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COMMON SYSTEMS
660 COMMUNICATION PANEL CIRCUITS

CHANGES

D. Description of Changes

D.1 In FS 1, FS 6, and CAD 2, connecting information for using -24V (option Z) is added; use of -48V is made option W. In FS 1, ED-3C805-( ) was added on P2, and ED-3C661-( ) was added on the relay board.

D.2 In FS 3 and 4, connections to DSX are rated MD (option Y). Normal connections to T&R are option X.

D.3 APP Fig. 5 was revised.

D.4 CADs 4 through 7 were added.

D.5 Minor drafting errors are corrected.

D.6 Circuit Notes 101 and 104 were revised.

D.7 Circuit Note 102, the feature or option table, was revised to show option Y is MD and add options W and Z.

D.8 Circuit Note 103, the record of figures, wiring and apparatus changes table, was revised to show options W, X, Z (STD) and Y (MD).

D.9 The supporting information table was revised to show ED-3C661-( ) and ED-3C805-( ).

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DEPT 4222-RDT-WGS

COMMON SYSTEMS
660 COMMUNICATION PANEL CIRCUITS

SECTION I - GENERAL DESCRIPTION

1. PURPOSE OF CIRCUIT

1.01 The purpose of the ED-3C660 communication panel (660 communication panel) is to provide a general purpose telephone communication facility which can be used in any bay area of the telephone office.

2. GENERAL DESCRIPTION OF OPERATION

2.01 The 660 communication panel is 4 inches by 23 inches and, optionally, may contain a 17-inch writing shelf. The basic panel is equipped with a 10-button pickup key having a hold button, 7 buttons for telephone lines, and 2 for office intercom lines (FS 1); a pair of headset jacks; and a dialing circuit (FS 3 or FS 4). The hold feature is usually not applicable in offices that have only one outside telephone line. The type of dial, rotary of TOUCH-TONE (TM), is optional, and the panel can be converted from one type to the other if desired. Also provided, on an optional basis, is the circuit and equipment necessary to connect to remotely located headset jacks (FS 6). With this "belt line" feature, the remote jacks can be bridged on any pickup key position, thereby freeing the 660 panel for use on another telephone or intercom line. An E1-type gong ringer is also provided on an optional basis. The ringer is normally not supplied when the line(s) are connected through other equipment to the office alarm system for alerting purposes.

SECTION II - DETAILED DESCRIPTION

1. BASIC PANEL

1.01 When an incoming call is indicated by either the office signaling system or the optional ringer, it is answered by inserting a headset plug of an operator into the panel jacks and depressing the appropriate pickup key. The circuitry involved includes a 4228F network, a 647-type pickup key, multiple polarity guard circuits for incoming lines, a 241B transmitting amplifier, and a polarity guard for the TT dial (FS 2). The network is used as an interface between the dial, 4-wire headset via the jacks, and the pickup keys which, in turn, are connected to the 2-wire telephone or intercom lines. The amplifier is used to increase the power from the headset transmitter. Wiring to the network is a function of the type of dial used.

2. OPTIONAL RINGER CIRCUIT

2.01 An E1-type gong ringer is shown on an optional basis (FS 5).

3. REMOTE HEADSET JACK CIRCUIT AND OPERATION

3.01 When there is a need to extend the area in an office that can be served by a 660 panel, remote headset jacks can be connected to the panel when the hold function is available. This capability is available on an option basis and includes a rotary switch, an additional 4228F network, another 241B amplifier, a control relay circuit (FS 6), and an indicating light-emitting diode (LED). The -48 volt office battery is required to operate the relay and LED. To connect a call from the panel to the remote jacks, it is placed on hold and the headset pulled out. The rotary switch, which has a position corresponding to each pickup button, is moved to the appropriate button position that the call is on. Connection of a headset to the remote jacks takes the call off hold, and the transfer is completed. While the remote jacks are in use, the green BSY LED on the main panelis operated.

3.02 When the headset is inserted into the remote jacks, it operates the BSY LED and relay that completes the circuit between the rotary switch and the remote jack 4-wire to 2-wire network. As the headset plug is disengaged from the jacks, the relay is released, the LED goes out, and the T/R leads are opened before the A/A1 leads. This contact sequence is necessary because, if the A/A1 leads are opened first, that particular line would be put on hold and appear busy to an incoming call. If the rotary switch is changed to another position while the belt line is being used, the call will be terminated.

4. REMOTE JACK RESTRICTIONS ON USE

4.01 Any number of sets of remote jacks can be connected to a belt line. However, it is recommended that no more than three be used at any one time. A particular belt line of remote jacks can be used with only one 660 panel.

5. SIMULTANEOUS USE OF PANEL AND REMOTE JACKS

5.01 The 660 panel was designed so that, once a call has been transferred to either another panel or remote jacks, it can be used, independently of the transferred call, on another line or intercom.

SECTION III - REFERENCE DATA

1. WORKING LIMITS

1.01 Relay and LED circuit required -48 volts and draws 28 ±5 mA.

2. FUNCTIONAL DESIGNATIONS

2.01 None.

3. FUNCTIONS

3.01 The functions are given in SECTION I of this CD.

4. CONNECTING CIRCUITS

4.01 Normal telephone office key equipment such as the 1A1 or 1A2 telephone systems or to the line and trunk circuit, SD-99434-01.

4.02 DSX-1, -1C, -2 Interconnect Circuit - SD-99503-01

5. MANUFACTURING TESTING REQUIREMENTS

5.01 Normal continuity tests should be made on the panel after it has been wired. Connect -48 volts across terminals A1 and B1 on TBB. A1 is ground and B1 is -48 volts. Limit the current to 50 mA. Short terminals A2 and A3 (TBB) together. Relay K1 should operate and the BSY LED should light. Disconnect short circuit. The relay should release and the LED go out. When the relay releases, insure that contact number 2 opens before contact number 4. Disconnect the 48 volts from the panel.

SECTION IV - REASONS FOR REISSUE

CHANGES

B. Changes in Apparatus

B.1 Added

APP Fig. 7

B.2

Removed	Replaced by
1 - Rotary Dial S2 - APP Fig. 2 and FS 3, 6E-3	1 - Rotary Dial S2 - APP Fig. 2 and FS 3, 6EA-3

D. Description of Changes

D.1 This drawing is being reissued to correct the dial code in FS 3 and to add the circuit for the multiple polarity guard (ED-3C805-( )) in FS 1 to prevent an unacceptable operating condition from occuring. A portion of FS 3 was rewired because of the new dial.

D.2 APP Fig. 7 was added.

D.3 Circuit Note 111 was added, concerning connections to intercom systems.

D.4 CAD 3 was added.

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