notes

- A. Z wiring shall be connected in all cases except where list 4 is specified.
- B. Elevator equipment such as commutator bars, clutches, rods, etc, shall be furnished with the intercepting trunk finder frame per J21401A.
- C. This list shall contain the LS relay which is required to reach the second set of 400 intercepting trunks in the same group.
- D. The MB relay leads shall be run to the trip, start, and allotter unit on the front bay.
- E. Use ZJ wiring with list 8.
- F. For each five list 8 furnished, one J21401H unit must also be specified.
- G. A maximum of 30 list 8 (five per unit) can be provided for each ANI identifier group associated with an automatic intercept center.

J21401C—A&M Only—Trip, Start, and Allotter Unit

Equipment—ED-21561-01
Local Cable—ED-21561-02 (see Note D)

- List 1**—Framework, assembly, wiring, and common equipment for one trip, start, and allotter unit.

	WIRE	EQUIP	NOTES
Unit Assy, ED-20796-01: Fig. 2		1	
Trip Ckt, SD-21561-01: Fig. 1 & 2	10	0	6.02, 6.07 A,B
Emer Trip Ckt, SD-21561-01: Fig. 2	1	1	B
Start Ckt, SD-21561-01: Fig. 5	1	1	
Emer Start Ckt, SD-21561-01: Fig. 5	1	1	
Allotter Ckt, SD-21561-01: Fig. 4	1	1	6.07
Time Alarm Ckt, SD-21561-01: Fig. 3	1	1	
Test Line Ckt, SD-21699-01: Fig. 1 or SD-21939-01: Fig. 1	2	As Spec	5.07
Test Line Jk Eqpt, SD-21699-01: Fig. 2 or SD-21939-01: Fig. 2	2	2	5.07
Misc Fr Ckt, SD-21562-01:			5.13
Fuse Alarm Ckt, Fig. 1 & 2	1	1	
Fr Test Bat., Fig. 7	1	1	D
Trip and Start Alarm, Fig. 3 & 6	1	1	
Spare Jk, Fig. 9	1	1	
Fr Line Talking Jks, Fig. 10	1	1	
Test Patching Jk, Fig. 12	1	1	
Inter Jks, Fig. 11	1	1	
Motor Stop & Fr Bs, Fig. 4 With X, Y, and Z Wiring	2	As Spec	C&F
Make-Busy Relays Fig. 5	12	Spec	C
Make-Busy Jks, Fig. 14	28	28	

trunks on the relay rack shall be run only as required.

- B. Leads designated M shall be looped at the position of relay B and cut only when relay B is equipped. Equip relay B only when an 800-capacity group is required.
- C. The FB and MB relays shall be equipped as required on the trip, start, and allotter unit in the front bay only and cabled from there to the floor alarm board. The fuse for the FB and MB relays shall be obtained from the miscellaneous fuse panel in order to prevent service reaction.
- D. The leads to the TBS connecting block, drive-motor contacts, and fuses shall be formed out, but not connected until the unit is placed in position on the frame.
- E. The test line relays and resistors for the first circuit shall be furnished in all cases and for the second circuit only as required.
- F. Connect Z wiring when the trunk finder is driven by its own motors. When both the trunk finder and line finder frames are driven by the same motors, connect Y wiring for the side of the frame driven by the motor on the line finder frame, and furnish X apparatus and connect X wiring for the side of the frame driven by the motor on the trunk finder frame.

J21401G—A&M Only—Auxiliary Intercept Test Trunk Unit

Equipment—J21401G-()

List 1—Assembly, wiring, and equipment per Fig. 1 of SD-21995-01 for one auxiliary intercept test trunk unit.

J21401H—A&M Only—ANI Control Unit—For Use With AIS

Equipment—J21401H-()

List 1—Assembly, wiring, and common equipment for one ANI control unit required when panel office outgoing trunks are arranged to serve intercept traffic to the AIC.

List 2—Equipment required in addition to list 1 for one trip circuit per SD-21561-01, Fig. 1 and 2.

Notes

A. Leads designated Y shall be run in the local cable in all cases. The connection to the outgoing trunk units and various intercepting

	WIRE	EQUIP	NOTES
Tr Finder & OG Ckt, SD-21560-01:			
Fig. G	5	1	
ZL Option	5	0	
ZM Option	5	0	

List 2—Equipment per SD-21560-01, one Fig. G, required in addition to list 1 for each additional outgoing trunk arranged to serve intercept traffic to the AIC (maximum 4).

List 3—Equipment per SD-21560-01, option ZL, required in addition to list 1 when 11 to 20 trunks serve intercept traffic to the AIC (maximum 5).

List 4—Equipment per SD-21560-01, option ZM, required in addition to list 3 when 21 to 30 trunks serve intercept traffic to the AIC (maximum 5).

5. GENERAL NOTES

5.01 Drive and motor equipment shall not be furnished as part of this equipment but should be ordered separately.

5.02 Split bank and associated equipment shall be furnished when the initial requirements are 400 or fewer intercepting trunks with 28 or fewer trunk finder circuits, and the ultimate requirement is either two groups or one group of over 400 trunks.

5.03 The intercepting trunk finder frame shall be located adjacent to a cross aisle or in a lineup by itself so as to provide easier maintenance conditions due to the elevators being located on both sides of the frame, and the associated relay equipment being located on only one side. This frame shall be located near the line finder or incoming frame, as specified by the telephone company, to facilitate maintenance.

5.04 The bank multiple consists of ten panel-type banks each having 41 sets of terminals and two sets of guide terminals. The two sets of guide terminals are located at the top of each bank and are used for guiding the multiple brushes in the telltale position. The forty-first terminal is used to return the trunk finder to normal in case the subscriber hangs up before the elevator finds the bank terminal. The remaining forty sets in each of the ten banks are used for various intercepting

trunks. An additional 400 intercepting trunks may be connected to the other end of split banks to increase the capacity from 400 to 800 in one group or for use with another group.

5.05 Where one or more multiple banks are not needed initially or ultimately, the unused banks and their associated trip mechanism, multiple brushes, etc, can be omitted from the top of the frame when specified by the telephone company. Unused terminals in the multiple banks shall be left dead.

5.06 The various intercepting trunks shall be assigned on the multiple banks in the following order, beginning at the bottom bank: vacant incoming multiple trunks, trouble intercepting trunks, and intercepting and verification request trunks. The relay equipment for these circuits shall be located on the relay rack as shown on the typical relay rack equipment drawing listed herein. The relay rack bays containing this equipment may be located near the intercepting trunk finder frame for maintenance reasons and near the IDF for cabling reasons.

5.07 Test lines for the intercepting trunk finder frame shall be furnished as outlined below. The jacks and keys shall be furnished in all cases and the second set of relays only when required. The jack and key wiring shall be so arranged that the second circuit can be used as the last half of an 800-capacity group or used with a second group of 400 lines.

(a) When all the intercept trunks on the frame are BCO type, the test lines should be equipped per SD-21699-01.

(b) When all the intercept trunks on the frame are GCO type, the test lines should be equipped per SD-21939-01.

(c) For a single-group frame with a capacity of 400 trunks and 42 trunk finders, one test line should be equipped and connected straight through on the bottom set of terminals in group zero. In this case, the transposition wires between the bottom and top sets of terminals should be removed. If both BCO and GCO trunks are in the same group of 400, the type of test line should be specified by the telephone company. However, if two test lines are preferred, one BCO type could be furnished for

one half and one GCO type for the other half of bank zero by omitting the strapping between the two halves.

(d) For a single-group frame with a capacity of 800 trunks and 56 trunk finders and where both BCO and GCO trunks are on the same frame, the telephone company should specify the type of test line to be furnished. This will depend on the type of incoming selectors that are located nearest the intercepting trunk finder frame.

(e) For a 2-group frame with a capacity of 400 trunks and 28 trunk finders in each group, the test line in each group should correspond to the type of trunks in each group. However, if there are both types in either group, the type of test line should be specified by the telephone company.

5.08 The intercepting and verification request trunks shall be arranged with or without the PBX hunting feature as directed by the telephone company. A ground alarm pilot lamp GP shall be located on the end guards at the end of the row of relay rack bays containing these circuits.

5.09 Unless otherwise specified by the telephone company, five vacant incoming multiple trunks shall be provided for each office having vacant final choices. For multioffice installations, the trunks for offices having vacant choices may be extended to serve the offices not having vacant choices, each group of trunks serving a nearly equal number of offices.

5.10 When all the final choices are equipped in all the offices of an installation, vacant incoming multiple trunks shall be provided to serve all the offices. When all the final choices are served by more than one final frame, however, these trunks are not required since one final frame can be arranged to serve the choice while the other frame is being repaired.

5.11 The manual subscriber line switches shall be arranged in separate groups as shown on the typical relay rack equipment drawing listed herein for coin and noncoin service.

5.12 A register is furnished in the trip, start, and allotter unit to count the number of times a trunk is not found in a minimum of five

seconds. A peg count register, which is located on the traffic register rack, is required to show the number of times a call, coming in, finds both allotter groups busy.

5.13 The following alarms associated with this equipment shall be located on the floor alarm board:

Motor Stop Alarm
Fuse Alarm and Pilot Relay
Start and Trip Alarms
Trunk Finder Group-Busy Alarm
Intercepting and Verification Request Trunk
Ground Alarm

5.14 The trunk finder and outgoing trunks shall be equipped in numerical sequence with one half of the equipped elevators associated with allotter A and the other half with allotter B. When the frame is arranged for a capacity of 800 intercepting trunks in one group, the second elevator shall be located in the left half of the frame.

5.15 The trunk finder supplementary frame shall be furnished only when there is not enough room on the intercepting trunk finder frame for all the trunk finder and outgoing trunk units. This frame shall be located to the right and in line with the intercepting trunk finder bay containing other trunk finder and outgoing trunk units in the same group. This frame shall be grounded by means of a No. 4 AWG wire per KS-5151, with a P-68617 terminal on one end connected to the rear of the left upright as shown on the "method of running ground leads on single-sided frames" drawing listed herein.

5.16 The test battery supply resistance and 24-volt fuse shall be located on the fuseboard, cabled to the front of the frame, and multiplied to the rear of the frame. The connecting blocks shall be ordered with the intercepting trunk finder frame.

5.17 The coin control apparatus associated with the long-distance incoming selectors and recording completing trunks shall be located on the relay rack. The CN relay shall be located on the incoming selector frames.

5.18 The outgoing special service trunks shall be connected to either the district or office multiple at the TDF when a TDF is furnished or to the MDF when no TDF is furnished. When

connected to the district multiple and no TDF is furnished, a tie cable shall be used between the HMDF and the Hddf.

5.19 The ringing control and common timing equipment shall be located adjacent to the units as shown on the typical relay equipment drawing listed herein. This ringing and timing equipment shall be wired and equipped by the installer.

5.20 Master clock equipment shall be furnished in offices arranged for the zone and overtime feature or when specified. The transfer and cutout keys and the associated relays and resistors shall be located on the relay rack as shown on the clock equipment drawing listed herein. Where no clock pulse equipment is available, the telephone company shall specify the type and location of electric clocks suitable for general building use.

List of A&M Only and Mfr Disc. Equipment

EQUIPMENT	RATING	DETAILS	
		LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J21401A	A&M Only	7	—
J21401B	A&M Only	7	—
J21401C	A&M Only	7	—
J21401D	Mfr Disc.	7	—
J21401E	Mfr Disc.	2	J91104G
J21401F	Mfr Disc.	2	J91104K
J21401G	A&M Only	7	—
J21401H	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.

6. WIRING AND CABLING NOTES

6.01 The clutch and commutator leads shall be cabled from the trunk finder and outgoing trunk units to the front and rear of the frame. When the second elevator is required, additional cables shall be run from the units.

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6.02 The leads A and H shall be run from the trip, start, and allotter unit to the various intercepting trunk circuits on the relay rack in a cable per relay bay.

6.03 Vacant incoming multiple trunks shall be run from the relay rack to the DPTS at the incoming frames and multiplied from there to other offices in the same building. For offices having all final choices equipped, this cable shall be left dead at the DPTS.

6.04 The cable to the fuseboard shall be split over the several units on a trunk finder bay using a 22CL switchboard cable. On the relay rack, a 20CL switchboard cable shall be used for all fuse leads associated with one bay of the relay rack.

6.05 The ringing, tone, and coin collect leads at the relay rack shall be run in a 20CL switchboard cable to the fuseboard per relay rack bay.

6.06 Loop leads between units on the same bay shall be sewed in with the switchboard cable form.

6.07 The leads to the forty-first terminal of the banks, to the trip magnets, and to the T, R, S, and H terminals at the bottom of the lowest bank shall be run in a switchboard cable from the trip, start, and allotter unit and formed out with the bank cables.

6.08 The manual subscriber line units shall be multiplied together and run to the distributing frame to which the special service trunks are run.

6.09 The various interrupter leads shall be run in a 22CL switchboard cable per bay to the miscellaneous interrupter frame associated with the terminating frame equipment.

6.10 When this frame is in the same aisle with the final frames, the aisle pilot lamp TP for the trunk finder frame shall be located in position 4 of the lamp mounting.