410 PROGRAM RECORDER

TECH TIP

SUBJECT

138, 140, and 143 errors when using the 410.

DESCRIPTION

It is a common occurrence for a customer to experience problems while trying to load cassette tapes with the 410 program recorder.

TROUBLESHOOTING

1. PERIODIC MAINTENANCE

   Problem: Failure to perform periodic maintenance. Dirty pinch roller or capstan can cause uneven tape speed and damage media. Buildup of oxide residue on the read/write head can interfere with proper operation.

   Solution: Perform periodic maintenance as outlined in the 410 Operator's Manual.

2. PERIPHERAL CONNECTION

   Problem: The 410 is connected through a peripheral (810, 850, 820, 822) that will not properly pass on the signal to the console.

   Solution: Connect the 410 directly to the console and repair the defective peripheral.

3. OS REVISION B INCOMPATIBILITY

   Problem: The software logic is not compatible with revision B of the OS. All ATARI software is fully compatible with revision A or B but some third part titles are not compatible.

   Solution: The third part vendors usually are able to replace the software with an updated version. It is possible to determine what version of the OS is installed by checking memory location 58383. From BASIC: PRINT PEEK (58383) [RETURN]. A value of 56 indicates revision A whereas O indicates revision B.

4. PAL OPERATING SYSTEM

Problem: An international PAL version of the OS is installed instead of the domestic NTSC version.

Solution: Install a domestic 10K ROM. It is possible to determine what version of the OS is installed by checking memory location 58383. From BASIC: PRINT PEEK (58383) [RETURN]. A value of 56 or 0 indicates NTSC whereas 249 indicates PAL.

5. 410 MOTOR CONTROL

Problem: The console does not properly control the 410 motor. After a cold start in BASIC, merely pushing PLAY on the 410 should not cause the tape to begin moving. POKE 54018,52 should start the motor and POKE 54018,60 should stop the motor.

Solution: Check to see if transistor Q107 on the 800 or Q102 on the 400 motor control line is improperly shorted to ground.

6. 410

Problem: Faulty I/O cable, drive mechanism, or electronics will necessitate repair or replacement of the 410.

Solution: Follow the procedures in the Field Service Manual.

7. NEWER 410

Problem: Many ATARI cassette-based products have loading problems on the newer model of the 410 (with PAUSE and no carrying handle) but not on the older 410. The newer 410 has a more powerful amplifier which raises previously insignificant background noise to significant levels and causes error conditions when interpreted as data. All ATARI cassette-based products have been re-mastered and the finished goods stock was replaced as of March 1, 1982.

Solution: Replace the media with inventory acquired after March 1, 1982.

8. SYSTEM RESET

Problem: Pressing SYSTEM RESET does not reset the data I/O line in POKEY. Subsequent use of CSAVE is unreliable because the data I/O line is not clear, POKEY sends garbage, and the data

stored is unrecoverable.

Solution: Avoid using SYSTEM RESET. Before using CSAVE or CLOAD, always execute an LPRINT command.

Note: Executing a serial bus command properly reset POKEY ad clears the data I/O line. The simplest serial bus command to execute is LPRINT. If a printer is not attached when the LPRINT is executed, and error 138 occurs. This occurrence is normal and does not interfere with the reset of POKEY.

9. PRE-RECORDED TAPE POSITIONING

Problem: Tape is improperly positioned.

Solution: Pre-recorded tapes should load properly if rewound completely. If not, manually wind the leader onto the take-up reel before attempting the load.

10. USER-RECORDED TAPE POSITIONING

Problem: Tape is improperly positioned relying on the counter.

Solution: Store only one program per side of tape positioned manually at the end of the tape leader.

11. FAULTY PRE-RECORDED MEDIA

Problem: Tapes produced in mass quantity are not individually verified to load successfully because of sampling techniques.

Solution: Replace the tape.

12. FAULTY USER-RECORDED MEDIA

Problem: The oxide coating on audio cassette tape is subject to momentary dropouts that will not record data.

Solution: Replace the tape.

13. WORN MEDIA

Problem: Tapes do stretch and warp after prolonged normal usage.

Solution: Replace the tape. Avoid leaving the PLAY, ADVANCE, and REWIND buttons engaged after tape movement is completed.

14. MAGNETIC FIELD

Problem: Data is altered during transmission because of the 410 I/O cable's close proximity to a magnetic field.

Solution: Do not set the 410 on or close to a TV or power transformer.

15. VIBRATION

Problem: Data is altered during transmission because the 410 was bumped, moved, or jarred.

Solution: Keep the 410 stationary during data transmission.

16. CRO^2TAPE

Problem: The bias of CRO^2tape is incompatible with the 410.

Solution: Use normal ferrite audio tape.