# VOICE CONNECTING ARRANGEMENTS QKT AND QKTBT 30-TYPE VOICE COUPLER

### 1. GENERAL

1.01 This section provides identification, installation, operation, maintenance and connection information for the 30-type voice coupler when used to provide Voice Connecting Arrangements (VCA) QKT and QKTBT. Voice Connecting Arrangement QKT may use either the 30A (MD) or 30B coupler to permit voice transmission only from the customer-provided (CP) equipment. Voice Connecting Arrangement QKTBT uses the 30B voice coupler to permit voice transmission and tone address signaling from the CP equipment.

### 1.02 This section is reissued to:

- Include information on the use of exclusion switch contacts to disable the transmitter and receiver.
- 1.03 This section provides information on modification and connections to be made to telephone sets to permit their use with voice couplers.
- 1.04 If the customer wants a copy of the Technical Reference which covers this interface specification, the customer should contact the local Telephone Company Business Office or the Marketing Representative.

### 2. IDENTIFICATION

2.01 Purpose: To provide 2-wire connection of CP voice transmitting and/or receiving equipment to Bell System lines. These couplers must be associated with a Bell System set equipped with an exclusion key. The coupler provides do isolation and limits excessive signals.

### 2.02 Ordering Guide (Fig. 1 and 2):

- Coupler, Voice, 30A\*
- Coupler, Voice, 30A\*, modified for R.F.I. (4.02)
- Coupler, Voice, 30B\*

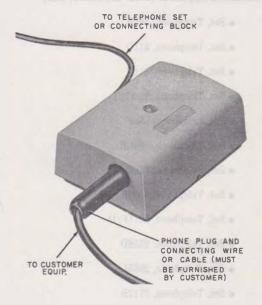


Fig. 1—30-Type Voice Coupler

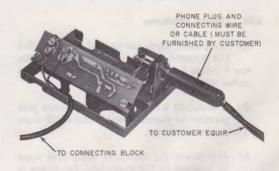


Fig. 2—30-Type Voice Coupler, Cover Removed

- Coupler, Voice, 30B\*, modified for R.F.I.
  - \* -49 (Light olive gray).

### Associated Apparatus (Order Separately, 3.02)

- Set, Telephone, 502B
- Set, Telephone, 511D
- Set, Telephone, 511F
- Set. Telephone, 558C/D
- Set, Telephone, 558F
- Set, Telephone, 565LK
- Set, Telephone, 712B
- Set, Telephone, 2502B
- Set, Telephone, 2511F/H
- Set, Telephone, 2558D
- Set, Telephone, 2565LK
- Set, Telephone, 2712B
- Parts, Kit of D-179935 (exclusion switch for 565-or 2565LK telephone set).

### 2.03 Design Features:

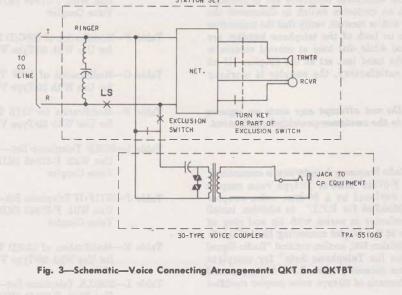
- (a) Component parts are housed in a modified 74A connecting block. Approximate dimensions are 4 inches long by 2-3/4 inches wide by 1-5/8 inches deep.
- (b) A standard 0.25-inch tip-sleeve phone jack permits the electrical connection of CP voice communication device.
- (c) Any power for customer equipment must be supplied by the customer. DC power is not available at the coupler and must not be applied to the coupler.
- (d) 30A and 30B couplers are electrically and mechanically the same except for the higher peak signal clipping level of the 30B to permit customer tone address signaling from CP equipment.

### 3. INSTALLATION

- 3.01 Insofar as possible be guided by the customer's wishes in placing the apparatus. The coupler will mount to any flat surface. A backboard is not required unless mounting to a damp surface or when a backboard will facilitate mounting.
- 3.02 Where the customer needs only a single bridge, a 502B or 2502B telephone set is recommended. If the customer requires the transmitter and/or receiver of the telephone set to be disabled, a 511- or 2511-type telephone set (or equivalent) is recommended. The 565LK or 2565LK telephone set allows the customer to bridge the coupler to any line picked up in the set and use the turnkey to disable the transmitter and/or receiver of the set. If tip party identification is required, the 511D or 511F telephone set is recommended.
- 3.03 Other type telephone sets may be used provided the set is equipped with an exclusion key to connect the voice coupler to the central office (CO) line. Where no exclusion key is available, as with CALL DIRECTOR® sets, see Voice Connecting Arrangement CEBAW.
- 3.04 If the exclusion switch has spare contacts available, they may be used to automatically disable the transmitter and/or receiver.
- 3.05 The F-57948 (MD) voice coupler is equipped with a terminal strip for line and associated telephone set connections; the 30-type voice coupler requires these connections be made at an external connecting block.

### 4. OPERATION (Fig. 3)

- 4.01 Incoming Call: An incoming call is received in the usual way, and the coupler is connected to the line by lifting the associated telephone set exclusion key.
- 4.02 Outgoing Call: An outgoing call is placed in the usual way, and the coupler is connected to the line by lifting the associated telephone set exclusion key. The coupler should be disconnected (exclusion key down) when dialing to prevent possible dial pulse distortion and transmission of dial pulses through the coupler to the CP equipment.



- **4.03 Disconnect:** The voice coupler will be disconnected when the associated telephone set goes on-hook to terminate the call or when the exclusion key is pushed down to normal position.
- 4.04 The telephone set remains connected to the line and is functional on both incoming and outgoing calls.
- 4.05 As a customer option, the transmitter and/or receiver of the associated telephone set may be disconnected when the CP equipment is in operation. The associated telephone set may be equipped with a cutoff turnkey or exclusion key for this purpose.
- 4.06 When the turnkey is used to disconnect the transmitter and/or receiver, the turnkey must be in the "on" position to receive or make a call and turned "off" to disconnect the transmitter or receiver or both when the coupler is used. The cutoff key must be manually restored when the call is terminated. When the exclusion switch contacts are used to disconnect the transmitter and/or receiver, lifting the exclusion switch will automatically disconnect the transmitter or receiver or both. Where the call is terminated, the transmitter and/or receiver will be automatically restored.

### 5. MAINTENANCE

- 5.01 Maintenance is limited to checking connections and determining if the coupler is working properly by monitoring reception at the tip and sleeve of the jack on the coupler with customer equipment disconnected.
- 5.02 Go off-hook on the associated telephone set and verify normal dial tone in associated telephone set. Connect a 1013A (or equivalent) hand test set with MON-TALK switch in MON position to the tip and sleeve of the jack on the coupler; no dial tone should be heard. Dial digit "0" using the dial of the telephone set; no dial clicks or tones should be heard in the hand test set. Go on-hook and off-hook and lift exclusion key; dial tone should be heard in the hand test set at about the same volume as heard in the associated telephone set receiver prior to lifting the exclusion key.
- 5.03 If the associated telephone set is equipped with a cutoff turnkey, operate to "off" position and verify that the transmitter or receiver or both of the telephone handset are disconnected while dial tone at normal volume is heard on hand test set at coupler.

5.04 If the associated telephone set is provided with an exclusion switch to disconnect the transmitter and/or receiver, verify that the transmitter or receiver or both of the telephone handset are disconnected while dial tone at normal volume is heard on the hand test set at the coupler. If all tests are satisfactory, the coupler is working properly.



Do not attempt any tests or repairs to the customer-provided equipment.

5.05 If Radio Frequency Interference is encountered, the F-57948 (MD) or 30-type voice coupler should be replaced by a 30-type voice coupler stamped "Modified for R.F.I." In addition, install a 1542A inductor in series with tip and ring of the coupler at the coupler connecting block (Fig. 9). Refer to Division 500, section entitled "Radio Signal Suppression for Telephone Sets" for complete modifications necessary when R.F.I. is encountered and for schematic of 30-type voice coupler modified for R.F.I.

5.06 When in the repairman's judgment the trouble is located in the CP equipment, the Repair Service Bureau should be notified so that proper Maintenance of Service Charge billing can be initiated as outlined in BSP 660-101-312 entitled Maintenance of Service Charge on Services With Customer-Provided Equipment (CPE).

### 6. CONNECTION INDEX

- Table A—Typical Telephone Set Modified for Use With 30-Type Voice Coupler
- Table B—Modification of 511D Telephone Set for Use With F-57948 (MD) or 30-Type Voice Coupler
- Table C—511D Telephone Set—Modified for Tip Party Identifying Ground and Use With F-57948 (MD) or 30-Type Voice Coupler
- Table D—Modification of 511F Telephone Set for Use With F-57948 (MD) or 30-Type Voice Coupler
- Table E-511F Telephone Set-Modified for Tip Party Identifying Ground and

- Use With F-57948 (MD) or 30-Type Voice Coupler
- Table F—Modification of 558C/D Telephone Set for Use With 30-Type Voice Coupler
- Table G—Modification of 558F Telephone Set for Use With 30-Type Voice Coupler
- Table H—Modification for 712B Telephone Set for Use With 30-Type Voice Coupler
- Table I—2502B Telephone Set—Modified for Use With F-57948 (MD) or 30-Type Voice Coupler
- Table J—2511F/H Telephone Set—Modified for Use With F-57948 (MD) or 30-Type Voice Coupler
- Table K—Modification of 2558D Telephone Set for Use With 30-Type Voice Coupler
- Table L—2565LK Telephone Set—Modified for Use With F-57948 (MD) or 30-Type Voice Coupler
- Table M—Modification of 2712B Telephone Set for Use With 30-Type Voice Coupler
- Table N-1542A Inductor Connections to Telephone Sets
- Fig. 4—Typical Telephone Set Modified for Use With 30-Type Voice Coupler
- Fig. 5—502B Telephone Set—Modified for Use With F-57948 (MD) or 30-Type Voice Coupler
- Fig. 6—511D Telephone Set—Modified for Use With F-57948 (MD) or 30-Type Voice Coupler
- Fig. 7—511F Telephone Set—Modified for Use With F-57948 (MD) or 30-Type Voice Coupler
- Fig. 8-565LK Telephone Set-Modified for Use With F-57948 (MD) or 30-Type Voice Coupler
- Fig. 9—1542A Inductor Used With 30-Type Voice Coupler

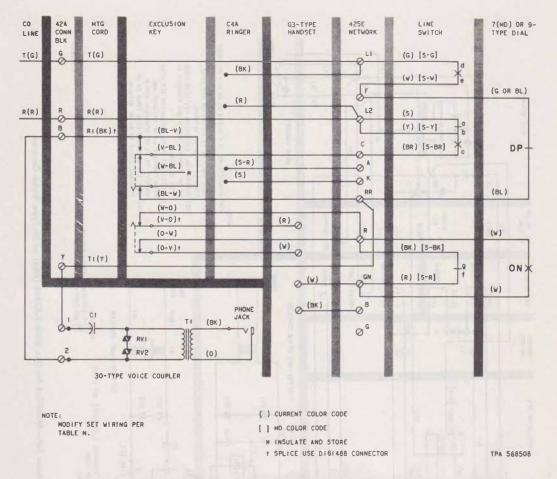


Fig. 4—Typical Telephone Set—Modified for Use With 30-Type Voice Coupler

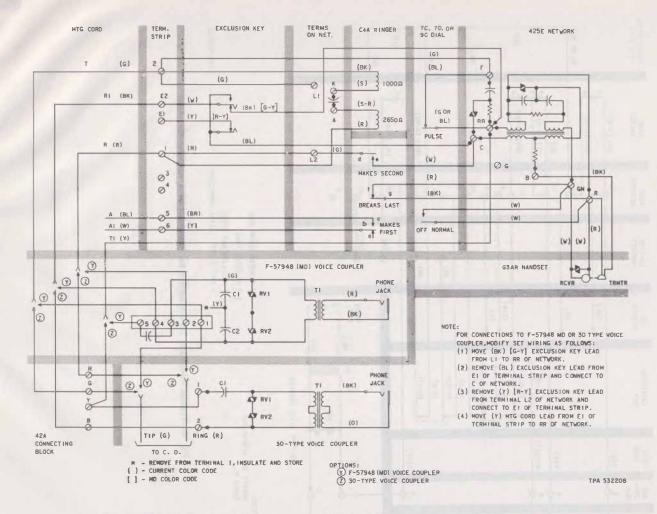


Fig. 5—502B Telephone Set—Modified for Use With F-57948 (MD) cr 30-Type Voice Coupler

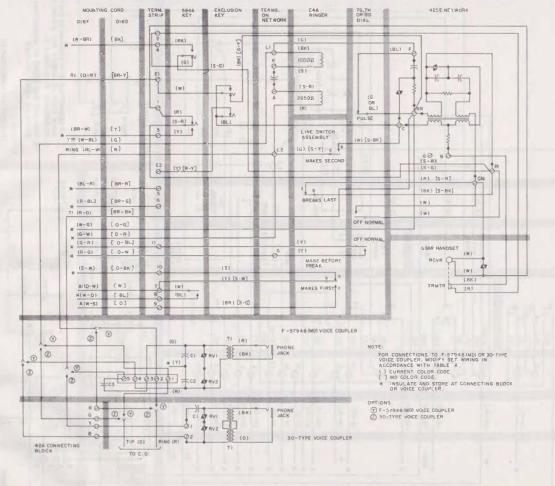


Fig. 6—511D Telephone Set—Modified for Use With F-57948 (MD) or 30-Type Voice Coupler

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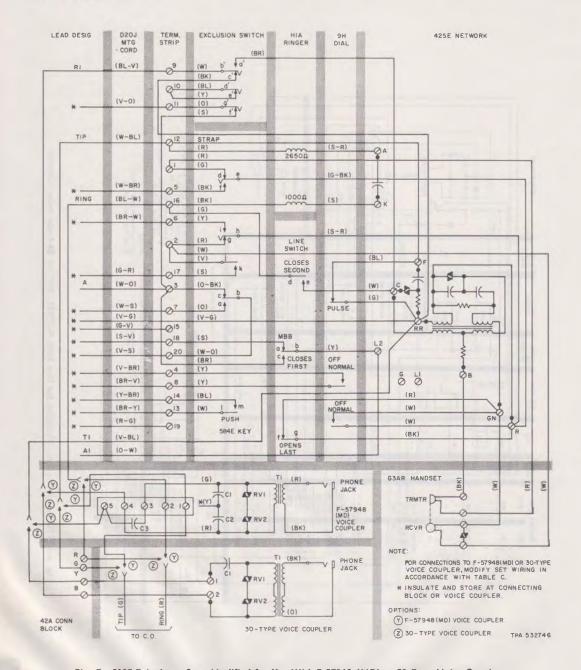


Fig. 7—511F Telephone Set—Modified for Use With F-57948 (MD) or 30-Type Voice Coupler

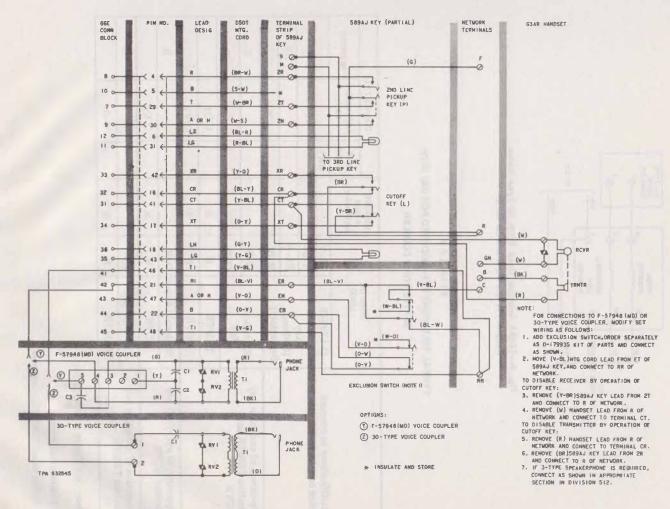


Fig. 8-565LK Telephone Set-Modified for Use With F-57948 (MD) or 30-Type Voice Coupler

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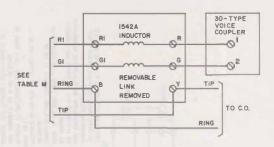


Fig. 9—1542A Inductor Used With 30-Type Voice Coupler (When Modified for R.F.I.)

# ♦ TABLE A ♦ TYPICAL TELEPHONE SET—MODIFIED FOR USE WITH

30-TYPE VOICE COUPLER

	WIRE OR		REMOVE		CONNECT TO	
	LEAD	FROM NETWORK	MTG CORD	EXCLUSION	NETWORK	
Modifications to connect	D-179935	BL-V		BK†		
voice coupler to CO line	Exclusion	V-BL				C
	Key (Ordered	BL-W	1 44			RR
	Separately)	W-BL			*	
Operation of exclusion key disables TRMTR and	Exclusion	W-O	de let		BE BE	R
RCVR	Key	O-W				R
	TRMTR	R	R		V-O†	
	RCVR	W	R	10	O-V†	
Operation of exclusion key	Exclusion Key	O-W				R
disables RCVR	RCVR	W	R		O-V†	
Operation of exclusion key	Exclusion Key	W-O				R
disables TRMTR	TRMTR	R	R		V-O†	

Note: See Figure 4 for example.

- \* Insulate and store.
- † Splice using D161488 connector.

TABLE B

MODIFICATION OF 511D TELEPHONE SET FOR USE

WITH F-57948(MD) OR 30-TYPE VOICE COUPLER (SEE NOTE)

and the residence of the			REM	OVE FROM	CON	NECT TO
NI ISINGO NON WORK	WIRE OR L	EAD	TERM. STRIP	NETWORK	TERM. STRIP	NETWORK
Modification to connect		W-BL	2			L1
voice coupler to line and telephone set	Mtg* Cord	BL-W	1	180	2000 to	L2
voiephone sev	0014	R-O	E2	THE STATE OF THE S		RR
	Dingon	BK	6	10	ItAme	L1
	Ringer	R	5		(1116) 816	L2
		BL	E1		- Champi	C
	Exclusion	BK	2	a literatura		RR
	Key	Y	1		E2	dia N.
		W	E2		E1	ADD III X
Operation of 584A Key	584A	S-G	100	L1	1	R
disables TRMTR and RCVR	Key	S-R		L2	. De	R
	TRMTR	R	En	R	2	-II-re ba
	RCVR	W	1 8	R	1	
Operation of 584A Key	584A Key	S-G	7	L1		R
disables TRMTR	TRMTR	R		R	2	
Operation of 584A Key	584A Key	S-R	JIII	L2		R
disables RCVR	RCVR	W		R	1	

Note: Refer to Fig. 5 for CO, mounting cord, and interconnections to F-57948(MD)or 30-type voice coupler. If needed, MD lead colors are shown in Fig. 5. If A lead control is required, use (W-S) and (O-W) mounting leads to extend A and A1 to line circuit. If 3-type speakerphone is required refer to appropriate connection section in Division 512.

<sup>\*</sup> Insulate and store unused mounting cord leads and (Y) lead of F-57948 (MD) voice coupler.

TABLE C

# 511D TELEPHONE SET—MODIFIED FOR TIP PARTY IDENTIFYING GROUND AND USE WITH

F-57948 (MD) OR 30-TYPE VOICE COUPLER (NOTE 1)

	-			CONNECTION	NS		SET MOD	FICATIONS	
	WIR		42A	30-TYPE	F-57948	REMO	E FROM	CONN	ECT TO
	LEAD		BLK,	VOICE	(MD) TERM. STRIP	TERM. STRIP	NET- WORK	TERM. STRIP	NET- WOR
Inside wire at conn	Gnd	Gnd			1		OF DELICA	s) amiliar	90107
blk or F-57948 (MD)	Tip	0.00	G		5			Jue one	antot
term.	Ring	3	R		2	-			
Mtg cord at conn	O-W	7	Y		1				
blk or F-57948 (MD)	W-B	L	G		5				
term. strip (Note 2)	BL-V	V	R		2				
	R-O		В		4				
	All Otl	her	*	*	*				
Inside wire from conn			G	1	777				
blk to 30A-type V/C		13.	В	2					
Modifications	Mtg	W-BL	1 23			2	WALK AL	All Varieties	L1
to connect tele-	Cord	BL-W				1	Sund.	TMNTE	L2
phone set and	Ringer	R	75-5			5			K
voice coupler to line	Leads	BK	31	. 2	THE H	6		7	
to line		S	W		EUVI		K	-	В
		S-R	-				A		В
	Exclusion	Y				1	1000 Au	E1	and a
	Key	BL	- 4	7	4.00	E1		-	RR
	10.1	BK	RA	2	M ALBEIT	2	Destr Miles	E2	main
	Line	S	-100		BATTASI	10		HVVII 8	A
	Switch	BR				9			C
	SHIP TO SE	Y	200 HJ I	DUE THE	a autuma	7		COL SHIP)	L1
queren, em (WaS) and		W	A STATE OF	F 1 T	Service of the last	ar des	C		F
semilar of semidovers	Strap	G	- trails and	Can inch	and regarded		F	5	
Operation of 584A	Line	S-G					L1		R
(line) key disables	Key	S-R	WI Been	Barrel Brade	neri bautan	LANGE OF	L2	nilla eri	R
TRMTR and RCVR	TRMTR	R		•			R	1	
	RCVR	W					R	2	
Operation of line	Key	S-R					L2		R
key disables TRMTR	TRMTR	R					R	1	
Operation of line	Key	S-G					L1		R
key disables RCVR	RCVR	W				-	R	2	

### Notes:

Connections shown are for tip party with 1000 to ground. For 2650 n, connect ringer leads as follows: (R) and (BK) to network term. B, (S) to network term. K and (S-R) to term. strip 7.

<sup>2.</sup> Disconnect, insulate and store (Y) lead of F-57948 (MD) Voice Coupler.

<sup>\*</sup> Insulate and store.

TABLE D

MODIFICATION OF 511F TELEPHONE SET FOR USE
WITH F-57948 (MD) OR 30-TYPE VOICE COUPLER
(SEE NOTE)

	1000		REMO	OVE FROM	CONNECT TO		
	WIRE OR L	EAD	TERM. STRIP	NETWORK	TERM. STRIP	NETWORK	
		W-BL	1		12	ler state	
	Mtg*	V-BL	9		(Later Sales	RR	
	Cord	BL-W	2		16		
		BL-V	10		9		
	D.	R	1	DR .	12	1	
36 30 11	Ringer	BK	2	J.II.	16	1	
Modification to connect voice coupler to line and		BK	1	T (DA)		RR	
telephone set	Exclusion Key	Y	2		10		
	2203	BR	10	100		C	
	Line	G	15	0,000	16		
	Switch	BR	20	11 -11	3		
	Add Strap				12	F	
	584E	G-BK	-w +	F		R	
Operation of 584E key disables TRMTR and	Key	S-R	15	2001		R	
RCVR	TRMTR	R	Pal	R	1		
	RCVR	W		R	2		
Operation of 584E key	584E Key	G-BK	1111	F		R	
disables TRMTR	TRMTR	R	8	R	1		
Operation of 584E key	584E Key	S-R	15		JUD 60 U	R	
disables RCVR	RCVR	W		R	2	10000	

Note: Refer to Fig. 6 for CO, mounting cord, and interconnections to F-57948 (MD) or 30-type voice couplers. If A lead control is required, use (W-O) and (O-W) mounting cord leads to extend A and A1 to line circuit. If 3-type speakerphone is required move (G-V) mounting cord lead to terminal strip 16 and (V-S) to 3; then connect per appropriate connection section in Division 512.

<sup>\*</sup> Insulate and store unused mounting cord leads and (Y) lead of F-57948 (MD) voice coupler.

TABLE E

# 511F TELEPHONE SET—MODIFIED FOR TIP PARTY IDENTIFYING GROUND AND USE WITH F-57948 (MD) OR 30-TYPE

VOICE COUPLER (NOTE 1)

	NOT THE			CONNECTIO	ONS		SET MODII	ICATIONS	
	WIRE		42A	30-TYPE	F-57948(MD)	REMOV	E FROM	CONN	ECT TO
	LEAD	APP.	BLK.	VOICE	TERM. STRIP	TERM. STRIP	NET- WORK	TERM. STRIP	NET- WORK
Inside wire at conn	Gno	1	Y		1				
blk or F-57948 (MD) term. strip	Tip		G		5				
term. strip	Ring	g	R		2				-
Mtg cord at conn	O-W	7	Y		1				
blk or F-57948 (MD)	W-B	L	G		5				
term. strip	BL-V	V	R		2				
(Note 2)	BL-	V	В		4				
AND THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IN COLUM	All Ot	her	*	*	*			The state of the s	I to a little
Inside wire from conn			G	1	NEWSENI .		ADDRESS OF THE PARTY OF THE PAR	Date Surrey	
blk to 30-type V/C		-	В	2	128				-
-0-1	Mtg	W-BL	4.11			1		12	
	Cord	BL-W			mad .	2		16	
	Ringer	R	99		Switch	1			K
Modifications to	Leads	BK				2			L2
connect telephone		S			HIT-E		K		В
set and voice		S-R					A		В
coupler to line	Exclusion	W	- CHILL		ZIX	9			RR
	Key	BK	THE STATE		198	1	C16 C2 60	<del>- La main</del>	RR
	Line	G	- 5		TRAIT	15		16	
	Switch	W	100		(11 PAR)		C		F
		Y			11 71 321		L2	12	
		BR	31115		W. Orus	20	Part III	11 - 19	C
		S	9		THEY	18	- 1	PART IN	A
Operation of 584E	Line	G-BK	- E - S		N Shall		F		R
(line) key disables	Key	W-O				20			R
TRMTR and RCVR	TRMTR	R	-				R	1	Marie Land
	RCVR	W				100	R	3	1
Operation of line	Key	G-BK			married at 1		F		R
key disables TRMTR	TRMTR	R				0 5 14	R	1	
Operation of line	Key	W-O	no Sili	program (		20	5	ell yel	R
key disables RCVR	RCVR	W					R	3	

### Notes:

- 1. Connections shown are for tip party with  $1000\Omega$  to ground. For  $2650\Omega$ , connect ringer leads as follows: (R) and (BK) to network term. B, (S) to K, and (S-R) to L2.
- 2. Disconnect, insulate and store (Y) lead of F-57948 (MD) voice coupler
- \* Insulate and store.

♦TABLE F♦

MODIFICATION OF 558C/D TELEPHONE SET FOR USE
WITH 30-TYPE VOICE COUPLER (SEE NOTE)

			CONNE	CTIONS		S	ET MODIFI	CATIONS	
	WIRE	TEL	ESET	42A	30-	REMOV	E FROM	CONNE	ст то
HOM THE	OR LEAD	TERM	NET- WORK	CONN	TYPE COUPLER	TERM STRIP	NET- WORK	TERM STRIP	NET- WORK
	T			G					
Inside wire	R			R			1		314
at conn blk	T1			В					
	R1			Y					
	T	2							
Inside wire	R	1							
at telephone set	T1		RR						
	R1	6							
Inside wire conn				В	1				اللزف
coupler				Y	2				
	504D/F	S-R					L2	E1	
	584B/F Key	R				1	163	E1	
Basic		G				2		E2	
modifications to connect	EXCN	Y				6			RR
voice coupler	Key	W		-		5			С
to telephone set and line	Line Switch	G				lin .	L2	1	Act
	Add Strap						- 1	2	F
		G				E2			R
Operation	584B/F	G-BF	2				L1		L2
of 584B/F Key	Key	R				E1			R
disables TRMTR and		S-R				E1			G
RCVR	TRMTR	R					R		G
- 0	RCVR	W					R		L2
S.E.	584B/F	R				E1			R
Disable TRMTR	Key	S-R				E1			G
	TRMTR	R					R		G
	584B/F	G				E2	11/11		R
Disable RCVR	Key	G-Bi	2			P	L1		L2
140	RCVR	W					R		L2

Note: If A lead control is required, connect A1 to terminal 12 and A to terminal 9 on terminal strip in telephone set.

TABLE G

MODIFICATION OF 558F TELEPHONE SET FOR USE
WITH 30-TYPE VOICE COUPLER (SEE NOTE)

			CONNE	CTIONS		s	ET MOOIFI	CATIONS	
	WIRE	TEL	SET	42A	30-	REMOV	E FROM	CONNE	ст то
- THE BARRY	OR LEAD	TERM	NET- WORK	CONN	TYPE COUPLER	TERM STRIP	NET- WORK	TERM STRIP	NET- WORK
	T			G					
Inside wire	R			R					
at conn blk	T1			В					N. V.
	R1			Y					
	T	1							
Inside wire	R	2							
at telephone set	T1		RR						100
	R1	9							
Inside wire				В	1				velue a
conn blk to voice coupler				Y	2				- W
		V				2		17	
	584B/F	O-BI	2			3	11644	7	
Basic	Key	R				2	100	15	
nodifications	G				1		5	Company	
voice coupler		BK				1	and a		RR
to telephone set	Key	BR			and the last	10			C
and me	Line	BR				20		3	eall ha
	Switch	G				15	- 644	2	
	Add Strap							1	F
		G				5	10.075		R
Operation of	584B/F	G-BF	2				F		L2
584B/F Key	Key	R				15			G
disables TRMTR and	0.1	S-R				15	THUT		R
RCVR	TRMTR	R					R		G
	RCVR	W					R		L2
Disable	584B/F	R				15			G
TRMTR	Key	S-R				15			R
	TRMTR	R					R		G
Disable	584B/F	G				5			R
RCVR	Key	G-BI	2				F		L2
	RCVR	W					R		L2

**Note:** If A lead control is required, connect A1 to terminal 4 and A to terminal 3 on terminal strip in telephone set.

TABLE H

MODIFICATION OF 712B TELEPHONE SET FOR USE
WITH 30-TYPE VOICE COUPLER (SEE NOTE)

	(III)	WIRE 4		NECTIONS	S	ET MODIFI	CATIONS	
	WIDE	VIRE 42		30-	REMOV	E FROM	CONNE	ст то
	OR LEAD		CONN	TYPE COUPLER	TERM STRIP	NET- WORK	TERM STRIP	NET- WORK
TIME	W-BL		G					
Mounting cord *	BL-W	19	R	AUX.		. Ethi	000 (4)	oleash)
at connecting block	V-G		В	-100-2			TAN S	The state of
o.oc.	G-V		Y	-18/				
Inside wire from	1.1		В	1 900				
type voice coupler	- 44		Y	2				
	638A	S-R	10-01	to F-5784210110 or	L2	ner sub	1	mathali a
Approved Tarrel 6. or	Key	V	med Tr	us mailneam CW)	1	to waste	8	owny =
Basic modifications	EXCN	BR	CIMIB	(Y) lead of P-870s	1	our pint	100 400	C
to connect	Key	W			3		L2	
telephone set and		BK			3			RR
to line	Line	BR			E1		8	
	Switch	G			L2		1	
	Add Strap						3	F
		G-BK					F	L2
Operation of	638A	G			3			R
638A Key	Key	S-R			1			A
disables TRMTR and		R			1			R
RCVR	TRMTR	R				R		A
	RCVR	w				R		L2
	638A	S-R			1			A
Disable TRMTR	Key	R			1			R
	TRMTR	R				R		A
Distribution of the second	638A	G-BK				F		L2
Disable RCVR	Key	G			3			R
	RCVR	w				R		L2

Note: If  $\underline{A}$  lead control is required, connect A1 to terminal E1 and  $\underline{A}$  to terminal 8 on terminal strip in telephone set.

<sup>\*</sup>Insulate and store unused leads.

TABLE I

## 2502B TELEPHONE SET—MODIFIED FOR USE WITH F-57948 (MD) OR 30-TYPE VOICE COUPLER (SEE NOTE)

	1537	1977 19	REMO	OVE FROM	CONNECT TO	
	WIRE OF LEAD	lane y	TERM. STRIP	NETWORK	TERM. STRIP	NETWORK
Modification to connect voice coupler to line	Mtg Cord*	Y	E1	W-DII	1-(100)	RR
and telephone set		BL	E1	G-V		C
	Exclusion Key	BK	()-	L1	Total or	RR
	11Cy	Y		L2	E1	an Incl

Note: Refer to Fig. 4 for connections to F-57948 (MD) or 30-type voice couplers.

\* Insulate and store (BL) and (W) mounting cord leads if not required for A lead control. Disconnect, insulate, and store (Y) lead of F-57948 (MD) voice coupler.

TABLE J
2511F/H TELEPHONE SET—MODIFIED FOR USE WITH
F-57948 (MD) OR 30-TYPE VOICE COUPLER (SEE NOTE)

			REMO	VE FROM	CON	NECT TO
	WIRE OR LEAD		TERM. STRIP	NETWORK	TERM. STRIP	NETWORI
		W-BL	1		12	
	Mtg	BL-W	2	10	16	1000
	Cord*	V-BL	9	1.5		RR
-		BL-V	10		9	
	D.	R	1		12	
Modification to connect voice coupler to line	Ringer	BK	2	17	16	14416
and telephone set		BK	1	130		RR
	Exclusion Key	Y	2		10	
	Rey	BR	10		-	C
	Line	G	15		16	
	Switch	BR	20	1,144	3	
	Dial		Y	F	12	
	631B	G-BK	2011	F		R
Operation of 631B (line)	Key	S-R	15	No.		R
key disables TRMTR and RCVR	TRMTR	R	- 61	R	1	
	RCVR	W	- 20	R	2	
Operation of 631B (line)	631B Key	G-BK		F		R
key disables TRMTR	TRMTR	R		R	1	
Operation of 631B (line)	631B Key	S-R	15			R
key disables RCVR	RCVR	W		R	2	

### Note:

Refer to Fig. 6 for connecctions to F-57948 (MD) or 30-type voice coupler and 42A conn blk and to CO line. If A lead control is required, use (O-W) and (W-O)mounting cord leads to extend A1 and A to line circuit. If 3-type speakerphone is required, move (G-V) mounting cord lead to terminal strip 16 and (V-S) to 3; move (V-G) mounting cord lead and (O) dial lead to an unused terminal; then connect per appropriate connection section in Division 512.

<sup>\*</sup>Insulate and store unused mounting cords leads. Disconnect, insulate and store (Y) lead of F-57948 (MD) voice coupler.

♦ TABLE K ♦

MODIFICATION OF 2558D TELEPHONE SET FOR USE
WITH 30-TYPE COUPLER

			CONNE	CTIONS		S	ET MOOIF	CATIONS	
	WIRE	TEL	SET	42A	30-	REMOV	E FROM	CONNE	ст то
arte di	OR LEAO	TERM STRIP	NET- WORK	CONN BLK	TYPE COUPLER	TERM	NFT. WORK	TERM STRIP	NET- WORK
	T			G					
Inside wire	R			R					
at conn blk	T1			В					
MR. L	R1			Y					
	T	2		Vesti					-
Inside wire	R	1		- 31					
at telephone set	T1		RR					10110	
AR .	R1	3		2007					Simulta
Inside wire				В	1				
conn blk to				3.85					
voice coupler				Y	2				
	584H	R		.00	- 199	1		12	
Basic	Key	Y	-		III.	3		12	
modifications	EXCN	BR	10			El			C
to connect	Key	W	83	38		E2	110	3	1711 31
voice coupler to telephone set		BK			310	OBT		111111111111111111111111111111111111111	RR
and line	Line Switch	G		17	IIV	12		1	
	Strap						1	2	F
		S-R				12		11	
Operation	584H	R	77			12	1//		L2
Operation of 584H	Key	G-BK					F		L1
Key disables TRMTR and		G				2			R
RCVR	TRMTR	R					F		L1
	RCVR	w	UT I	ve (T)	THOU I	Num I	R		L1
THE SECTION OF	584H	S-R				12		11	
Disable	Key	R				12			L2
TRMTR	TRMTR	R				11			L2
	584H	G-BR					F		L1
Disable	Key	G				2			R
RCVR	RCVR	W					R		L1

♦ TABLE L ♦

2565LK TELEPHONE SET—MODIFIED FOR USE WITH

F-57948 (MD) OR 30-TYPE VOICE COUPLER (SEE NOTE)

			REMOV	E FROM	CONN	ECT TO
	WIRE C LEAD		589AJ KEY TERM. STRIP	NETWORK	589AJ KEY TERM, STRIP	NETWORK
Modifications to connect	D-179935	BL-V			ER	
voice coupler to any line picked up in telephone	Exclusion Key	V-BL	33.8		Scalinguage.	C
set set	(Ordered	BL-W	7 -11		Emily	RR
	Separately)	W-BL			*	
		O-W			EB	
		W-O			*	
		O-V			EB	
		V-O		RHEN	EH	
	Mtg Cord	V-BL	211		12:10-00	RR
Operation of cut-off key	589AJ	BR	2R	EXION S	10/10 0	Т
disables TRMTR and RCVR	Key	Y-BR	2T	100g	Elle	R
100 / 10	TRMTR	R		Т	CR	
	RCVR	W	79 0	R	CT	
Operation of cut-off key disables RCVR	589AJ Key	Y-BR	2T	E.E.A.		R
	RCVR	W		R	CT	
Operation of cut-off key	589AJ Key	BR	2R		-11-10	Т
disables TRMTR	TRMTR	R	NIL ST	T	CR	

Note: Refer to Fig. 7 for connections to F-57948 (MD) or 30-type voice coupler. If a 3-type speakerphone is required, connect as shown in appropriate section in Division 512.

<sup>\*</sup> Insulate and store.

MODIFICATION OF 2712B TELEPHONE SET FOR USE WITH 30-TYPE VOICE COUPLER

	WIRE		CONNECTIONS		SET MODIFICATIONS			
			42A	30-	REMOVE FROM		CONNECT TO	
	OF LE	-	BLK	TYPE	TERM STRIP	NET- WORK	TERM STRIP	NET- WORK
Mounting cord at connecting block *	W-BL		G		Land.			
	BL-W V-G		R					
			В	100				
	G-V		Y					
Inside wire conn blk to voice coupler			В	1				
			Y	2				
Basic modifications to connect voice coupler to telephone set and line	638B	S-R			L2		1	
	Key	V			1		8	
	EXCN Key	BR			1			C
		W	7400		3		L2	-
		BK	- Kittle		3			RR
	Line Switch	BR			E1		8	
		G			L2		1	
	Add Strap		11	R			3	F
Operation of 638B Key disables TRMTR and RCVR	638B Key	G	1110	The second	3		5 V To	R
		G-BK		10	D.T.	F		L2
		S-R			1			A
		R	New Jan		1			6
	TRMTR	R			6			A
	RCVR	W				R		L2
Disable TRMTR	638B Key	S-R			1			A
		R			1			6
	TRMTR	R			6			A
Disable RCVR	638B Key	G			3			R
		G-BK				F		L2
	RCVR	W				R		L2

<sup>\*</sup>Insulate and store unused leads.

TABLE N
1542A INDUCTOR CONNECTIONS TO TELEPHONE SETS

1542A INDUCTOR TERMINALS	TELEPHONE SETS									
	502B 2502B	511D	511F	558C/D	558F	565LK 2565LK	712B 2712B	2511F/H	2558D	
R1	RR on NET	RR on NET	RR on NET	RR on NET	RR on NET	Clip 41 66E Conn Blk	RR on NET	RR on NET	RR on NET	
G1	E2 on TS	E1 on TS	9 on TS	6 on TS	9 on TS	Clip 42 66E Conn Blk	L2 on TS	9 on TS	3 on TS	
Y	2 on TS	L1 on NET	12 on TS	2 on TS	1 on TS		3 on TS	12 on TS	2 on TS	
В	on TS	L2 on NET	16 on TS	1 on TS	2 on TS		1 on TS	16 on TS	1 on TS	

<sup>\*</sup>Connect to appropriate mounting cord leads or terminals on 66E connecting block. See Fig. 8 and appropriate telephone set figure or table. Terminals R and G of 1542A inductor are connected to 1 and 2 of 30-type voice coupler, or 4 and 5 of F-57948(MD) voice coupler.

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