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ATTENDANT AND STATION EQUIPMENT

METHOD OF OPERATION

761B PBX

1. GENERAL

1.01 This section covers the method of operating the attendant console and station positions used with the 761B PBX. Information in this section is also intended for use as an overall operation test of the 761B PBX.

1.02 This section is reissued to:

- (a) Revise Table C for digit absorbing call controller operation
- (b) Add attendant switch hook operation
- (c) Add separate Table H for hold operation
- (d) Add separate Table K for message waiting
- (e) Revise and clarify Tables B through J and change the table designations as follows:

TABLE PER ISSUE 1	TABLE PER ISSUE 2
A-D	A-D
E	—
F	E
G	F
H	G
—	H
I-J	I-J
—	K

Since this issue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 If the central office is equipped to recognize a toll call by sending reverse battery and ground, the station originated central office call (Table C) will be diverted to local PBX busy tone.

1.04 If the central office is not equipped to recognize a toll call, the locally provided call controller will monitor the digits dialed and return

local PBX busy tone when a code not designated to be passed is dialed.

1.05 The procedures in Steps 6 through 14 of Table C may be used to verify the operation of the call controller. The non-digit absorbing call controller will return busy tone after the first digit when a 0 or 1 is dialed, and after the third digit when a non-allowed three digit code is dialed. The digit absorbing call controller will return busy tone whenever it is determined a nonallowed code is dialed either after the first, second, or third dialed digit.

1.06 Perform Steps 1 through 13 of Table H once per PBX system and Steps 14 through 19 once per trunk.

1.07 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 2 of this section, indicates an action which may or may not be required depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

1.08 A message register associated with a station will score on all completed central office calls originated by a station. Local instructions should be followed for reporting and recording the register operation caused by performing this test.



If it is necessary to remove a trunk unit or call controller for repair or maintenance, strap out its associated chaining terminals before removal to provide uninterrupted service. Refer to Section 551-728-210 for method of applying straps.

2. METHOD OF OPERATION

2.01 When overall operational tests of the PBX are made, PBX stations, test desks, etc, should be employed to establish the necessary conditions for tests. To test a particular circuit, it may be necessary to busy out other circuits in the group to force its selection.

Caution: Care should be exercised when busying equipment during busy periods to prevent adverse service reactions.

2.02 To seize a particular central office trunk, block operated all CSL relays preceding the central office trunk to be tested.

2.03 To seize a particular toll trunk, block operated all TSL relays preceding the toll trunk to be tested.

2.04 To seize a particular intra-PBX trunk, block operated all PSL relays preceding the intra-PBX trunk to be tested.

2.05 The console is equipped with a rotary or TOUCH-TONE® dial, control keys, volume adjustable tone generator, trouble alarm lamp, and key units for trunk pickup and supervision. The control keys are:

- (a) REMOTE ANSWER—Turn key that permits answering incoming calls at a station telephone set.
- (b) RELEASE—Nonlocking pushbutton key that permits attendant to release established station connections
- (c) HOLD 1 and HOLD 2—Nonlocking pushbutton keys that permit attendant to hold calls
- (d) LOCAL—Nonlocking pushbutton key that permits attendant to answer and gain access to central office trunks
- (e) LONG DISTANCE—Nonlocking pushbutton key that permits attendant to answer incoming toll trunk calls

(f) ROOM—Nonlocking pushbutton key that permits attendant to answer and gain access to intra-PBX trunks

(g) ALARM—Turn key that permits attendant to silence alarm bell.

2.06 When the attendant is connected to a trunk, an incoming call of the same type trunk will cause the tone ringer to sound. A visual signal will appear when the attendant releases from this trunk.

2.07 The console is equipped with a field of 40 nonlocking pushbutton keys for direct station selection (DSS). Each key is equipped with a station busy lamp (SBL). An unlighted lamp indicates an idle condition and a steadily lighted lamp indicates a line busy condition.

2.08 When an attendant originated station call is made, the attendant must operate the ROOM key and then connect to the desired station by depressing the associated DSS key.

2.09 The console is equipped with a message waiting key for each station. Operation of a message waiting key causes the message waiting lamp to flash at the selected station.

2.10 Index for Typical Call Tables:

- A. Legend
- B. Incoming Central Office Trunk Call
- C. Outgoing Central Office Trunk Call
- D. Attendant To Toll Operator Call
- E. Station To Toll Operator Call
- F. Attendant To PBX Station Call
- G. Station to Station Call
- H. Hold Operation
- I. Remote Answer
- J. Abandoned Call Time-Out
- K. Message Waiting

TABLE A — LEGEND

KEY OPERATION		FINAL	LAMP OPERATION
O	Operated	○	Steadily lighted
MO	Momentarily Operated	●	Dark
R	Released	⊙60	Flashing — 60 ipm
		⊙120	Flashing — 120 ipm

TABLE B — INCOMING CENTRAL OFFICE TRUNK CALL

STEP	CONDITION								RESULTS			
	ACTION	CONSOLE							REMARKS			
		RCVR	KEYS				LAMPS					
			RE-LEASE	LOCAL	HOLD 1 or 2	DSS	LOCAL	1 SBL				HOLD 1 or 2
Incoming Call — Console Idle												
1	Idle condition	On-hook						●	●	●		
2	Ring from CO						60	●	●		Tone ringer sounds	
3	ATND answers	Off-hook		MO				○	●	●	Tone ringer silenced — ATND and CO connected	
Call Extended to Idle Station — Station Does Not Answer												
4	ATND selects station					MO		○	○	●	Audible ringing tone heard by ATND and CO — Station ringer sounds	
5	ATND holds call				MO			●	○	○	Console available for other calls	
6	ATND disconnects	On-hook						●	○	○		
7	Station does not answer							●	○	○		
8	ATND reenters call	Off-hook			MO			○	○	●	ATND reconnected to CO	
9	ATND releases station		MO					○	●	●	Audible ringing tone and station ringer silenced	
Call Extended to Idle Station — Station Answers												
10	ATND selects station					MO		○	○	●	Audible ringing tone heard by ATND and CO — Station ringer sounds	
11	ATND holds call				MO			●	○	○	Console available for other calls	
12	ATND disconnects	On-hook						●	○	○		
13	Station answers							●	○	●	Audible ringing tone and station ringer silenced — Station and CO connected	

TABLE B — INCOMING CENTRAL OFFICE TRUNK CALL (Cont)

STEP	CONDITION							RESULTS			REMARKS		
	ACTION	CONSOLE											
		RCVR	KEYS				LAMPS						
			RE-LEASE	LOCAL	HOLD 1 or 2	DSS	LOCAL					1 SBJ	HOLD 1 or 2
14	Station and CO disconnect							●	●	●	Station and CO trunk idle		
Call Extended to Idle Station — Attendant Remains On Call Until Station Answers													
15	Repeat Steps 1 through 3							○	●	●	ATND and CO connected		
16	ATND selects station					MO		○	○	●	Audible ring heard by ATND and CO		
17	Station answers							○	○	●	Audible ring silenced — ATND, CO, and station connected		
18	ATND disconnects	On-hook						●	○	●	Station and CO connected		
Station Recall to Attendant													
19	Station recalls ATND (sta flash)							○ ¹²⁰	○	●	Tone ringer sounds		
20	ATND answers recall	Off-hook		MO				○	○	●	Tone ringer silenced — ATND, CO, and station connected		
21	ATND releases station		MO					○	○	●	ATND and CO connected		
22	Station disconnects							○	●	●			
Incoming Call — Console Busy													
23	Second trunk seized by CO							○	●	●	Tone ringer sounds		
24	ATND and first CO trunk disconnect	On-hook						○ ⁶⁰	●	●			
25	ATND answers	Off-hook		MO				○	●	●	ATND and CO connected		
26	ATND and CO disconnect	On-hook						●	●	●	ATND console and CO trunk idle		

TABLE C — OUTGOING CENTRAL OFFICE TRUNK CALL

STEP	CONDITION					RESULTS	
	ACTION	CONSOLE				REMARKS	
		RCVR	KEY	LAMPS			
			LOCAL	LOCAL	1 SBL		
Attendant Originated							
1	Idle condition	On-hook		●	●		
2	ATND seizes CO trunk	Off-hook	MO	○	●	CO dial tone heard by ATND	
3	ATND dials CO test desk			○	●	Audible ringing tone heard — (Call may be extended — See Table B for method)	
4	CO test desk answers			○	●	Audible ringing tone silenced — ATND and CO connected	
5	ATND and CO disconnect	On-hook		●	●	Console and CO trunk idle	
Station Originated Code Allowed Call							
6	Idle condition			●	●		
7	Station goes off-hook			●	○	PBX dial tone heard	
8	Station dials digit assigned for CO trunk			●	○	CO dial tone heard	
9	Station dials CO code allowed charge call			●	○	Audible ringing tone heard	
10	Called party answers			●	○	Message register associated with station scores (See note)	
11	Station and called party disconnect			●	●	Station and CO trunk idle	
Station Originated Toll Diverted or Code Restricted Call							
12	Repeat Steps 6 through 8			●	○	CO dial tone heard	
13	Station dials toll diverted or code restricted call			●	○	Busy tone heard — CO trunk released	
14	Station disconnects			●	●	Station idle	

Note: Register may score on disconnect

TABLE D — ATTENDANT TO TOLL OPERATOR CALL

STEP	CONDITION				RESULTS	
	ACTION	CONSOLE			REMARKS	
		RCVR	KEY	LAMP		
			LOCAL	LOCAL		
1	Idle condition	On-hook		●		
2	ATND seizes CO trunk	Off-hook	MO	○	CO dial tone heard by ATND	
3	ATND dials access code for toll operator			○	Audible ringing tone heard	
4	Toll operator answers			○	Audible ringing silenced — ATND connected to toll operator	
5	ATND and toll operator disconnect	On-hook		●	ATND and toll operator trunk idle	

TABLE E — STATION TO TOLL OPERATOR CALL

STEP	CONDITION				RESULTS	
	ACTION	CONSOLE			REMARKS	
		RCVR	KEY	LAMPS		
			LONG DIS-TANCE	LONG DIS-TANCE		1 SBL
1	Idle condition	On-hook		●	●	
2	Station goes off-hook			●	○	PBX dial tone heard
3	Station dials digit assigned for toll trunk			●	○	Audible ringing tone heard
4	Toll operator answers			●	○	Audible ringing tone silenced — Station and toll operator connected
Delayed Call — Toll Operator Rerings Station						
5	Station disconnects			●	○	Trunk held by toll operator

TABLE E — STATION TO TOLL OPERATOR CALL (Cont)

STEP	CONDITION				RESULTS		
	ACTION	RCVR	CONSOLE		REMARKS		
			KEY	LAMPS			
			LONG DIS-TANCE	LONG DIS-TANCE	1 SBL		
6	Toll operator rerings station			●	○	Station ringer sounds	
7	Station answers			●	○	Station ringer silenced — Station and toll operator connected	
8	Station disconnects			●	○	Trunk held by toll operator	
9	Toll operator disconnects			●	●	Trunk and station idle	
Recall to Attendant							
10	Toll operator recalls ATND			60	●	Tone ringer sounds	
11	ATND answers	Off-hook	MO	○	●	Tone ringer silenced — ATND and toll operator connected	
Recall to Busy Attendant							
12a	If more than one toll trunk is provided, second trunk seized by toll operator			○	●	Tone ringer sounds	
13a	ATND disconnects	On-hook		60	●	First trunk disconnected from console — Tone ringer continues to sound	
14a	ATND answers	Off-hook	MO	○	●	Tone ringer silenced — ATND and toll operator connected	
15	ATND and toll operator disconnect	On-hook		●	●	ATND and toll operator trunk idle	

TABLE F — ATTENDANT TO PBX STATION CALL

STEP	CONDITION							RESULTS	
	ACTION	CONSOLE						REMARKS	
		RCVR	KEYS			LAMPS			
			RE-LEASE	ROOM	DSS	ROOM	1 SBL		
Attendant to Station Call									
1	Idle condition	On-hook					●	●	
2	ATND seizes intra-PBX trunk	Off-hook		MO			○	●	
3	ATND selects station				MO		○	○	Audible ringing tone heard — Station ringer sounds
4	Called station answers						○	○	Audible ringing tone and station ringer silenced — ATND and station connected
5	ATND and station disconnect	On-hook					●	●	ATND and station idle

TABLE G — STATION TO STATION CALL

STEP	CONDITION										RESULTS		
	ACTION	CONSOLE									REMARKS		
		RCVR	KEYS					LAMPS					
			RE-LEASE	HOLD 1 or 2	ROOM	DSS 1	DSS 2	HOLD 1 or 2	ROOM	1 SBL		2 SBL	
1	Idle condition	On-hook							●	●	●	●	
2	Station goes off-hook								●	●	○	●	PBX dial tone heard
3	Station dials digit for ATND								●	(120)	○	●	Tone ringer sounds — Audible ringing tone heard
4	ATND answers	Off-hook			MO				●	○	○	●	Tone ringer and audible ringing tone silenced — Station and ATND connected

TABLE G — STATION TO STATION CALL (Cont)

STEP	CONDITION							RESULTS						
	ACTION	CONSOLE										REMARKS		
		RCVR	KEYS					LAMPS						
			RE-LEASE	HOLD 1 or 2	ROOM	DSS 1	DSS 2	HOLD 1 or 2	ROOM	1 SBL	2 SBL			
Call Extended to Busy Station														
5	ATND selects desired station — (Operates lighted DSS key)					MO		●	○	○	●	Busy tone heard by ATND and calling station		
6	ATND releases busy tone		MO					●	○	○	●	Busy tone silenced — ATND and calling station connected		
7a	If no other tests are to be performed, ATND and calling station disconnect	On-hook						●	●	●	●			
Call Extended to Idle Station — Attendant Releases Answered Station														
8	ATND selects idle station					MO		●	○	○	○	Audible ringing tone heard — Station ringer sounds		
9	Called station answers							●	○	○	○	Audible ringing tone and station ringer silenced — ATND and two stations connected		
10	ATND releases called station		MO					●	○	○	○	Called station disconnected — ATND and calling station connected		
11	Called station disconnects							●	○	○	●			
12a	If no other tests are to be performed, ATND and calling station disconnect	On-hook						●	●	●	●			
Call Extended to Idle Station — Attendant Disconnects														
13	ATND selects idle station					MO		●	○	○	○	Audible ringing tone heard by ATND and calling station		
14	ATND holds call			MO				○	●	○	○	Console available for other calls		
15	ATND disconnects	On-hook						○	●	○	○			
16	Called station answers							●	●	○	○	Called and calling stations connected		

TABLE G — STATION TO STATION CALL (Cont)

STEP	CONDITION										RESULTS			
	ACTION	RCVR	CONSOLE								REMARKS			
			KEYS				LAMPS							
			RE-LEASE	HOLD 1 or 2	ROOM	DSS 1	DSS 2	HOLD 1 or 2	ROOM	1 SBL		2 SBL		
17	Called station disconnects									●	●	○	○	
18	Calling station disconnects									●	●	●	●	
Station Calls Busy Attendant														
19	Repeat Steps 1, 2, and 3									●	○	○	●	Tone ringer sounds — Audible ringing tone heard —
20	ATND disconnects from previous call	On-hook								●	(120)	○	●	Tone ringer and audible ringing tone continue to sound
21	ATND answers	Off-hook			MO					●	○	○	●	Tone ringer and audible ringing tone silenced
22	ATND and station disconnect	On-hook								●	●	●	●	

TABLE H — HOLD OPERATION

STEP	CONDITION										RESULTS			
	ACTION	RCVR	CONSOLE								REMARKS			
			KEYS				LAMPS							
			TRUNK *	HOLD 1	HOLD 2	TRUNK *	HOLD 1	HOLD 2						
1	Idle condition	On-hook							●	●	●			
2	Incoming trunk call to ATND		CO or toll operator trunk						(60)	●	●	Tone ringer sounds		
			Intra-PBX trunk						(120)	●	●			
3	ATND answers	Off-hook	MO						○	●	●	Tone ringer silenced — ATND and trunk connected		

* LOCAL, LONG DISTANCE, or ROOM

TABLE H — HOLD OPERATION (Cont)

S T E P	CONDITION							RESULTS		
	ACTION	CONSOLE						REMARKS		
		RCVR	KEYS			LAMPS				
			TRUNK *	HOLD 1	HOLD 2	TRUNK *	HOLD 1		HOLD 2	
Attendant Holds First Trunk Call										
4	ATND holds call			MO		●	○	●	Console available for other calls	
5	ATND disconnects	On-hook				●	○	●		
Second Incoming Trunk Call										
6	Incoming trunk call to ATND	CO or toll operator trunk				60	○	●	Tone ringer sounds	
		Intra-PBX trunk				120	○	●		
7	ATND answers	Off-hook	MO			○	○	●	Tone ringer silenced — ATND and trunk connected	
Attendant Holds Second Trunk Call										
8	ATND holds call			MO		●	○	○	Console available for other calls	
9	ATND disconnects	On-hook				●	○	○		
Attendant Releases First Held Call										
10	ATND reenters held call	Off-hook	MO			○	●	○	ATND and first trunk connected	
11	ATND and trunk disconnect	On-hook				●	●	○	Console available for other calls	
Attendant Releases Second Held Call										
12	ATND reenters held call	Off-hook		MO		○	●	●	ATND and second trunk connected	

* LOCAL, LONG DISTANCE, or ROOM

TABLE H — HOLD OPERATION (Cont)

STEP	CONDITION							RESULTS		
	ACTION	RCVR	CONSOLE						REMARKS	
			KEYS			LAMPS				
			TRUNK *	HOLD 1	HOLD 2	TRUNK *	HOLD 1	HOLD 2		
13	ATND and trunk disconnect	On-hook				●	●	●	Console available for other calls	
Hold 1 and Hold 2 — Same Trunk										
14	Repeat Steps 1 through 5	On-hook				●	○	●		
15	ATND reenters held call	Off-hook		MO		○	●	●	ATND and trunk connected	
16	ATND holds call				MO	●	●	○	Console available for other calls	
17	ATND disconnects	On-hook				●	●	○		
18	ATND reenters held call	Off-hook			MO	○	●	●	ATND and trunk connected	
19	ATND and trunk disconnect	On-hook				●	●	●	Console available for other calls	

* LOCAL, LONG DISTANCE, or ROOM

TABLE I — REMOTE ANSWER

STEP	CONDITION					RESULTS		
	ACTION	CONSOLE				REMARKS		
		KEYS		LAMPS				
		RE-MOTE ANSWER	*	*	1 SBL		2 SBL	
1	Idle condition			●	●	●		
2	ATND prepares for remote answering	O		●	●	●	Any incoming call to PBX ATND may be answered from any station	
Incoming Call								
3	Incoming trunk call to ATND	CO or toll operator trunk			⊙60	●	●	Remote answer bell sounds
		Intra-PBX trunk			⊙120			
4	Answering station off-hook	CO or toll operator trunk			⊙60	○	●	PBX dial tone heard — Remote answer bell continues to sound
		Intra-BPX Trunk			⊙120			
5	Station dials single digit assigned for remote answer feature				○	○	●	Remote answer bell silenced — Answering station and incoming call connected
Call Extended to Busy Station								
6	Answering station flashes switch hook				○	○	●	PBX dial tone heard — Incoming call held
7	Answering station dials own station code				○	○	●	Busy tone heard at answering station
8	Answering station flashes switch hook				○	○	●	Answering station and incoming call connected
Idle Called Station Does Not Answer								
9	Answering station flashes switch hook				○	○	●	PBX dial tone heard — Incoming call held

* LOCAL, LONG DISTANCE, or ROOM

TABLE I — REMOTE ANSWER (Cont)

STEP	CONDITION					RESULTS		
	ACTION	CONSOLE					REMARKS	
		KEYS		LAMPS				
		RE-MOTE AN-SWER	*	*	1 SBL	2 SBL		
10	Answering station dials idle station code			○	○	○	Audible ringing tone heard — Station ringer sounds	
11	Answering station flashes switch hook			○	○	●	Audible ringing tone and station ringer silenced — Answering station and incoming call connected	
Idle Called Station Answers								
12	Answering station flashes switch hook			○	○	●	PBX dial tone heard — Incoming call held	
13	Answering station dials idle station code			○	○	○	Audible ringing tone heard — Called station ringer sounds	
14	Called station answers			○	○	○	Audible ringing tone and station ringer silenced — 3-Way conversation satisfactory	
15	Answering station disconnects			●	●	○	Called station and incoming call connected	
16	Called station and incoming trunk disconnects			●	●	●		
Incoming Trunk Call Transferred to Attendant Console								
17	Idle condition			●	●	●		
18	Incoming trunk call to ATND	CO or toll operator trunk		○ 60	●	●	Remote answer bell rings	
		Intra-PBX trunk		○ 120	●	●		
19	Answering station off-hook	CO or toll operator trunk		○ 60	○	●	PBX dial tone heard — Remote answer bell continues	
		Intra-PBX trunk		○ 120	○	●		

* LOCAL, LONG DISTANCE, OR ROOM

TABLE I — REMOTE ANSWER (Cont)

S T E P	CONDITION					RESULTS	
	ACTION	CONSOLE				REMARKS	
		KEYS		LAMPS			
		RE- MOTE AN- SWER	*	*	1 SBL		2 SBL
20	Station dials single digit assigned for remote answer feature			○	○	●	Remote answer bell silenced — Answering station and incoming call connected
21	Leave answering station off-hook			○	○	●	
22	At ATND console — Remove handset			○	○	●	
23	Seize incoming trunk		MO	○	○	●	
24	Release remote answer feature	R		○	○	●	Incoming call and ATND console connected — Answering station hears PBX dial tone
25	Replace answering station receiver on-hook			○	●	●	
26	ATND console and incoming trunk disconnect			●	●	●	

* LOCAL, LONG DISTANCE, or ROOM

TABLE J — ABANDONED CALL TIME-OUT

STEP	CONDITION		RESULTS	
	ACTION		CONSOLE	REMARKS
			LAMP	
			1 SBL	
1	Idle condition		●	
2	Station removes handset from switch hook		○	PBX dial tone heard
3	Station remains off-hook		○	Busy tone returned after 6 seconds
4	Station replaces handset on switch hook		●	
5	Station removes handset from switch hook		○	PBX dial tone heard
6	Station replaces handset on switch hook		●	

TABLE K — MESSAGE WAITING

STEP	CONDITION			RESULTS		
	ACTION			CONSOLE	STATION	REMARKS
				KEY	LAMP	
				MW	MW	
1	ATND indicates message waiting		O	○60	Message waiting lamp flashes	
	Station idle			●		
2	Station busy			○60	Message waiting lamp flashes	
3	Busy station becomes idle			R	●	
	ATND removes message waiting					