

DATASPEED TAPE-TO-TAPE SYSTEM

TAPE RECEIVER 5B

TROUBLE SHOOTING GUIDE

CONTENTS	PAGE
1. INTRODUCTION . . . . .	1
2. EQUIPMENT REQUIRED . . . . .	1
3. TROUBLE SHOOTING . . . . .	1
GENERAL . . . . .	1
TAPE PUNCH . . . . .	1
CABINET CIRCUITS . . . . .	1
RECEIVER MODULE CIRCUITS . . . . .	1

1. INTRODUCTION

1.01 This section presents the trouble shooting procedure for DATASPEED Tape Receiver 5B. General descriptive information, installation procedures, and adjustment and lubrication information can be found in related sections. Refer also to the "Schematic and Actual Wiring Diagrams" section.

2. EQUIPMENT REQUIRED

2.01 Aside from the standard tools, most trouble shooting can be done with a standard volt-ohm-milliammeter. Adjustment of the punch driver cards ("Adjustments, Lubrication, and Disassembly" section) requires an oscilloscope but these cards will seldom (if ever) require readjustment.

3. TROUBLE SHOOTING

GENERAL

3.01 Replace modules, or punch as required to restore normal operation. Repairs or adjustments to the defective component can then be made in a more suitable environment.

3.02 Where the exact nature of the trouble is unknown, use the checkout procedure outlined in the "Installation and Checkout Procedure" section to isolate the trouble area.

Note: On all station visits check the tape with a tape gauge for accuracy of hole spacing and freedom from skew. Also check operation of the low tape lamp and flashing power lamp. Inspect the chad chute for accumulation of chad near the punch block.

TAPE PUNCH

3.03 This section deals primarily with the electronic components of the Tape Receiver. For detailed information regarding the tape punch refer to the related standard sections.

CABINET CIRCUITS

3.04 Aside from interconnections, circuits peculiar to the cabinet include a line filter circuit (on the electrical service panel) and a power switch. (See cabinet wiring diagram in the "Schematic and Actual Wiring Diagrams" section.) The control panel switches and indicators are associated with the receiver module. Tape spooling is also a function of the cabinet circuits. The tape feed motor runs continuously. A mercury switch on the tape-tension arm turns on the winder motor when slack tape allows the arm to drop to a predetermined level. Improper tape spooling would indicate misadjustment. (See related "Adjustment, Lubrication, and Disassembly" section.) Complete failure to wind or feed could indicate a defective switch, winder motor, or feed motor.

RECEIVER MODULE CIRCUITS

3.05 Circuitry associated with the receiver module can be divided into three groups:  
Punch drive circuit  
Control and low tape alarm circuit  
Power supply circuit

SECTION 592-808-300

The greatest insight to trouble shooting can be gained from the theory of operation discussion appearing in the "Description and Operation" section, where each circuit is fully discussed. The same partial diagrams used in that discussion are included here for the convenience of the service man (Figures 1 and 2). Also included are a few comments regarding most probable trouble sources, and general information which cannot be obtained from the partial schematics. Refer also to the complete diagrams appearing in the "Schematic and Actual Wiring Diagrams" section.

3.06 Tape cannot be loaded. This trouble is indicative of a power failure at one or more punch coils, allowing the associated punch pin (A) to block the tape path over the punch block.

- (a) If all pins are down, the trouble is either a general power failure, or loss of the -55 volt or -5 volt. Check fuse F1 and F5 through F15 at the receiver module.
- (b) If only one punch pin is down, check the following:

Fuse (F5 through F15) associated with released punch pin. Connection to associated punch coil, coil continuity, and adjustment of coil mounting bracket and reed bumper (see tape punch adjustment section).

Associated magnet driver card (EC672) (try interchanging cards). Check diode and 1.1 ohm power resistor connected to pin 28 of the magnet driver circuit associated with the released punch pin. (The diode is mounted in the TB116 cluster; the resistor in the TB119 cluster.)

3.07 Does not punch or feed-out. This trouble might be due to malfunction at the data set as well as the Tape Receiver.

- (a) Check out the data set from the area test center (if such facilities are available).
- (b) If the data set is operating correctly, try the following checks:

Replace the EC675 circuit card.

If the punch sounds as if it is punching but does not feed tape, pull the tape by hand. If the tape is stuck in the punch

block, check adjustment of coil mounting bracket and reed bumper. (See tape punch adjustment section.)

Check operation of the feed wheel. Check the puller on the right side of the punch block to be sure that it is maintaining adequate slack in the tape loop at the punch. If difficulty is found here, check the tape supply reel feed arrangement.

3.08 Punches irregularly spaced holes and fails to feed properly. Check the tape pullers on the right side of the punch block and on the tape supply reel.

3.09 Punches errors. Again, this trouble could be due to a malfunction in the data set.

- (a) Check out the data set from the area test center (if such facilities are available).
- (b) If the data set is operating correctly, try the following checks:

Make end-to-end tests on the subscribers system; poor transmission may be the problem.

If the problem is definitely at the Receiver, replace the EC675 card and check connections. If trouble is confined to one level, check the punch driver card (EC672) associated with that level.

Check also for loose connections at the punch coil terminals.

3.10 No data received; punch remains quiet. If the test center test signals can be received satisfactorily, the most likely trouble is failure of the all-space function at the distant Sender. If test center tests cannot be satisfactorily received, and the data set is operating correctly, replace the EC675 and EC605 circuit cards. Check also for loose or intermittent cable connections. If pins 6 and 12 of the cable to the data set are shorted together (with the data set disconnected), a blank should be punched each time the short is removed. If this test is satisfactory the trouble is in the data set. If the test is not satisfactory, check the data timing lead circuit for loss of continuity.



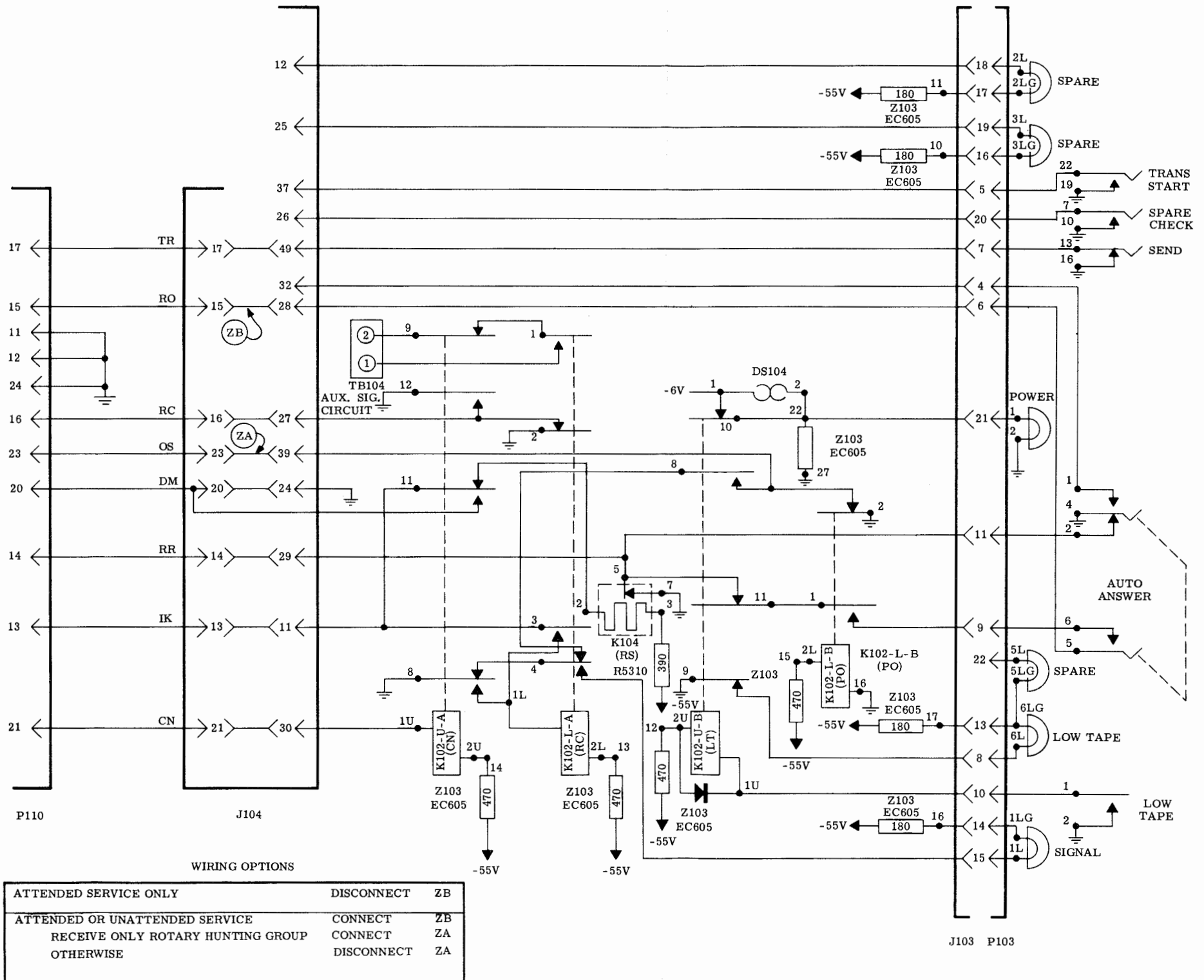


Figure 2 - Control and Low Tape Alarm Circuits