



Operating Instructions

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GUARANTEE

Your Sprint is guaranteed against defects in manufacture or materials for a period of 12 months from date of purchase.

Challenge Research undertake to repair or, at its option, replace the unit free of charge.

This guarantee applies only if the set has been used solely for domestic purposes and has not been damaged through misuse, accident or neglect and has not been modified or repaired by other than Challenge Research or its agents. Due to the nature of the products the guarantee is invalidated if the seal has been damaged.

If a fault appears check that the Sprint is being used correctly in accordance with the instructions provided. In the event of a repair being necessary return the unit, in its original packaging with a description of the fault and this guarantee, to the point of purchase.

Date Purchased

Name of Purchaser

Address

.....
Description of Fault

INTRODUCTION

The SPRINT is a high speed cassette tape recorder dedicated to use with the 16 and 48K Spectrum computers from Sinclair.

The tape is driven at 4x normal speed (i.e. 19 cm/sec. instead of 4.75 cm/sec.) thus enabling you to SAVE and LOAD programs on standard compact cassettes at 4x normal speed. The Sinclair tape and command format is retained, allowing commercial programs and other programs recorded at normal speed, on a standard recorder, to LOAD at 4x speed. Likewise programs SAVED on the SPRINT will LOAD using a standard recorder - though at the slow speed!

Before attempting to use the SPRINT first read these instructions carefully and make sure you understand them, also read the chapters on Tape Storage in the Spectrum manuals so that you understand the commands etc. If you experience difficulty during use, refer to the Problem section.

SETTING UP

First REMOVE the power lead from the Spectrum, before connecting the Sprint, otherwise damage may occur to your Sprint and your computer.

The SPRINT has only one lead to connect, this plugs into the expansion port at the back of the Spectrum. Note that the connector is keyed, and will therefore only fit one way round, this entails having a 90° twist in the cable.

On issue 3 Spectrums extra care is required as the new heatsink sometimes makes the connector difficult to fit.

In such cases insert the connector at the heatsink end first, ensuring that it passes under the heatsink. Then rotate the other end in.

Remember the power to the Spectrum MUST be disconnected before inserting or removing the SPRINT connector. When removing the connector always use the lugs provided. DO NOT pull on the cable as it will break sooner or later.

INSERTING AND REMOVING CASSETTES

Depress the STOP/EJECT key to open the cassette lid and carefully insert the cassette with the required side uppermost and the tape opening to the front. Press the cassette into the compartment and close the cover over it. The cover will sit flat if the cassette is correctly inserted, if not, open the lid again and refit the cassette.

To remove the cassette first stop the tape, then a further depression of the STOP/EJECT key will open the cover and push up the cassette.

FAST FORWARD AND REWIND

To Fast Forward (F.F.) or Rewind (Rew) the tape, depress the appropriate key. Stop the recorder as soon as the cassette is fully Forwarded or Rewound to avoid undue wear. DO NOT Fast Forward or Rewind tapes of longer than C30 as this may also cause wear on the mechanism.

NOTE: Do not flick from Play to F.F. to Rew without stopping the tape as the high speeds will damage your tapes irreparably.

LOADING, VERIFYING AND MERGING

Locate the start of the program on the tape using the Tape Counter, then enter the appropriate command as detailed in the Spectrum manual, the TV Border will turn Red. Depress the Load key to start the tape. When the program leader is found the border will have Red and White stripes and the Beep will be heard, next the header information will LOAD, indicated by a very short period of Blue and White stripes, the program name will be displayed in the usual manner. The border will return to Red until the program loads, indicated by the Red/White stripes of the leader and the Blue/White stripes of the data. If the program fails to LOAD, relocate the start and try again or refer to the Problem section.

NOTE: Because the motor takes up to 1 second to reach full speed it is essential to start the tape well before the program start to ensure correct loading. When trying to locate a program in the middle of the tape always use the full program name (not Load " ") and to assist it is recommended that you type in the command but do not press ENTER until the tape has been started. Following this procedure will ensure trouble free loading.

When a program is finished loading stop the tape. If you leave it running, however, the auto stop will turn off the Sprint at the end of the tape.

Some tapes which load more than one program in a sequence have "Pauses" programmed in, because the tape speed is increased the timing is affected and it may be necessary to inhibit the "PAUSE" in the program. This is simply done by pressing any letter or number key on the Spectrum keyboard and the "PAUSE" is automatically deleted; the program will immediately continue loading.

SAVING PROGRAMS

Locate the position on the tape you wish to SAVE the program at, using the tape counter. Always allow a good gap between programs e.g. 10 - 20 on the counter. This makes later loading much easier. Enter the correct SAVE command as per the Spectrum manual. When the computer indicates, start the tape by depressing the Save and Load keys simultaneously. Allow 1 second for the tape to reach full speed then press any key on the Spectrum to SAVE the program. The border will have Red/White stripes when saving the leaders and Blue/White stripes when saving the program information, the Beep will also sound. When the program has finished saving, stop the tape, rewind to the program start and verify that the program has recorded properly.

The program can be protected from over-recording by removing the tab on the back of the cassette. The Save key will then be prevented from operation.

A tape can be erased by depressing the SAVE and LOAD keys simultaneously with no special commands entered on the Spectrum.

Remember when Saving to note down the counter reading for the Start and Finish of the program on the cassette inlay card for later use.

LOCATING PROGRAMS ON TAPE

It is essential to know where a computer program is positioned on the tape so it can be relocated later on. To do this the tape must be rewound to the start and the Tape Counter reset to 000. Then the tape is advanced to the required position as indicated by the counter. Whenever a program is Saved follow the above procedure and note down the program name and start and finish positions on the inlay card for later reference. Always allow a space of 10 - 20 between programs to simplify the process of later location and to allow for the tape acceleration period. Obviously the easiest process is to use short tapes and locate only one program at the start of each side.

WHAT PROGRAMS WILL LOAD

The Sprint will load - subject to recording quality - all programs using the standard tape format including commercial programs, home recorded programs and, naturally, those recorded on other Sprints.

There are a few commercial programs which do not retain the standard tape format and these will not load on the Sprint unless converted to standard tape format.

USE WITH OTHER PERIPHERALS

The Sprint can be successfully used with most other peripherals e.g. Joysticks, Printers, Rom cartridges as long as they do not use Input Port 65535 (FFFF Hex).

The Sprint can be plugged into other devices having full 56 way expansion port or other devices can be plugged into the back of the Sprint, which has an expansion port identical to that of the Spectrum. Care should be taken, however, not to overload the power supplies or signal lines as system failure may occur.

If a peripheral will not physically fit onto the back of the Sprint an extension card can be obtained from Challenge Research.

The Sprint can be used with the Interface 1 connected to the Spectrum, but the Microdrives etc. cannot be used with the Sprint in position as the Interface 1 ROMCS signal is not connected to its expansion port.

MAINTENANCE

To obtain maximum performance and to avoid "Tape Loading Errors" the tape heads, capstan and pinch roller should be cleaned using a proprietry brand of cleaning fluid or a cleaning cassette every 5 hours of playing.

No lubrication is required and there are no user serviceable parts inside the unit.

DO NOT touch the tape heads or mechanism with screwdrivers etc. as this may damage the machine.

PROBLEM SOLVING

1. Program will not load

- * Incorrect Command entered — Refer to Spectrum manual.
- * Tape not positioned at Program Start — Use counter as detailed.
- * Cassette not seated correctly — Check correct location.
- * Sprint not connected correctly — Check.
- * Tape heads dirty — Clean.
- * Electrical noise — Keep Sprint away from TV.
- * Non standard Program Format — Check.

2. Tape loading error

* Poor recording quality

- Poor tape quality - use a good brand e.g. TDK PC15, etc.
- Program not Verified after Saving.
- Low quality commercially recorded program.
- Program recorded on machine with head azimuth misaligned
DO NOT ADJUST SPRINT ALIGNMENT.
- Tape jamming - border stripes on leader not steady, will not rewind correctly-replace tape.
- drop out causing quiet patches-replace tape.

* Cassette stored incorrectly, causing degradation

- Always store in dry, cool conditions and away from magnetic fields e.g. TV's, motors, etc.

* Tape heads+mechanism dirty — Follow maintenance procedure.

3. * Tape will not Fast Forward/Rewind

* Faulty Cassette

- Tape jamming, tap cassette flat onto a table, replace.

* Tape too long

- Use only tapes of good quality and less than C30.

* Cassette not seated correctly

- Check for correct location lid must shut flat.

4. Unable to Save

* Protection tab removed from cassette

- Replace with sticky tape.

* Incorrect command entered

- Refer to Spectrum manual.

* Sprint not correctly connected.

- Check.