

DISCRETE CALLING RECOGNIZER (TP198002)
FOR "DATASPEED"* TAPE SENDERS 5A AND 5C

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1. GENERAL

1.01 This section provides description, installation and checkout procedures, operating procedure, principles of operation, troubleshooting, and wiring diagrams for the TP198002 discrete calling recognizer used with the "DATASPEED" Tape Senders 5A and 5C. It is reissued to add information on unattended operation without the reverse channel option, to incorporate revised wiring diagrams, and to add a circuit card. Arrows in the margins indicate changes and additions.

1.02 The discrete calling recognizer feature provides unattended operation for a Sender that has tape available in its reader. In addition, it provides protection against the Sender responding to unauthorized callers.

1.03 The Tape Senders are covered in appropriate sections. The 5A-1 and 5C-1 Senders are the same as the 5A and 5C respectively except that they are equipped with the TP198002 recognizer.

2. DESCRIPTION

FUNCTION AND CONFIGURATION

2.01 The recognizer apparatus unit is essentially a decoding device (Figure 1). When installed in a Tape Sender it causes the Sender to respond automatically to a properly coded request for data from a Tape Receiver, computer, or other business machine. Data can thus be transmitted automatically from an unattended Tape Sender to those callers which have facilities for generating the appropriately coded data request.

2.02 The recognizer performs four basic functions:

- (a) Causes the data set in the Sender to automatically answer a request for data.
- (b) Recognizes the discrete 14-bit request signal.

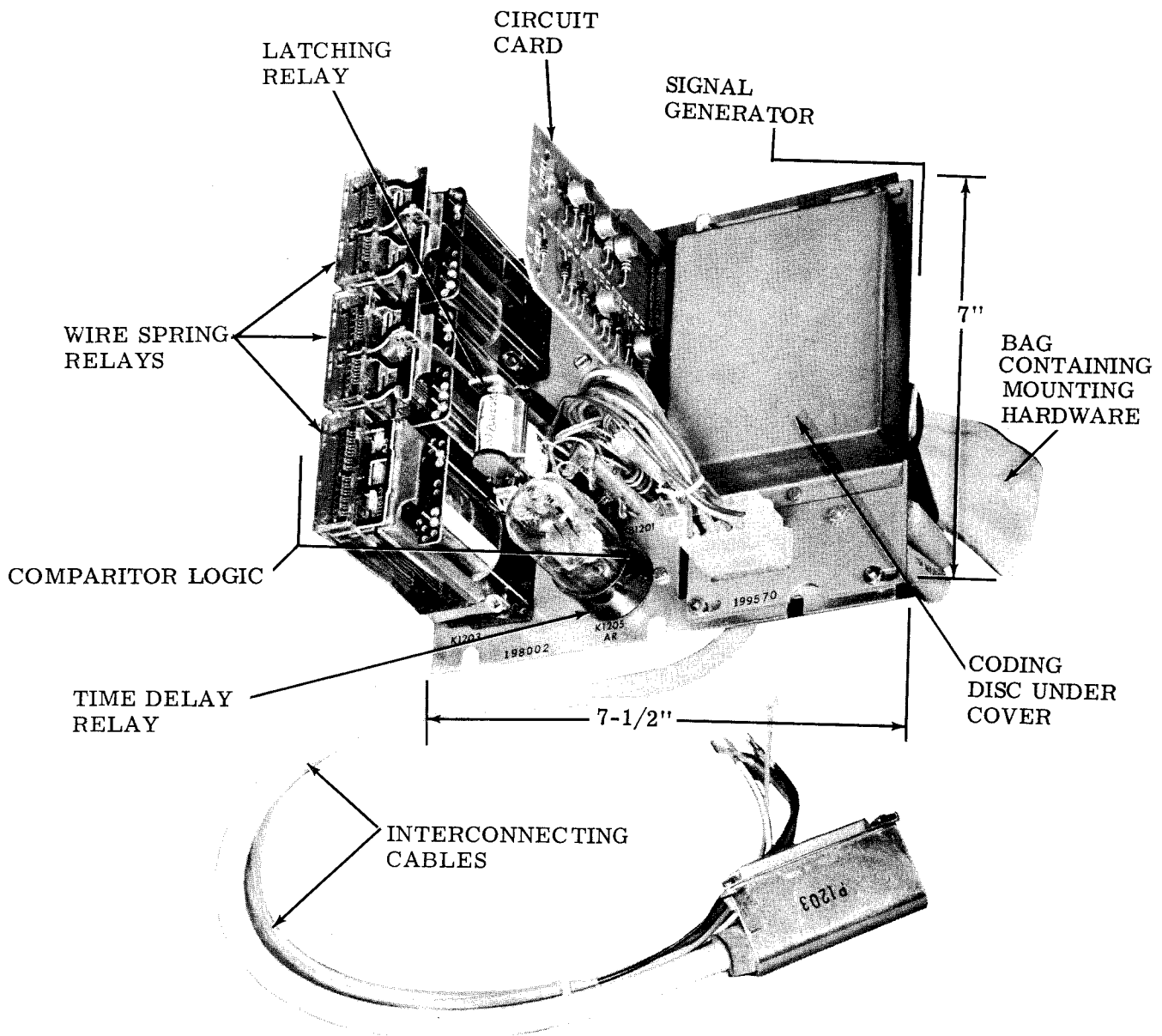


Figure 1 - TP198002 Recognizer Apparatus Unit Option

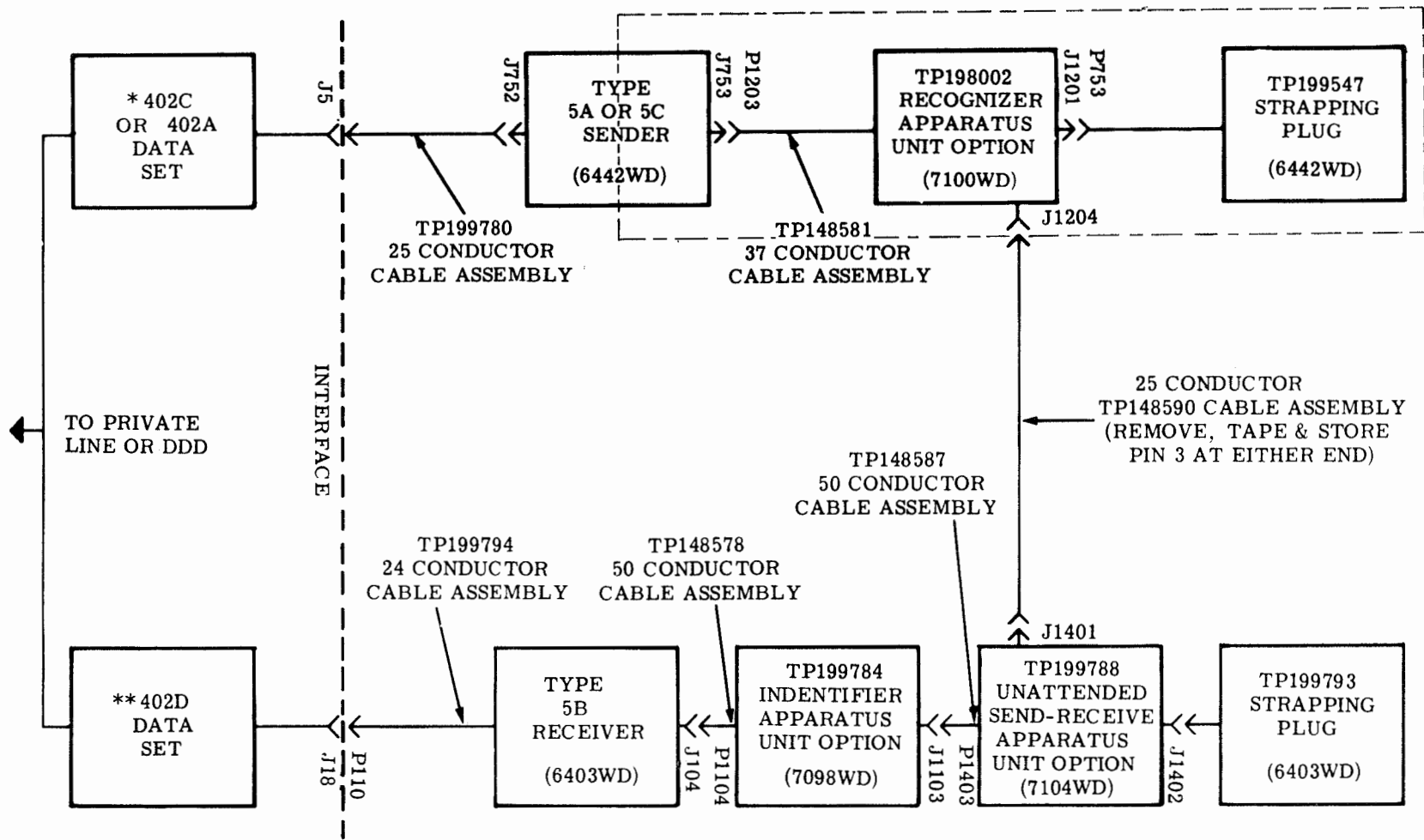
- (c) Causes the Sender to transmit from tape in the reader.
- (d) Causes data set to terminate the call at the end of transmission or at the receipt of an improperly coded signal.

2.03 The option consists of a comparitor logic assembly and a signal generator (Figure 1). The logic includes three wire spring relays, a latching relay, a time delay relay, and a solid-state circuit card. The signal generator consists

of a 117 v ac synchronous motor (Figure 4) and a coding disc. The disc (see attached diagram 7029WD) may be coded to match an identical one at the Receiver by scraping away necked-down areas of etching. In operation the motor rotates the disc which produces local signals that the logic compares with the incoming request signals for recognition.

2.04 Two cables provide electrical interconnections. Two receptacles (Figure 4) respectively accommodate a strapping plug (not

Figure 2 - Interconnecting Diagram For Send-Receive Terminal



LEGEND:

- J = CONNECTOR ATTACHED TO EQUIPMENT
- P = STRAPPING PLUG OR CONNECTOR ATTACHED TO A CABLE
- ↔ REPRESENTS MULTIPLE CONNECTOR IN ABOVE DRAWING
- - - AREA PERTINENT TO RECOGNIZER OPTION IS OUTLINED BY BROKEN LINE

- 402A CAN BE USED WITH MANUAL SEND STATION ONLY
- *402C1 WITHOUT REVERSE CHANNEL RECEIVER
- 402C2 WITH REVERSE CHANNEL RECEIVER
- **402D1 WITHOUT REVERSE CHANNEL TRANSMITTER
- 402D2 WITH REVERSE CHANNEL TRANSMITTER

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part of recognizer) and a cable from the Receiver for operation with the unattended send-receive apparatus option.

2.05 The recognizer is mounted in the apparatus box of the table-mounted Tape Sender 5A (Figure 3) or on the apparatus frames of the floor-mounted Sender 5C (Figure 5).

TECHNICAL DATA

A. Dimensions (Figure 1)

Width 6-1/2 inches
Height 7 inches
Depth 7-1/2 inches

Mounted on rails with holes spaced 7/16 inch horizontally and 6-1/2 inches vertically.

B. Electrical

→ Power Requirements 48 v dc, 117 v ac

Signal Requirements

The recognizer makes use of the automatic answering and answer-back facilities of the 402C data set. The signal has the following format:

Answer-back A on 352 milliseconds
Answer-back A off 232 milliseconds

Coded signal of
14 bits - each bit 166.7 milliseconds

3. INSTALLATION AND CHECKOUT PROCEDURES

INSTALLATION

3.01 The parts section for the Tape Senders illustrates the arrangement of the parts referred to by TP numbers in the following instructions. Figure 2 illustrates schematically the interconnection of the recognizer with other equipment.

A. Mounting

3.02 In the case of Sender 5A, mount the recognizer on the apparatus box using the six attached TP165102 screws as shown in Figure 3. In the case of Sender 5C, mount the recognizer on the apparatus frame using the six attached TP154335 screws and TP80720 washers as shown in Figure 5.

B. Connections

CAUTION: DISCONNECT MAIN POWER CABLE (FIGURE 4) FROM 117 V AC POWER SOURCE BEFORE REMOVING COVER FROM MOTOR CONTROL RELAY ASSEMBLY.

3.03 Disconnect reader power cable from TP198048 motor control relay assembly (Figure 4). Connect the 4-conductor power cable to the terminal board TB851 on the motor control relay assembly as indicated on attached schematic diagram 7100WD. Replace cover and reader power cable.

3.04 Remove the TP199547 strapping plug from the J753 receptacle of the TP198001 transmitter circuit assembly by releasing the TP199531 sliding lock (Figure 4 shows plug already removed and cable connector in its place). Remove the cover from the plug by removing the two mounting screws.

3.05 Look closely to see molded numbers on plug. Grasp pin 11 with long-nosed pliers and pull it out. Tape pin and store (ie, tuck in and out of way).

3.06 If reverse channel is being used, remove and tape pin 32 in the same manner. Remove pin 16 and insert it into position 21.

3.07 If reverse channel is not being used, leave pin 32 in its original position and remove and tape pin 16.

3.08 Replace the strapping plug cover. Place the strapping plug on the mating receptacle J1201 of the recognizer (Figure 4) and lock the sliding lock.

3.09 Plug the P1203 connector on the recognizer's TP148581 cable into the J753 receptacle on the transmitter circuit assembly and lock the sliding lock.

C. Wiring Options

3.10 The equipment leaves the factory equipped with the Z, ZC, and SO wiring options. Check these options and change them if necessary to fit the specific type of operation.

Note: Information on the wiring options is shown in tabular form in the section covering installation and checkout for the Tape Senders.

Z Wiring

3.11 At a send-only terminal with the Z wiring option in, the Sender answers a call and transmits an all space signal when there is no tape in the reader and the AUTO ANS key has been depressed.

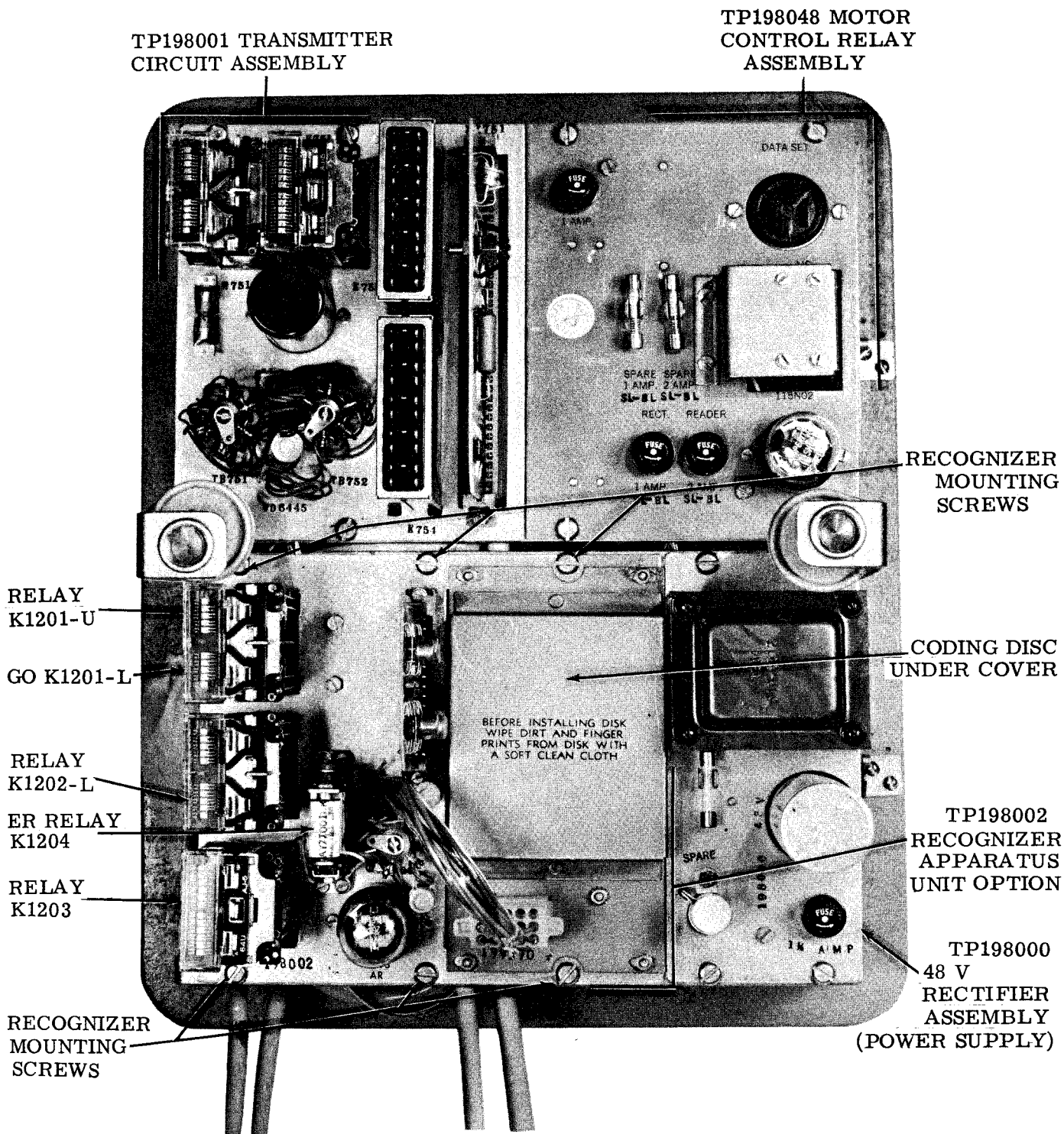


Figure 3 - Recognizer Apparatus Unit Option Mounted on Apparatus Box of Sender 5A - Mounting Side

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3.12 Remove the Z wiring option at a send-only terminal for operation in which the Sender does not answer a call when there is no tape in the reader and the AUTO ANS key has been pressed.

3.13 To remove the Z wiring option: Locate relay K1203 (Figure 4). Refer to attached wiring diagram 7099WD for location of wires. Remove the two wires from wire spring 12M of K1203. Twist together, tape, and store. Locate relay K1201-L (Figure 3). Remove the wire from wire spring 3B. Tape and store. Locate relay K1201-U. Remove wire from wire spring 8M and tape and store.

ZC Wiring

3.14 The ZC wiring option, which is one of the Z wires, is used in conjunction with the TP199788 unattended send-receive option. At a send-receive terminal with the ZC wiring option in, the terminal answers a call and transmits answer-back AB if there is no tape at the Sender and low tape at the Receiver.

3.15 Remove the ZC wiring option at a send-receive terminal which requires no answer when the Sender has no tape and the Receiver has low tape.

3.16 To remove the ZC wiring option: Locate relay K1203 (Figure 4). Refer to attached wiring diagram 7099WD for location of wires. Remove the two wires from wire spring 12M of K1203. Twist together, tape, and store.

SO Wiring

3.17 The SO wiring option insures that the equipment at an unattended send-receive terminal is in the send mode when the recognizer recognizes answer-back A. Remove it when using TP199788 unattended send-receive apparatus option.

3.18 To remove SO wiring option: Locate card receptacle XZ1201 (Figure 4). Remove the wire from pin H that connects to 1U of relay K1202-U. (Alpha pin designations are molded on card side of receptacle as well as card itself. Also see 7099WD.) Tape and store.

CHECKOUT

3.19 After the recognizer is installed, make the following checks. In most cases, corrective action is obvious. If not, refer to Parts 5 and 6.

3.20 AUTO ANS key lights to indicate an abnormal condition:

(a) Place Sender in operating condition as instructed in operation instructions for Sender. Press AUTO ANS key on Sender.

(b) Move tape reader switch out of RUN position. AUTO ANS key should light. Move switch back to RUN position.

(c) Open tape lid. AUTO ANS key should light. Close lid.

3.21 Automatic Answer and Transmission

(a) Restore Sender to operating condition.

(b) Call Sender from another telephone. Sender should answer automatically by data set generating an answer tone and then being silent.

→ (c) If coding disc is uncoded, remove disc cover (Figure 4). Whistle a simulated answer-back A (1017 cps) signal into the telephone. Disc should rotate and Sender should transmit from tape. If disc is to be coded, do not replace cover at this time.

3.22 Relays

(a) With disc not rotating, ER relay K1204 (Figure 3) should be released (lower armature away from pole face).

(b) Manually operate GO relay K1202-L by pulling armature against pole face. Sender should transmit from tape.

Note: If Sender is wired for reverse channel, reader motor will start, but Sender will not transmit from the tape.

CODING DISC

3.23 If the signal generator disc of the recognizer has not been coded, follow the coding procedure given in the following paragraphs.

3.24 Remove cover from coding disc by removing two mounting screws (Figure 3). Remove the coding disc by removing its wing nut.

3.25 The coding disc can be coded to provide 14 serial pulses in any combination of mark or space (see insert on attached schematic diagram 7029WD). Note that the outer ring of the coding disc has 15 segments. Each segment is connected to a continuous common inner ring through a narrow etched section which has been necked-down at one point. By scraping away the

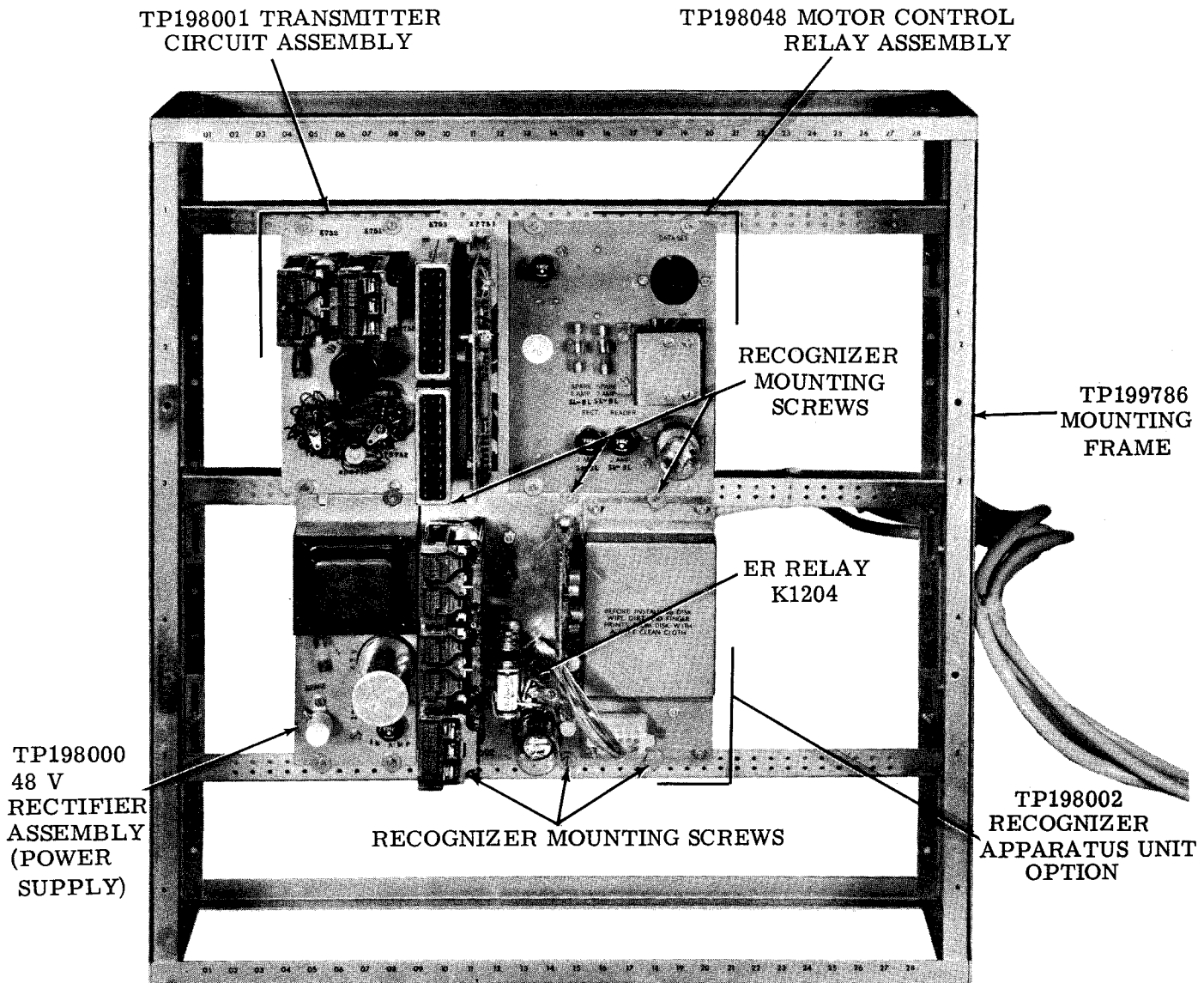


Figure 5 - Recognizer Apparatus Unit Option Mounted on Apparatus Frame of Sender 5C

etching at this necked-down area, the continuity between any segment and the inner ring is broken. That segment then represents a space. If continuity between the inner ring and an outer segment is maintained, that segment represents a mark. The etching which connects the first (longer) segment of the outer ring is not necked-down. Continuity must always be maintained between this segment and the inner ring to provide a long marking "start" pulse.

Note: To make it more difficult to simulate the coded request, combinations of all marks, all spaces, single marks, single spaces, and single transitions should be avoided.

3. 26 Code the disc to correspond to the coding at the Receivers.

Note: Clean disc with clean, soft cloth to remove all dirt and finger prints.

3. 27 Replace disc and cover.

3. 28 If possible, use a test center to check the operation of the recognizer. Otherwise, have the Sender called by a properly-coded Receiver. In the absence of such a Receiver, place an uncoded disc in the recognizer and have the Sender called by a Receiver with an uncoded disc. Observe the recognizer for proper operation.

4. OPERATING PROCEDURE

4.01 When equipped with the recognizer, the Tape Sender can respond automatically to data requests from properly coded Tape Receivers. When this automatic answering is desired, follow the procedure outlined below:

- (a) Place tape in the reader. (See the section covering the operation of the Sender.)
- (b) Position the reader switch to RUN and press the AUTO ANS switch.

Note: When the Tape Sender is sharing the telephone line with a Tape Receiver (send-receive station), the SEND switch or AUTO ANS switch at the Tape Receiver must be pressed depending on whether the station is manual or unattended.

5. PRINCIPLES OF OPERATION

5.01 When following the circuit description for the recognizer apparatus unit, refer to diagrams 7100WD and 7029WD (Part 7). Refer also to the schematic diagram of the Tape Sender appearing in the appropriate wiring diagrams section.

OPERATION WITHOUT REVERSE CHANNEL

5.02 Pressing the AUTO ANS key at the Tape Sender completes the current path through the coil of the UA (unattended answer) relay K1203. Contact 1 of the UA relay will complete a current path through leads NT and LE at P1203 to the AUTO ANS switch light only when there is no tape at the reader.

5.03 If there is tape available at the reader and the RUN/STOP switch is in the RUN position, a ground is placed on the TA lead causing the TA (tape available) relay K1201-L to operate. With both UA and TA operated, the RO (remote operate) lead is connected to the RR (remote release) lead and to ground through AR relay contacts, enabling the data set to answer incoming calls automatically. The M2 lead is connected to lead TA1 through the strapping plug P753 completing the reader clutch magnet circuit through the apparatus unit. The MS lead is disconnected from its normal connection to the IK lead by contact 3 of the energized UA relay. Thus the normal reader operate cycle will not begin with the application of the IK ground by the data set. The normal DM (data mode) ground path from the Sender to the data set is interrupted

by contact 8 of the energized UA relay, conditioning the data set to receive answer-backs. The circuitry remains in this condition until an incoming call is received.

5.04 When an incoming call is detected, the data set responds automatically, generating a 2025 cycle tone for 2 to 7 seconds, and then grounds the IK lead. The IK (interlock) relay (K1201-U) is thus energized. Contact 10 of the IK relay closes to start the signal generator motor. Contact 9 of the IK relay connects the AA (answer-back A) lead to the base of transistors Q3 and Q4, and to the coil of the SP (start pulse) relay. Contact 11 of the IK relay completes the current path through the heater of AR (automatic release) relay (K1205). If no ground appears on the AA lead before the 30 second AR time out, the call is terminated as the AR contacts break the RR ground causing the data set to go on-hook.

5.05 An AA ground (originated at the calling data set) will operate the SP relay which locks up on the common ground supplied through the homing identifier brush at the signal generator. Transistors Q3 and Q4 are held cut off by this ground.

5.06 After 352 milliseconds, the answer-back A signal from the caller is dropped and the ground is removed from the AA lead.

5.07 Transistor Q3 is now biased into conduction. The ground supplied to the signal generator clutch (pin 2, P1202) from the collector of Q4 starts the coded signal generator disc rotating. Within a few degrees of rotation, the homing recognizer brush is grounded providing a holding path for the clutch magnet current which is maintained for one full revolution of the code disc.

5.08 After about 70 milliseconds, the sample brush will be grounded (for about 30 milliseconds). The sample brush ground applied to the emitter of Q3 allows current to flow through 1/2 ER (error relay) relay K1204. The sample brush ground is also applied to the emitter of Q2. A signal ground applied to the base of Q1 holds that transistor turned off and allows Q2 to conduct. Thus current flows through the second winding of the ER relay. The two windings are polarized so that the flux which they induce cancel, and the relay remains unoperated. If, however, the continuity between any segment

of the code disc and ground is broken (as is done in coding) the base of Q1 is not grounded and the transistor will conduct cutting off transistor Q2. No current will flow through that winding of the ER relay associated with Q2. If the calling part is transmitting the code for which the Sender has been coded, the answer-back A lead will become grounded and no current will flow through Q3, or through the associated winding of the ER relay. The relay will again remain unoperated.

5.09 Should the coding at the signal generator and the coded answer-back A tone coincide (indicating an authorized data request), the ER relay will not energize as the code disc proceeds through its cycle.

5.10 After the last coded disc segment has been compared with the incoming answer-back A signal, the homing identifier contact encounters an open segment, releasing the SP relay. Shortly thereafter, the GO contact supplies a ground to the GO relay (K1202-L) which locks through contact 3 of the TA (tape available) relay. Finally, the homing recognizer brush encounters an open slot releasing the signal generator clutch and stopping further rotation. The disc has now rotated to its original (start) position.

5.11 Operation of the GO relay grounds the DM lead, conditioning the data set to send data. Operation of the GO relay also grounds the MS lead, initiating transmission as described in the "Description and Operation" section. Transmission continues until the end of tape is reached, when the TA relay releases. The release of TA releases GO, stopping transmission, and opens the RO lead causing the data set to ignore further calls. Contact 4 of the released GO relay enables the AR relay to release after 30 seconds breaking the RR ground and placing the data set on-hook.

5.12 If the incoming identification signal does not correspond to the coding on the signal generator disc, then during at least one sample contact closure, only one trip winding of the ER relay will be energized. This will allow ER to operate and latch mechanically. Consequently, the GO relay will not operate when the GO brush at the signal generator senses on ground, and the Sender will not transmit. When the homing recognizer contact senses a blank (at the end of the cycle) transistor Q5 is biased into conduction energizing the release winding of ER. This releases ER, so that the circuit is prepared to receive another identification signal. Contact 4

of the released GO relay enables the AR relay to release after 30 seconds breaking the RR ground and placing the data set on-hook.

OPERATION WITH ZC AND Z WIRING

5.13 The ZC option connects the RO lead to the RR lead through contact 12 of the UA relay. This option is used in conjunction with the ZC option provided in the TP199788 unattended send-receive apparatus unit option when the Tape Sender is being used with a Tape Receiver as an unattended send-receive station. The Z option permits the Sender to answer automatically and sends an all space if there is no tape in the reader. The Z option consists of 3 wires: One provides an additional connection between AS lead and ground through contact 9 of UA relay and contact 3 of the TA relay. One grounds the DM lead through contact 8 of the UA relay, contact 8 of IK relay, and contact 2 of TA relay. And one connects RR and RO leads together.

OPERATION WITH REVERSE CHANNEL

5.14 With reverse channel option wired in the data set and with the strapping plug wired for reverse channel (3.06), the reader clutch magnet circuits are connected to the RC lead. Loss of reverse channel in the unattended mode will cause the reader clutch to drop out and stop transmission. Also loss of reverse channel releases the RC relay which lights a signal lamp. The release of RC relay also starts a 30-second time-out which terminates the call. An operator may put the data set in the talk mode and keep the equipment on line. When reverse channel comes back on, the operator presses the DATA key on the data set and transmission continues.

OPERATION WITH SO WIRING

5.15 The SO wiring option is furnished in factory-wired equipment. This wire should only be removed when the terminal is equipped as an unattended send-receive terminal. This option puts a set of normally open contacts from the TR relay in the TP199788 option in series with the SP relay to insure that the data sets are in the send mode before the recognizer recognizes answer-back A.

UNATTENDED OPERATION

→ 5.16 In unattended operation the circuits function as follows:

(a) In unattended operation, without the reverse channel option, the coded answer-back A identification signal must be received by the recognizer before the Sender will start. If the identification signal is not received within approximately 30 seconds after automatic answering, the AR relay (30-second timer) in the recognizer drops the call. The AR relay also drops the call 30 seconds after the Sender goes to a tape-out condition.

(b) In unattended operation, with reverse channel, both the reverse channel signal and the identification signal must be received before the Sender will start transmission. Loss of reverse channel signal stops the Sender and starts the AR relay (30-second timer) in the recognizer which drops the call. If an attendant in the area sees the signal light go on or hears an auxiliary alarm, the TALK key on the data set may be pushed to keep the call on line. The AR relay will time-out if either the identification signal or reverse channel signal is not received within 30 seconds after the IK lead is grounded. The AR relay also drops the call 30 seconds after the Sender goes to a tape-out condition.

push the MONITOR button on the data set, and listen for the data set answer tone (2025 cps). If the tone is not heard, check the operation of the TA and UA relays.

6.02 Listen for the coded answer-back A tones from the calling station. If during reception of the answer-back A signals the signal generator does not start, check the operation of the IK and SP relays.

6.03 If the signal generator completes its cycle but transmission does not begin, check whether the ER relay operates falsely and whether the GO relay is operated at the end of the cycle. If ER operates falsely, check ER, the signal generator disc, and circuit card. Check that ER releases at the end of one rotation.

6.04 On all station visits check the unit functionally by contacting the Sender from a local phone and whistling a simulated answer-back A (1017 cps) signal into the phone mouthpiece. The signal generator should rotate, but there should be no data transmission at the completion of the cycle if the disc has been coded. Should the transmitter respond check the ER and GO relays.

6. TROUBLESHOOTING

6.01 With tape in the reader, and the AUTO ANS switch depressed, have the Tape Sender called by a properly coded Tape Receiver. When the call is received pick up the handset,

6.05 Check the signal generator for over-running of the home position. If any overrunning or clutch slippage is detected, replace the signal generator.

7. DIAGRAM INDEX AND ATTACHMENTS

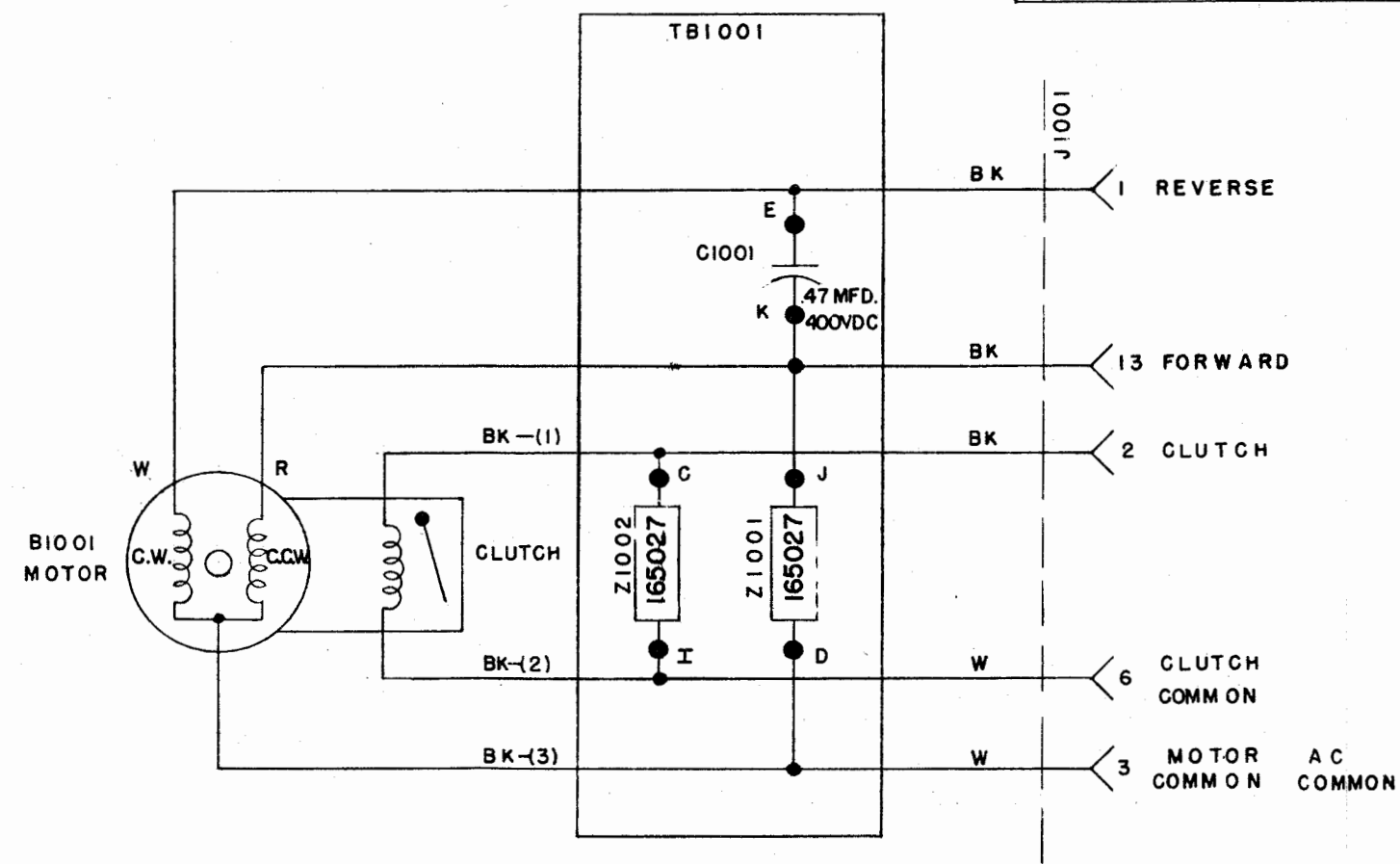
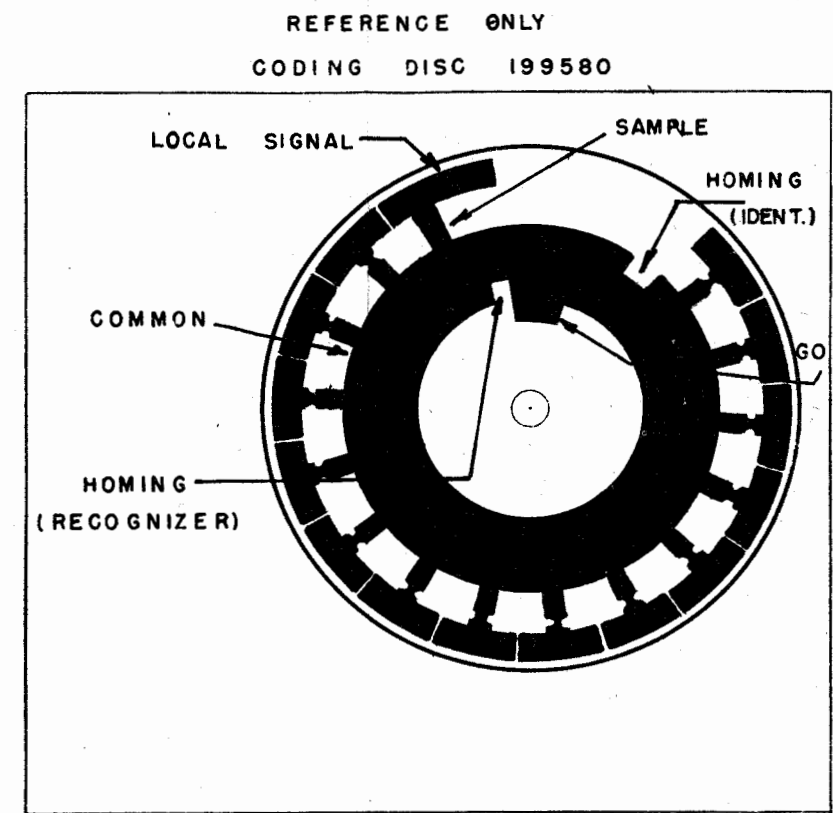
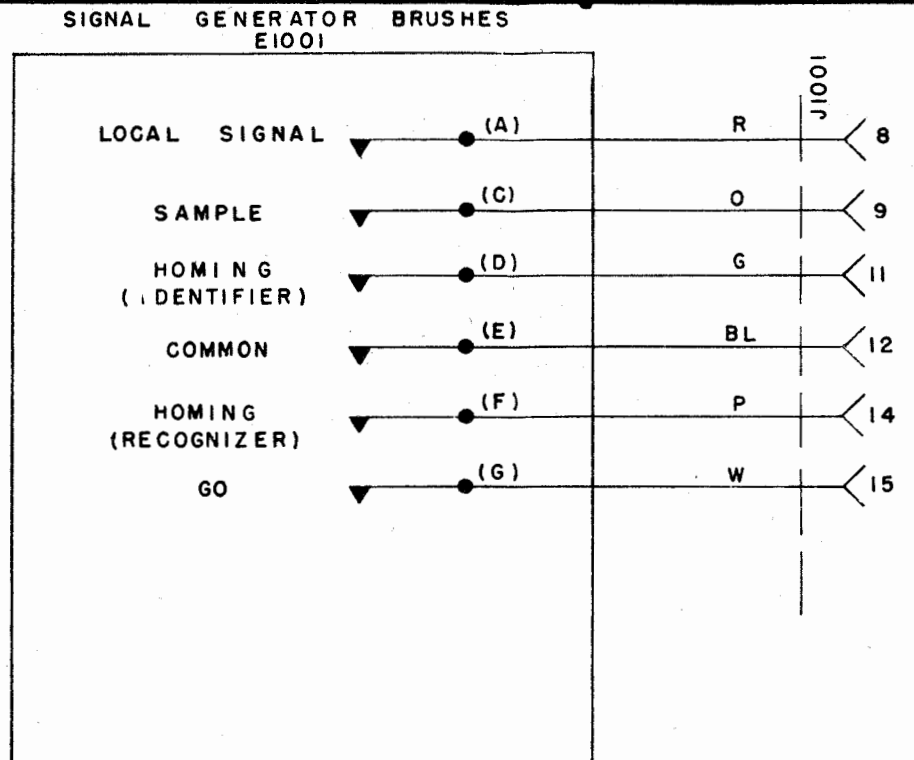
TITLE	DRAWING NUMBER	ISSUE					
		1	2	3	4	5	6
Schematic Diagram for Signal Generator Assembly (TP199570)	7029WD	Orig	Orig	2	3		
Actual Wiring Diagram for Signal Generator Assembly (TP199570)	7030WD	-	-	2	2		
Actual Wiring Diagram for Recognizer Apparatus Unit (TP198002)	7099WD	Orig	3	11	11		
Schematic Wiring Diagram for Recognizer Apparatus Unit (TP198002)	7100WD	Orig	4	10	11		
Circuit Card (TP148597)	(148597)	-	-	-	2		

7029 WD

REVISIONS

ISSUE	DATE	AUTH. NO.
2	8-18-65	87498
3	9-10-65	87498-2

- NO. NOTES
- REFER TO 7030WD FOR ACTUAL WIRING DIAGRAM.
 - TERMINAL DESIGNATIONS ENCLOSED IN PARENTHESES ARE NOT MARKED ON THE COMPONENT.
 - INDICATES TERMINAL ON RECEPTACLE J1001.
 - COLOR CODE:
 W - WHITE BK - BLACK
 P - PURPLE R - RED
 O - ORANGE G - GREEN
 BL - BLUE
 - J1001 TERMINAL VOLTAGES MAY VARY WITH APPLICATION AS FOLLOWS:
 A - 117 VAC E - -6VDC I - NOT USED
 B - AC COMMON F - -12VDC
 C - +6VDC G - -28VDC
 D - GRD H - -48VDC
- | ASSEMBLY USED ON | TERMINAL |
|------------------|--------------------------|
| | 1 2 6 8 9 11 12 13 14 15 |
| 199552 | I A B G I G G A I I |
| 199555 | I A B G G I G A G G |



SCHMATIC DIAGRAM FOR SIGNAL GENERATOR ASSEM. ASSEM. NO. 199570

APPROVALS

D AND R	EOPM
<i>[Signature]</i>	<i>[Signature]</i>

E-NUMBER

PROD. NO. 7029 WD

DATE: 11-16-63

P.D. FILE NO. 1-A148/134A A

DRAWN G.J.M. CHKD. *[Signature]*

ENGD. W.R.F. APPD. *[Signature]*

TELETYPE CORPORATION

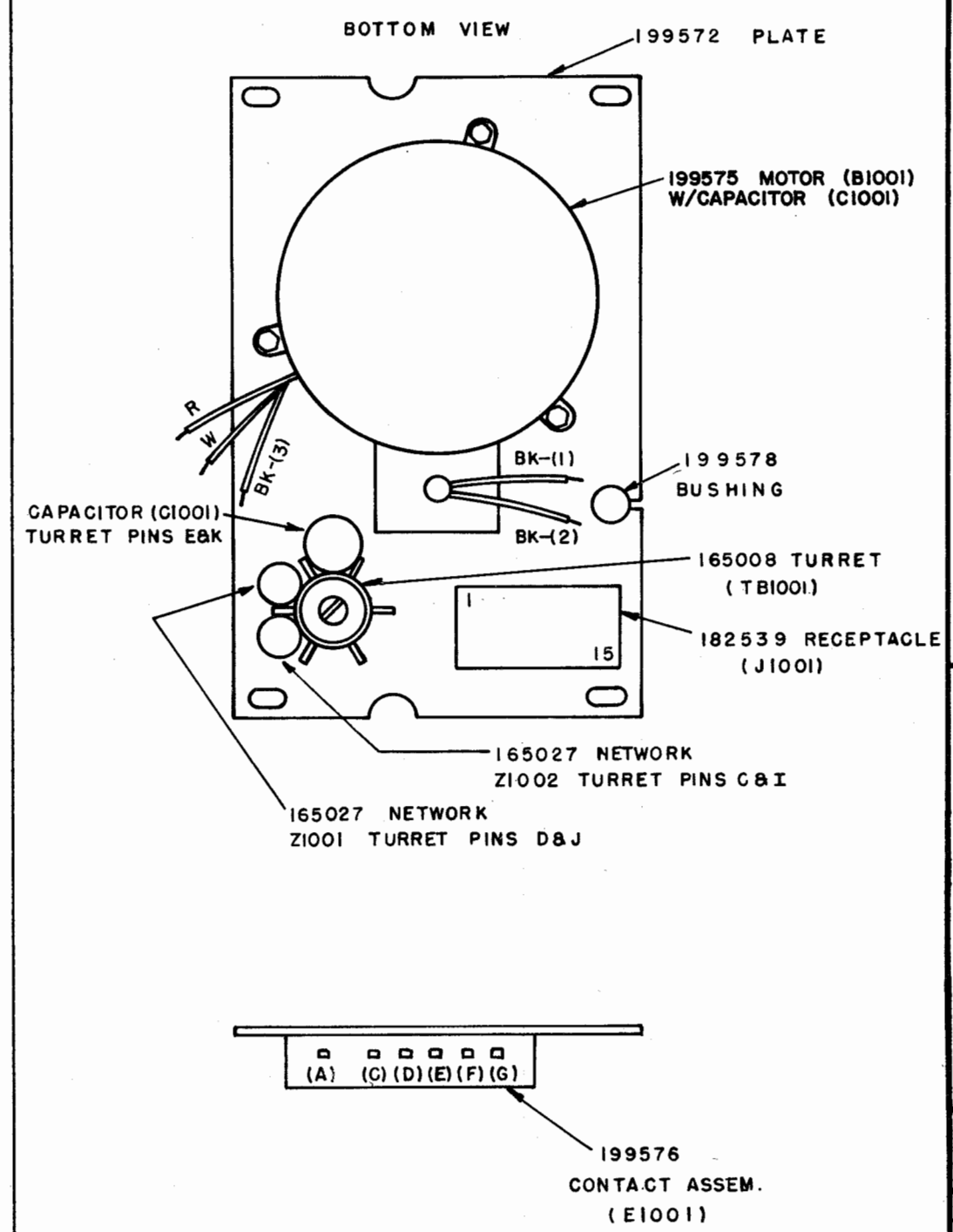
7029 WD

7030 WD

REVISIONS

ISSUE	DATE	AUTH. NO.
2	8-18-65	87498

NO.	NOTES	COMP.	MODULE CONN.	CONTACT ASSEM.	MOTOR ASSEM.	TURRET						
1.	REFER TO 7029 WD FOR SCHEMATIC.	COMP. DESIG.	J1001	E1001	B1001	TB1001						
2.	TERMINAL DESIGNATIONS ENCLOSED IN PARENTHESES ARE NOT MARKED ON THE COMPONENT.	ASSOC. ASSEM.										
3.	WIRE CONNECTOR J1001 ACCORDING TO TABLE.	COMP. NO.	182539	199576	199573	165008						
		AC COMMON										
			1			E						
			2			C						
			3			D						
			6			I						
			8	(A)								
			9	(C)								
			11	(D)								
			12	(E)								
			13			K						
			14	(F)		J						
			15	(G)								
				BK-(1)		C						
				BK-(2)		I						
				R		K						
				W		E						
				BK-(3)		D						
4.	COLOR CODE: BK - BLACK R - RED W - WHITE											
5.	J1001 TERMINAL VOLTAGES MAY VARY WITH APPLICATION AS FOLLOWS: A-117 VAC E--6VDC I-NOT USED B-AC COMM.F--12VDC C--6VDC G--28VDC D-GRD H--48VDC											
	ASSEM. J1001 TERMINALS											
	USED ON		1	2	6	8	9	11	12	13	14	15
	199552		I	A	B	G	I	G	G	A	I	I
	199555		I	A	B	G	G	I	G	A	G	G



ACTUAL WIRING DIAGRAM FOR SIGNAL GENERATOR ASSEMBLY

ASSEM. NO. 199 570

APPROVALS

D AND R EOPM
[Signatures]

E-NUMBER
PROD. NO. 7030 WD

DATE: 11-16-63

P.D. FILE NO. 1-A148/134 AA

DRAWN. G.J.M. CHKD.

ENG. W.R.F. APPD. *[Signature]*

TELETYPE CORPORATION

7030 WD

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7099 WD

REVISIONS

ISSUE	DATE	AUTH. NO.
2	8-28-64	83084
3	10-7-64	84000
4	11-20-64	84989
5	12-10-64	84871
6	2-24-65	86188
7	3-4-65	86355
8	5-19-65	87240
9	6-29-65	88013
10	8-18-65	87498
11	9-2-65	88015

- NO. NOTES
- WIRE LEGEND
DISTANT TERMINATING AREA
DISTANT TERMINATING DESIGNATION
WIRE COLOR CODE
K-2-BK
 - COLOR CODE
W WHITE P PURPLE
C GREEN Y YELLOW
R RED BL BLUE
S SLATE BK BLACK
O ORANGE BR BROWN
 - REFER TO 7100WD FOR SCHEMATIC WIRING DIAGRAM.
 - TERMINAL DESIGNATIONS IN PARENTHESIS () ARE FOR REFERENCE ONLY AND NOT MARKED ON COMPONENTS.
 - ALL SURFACE WIRE 24AWG GREEN, 31784RM UNLESS OTHERWISE SPECIFIED
 - ALL STRAPPING WIRE 24AWG BARE, 39603RM. USE SLEEVING WHERE REQUIRED. DO NOT PULL TAUT BETWEEN TERMINALS.
 - INSERT CARD BEFORE WIRING UNIT.
 - 148581 CABLE ASSEMBLY.
 - 148580 CABLE ASSEMBLY.
 - 177611 DIODES
 - 153631 NETWORKS
470 Ω
.11 MFD.
 - 171831 CAPACITOR 10 MFD
 - 165072 RESISTOR 91K .5 WATT
 -
 - RUBBER STAMP .125 CHARACTERS ON THE CARDS OF THE FOLLOWING RELAYS IN WHITE INK.

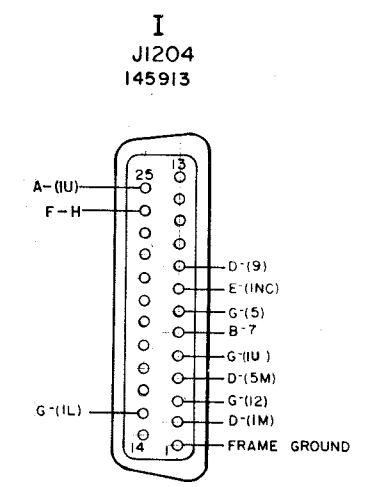
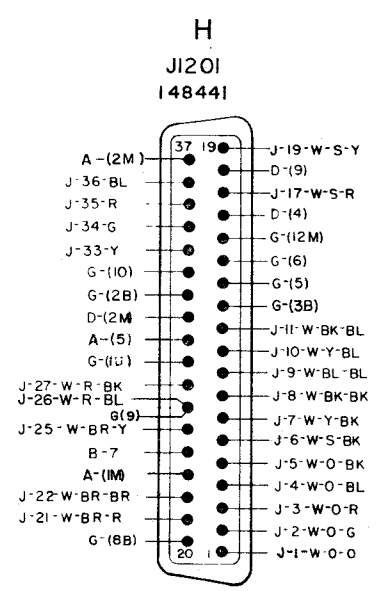
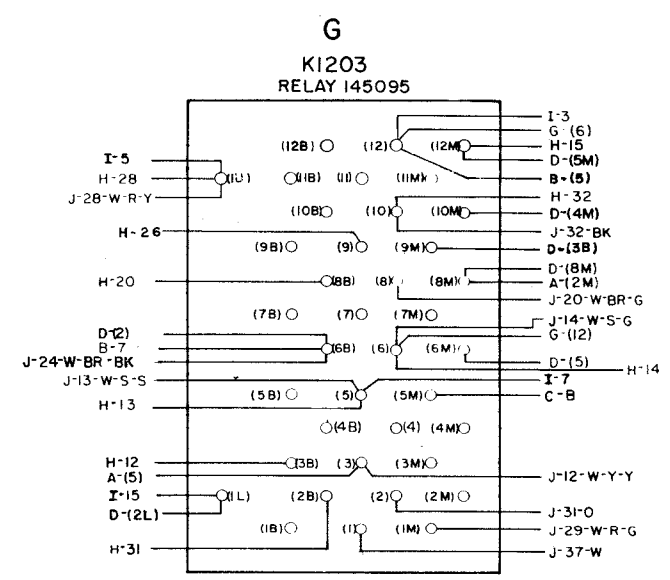
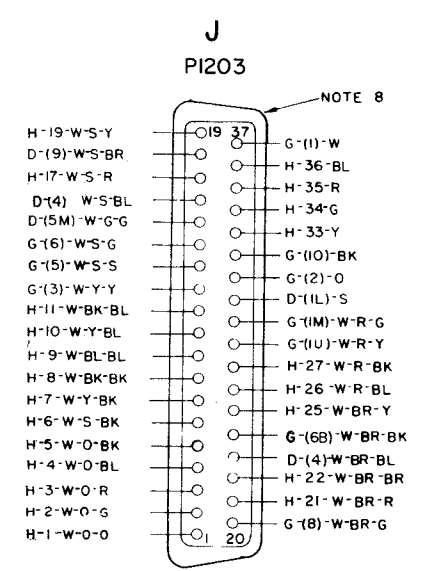
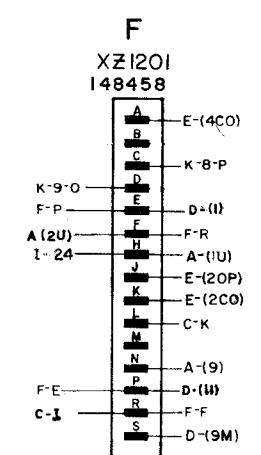
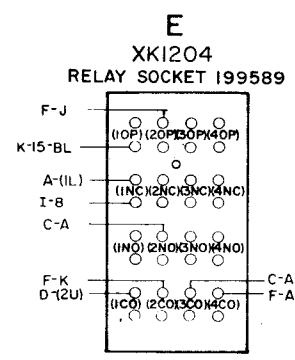
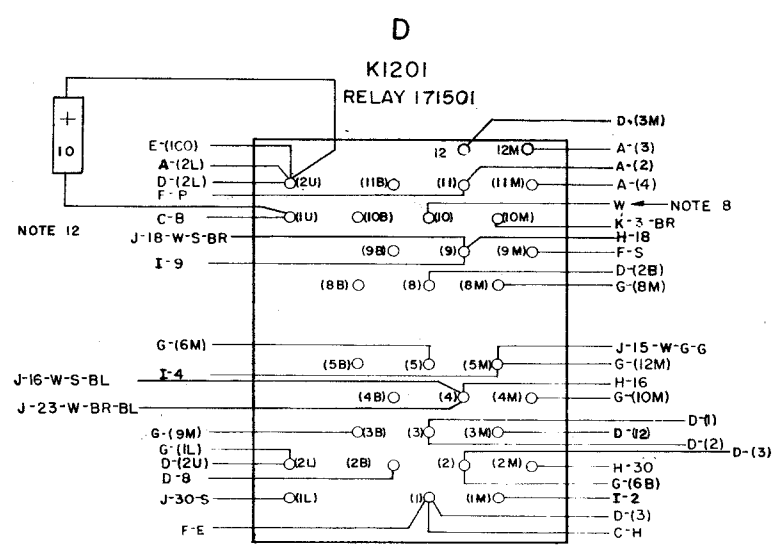
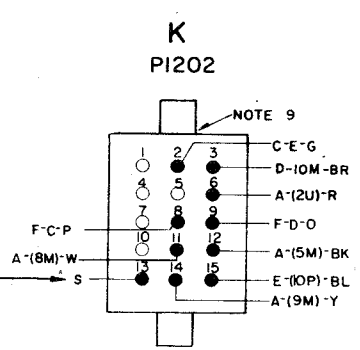
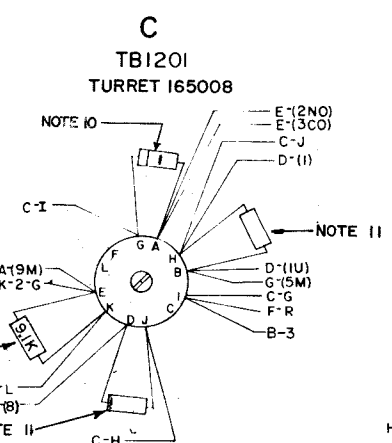
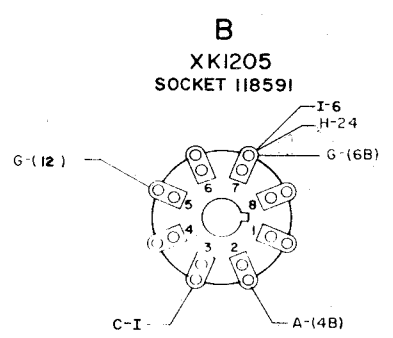
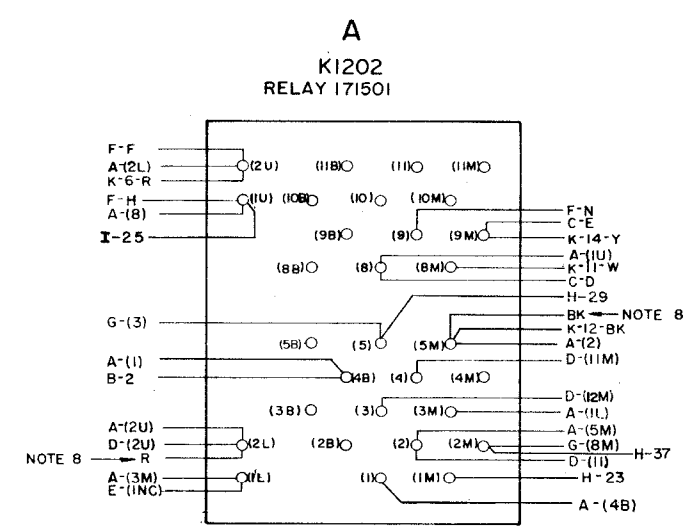
RELAY	STAMPING
K1201-U	1K
K1201-L	TA
K1202-U	SP
K1202-L	GO

RUBBER STAMP .125 CHARACTERS ON THE CORE PLATE OF THE FOLLOWING RELAY IN BLACK INK.

RELAY	STAMPING
K1203	UA

RUBBER STAMP .125 CHARACTERS ON THE LATCHING COIL OF THE FOLLOWING RELAY IN BLACK INK.

RELAY	STAMPING
K1204	ER



ACTUAL WIRING DIAGRAM FOR RECOGNIZER APPARATUS UNIT

ASSEMBLY NO 198002

APPROVALS

D. AND R.	E OF M
-----------	--------

E-NUMBER

PROD. NO. 7099WD

DATE 1-15-64

P.D. FILE NO. I-A143AA

DRAWN G.R.S.	CHKD.
ENGD. R.C.H.	APPD. RJR

TELETYPE CORPORATION

7099 WD

NOTES

1. REFER TO 7099WD FOR ACTUAL WIRING DIAGRAM.

2. ALL VOLTAGES DC UNLESS OTHERWISE SPECIFIED.

3. MINIMAL DESIGNATIONS IN PARENTHESIS ARE FOR REFERENCE ONLY AND NOT REQUIRED ON COMPONENTS.

4. ALL RESISTORS 1/2 WATT AND RESISTANCE VALUES UNLESS OTHERWISE SPECIFIED.

5. INDICATES TERMINALS ON X21201 ASSEMBLY P.O. 148597.

6. INDICATES TERMINAL ON RECEPTACLE 03, 04 AND J1204.

7. INDICATES TERMINAL ON MALE CONN. 01 AND P1202.

8. ZC AND SO OPTIONS ARE WIRED IN EQUIPMENT. REFER TO SPEC. FOR EXPLANATION OF OPTIONS.

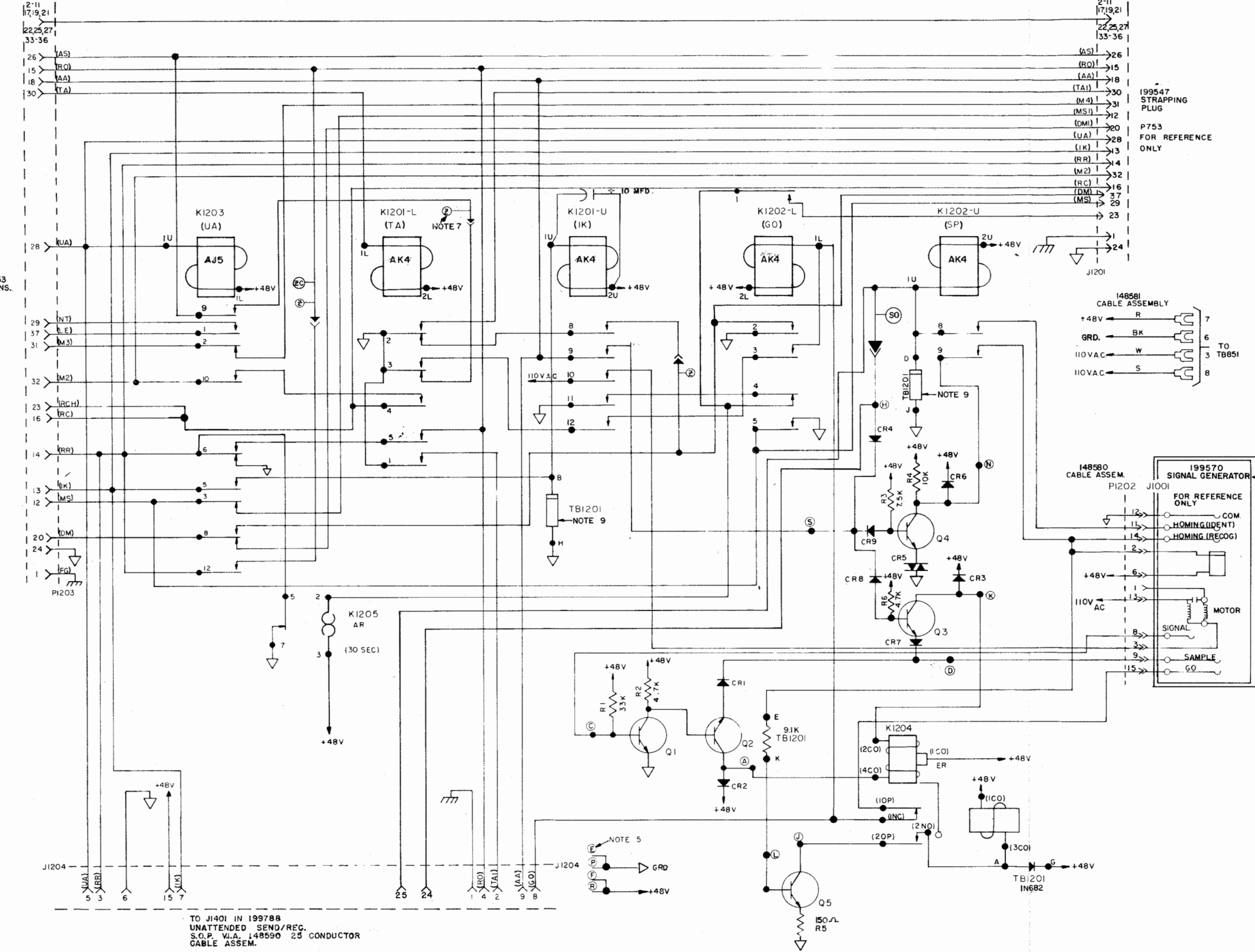
9. 19570 SIGNAL GENERATOR SCHEMATIC 7029WD (ACTUAL 7030WD).

WORKING NOTE

10. TO J1204 IN TRANS. 198001 S.O.P.

11. ZC OPTION IS WIRED WHEN ZC OPTION USED IN 199788 UNATTENDED SEND/RECEIVE SET OF PARTS.

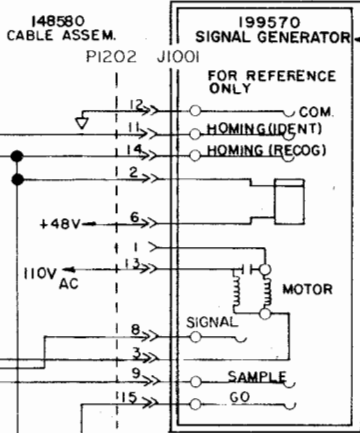
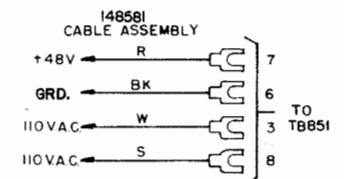
148851 CABLE ASSEMBLY
P1203



7100 WD

REVISIONS		
ISSUE	DATE	AUTH. NO.
2	6-4-64	81278
3	8-28-64	83084
4	10-7-64	84000
5	11-20-64	84989
6	12-10-64	84871
7	2-24-65	86188
8	3-4-65	86355
9	4-29-65	86363
10	5-19-65	87240
11	9-2-65	88015

199547 STRAPPING PLUG
P753 FOR REFERENCE ONLY



SCHEMATIC WIRING DIAGRAM FOR RECOGNIZER APPARATUS UNIT

ASSEMBLY NO. 198002

APPROVALS

D AND R E OF M

E-NUMBER

PROD. NO. 7100WD

DATE 1-15-64

P.D. FILE NO. I-AI43AA

DRAWN G.R.S. CHKD.

ENGD. R.C.H. APPD. R.C.H.

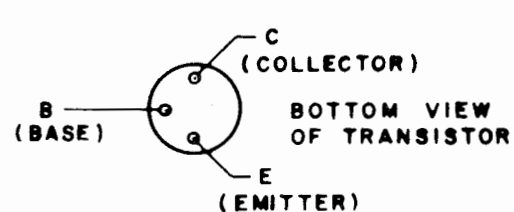
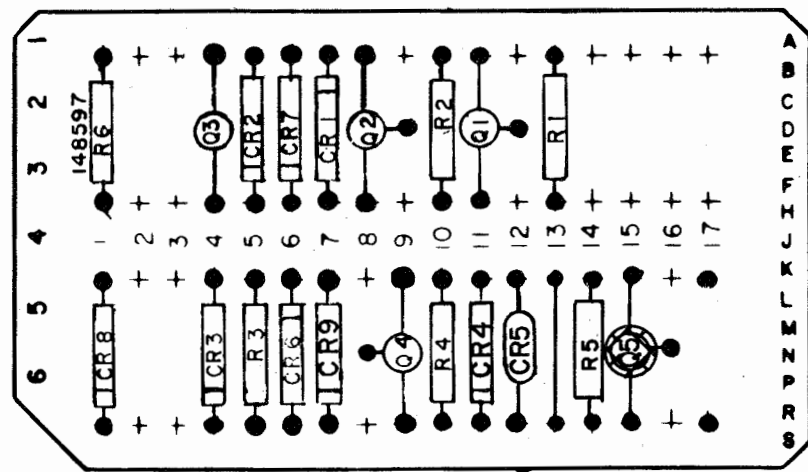
TELETYPE CORPORATION

7100 WD

TO J1401 IN 199788 UNATTENDED SEND/REG. S.O.P. V.A. 148590 25 CONDUCTOR CABLE ASSEM.

148597

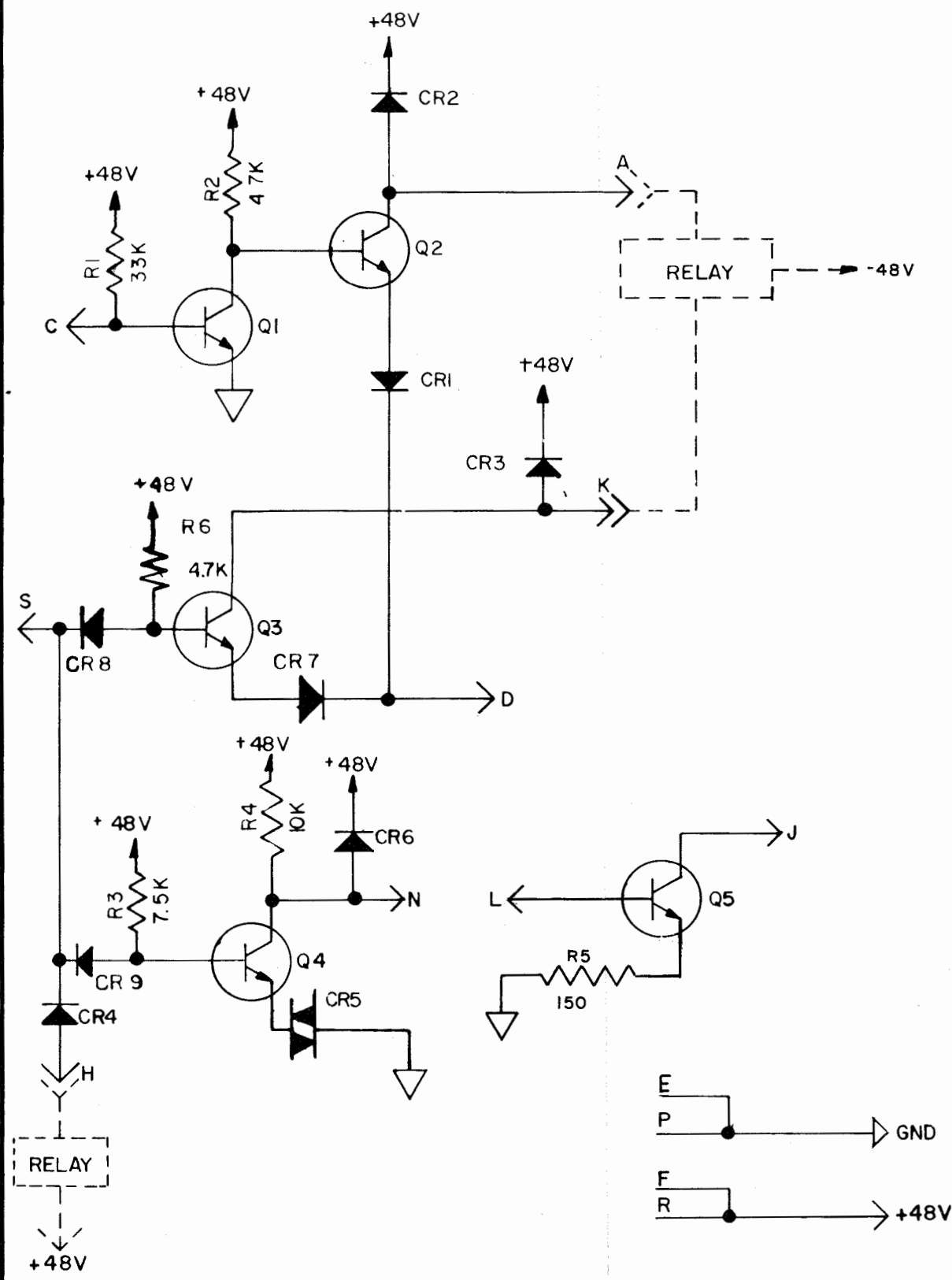
ISSUE	DATE	AUTH NO
1	3-4-65	16822-R
2	5-24-65	87123



NOTE
REFER TO 5016WD FOR MARKING
INFORMATION

REF. DESIGN	TELETYPE PART NO.	TOTAL QTY.	NAME AND DESCRIPTION	LOCATING FUNCTION
R1	118153	1	RESISTOR FIXED 33K	
R2	118146	2	" " 4.7K	
R3	143664	1	" " 7.5K	
R4	129854	1	" " 10K	
R5	143658	1	" " 150	
R6			SAME AS R2	
CR1	177611	8	DIODE IN 682	
CR2			SAME AS CR1	
CR3			" " " "	
CR4			" " " "	
CR5	178844	1	VARISTOR 100 A	
CR6			SAME AS CR1	
CR7			" " " "	
CR8			" " " "	
CR9			" " " "	
Q1-Q5	199807	5	TRANSISTOR 2N698	
	199806	1	ETCH. CKT. CARD	
	144495	5	PAD TRANSISTOR	
		1	STRAP 24AWG	
	300116	1	COVER, INSULATING	

THIS CARD CONTAINS TWO SPECIAL PURPOSE RELAY DRIVERS USED IN THE STATION RECOGNIZER OF THE DATA SPEED 5 SENDER.



NOTE:
CARD CONNECTIONS ARE REPRESENTED BY LETTERS
TEST POINTS ARE REPRESENTED BY NUMBERS

APPROVALS

D AND R: *[Signature]* E OF M: *[Signature]*

E-NUMBER: *[Blank]*

PROD. NO. 148597

DATE 2-27-65

PD. FILE NO. AI43AA

DRAWN G.R.S. CHKD: *[Signature]*

ENGDR.C.H. APPD: *[Signature]*

TELETYPE CORPORATION

148597

