

“DATASPEED*” TAPE-TO-TAPE SYSTEM

TAPE SENDERS 5A AND 5C

DESCRIPTION AND OPERATION

	CONTENTS	PAGE		CONTENTS	PAGE
1.	GENERAL	2	A.	General	8
2.	DESCRIPTION	2	B.	Motor Operate Circuit	8
	SYSTEM	2	C.	Reader Operate Circuit	8
	5A AND 5C TAPE SENDERS	3	D.	Data Contact Circuit	8
	DATA SETS	3	E.	Timing Pulse Circuit	11
3.	OPERATING INSTRUCTIONS	3		POWER DISTRIBUTION	11
	ENERGIZING	3		POWER SUPPLY RECTIFIER	13
	INSERTING TAPE	4	5.	OPTIONAL FEATURES	13
A.	5A Tape Sender	4		CIRCUIT ASSURANCE AND BREAK OPTION	13
B.	5C Tape Sender	4	A.	Description	13
	INITIATING CALLS	6	B.	Operating Instructions	13
A.	Send-Only Station	6	C.	Enabling Circuit Assurance and Break Option	13
B.	Send-Receive Station	6	D.	Circuit Operation	14
	ANSWERING A REQUEST FOR DATA	7		TP198002 DISCRETE CALLING RECOGNIZER APPARATUS UNIT OPTION	14
4.	OPERATION	7		TP148558 RECOGNIZER APPARATUS UNIT OPTION	15
	CABINETS	7		TP199788 UNATTENDED SEND- RECEIVE APPARATUS UNIT OPTION	15
A.	5A Tape Sender	7		TP198021 AND TP199543 CABLE OPTIONS	15
B.	5C Tape Sender	7		TP329100 TAPE HANDLING FACILITIES FOR TABLE- MOUNTED 5A SENDER TERMINAL OPTION	15
	TAPE READERS	7		SERVICE ARRANGEMENTS	16
	DATA SETS	7			
	TRANSMITTER AND MOTOR CONTROL APPARATUS UNITS	8			

*Registered Trademark of AT&TCo.

1. GENERAL

1.01 This section provides description, operating instructions, and operation for DATASPEED 5A, 5A-1, 5C, and 5C-1 Tape Senders. It is reissued to add information on the system, to the operation (Part 4), and to the optional features (Part 5). No TCNs have been issued for or added to this section, since its last issue. Since this is a general revision, marginal arrows ordinarily used to indicate changes and additions are omitted. This section was formerly 592-807-100.

1.02 Installation, troubleshooting, adjustments, and lubrication information can be found in appropriate sections.

1.03 The Table of Service Arrangements indicates the various types of operation available with the senders, and provides information on equipment required. The section covering installation and checkout for the senders provides information on wiring options and strapping plugs.

2. DESCRIPTION

SYSTEM (Figure 1)

2.01 The Type 5 Tape-to-Tape System provides 75 character-per-second data communication using either private lines or the switched telephone network. Station arrangements permit data transmission, reception, or both. Systems may be arranged for point-to-point data exchange, for data gathering (many senders with few receivers), or for data distribution (few senders to many receivers). Stations may also be used at outlying points exchanging data with a central on-line computer.

2.02 The primary data medium in this service is punched paper tape having 5-, 6-, 7-, or 8-data levels (hole positions per character). The input tape may be fully perforated or chadless. The output tape will be fully perforated. The equipment is not, in general, code-sensitive. That is, the particular scheme used,

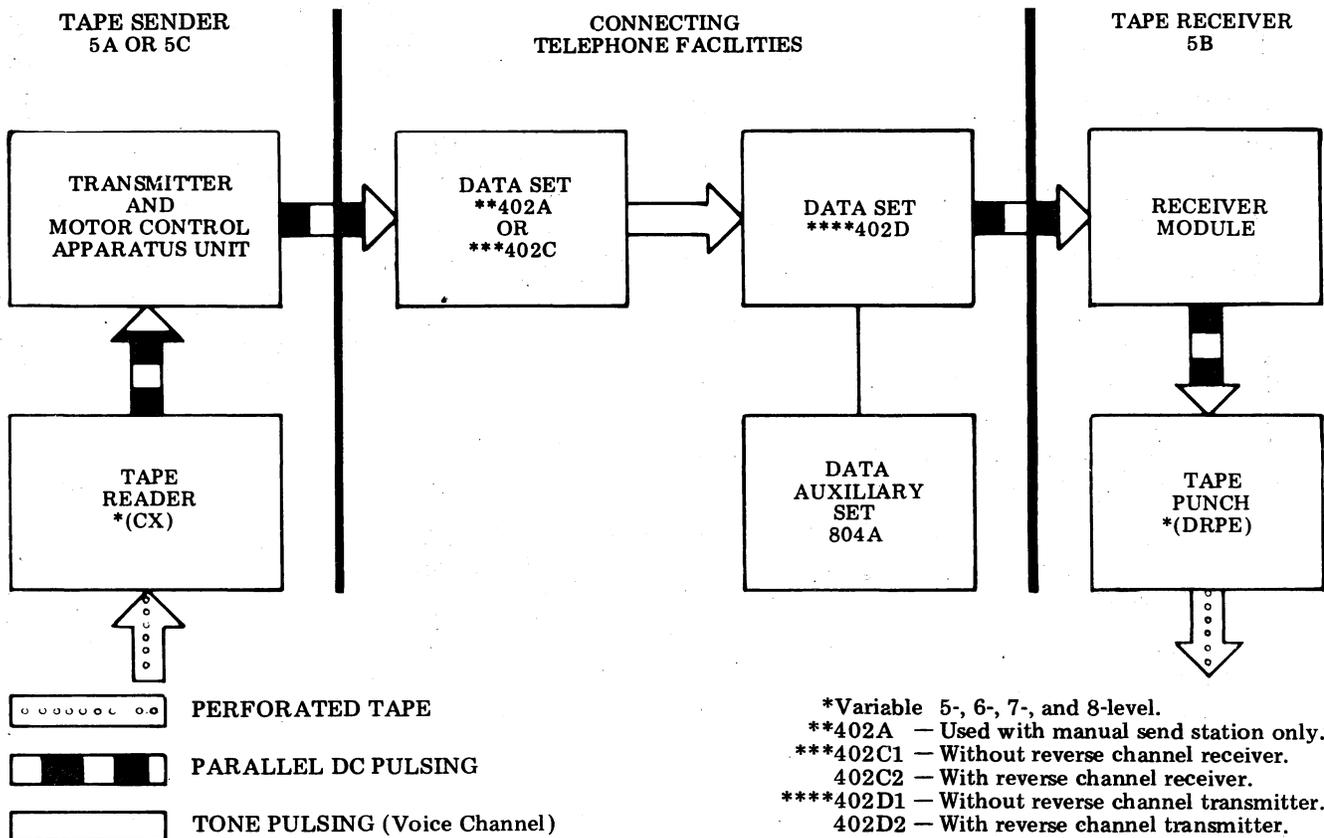


Figure 1 - System Block Diagram

to represent data by means of holes in paper tape can in most cases be dictated by the user's requirements.

2.03 Fundamentally, these systems operate in the following manner. Punched paper tape in 5-, 6-, 7-, or 8-level format is placed in the tape reader at the sender. The perforations in the tape are converted to parallel dc pulsing by the reader and applied to the transmitter circuit which lengthens each pulse to the required character width. The pulses are then routed from the sender circuits to a 402C Data Set where they are converted to audio tone signals and applied to the carrier lines. The tone signals are received at the tape receiver site, converted from tone to dc pulsing by a Bell System 402D Data Set, amplified, and used to drive the tape punch unit within the tape receiver.

5A AND 5C TAPE SENDERS

2.04 The 5A and 5C Tape Senders are used primarily as the input terminals in a medium speed (750 wpm) tape-to-tape data transmission system. These tape senders are particularly well suited to collective type data systems (a number of senders operating with a single receiver). Type 5A-1 and 5C-1 Senders are the same as the 5A and 5C except that they are equipped with the TP198002 recognizer apparatus unit option (5.09).

2.05 It is also possible to connect a tape sender and tape receiver, at a particular site, to a common data set. This arrangement constitutes a "send-receive" station.

2.06 Fundamentally, this sender operates in the following manner. Punched paper tape in 5-, 6-, 7-, or 8-level format is placed in the tape reader. The perforations in the tape are converted to parallel dc pulsing by the reader and applied to the transmitter circuit which lengthens each pulse to the required character width. The pulses are then routed from the sender circuits to a 402A or C Data Set where they are converted to audio tone signals and are then transmitted. The tone signals are received at the tape receiver site, converted from tone to dc pulsing by a Bell System 402D Data Set, amplified, and used to drive the tape punch unit within the tape receiver.

2.07 The 5A Tape Sender (Figure 2) comprises a 5A Table-Mounted Tape Reader Set and a wall-mounted apparatus box assembly. The box assembly mounts a TP198000 rectifier apparatus unit, a TP198001 transmitter circuit apparatus unit, and a TP198048 motor control relay apparatus unit. A power cord,

connecting cable, and two test tapes complete the 5A Tape Sender equipment. Note that several optional features are available (Part 5). Certain of these features, when used in combination, may require a larger apparatus box to mount the apparatus units for two 5A Tape Senders.

2.08 The 5C Tape Sender (Figure 3) is a floor-mounted version of the 5A Table-Model Sender discussed previously. The tape reader equipment is mounted with tape spooling equipment on a sliding drawer at the top of the cabinet. The apparatus units are mounted at the bottom of the cabinet behind a hinged door. Space is provided near the center of the cabinet for a 402C Data Set.

2.09 A sender terminal requires approximately 1/6 ampere at 120 volts ac (103-127) in standby, 2 amperes when running, 6 amperes peak during starting, and 60 hertz frequency (± 0.5 Hz). The maximum power required is approximately 700 watts.

2.10 Unattended service is a variable feature that permits the sender to answer incoming calls and to send the waiting tape — automatically. The sender will ignore incoming calls if there is no tape to send, or by use of an option, it will answer all calls and return a no traffic signal for a no tape condition (Z-wiring option).

DATA SETS

2.11 The 402C Data Set at the tape sender converts the dc pulsing from the sender to audio tone signaling for application to the carrier lines. The 402D Data Set converts the incoming audio tones to the parallel dc pulses necessary to drive the tape receiver. Control switches on the 402C Data Set and 804A Data Auxiliary Set select the data set mode of operation (TALK, TEST, DATA, etc). The 402C and 804A also provide the dialing and voice facility.

3. OPERATING INSTRUCTIONS

3.01 The following instructions are for a 5A or 5C Tape Sender without optional accessories. Optional features are covered in Part 5.

ENERGIZING

3.02 The 5A Sender is energized as soon as the power cord is connected. To energize the 5C Floor-Mounted Sender, press the white POWER (indicator) button on the control panel.

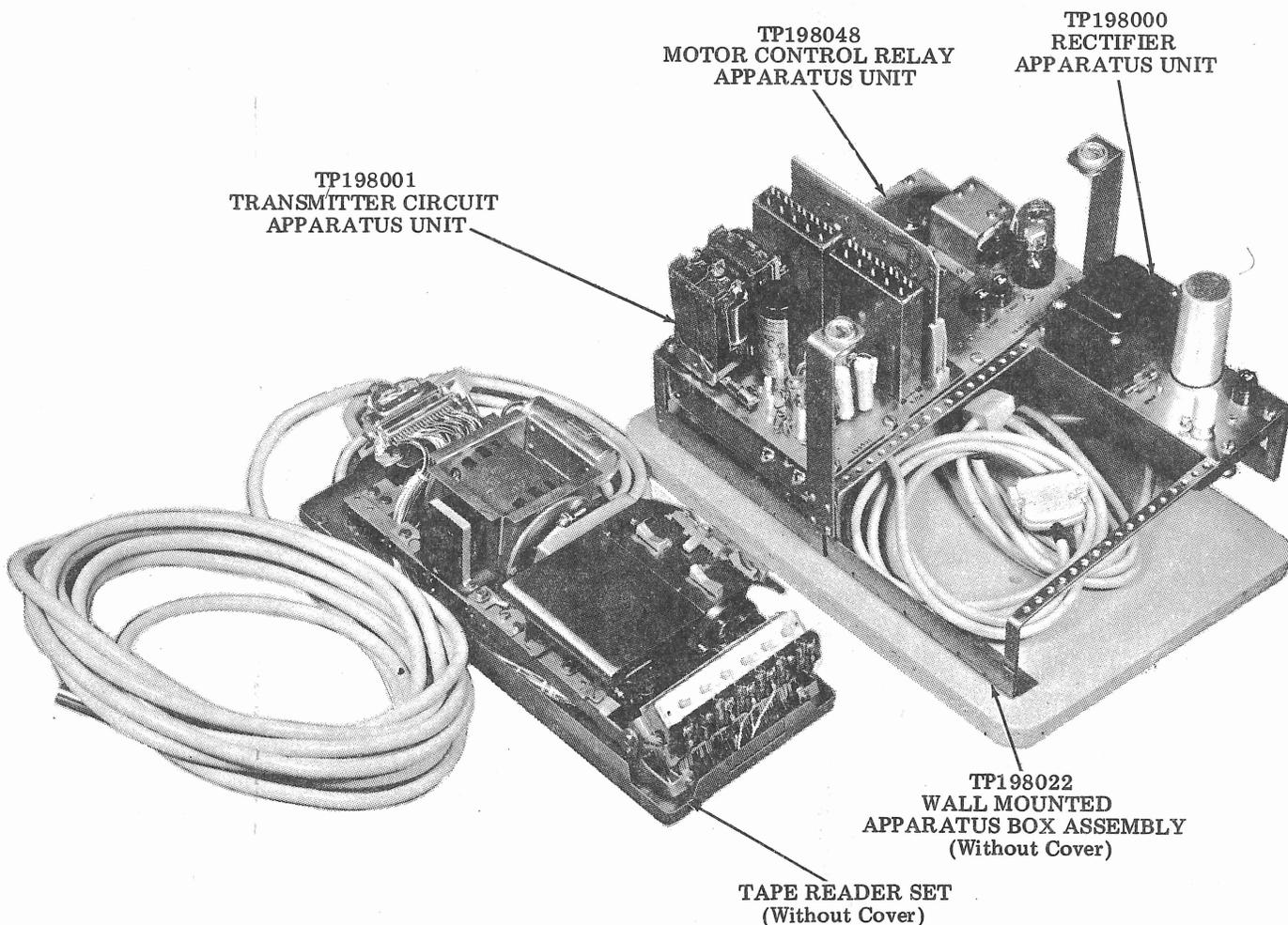


Figure 2 - 5A Tape Sender, Components

INSERTING TAPE

A. 5A Tape Sender

3.03 Place the tape reader RUN-STOP-FREE lever in the STOP position, and open the reader gate. Place the tape over the sprocket, close the reader gate, and return lever to RUN position.

B. 5C Tape Sender

3.04 The 5C Tape Sender is equipped with a supply reel and a take-up reel. The tape insertion procedure is as follows (Figure 4).

- (1) Place a roll of punched tape on the supply reel. Place the supply reel and the take-up reel on the right and left tape reel hubs, respectively. Since the reader

cannot read chadless tape traveling in a reverse direction, chadless tape must be rewound before it is placed in the tape reader.

- (2) Thread the tape through the supply reel brake arm, and manually unwind approximately 3 feet of tape.
- (3) Place the tape reader, RUN-STOP-FREE lever in the STOP position, and open the reader gate. Place the tape feed holes over the sprocket pins, close the reader gate, and return lever to RUN position.
- (4) Lift the chad depressor arm and move the tape-tension arm to the extreme left. Release the chad depressor to lock the tension arm in place (Figure 5).

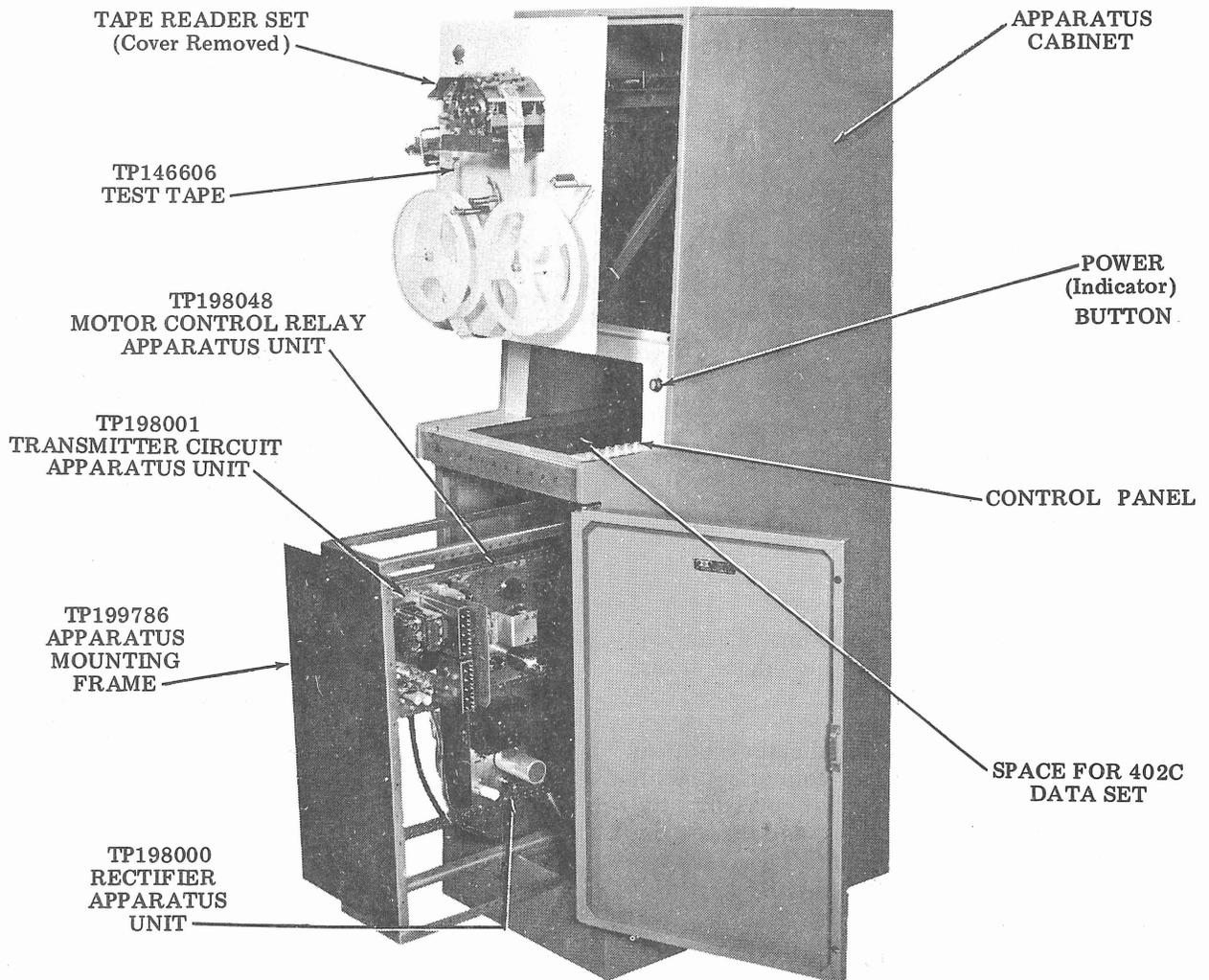


Figure 3 - 5C Tape Sender - Components

- (5) Pass the tape between the stationary u-shaped post and the posts on the tension arm, and then upward between the chad depressor and its post.
- (6) Hold tension on the free end of the tape, and lift the chad depressor arm allowing the tension arm to fall to the right. Do not allow the arm to drop too far or the winder motor will start.
- (7) Place the end of the tape in the take-up reel. Manually rotate the reel counter-clockwise two revolutions to secure the tape to the reel.
- (8) Allow the tape arm to rotate to the right. The winder motor will automatically start, taking up all slack, and then stop.

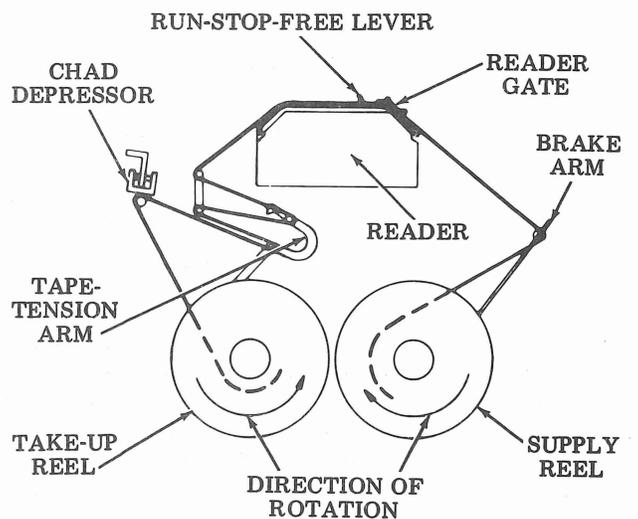


Figure 4 - Tape Path for 5C Sender

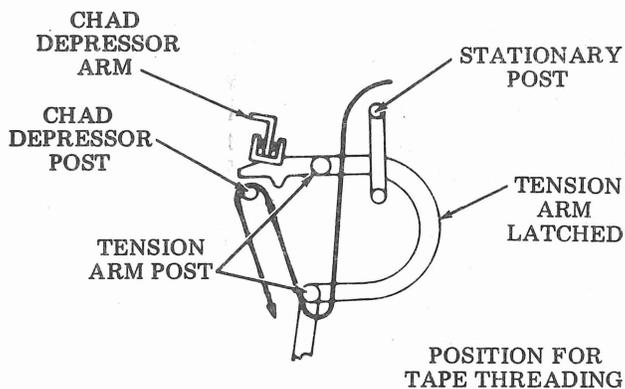


Figure 5 - Tape Path for 5C Sender

INITIATING CALLS

A. Send-Only Station

3.05 The following steps outline the procedure used in initiating data transmission.

- (1) With the POWER (indicator) button illuminated, establish connection with the desired tape receiver by pressing the TALK button at the data set and dialing the appropriate number. With the TALK button depressed, the data set TALK key will illuminate (Figure 6).



Figure 6 - 402C Data Set Control Buttons

- (2) When voice contact has been made with the tape receiver, request the operator to press the DATA button on the data set at the receiver site.
- (3) Pressing the DATA button at the tape receiver will initiate an audible tone from the data set. The 402D2 Data Set sends a 2025 Hz "beep tone" signal for 3 to 5 seconds and then shifts to the 387 Hz reverse channel signal. Wait until this tone has stopped, then press the DATA button at the sender data set. This will cause the tape reader motor to start in about 5 seconds, and will initiate data transmission a few seconds later. Hang up the handset.

Note: If the called receiver is operating in the unattended mode, no voice contact need be made with the operator. Merely dial the receiver number and listen for tone. When the tone has stopped, press the DATA button and hang up the handset. Transmission will start within a few seconds.

- (4) To stop the reader without losing the line connection, place the tape reader RUN-STOP-FREE lever in the STOP position.
- (5) To terminate the call, press the TALK button, lift the handset, and hang up. This will light the SIGNAL lamp (5A Sender, Figure 7; 5C Sender, Figure 8) and close an auxiliary signal circuit contact at the receiver site to advise the receiver operator of the end of transmission.



Figure 7 - 5A Sender Control Panel

- (6) Control panel buttons, other than SIGNAL, are either spares or optional features.

B. Send-Receive Station

CAUTION: WHEN TERMINAL IS USED AS AN UNATTENDED SEND-RECEIVE STATION AND TRANSMITTER HAS GONE TO THE TAPE-OUT CONDITION, A NEW MESSAGE TAPE MAY BE PLACED IN THE READER WHILE THE RECEIVER IS PUNCHING TAPE ONLY IF:

- (1) TAPE READER RUN-STOP-FREE LEVER IS PLACED IN STOP POSITION BEFORE PUTTING TAPE IN THE READER.

(2) TAPE READER RUN-STOP-FREE LEVER MUST BE RETURNED TO THE RUN POSITION AFTER PUNCH HAS STOPPED PUNCHING.

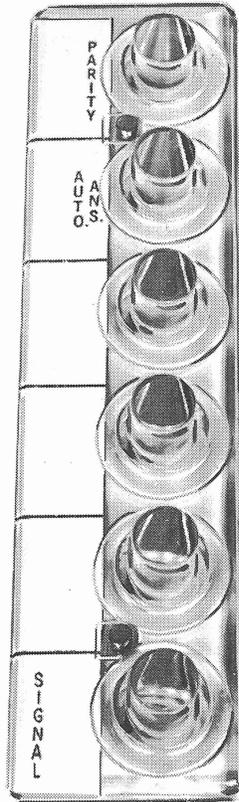


Figure 8 - 5C Sender Control Panel

3.06 The procedure for initiating calls from a send-receive station sender is essentially the same as that outlined in 3.05. The companion receiver terminal must be in the SEND mode before beginning.

ANSWERING A REQUEST FOR DATA

3.07 In answering a receiver request for data, the same procedure outlined in 3.05 or 3.06 is followed except that the voice contact is made by the receiver operator.

4. OPERATION

CABINETS

A. 5A Tape Sender

4.01 The apparatus box and cable assembly used in the table-mounted sender provides mounting and interconnection for three

apparatus units. Diagram 6447WD appearing in the schematic and actual Wiring Diagram section shows the interconnection made within the apparatus box.

B. 5C Tape Sender

4.02 The cabinet housing the 5C Tape Sender is a floor-mounted unit. The tape reader, motor, and tape spooling mechanisms are mounted in the upper half of the cabinet. The lower half of the cabinet is fitted with a mounting frame. The apparatus units are mounted to this frame. In-cabinet cabling is shown on diagram 7101WD and cabinet schematic 6413WD within Wiring Diagram Section 582-102-415.

4.03 The tape take-up reel is driven by a motor and reduction gear assembly mounted on the rear of the drawer panel. A mercury switch on the tape-tension arm controls the take-up spool motor. Perforated tape is pulled from the supply reel by the tape reader, introducing slack at the left side of the reader. This slack allows the tape-tension arm to drop. The mercury switch is adjusted to complete the motor operate circuit when the tape-tension arm drops to a predetermined level. The take-up reel then rotates to take up slack and shuts off as the slack tape is taken up.

TAPE READERS

4.04 The tape reader used in the tape senders is a standard CX type and is covered in the standard tape reader literature. Refer to the appropriate tape reader (CX type) sections for information regarding the tape reader.

DATA SETS

4.05 The 402C Data Set converts the dc pulsing from the sender to audio tone signaling for the carrier lines. The control switches (TALK, TEST, DATA, etc) on the 402C Data Set or 804A Data Auxiliary Set select the mode of operation and provide the voice facility. The control signals produced in the data set are capable of closing 100 milliamperes (with capacitive surges to 500 milliamperes) at up to 50 volts and are protected by networks (470 ohms and 0.13 microfarad). The data output consists of contact closures at all eight data leads plus the timing lead. The data leads are open or grounded for the duration of a character (13.3 milliseconds ± 1). The timing lead is open or grounded for the duration of a character and changes state at the beginning of each character.

SECTION 582-102-115

TRANSMITTER AND MOTOR CONTROL APPARATUS UNITS

A. General

4.06 The transmitter and motor control circuit performs the following functions:

- (a) Starts the tape reader motor when the data set is placed in the DATA mode and stops the motor when the data set is returned to the TALK mode.
- (b) Opens all data and timing leads so that an all-space signal is generated in the interval from the time the reader motor is started until the motor reaches operating speed.
- (c) Delays the start of reader transmission to when the all-space signal has been sent and the motor reaches rated speed (provided there is tape in the reader, a tight tape condition does not exist, and the reader RUN-STOP-FREE lever is in the RUN position).
- (d) Stores the mark and space signals from the reader; repeating these in the format required by the data set.
- (e) Generates an alternating timing pulse for use by the data set.
- (f) Provides for lighting of the signal lamp, closing an auxiliary signal circuit, and stopping the sender when a break condition is detected if the reverse channel feature is used.

4.07 The transmitter and motor control apparatus units function as four circuits: the motor operate circuit (Figure 9), reader operate circuit (Figure 10), data contact circuit (Figures 11 and 12), and the timing pulse circuit (Figure 13). These four circuits are described in the following paragraphs. The figures given are partial schematics taken from the schematic diagram 6442WD found in Section 582-102-415.

B. Motor Operate Circuit (Figure 9)

4.08 The initial requirement is that the data set interface leads, Data Send at pin 20 and Remote Release at pin 14 — both at J752, are permanently grounded through the strapping plug TP199547 at J753. These ground connections hold the data set in the data mode and on-line when the DATA key is pressed.

4.09 Pressing the DATA key at the data set causes it to transmit a 2025 hertz tone for approximately 5 seconds and then grounds the data set Interlock (IK) lead, pin 13 of J752. The data set starts transmitting carrier because the Data Send Mode (DM) lead, pin 20, is grounded. The IK lead strapped to the strapping plug at terminal 12 of J753 then operates the motor start relay, MS (K851), which operates the tape reader motor through plug J851 to the reader power cord. The thermal delay relay, TD (K852), energizes to begin timing. Returning the data set to the talk mode, by pressing the TALK key, opens the IK lead and releases all relays to stop the reader motor.

C. Reader Operate Circuit (Figure 10)

4.10 The grounding of the Interlock lead also energizes the pulse delay relay, PD (K752-U), which is slow to operate due to the presence of thermistor R751 and the all-space relay, AS (K751). The AS operate path is from pin 12 of J753 through normally closed PD pin 9B (which is not yet energized), and through pins 27 and 26 of J753 to 1L of the AS relay (K751). The AS relay opens the data leads in such a way that an all-space signal is generated. The PD relay (K752-U) operates about 300 milliseconds later and shorts out thermistor R751 with contact 9 and also opens an operate path for the AS relay which terminates the all-space signal.

4.11 The reverse channel relay, RC (K752-L), follows the operation of the AS relay through contact 12 which provides a ground to pin 2L of the RC relay, but performs no function if the circuit assurance and break feature is not used (see 5.04 if feature is used).

4.12 The TD relay (K852) operates about 2 seconds after being energized (4.09) by contact 2 of the MS relay. The TD relay contacts close energizing the reader clutch magnets which start the punched tape feeding through the reader head. The operate path for the clutch magnets is from +48 volts through the TD relay contacts, magnet coils, pins 30 and 32 of the strapping plug, run switch, tape available switch, and to ground. Opening the run or tape available contacts during transmission releases the clutch magnets and stops the reader, but leaves the system in the sending condition with the motor on.

D. Data Contact Circuit (Figures 11 and 12)

4.13 When the clutch magnets energize, the tape reader code-level contact for each level (example: Level 2 — Figure 11) opens for a

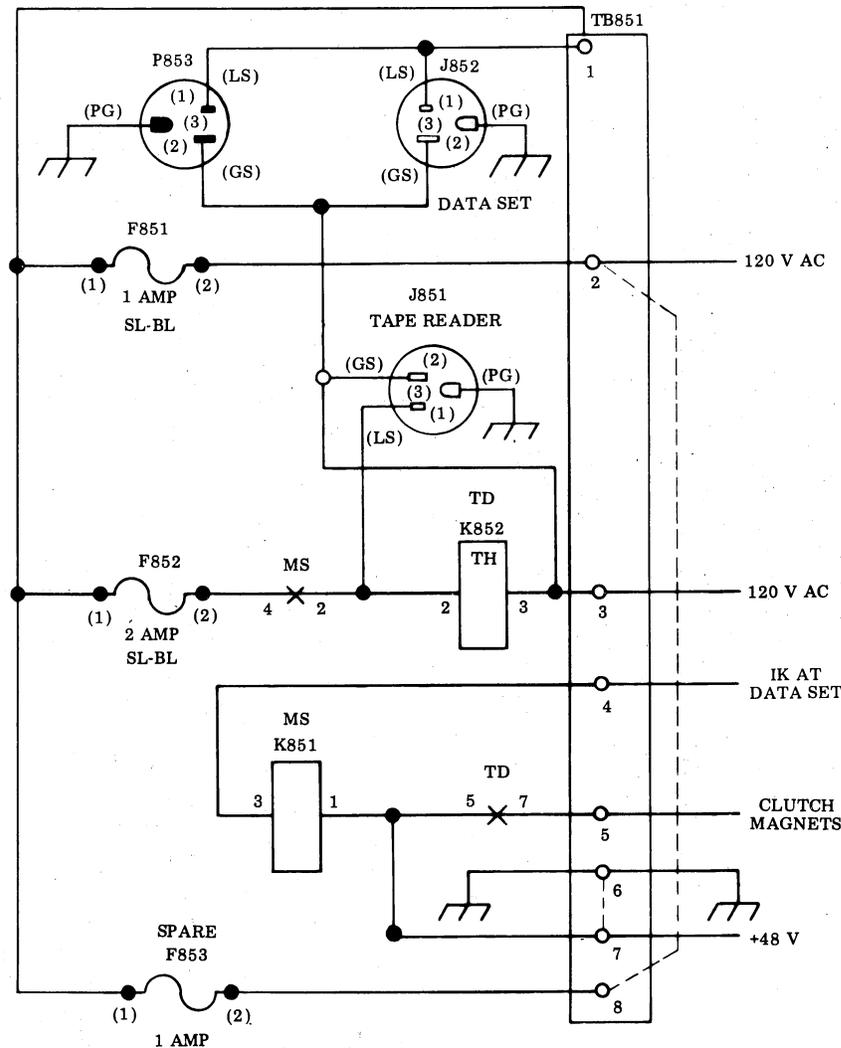


Figure 9 - Motor Operate Circuit

space (no perforation) and closes for a mark (perforation) in the tape with about 5 milliseconds closure. The closure of a code-level contact will set up the contacts of its associated relays (K753 and K754).

4.14 The universal contact closes after all the marking code-level contacts close providing a ground to all relay coils in an energized condition. Closure of the universal contact also grounds the base of the transistor Q1 (at pin 4 of Z751K). This causes the release of any relay contacts (K753 and K754) that were operated by the previous character and are not used for this character.

4.15 The universal contact reopens just before the marking code-level contacts reopen (about 5 milliseconds after closure) for

the next character; thus causing the transistor Q1 to be biased into conduction by a positive voltage of 48 volts supplied through resistor R1 to the base of the transistor. This holding path will be broken for each succeeding character sensed. Before relays K753 and K754 can de-energize, they are locked to the new signal path through contact A to the collector of the now conducting transistor. The contacts remain energized until the next closure of the universal contact or as long as marking closures continue from the reader. A spacing input to the universal contact will release these relays.

4.16 The K753 and K754 relay contacts will operate or release at the exact time the universal contact closes during each character interval (Figure 11). As a result, the B contacts of the relays are maintained open or closed to

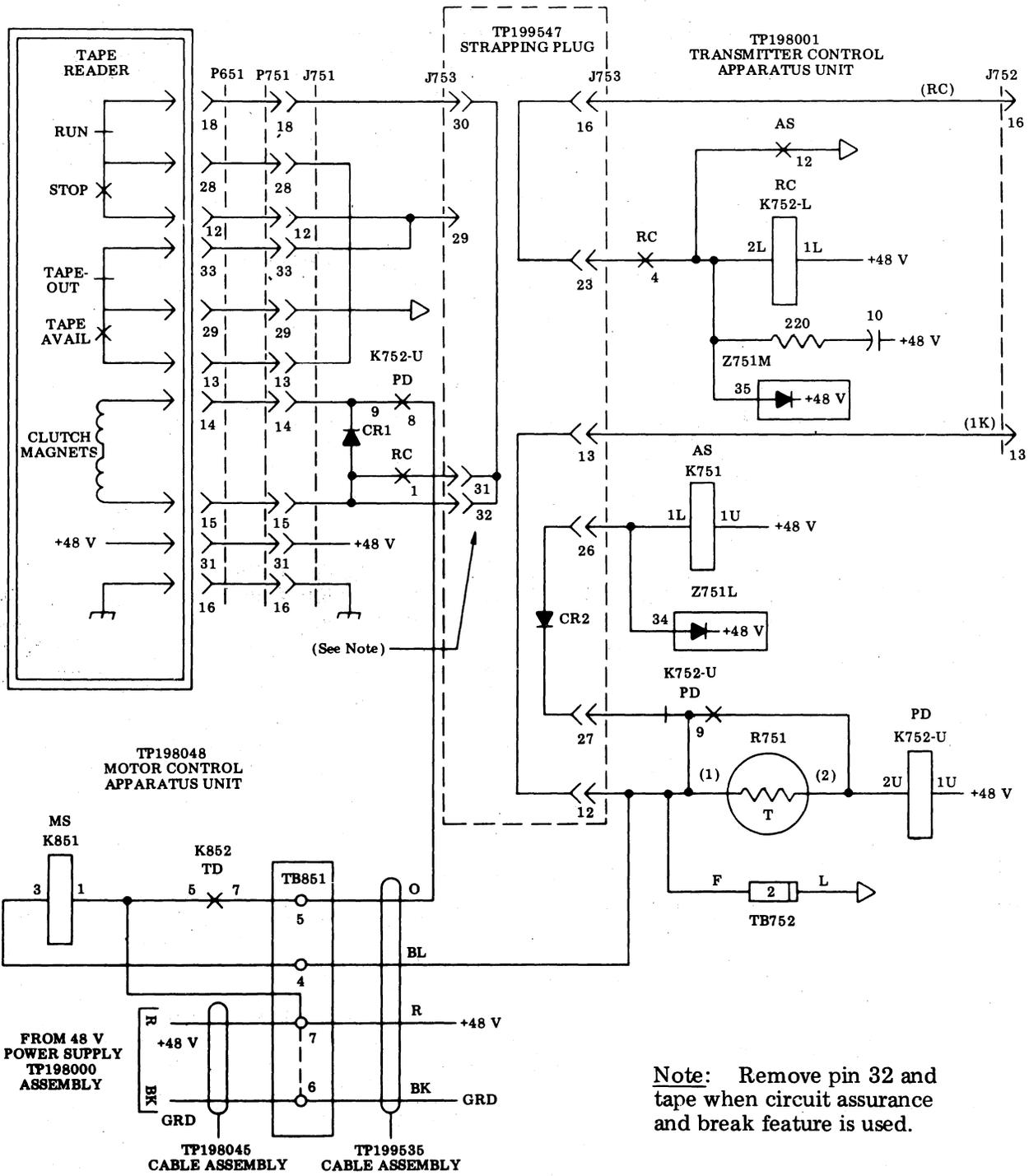


Figure 10 - Reader Operate Circuit

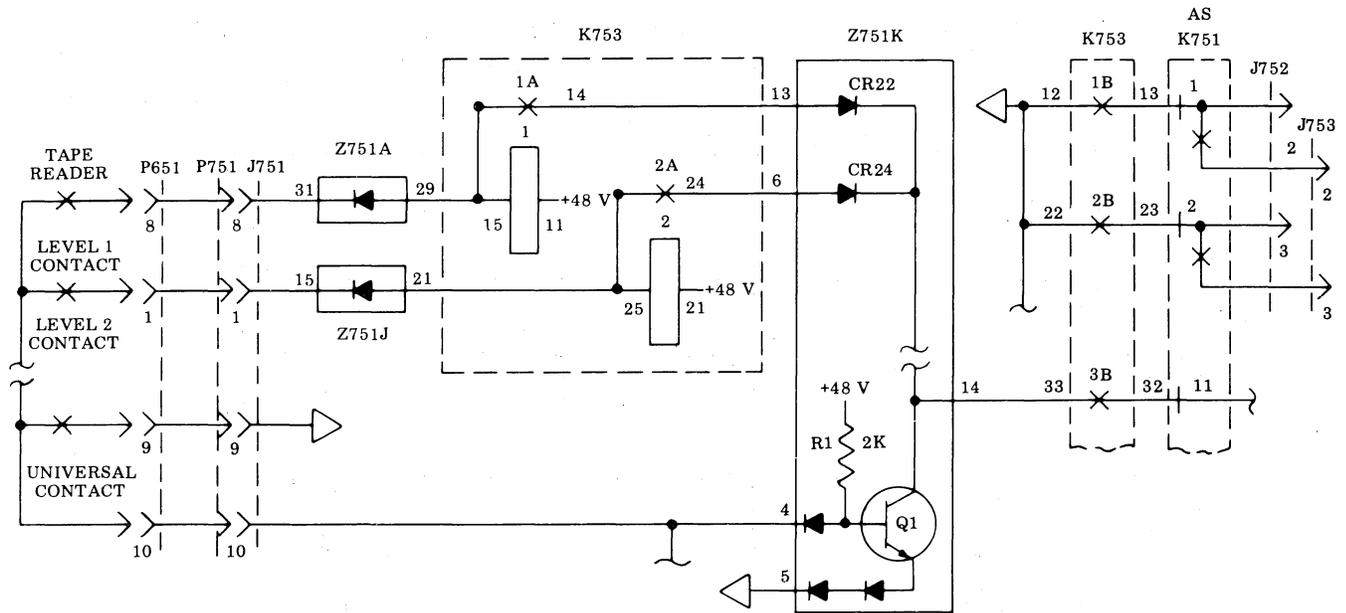


Figure 11 - Data Contact Circuit

ground for the duration of each character. Each data-level condition at the all-space relay, AS (K751), is then carried to connector J752 at the data set connector J753 (Figure 11).

4.17 Returning the data set to the TALK mode will cause the PD relay to release and the reader to stop.

E. Timing Pulse Circuit (Figure 13)

4.18 The timing pulse circuit is required to alternately open and close the timing lead to the data set, pin 6 of J752, at the beginning of each character. Generation of this signal is accomplished in a circuit consisting of K753-3, K754-3 and K755. With these relays initially released, the first closure of the universal contact operates the section 3 of both K753 and K754. This path is from ground through the universal contacts, the normally closed contact of K755, a diode, AS-11B, and finally to section 3 of K753 and K754 which are connected in parallel. Relay K755 did not operate because its initial pull in circuit, through K753-3B to the collector of the transistor, was not complete. The transistor is not on because the universal contact is closed cutting off the transistor. With K753-3 and K754-3 energized, the universal contact opens and the transistor goes into conduction. With the transistor conducting, a holding path is provided for the third section of relays K753 and K754 through the 3B contact of K753-3 to the

collector of the transistor. Relay K755 is energized through the same path. The data set is detecting a ground provided by the now-energized contact 3B of K754-3. The second closure of the universal contact causes the transistor to turn off de-energizing relays K753-3 and K754-3. Relay K755 does not de-energize because it is held on through its own contact K755-3 and the universal contact. After 5 milliseconds, the universal contact opens releasing the relay K755. All three relays remain released for the rest of this character, and the data set is now sensing an open circuit or a space through K753 section 3, contact 3B. Thus the K753 and K754 relays are alternately operated and released by successive closures of the universal contact.

4.19 The timing signal output is made to alternate in unison with the character cycles of the reader providing a ground for one character and an open circuit for the following character, etc. Returning the data set to the TALK mode will stop the tape reader. Depending upon the position in which the tape reader stops, the three relays involved in timing pulse generation may or may not be energized.

POWER DISTRIBUTION

4.20 The three assemblies in Figure 14 are either located in a wall-mounted box or in the modules in the floor-mounted unit. P853 is

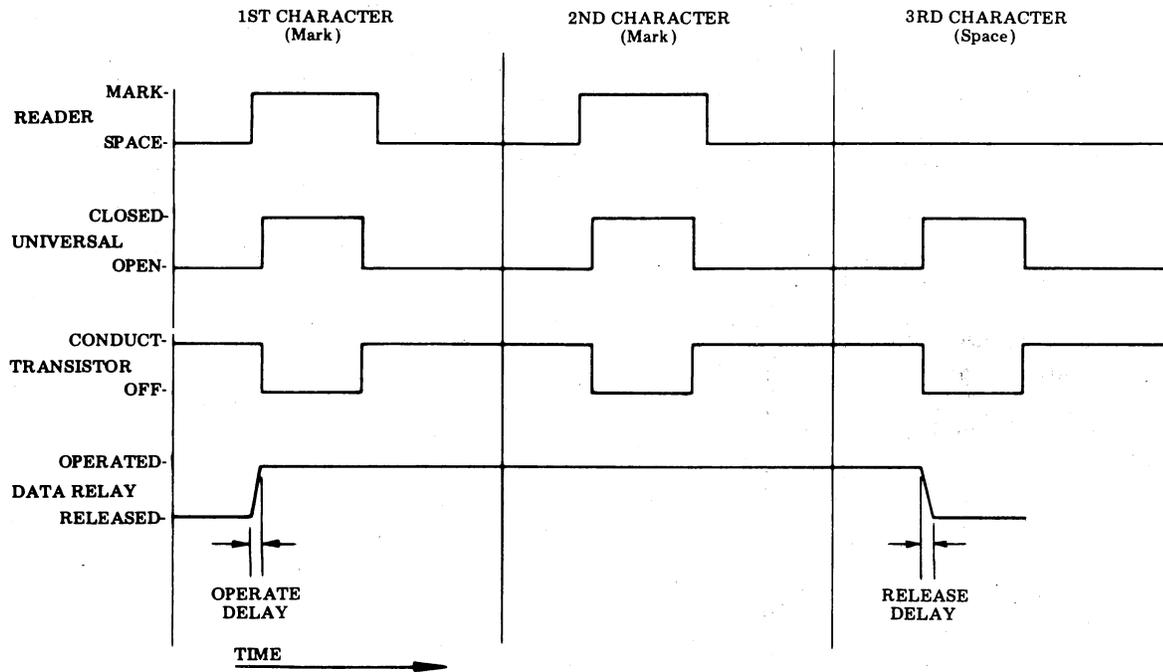


Figure 12 - Data Pulse Timing

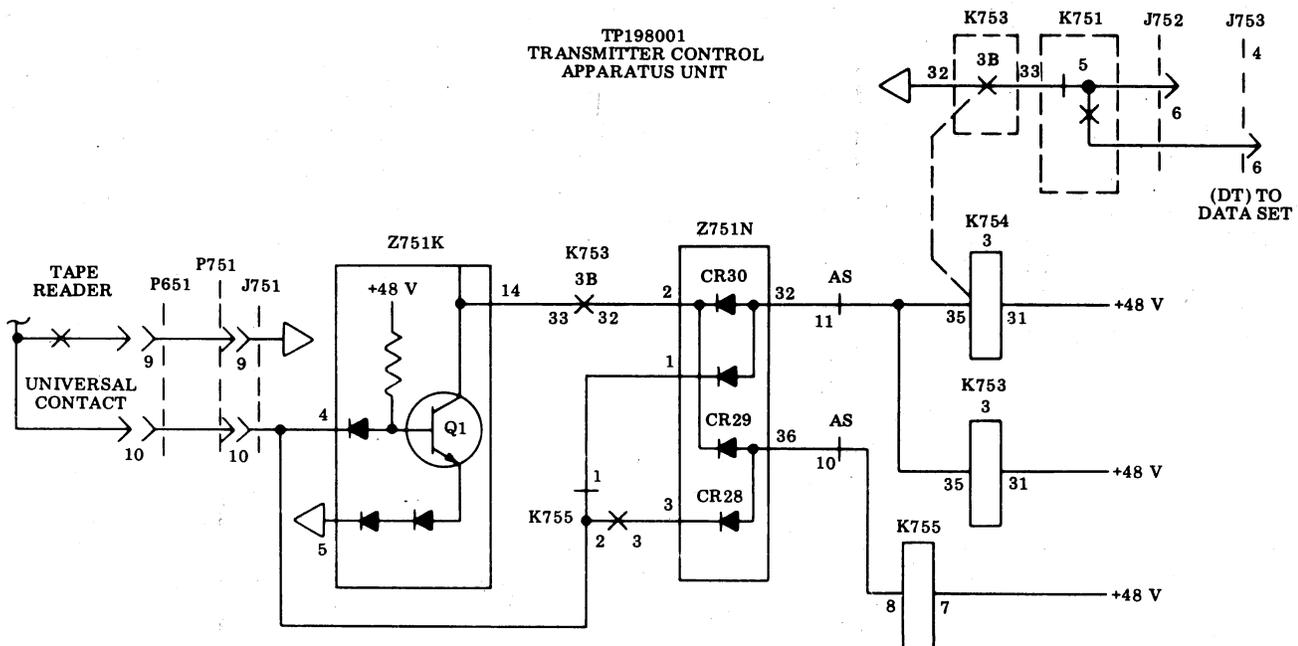


Figure 13 - Timing Pulse Circuit

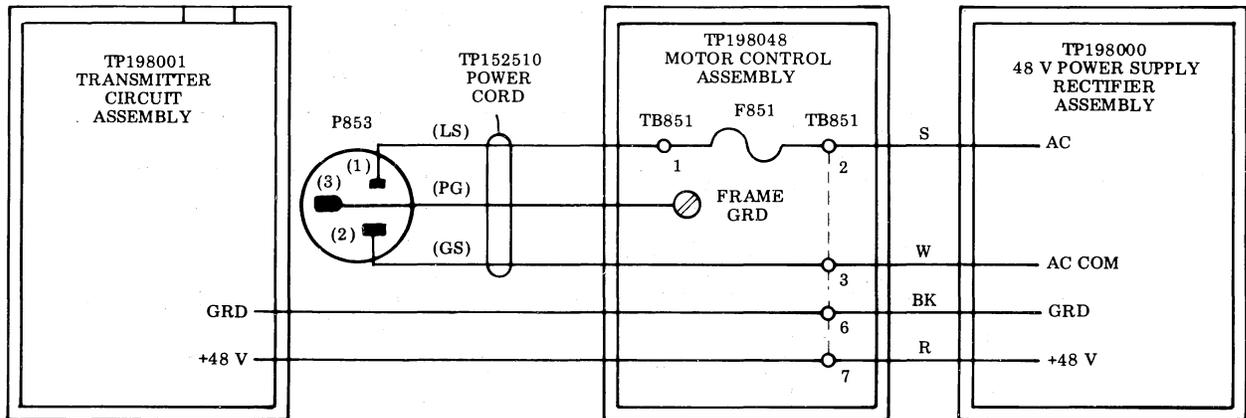


Figure 14 - Power Supply and Distribution Circuits

the ac power plug and would plug directly into a wall outlet when used in conjunction with a table-mounted unit. P853 would plug into J1703 which is located on the electrical service panel of a floor-mounted unit. All the outlets on the electrical service panel are under the control of the POWER switch. The TP199542 reader motor power cord plugs into J851 at TP198048 motor control. The reader motor is then under the control of the MS relay. The take-up winder motor is also energized when the POWER switch is on and is under the control of the winder control mercury switch.

POWER SUPPLY RECTIFIER

4.21 The power supply rectifier is a full-wave bridge circuit driven from the secondary of a step-down transformer. A filter capacitor and bleeder resistor complete the circuit. The circuit will supply 48 volts dc (see 6444WD).

5. OPTIONAL FEATURES

5.01 The following paragraphs cover a number of optional features available with the sender. These optional features are also covered in tabular form in the descriptive section on the system and in the installation and check-out section on the sender.

CIRCUIT ASSURANCE AND BREAK OPTION

A. Description

5.02 The circuit assurance and break feature (Figure 15) is built into all senders requiring only the removal of a jumper. This option will shut down the sender automatically if a line break occurs. It will also permit the receiver

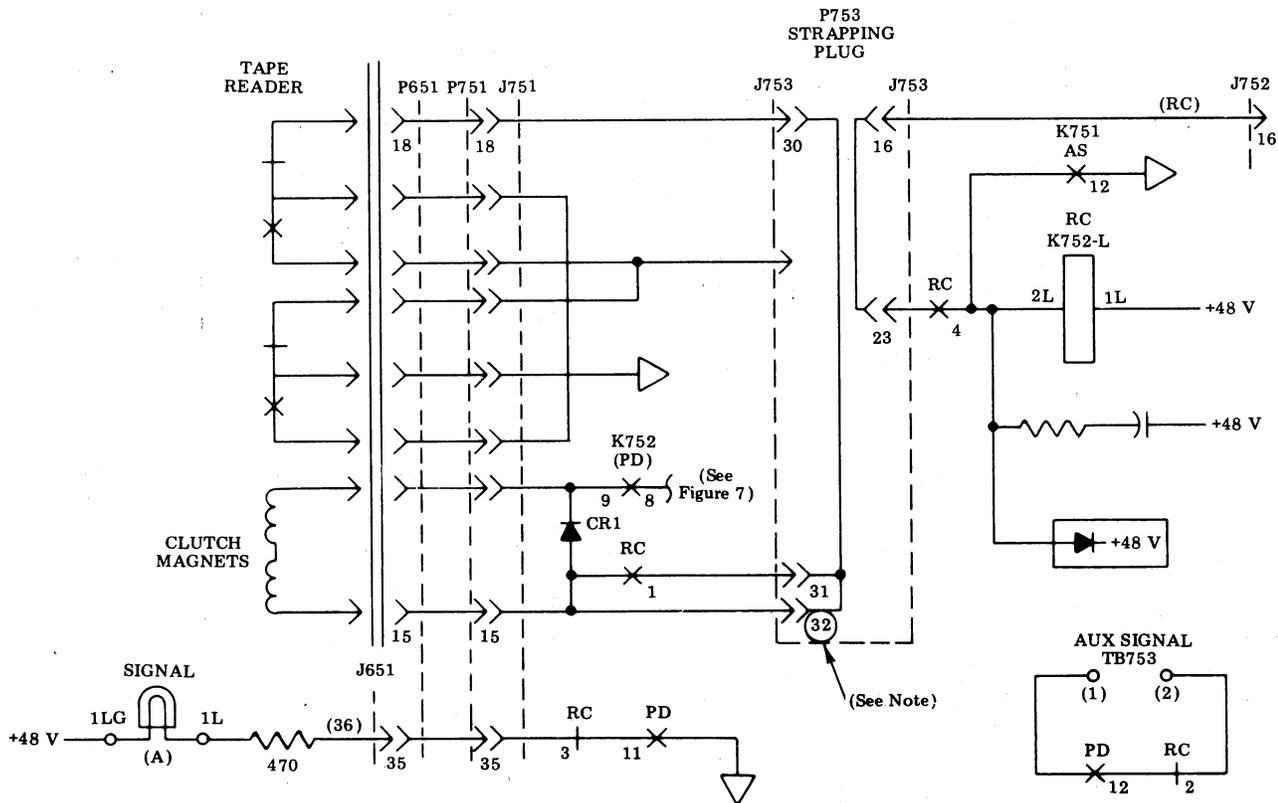
operator to stop the sender should it be necessary to do so. In either of these instances, a signal lamp at the sender will light, and an auxiliary signal circuit will be closed to advise the sender operator of the shutdown. Note that this option can be employed only when the data set has the reverse channel feature.

B. Operating Instructions

5.03 Senders equipped with the circuit assurance and break feature will have a lamp in the SIGNAL position at the tape reader. Operation differs little from the procedure outlined in Part 3. Note that the high-pitched tone heard when the receive station is placed in the DATA mode is accompanied by a low tone. The operator presses the DATA button when the high tone ceases. As mentioned in 5.01, a stoppage of the reader is signaled by a lamp and by an auxiliary signal circuit (if employed). The sender will not restart until the sending and receiving operators have put the data sets in the TALK mode and then into the DATA mode or have gone to the DATA mode as on a new call. A stop of this nature normally involves some loss of data requiring partial or complete retransmission.

C. Enabling Circuit Assurance and Break Option

5.04 The sender is furnished from the factory with the option disabling jumper in place between pins 31 and 32 of the strapping plug. To enable the option, the strapping plug is removed from the equipment, its cover moved, and pin 32 pulled from the connector and taped back as described in the installation procedure appearing in a related section. To disable the circuit assurance and break option, the pin should be replaced in position 32 of the strapping plug.



Note: Remove pin 32 to enable the circuit assurance and break option.

Figure 15 - Circuit Assurance and Break Option

D. Circuit Operation

5.05 Until the AS relay operates, the operation of the transmitter is the same as without the circuit assurance and break feature. With the AS relay (contact 12) energized (Figure 15), the RC relay will lock (RC4) to the RC lead (pin 16 at J752) which will be grounded in the data set (if a reverse channel signal is being received). With the RC relay operated, the tape reader clutch magnet is energized because it is controlled by RC-1M when the strapping plug at pin 32 is removed.

5.06 If the data set opens the RC lead (to indicate circuit failure or receipt of a break signal), the ground will be interrupted and cause the clutch magnets to open by closing contact 2 and 3 of the RC relay; thereby stopping the tape reader. This completes the circuit path to contact 11 of the PD relay (K752) which energizes to light the SIGNAL lamp, and contact 12 of the PD relay which closes the circuit path for the AUX. SIGNAL alarm at terminals 1 and 2 of TB753.

5.07 Returning to the TALK mode allows the PD relay to release (extinguishing the SIGNAL lamp) and open the auxiliary signal circuit.

5.08 Returning to the DATA mode causes the terminal to function as at the beginning of a transmission; again operating the RC relay which will lock up if the RC lead is being grounded at the data set.

TP198002 DISCRETE CALLING RECOGNIZER APPARATUS UNIT OPTION

5.09 The TP198002 recognizer unit enables an unattended tape sender to respond automatically to a call from an authorized receiver. The unit will operate in conjunction with a data set having or not having the reverse channel feature. The unit provides a recognizer circuit which causes the sender to transmit only in response to a specially coded signal. In this way, data (message tapes) placed in what is to be an unattended reader will only be transmitted to authorized receivers.

5.10 The TP198002 recognizer unit is only enabled by a receiver having a TP199784 identifier apparatus unit that is identically coded.

5.11 The TP198002 recognizer unit is detailed fully in Section 582-102-116.

TP148558 RECOGNIZER APPARATUS UNIT OPTION (Without Discrete Calling)

5.12 The TP148558 recognizer unit enables an unattended sender to answer incoming calls automatically and to reply by sending the tape message in the sender. This unit operates only in conjunction with a data set that has automatic answering and answer-back features.

5.13 The TP148558 recognizer is enabled by a signal of answer-back A, on for a few seconds and then off, to start the sender.

5.14 Two wiring options are available. Option Z allows an unattended sender to answer a call and signal that no message tape is present at sender. Option ZC is for unattended send/receive terminals and will allow a signal to be generated if a low tape or no message condition exists.

TP199788 UNATTENDED SEND-RECEIVE APPARATUS UNIT OPTION

5.15 When a sender and receiver are connected as a send-receive station the receiver may be equipped with the TP199788 unattended send-receive option. When the receiver is so equipped, and the sender is

equipped with a TP198002 recognizer apparatus unit, a calling station may direct the send-receive station to send or receive at will. Note that a calling receiver must have a properly coded TP199784 station identifier (see appropriate section) to activate the send-receive station sender.

5.16 The unattended send-receive option is discussed more fully in Section 582-102-122.

TP198021 AND TP199543 CABLE OPTIONS

5.17 The 5A Tape Sender is normally equipped with a 10-foot power cable and a 10-foot apparatus unit cable. Where it is necessary to place the tape reader farther away from the apparatus box assembly, a 25-foot TP198021 apparatus unit cable and a 25-foot TP199543 three-wire power cable are available as options.

TP329100 TAPE HANDLING FACILITIES FOR TABLE-MOUNTED 5A SENDER TERMINAL OPTION

5.18 The TP329100 option provides a base for mounting the 5A Sender, a tape winder, and a tape unwinder or tape feeder. The tape winders have fully perforated tape capacities of 350 feet for a TP146821 and 600 feet for a TW203 or TW204. The tape unwinders have fully perforated tape capacities of 750 feet for a TP321766 and 1000 feet for a TP146892. Any of these tape winders may be used with either tape unwinder. For terminals requiring a 2000-foot capacity, use winder TW17 with TF200 tape feeder. For terminals requiring a 3000 foot capacity, use TW17 winder with TUW200 unwinder. If chadless tape is used, it will decrease the capacities by one-half.

TABLE
SERVICE ARRANGEMENTS

The following table summarizes the apparatus required for various types of service arrangements. The use of suffixes in the coding scheme permits initial ordering of the arrangements needed. The addition of apparatus unit options to existing standard equipments can provide the same arrangements.		
SERVICE	SENDER APPARATUS STATION 1	RECEIVER APPARATUS STATION 2
Attended at both stations	5A or 5C Sender 402C or 402A Data Set	5B Receiver 402D Data Set and 804A Data Auxiliary Set
Sender attended Receiver unattended	5A or 5C Sender 402C or 402A Data Set	5B Receiver — use auto answer feature in 402D Data Set and 804A Data Auxiliary Set
Sender unattended Receiver attended	5A-1 or 5C-1 Sender — use auto answer feature in 402C Data Set	5B-1 Receiver 402D Data Set and 804A Data Auxiliary Set
Unattended send-receive stations	5A-1 or 5C-1 Sender — use auto answer feature in 402C Data Set	5B-2 Receiver — use auto answer and send-receive features in 402D Data Set
Unattended send-receive stations. Receiver in manual condition and capable of calling unattended sender	5A-1 or 5C-1 Sender — use auto answer feature in 402C Data Set	5B-3 Receiver — use auto answer and send-receive features in 402D Data Set
<p>For the table-mounted sender, the TP198002 recognizer option for discrete calling and unattended service mounts beside the other apparatus units in the wall-mounted apparatus box. For the floor-mounted sender, this unattended service apparatus unit option is mounted in a space provided in the equipment cabinet.</p> <p>Unattended Send/Receive Station</p> <p>This station consists of a sender arranged for unattended service and a receiver containing an unattended send/receive apparatus unit option (TP199788). The send-receive station will automatically arrange itself to send or receive as appropriate to the type of calling station. A send-receive station used in placing a call can be manually switched to function as a sender or as a receiver; and a remote unattended send-receive station will follow these switching operations.</p>		

Note: Refer to text paragraphs covering options.