

BELL SYSTEM PRACTICES
Station Installation and Maintenance

SECTION C32.506
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AT&T Co Provisional

TELEPHONE SETS

STROMBERG-CARLSON

1. GENERAL

1.01 This section covers the description, use, installation, maintenance and connections for combined type telephone sets manufactured by the Stromberg-Carlson Company. Apparatus requirements and adjusting procedures for the associated hand set, ringer and mounting contact spring assembly are also included.

1.02 These telephone sets are anti-sidetone sets and consist of a hand set and a telephone set mounting which in addition to a dial or an apparatus blank houses a ringer and a unit induction coil and condensers. A three conductor cord for connecting the telephone set to the line is also included. The line is terminated at a 42A connecting block near the set.

1.03 In connection with ordering information or reporting equipment installed on service orders, etc., these telephone sets are coded S. C. 1243A. For dial sets add the word Dial or other suitable notation to the code. Other apparatus codes referred to herein are for apparatus of Western Electric manufacture.

1.04 These sets have housings made of metal with a black finish.

1.05 In general, the sets are installed in accordance with instructions included in the sections in Division C30 covering the locating and mounting of the hand telephone sets and the installation of connecting blocks. Consideration should be given to adapting the ringing signal to the subscriber's need as outlined in the section entitled "Service Order and Repair Work—Ringers and Loud Ringing Bells."

2. DESCRIPTION

2.01 These sets are in general similar to the 302 type telephone sets shown in Section C32.502, Figs. 1 and 2 and are used at common battery anti-sidetone stations on non-polarized ringing lines of the following classes of service:

Individual Lines (Manual and Dial)

Two-Party Selective Flat Rate (Manual and Dial)

Two-Party Selective Message Rate (Manual and Ring Party Dial Only)

Four-Party Semi-Selective (Manual and Dial)

Regular P.B.X. Stations (Manual and Dial)

2.02 For individual lines and regular P.B.X. stations a two conductor mounting cord between the connecting block and the set is required. As these sets are furnished with a three conductor cord the additional conductor at the connecting block end should be connected to terminal Y of the 42A connecting block but no ground wire should be connected to the Y terminal. For grounded ringing lines the third conductor of the mounting cord is used to bring a ground into the set. (See Fig. 1.)

2.03 Standard three conductor mounting cords may be used to replace the mounting cord furnished if required. If these cords are used it will be necessary to open the S hook at the set end and to secure it in the two holes in the base of the set. The S hook should then be closed securely.

2.04 The Stromberg-Carlson mounting cord shall be secured to the 42A connecting block by wrapping the tie cord around the block through both "C" shaped notches in the following manner:

Starting at the notch adjacent to terminal B run the tie cord down under block and up through the opposite notch and across face of block to terminal B. Loosen screw of this terminal and loop remaining portion of tie cord around the screw between the two washers to avoid damage to the tie cord and retighten screw.

As an alternative method, the tie cord may be wrapped around the block through one of the "C" shaped notches and the end of the tie cord secured to the mounting cord with two cable stitches in a manner similar to that shown in Part 4 of Section C35.260 for tying receiver cords. In terminating the cord conductors, do not allow cord conductors to be directly over the screw terminals or center post of the block nor to project out beyond the edge of the block.

2.05 With the exception of the dial these sets are equipped with Stromberg-Carlson apparatus which except for the mounting cord is not interchangeable with other standard apparatus parts. The Stromberg-Carlson hand set furnished with these sets may be zoned as an E1E hand set except that these sets may also be used on hotel P.B.X. extensions. The complete E1E or F1A hand set, preferably the E1E may also be used with these sets. When the F1A hand set is used, the set may be zoned as are other standard sets equipped with F1A hand sets.

3. CONNECTIONS

3.01 The connections for these telephone sets are shown in Fig. 1.

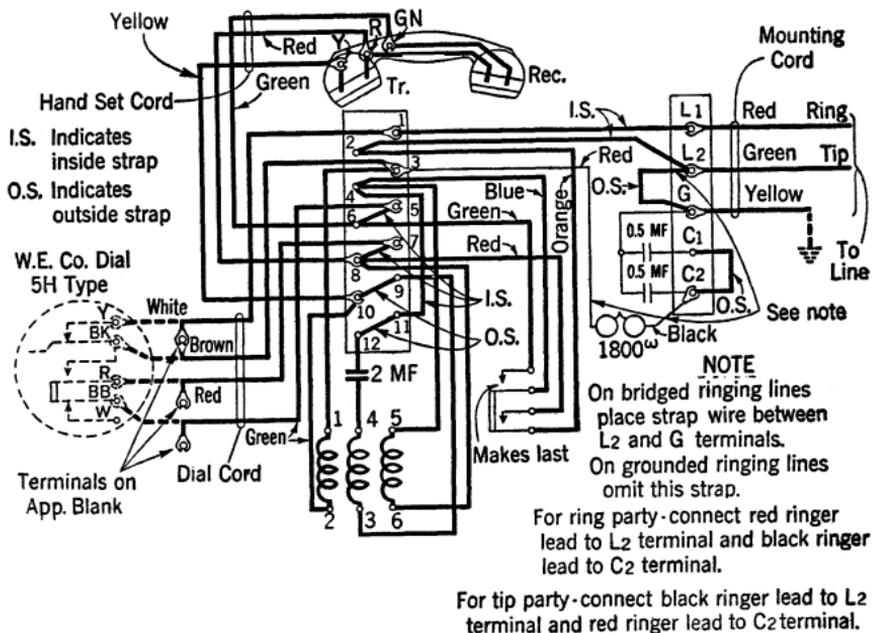


Fig. 1

3.02 The diagram in Fig. 1 shows the line and ringer connections for bridged ringing lines. Line and ringer connections for bridged and grounded ringing lines of the classes of service for which the set is used are given in Table 1.

Table 1

Connections	Ringer Leads		Mtg. Cord		
	BK	R	R	GN	Y
*Bridged	C2	3	L1	L2	G
Ring Party	C2	L2	L2	L1	G
Tip Party	L2	C2	L1	L2	G

*On bridged ringing lines strap terminal L₂ to terminal G. On grounded ringing lines, omit this strap. Local ground should not be connected through to yellow mounting cord conductor on bridged ringing lines.

3.03 The ringer in the set is low impedance. The number and type of ringing bridges connected to a particular line should be limited in accordance with connection data for 1 mf. low impedance ringing bridges as given in the section entitled "Ringer Connection Limitations—Non-Polarized Ringing Lines."

4. NUMBER CARD

4.01 Manual sets are provided with a Stromberg-Carlson apparatus blank. The number card furnished with this apparatus blank may be used. The line number may be printed or typed on this card in the available space provided. To remove the card, remove the spring rivet in the center of the dial blank and after the number is printed on the card, reassemble the card and window and insert the spring rivet so that it is securely fastened.

4.02 On dial sets use the standard number card frame and card.

5. MAINTENANCE

Ringer

5.01 The ringer is biased in a manner similar to that of the 8 type ringer and is low impedance. Only the adjustments specified below may be made on this ringer. If ringer fails to operate properly after these adjustments have been made, replace set.

5.02 **Pivot Adjustment:** Pivot may be adjusted in accordance with the section in Division C30 covering tests and adjustments for ringers and loud ringing bells.

5.03 **Armature:** Clean the points of contact between the armature and the pole faces by inserting a strip of Bell Seal bond or approved equivalent cleaning paper between the contact and each pole face in turn while pressing the armature against the respective pole face.

5.04 Armature travel may be adjusted by turning the screw located at the armature end of the ringer and extending through a hole in the magnet. Turning the screw clockwise decreases the armature travel and this travel should be approximately .025 inch. It may be slightly increased or decreased, if necessary, to improve ringing. The 126B gauge may be used to check this adjustment.

5.05 **Biasing Spring Adjustment:** The biasing spring tension may be adjusted in accordance with the section in the C30 Division covering tests and adjustments for ringers and loud ringing bells.

5.06 **Gongs:** Gongs may be adjusted by loosening the screw which fastens the gong support, moving the gong as desired, and then tightening the screw.

Plunger and Switch Contact Spring Assembly

5.07 The plunger and switch contact spring assembly is somewhat similar to Fig. 1, Section C32.575 except the contacts are of the point and disc type instead of the bar type.

5.08 **Cleaning:** Clean contacts with a clean 265B tool.

5.09 **Contact Alignment:** Contacts shall line up so that the point falls entirely within the opposing disc contact. If the contact springs do not meet this requirement, loosen the spring assembly with a 3-1/2 inch cabinet screwdriver and shift the springs until the opposing contacts are approximately centered. Take precautions to see that the bushings go through the holes and then tighten screws securely.

5.10 **Contact Follow:** Both contacts on the same spring shall make with their respective opposing contacts at approximately the same time and the contacts shall have a perceptible follow.

5.11 **Contact Separation:** There shall be an air gap of minimum .012 inch between the contacts when the plungers are depressed to the level of the hand set supporting surfaces.

5.12 **Contact Sequence:** The contact sequence shall be such that when the contacts to which the orange and red conductors are connected make first, there will still be a separation of minimum .006 inch between the contacts to which the green and blue conductors are connected.

5.13 **Spring Clearance:** There shall be a clearance between springs which are not intended to make contact of approximately 1/32 inch.

5.14 **Contact Margins:** To ensure proper contact margins, all contacts shall make before the plungers reach a point approximately 1/16 inch from their extreme upper position and break before they reach a point 1/16 inch from the lowest position they take with the hand set in place on the housing.

5.15 If the requirements in Paragraphs 5.10 to 5.14 inclusive are not met, adjust the contact springs close to a point where they leave the clamping plate and insulators with a 466A tool or approved equivalent. When adjusting contact springs take care not to kink them. If springs are kinked, replace set.

5.16 **Plungers:** The plungers and plunger lever shall move freely without binding or squeaking throughout the entire travel. Plungers may be cleaned by removing the switch

assembly in a manner similar to that described for other telephone set mountings in the section entitled "Telephone Set Mountings—H Type—Maintenance."

5.17 When the hand set is slowly lifted from the housing, the plungers shall move upward and come to a positive stop.

5.18 When the hand set is slowly lowered into place on the housing, the plungers shall move downward until the hand set rests on the supporting surfaces.

5.19 If the plungers or plunger lever fail to operate properly, replace the set.

5.20 If plungers fail to operate properly only when hand set is placed on its supporting surfaces it is probably due to excessive tension of the long contact springs. If such is the case reduce the excessive tension of the springs by applying the 466A tool or approved equivalent close to the point where the springs leave the clamping plate and insulators. Check all other contact spring adjustments.

Dial

5.21 The 5H or 4H type dial may be used in these sets. The dial tests and adjustments shall be in accordance with the data given in the section in the C30 Division covering the maintenance of these dials. Mounting screws P-121457, the same as those furnished with the 59A dial adapter, are to be used for mounting the dial in place of the mounting screws used with the Stromberg-Carlson apparatus blank.

5.22 The dial cord and switch cord are of Stromberg-Carlson manufacture.

Complete Set

5.23 If apparatus or parts other than the dial, complete hand set or the mounting cord require replacement or cannot be made to meet the above adjustments, replace the set.