

**BELL SYSTEM PRACTICES**  
**Station Installation and Maintenance**

**SECTION C51.101**  
**Issue 2, 1-2-35**  
**AT&T Co. Standard**

## **SIDETONE MAGNETO STATIONS**

### **APPARATUS AND MATERIAL**

#### **1. GENERAL**

1.01 This section covers apparatus and material required for sidetone magneto stations and gives in table form the standard sets arranged according to class of service.

1.02 This section is reissued to cover the 392K and 392L subscriber sets (loud ringing bells); the new (orange cord) biasing spring for 392L sets; the new unit-type battery KS-6700; JA type ringers; the 155A backboard; 388A and 389A jacks; the 273A plug; the D3S-9 cord; new types of number cards; the new 625A transmitter for hand sets; the new receiver cap and lock ring for 144 receivers; and to bring the section up to date in other minor respects.

1.03 **Sidetone Reduction:** The sets covered by this section are not arranged for the anti-sidetone feature nor can sidetone reduction be obtained by an interchange of connections as in common battery sets.

1.04 **Standard Sets:** The sets listed in the table are the present standard sets for the particular service indicated. For equivalent sets which will be used in many cases refer to "Subscriber Sets" in the apparatus list following the table and any supplemental information that may apply.

1.05 **Sets for Specific Uses:** Sets for specific uses such as outdoor sets and sets for use with coin collectors are covered in other sections of Division C50.

1.06 **Stations with Inductive Noise:** In specific cases to reduce inductive noise from external power sources at stations having grounded ringers, 52A ringers in wooden sets are replaced with 6JA or 6J ringers (4300-ohm or 3500-ohm, high impedance). 584DE Subscriber Sets are used where extension ringers are necessary and where loud ringing bells are required. 392L or 392K subscriber sets are used. (See 1.08)

1.07 **Color Finishes:** Hand telephone sets with color finishes may be used at magneto stations but only those with black finish are included in this section.

1.08

### SIDETONE MAGNETO STATION SETS

Class of Service	Subscriber Set			
	Wall Set	Bell Box		Loud Ringing Bell
	Main or Extension Station	Main or Extension Station	Extension Ringer	
Individual Line, Magneto P.B.X., and Non-Selective Code Ringing Stations on Rural Lines having 8 or less stations and a loop resistance from central office to any station of 800 ohms or less	317AH	315H	+584DF	392B
Non-Selective Code Ringing Stations on Rural Lines having more than 8 stations or a loop resistance from central office to any station of more than 800 ohms	317P	300K	584DE	392B
Two-Party Selective and Four-Party Semi-Selective Stations				
(a) Regular Stations.....	+317BS	+315E	+584DF	**392L
(b) Stations with Inductive Noise.....	*317BS	*315E	+584DE	**392L
Four-Party Selective Stations				
(a) Regular Stations.....	317BS	315E	+584DF	392K
(b) Stations with Inductive Noise.....	*317BS	*315E	+584DE	392K
	Hand Telephone Set		Desk Stand	
	Cradle Type	Hanging Type	With Hand Receiver	With Head Receiver
All Stations.....	102A-3	101A-3	40AL	52AB

#### Notes:

Where stations of any class are rung with the superimposed or pulsating current used for four-party selective stations, use sets listed for four-party selective stations (unless condenser is to be connected in series with the ringer).

\*See paragraph 1.06.

+ Check ringer adjustment and whenever necessary readjust armature air gaps for type of ringing current to be used.

\*\*With condenser short-circuited.

## 2. ALPHABETICAL LIST OF APPARATUS WITH EQUIV- ALENTS AND REPAIR PARTS

Name and Equivalents	Code No., Description and Use
<b>Apparatus Blanks:</b>	<p><b>50E Apparatus Blank.</b> Black finished round metal plate with card holder in the center. Used to cover dial hole in 51 and 52 type desk stands. Has terminal block for attaching leads ordinarily connected to the dial.</p> <p><b>50H-3 Apparatus Blank.</b> Black finished convex round metal plate with card holder in the center. Used to cover the dial hole of B1-3 hand set mountings.</p> <p><b>50J-3 Apparatus Blank.</b> Similar to 50H-3 but intended for use with D1-3 hand set mountings.</p>
<b>Apparatus Blank Parts:</b>	<p>Card Holder Frame for 50 Type Apparatus Blanks and C1-3 Hand Set Mountings P-220057</p> <p>Card Holder Window P-137593</p> <p>Card Retainer P-164442</p> <p>Reinforcing Ring P-172045</p>
<b>Backboards:</b>	<p><b>136B Backboard.</b> Oak finished wood backboard for mounting 305 Type Subscriber Set. Has writing shelf and box for 3 dry cells. (Will not accommodate the KS-6700 battery.)</p> <p><b>138B Backboard.</b> Walnut finished wood backboard for mounting 240 type Subscriber Set. Has writing shelf and box for 3 dry cells. (Will not accommodate the KS-6700 battery.)</p> <p><b>147A Backboard.</b> Black wood backboard for mounting 534 Type Subscriber Sets.</p> <p><b>152A Backboard.</b> Green finished wood backboard with removable front cover. Used for mounting 292 and 392 Type Subscriber Sets where protection from weather or mechanical injury is desired.</p> <p><b>154A Backboard.</b> Black wood backboard for mounting 584 Type Subscriber Sets.</p> <p><b>155A Backboard.</b> Black finished metal backboard for mounting 534 Type Subscriber Sets on baseboards.</p> <p><b>157A Backboard.</b> Black wood backboard for mounting C-type handset mounting</p>

Name and Equivalents	Code No., Description and Use
<b>Battery:</b>	<b>KS-6760 Battery.</b> 3-cell unit type battery in cardboard container arranged to mount on wall or in 317 Type Wall Sets.
<b>Battery Bag:</b>	<b>Battery Bag</b> per KS-6677. Canvas bag for holding 3 dry cells.
<b>Battery Boxes:</b>	<b>1A Battery Box.</b> Metal box for holding 3 dry cells.
<b>Condensers: (Equiv. 1021BW)</b>	<p><b>1149A Condenser.</b> 1 M.F. condenser equipped with flexible leads having cord tips and furnished with mounting straps and screws. For use in wooden, bakelite or metal sets.</p> <p>The equivalent 1021BW condenser which is a 1 M.F. condenser of larger size than the 1149A is for use where subscriber sets are involved which are not drilled for the mounting straps of the smaller type condenser.</p> <p>Note: Condensers may be used when required in accordance with local supplemental instructions. (a) Condenser is required in series with ringer when line is connected to common battery switchboard not equipped with standard rural line circuits. Condensers so connected facilitate voltmeter tests. (b) Condenser in series with receiver renders it possible to ring bells while receiver is off the hook. On divided ringing lines this arrangement also reduces likelihood of cross-ringing.</p>
<b>Cords:</b>	<b>540 Cord.</b> For connecting dry cells together.
	<b>D3B Cord.</b> Switch cord for 52AB Desk Stand.
<b>(Equiv. D3A or 550)</b>	<b>D3H-9 Cord.</b> Hand set mounting or desk stand cord, three conductor, brown silk, with metal stay hooks. Standard length 5-1/2' except for new or repaired hand telephone sets which are furnished with 4' mounting cord. Furnished in 9', 13' and 25' lengths when required. Used for connecting hand set mountings to subscriber set or connecting block.
<b>(Equiv. D3C or 541)</b>	<b>D3P Cord.</b> Brown waterproof hand set mounting or desk stand cord used in place of D3H-9 cord when required. Standard length 5' 6". Furnished also in 4', 9' and 13' lengths when specified.

(Equiv. D3S-9 Cord. Hand set mounting or desk stand  
D3L-9 Cord, cord, moisture-proof, brown mercerized cot-  
which takes ton arranged for use with 273A plug. Stand-  
148 Plug) ard length 5' 6". Furnished also in 9', 13' and  
25' lengths when specified.

**H3B-9 Cord.** Hand set cord, three conductor, brown silk with metal stay hook. The hand set code includes an H3B type cord which is furnished in the standard length of 4'. It may also be obtained in 9' lengths when required.

**H3C Cord.** Black waterproof hand set cord for use in place of H3B-9 cord when required. 4' long unless 9' length is specified.

(Equiv. 549) **R2A Cord.** Receiver cord for 144 Receiver on 20, 40 and 51 Type Desk Stands and on Wall Sets.

**R2AH Cord.** Receiver cord, two conductor, brown silk, with metal stay hook. For 528 Receiver on 52AB Desk Stand.

**R2AM Cord.** Receiver cord for 146A Receivers on D1-3 Hand Set Mountings. 4' long unless 9' length is specified.

(Equiv. 542B) **R2B Cord.** Black waterproof receiver cord for 144 Receiver on 20, 40 and 51 Type Desk Stands or Wall Sets.

(Equiv. 542B) **R2H Cord.** Black waterproof receiver cord for 146A Receivers on 20, 40 and 51 Type Desk Stands and 146 Receivers on Wall Sets.

(Equiv. 549) **R2J Cord.** Receiver cord, brown silk, for 146A Receivers on 20, 40 and 51 Type Desk Stands and for 146 Receivers on Wall Sets.

(Equiv. 547 and 548) **T1A Cord.** Transmitter cord for use on 20, 40, 51 and 52 Type Desk Stands and on Wall Sets. Standard lengths 6", 8", 9-7/8" and 12". Furnished 9-7/8" long unless otherwise specified.

**Cord Tips:** **76 Cord Tip.** Semi-hard rubber sleeve used with R2H waterproof cord when used with 146 and 146A Receivers.

**106 Cord Tip.** Semi-hard rubber sleeve used with R2J and R2AM cords when used with 146 and 146A Receivers.

Name and Equivalents	Code No., Description and Use
<b>Desk Stands:</b> 40AL Desk Stand. Desk stand for use at all (Equiv. 20AL magneto stations requiring desk stands. Re- and 20SC re-quires cords, transmitter and receiver. finished in black and 51AL.)	
	<b>52AB Desk Stand.</b> Desk stand for use where head receiver is to be furnished in place of hand receiver. Has switchhook designed to hold 3D head band. Requires cords, transmitter, receiver with head band and 50E apparatus blank.
<b>Desk Stand Parts:</b>	<b>Base Plate Assembly</b> For 20AL, 20SC or 40AL Desk Stand ..... P-97995 For 51AL and 52AB Desk Stand ..... P-98202 These assemblies consist of brown felt covered base plate and clamping ring. <b>Pin</b> (Switchhook pivot) ..... P-92678 <b>Base Retaining Screws</b> For P-97995 and P-98202 ..... P-290086 <b>Switchhook</b> (20AL and 51AL desk stand) ..... P-98883 (40AL desk stand) ..... P-97343 (52AB desk stand) ..... P-98884
<b>Dry Cells:</b>	<b>Blue Bell Dry Cell per KS-6542.</b> Individual dry cell.

**Gongs:**

Code	Size	Material and Finish	Equivalents	See Note
26A	3"	Brass	Black 17	
28A	6"	Steel	Galvanized 18 and 19	
29A	2-1/2"	Brass	Black 16 and 25	
29B	2-1/2"	Brass	Unfinished 29A, 16 and 25	
29C	2 1/2"	Brass (eccentric)	Unfinished	(a)
<b>Feature</b>				
31A	2-1/2"	Brass	Black	One slot (b)
31C	2-1/2"	Brass (eccentric)	Unfinished	One slot (a), (b)
32A	2-1/2"	Brass	Black	Four slots (b)
32C	2-1/2"	Brass (eccentric)	Unfinished	Four slots (a), (b)
33A	2-1/2"	Bell Metal	Black	Special shape (b)
33C	2-1/2"	Bell Metal (eccentric)	Unfinished	Special shape (a), (b)
36A	2-5/16"	Brass (eccentric)	Unfinished	(c)
36B	2-5/16"	Aluminum (eccentric)	Unfinished	(c)
37A	2-5/16"	Brass (eccentric)	Unfinished	(c)
38A	2"x1-1/2"	Brass	Black	(d)
39A		Steel spiral coil		(c)

Notes:

- (a) These gongs fit only 68 and 72 type ringers.
- (b) 31A, 32A and 33A gongs are for use in place of the 29A or 29B where two or more ringers are close together and it is necessary to provide distinctive tones. 31C, 32C and 33C gongs are for use in place of the 29C under the same conditions. (See note (e).)
- (c) Ringers in 584 type subscriber sets are equipped with pairs of gongs consisting of one 36A gong and one 37A gong which differ in pitch so as to give a pleasing blend. Where distinctive tones are required, two 36B gongs or one 39A gong may be used in place of those furnished. (See note (e).)
- (d) 38A gong is "cow" gong finished in black. Use exposed on wooden sets where gong of low pitch is desired for partially deaf subscribers. Requires 7 gong mounting.
- (e) Where a buzzer-like sound will be satisfactory as a distinctive signal, the 100A gong attachment may be used instead of changing gongs on 6, 8, 42, 68, 72, 78 and similar type ringers, except on sets having exposed gongs.

Hand Generators:	Generator Code	Number of Bars	Nominal Voltage
	22A	3	60
	22E	2	42
	48A	5	80

**Hand Generator Parts:** Crank Handle P-158948

**Hand Set:** **E1B-3 Hand Set.** Black phenol plastic hand set consisting of E1-3 hand set handle, 557B-3 receiver, 395B-3 transmitter and H3B-9 cord (or H3C cord, if specified).

**E1E-3 Hand Set.** Black phenol plastic hand set consisting of E1-3 hand set handle, 557B-3 receiver, 625A transmitter and H3B-9 cord (or H3C cord, if specified).

**Hand Set Mountings:** **C1-3 Hand Set Mounting.** Black finished hanging type hand set mounting. For use where it is desired to have the hand set hang from the side of a desk or similar location.

**D1-3 Hand Set Mounting.** Black finished cradle type hand set mounting with elliptical base. For use on a table, desk top, or similar location.

**B1-3 Hand Set Mounting.** Similar to the D1-3 but has round base.

**Hand Telephone Sets:** **101A-3 Hand Telephone Set.** Assembly consisting of E1B-3 hand set, C1-3 hand set mounting, and card holder (same as used with 50 type apparatus blank).

Name and Equivalents	Code No., Description and Use		
(Equiv. B1A-3)	<b>162A-3 Hand Telephone Set.</b> Assembly consisting of E1B-3 hand set, D1-3 hand set mounting, 50J-3 apparatus blank and D3H-9 cord.		
	<b>B1A-3 Hand Telephone Set.</b> Assembly consisting of E1B-3 hand set and B1-3 hand set mounting. Requires 50H-3 apparatus blank, and D3H-9 cord.		
<b>Hand Telephone Set Parts:</b>	<b>Name</b>	<b>Number</b>	<b>Mounting</b>
	Base plate assembly	P-290039	B type
	Base plate assembly	P-225605	D type
	These assemblies include brown felt or suede covered base plate with clamping ring and retaining screws.		
	Retaining Screws for base plates	P-215577	B type
		P-225612	D type
	Retaining Screw Springs	P-215578	B type
	Switchhook	P-223587	C type
	Switchhook Pin	P-223578	C type
<b>Head Band:</b>	<b>3D Head Band.</b> Head band for use with 528 Receiver on 52AB Desk Stand.		
<b>Jacks:</b> (Equiv. 367)	<b>388A Jack.</b> Wall type flush mounted jack arranged for mounting in a standard single electric light switch box and to be covered by a Hubbell No. 8651 or similar switch plate. Arranged for 273A or 148 Plug.		
(Equiv. 190)	<b>389A Jack.</b> Wall type non-flush jack with black finished metal cover. 273A or 148 plug may be used with this jack in connection with portable sets.		
<b>Number Cards:</b>	See Section, "Station Number Cards and Card Holders."		
<b>Number Plates:</b>	<b>128B Number Plate.</b> Used for holding number card on desk stand or wall set transmitter. Furnished with cellulose acetate cover P-230457 for covering the number card. Number card must be ordered separately.		
<b>Plugs:</b> (Equiv. 148)	<b>273A Plug.</b> Three conductor plug used with 388A, 389A or equivalent jacks.		

**Receiver:**      **144 Receiver.** Hand receiver for use on desk stands and wall sets.

**146 Receiver.** Auxiliary head receiver used with wall sets only. Exposed cord tips to be equipped with semi-hard rubber cord tips. (See "Cord Tips.") Receiver is suspended by cup hook.

**146A Receiver.** Auxiliary head receiver used on desk stands or D1-3 Hand Set Mounting. Exposed cord tips to be equipped with semi-hard rubber cord tips. (See "Cord Tips.") Requires receiver holder.

**528 Receiver.** Head receiver used on 52AB Desk Stand. Requires a 3D Head Band.

**557B-3 Receiver.** Part of E1B-3 hand set.

**Receiver Holders:**      **1A Receiver Holder.** Used for holding 146A Receiver on desk stands.

**8A Receiver Holder.** Used for 146A Receiver on D1-3 Hand Set Mountings.

**Receiver Parts:**      **P-98948, P-94545 and P-213314 Ear Pieces.** Ear Pieces for use with 144, 146 or 146A and 528 receivers, respectively.

**Caps:**                    **P-236712.** See Section, "Receivers—No. 144—Equipped with Improved Bakelite Cap and Lock Ring."

**P-235970.** Cap for 557B-3 receiver.

**Case:**                  **P-220224 Receiver Case.** Used with 144 Receiver.

**Diaphragms:** **P-95114, P-95225 and P-98387 Diaphragms.** Diaphragms used with 144, 146 or 146A and 528 receivers, respectively.

**P-98387.** Diaphragm for 557B-3 receiver.

**Lock Ring:**      **P-208591.** Lock ring for 557B-3 receiver.

**P-236713.** Lock ring for P-236712 receiver cap.

**Ringers:**              For ringers included in subscriber sets see tables under "Subscriber Sets."

**(Equiv. 6J, 3500 ohms)**      **6JA Ringer.** 4300 ohm ringer used for stations with inductive noise. (See paragraph 107.)

Name and Equivalents	Code No., Description and Use	Piece Part No.
<b>Ringer Parts:</b>	<b>Ringers</b>	
	Armature Stop Screw .....	P-20093
	Stop Screw Lock Nut .....	P-157
	Armature Stop Spring—for 6, 68, 78, etc, type ringers.	
	Round end type for large armatures	P-233968
	Square end type for small armatures	P-233969
	Biasing Spring with brown cord .....	P-290065
	Mounting Screw for 6J and 6JA ringer	P-145635
	Mounting Screw for 38-type ringer	P-145369
	Mounting Screw for 51-type ringer	P-145369
	Mounting Screw for 68A, 68J and 68JA ringer	P-153832
	Mounting Screw for 65B ringer	P-92619
	Mounting Screw for 78-type ringer	P-92619
	Washer for P-145635 and P-145369	
	Mounting Screws	P-145364
	Mounting Screw for gongs of 6, 38 and 51-type ringers	P-218674
	Mounting Screw for gongs of 65B and 78A ringers	P-222197
	Mounting Screw for gongs of 68A ring- ers	P-218199
	Lock Washer for P-218674	P-218799
	For P-218199, use No. 10-3/32" by 3/64" Non-Tangling Lock Washer.	
	For P-222197, use No. 1210 Shakeproof Lock Washer.	

#### Loud Ringing Bells

Biasing Spring (heavy) for 392D and K (and 392A and B if equipped) .....	P-132404*
Biasing Spring with orange cord for 392L .....	P-290166
Biasing Spring with red cord for 392J	P-157309
Biasing Spring Pin .....	P-132286
Biasing Stud .....	P-132287
Biasing Stud Set Screw .....	P-136707
Back Stop Screw .....	P-132294
Stop Screw Lock Nut .....	P-132705
Yoke Adjusting Screw .....	P-132271
Yoke Adjusting Screw Housing Tube	P-152889
Housing Tube Nut .....	P-132295
*Requires No. 35 two-ply green linen thread 4-1/2" long.	

## Subscriber Sets:

### Sets Containing 13 Induction Coil

Set Code	Description	Ringer Code and Resistance	Gongs	Hand Generator	Equivalent Sets
300K*	Oak Bell Box	51B 2500	29A	48A 5 bars	300A
315E**	Oak Bell Box	52A 1000-3000	29A	22E 2 bars	138E
315H*	Oak Bell Box	51A 1000	29A	22A 3 bars	315A 315HB 138A
317P*	Oak Wall Set	38B 2500	26A	48A 5 bars	301A or 305A with 138B Backboard
317AH*	Oak Wall Set	38A 1000	26A	22A 3 bars	301E or 240A with 138B Backboard
317BS**	Oak Wall Set	52A 1000-3000	29A	22E 2 bars	317AJ, 301L or 240E with 138B Backboard

### Loud Ringing Bells

Set Code	Description	Resistance	Gongs	Condenser	Equivalent Sets
392B	Ringer in Iron Housing	2500	28A	—	292U, 292AC
392K	Ringer in Iron Housing	4500	28A	—	392D
392L	Ringer in Iron Housing	2500	28A	149D, .65 mf.	392B

Note: The 392B subscriber set is the same as the 392D, but is not equipped for biasing and, as furnished, has .012" armature air gaps. The 392D subscriber set is biased and, as furnished, has armature air gaps adjusted to .012" and .060".

\*Sets containing 38 or 51-type ringers are not suitable for use at four-party selective stations since these ringers are not furnished with biasing springs nor armature stop screws.

\*\*See paragraph 1.06.

### Bell Boxes Containing Ringer Only

Set Code	Material of Cover	Ringer Code and Resistance	Gongs	Equivalent Sets
584DE	Phenol plastic	78JA 4300	36A 37A	584DD,*† 534DD,*† 534DE, 43AE
584DF	Phenol plastic	78A 1500	36A 37A	534DC,* 534DF, 43F, 43AC*

## Subscriber Sets: (continued)

## Bell Boxes Containing Ringer Only

## Equivalent Sets—Description

Set Code	Material of Cover	Ringer Code and Resistance	Gongs
581DD*	Phenol plastic	65B 2500	36A 37A
534DC*	Steel	55A 1000	29A
534DD*	Steel	55B 2500	29A
534DE	Steel	68JA 4300	29A
534DF	Steel	68A 1100	29A
43P	Wood	6A 1100	29A
43AC*	Wood	55A 1000	29A
43AE	Wood	6JA 4300	29A

\*Sets containing 55 or 65 type ringers are not suitable for use at four-party selective stations since these ringers are not furnished with biasing springs nor armature stop screws.

†Equivalent only for non-selective code ringing stations on rural lines having more than 8 stations or a loop resistance from central office to any station of more than 800 ohms.

Name and Equivalents	Code No., Description and Use
<b>Switch:</b>	<b>2047 Switch.</b> Indicating snap switch for silencing a ringer wired in parallel with another ringer.
<b>Terminal Assembly:</b>	<b>P-107410.</b> Terminal assembly consisting of brass strip and two buttonhead screws. Used as terminal in wooden subscriber sets. Mount with wood screw per P-143187. <b>P-107407.</b> Terminal assembly consisting of bent brass strip and one buttonhead screw. Used as terminal in wooden subscriber sets. Mount with wood screw per P-143187.
<b>Transmitter:</b>	<b>337 Transmitter.</b> For desk stands and wall sets. (Where local instructions so specify, 323 or 329 transmitter may be used.) <b>395B-3 Transmitter.</b> Part of E1B-3 hand set.

**Transmitter Parts:** **625A-3 Transmitter.** Part of E1E-3 hand set. Consists of 625A-3 transmitter unit, P-213073 mouthpiece and P-213225 lock ring.

**Bolts:** **P-92375 Bolt.** Clamping bolt for desk stand transmitters. Requires also screw P-92378 and washer P-92381.

**P-113214 Bolt.** Clamping bolt for wall set transmitters. Requires spring washer P-216788.

**Case:** **P-247608.** Part of 625A transmitter unit.

**Grid:** **P-247808.** Phenol fabric grid, part of 625A-3 transmitter unit.

**Lock Ring:** **P-213225.** Part of 395B-3 and 625A-3 transmitters.

**Mouthpieces:** **P-213073 Mouthpiece.** Phenol plastic mouthpiece for desk stand and wall set transmitters.

**P-236253.** Mouthpiece of 395B-3 and 625A-3 transmitters.

**Rim Screws:** **P-99649 (Old Style) and P-204520 (New style shoulder screw)** Rim Screws. For use with desk stand and wall set transmitters.

**Transmitter Units:** **337 Transmitter Unit.** For replacing transmitter units in service on desk stands or wall sets.

**395B-3 Transmitter Unit.** For replacing transmitter units in hand sets.

**F-1 Transmitter Unit.** For replacing transmitter units in 625A transmitters.

**625A-3 Transmitter Unit.** Consists of F-1 transmitter unit, P-247808 grid, and P-247608 transmitter case.

