

**LOGIC 10\* KEY TELEPHONE SETS**  
**QSK200BB, QSK200B1B AND QSK2200BB, QSK2200B1B**  
**INSTALLATION MANUAL**



**Fig. 1 — QSK200BB Key Telephone Set**

**1. GENERAL**

1.01 The QSK200BB, -B1B and QSK2200BB, -B1B LOGIC 10 telephone sets are 10 button sets featuring one common HOLD button and a maximum of nine line pickup buttons. If fewer than nine lines are used, the extra line pickup buttons used for other features.

1.02 These LOGIC 10 key telephone sets are designed for use with NE-1A1, NE-1A2, or NE-6A Key Telephone Systems (KTS). The sets cannot be used with NE-1A KTS.

1.03 The telephone sets are available in various colors. Their colors and the corresponding color codes are given in 500-1201-100.

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2. DESCRIPTION

2.01 The QSK200BB and QSK2200BB telephone sets are designed for use with the QSR2-type headset (or equivalent). Each set is equipped with a QMJ7C jack mounting, consisting of a headset jack (P0573274) on the right-side of the housing base and an on-off key (P0573286) on the front of the faceplate below the dial. The headset is an option and must be ordered separately.

2.02 The QSK200BB telephone set is equipped with a QDB1N rotary dial and matching faceplate. The QSK2200BB telephone set is equipped with a NE-35Q3L1 DIGITONE\* dial. Rotary and DIGITONE dials on either set can be converted from one to the other in the field.

2.03 The QSK200B1B and QSK2200B1B telephone sets are similar to the QSK200BB sets, the only difference is the absence of a headset jack and on-off key from the QSK200BB set.

2.04 These LOGIC 10 key telephone sets have a 10-button NE-647QFB key equipped with one red, nonlocking, HOLD button and nine clear, locking, line pick-up or optional feature buttons. If a nonlocking button is required for an optional feature, any of the nine locking buttons may be converted by removing the appropriate P0514515 locking pin from the side of the key.

2.05 These LOGIC 10 key telephone sets are designed for desk top or wall mounted installation. A wall bracket assembly (P0515934) must be ordered separately, if required, for each wall mounted installation.

3. OPTIONS

3.01 The following features are options available to the subscriber. Refer to the schematic diagrams (Fig. 6 through 9), the conductor assignment information (Table A) and Tables B through G when converting the telephone set for a particular option.

3.02 **Buzzer.** A QBX1A buzzer may be mounted on the left-hand dial mounting bracket. The buzzer should be connected to either the ringer leads or spare lead for the station busy lamp option and ground, whichever are not being used. The QBX1A buzzer operates on 10 V ac only.

3.03 **Monitored Station Busy.** This feature may be provided by connecting the BL lead to the monitoring set. A diode is standard in the QSK200BB, -B1B and QSK2200 BB, -B1B telephone sets.

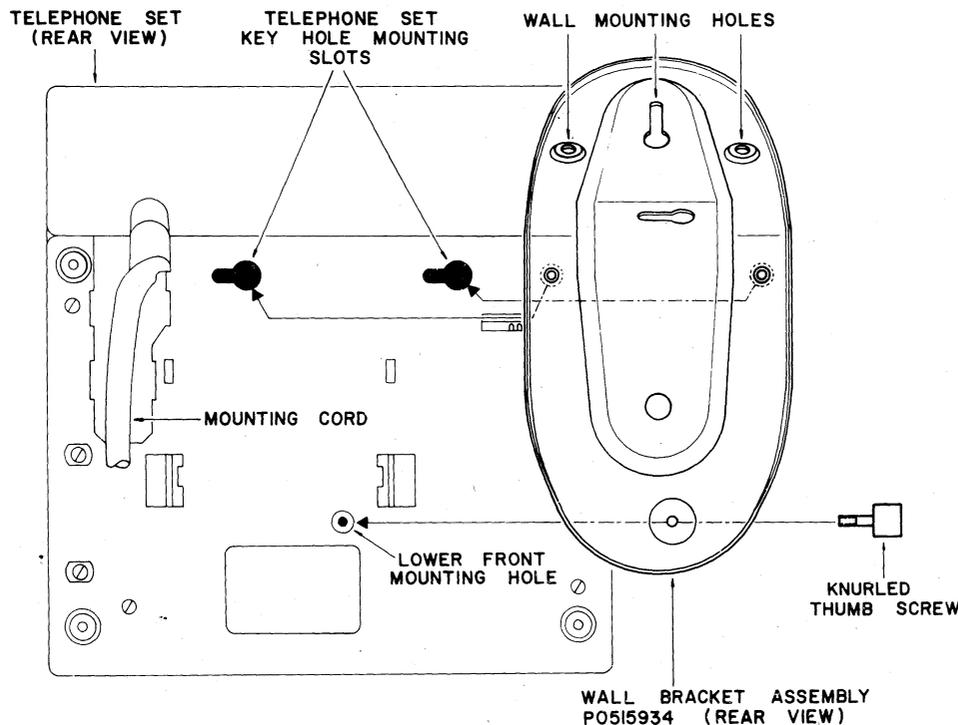


Fig. 2 – Method of Mounting LOGIC 10 Telephone Set to Wall

- 3.04 **Ringer Cutoff.** This feature may be provided on telephone sets equipped with an NE-C4A ringer, by bending the stop next to the detent on the ringer volume control until it completely clears the rim of the ringer frame. This bent stop serves as an additional position on the volume control to prevent movement of the ringer armature.
- 3.05 **Handsfree Telephone Operation.** The QUS1C LOGIC handsfree unit is designed for use with LOGIC 10 key telephone sets. The QUS1C unit is physically compatible with the LOGIC 10 sets and is equipped with a 15-pin plug for plug-in attachment. The QUS1C plug fits into a matching interconnecting jack which is normally stored within the LOGIC 10 set. (See 4.06 and 4.07.)
- 3.06 **I Hold Position.** This feature may be installed in place of the regular hold feature. Connection information is given in Table B.
- 3.07 **Headset Operation.** A QSR2-type headset or equivalent may be installed by making minor changes in the telephone set (see 4.05).
- 3.08 **Individual Signaling.** Momentary contacts for individual signaling may be obtained by removing the P0514515 locking pin from the key position which is to be converted and removing key lead from terminal 40-45 and connecting it to terminal 47-49. The momentary contact under the headset switch may also be used for individual signaling.
- 3.09 **Automatic Exclusion.** This feature may be obtained on one line by using a NE-10A KTU or an NE-229B NTU (see Fig. 10). This feature provides automatic cutoff of excluded stations whenever the master station picks up the line associated with the NE-10A KTU or NE-229B KTU.
- 3.10 **Selective Exclusion.** This feature may be obtained by using a NE-229B KTU (see Fig. 11). The feature provides exclusion only if the exclusion pushbutton on the key is depressed momentarily. Any button on the key except the HOLD button, may be converted for control by removing the appropriate A lead from terminal 40-45, then connecting this lead on terminal 30-32, and removing the P0514515 locking pin. The lamp, in the exclusion button, lights when the exclusion circuit is in operation. Exclusion is removed automatically when the call is either placed on hold or terminated. The exclusion circuit is compatible with handsfree unit, headset or handset operation.
- 3.11 **Ringer.** The ringer feature is connected to the common ringing leads. Line selection is to be made at the equipment connection field.
- 3.12 **Amplifier.** An NE-241QD amplifier may be required when using an NE-52 type headset or equivalent. Connection information is given in Table C.
- 3.13 **Voice Station Coupler.** A QCS1A or QCS2B voice station coupler may be installed to provide a facility for connecting a customer-owned telephone answering set. Connection information for this feature is given in Table D. To use the voice station coupler, the appropriate line button must be depressed.
- 3.14 **LOGIC Dialer.** A variety of automatic dialers are compatible with the LOGIC 10 sets. Connection information for automatic dialers is given in Table E. For LOGIC dialer connection information, see 512-1301-200.
- 3.15 **Auxiliary Dial.** A NE-1035B3QA station dial may be used with the QSK200BB or QSK200B1B telephone set, if computer input of DIGITONE signals is required. Connection information is given in Table F.
- 3.16 **Monitoring of Busy Stations.** The lamps associated with key positions 8, 9, 10 and hold are convertible for busy station monitoring. Connection information is given in Table G.
- Note:* The NE-52A lamps must be substituted for the NE-51A lamp at each key position converted.
- 3.17 **Add-On Operation.** The add-on feature may be obtained on two lines by using a QUN12A KTU or an NE-237B KTU (see Fig. 12). Any button, except the HOLD button, may be used to activate the add-on, but it must be made nonlocking by removing the locking pin (P0514515). The lamp in the add-on button lights when the add-on is in use. The add-on circuit is compatible with LOGIC handsfree and headset operation.
- To use the add-on feature:
- Place a call on one of the lines.
  - Place that call on hold.
  - Place a call on another line.
  - Press the add-on button to connect both lines.
  - To retain one line and cancel the other, depress the button for the line to be retained and then depress the add-on button.
  - To release both lines and the add-on feature, hang up handset.

4. INSTALLATION

4.01 The LOGIC 10 key telephone sets can be mounted either on a horizontal surface; e.g., desk top, or on a vertical surface; e.g., wall.

4.02 For desk-top installation, the sets should be placed in a convenient location on the desk and connected to the appropriate connector cable.

4.03 For vertical surface installation, it is necessary to use the wall bracket assembly (P0515934) which must be ordered separately. The installation should be performed according to Chart 1.

4.04 When making the conversions as specified in Tables B through G, the following guidelines should be observed.

- (a) If more connection positions are required than are available, use a QCM15B connector (Fig. 3) to obtain the additional positions.
- (b) If no terminal is available for the connection of two spade-tipped leads, use a QCM12A or QCM15B connector (Fig. 3).

**Caution:** The connection diagrams and tables must be followed closely, since wiring of these telephone sets is not standard due to the limited number of cord conductors available.

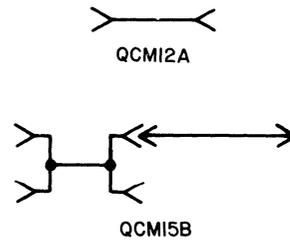
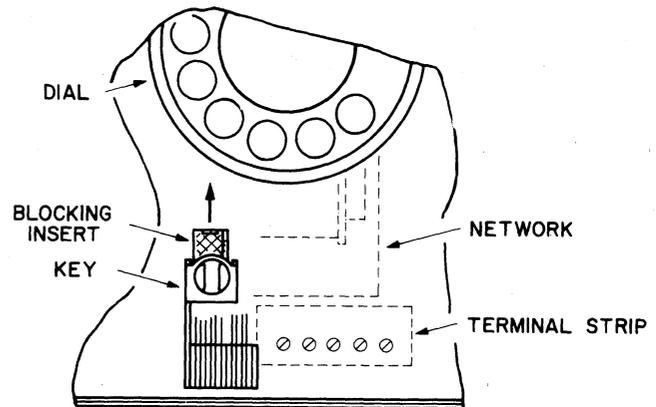


Fig. 3 - QCM-Type Connectors



TO ACTIVATE THE HEADSET SWITCH REMOVE THE YELLOW BLOCKING INSERT FROM THE KEY BY PULLING OUT TOWARD THE DIAL. NO WIRING CHANGES ARE REQUIRED.

Fig. 4 - Blocking Insert



Fig. 5 - Faceplate Removal

4.05 *QSK200BB and QSK2200BB Sets Only.* If headset operation is required, remove the faceplate and cover according to Chart 2, and remove the yellow blocking insert from the on-off key by pulling it straight out toward the rear of the set.

Rotate the on-off key, located in the lower left-hand corner of the faceplate, 90° in a clockwise direction. Dial tone will be heard in the headset receiver and dialing is possible without removing the handset.

**CHART 1  
WALL MOUNTING THE QSK200BB, -B1B AND QSK2200BB, -B1B  
TELEPHONE SETS**

STEP	PROCEDURE
1	Attach the (P0515934) wall bracket to the mounting surface using two No. 8 screws or similar mounting hardware (not supplied).
2	Place the telephone set on the wall bracket so that the shoulder rivets enter the corresponding keyhole slots in the base of the set (Fig. 2).
3	Move the telephone set to the left as far as possible so that the mounting hole in the lower front is in line with the corresponding threaded hole in the telephone set base.
4	Lock the set in place by inserting the knurled thumb screw through the wall bracket into the threaded hole in the base of the telephone set. Tighten the thumb screw.

*Note:* When mounting the telephone set on a vertical surface, the mounting cord is directed downward from the cord exit hole in the base of the set so that it can be fastened to the mounting surface where required.

**CHART 2  
REMOVAL OF THE FACEPLATE AND COVER**

STEP	PROCEDURE
1	Release the faceplate catch (Fig. 5) by inserting the NS-16750L3 releaser hole located on the lower front edge of the housing cover.
2	List upward and forward on the faceplate until the locating tabs at the rear of the faceplate are disengaged from the housing cover.
3	Loosen the two captive retaining screws until they are disengaged from the threaded posts on the housing base. The cover can then be removed.
4	Replace the cover and faceplate.

*Caution: Do not exert undue force when tightening the captive remaining screws.*

SECTION 502-8601-293

4.06 If the LOGIC handsfree unit is required, the filler plate in the left-hand side of the set housing base must be removed, and the prewired interconnect socket, which is stored inside the set, must be installed in its place. A NE-2012B transformer (or equivalent power supply) is required for each LOGIC 10 telephone set to be equipped with LOGIC handsfree unit and should be connected according to 4.07. Refer to the LOGIC handsfree unit installation manual or 512-6251-400 for detailed connection information.

**Caution:** The power supply output must not be grounded.

4.07 The power supply for the LOGIC handsfree unit is connected through the LOGIC 10 telephone set in either of the following ways.

(a) Remove the cable locking slide (under the bottom housing), and insert the spade tips of the 2-conductor cord from the NE-2012B transformer (or equivalent power supply) in terminals 17 and 23 of the terminal block in the

telephone set. Remove the (S-W) and (G-R) mounting cord leads from terminals 17 and 23. Insulate and store these leads.

(b) Connect the NE-2012B transformer (or equivalent power supply) to the LOGIC 10 set through the connector cable. For a NE-A25B connector cable, connect the transformer to the (G-R) and (S-W) leads of the cable. For any other type of connector cable, use the leads that terminate on pins 5 and 8 of the set connector.

**Note:** The maximum allowable lengths for connecting the NE-2012B transformer to the handsfree unit are as follows:

AWG of Cable	Feet	Metres
22	400	122
24	250	76
26	150	46

**CHART 3  
LOGIC HANDSFREE TO LOGIC 10 TELEPHONE SET  
FOR DESK-TOP INSTALLATION**

STEP	PROCEDURE
1	Hold the telephone set in the right hand with the dial forward.
2	Hold the handsfree unit in the left hand with the controls forward.
3	Tilt the upper edge of the handsfree unit towards the upper edge of the telephone set, and bring the set and unit together so that the plug is firmly in the socket.

**CHART 4  
LOGIC HANDSFREE UNIT TO LOGIC 10 TELEPHONE SET  
FOR WALL-MOUNTED INSTALLATION**

STEP	PROCEDURE
1	Mount a QBP7A mounting bracket securely on the wall. (The mounting bracket must be ordered separately.)
2	Place the telephone set in position on the mounting bracket. Slide the set to the right, and secure it with the thumb screw.
3	Tilt the upper edge of the handsfree unit towards the upper edge of the telephone set, and bring the unit together with the set, so that the plug is firmly in the jack, and the unit is secured on the locking pin.

**TABLE A**  
**QSK200B, B1B AND QSK2200BB, B1B TELEPHONE SET**  
**CONDUCTOR ASSIGNMENT**

TELEPHONE SET					NE-D50QE CORD				CONNECTOR CABLE		CONNECTING BLOCK		
Line	Function	Color	Term	Plug	Conn	Color	Pair	Plug	Conn	Color	Pair	Lead	Line
1	T R A A1 LG L	W-BL BL-W	28-29 38-39	26	26	W-BL	1	26	26	W-BL	1	T R A A1 LG L	1
				1	1	BL-W	1	1	BL-W				
		O-W	00-5	27	27	O-W	2	27	27	W-O	3	O-W W-G G-W	
				2	1	W-O	2	2	O-W				
2	T R A,S SP LG L	S-W	23	28	28	W-G	3	28	28	W-G	4	T R A,S PWR* LG L	2
				3	3	G-W	3	3	G-W				
				29	29	W-BR	4	29	29	W-BR			
				4	4	BR-W	4	4	BR-W				
3	T R A,S SP LG L	G-R	17	30	30	W-S	5	30	30	W-S	5	A,S PWR* LG L	3
				5	5	S-W	5	5	S-W				
				31	31	R-BL	6	31	31	R-BL			
				6	6	BL-5	6	6	BL-R				
4	T R A,S SP LG L	BL-BK	7-9	32	32	R-O	7	32	32	R-O	7	T R A,S PWR* LG L	4
				7	7	O-R	7	7	O-R				
				33	33	R-G	8	33	33	R-G			
				8	8	G-R	8	8	G-R				
5	T R A,S SP LG L	BR-BK	14	34	34	R-BR	9	34	34	R-BR	9	T R A,S BL,SP LG L	5
				9	9	BR-R	9	9	BR-R				
				35	35	R-S	10	35	35	R-S			
				10	10	S-R	10	10	S-R				
6	T R A,S L	BL-BK	7-9	36	36	BK-BL	11	36	36	BK-BL	11	T R A,S -24V,SP LG L	6
				11	11	BL-BK	11	11	BL-BK				
				37	37	BK-O	12	37	37	BK-O			
				12	12	O-BK	12	12	O-BK				
7	T R BL,SP SG,SP B-B1 R-RL A,S L	Y-BR BR-Y Y-S S-Y	30-32 47-49 G1 26	38	38	BK-G	13	38	38	BK-G	13	T R A,S BL,SP LG L	7
				13	13	G-BK	13	13	G-BK				
				39	39	BK-BR	14	39	39	BK-BR			
				14	14	BR-BK	14	14	BR-BK				
8	T,SP R,SP A,S L	V-O O-V	26 24	40	40	BK-S	15	40	40	BK-S	15	T R R L	8
				15	15	S-BK	15	15	S-BK				
				41	41	Y-BL	16	41	41	Y-BL			
				16	16	BL-Y	16	16	BL-Y				
9	T,SP R,SP A,S L	V-BR BR-V	36 34	42	42	Y-O	17	42	42	Y-O	17	T R R L	9
				17	17	O-Y	17	17	O-Y				
				43	43	Y-G	18	43	43	Y-G			
				18	18	G-Y	18	18	G-Y				
8	T,SP R,SP A,S L	V-O O-V	26 24	44	44	Y-BR	19	44	44	Y-BR	19	T R A,S BL,SP SG,SP B-B1 R-RL A,S L	8
				19	19	BR-Y	19	19	BR-Y				
				45	45	Y-S	20	45	45	Y-S			
				20	20	S-Y	20	20	S-Y				
9	T,SP R,SP A,S L	V-BR BR-V	36 34	46	46	V-BL	21	46	46	V-BL	21	T R A,S L	9
				21	21	BL-V	21	21	BL-V				
				47	47	V-O	22	47	47	V-O			
				22	22	O-V	22	22	O-V				
8	T,SP R,SP A,S L	V-O O-V	26 24	48	48	V-G	23	48	48	V-G	23	T,SP R,SP A,S L	8
				23	23	G-V	23	23	G-V				
				49	49	V-BR	24	49	49	V-BR			
				24	24	BR-V	24	24	BR-V				
9	T,SP R,SP A,S L	V-BR BR-V	36 34	50	50	V-S	25	50	50	V-S	25	T,SP R,SP A,S L	9
				25	25	S-V	25	25	S-V				

\* See 4.06.





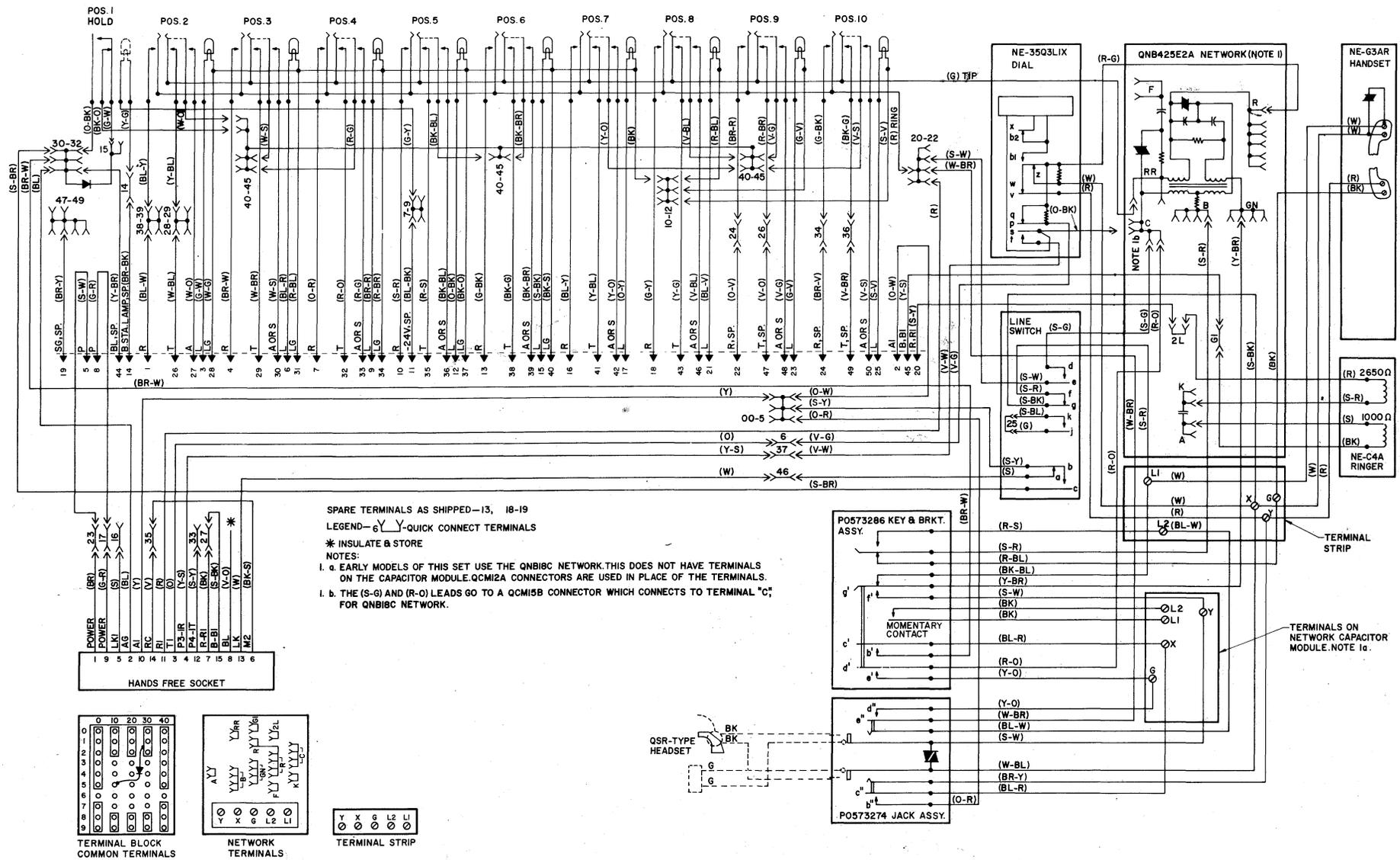


Fig. 8 — Schematic Diagram of QSK2200BB Telephone Set

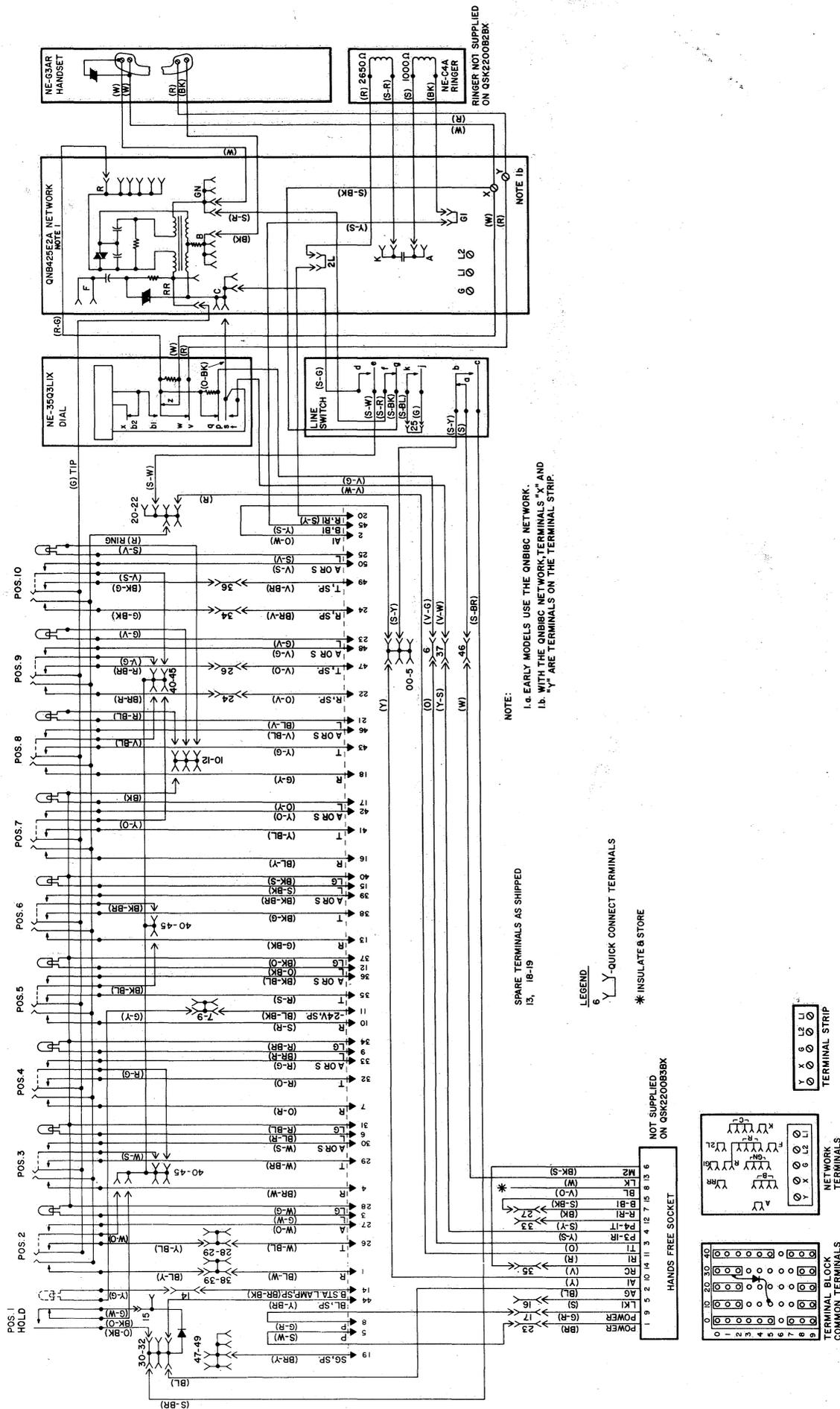


Fig. 9 — Schematic Diagram of QSK2200B1B Telephone Set

**TABLE B  
I HOLD INFORMATION**

LEAD		REMOVE FROM TERMINAL	CONNECT TO
Hold Key	O-BK	30-32	Any spare terminal
	G-W	15	40-45
	BK-O	40-45	15
BR-BK or other spare lead		14	Same terminal as O-BK hold key lead

**TABLE C  
NE-241QB AMPLIFIER CONNECTION INFORMATION**

AMPLIFIER LEADS		S-R	BK	R	G
QSK200BB	Set Term			R	L2
	BL-W lead from term L2	X			
	BR-Y Lead from Term R		Y		
QSK2200BB	Set Term			Y	L2
	BL-W lead from term L2	13			
	BR-Y lead from term Y		17		

**TABLE D  
QCS1A AND QCS2B VOICE STATION COUPLER CONNECTION INFORMATION**

COUPLER TERMINALS	R	R1	T	T1	A	A1
Set term		20-22			40-45	00-5
QSK200BB, B1B only				F		
QSK2200BB, B1B only				RR		
(G) key lead from term F or RR			13			
(R) key lead from term 20-22	17					
<i>Note:</i> Use a suitable spade-tip-ended cord e.g., NE-D6AA.						

**TABLE E**  
**AUTOMATIC DIALER CONNECTION INFORMATION**

Dialer Leads	TELERAPID 350*			W	Y			BL
	TELERAPID 125*			Y-W	G-W			
	MAGICALL*	BL	W	G	R	BK	Y	
	RAPIDIAL*	W	W	G	BL	Y	Y	
QSK200BB and QSK200BB	Set Term	GN	R	F		37	33	C
	(G) Lead from term F					13		
QSK2200BB and QSK2200B1B	Set Term	GN	R	RR		37	33	C
	(G) Lead from Term RR					13		

**TABLE F**  
**NE-1035B3QA AUXILIARY DIAL CONNECTION INFORMATION**

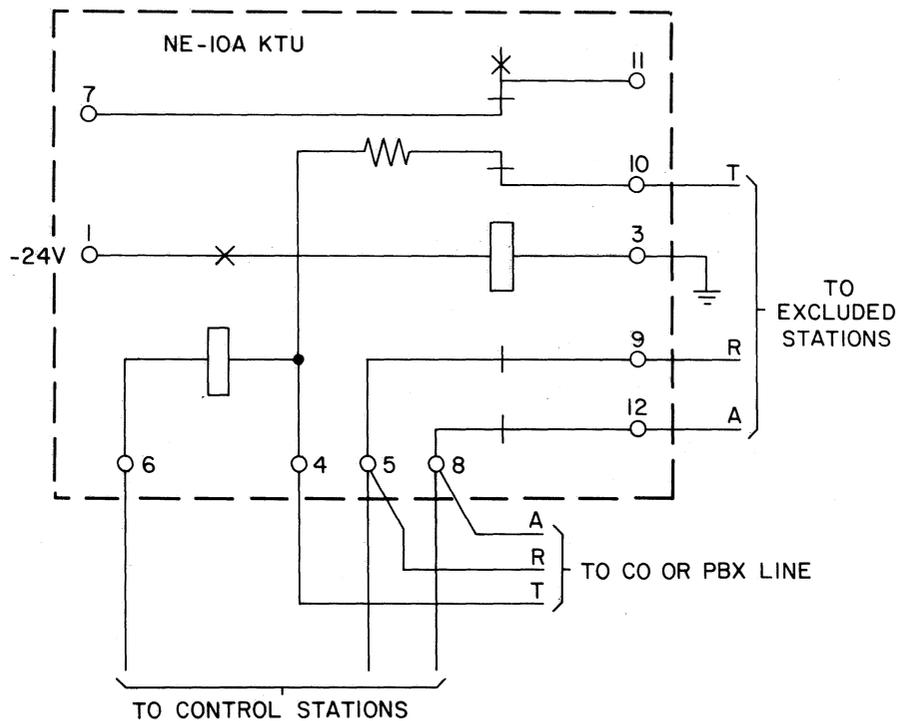
DIAL LEADS	BR-W	S-R	W-BL	O-R	R-O	V-O	O-V	Y-S	S-Y
Set term	R		B		C		20-22		F
(R) Handset lead from Term R		Y							
(W) Handset lead from Term R				X					
(G) Key lead from Term F								17	
(S-W) Line Switch lead from Term 20-22						13			

*Note:* Insulate and store unused leads: (BL-BK), (BK-BL), (BR-Y), (W-BR), (R-S), (BL-W).

**TABLE G  
MONITORING OF BUSY STATIONS**

LAMP POSITION	SET MODIFICATION	CONNECTOR NE-D50QE	CONNECTION AT TERMINAL EQUIPMENT FIELD
All	—	BL-BK	-24 V dc
Hold	—	BR-BK	"BL" lead of monitored set
8	Move (R-BL) lead from term 10-12 to term 7-9	BL-V	"BL" lead of monitored set
9	Move (G-V) lead from term	G-V	"BL" lead of monitored set
10	Move (S-V) lead from term 10-12 to term 7-9	S-V	BL lead of monitored set

*Note:* Substitute NE-52A lamps for NE-51A lamps at each position converted.



**Fig. 10(a) — Automatic Exclusion for NE-10A KTU**

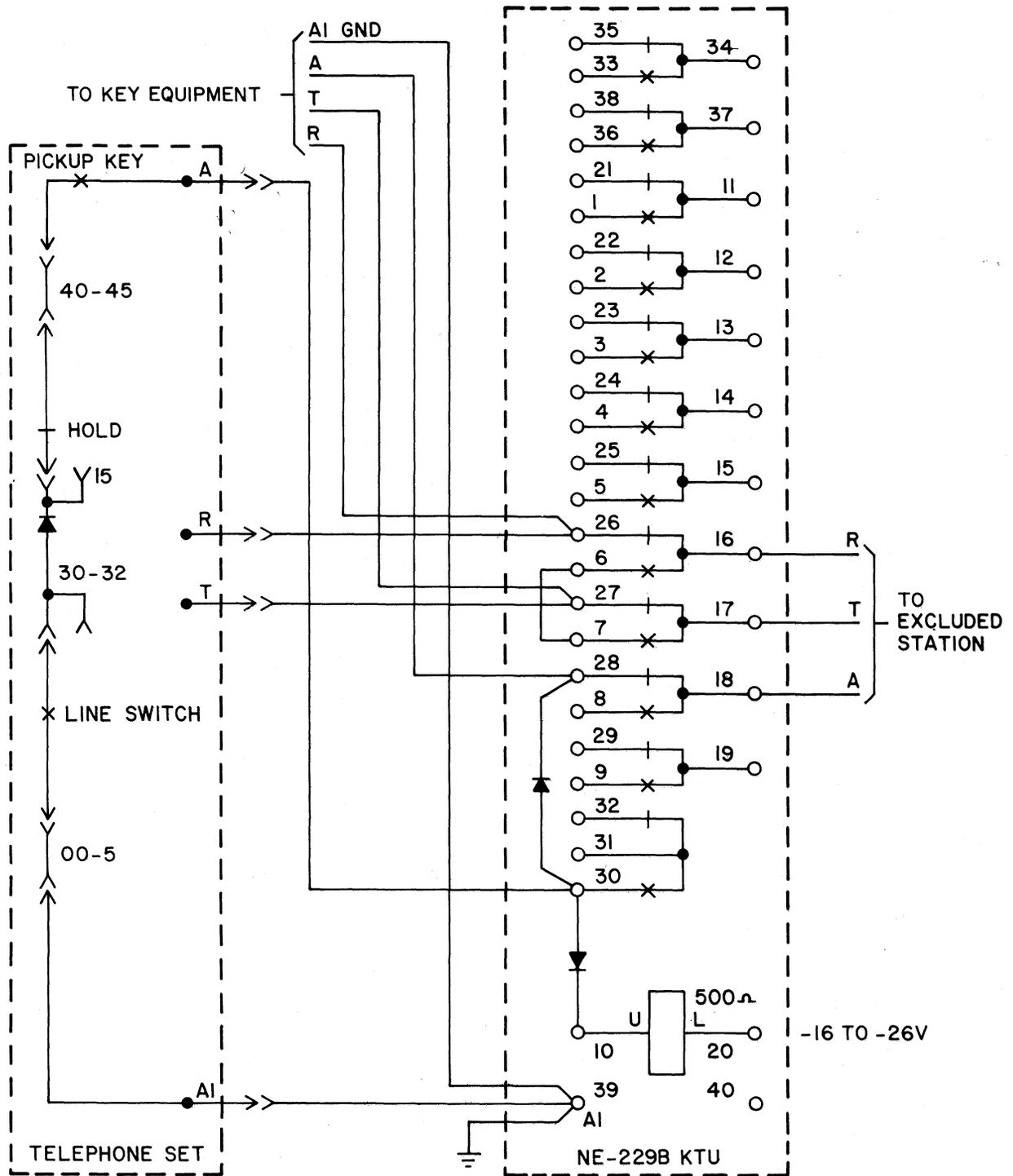


Fig. 10(b) — Automatic Exclusion for NE-229B KTU

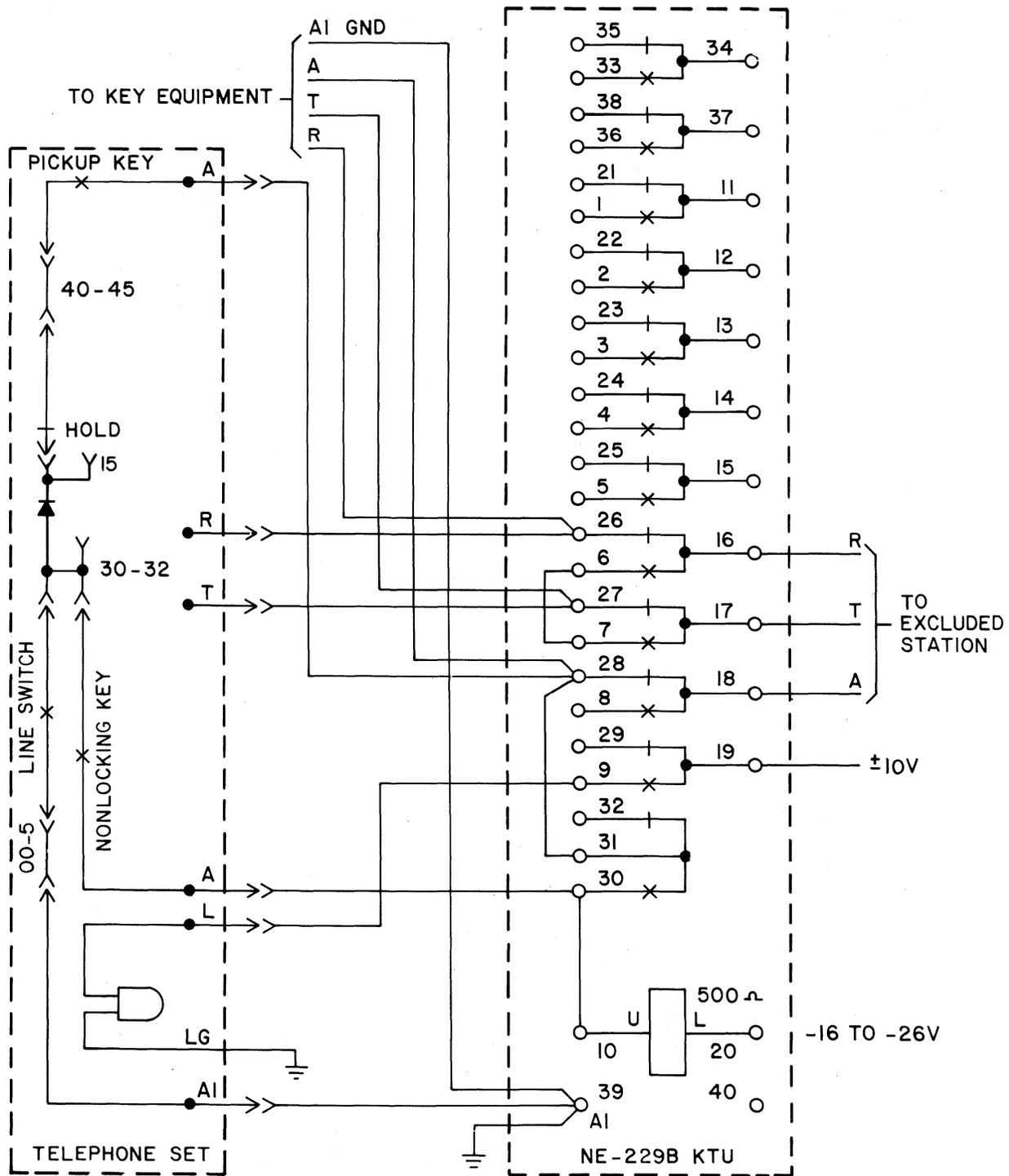


Fig. 11 - Selective Exclusion

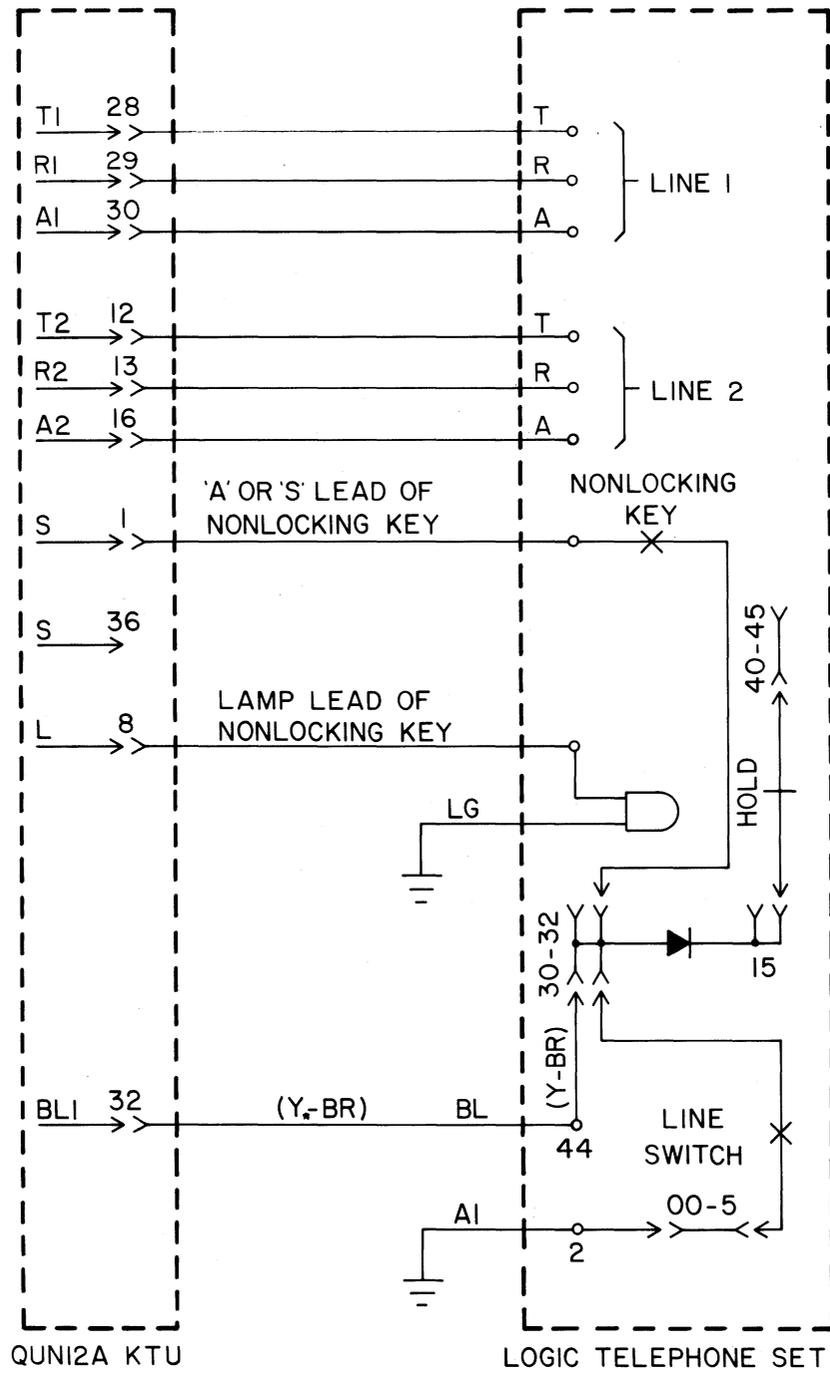


Fig. 12(a) - Add-on Circuit for QUN12A KTU

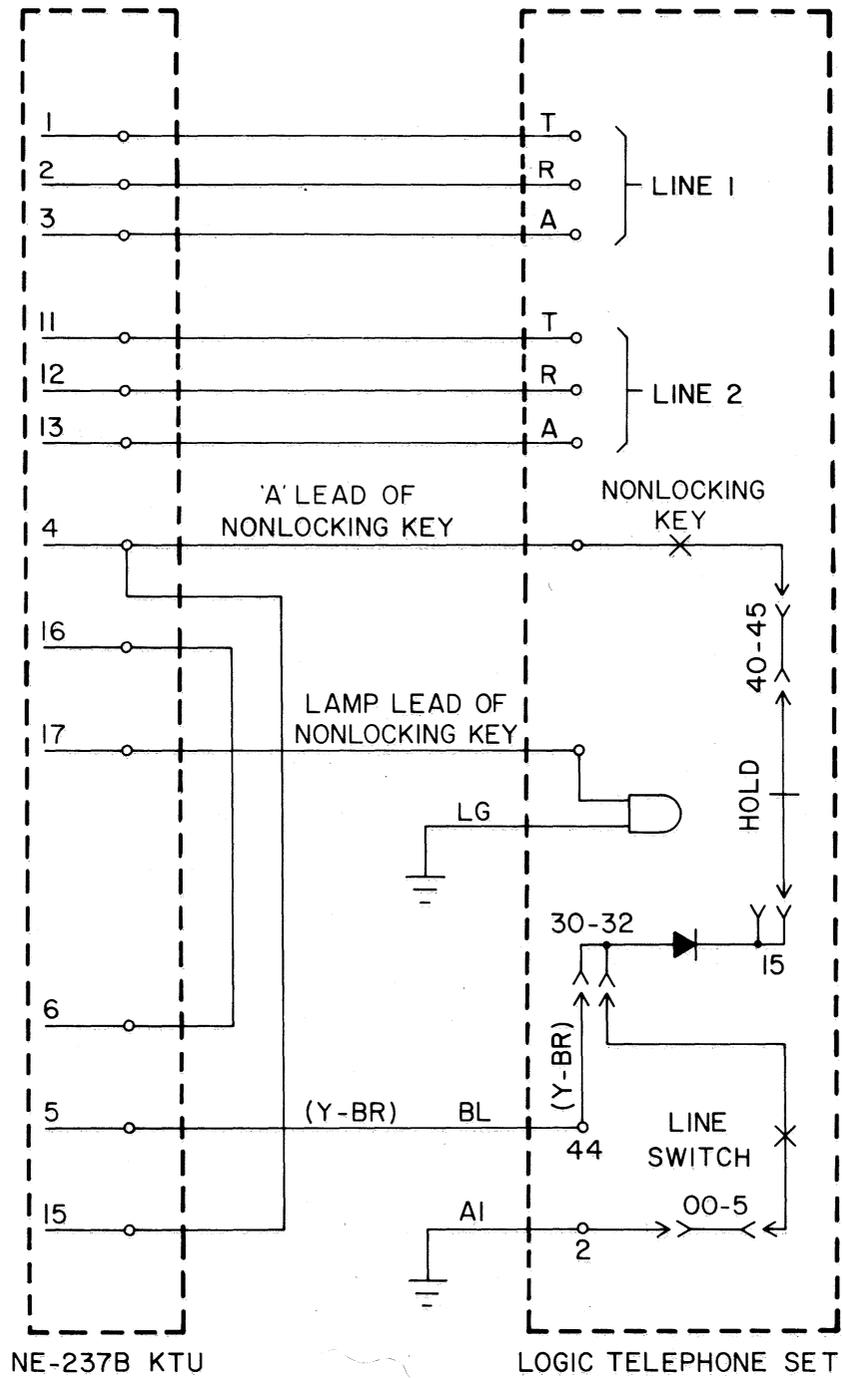


Fig. 12(b) — Add-on Circuit for NE-237B KTU