

**“TOUCH-TONE®” CONVERTER FRAME
FOR OPERATION WITH MANUAL OR
AUTOMATIC “TOUCH-TONE” DIALERS
EQUIPMENT DESIGN REQUIREMENT
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 engineering, manufacture, and installation of TOUCH-TONE converter frames for operation with manual or automatic TOUCH-TONE dialers in panel offices.

1.02 This specification is reissued:

- (a) To rate J27907A and J27907B Mfr Disc.
- (b) To add J27907C and J27907D for use with subscriber senders using relay-type digit registration.
- (c) To add J27907E and J27907F for use with subscriber senders using selector-type digit registration.
- (d) To revise Capacity, and Description; make additions to Drawings; and add Fig. 2, illustrating the TOUCH-TONE converter frame J27907E, and GENERAL NOTES.
- (e) To change Fig. 1.

Capacity

1.03 The TOUCH-TONE converter frame per J27907C for use with subscriber senders having relay-type digit registration has a capacity for eight TOUCH-TONE calling signal converter units per J27907D and their associated TOUCH-TONE calling receiver units. The TOUCH-TONE converter frame per J27907E for use with subscriber senders having selector-type digit registration has a capacity for six TOUCH-TONE calling signal to dial pulse converter units per J27907F and their associated TOUCH-TONE calling receiver units.

Description

1.04 When a subscriber sender using relay-type digit registration is arranged for TOUCH-TONE calling, a TOUCH-TONE calling signal converter unit and a TOUCH-TONE calling receiver unit are permanently assigned to each sender. When a subscriber sender using selector-type digit registration is arranged for TOUCH-TONE calling, a TOUCH-TONE calling signal to dial pulse converter unit and a TOUCH-TONE calling receiver unit are permanently assigned to each sender. For each arrangement, the subscriber lines can be equipped with either manual TOUCH-TONE dialers, automatic TOUCH-TONE dialers, dial sets, or any combination of these.

1.05 Frame switchboard cabling provides for connection of a sender to a converter unit. All interconnections of units on the frame are made via a frame local cable.

1.06 For calls from manual or automatic TOUCH-TONE dialers, the receiver receives the tone signals and converts them into dc signals at the input of the converter. For relay-type digit registration senders, the TOUCH-TONE calling signal converter unit per J27907D directly sets a maximum of seven digits in the registers and controls the steering relays of its associated sender. Only on calls requiring area code compression or when auxiliary senders are used for 10-digit calls is digit registration in the converter necessary. Therefore, to handle any call of up to 11 digits, the converter need only provide 4-digit registration. For selector-type digit registration senders, the TOUCH-TONE calling signal to dial pulse converter unit per J27907F translates the signals from the receiver into 2-out-of-5 signals and stores them. The converter unit then dc pulses the digits to the sender. A call of a maximum of 11 digits can be handled with this arrangement.

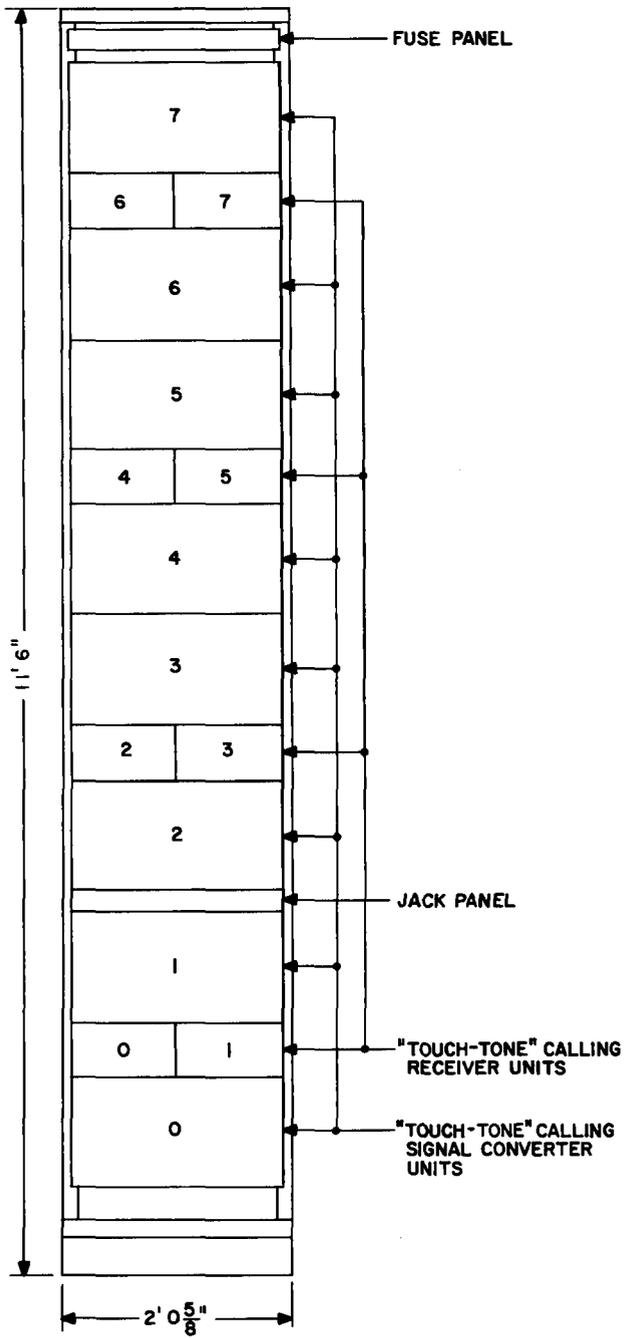


Fig. 1 - TOUCH-TONE Converter Frame, J27907C-()

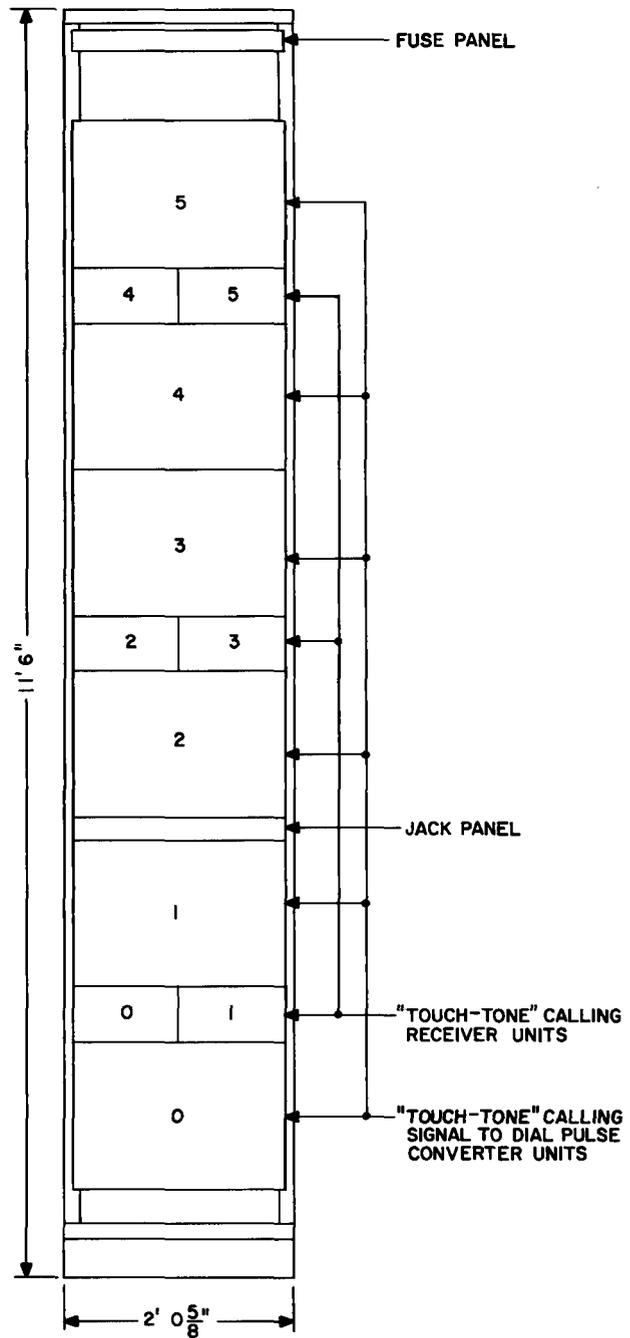


Fig. 2 - TOUCH-TONE Converter Frame, J27907E-()

1.07 The TOUCH-TONE converter frames per J27907C and J27907E both use a single bay, bulb-angle framework, 11 feet 6 inches high, and 2 feet 5/8 inch wide, having a 10-inch sheet metal base (See Fig. 1 and 2). Both are arranged for 2-inch by 23-inch mounting plates. The miscellaneous equipment on the frames consists of a mounting plate of fuses at the top of each frame and a 2-inch jack, key, and lamp panel mounted 3 feet 4 inches from the floor on J27907C and 4 feet from the floor on J27907E. The remaining space on J27907C accommodates eight converter units per J27907D and four receiver mounting shelves. The remaining space on J27907E accommodates six converter units per J27907F and three receiver mounting shelves. (Each receiver mounting shelf accommodates two receiver units.)

1.08 The TOUCH-TONE calling signal converter unit per J27907D is a 6-plate surface-wired unit containing all the apparatus associated with one TOUCH-TONE Calling Signal Converter Circuit, SD-21993-01. The TOUCH-TONE calling signal to dial pulse converter unit per J27907F is an 8-plate, local cable-wired unit containing all the apparatus associated with one TOUCH-TONE Calling Signal to Dial Pulse Converter Circuit, SD-21976-01.

Floor Plan Arrangement

1.09 The TOUCH-TONE converter frames should preferably be located near their associated sender frames. The frame may be located adjacent to other frames with guardrails of different widths. This will necessitate provision of appropriate junction details.

2. SUPPLEMENTARY INFORMATION

815-000-000 — Panel Systems Index

AA128.006 — List of General Equipment Requirements Sections

Floor Plan Data — Section 4.13, Sheet 15

Current Drain Data — SD-21300-01 — Panel Office Battery Cutoff (Not Available for Panel Office Ground Cutoff)

3. DRAWINGS

WECo J drawings should be ordered by referring to the prefix and base number and requesting current dash (—) number.

Keysheets

SD-21300-01 — Panel Systems — Battery Cutoff Relay Office

SD-21680-01 — Panel Systems Ground Cutoff Relay Office

Equipment

ED-20622-01 — Method of Running Power Feeders — TOUCH-TONE Converter Frame — J27907C Switchboard Cabling

ED-22004-() — TOUCH-TONE Converter Frame — J27907E Switchboard Cabling

ED-25529-70 — Guardrail Junction Details

ED-92744-01 — Bulb Angle Frame Assembly

J27907C-() — Panel Systems TOUCH-TONE Converter Frame Arranged for Eight TOUCH-TONE Calling Signal Converter Units for Operation With TOUCH-TONE Manual Dialing and Automatic Dialers

J27907D-() — TOUCH-TONE Calling Signal Converter Unit — Arranged for Operation With TOUCH-TONE Manual Dialing and Automatic Dialers

J27907E-() — Panel Systems TOUCH-TONE Converter Frame Arranged for Six TOUCH-TONE Calling Signal to Dial Pulse Converter Units and Six TOUCH-TONE Calling Receiver Units for Operation With Manual and Automatic TOUCH-TONE Dialers

J27907F-() — TOUCH-TONE Calling Signal to Dial Pulse Converter Unit for Operation With Manual or Automatic TOUCH-TONE Dialers

Circuits

ES-20012-02 — Panel Systems — 3-Digit Subscriber Sender for Use With Link-Type Sender Selector, Coin

SD-21193-01 — Panel Systems — Subscriber Sender Circuit — 3, 3-2, or 2-Digit — Noncoin

SD-21194-01	— Panel Systems — Subscriber Sender 3, 3-2, or 2-Digit Coin
SD-21826-01	— Panel Systems — 3-Digit Subscriber Sender — Sender Selector Type Modification of ES-240067 for Use With Decoder
SD-21839-01	— Panel Systems — 3-Digit Subscriber Sender — Sender Selector Type Modification of ES-240051 for Use With Decoder
SD-21840-01	— Panel Systems — 3-Digit Subscriber Sender — Modification of ES-240053
SD-21976-01	— Panel Systems — TOUCH-TONE Calling Signal to Dial Pulse Converter for Use With Subscriber Sender
SD-21977-01	— Panel Systems, Miscellaneous Circuit, TOUCH-TONE Converter Frame
SD-21993-01	— Panel Systems, TOUCH-TONE Calling Signal Converter Circuit
SD-98148-01	— Common Systems, TOUCH-TONE Calling Receiving Circuit, Type A3

4. EQUIPMENT

ED-25529-70 — Guardrail Junction Details

Note

- A. Guardrail junction details shall be furnished as required where TOUCH-TONE converter frame is adjacent to frames of other widths.

J27907C (A&M Only) — Panel Systems TOUCH-TONE Converter Frame Arranged for Eight TOUCH-TONE Calling Signal Converter Unit for Operation With TOUCH-TONE Manual Dialing and Automatic Dialers

Equipment and Local Cable — J27907C-()

- List 1** — Framework, assembly, wiring, and common equipment for one TOUCH-TONE converter frame arranged for eight converter units and their associated receiver units (see Notes A and C).

	WIRE	EQUIP	SEE NOTES
TOUCH-TONE Calling Signal Converter Ckt SD-21993-01, Fig. 1, 2, 3 and R Wiring	8	0	B
Miscellaneous Ckt TOUCH-TONE Converter Frame SD-21977-01			
Fig. 1	1	0	B
Fig. 2	1	1	B
Fig. 3	41	As Spec.	B
TOUCH-TONE Calling Receiver Ckt SD-98148-01, Fig. 1	8	0	B

- List 2** — Equipment per SD-21977-01, Fig. 1, required in addition to list 1 for the second, fifth, eighth, etc, adjacent frame in each row or isolated frame.

Notes

- A. Converter units per J27907D, receiver units per J99289A (mounting shelf), and J99289B (receiver unit) are ordered separately and are mounted on the frame and connected by the shop as shown on the frame equipment drawing.
- B. The frame local cable contains all interconnecting leads between converter and receiver units, battery and ground leads from frame fuse panel, and the miscellaneous circuit wiring.
- C. This frame and its associated converter units shall be for use only with subscriber senders per SD-21193-01, SD-21193-02, SD-21193-05, and SD-21194-01.

J27907D (A&M Only) — TOUCH-TONE Calling Signal Converter Unit — Arranged for Operation With TOUCH-TONE Manual Dialing and Automatic Dialers

Equipment — J27907D-()

- List 1** — Assembly, equipment, and wiring per SD-21993-01, Fig. 1, for one converter unit arranged for operation with TOUCH-TONE manual dialing and automatic dialers.

List 2 — Equipment and wiring per SD-21993-01, Fig. 2, required in addition to list 1 when associated sender is arranged for recycle.

List 3 — Equipment and wiring per SD-21993-01, Fig. 3, required in addition to list 1 when associated sender is arranged for automatic priming after time out or timed release.

List 4 — Equipment and wiring per SD-21993-01, Fig. 1, R option only, required in addition to list 1 when associated TOUCH-TONE calling receiver is equipped with eight channels to receive eight frequencies.

List 5 — Equipment and wiring per SD-21993-01, Fig. 3, Y option only, required in addition to list 1 when associated sender is equipped with prefix 1.

Notes

- A. Provide Z wiring in addition to list 1 when list 2 is not furnished.
- B. Provide V wiring in addition to list 1 when associated sender is arranged for sender monitor operation.

**J27907E (A&M Only) — Panel Systems
TOUCH-TONE Converter Frame
Arranged for Six TOUCH-TONE
Calling Signal to Dial Pulse Converter
Units and Six TOUCH-TONE
Calling Receiver Units for Operation
With Manual and Automatic TOUCH-
TONE Dialers**

Equipment and Local Cable — J27907E-()

List 1 — Framework, assembly, wiring, and common equipment for one TOUCH-TONE converter frame.

	WIRE	EQUIP
Circuit TOUCH-TONE Calling Signal to Dial Pulse Converter Circuit, SD-21976-01, Fig. 1, 2, and 3	6	0
Miscellaneous Circuit SD-21977-01, Fig. 1	1	0
Fig. 2	1	1
Fig. 3	31	As Spec

WIRE EQUIP

TOUCH-TONE Calling Receiving
Circuit Type A3, SD-98148-01,
Fig. 1

6 0

List 2 — Equipment per SD-21977-01, Fig. 1, required in addition to list 1 for the second, fifth, eighth, etc, adjacent frame in each row for each isolated frame.

Notes

- A. TOUCH-TONE calling signal to dial pulse converter units per J27907F-(), TOUCH-TONE calling receiver mounting shelves, per J99289A-(), and TOUCH-TONE calling receiver units per J99289B-() are to be ordered separately mounted on the frame and wired in the shop as shown on the frame drawing.
- B. The frame local cable contains all wiring between units on the frame, all battery and ground leads, and all miscellaneous circuit wiring.
- C. This frame and its associated TOUCH-TONE calling signal to dial pulse converter unit shall be for use with subscriber senders per SD-20011-02, ES-20012-02, SD-21826-01, SD-21839-01, or SD-21840-01.

**J27907F (A&M Only) — TOUCH-TONE Call-
ing Signal to Dial Pulse Converter
Unit for Operation With Manual or
Automatic TOUCH-TONE Dialers**

Equipment and Local Cable — J27907F-()

List 1 — Assembly, local cable, and common equipment for one TOUCH-TONE calling signal to dial pulse converter unit.

	WIRE	EQUIP
TOUCH-TONE Calling Signal to Dial Pulse Converter Circuit SD-21976-01, Fig. 1	1	1
Fig. 2	1	0
Fig. 3	1	1
Fig. 1, N Option Only	1	0

List 2 — Equipment per SD-21976-01, Fig. 1, option N, required in addition to list 1 when the associated TOUCH-TONE calling signal receiver has the HG-4 (1633 cps) channel equipped.

List 3 — Equipment per SD-21976-01, Fig. 2, required in addition to list 1 when the associated subscriber sender is arranged for automatic priming after time out or timed release operation.

5. GENERAL NOTES

Wiring

5.01 Surface wiring shall be 24-gauge BW-type wire.

5.02 All local cable wiring shall be 24-gauge BU-type wire.

Cabling

5.03 Switchboard cable shall be 24-gauge A-type cable.

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 first appeared.

EQUIPMENT	RATING	DETAILS	
		LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J27907A, L1, L2	Mfr Disc.	1	—
J27907B, L1, L2	Mfr Disc.	1	—

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