

INSTRUCTIONS FOR INSTALLING MANUAL DC ROTARY DIAL OR MANUAL "TOUCH-TONE*" DIAL ON TELETYPE MODEL 33 OR 35 KEYBOARD SEND-RECEIVE SET (KSR) AND AUTOMATIC SEND-RECEIVE SET (ASR) USING MODIFICATION KITS 193489 OR 195926 (ROTARY DIAL) OR 186600 OR 186601 (12-BUTTON "TOUCH-TONE" DIAL) AND KIT 327420 TO INSTALL MANUAL DC ROTARY AND PULSING CARD DIALERS ON MODEL 33 OR 35 KSR OR ASR SETS

1. GENERAL

1.01 The 193489 modification kit, when installed on a TELETYPE® Model 33 or 35 Keyboard Send-Receive Set (KSR) and Automatic Send-Receive Set (ASR), equips the set with a manual dc rotary dial. The pulse contacts of the dial are wired in the telephone line circuit in the "off-hook" condition in the originate mode only. When the dial is operated, a set of normally open contacts close to silence the speaker and/or hand-held receiver. Upon releasing the dial, the pulse contacts transmit measured dc pulses to the exchange equipment in accordance with the digit dialed.

1.02 The 195926 modification kit is like the 193489 kit except the 182500 dc rotary dial is not included.

1.03 The 186601 modification kit, when installed on a TELETYPE Model 33 or 35 Keyboard Send-Receive Set (KSR) and Automatic Send-Receive Set (ASR), equips the set with a 12-button TOUCH-TONE dial. The dial is a manual pushbutton multi-frequency dial. Depression of the pushbuttons, corresponding to the number dialed, generates various frequencies which are fed through the loudspeaker amplifier into the telephone line via the sending amplifier to the 101C or 105A Data Set. Dialing proceeds much faster than with the rotary dial. As the station connects, the output of the TOUCH-TONE dial is disconnected from the data set so that there is no hazard connected with improper operation of the TOUCH-TONE dial at that time. Kit 186600 is the same as Kit 186601, except the 186595 dial is not included.

1.04 The 327420 kit provides the mounting hardware to install manual dc rotary and pulsing card dialers on Model 33 or 35 KSR or ASR Sets.

1.05 The 193489 and 195926 modification kits consist of:

<u>Qty</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>	<u>Part No.</u>	<u>Description</u>
2	7002	Washer, flat	4	181241	Screw with lockwasher
2	110743	Lockwasher	1	181281	Right bracket
2	151073	Screw	1	181282	Left bracket

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1.05 (continued)

<u>Qty</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>	<u>Part No.</u>	<u>Description</u>
1	181283	Spacer	1	182532	Filter
1	181289	Window	1	182727	Left bracket w/nut
1	181902HF	Faceplate	1	182728	Right bracket w/nut
1	182500	DC rotary dial, (not in 195926 kit)			

1.06 The 186600 and 186601 modification kits consist of:

<u>Qty</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>	<u>Part No.</u>	<u>Description</u>
3	181241	Screw	1	182799	Capacitor
1	181289	Window, faceplate	1	186595	Dialer (only in kit 186601)
1	181292	Window, faceplate			
1	182686	Potentiometer	1	186598HF	Faceplate
1	182720	Bracket			

1.07 The 327420 kit consists of:

<u>Qty</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>	<u>Part No.</u>	<u>Description</u>
2	7002	Washer, flat	1	181281	Right bracket
2	110743	Lockwasher	1	181282	Left bracket
2	151073	Screw	1	195924	Modification kit

1.08 For parts referred to, other than those included in the modification kits, refer to Teletype Corporation Parts Bulletin 1184B (Model 33 KSR and ASR Sets) or 1187B (Model 35 KSR and ASR Sets).

2. INSTALLATION (Figures 1, 2, 3, and 4)

193489 OR 195926 MANUAL DC ROTARY DIAL KIT AND KIT 327420 (Figures 1 and 3)

Note 1: The rotary dial installation instructions that follow are based upon the assumption that the call control unit does not have a dial. If the unit has another dial, the dial and its associated components must be removed.

Note 2: The 195924 modification kit for dc pulsing card dial which is included as a part of the 327420 modification kit is covered by Teletype Corporation Specification 50164S.

- 2.01 Install the 182532 filter to the right support arm with the two 151073 screws and the two 110743 lockwashers. On units containing the new design of the 182723 bracket (manufactured after April 1, 1963), assemble the 182532 filter to the 181282 bracket using the same mounting hardware.
- 2.02 Assemble the 182500 or WE 86 dc rotary dialer to the brackets using two 7002 washers and two 181241 screws with lockwashers.
- 2.03 Connect the dc rotary dialer wires to the proper terminals on the 182717 terminal strip. (Refer to Figure 1.)
- 2.04 Install dialer assembly using two 181241 screws with lockwashers. On units manufactured after April 1, 1963, locate the 181283 spacer between the brackets and the crossbar.
- 2.05 For Model 35 Sets only — Install the 181902 faceplate using two 182760 screws which are located in the muslin bag accompanying the set. With the new style cabinet assemble the 194819 spring clip to the lower end of the faceplate using one 182760 screw and one speed nut located in the muslin bag.
- 2.06 For Model 33 Sets only — Install the cover, nameplate, volume control knob, and paper platen feed knob to the set after the call unit has been placed and secured to the base of the Model 33 Set.
- 2.07 Install the 181902 faceplate on the Model 33 Set. Install the 181289 window on the 181902 faceplate.

186600 OR 186601 MANUAL "TOUCH-TONE" DIAL KIT (Figures 2, 3 and 4)

- 2.08 Removal of the Cover
 - (a) Remove the faceplate by removing the screws at each end of the faceplate. Lift the front and back of the faceplate simultaneously and place aside. Retain the screws. For the later Model 35 cabinet, only the back mounting screw needs to be removed to take off the faceplate.
 - (b) For Model 35 Sets only — Lift the cover by unlatching the latch under the dome to the right of the printer. On sets not equipped with the hinged lower cover assembly, lift the cover assembly off the set.
 - (c) For Model 33 Sets only
 - (1) Remove the platen knob and volume control knob by pulling outward.
 - (2) Remove the nameplate by prying the lower section forward then downward.

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- (3) Remove the cover from the unit after removing the seven screws that hold the cover to the base. Lift the cover carefully.

2.09 Removal of Rotary Dial (Figures 1 and 3)

- (a) In order to install the manual TOUCH-TONE dial on a Model 33 or Model 35 Set remove the rotary dial and associated parts, if present. Proceed as instructed in subsequent paragraphs.
- (b) Remove the two screws that hold the 182727 and 182728 brackets or the 181281 and 181282 brackets and 181283 spacer. Loosen the four screws on the 182717 terminal strip and remove the four leads (two white, blue and green) that connect the dial to the terminal strip. Remove and discard the two screws and lockwashers that secure the 182532 filter to the 182709 support bracket (right). On units that have the filter mounted on the 181282 bracket (left) the filter need not be removed. Loosen the screws on terminals 14, 15, and 16 on the terminal strip and remove the red, black and yellow wires that lead from the filter.
- (c) On the 182717 terminal strip move the R-BL wire from terminal 5 to terminal 6, the O-G wire from terminal 7 to terminal 6, W-R-G wire from terminal 12 to terminal 13, the BR-S wire from terminal 16 to terminal 15 and the W-O-BL wire from terminal 10 to terminal 4. In early Model 35 Sets the W-O-BL wire is on terminal 4. In these sets remove the strap between terminal 4 and terminal 10.

2.10 Installation of Manual TOUCH-TONE Dial (Figures 2 and 3)

- (a) Assemble the 186595 TOUCH-TONE dial and the 182686 variable resistor with plate to the 182720 bracket using the two dial clamping screws (present) and one 181241 screw with lockwasher. See Figure 4 for 12-button dialers.
- (b) Connect the TOUCH-TONE dial wires to the proper terminals on the 182717 terminal strip together with the 182799 capacitor with terminals. See Figure 2. Tighten all loosened terminal screws.
- (c) Secure the dial assembly using two 181241 screws with lockwashers. See Figure 3 for location of mounting holes.
- (d) For Model 33 Sets only
 - (1) Reinstall the cover, nameplate, volume control knob, and platen knob removed in 2.08 (c).
 - (2) Install the 181903 faceplate using the two screws retained in 2.08 (a). Discard the removed faceplate.

(e) For Model 35 Sets only — Install the 181906 faceplate using the two screws retained in 2.08 (a). For later Model 35 cabinets transfer the lower locating bracket and its hardware from the removed faceplate to the new faceplate. Discard the removed faceplate.

(f) Insert the 181289 and 181292 windows into the slots provided in the faceplate.

3. TEST PROCEDURES AND ADJUSTMENTS — 186600 OR 186601 MANUAL "TOUCH-TONE" DIAL KIT

Note: These test procedures and adjustments (except 3.06) are necessary only when data set is not present. Paragraph 3.06 applies when data set is present (Bell System: If Data Set is present, refer to Section 591-018-300, Paragraph 9.09).

3.01 Equipment required:

(a) Power Supply +20 v, 30 ma
-20 v, 30 ma

(b) AC Vacuum Tube Voltmeter HP400D, or equivalent.

3.02 On the "P" connector, connect +20 v to terminal 25, -20 v to terminal 41, and ground terminals 49 and 39. Connect the voltmeter to terminals 47 and 49.

3.03 Operate the TOUCH-TONE dial key digit no. 1. Adjust the 182686 variable resistor fully clockwise, for maximum output. The voltmeter should read over 1.5 v rms.

Note: As the output level is increased, the meter will behave erratically. This is due to distorted wave shape caused by overload in the amplifier. The distortion will also be noticeable by listening to the loudspeaker.

3.04 Operate key digit no. 1 and adjust the variable resistor counterclockwise for 1.25 v rms as read on the meter.

Note: This adjustment will be close to the final variable resistor setting which will be determined at the time of data set installation.

3.05 With the variable resistor adjusted as in 3.04, operate keys digit no. 1 and digit no. 2 simultaneously. The voltmeter should read 0.80-1.05 v rms; operate keys digit no. 3 and 6 simultaneously, the meter should read 0.95-1.15 v rms.

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3.06 With the set connected to the line and the data set installed, the variable resistor should be adjusted so that the TOUCH-TONE levels will equal the normal F₁ tone as required by the particular drop on the line.

3.07 Refer to Teletype Corporation Specification 50140S and make the Call Control Unit Height adjustment.

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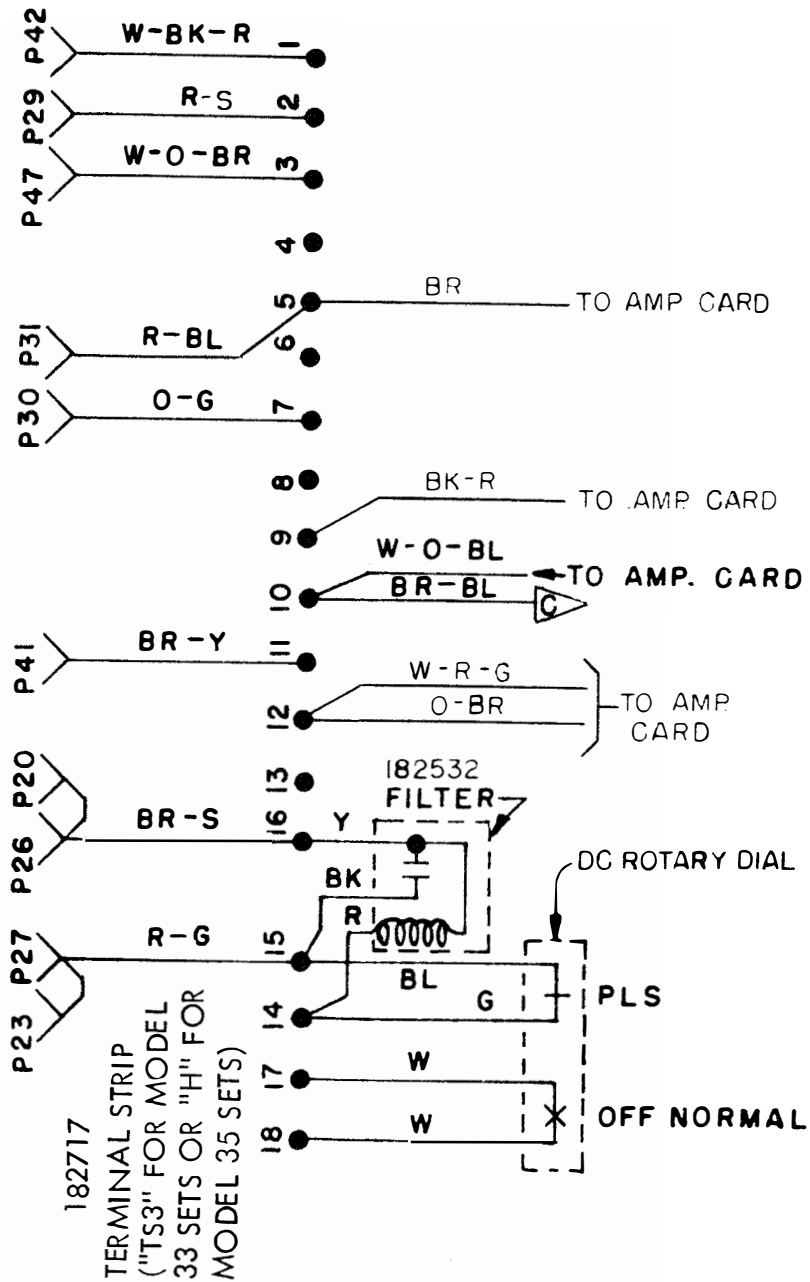
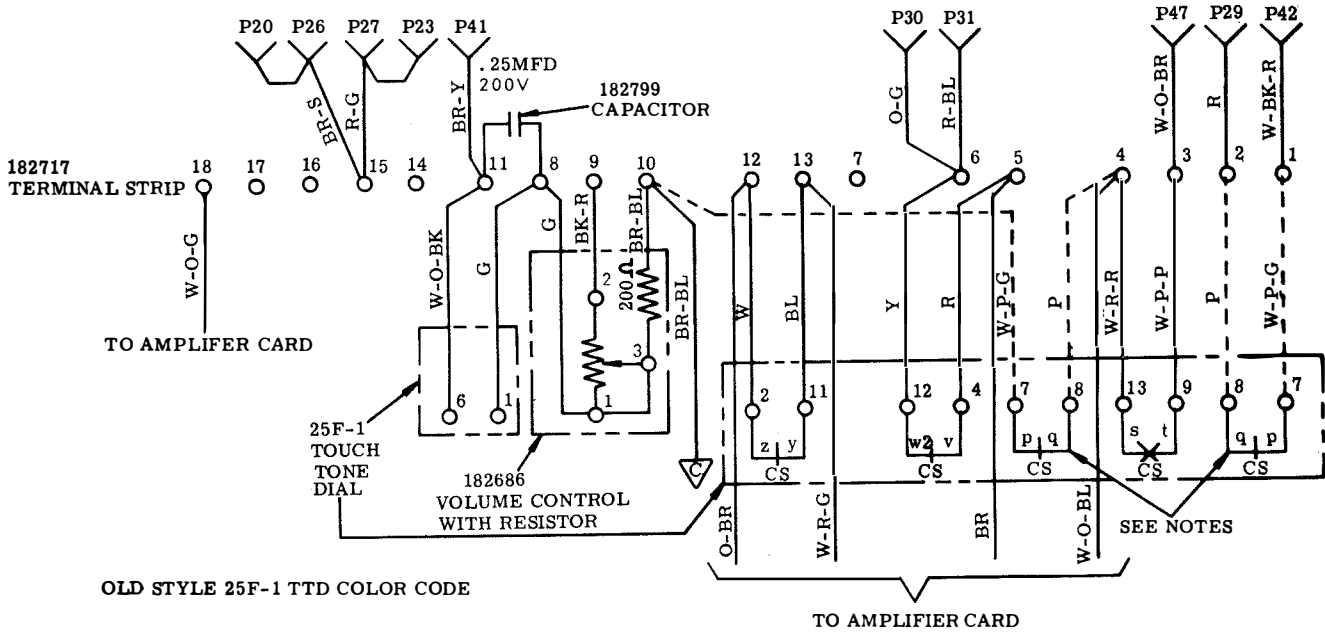
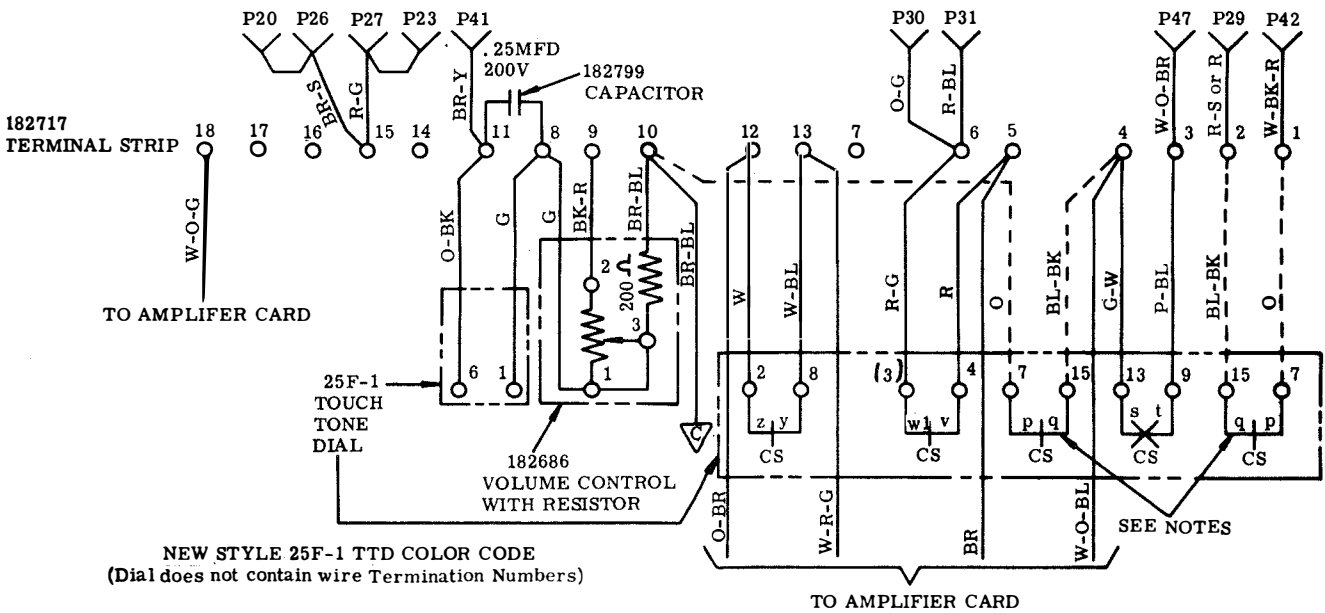


FIGURE 1. DC ROTARY DIAL CONNECTIONS
(193489 OR 195926 MODIFICATION KIT)

25F-1 TOUCH TONE DIAL CONNECTIONS



25F-1 TOUCH TONE DIAL CONNECTIONS



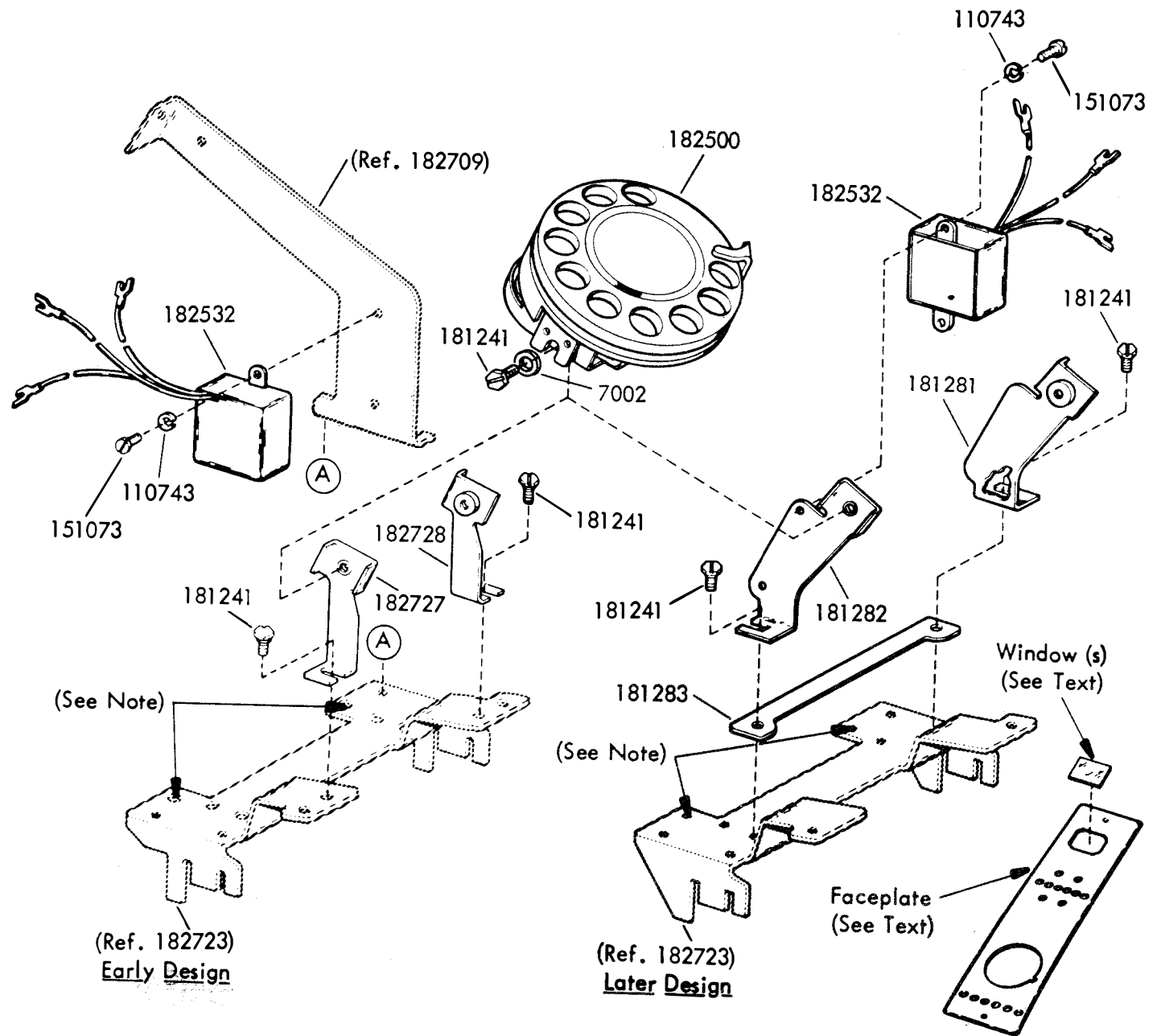
NOTE 1: ON STATIONS EQUIPPED WITH DIAL TONE DETECTION, CONNECT THE Q, P CONTACT TO TERMINALS 1 AND 2 ON THE 182717 TERMINAL STRIP AS SHOWN.

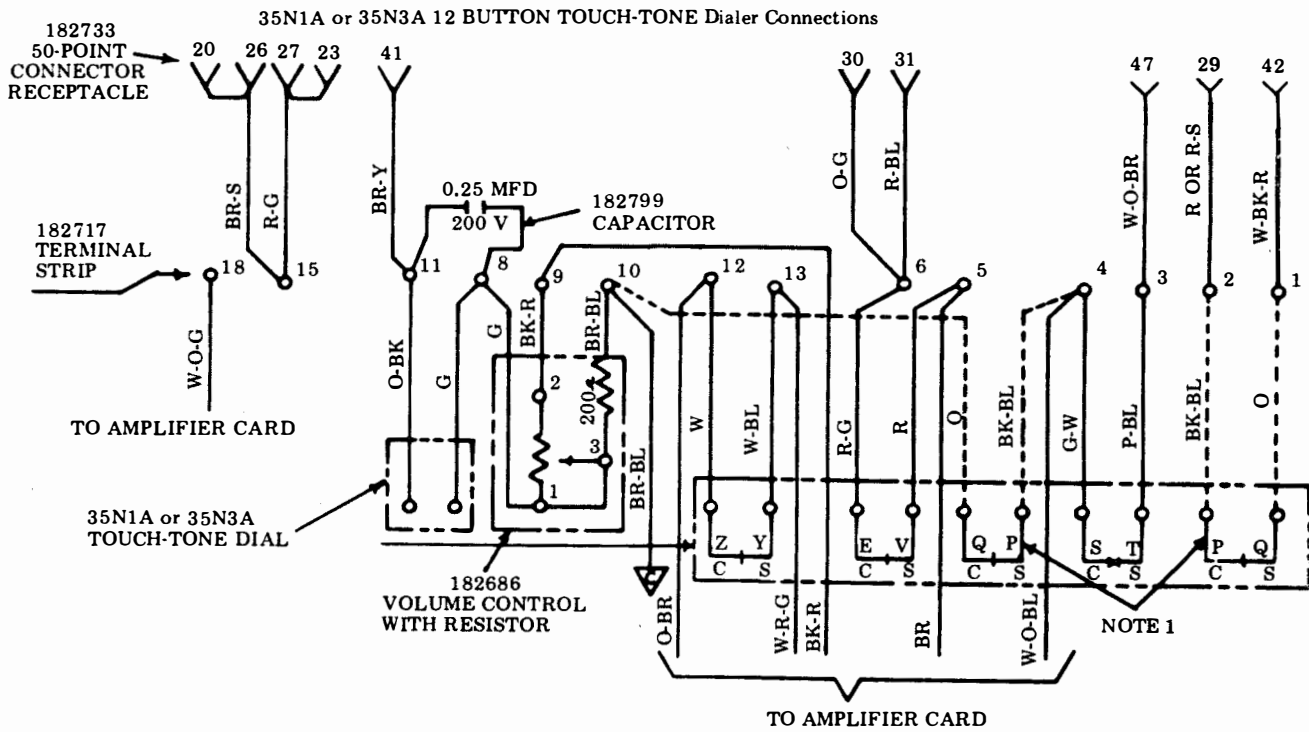
NOTE 2: ON STATIONS EQUIPPED WITHOUT DIAL TONE DETECTION, CONNECT THE P, Q CONTACT TO TERMINALS 4 AND 10 ON THE 182717 TERMINAL STRIP AS SHOWN.

FIGURE 2

FIGURE 3.

NOTE:
MOUNTING HOLES
FOR TOUCH-TONE
DIAL ASSEMBLY
(182620 Touch-Tone
Dial not shown).





NOTE 1: ON STATIONS EQUIPPED WITH DIAL TONE DETECTION, CONNECT THE Q, P CONTACT TO TERMINALS 1 AND 2 ON THE 182717 TERMINAL STRIP AS SHOWN.

ON STATIONS EQUIPPED WITHOUT DIAL TONE DETECTION, CONNECT THE P, Q CONTACT TO TERMINALS 4 AND 10 ON THE 182717 TERMINAL STRIP AS SHOWN.

Associated Wiring Diagrams
 Model 33 7888WD
 Model 35 5824WD

Figure 4