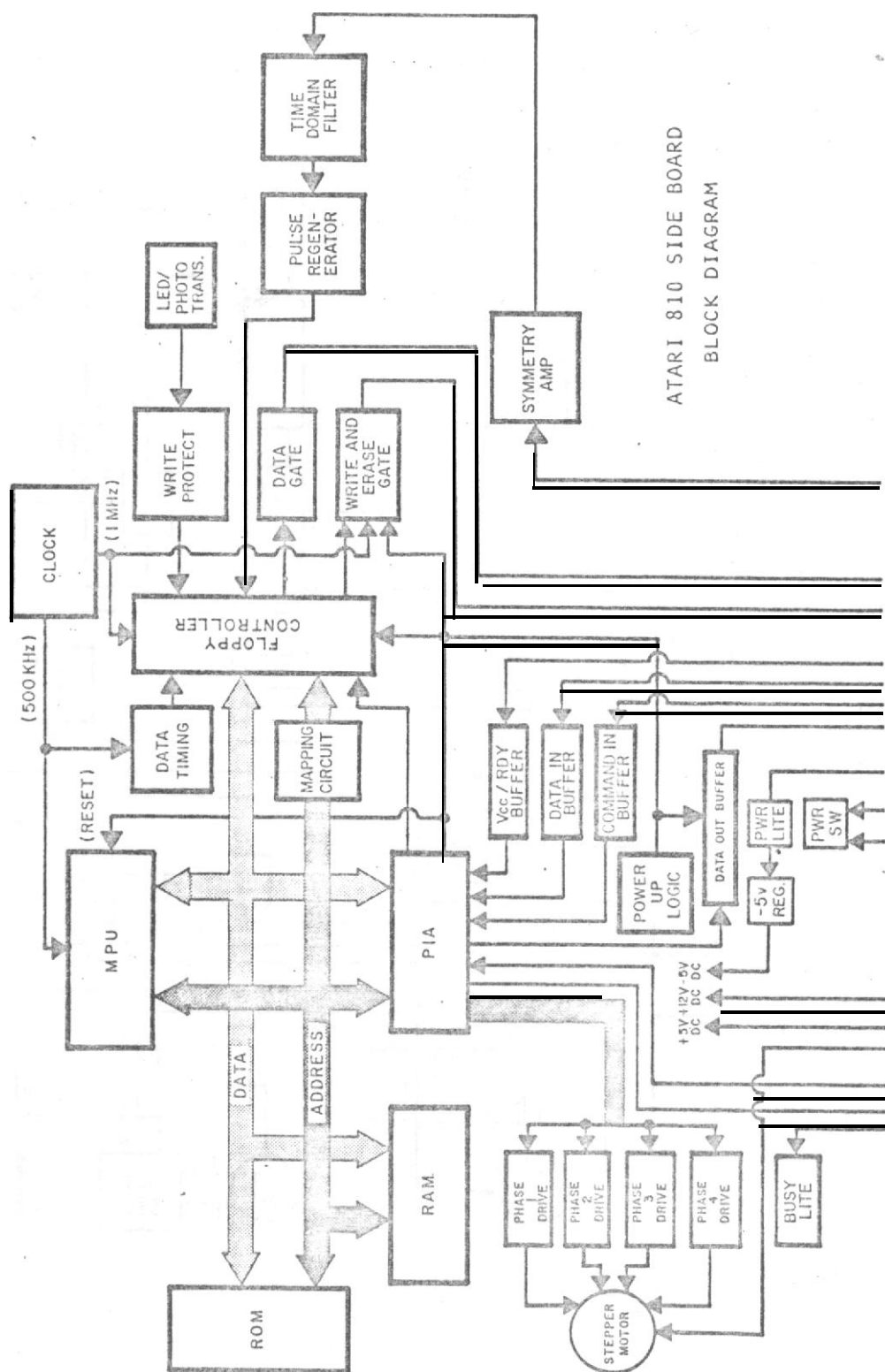


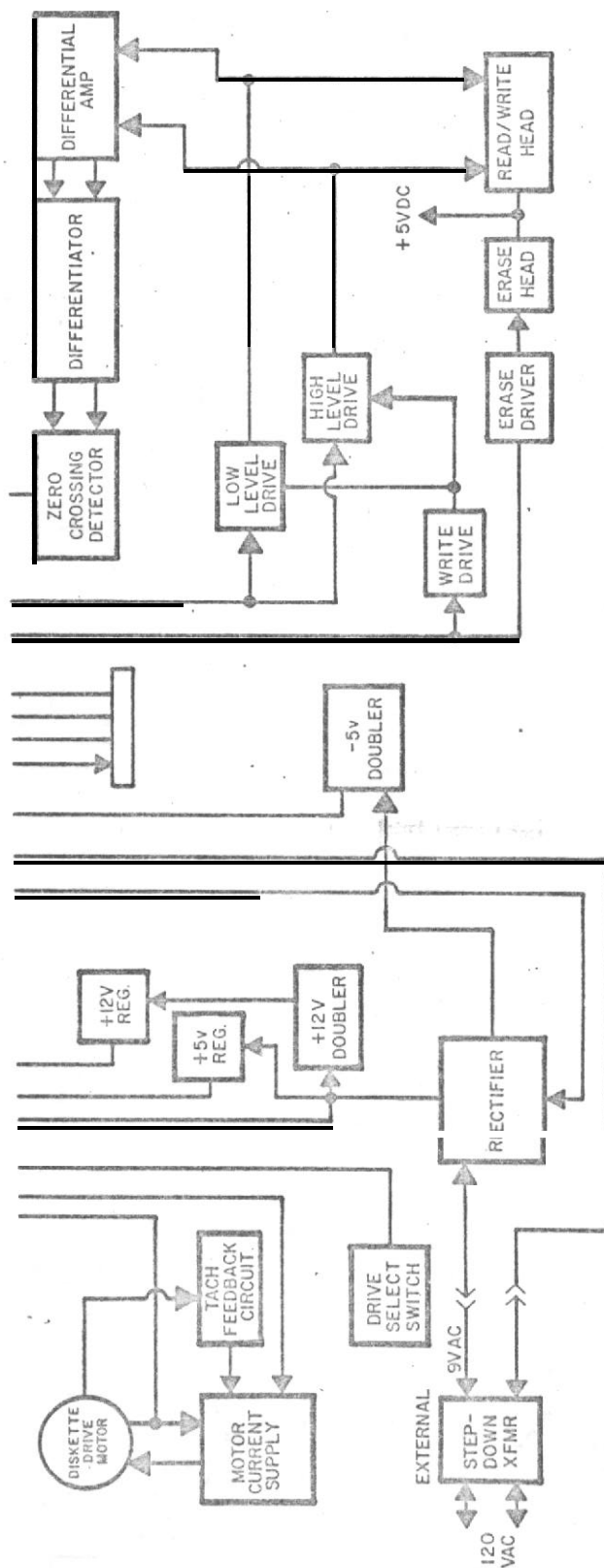
BLOCK DIAGRAMS

AND

SCHEMATICS

On the following pages are block diagrams and schematics for the Disk Drive. Further understanding of the system's operation can be obtained by comparing these.





3-7

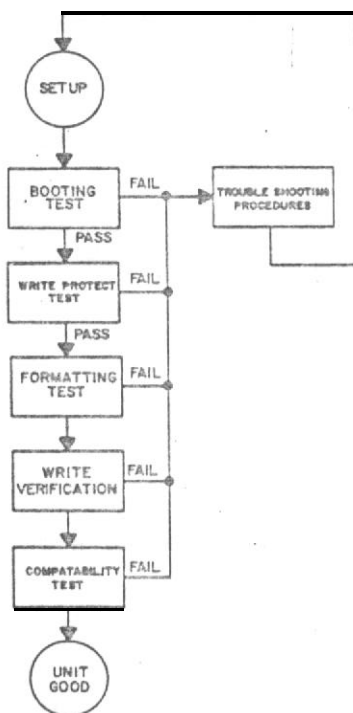
FLOPPY QUICKCHECK

This procedure should be completed both as a pre-service checkout and a final (post-service) checkout for the Disk Drive.

As a pre-service checkout, it will assist in identifying problems in the Drive.

As a final checkout, it will ensure that all repairs and alignments were successfully completed.

This procedure follows this flow chart:



All tests must be completed in the sequence shown.

The following are required to perform these procedures:

- A. Atari 400/800 Computer Console with a BASIC cartridge and minimum 16K RAM installed.
- B. I/O cables and Console/Drive power packs.
- C. TV.
- D. Master Disk File Manager diskette with write protect notch taped.
- E. Blank scratch diskette (not write-protected).
- F. Prerecorded sample diskette with DOS and sample programs recorded on a known "good" Disk Drive.

SETUP

1. Connect the Drive to the Console, and connect both to power.
2. Turn the Drive ON and wait for the BUSY lite to go off. If BUSY lite does not come on and then go off, recheck connections. then refer to the Troubleshooting Guide.

BOOTING TEST

1. Insert a Master Disk File Manager diskette into the Drive and close the Drive's door.
2. Turn the Console OFF, then ON. Verify that data is transferred from the diskette to the Console RAM (turn up the TV sound and listen for the "buzz...buzz...buzz...etc." , this should take about 10 seconds). When completed, the TV screen should display the word READY.
3. If the TV displays any ERRORS or does not show READY very shortly, repeat step 2. If the system still will not "BOOT UP", recheck your

Console/Drive system and hookup for misconnections or gross equipment failures.. If none are found and the system continues to ERROR, refer to the Troubleshooting Guide in this manual.

4. When the system has booted,
 - a. type DOS (Disk Operating System)
 - b. press the RETURN key
5. Verify that the DOS menu appears on the TV screen. Refer to the Troubleshooting Guide if you encounter an ERROR on the TV screen.

WRITE PROTECT TEST

This test must be completed with the write-protected Master diskette installed. The TV screen should be displaying the DOS menu from the Booting Test.

1. At the Console:
 - a. type I (capital letter)
 - b. press RETURN
 - c. type 1 (number one)
 - d. press RETURN
 - e. type Y
 - f. press RETURN
2. Verify that the TV screen displays ERROR-144. If it does, the write protect circuit is operating correctly, go on to step 3. If it does not:
 - a. Repeat Step 1 again.
 - b. If the ERROR-144 still does not appear, refer to the Troubleshooting Guide.

3. Remove the Master diskette from the Drive.

FORMATTING TEST

CAUTION: The formatting operation erases the contents of a diskette.

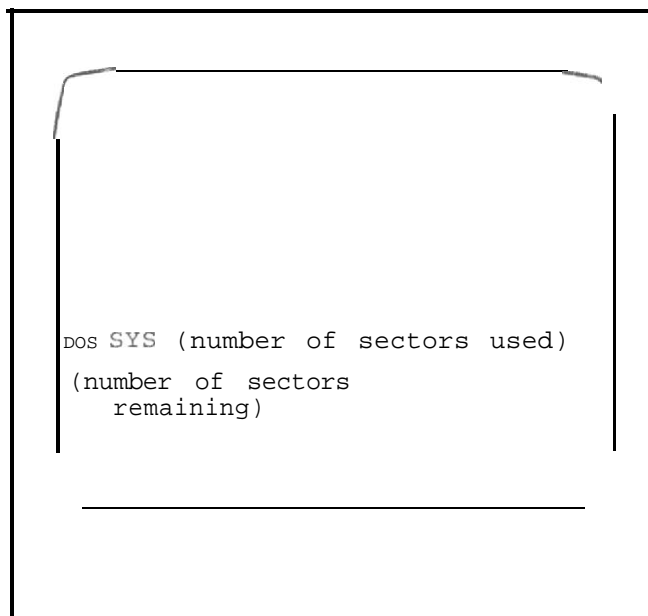
This test must be completed with the DOS from the Master diskette still stored in the Console RAM.

1. Insert a non-write-protected scratch diskette into the Drive and close the door.
2. At the Console:
 - a. press SYSTEM RESET
 - b. type DOS
 - c. press RETURN
 - d. type I (capital letter)
 - e. press RETURN
 - f. type 1 (number one)
 - g. press RETURN
 - h. type Y
 - i. press RETURN
3. Verify that after about 45 seconds of formatting the Drive's BUSY lite turns OFF and no ERRORS have been displayed on the TV screen (refer to the Troubleshooting Guide for any ERRORS).
4. At the Console:
 - a. type A
 - b. press RETURN
 - c. press RETURN
5. Verify that "709" or "FREE SECTORS 709" is displayed at bottom of screen. If not, refer to the Troubleshooting Guide.
6. Press RETURN to get back to "MENU"

WRITE VERIFICATION

This test must immediately follow the FORMATTING TEST.

1. At the Console:
 - a. type Ii
 - b. press RETURN
 - c. type Y
 - d. press RETURN
2. Verify that the TV screen displays SELECT ITEM after a short period of time. If it does not, refer to the Troubleshooting Guide.
3. At the Console:
 - a. type A
 - b. press RETURN
 - c. press RETURN
4. Verify that the TV screen displays DOS SYS and number of sectors used, followed by the number of sectors remaining. If it does not, repeat the procedure. If the second attempt fails, refer to the Troubleshooting Guide.



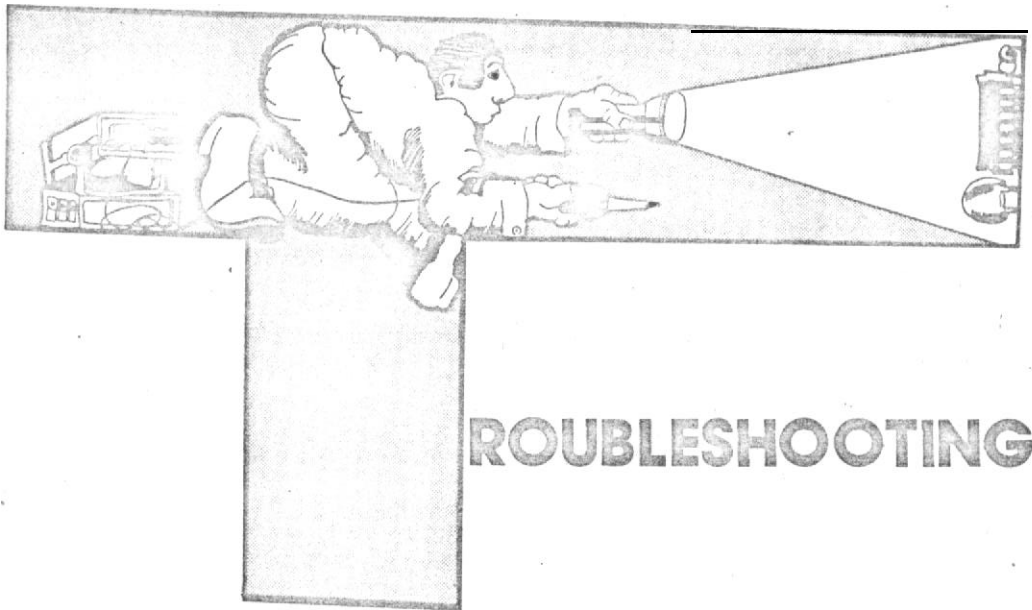
5. Delete the file as follows:
 - a. At the Console:
 1. press RETURN
 2. type D
 3. press RETURN
 4. type DOS.SYS
 5. press RETURN
 6. type Y
 7. press RETURN
 - b. After a "SELECT ITEM" appears, at the Console:
 1. type A
 2. press RETURN
 3. press RETURN
 - c. Verify that the TV screen indicates that there are 709 free sectors remaining.
6. Remove the blank scratch diskette from the Drive.

COMPATABILITY TEST

This test verifies that the Drive can read programs from a diskette recorded on a known "good" Drive.

1. Insert a sample diskette into the Drive.
2. Turn the Console OFF, then ON.
3. Verify that after about 10 seconds, the TV screen displays READY.
4. At the Console:
 - a. type DOS
 - b. press RETURN
5. Verify that the DOS menu appears on the TV screen, indicating that the diskette data was correctly loaded into the Console RAM. Refer to the Troubleshooting Guide in case of any ERRORS.
6. At the Console:
 - a. type A
 - b. press RETURN
 - c. press RETURN
7. Verify that the Drive's BUSY lite comes ON as the Drive loads its directory listing into the Console. The directory should appear on the TV screen.
8. Choose a program You wish to load.
At the Console:
 - a. press RETURN
 - b. type B
 - c. press RETURN
 - d. type LOAD "D:NAME OF PROGRAM"
 - e. press RETURN

9. Verify that the Drive's BUSY lite comes on as the Drive loads the selected program. After several seconds, the word READY should appear at the top of the screen. If not, refer to the Troubleshooting Guide.
- 1.0. At the Console:
 - a. type RUN
 - b. press RETURNVerify that the selected program runs correctly. If it ERRORS, refer to the Troubleshooting Guide.



SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. DRIVE WILL NOT TURN ON	A. DEFECTIVE TRANSFORMER B. ELECTRICAL MALFUNCTION- POWER SWITCH/ SIDE PCB, POWER SUP- PLY/REAR PCB	A. REPLACE TRANSFORMER B. REPLACE AND/OR TROUBLESHOOT PCB(S)
2. DRIVE WILL NOT TURN OFF	A. DEFECTIVE SIDE AND/ OR REAR PCB	A. REPLACE OR REPAIR PCBS
3. DISKETTE DOES NOT TURN	A. DRIVE BELT HAS FALLEN OFF FLYWHEEL/PULLEY OR IS BROKEN B. DRIVE MOTOR DEFECT- I V E C. CLUTCH CONE NOT CLAMPING DISKETTE D. ELECTRICAL MALFUNC- TION - DRIVE MOTOR CIRCUIT, REAR PCB	A. REPOSITION OR REPLACE DRIVE BELT B. REPLACE DRIVE MOTOR C. ADJUST OR REPLACE CLUTCH CONE ASSEMBLY D. REPLACE AND/OR TROUBLESHOOT PCB

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
4. DISKETTE SPEED SLOW OR VARY- ING	<p>A. DRIVE MOTOR TACH LINE OUT OF PLACE</p> <p>B. WRITE PROTECT CIRCUIT BAD</p> <p>C. DRIVE BELT INCOR- RECTLY TENSIONED</p> <p>D. DRIVE BELT STRETCHED</p> <p>E. ELECTRICAL MALFUNC- TION - DRIVE MOTOR CIRCUIT, REAR PCB</p> <p>F. SPINDLE BEARINGS FREEZING</p>	<p>A. CONNECT GREEN MOTOR HARNESS LEAD TO CENTER TERMINAL OF WRITE PROTECT HARNESS</p> <p>B. REPLACE TRANSPORT LEFT SIDE PLATE</p> <p>C. ADJUST DRIVE BELT TENSION</p> <p>D. REPLACE DRIVE BELT</p> <p>E. REPLACE AND/OR TROUBLESHOOT PCB</p> <p>F. REPLACE SPINDLE BEARINGS</p>
5. DISKETTE WON'T EJECT WHEN FRONT DOOR IS OPENED	<p>A. EJECT MECHANISM NEEDS ADJUSTING OR IS BROKEN</p> <p>B. CLUTCH CONE-TO- SPINDLE CLEARANCE (DOOR OPEN) TOO SMALL</p>	<p>A. ADJUST OR REPLACE MECHANISM</p> <p>B. SHIM THE CLUTCH CONE ASSEMBLY</p>

SYMPTOM	POSSIBLE CAUSE	CCRRCCTIVE ACTION
6. FRONT DOOR WON T OPEN	A. DOOR LATCHING MECHANISM NEEDS ADJUSTMENT OR IS BROKEN	A. ADJUST OR REPLACE DOOR LATCH MECHANISM
7. DRIVE/CONSOLE SYSTEM WILL NOT BOOT UP	A. DRIVE MOTOR SPEED INCORRECT B. CAN T FIND TRACK 00 C. ELECTRICAL MALFUNC- TION, SIDE AND/OR REAR PCB(S) D. STEPPER MOTOR MAL- FUNCTIONING E. RADIAL TRACK MIS- ALIGNMENT F. BAD HEAD	A. ADJUST DRIVE MOTOR SPEED O. ADJUST TRACK 00 STOP SETSCREW C. REPLACE AND/OR TROUBLESHOOT PCB(S) D. REPLACE STEPPER MOTOR E. COMPLETE RADIAL TRACK ALIGNMENT F. REPLACE HEAC ASSEMBLY
8. OCCASIONAL READ ERRORS ; ALL TRACKS:	A. DAMAGED DISKETTE 6. DIRTY OR MAGNETIZED HEAD C. WGRN OR DIRTY HEAD PRESSURE PAD	A. REPLACE DISKETTE B. CLEAN AND DEMAGNETIZE HEAD C. REPLACE HEAD PRESSURE PAD

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
INNER TRACKS:	D. OVERSTRESSED PRESSURE PAD ARM SPRING	D. REPLACE SPRING OR HEAD ASSEMBLY
	A. DRIVE MOTOR SPEED INCORRECT	4. ADJUST DRIVE MOTOR SPEED
	B. ELECTRICAL MALFUNCTION IN READ CIRCUIT	B. REPLACE AND/OR TROUBLESHOOT REAR PCB, SIDE PCB OR HEAD. (CHECK FOR SLOW Q102 OR Z104 ON SIDE PCB.)
OUTER TRACKS:	A. DRIVE MOTOR SPEED INCORRECT	A. ADJUST DRIVE MOTOR SPEED
	B. ELECTRICAL MALFUNCTION IN READ CIRCUIT	B. REPLACE AND/OR TROUBLESHOOT REAR PCB, SIDE PCB OR HEAD. (CHECK 9155 VALUE ON REAR PCB.)
9. DRIVE WON'T WRITE DATA	A. DAMAGED DISKETTE B. ELECTRICAL MALFUNCTION IN WRITE CIRCUIT	A. REPLACE DISKETTE B. REPLACE AND/OR TROUBLESHOOT REAR PCB, SIDE PCB OR HEAD

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
10. VARIOUS ERROR CODES DURING OPERATION	A. ELECTRICAL OR MECHANICAL MALFUNCTIONS	A. CHECK TO ENSURE DISKETTE IS NOT WRITE-PROTECTED B. REPLACE Z105 C. REPLACE AND/OR TROUBLESHOOT PCBS, TRANSPORT
11. DRIVE INCOMPATABILITY	A. DRIVE MOTOR SPEED INCORRECT. B. RADIAL TRACK MISALIGNMENT	A. ADJUST DRIVE MOTOR SPEED B. COMPLETE RADIAL TRACK ALIGNMENT
12. DRIVE WRITES ONTO WRITE-PROTECTED DISKETTES	A. MALFUNCTIONING WRITE PROTECT CIRCUIT	A. CHECK WRITE PROTECT LED/PHOTO-TRANSISTOR. WIRING HARNESS CONNECTIONS. REPLACE TRANSPORT LEFT SIDEPLATE.