

3-LINE, PUSHBUTTON DIAL, DESK TELEPHONES

GENERAL DESCRIPTION

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1. GENERAL DESCRIPTION

1.01 This document covers the 3-line, pushbutton dial, desk telephone. (See Figure 1.) A general description as well as information that is peculiar to 3-line, pushbutton dial, desk telephones is included.

1.02 This section is reissued to correct errors in the previous issue. Whenever this section is reissued, reason for reissue will be listed in this paragraph.



Figure 1: 3-Line, Pushbutton Dial, Desk Telephone

1.03 For additional information on replacement parts and for an exploded-view drawing for the telephones, refer to Section 50-576-104. The circuit labels appear in Section 50-576-105. Related documents of the ITT Telephone Apparatus Practices Manual provide information on components.

1.04 The Models 2576 and 2577 desk telephones are 3-line, pushbutton dial, desk telephones designed to provide access to three lines without the use of external switching equipment. Each line has its own hold key. The Models 2576 and 2577 desk telephones are similar except for an exclusion feature included in the Model 2577. These telephones are anti-sidetone type units that operate efficiently over a wide range of loop resistances and line impedances.

1.05 The Models 2576 and 2577 desk telephones are identified by a code number stamped in ink on the bottom of the base plate. Refer to ordering information in Table A for an explanation of each code number and a list of available versions and features.

pickup key; the left-hand key of each pair is the hold key.

2.02 The three line keys are interlocking so that only one line may be picked up at any one time. However, one or more lines may be placed on hold at any one time. Each pair of keys is interlocking. Any operated hold key will be released when its line key is pressed. Restoring the handset will also release any operated hold key.

2.03 The right-hand pair of keys may be adapted for manual intercom. For this modification, refer to paragraph 9 of this document.

3. OPERATOR RECALL BUTTON

3.01 Since the cradle plunger will release any operated hold key when pressed, a method other than flashing the hookswitch must be used to signal the operator. A special pushbutton is installed for this purpose. This pushbutton (located just forward of the handset cradle) is also used to obtain dial tone when momentarily pressed. The operator recall button has normally-closed contacts.

4. GROUNDING PUSHBUTTON

4.01 Telephone sets with feature code 41 include a grounding pushbutton switch required in some PABX applications for transferring calls, originating calls during a power failure, and other special functions. This grounding pushbutton switch has normally-open contacts.

5. VISUAL SIGNALS

5.01 A neon lamp under each line key indicates an incoming call. An incandescent lamp under each hold key indicates a held line or a busy line. A 10VAC power source is required for operation of the incandescent lamps. The neon lamps are operated by ringing voltage on the line.

6. OPERATION

6.01 During the ringing cycle, the neon lamp for the called line will flash, and the ringer (if connected to that line) will audibly signal that a call is to be answered. To answer the call, the handset is removed from the cradle and the appropriate line pickup key is pressed.

Note: The ringer is factory-wired to line 1. An extension ringer, common audible signal unit,

or second and third telephone must be used for the second and third incoming line.

6.02 To make an outgoing call, remove the handset from the cradle, press the appropriate line pickup key and dial the desired number.

6.03 Any line that is picked up may be placed on hold by pressing the hold key for that line. To return to a line on hold, press the line pickup key again. The hold key will be released and any other line key that is pressed will be released. Any operated hold key will automatically be released when the handset is placed in the cradle.

7. OPTIONAL ARRANGEMENTS

7.01 Three types of arrangements are possible with 3-line telephones. The first arrangement is for three CO lines without intercom. The second arrangement is for two CO lines and manual intercom. The third arrangement is for two CO lines and dial-selective intercom equipped for Tel-Touch operation.

7.02 A different power supply is recommended for each arrangement. An ITT 41-101 Power Transformer (9 VAC output) is recommended for the first arrangement. A commercial power supply with outputs of 9 VDC, 10 VAC, and a signaling voltage (Lorain T-16A or equivalent) is recommended for the second arrangement. A key system type power supply is recommended for the third arrangement, which uses a 307A rotary, dial-selective intercom circuit (or other dial-selective intercom circuit) equipped for Tel-Touch operation. The power requirements for a 307A circuit are -24 VDC, 10 VAC, and if ringing voltage is required, 105 VAC, 30 Hz. (See Figure 2.)

Note: It is recommended that no more than five telephones be connected in parallel.

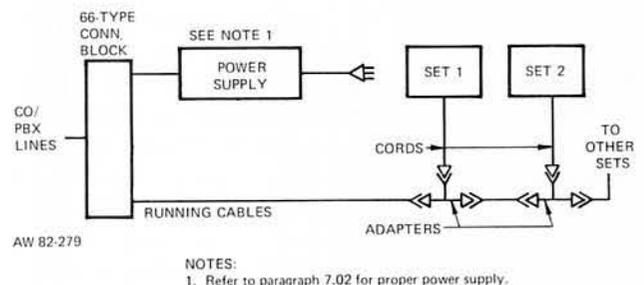


Figure 2: Optional Arrangements for 3-Line Telephones

8. INSTALLATION

8.01 Mount a 66-type connecting block to a wall or panel convenient to a 110 VAC wall service outlet that is not controlled by a switch that could be accidentally turned off. Mount the power supply near the connecting block.

8.02 Only 19 conductors are required for each station running cable. The connection chart shown in Table B is for standard 25-pair cable connections. The running cable is fanned out and terminated onto the 66-type connecting block and connected in multiple to 50-pin adapters which are installed at each station.

8.03 Since the mounting cords for these telephones are terminated in an Amphenol-type plug, installation consists of simply plugging into the appropriate cable connector or station adapter.

8.04 Installing an exclusion telephone, such as the Model 2577, will necessitate changes in the connection of any excluded telephone, either within the telephone or at its connecting block assembly. Refer to paragraph 10 of this document for exclusion telephone modifications.

8.05 For manual intercom, all signaling buttons are in parallel across terminals 5 and 15 of the connecting block, and all buzzers are in parallel across terminals 39 and 40. When any signaling button is pressed, all buzzers will sound. Therefore, a signaling code must be assigned to each station, such as one short, one long, two short, and so forth, so each party will know when to answer an intercom call.

8.06 For dial-selective intercom, each station requires an individual signal lead from the intercom unit to pin 20 of the 50-pin station adapter. (Spare conductors of the running cable are used for this purpose.) For example, if the intercom designated number 2 travels through the VI-BL conductor of the running cable and is connected to pin 46 of all the station adapters, remove the rear cover of the adapter and solder a strap from pin 46 to pin 20 at the station that is assigned intercom number 2. Repeat this procedure at other station adapters by strapping the pin which carries that station intercom number to pin 20 of that station adapter.

8.07 Buzzers may be used for intercom signaling with both manual and dial intercom. Connect each buzzer across the WH-YL and the WH-YL-BL leads within the telephone.

8.08 Connect the power supply as indicated using 18 AWG wire. If the power supply provides a grounding terminal, a 14 gauge ground wire should be connected from this grounding terminal to a proper earth ground such as a metal cold water pipe or ground rod.

9. INTERCOM

A. Manual Intercom

9.01 Line 3 (terminals 3T and 3R on the key terminal board) is used for manual intercom. The hold key of line 3 may be used for signaling. The signal circuit is connected at the S1 and LG terminals of the key terminal board. A power supply providing talk and signal power must be provided in the respective circuits. To convert the number 3 hold key to the signaling mode, unscrew the interlock screw from the hold plunger approximately eight turns, until it clears the interlock slides. Insert the helical spring (provided with the telephone under the head of the interlock screw) as shown in Figure 3.

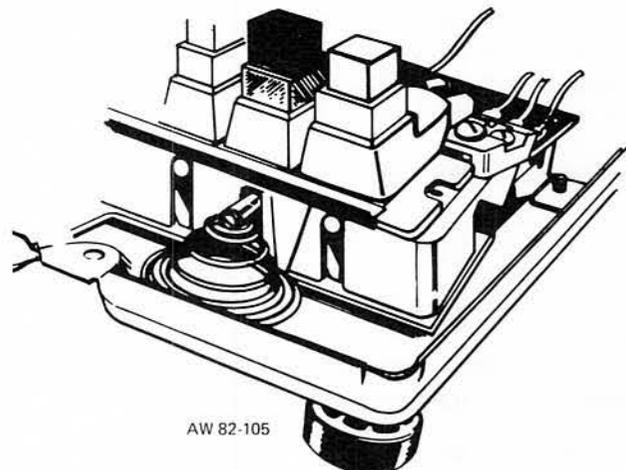


Figure 3: Hold Key To Signal Key Conversion

B. Dial-Selective Intercom

9.02 Line 3 is generally used as the intercom line. A 307A KTU equipped for Tel-Touch operation and a power supply are connected to the system at one of the connecting blocks. A buzzer must be

TABLE B
CONNECTION CHART FOR 3-LINE TELEPHONES

DIAL INTERCOM		MANUAL ICM T-16A P SUPP	41-101 TRNSFM	CO/PBX LINES	CONNECTING BLOCK	RUN CABLE	PLUG PIN	CORD	TERM IN SET	EXL SWITCH 577, 2577
POWER SUPPLY	307A KTU									
LG, SG	B32	GROUND	GROUND	1 T R	1 0 0 0	WH-BL	26	GN	1T	
					2 0 0 0	BL-WH	1	RD	1R	
					3 0 0 0	WH-OR	27	BK	G*	
		LB	LB	2 T R	4 0 0 0	OR-WH	2	YL	L1*	
		10V	10V		5 0 0 0	WH-GN	28	WH-SL-BK	LG, SG	
					6 0 0 0	GN-WH	3	WH-SL-YL	1L	
	B1	AG			7 0 0 0	WH-BN	29	WH	2T	
	B2	AB			8 0 0 0	BN-WH	4	BL	2R	
				EARTH GND †	9 0 0 0	WH-SL	30	WH-BN-GN	LB1	
					10 0 0 0	SL-WH	5	WH-BN-RD	E1*	
					11 0 0 0	RD-BL	31			
					12 0 0 0	BL-RD	6	WH-SL-BL	2L	
					13 0 0 0	RD-OR	32	WH-BN-BK	3T	
					14 0 0 0	OR-RD	7	WH-BN-YL	3R	
	B29				15 0 0 0	RD-GN	33	WH-BN	S1	
					16 0 0 0	GN-RD	8	WH-BN-BL		
					17 0 0 0	RD-BN	34			
					18 0 0 0	BN-RD	9	WH-SL	3L	
					19 0 0 0	RD-SL	35			
					20 0 0 0	SL-RD	10			
					21 0 0 0	BK-BL	36			
					22 0 0 0	BL-BK	11			
					23 0 0 0	BK-OR	37			
					24 0 0 0	OR-BK	12			
					25 0 0 0	BK-GN	38			
					26 0 0 0	GN-BK	13			
					27 0 0 0	BK-BN	39			
					28 0 0 0	BN-BK	14			
					29 0 0 0	BK-SL	40			
					30 0 0 0	SL-BK	15			
					31 0 0 0	YL-BL	41			
					32 0 0 0	BL-YL	16			
					33 0 0 0	YL-OR	42			
					34 0 0 0	OR-YL	17			
					35 0 0 0	YL-GN	43			
					36 0 0 0	GN-YL	18			
				PBX GND ▲	37 0 0 0	YL-BN	44	WH-GN		
					38 0 0 0	BN-YL	19	WH-YL		
					39 0 0 0	YL-SL	45	WH-YL-BL		
					40 0 0 0	SL-YL	20			
					41 0 0 0	VI-BL	46 #			
2	A12				42 0 0 0	BL-VI	21 #			
3	A13				43 0 0 0	VI-OR	47 #			
4	A14				44 0 0 0	OR-VI	22 #			
5	A15				45 0 0 0	VI-GN	48 #			
6	A16				46 0 0 0	GN-VI	23 #			
7	A17				47 0 0 0	VI-BN	49 #			
8	A18				48 0 0 0	BN-VI	24 #			
9	A19				49 0 0 0	VI-SL	50 #			
0	A20				50 0 0 0	SL-VI	25			
ICM NO										

AW 82-108 * Terminals on Network. Other terminals are on Key Terminal Board.
 # At each Station Adapter, strap from Pin 20 to the pin which carries that station intercom number. For example, at station number 5, strap from Pin 20 to Pin 22.
 † Tel-Touch Telephones Only.
 ▲ Strap from PBX GND to Row 38 for Telephones equipped with Feature 41 (Grounding button).

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provided at each telephone. (Refer to 36-307-101 for installation instructions on the 307A KTU.)

10. MODIFICATIONS FOR EXCLUSION

10.01 The exclusion switch in the Model 2577 telephone is normally connected to line 1. The following instructions pertain to installing a telephone with one of the lines excluded from other telephones when the exclusion switch is operated.

10.02 Connect all telephones in the normal manner.

On all telephones to be excluded, remove the housing. Disconnect the RD and GN leads of the mounting cord from terminals 1R and 1T of the key terminal board. Individually tape and store these leads. Connect the YL and BK leads of the mounting cord to terminals 1R and 1T, respectively, of the key terminal board.

10.03 To exclude line 2 or line 3 instead of line 1, move the RD-YL and GN-YL leads of the exclusion switch from 1R and 1T of the key terminal board to R and T, respectively, of the key terminal board for the line to be excluded. On all telephones to be excluded, disconnect the leads of the mounting cord from R and T of the key terminal board for the

line that is excluded, and connect the YL and BK leads of the mounting cord to R and T, respectively, of the key terminal board.

11. RINGER WIRING

11.01 The self-contained ringer is normally connected to 1R and 1T of line 1. It may be connected to another line by moving the RD and BK ringer leads from 1R and 1T to 2R and 2T or 3R and 3T. Externally-mounted straight-line ringers, or biased-type ringers (having a 0.50 Mfd 400V paper capacitor connected in series with one lead) may be connected to other lines as required.

11.02 An optional common audible signal unit (code number 144-OCA) is also available and may be installed inside the telephone in place of a ringer. This unit provides an audible signal for all three lines of the telephone.

12. MAINTENANCE

12.01 For replacement parts information and for an exploded-view drawing of major assembly groups, refer to Section 50-576-104.