MODIFICATION REQUIREMENTS FOR DIAL COIN ZONE TRAFFIC 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 modification of equipment for dial coin zone traffic in panel offices. Equipment included in this specification may be ordered by specifying the code and list numbers covered in part 4.

1.02 This specification is reissued to incorporate previous appendix changes.

1.03 With the exception of the decoder frames, the capacity of the various panel frames is not affected by this modification. The number of regular route R relays on the originating bay of each decoder frame will be reduced by five to accommodate the additional service group SG relays that may be required; the number of SG relays has been increased to 20 per decoder. Also the maximum number of contacts for class-of-service relays has been increased from 12 to 16 on each decoder frame.

1.04 A new dial coin zone trunk frame per J99229A with a maximum capacity of ten trunks per J99229B has been made available for use with panel equipment arranged for dial coin zone traffic. Each trunk will require a set of contacts on four different interrupters. The associated alarm and release circuits, which are common to five trunks, will require three additional sets of interrupter contacts one of which can be from one of the four required for the trunks and the other two from a different interrupter. Where it is necessary to locate these trunk frames or bulb angle-type interrupter frames in line with existing panel frames, suitable junction details shall be provided in accordance with ED-25529-01.

1.05 A manually operated coin trunk test set per J94721A will be required for use with the dial coin zone trunk frame.

Description

1.06 The arrangement for dial coin zone service reduces "A" board traffic by allowing coin box subscribers to dial other than five cent calls. While the coin trunk circuit is arranged for 10, 15, 20, and 25 cent traffic, the equipment is arranged for only 10 and 15 cent calls at the present time. This arrangement permits the calling subscriber to dial the complete call on 10 and 15 cent traffic and the "A" operator is called in on the connection only long enough to supervise the collection of the coins for the initial period and such overtime charges as may be required. With the present arrangement the "A" operator dials or keys the call for this traffic as well as supervises the timing and the collection of the coins for both the initial and overtime charges. With the new arrangement, calls to the different zones are routed thru a panel sender tandem office, the new trunk circuit having appearances on the district or office multiple or on both and being selected in the same manner as any similar outgoing trunk in a panel office.

Subdivision of Equipment

J29211A (A&M Only) - Coin Sender Applique Unit

2. SUPPLEMENTARY INFORMATION

815-000-000 - Panel Systems Index
AA128.006 - List of General Equipment Requirements Sections
X-61200 - List of Equipment Design Requirement Specifications for Offices Having Ground on the Cut-off Relays
X-61400 - List of Equipment Design Requirement Specifications for Offices Having Battery on the Cut-off Relays
X-61500 - List of Equipment Design Requirement Specifications for Sender Tandem Offices
J94721 (815-452-150) - Dial Coin Zone Trunk Test Set
J99229 (815-040-150) - Dial Coin Zone Trunk Frame

3. DRAWINGS

Keysheets

SD-21300-01 - Panel Link Equipment - Battery on the Cut-off Relay Offices
SD-21680-01 - Panel Link Equipment - Ground on the Cut-off Relay Offices

ES-262532 - Sender Selector Equipment - 3 - digit Areas
ES-262647 - Sender Selector Equipment - 2- and 2-3-digit Areas
ES-262829 - Rotary Link Equipment - 3-digit Areas
ES-262849 - Rotary Link Equipment - 2- and 2-3-digit Areas

Framework

ED-25213-01 - Interrupter Frame Assembly
ED-25529-01 - Guard Rail Junction Details
ED-90782-01 - Unit Mounting Bars

Equipment

Subscriber Sender Frames

ES-225375 - Mounting Plate Equipment for 3-digit Subscriber Sender (ES-240067)
ED-20068-01 - Sender Unit Equipment for 3-digit Subscriber Sender (ES-20012-01)
ED-20908-01 - Equipment for Coin Sender Applique Unit (ES-20012-01)

Tandem Sender Frame

ED-20160-01 - Sender Unit Equipment (SD-21145-01)
ED-20807-01 - Sender Unit Equipment (SD-21691-01)

Tandem Sender Test Frame

ED-20497-01 - Mounting Plate Equipment (SD-21151-01)
ED-20498-02 - Details of Equipment (SD-21151-01)

Miscellaneous Interrupter Frame

ED-20406-01 - Miscellaneous Interrupter Frame Equipment for Ground on the Cut-off Relay Offices (SD-21667-01)
ED-21666-01 - Miscellaneous Interrupter Frame Equipment for Battery on the Cut-off Relay Offices (SD-21666-01)

Decoder Frame

ED-20172-01 - Decoder Frame Equipment
ED-20172-02 - Decoder Frame Equipment - Supplementary Frame
ED-20176-01 - Mounting Plate Equipment for Decoder Frame
ED-20180-01 - Terminal Strip Equipment for Decoder Frame
ED-20700-01 - Decoder Frame Equipment
ED-20700-02 - Decoder Frame Equipment Supplementary Frame
ED-20907-01 - Equipment Details for Modification of BL Relay Type Decoder Frames

Wiring and Cabling

ED-20173-01 - Local Cable for Decoder Frame
ED-20173-02 - Local Cable for Decoder Supplementary Frame
ED-20691-01 - Local Cable for Decoder Frame
ED-20691-02 - Local Cable for Decoder Supplementary Frame
ED-91601-01 - Unit Local Cable

4. EQUIPMENT

J29211A (A&M Only) - Coin Sender Applique Unit

Equipment - ED-20908-01, Fig. 1
Local Cable - ED-91601-01

List 1 - Framework, assembly, wiring, and equipment for one coin sender applique unit

	Wire	Equip	See Note
Framework ED-90782-01, G4		1	
Coin Zone Dialing Ckt. ES-20012-01, Fig. A	6	0	5.04

List 2 - Equipment per ES-20012-01, Fig. A, required in addition to list 1 for each subscriber sender equipped

5. GENERAL NOTES

Subscriber Sender Frames

5.01 The following subscriber sender circuits shall be modified in accordance with the issues shown opposite each to provide for two appearances on district or office multiple for zone calls from coin lines:

ES-240051, Issue 47-D
ES-240053, Issue 53-D
ES-240067, Issue 55-D
ES-20012-01, Issue 38-D

5.02 In some offices, the senders per ES-240051, ES-240053, and ES-240067 are on a frame basis and for these offices no Bell Telephone Laboratories' equipment drawings are available. In the event of an office of this type being modified for dial coin zone traffic, the equipment, necessary to be added shall be mounted on a job basis.

5.03 In modifying senders per ES-240067 where the senders are on a unit basis, the equipment to be added consists of two E- or R-type relays which shall be located on the unit as shown on ES-225375, Issue 27-D.

5.04 In modifying senders per ES-20012-01, the equipment to be added consists of seven E- or R-type relays. The DR relay shall be mounted on the unit as shown on ED-20068-01, Issue 26-D. The

other six relays shall be mounted on an applique unit per J29211A which shall be located on the miscellaneous relay rack as near the senders as practicable. Each of these units will accommodate the equipment for six senders, or one sender frame, and connections to each unit from the sender frame shall be with switchboard cable.

5.05 No change is required in the decoder-type subscriber sender since the required routing for dial coin zone traffic is taken care of by the decoder.

Decoder Frame

5.06 In some offices, it may be necessary to provide additional class-of-service relays and/or service group relays to accommodate the additional routings required for coin zone dialing.

5.07 Issue 21-D of decoder circuit SD-21277-01 provides for increasing the number of class-of-service relay contacts from the present maximum of 12 to a new maximum of 16. This is accomplished by arranging for additional relays, designated SC- each of which is provided with six contacts. Four of these contacts, which are arranged for cross-connection to the SG relays, are designated A7, A8, B7 and B8 while the other two contacts, which are required for cross-connection to the "E" terminals of route relays are designated C7, C8, D7, and D8.

5.08 Since there are no circuit restrictions as to the number of service group relays SG for each decoder, these relays may be added as required up to a maximum of 20. However, on existing frames, additional wiring will have to be added for any added beyond the present capacity of 14.

5.09 The present cross-connecting facilities provide for a maximum of 12 class-of-service contacts and 14 service group SG relays. Cross-connecting facilities for the additional class-of-service contacts and service group relays, referred to in paragraphs 5.07 and 5.08, may be provided, when required, by changing each decoder frame to agree with issue 23-D of ED-20180-01. No additional terminal strips are required, since the additional terminals are provided by using the space reserved for the "E" terminals of route relays 301 to 800. Full flexibility is provided by multipling the present class-of-service contacts in local cable to additional sets of terminals on the same blocks which provides facilities for cross-connecting these contacts to the winding terminals of any of the additional service group SG relays, if desired.

5.10 The additional relays, referred to above, shall be located as shown on Issue 23 of ED-20176-01 and ED-20172-01. Local cable changes shall be made as shown on the following drawings and the additional wiring required in modifying existing frames shall be superimposed on the present frame local cables:

ED-20173-01, Issue 12 ED-20691-01, Issue 5
ED-20173-02, Issue 6 ED-20691-02, Issue 4

Decoder Frames - Blocking Relay Type

5.11 On decoder frames, provided with the blocking BL relay arrangement, it may be necessary to provide additional BL blocking relays and the capacity of each decoder has therefore been increased from six to nine relays.

5.12 Since this type decoder requires a route relay R with each service group SG relay, it will be necessary to associate one of the present route relays with each service group relay that is added, changing the cross-connections of these route relays accordingly.

5.13 The cross-connecting facilities for the additional class-of-service contacts, service group relays, and blocking relays may be provided when required by changing each decoder frame as shown on Issue 1 of ED-20907-01. It will be noted that on these frames, in order to provide for the additional terminals required, it will be necessary to replace one existing 3-row cross-connecting block with a 4-row block modified by replacing the mounting lugs so that the existing mounting holes in the frame uprights may be reused.

5.14 All additional relay equipment that may be required, shall be located on mounting plates shown on ED-20907-01, Issue 1.

5.15 All additional wiring required in modifying existing decoder frames shall be superimposed on the present frame local cables.

Miscellaneous Interrupter Frame

5.16 Interrupter contacts for use with the dial coin zone traffic shall be provided in accordance with SD-21666-01, Figs. 129 to 132, inclusive, or SD-21667-01 Figs. 52 to 56, inclusive, for battery and ground on the cut-off relay offices, respectively. The associated equipment arrangements are shown on ED-21666-012, Issue 23-D, and ED-20406-012, Issue 13-D, for battery and ground on the cut-off relay offices, respectively.

5.17 In order to minimize service reaction in the event of a motor failure on the miscellaneous interrupter frame, two complete sets of dial coin zone trunk interrupters shall be provided and each

set mounted on separate frames served by separate motors. An exception to the above is the BB interrupter per SD-21666-01, Fig. 133, or SD-21667-01, Fig. 56, where only one set of these interrupter contacts shall be provided per office. Where space is not available on existing miscellaneous interrupter frames, additional bays of the bulb angle type may be provided in accordance with ED-25213-01, Group 1, in which case test battery posts per SD-21666-01, Fig. 134, or similar circuit, should be provided in place of the usual connecting blocks.

22-volt A-C Supply

5.18 22-volt a-c supply is required for the 51A drives associated with the coin trunks. This supply may be obtained from existing power supply units if the capacity of the unit is large enough to accommodate this additional equipment and the Telephone Company so desires.

5.19 When a supply of 22-volt a-c is not available, one 22-volt a-c power supply unit per J86724C, list 10, shall be provided for each location in the building of dial coin zone trunk frames, and mounted on the miscellaneous relay rack. The associated alarm circuit per SD-80929-01, Fig. 3, and the associated fuse panel per ED-90426-01 shall also be mounted on the miscellaneous relay rack by means of adapters per SD-90273-01 and ED-90335-01, respectively.

5.20 Visual and audible alarms shall be provided for dial coin zone trunks in accordance with ES-226189, Fig. 107; SD-20241-01, Fig. 93; SD-21203-01, Fig. 85; or similar circuit. The alarm which connects to the 22-volt a-c power supply alarm circuit, referred to in note 5.19, shall be provided in accordance with ES-226189, Fig. 98; SD-20241-01, Fig. 91; SD-21203-01, Fig. 81; or similar circuit.

Tandem Sender Frame

5.21 The following tandem sender circuits shall be modified in accordance with the issues shown opposite each to work with coin zone dialing traffic.

SD-21145-01, Issue 14-D
SD-21691-01, Issue 6-D

5.22 The equipment necessary to modify these two senders consists of adding one T- and four E- or R-type relays which shall be located on the sender unit as shown on ED-20160-01, Issue 14-D, for SD-21145-01 and ED-20807-01, Issue 5-D, for SD-21691-01.

Tandem Link Frames

5.23 Wiring and cabling changes will be necessary at the tandem link frames that are required to handle the inter-zone dial coin zone traffic. This change consists in segregating the senders that are assigned for dial coin zone traffic by changing the "TR" leads at the link multiple bank terminals on certain link frames so that these particular senders will be selected by the links on those frames while the remaining senders that are not used for coin zone traffic will be selected by the other link frames.

Tandem Sender Test Frame

5.24 Tandem sender test circuit SD-21151-01 shall be modified to test the tandem senders, listed in the preceding paragraph. This modification consists of adding three C1- type keys, one 2-type lamp, ten E- or R-type relays, one B-type relay and one 18- or 19-type resistance. This change shall be made in accordance with issue 8-D of SD-21151-01 and the equipment shall be located on the mounting plates and on the frame as shown on ED-20497-01, Issue 12-D, and ED-20498-02, Issue 9-D.

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