

A. E. CO. MC-8885-A THREE-LINE LEVER KEY
DESCRIPTION AND INSTALLATION

	CONTENTS	PAGE
1.	GENERAL	1
2.	DESCRIPTION	1
3.	MOUNTING	1
4.	CONNECTIONS	2
	Ringer Cutoff	2
	Exclusion with Line Shorting	3
	Customer Transfer Service	3
	Two-Line Pick-Up	4
	Three-Line Pick-Up	5
	Three-Line Pick-Up with Ringer Association	5

- (d) Two-line pickup.
- (e) Three-line pickup.
- (f) Three-line pickup with ringer association.

2. **DESCRIPTION**

2.01 The A.E.Co. MC-8885-A Three-Line Lever Key (Figure 1) is a box-type key approximately 5-inches high, 3-1/2-inches wide, and 1-3/4-inches deep. It consists of a two-conductor three-position lever key, LK-4-A1A (Figure 2), and an eight-terminal

1. **GENERAL**

1.01 This Section presents a description of the A.E.Co. MC-8885-A Three-Line Lever Key. Mounting instructions and information on connecting the key to provide various features are also included.

1.02 Features of this key covered in this Section are:

- (a) Ringer cutoff.
- (b) Exclusion with line shorting.
- (c) Customer transfer service.

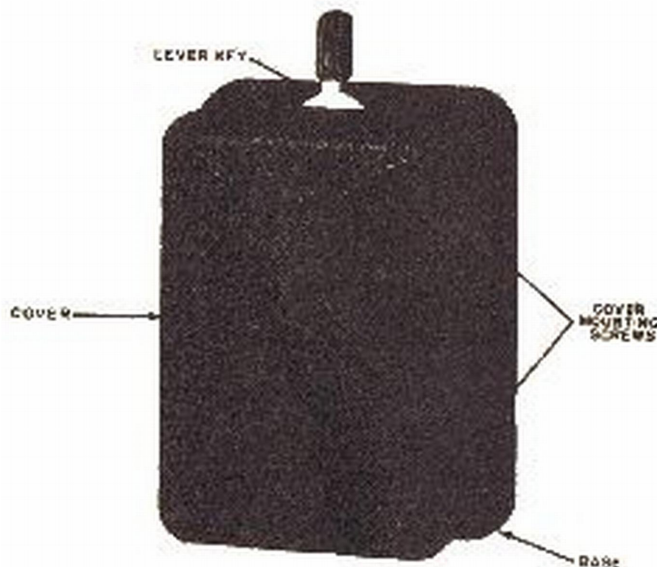


Figure 1. A. E. Co. MC-8885-A Three-Line Lever Key.

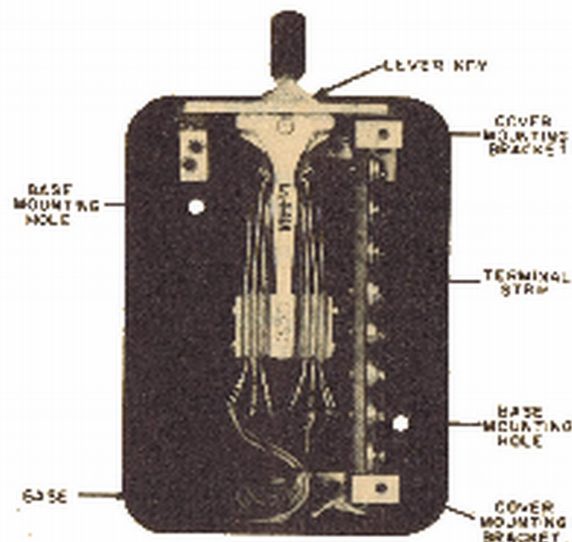


Figure 2. A. E. Co. MC-8885-A Three-Line Lever Key with Cover Removed.

terminal strip (Figure 3), mounted on a metal base, and enclosed by a metal cover. The cover is finished in black wrinkle enamel, and has an opening at the bottom end through which the station wire may be routed. Figure 4 provides a wiring diagram of the key.

3 **MOUNTING**

3.01 The key may be mounted in any position, to a desk, wall, or in any other convenient location. Use the following procedure to mount the key:

- (1) Remove the two cover mounting screws (Figure 1).

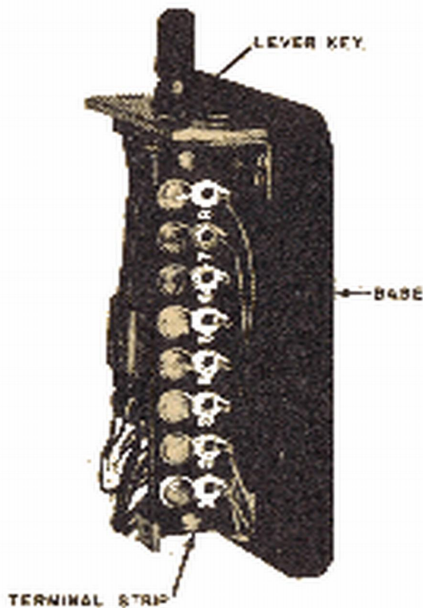


Figure 3. A. E. Co. MC-8885-A Three-Line Lever Key, Side View, Showing Terminal Strip.

- (2) Unscrew, and remove the handle from the lever key.
- (3) Remove the cover by pulling out the bottom end and sliding it up, free of the lever key.
- (4) Fasten the key to a wall, desk, etc., using appropriate screws through the two base mounting holes (Figure 2).
- (5) After the desired connections have been made to the terminal strip, replace and fasten the cover, and replace the lever key handle.

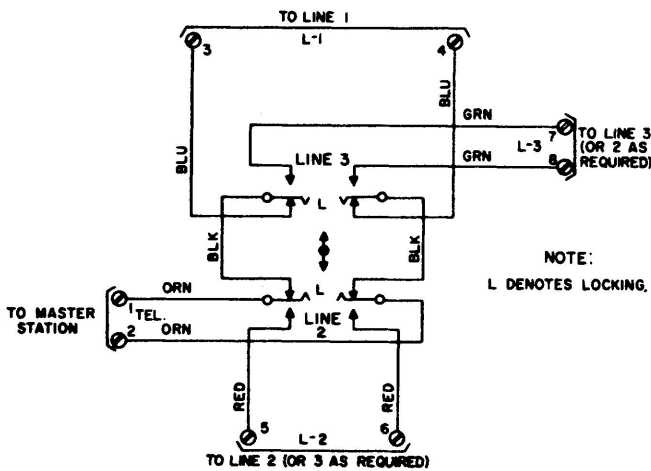


Figure 4. MC-8885-A Key, Wiring Diagram.

4. CONNECTIONS

4.01 When connecting the key be sure to maintain proper line polarity. The following paragraphs provide connecting instructions and diagrams for some of the features which may be provided by the key.

Ringer_Cutoff

4.02 Ringer cutoff is useful in locations requiring uninterrupted quiet. Make the following connections to the key terminal strip to provide ringer cutoff (Figure 5):

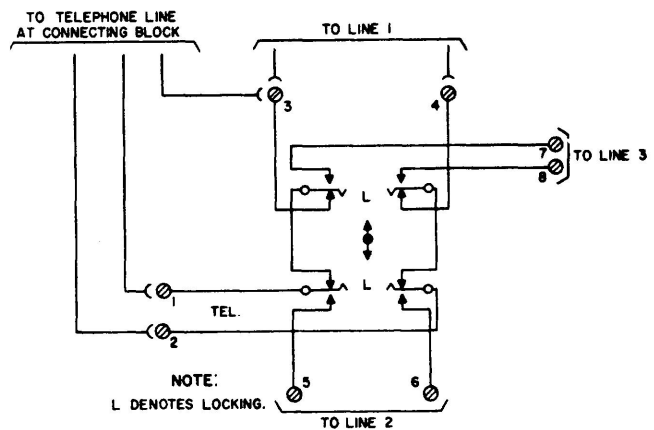


Figure 5. Ringer Cutoff.

- (1) When terminating the line cord of the telephone set at the connecting block, keep the yellow ringer-return conductor separate from the line conductors, and terminate it at the 3 or B terminal. If a SATT identity dial is used, replace the line cord with one having four conductors, and connect the ringer-return path to the fourth (usually black) conductor. Terminate this conductor at the 3 or B terminal of the block, and the yellow conductor at terminal 4G or Y, where the yellow ground conductor of the wire run from the protector should also be terminated. Connect the red and green conductors of the line cord as appropriate to the type of service, in accordance with the instructions given in the particular Section in the 473 series of General System Practices which deals with the type of instrument being installed.
- (2) Run station wire between the connecting block and the key. At a

bridged-ringing station, make connections at the block on a color-for-color basis with the run from the protector. At a divided-ringing station, only two conductors are required. Connect one to the 3 or B terminal, and the other to the 4G or Y terminal.

- (3) At the terminal strip on the key assembly, connect the red conductor to terminal 1, and the green conductor to terminal 2 at a bridged-ringing station. If the telephone set is wired as a tip party station, connect the yellow conductor to terminal 3. If the set is wired as a ring party station, connect the yellow conductor to terminal 4. At a divided-ringing station, connect one conductor to terminal 1, and the other to terminal 3.

4.03 With the key in its normal position, the ringer will be connected to the line. When the key is operated to either side, the ringer is disconnected.

Exclusion with Line Shorting

4.04 Exclusion of extension stations with line shorting is used when maximum privacy is required at the main station. In this case the line conductors to the extension stations are not only disconnected from the line, but short-circuited to eliminate capacitive coupling and practically eliminate the possibility of eavesdropping from an extension station. To provide this feature, make the following connections:

- (1) Terminate the red and green conductors of the station wire run to the extension stations at terminals 3 and 4G of the main station connecting block, rather than at terminals L1 and L2, as the line conductors and main station line cord conductors are. When ground is required for divided ringing or ANI, use a Type 15 connecting block and terminate the red and green conductors from the extensions at terminals 3 and 5.
- (2) Using four-conductor station wire, connect the red and green (or first pair) conductors to terminals L1 and L2, and the yellow and black (or second pair) conductors to terminals 3 and 4G (or 3 and 5, where ground is involved) at the connecting block.

- (3) Run the four-conductor wire to the MC-8885-A key, and connect the yellow and black conductors to terminals 1 and 2, and the red and green conductors to terminals 3 and 4 at the terminal strip on the key assembly.
- (4) Strap key terminals 5 to 6 and 7 to 8 (Figure 6).

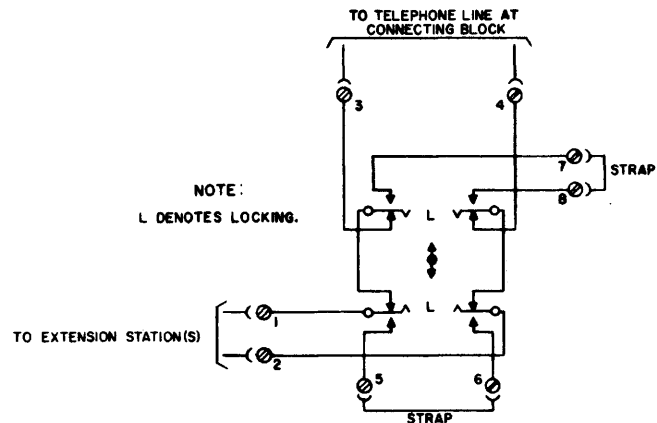


Figure 6. Exclusion Feature with Line Shorting.

4.05 With the key in its normal position the extension is connected to the line. When the key is operated to either side, the extension is excluded and its line shorted.

Customer Transfer Service

4.06 Customer transfer service will extend calls from an unattended telephone to some other predetermined telephone; usually from a business telephone to residential telephone (or answering service).

4.07 The key (located near the business telephone) controls transfer service relay equipment in the central office serving the customer. When the transfer key is operated, all incoming calls to the business telephone are transferred to the residence line. When a call is received, both the business and residence telephones are rung. Ringing of both telephones eliminates the possibility of lost or unanswered calls during the transfer period.

4.08 If the transfer key is restored while a transferred call is being answered from the residence station, the call will remain transferred and a three-way conversation may take place. With the transfer key normal,

business and residence telephones may originate or receive calls independently.

4.09 For further information on customer transfer service, refer to the appropriate Section in the 217-250 series of General System Practices.

4.10 Connect the key as follows, to control customer transfer service (Figure 7):

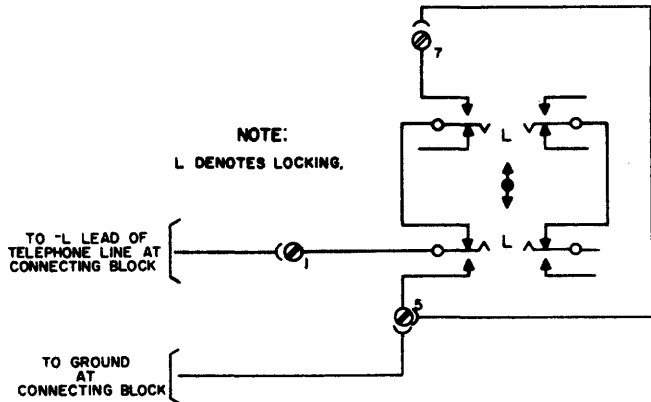


Figure 7. Customer Transfer Service.

- (1) Using three-conductor station wire, connect to the yellow and red conductors of the line at the connecting block.
- (2) Run the station wire to the MC-8885-A key, and connect the red conductor to key terminal 1, and the yellow conductor to terminals 5 and 7.

4.11 When the key is operated to either side, ground is placed on lead -L of the telephone line, operating the transfer circuit.

Two-Line Pick-Up

4.12 Two-line pick-up permits access to either of two lines from the same telephone. Make the following connections to the key terminal strip for two-line pick-up (Figure 8):

- (1) Run the station wire for the two lines (in either two-pair wire or separately jacketed pairs) from the protector directly to the key.
- (2) Run station wire from the connecting block to the key.
- (3) Connect the red and green leads from the connecting block to key terminals 1 and 2.
- (4) Connect the leads from line 1 to key terminals 3 and 4.
- (5) Connect the leads from line 2 to terminals 5 and 6, and strap them to terminals 7 and 8, respectively.

4.13 When the key is in its normal position, the telephone set is connected to line 1, and its ringer will sound only for an incoming call on line 1. When the key is operated to either side, connection is made to line 2, and the ringer will sound only for a call on that line.

4.14 If the customer desires to be able to cut off all calls, and signal and answer

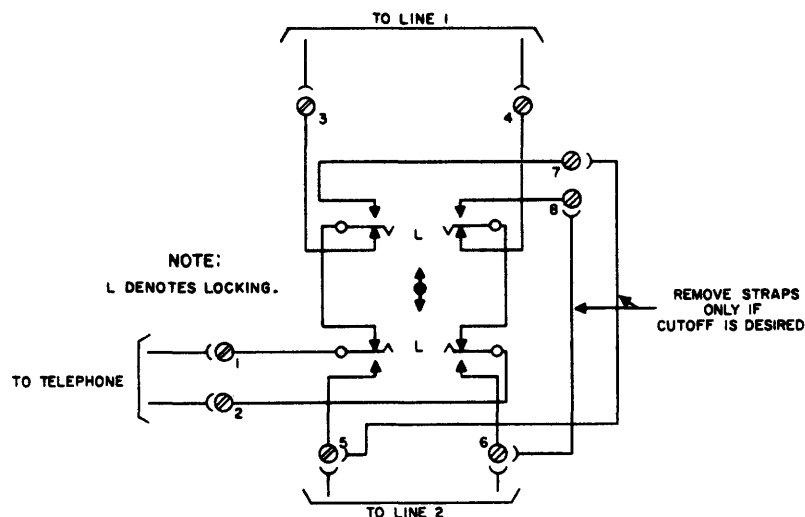


Figure 8. Two-Line Pickup.

facilities are provided elsewhere, remove the straps between key terminals 5 and 7, and between 6 and 8. Connect the leads from line 2 either to terminals 5 and 6, or to terminals 7 and 8, whichever will result in connection to line 2 when the key handle is in the up position for an assembly mounted horizontally on a vertical surface. When the key is operated to the down position, the telephone set and its ringer are disconnected from both lines, and calls cannot be made or received.

Three-Line Pick-Up

4.15 Three-line pick-up permits access to one of three lines from the same telephone. Make the following connections to the key terminal strip for three-line pick-up (Figure 9):

- (1) Run the station wire for the three lines (in either three-pair IW cable or separately jacketed pairs) from the protector directly to the key.
- (2) Run station wire from the connecting block to the key.
- (3) Connect the red and green leads from the connecting block to key terminals 1 and 2.
- (4) Connect the leads from line 1 to key terminals 3 and 4.
- (5) Connect the leads from line 2 to key terminals 5 and 6.
- (6) Connect the leads from line 3 to key terminals 7 and 8.

4.16 When the key is in its normal position, the telephone set is connected to line 1. When the key handle is operated to the up

position (for an assembly mounted horizontally on the left side of a desk), connection is made to line 2. When the key is operated to the down position, connection is made to line 3. The ringer in the instrument will sound for an incoming call only on the line selected by the position of the key handle. If the key is to be mounted on the right side of the desk, connect line 2 to terminals 7 and 8, and line 3 to terminals 5 and 6, in order to preserve the up-2 and down-3 relationship.

Three-Line Pick-Up with Ringer Association

4.17 Three-line pickup with ringer association provides three-line access as in the preceding arrangement, but associates the ringer in the telephone set with a single line (ordinarily line 1) at all times. To provide this feature, make the following connections:

- (1) Disconnect the ringer leads (i.e., one lead from the ringer coil and one lead from the associated capacitor) from their usual termination on the network in the instrument.
- (2) Connect the ringer leads within the telephone set to spare line cord conductors. If necessary, change the line cord to provide the additional two conductors, and the connecting block to provide a termination for them.
- (3) Run the station wire for line 1 to the connecting block, and terminate it on the terminals for the ringer leads, rather than for the line leads (Figure 10).
- (4) Using four-conductor station wire, connect to the instrument line leads

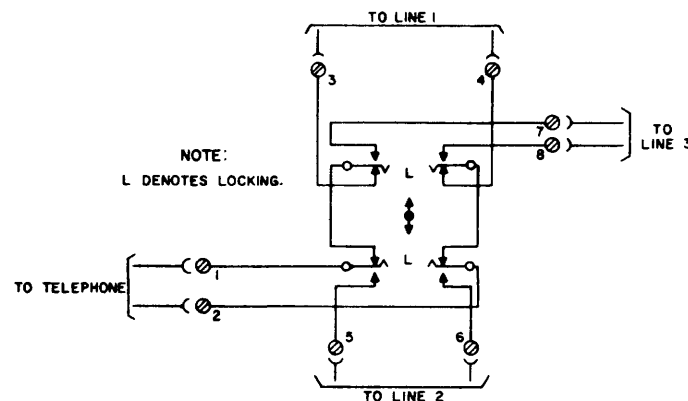


Figure 9. Three-Line Pickup.

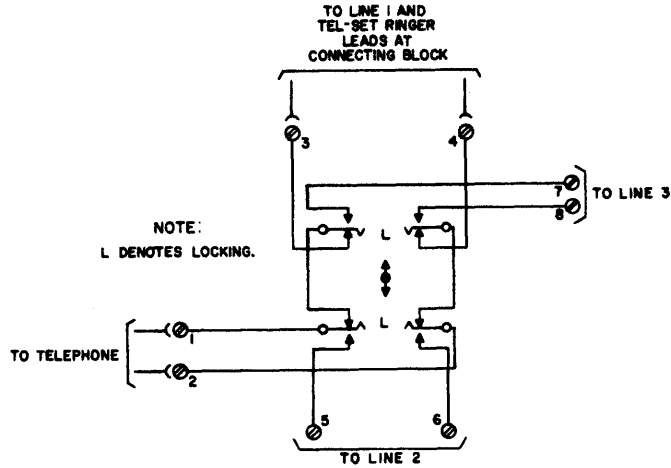


Figure 10. Three-Line Pickup with Ringer Association.

and to the ringer (line 1) leads at the connecting block.

- (5) Run the four-conductor wire to the MC-8885-A key, and connect the instrument line leads to terminals 1 and 2, and the ringer (line 1) leads to terminals 3 and 4.
- (6) If external signals are required on lines 2 and 3, terminate the station wire run from the protector at a separate ringer box for each, and

then extend each run to the key assembly. If no signals are required for these lines at this station, make a direct run to the key.

- (7) Connect the leads from line 2 to terminals 5 and 6 of the key.
- (8) Connect the leads from line 3 to key terminals 7 and 8.
- (9) Make reversals if necessary, as explained in Paragraph 4.16.