

BELL SYSTEM PRACTICES
Station Installation and Maintenance

SECTION C31.101
Issue 3, July, 1953
AT&T Co Standard

SUBSCRIBER SETS

DESCRIPTION

1. GENERAL

1.01 This section gives general information relative to the anti-sidetone common battery or L.B.T., C.B.S. subscriber sets. The principal parts and equivalent subscriber sets are listed.

1.02 This section is reissued to include the 531 and 592-type subscriber sets and to delete information regarding sidetone set apparatus; therefore, information herein, referred to as "subscriber sets", except 531, 534, 584 and 592 types, which are extension and loud ringer sets, shall be considered as "anti-sidetone" apparatus.

1.03 For information on the use of sets described herein, see sections in Division C60 entitled "Station Sets by Class of Service".

2. DESCRIPTION

(A) Wall Type Sets

2.01 The 433, 633, and 653-type sets are wall sets having a metal housing. The base of the case is flanged to prevent marring of walls when used without a backboard. The 433-type set has exposed gongs, whereas the 633 and 653 types have enclosed gongs. These sets have a separate receiver and transmitter and in addition to a ringer, they contain an induction coil and in some cases an additional condenser. The 433 and 633 types are for manual service and the 653 type may be arranged for either manual or dial service. A writing shelf can be provided with these sets by using a No. 146A backboard.

2.02 Wall sets equipped with hand sets have been made available through conversion of existing 653-type sets. A modified switchhook is provided in converted sets so as to support a hand set instead of a receiver.

(B) Bell Boxes

2.03 The 434, 634 (except 634BD) and 684-type sets are bell boxes for use with hand telephone sets, desk stands, etc. These sets contain a ringer, induction coil and in some cases more than one condenser. The 434-type set has exposed gongs whereas the 634 and 684 types have enclosed gongs. The 684-type set has a metal base with a moulded plastic cover and is smaller than the other bell boxes mentioned above which have metal bases and covers.

2.04 The 495 BP and CT sets differ from other type sets only in the respect that they have wood cases with exposed gongs for use where subscribers have impaired hearing.

(C) Extension Ringers—Loud Ringing Bells

2.05 The 531-type subscriber set, is an extension ringer set for interior use. The set has the same general appearance as the 684-type bell box but is considerably smaller. The base is metal and the cover is made of a black thermoplastic material. The 531A-type set contains a ringer, condenser and a terminal strip with five screw terminals and the 531C-type set contains a vacuum tube, relay, varistor and two terminal strips. The 171A backboard is designed for use with these sets.

2.06 The 592-type subscriber set is a loud ringing bell designed for either outside or inside use. The set consists of a ringer mounted on a metal base. The mechanism and clapper rod are protected by a cover casting which extends between the gongs. The exposed gongs are mounted on two resonators which serve as supports for the gongs as well as gong tone. In addition to a ringer, the 592A set contains a condenser and the 592C set a vacuum tube. The 592B set is designed for use on magneto lines. As there is no protective cover on the set, the 169A backboard is intended for housing the set where protection from the weather is necessary.

Note: The use of these sets is subject to the limitations specified in Section C63.251 for non-polarized ringing lines and in Section C63.252 for polarized ringing lines.

(D) Battery Feed Filter

2.07 The 634BD subscriber set is used as a battery supply filter with local battery talking, common battery signaling station sets as specified in Section C63.289. It contains an induction coil and condensers and in appearance is the same as the 634-type bell box.

(E) Standard L.B.T., C.B.S. Sets

2.08 Standard subscriber sets for local battery talking, common battery signaling anti-sidetone station connections are designed to prevent current from the central office from passing through the receiver or a varistor which may be connected in parallel with the receiver. These sets, coded 634YD, 653YD, 634YDT, and 653YDT (or superseded 634BB and 653BB) are required at local battery talking stations where HA1 receiver units and similar receivers or head receivers with varistors are employed. A 101A or equivalent induction coil, employing only the "R-L1" winding and used as a retardation coil, and a 2 mf condenser are provided in these sets in addition to the regular induction coil and network provided in other local battery talking sets.

3. APPARATUS

(A) General

3.01 The tables on Pages 4, 5 and 6 list the principal parts of the various types of subscriber sets referred to herein. The sets listed in the table on Page 5 are equivalent sets principally in respect to circuit arrangement.

3.02 The condensers, dials, induction coils, etc., shown in the tables cover the latest type of apparatus used in the subscriber sets listed. Sets made available by conversions of other types of repaired sets may, of course, contain equivalent dials, condensers, coils, etc. In this connection later type condensers which are tested for breakdown at 300 volts (condensers stamped "L" in one end) may be provided for talking condensers only.

(B) Extension Ringer Terminal

3.03 To facilitate wiring an extension ringer in place of the normal ringer in the set or wiring to a ringer cutoff key, etc., the following "E" terminals are available for installation in sets where such a terminal or other spare terminal is not provided:

| Subscriber Set | Terminal Piece Part |
|------------------------------------------|---------------------|
| 634 and 653 types except 634BB and 653BB | P-218870 |
| *684 types, 634BB and 653BB | P-290055 |

* In 684-type sets with 146C induction coil, use terminal P-231008 and mounting screw P-143186.

PRINCIPAL PARTS OF SUBSCRIBER SETS

| Subscriber Set Code | | Ringer | Gongs (Note 1) | Condensers | Induction Coils | Vacuum Tube | Relay | †Apparatus Blank | †Type Dial | Switch-hook | Cords ← |
|---------------------|--------------------------------------|--------|----------------|------------------|-----------------|-------------|-------|------------------|------------|-------------|---------|
| Standard | Equivalent | | | | | | | | | | |
| 495BP | — | 8A | 38A | 194A | 101A | — | — | — | — | — | — |
| 495CT | — | 8A | 38A | 194A | 101A | 426A | — | — | — | — | ↑ |
| 634AT | 434AT, 634AR, 634FR | 68A | 29C | 194A | 101A | 426A | — | — | — | — | ↑ |
| **634BD | — | — | — | 147A(2) | 46 | — | — | — | — | — | — |
| 634CR | — | 72G | 29C | 194A, 149B | 101A | — | 85N | — | — | — | — |
| 634YD | 634Y, 634BB | B1AL | 41A, 41B | 147A, 149B, 149D | 101A, 104A | — | — | — | — | — | — |
| 634YDT | 634YR, 634YT | 68A | 29C | 147A, 149B | 101A, 104A | 426A | — | — | — | — | ↑ |
| 653A | *433B, *633A | 68A | 29C | 194A | 101A | — | — | 50B | 6A | 140AK | T1C |
| 653AT | *433BT, *633AR, *633AT, 653AR, 653FR | 68A | 29C | 194A | 101A | 426A | — | 50B | 6A | 140AK | T1C |
| 653BA | *633BA | B1AL | 41A, 41B | 194B | 101A | — | — | 50B | 6A | 140AK | T1C |
| 653BC | — | 68AA | 29C | 194A | 101A | — | — | 50B | 6A | 140AL | T1C |
| 653CR | *633CR | 72G | 29C | 194A, 149B | 101A | — | 85N | 50B | 6A | 140AL | T1C |
| 653YD | *633Y, 653Y, 653BB | B1AL | 41A, 41B | 147A, 149B, 149D | 101A, 104A | — | — | 50B | 6A | 140S | T1C |
| 653YDT | *633YT, 653YR, 653YT | 68A | 29C | 147A, 149B | 101A, 104A | 426A | — | 50B | 6A | 140S | T1C |
| 684A | 434A, 634A | 78A | 36A, 37A | 194A | 101A | — | — | — | — | — | — |
| 684C | 434R, 634C | — | — | 147A | 101A | — | — | — | — | — | — |
| 684BA | 634BA | B1AL | 41A, 41B | 195A | 101A | — | — | — | — | — | — |
| 684BC | 634BC | 78AA | 36A, 37A | 194A | 101A | — | — | — | — | — | ↓ |

* Sets for use at manual stations only.

** Requires an 18 or 19-type resistance.

† Furnished only when specified.

Note 1: Two 31C, two 32C or 33C gongs will be furnished instead of 29C gongs when specified. Two 36B, two 36D or one 39A gong will be furnished instead of one 36A and one 37A gong when specified.
Two 40C, or one 40D and one 40E gong will be furnished instead of one 41A and one 41B gong when specified.

EQUIVALENT SETS AND PARTS

| Subscriber Set Code | Ringer (Note 2) | Gongs (Note 1) | Condensers | Induction Coil | Vacuum Tube | Relay | Cords | Switch-hook |
|---------------------|-----------------|----------------|---------------|----------------|-------------|-------|-------|-------------|
| *433B | 6A | 25A | 194A | 101A | — | — | T1A | 140AK |
| *433BT | 6A | 25A | 147A | 101A | 426A | — | T1A | 140AK |
| 434A | 6A | 25A | 194A | 101A | — | — | — | — |
| 434R | — | — | 147A | 101A | — | — | — | — |
| 434AT | 6A | 25A | 147A | 101A | 426A | — | — | — |
| *633A | 68A | 29C | 194A | 101A | — | — | T1A | 140AK |
| *633Y | 68J | 29C | 149B(2) | 104A | — | — | T1A | 140S |
| *633AR | 68A | 29C | 194B | 101A | — | 85N | T1A | 140AK |
| *633AT | 68A | 29C | 194A | 101A | 426A | — | T1A | 140AK |
| *633BA | 68J | 29C | 194B | 101A | — | — | T1A | 140AK |
| *633CR | 72G | 29C | 194A, 149B | 101A | — | 85N | T1A | 140AL |
| *633YT | 68A | 29C | 149B | 104A | 426A | — | T1A | 140S |
| 634A | 68A | 29C | 194A | 101A | — | — | — | — |
| 634C | — | — | 147A | 101A | — | — | — | — |
| 634Y | B1AL | 41A, 41B | 149B(2) | 104A | — | — | — | — |
| 634AR | 72A | 29C | 194B | 101A | — | 85N | — | — |
| 634BA | 68J | 29C | 194B | 101A | — | — | — | — |
| 634BB† | 68J | 29C | 149A, 149B(2) | 62 | — | — | — | — |
| 634BC | 68AA | 29C | 194A | 101A | — | — | — | — |
| 634FR | 68P | 29C | 194B | 101A | — | 85P | — | — |
| 634YR | 68P | 29C | 149B(2) | 104A | — | 85P | — | — |
| 634YT | 68A | 29C | 149B | 104A | 426A | — | — | — |
| **653Y | B1AL | 41A, 41B | 149B(2) | 104A | — | — | T1C | 140S |
| **653AR | 72A | 29C | 194B | 101A | — | 85N | T1C | 140AK |
| **653BB† | B1AL | 41A, 41B | 149A, 149B(2) | 62 | — | — | T1C | 140AL |
| **653FR | 68P | 29C | 194B | 101A | — | 85P | T1C | 140AK |
| **653YR | 68P | 29C | 149B(2) | 104A | — | 85P | T1C | 140S |
| **653YT | 68A | 29C | 149B | 104A | 426A | — | T1C | 140S |

* Sets for use at manual stations only.

** Either a 50B apparatus blank or a 6A or equivalent type dial will be furnished when specified.

† Set also contains a 54S retard coil and a 63H resistance.

Note 1: Two 31C, two 32C or 33C gongs will be furnished instead of 29C gongs when specified.

Two 40C or one 40D and one 40E gong will be furnished instead of one 41A and one 41B gong when specified.

Two 101A gong attachments will be furnished with 41-type gongs when specified.

Note 2: B1AL ringer may be furnished in place of 68J ringer.

SUBSCRIBER SETS DESCRIPTION

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PRINCIPAL PARTS OF EXTENSION RINGER SUBSCRIBER SETS

↙

| Subscriber Set Code | Ringers | Gongs (Note 1) | Condensers | Vacuum Tube (Note 2) | Relay |
|---------------------|---------|-------------------|------------|-------------------------|-------|
| Standard | | | | | |
| †531A | B1AL | 41A, 41B | 198B | — | — |
| **531C | — | — | — | 426A | UA112 |
| 592A | ††B1A | 26B | 198B | — | — |
| 592B | ††B1A | 26B | — | — | — |
| 592C | ††B1A | 26B | — | 359A | — |

OTHER EXTENSION RINGER SETS AND PARTS

(Mfr. Disc.)

| | | | | | |
|-------|------|----------|--------|------|---|
| 534DE | 68J | 29C | *1149B | — | — |
| 534DF | 68A | 29C | *1149A | — | — |
| 534DT | 68A | 29C | — | 426A | — |
| 584DE | B1AL | 41A, 41B | 198B | — | — |
| 584DF | 78A | 36A, 37A | †1149A | — | — |

† Supersedes the 584DE Subscriber Set.

†† Similar to the B1A-type ringer but with modifications to suit the 592-type structure.

* Furnished only when specified. Condensers are equipped with lead and cord tips.

** Has 20A varistor.

Note 1: Two 42A gongs will be furnished instead of 26B gongs when specified.

Two 31C, 32C or 33C gongs will be furnished instead of 29C gongs when specified.

Two 36B, 36D or one 39A gong will be furnished instead of 36A and 37A gongs when specified.

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