



INSTRUCTION MANUAL FOR THE FINAL
INSPECTION AND TEST SYSTEM FOR THE BBC
MICROCOMPUTER USING A TEST STATION

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Within this manual and its associated software the letters "BBC" are used as an abbreviation for the British Broadcasting Corporation

AMF 7/83
403,015 ISSUE 1

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SECTION 1

INTRODUCTION

1.1: GENERAL

This manual is intended to provide all the instructions necessary to operate the Final Inspection Testing system (FIT), with a Test Station, for the BBC microcomputer, all of which are designed and manufactured by Acorn Computers Ltd. of Cambridge, England. The FIT is intended to be used by subcontract manufacturers and the Acorn dealers who will be servicing the BBC machine.

1.2: THE BBC MICROCOMPUTER

The BBC machine is currently available in several versions. All versions are powerful, self-contained computer systems with the ability to generate high resolution colour graphics and synthesise music. The Model B is an enhanced version of the A, and both are capable of being greatly expanded, either on purchase or at a later date, to include such options as Floppy Disc Interface, Econet, speech and high-level language ROMs. There is also a selection of external, plug-in options, such as printers and additional processor systems. This is not intended to be an exhaustive description of the BBC computer systems, but should the reader require such it is suggested that they consult the service manual.

1.3: THE FINAL INSPECTION TESTING SYSTEM (FIT)

The FIT is designed to test the BBC machine after it has been fully assembled and just before it is packed and dispatched, whether by a manufacturer or a dealer who has serviced it. As such it therefore requires no connection to the computer other than those easily accessible with the case assembled.

The program used by the FIT can be supplied in three forms, cassette, disc, or ROM. It is intended that the cassette version should be generally used, but high volume manufacturers and Dealers testing Econet systems must have a separate BBC computer as a test station with the special ROMs. The operation of the FIT requires no special skills, as it is totally automatic, but it will pause at various points to allow the operator to approve displays or sounds. The next step of the test is then started by pressing the space bar.

This manual details the use of the FIT with a Test Station. There are other manuals available for the FIT as used with the Cassette or Disc programs.

The use of the FIT, in conjunction with the PET (See appendix B), should enable both manufacturers and dealers to be confident that the computer they are about to dispatch is fully operational.

1.4: TESTS POSSIBLE

The Test Station with the current issue ROMs (Version 1.0) can test the following machines:

- (a) Model A

- (b) Model B
- (c) Model A with Econet
- (d) Model B with Econet
- (e) Model B with Disc
- (f) Model B with Econet and Disc

Speech will be tested in all cases, if fitted.

There is also a "Cursory" test, which is for use by manufacturers only and is NOT a full FIT test. This should NEVER be used to replace a FIT test unless written permission is received from the Quality Control Department of Acorn.

1.5: LIMITATIONS AND CONSTRAINTS

There are only two areas where the FIT is not effective. The first, and most obvious, is where a computer is incapable of communicating or being communicated with. The FIT is not intended to be used as a fault diagnoser but as a final check system to ensure confidence in manufacture or repair. Acorn Computers can supply a module, called the PET (see Appendix B), which can be used with an apparently "dead" machine.

The second area in which the FIT is limited is RAM testing. This was omitted from the software design because a full test would take between 5 and 7 minutes and, in our experience, the majority of malfunctioning RAM chips tend to have an easily visible fault. If we hear of major problems in this area we will, of course, take the appropriate action.

The FIT is intended for use in conjunction with the PET (see Appendix B). Although there are areas which are tested by both, where this occurs the tests are designed to operate differently to ensure full, correct operation of the machine. A computer may not be despatched unless it has passed FIT.

SECTION 2

EQUIPMENT DETAILS

2.1 THE FIT BOARD

Your FIT should arrive packaged with all leads attached. The only other items in the box should be a manual, a cassette containing the FIT test programs and a 5-pin DIN plug with internal links for the RS423 socket of Model Bs. Should anything be missing or damaged, please contact Acorn Computers immediately, quoting the order acknowledgement number. It is strongly recommended that you mark the ends of the leads connected to the FIT in case they become disconnected later on.

The full FIT PCB assembly consists of the following items:

- (a) The main FIT board, measuring 255mm x 95mm, with four headers and two 7-pin DIN sockets attached.
- (b) 34-way ribbon cable with two IDC sockets, connected to (a) PL1
- (c) 20-way ribbon cable with two IDC sockets, connected to (a) PL2
- (d) 26-way ribbon cable with two IDC sockets, connected to (a) PL3
- (e) 20-way ribbon cable with one IDC socket, connected to (a) PL4, and one 15-way "D" type connector

Some FIT test programs are also available on Discette as a separate item.

2.2: THE TEST STATION

The Test station upgrade kit comes as three separate items which are:

(a) MODELS A & B TEST STATION KIT : Consisting of:
FIT ROMs. These fit inside the Test station and contain the programs necessary for testing all types of BBC Machine currently available. Two 7-way cassette leads for connecting the test station to the UUT via the FIT board.

(b) FIT ECONET TEST KIT : Consisting of:
Econet test box, complete with two Econet leads and one 20-way ribbon cable. This is necessary when testing Econet machines.

(c) DISC TEST KIT : Consisting of:
Three assorted Discettes for use during the Disc test routine, or on their own. An 80-track double-sided dual disc drive is also required for testing the disc interface.

All details required for assembling a test station are included in appendix A.

The connection details are contained in the next section.

SECTION 3

CONNECTING THE FIT TO THE UNIT UNDER TEST (UUT)

3.1: GENERAL

This section will cover the connection details for all possible test situations in which the FIT is used. It is therefore important that you identify the correct section before starting to connect your FIT (See 3.7).

3.2: MODEL A

Connect the Test station (TS), FIT and Unit Under Test (UUT) together as follows:

- (a) Connect UUT to Colour TV.
- (b) Connect UUT to B&W monitor.
- (c) Connect UUT cassette port to FIT board DIN socket marked "UUT".
- (d) Connect TS cassette port to FIT board DIN socket marked "FIT MASTER".
- (e) Connect TS to Monitor/TV (preferably colour).

3.3: MODEL B

In addition to the connections in 3.2, attach the FIT as follows:

- (a) Plug 34-way ribbon cable from PL1 to 1MHz bus port.
- (b) Plug 20-way ribbon cable from PL2 to user port.
- (c) Plug 26-way ribbon cable from PL3 to printer port.
- (d) Plug 20-way ribbon cable from PL4 to analogue port.
- (e) Connect RGB monitor to RGB port of UUT.
- (f) Fit RS423 "Loopback" plug to RS423 port of UUT.

3.4: CURSORY TEST

Connect the machine as appropriate to its Model, following the instructions in 3.2 or 3.3.

3.5: MACHINES WITH DISC INTERFACE

In addition to the connections detailed in 3.2 and 3.3 connect an 80-track double-sided dual disc drive to the UUT as follows:

- (a) Plug 34-way ribbon cable from disc drive into disc drive port of UUT.
- (b) Plug 4-way power lead from disc drive into output from the Dower supply on the UUT.

3.6: MACHINES WITH ECONET

Connect the machine as detailed in 3.2 and 3.3 (and 3.5, if appropriate). Then connect the Econet test box as follows:

(a) Connect the Econet socket on the UUT to the test box socket marked "UUT" via an Econet cable.

(b) Connect the Econet socket on the TS to the test box socket marked "TESTER" via an Econet cable.

(c) Connect the 20-way socket on the test box to the "User Port" of the TS.

(d) Connect the power lead from the test box to the output on the front of the TS power supply.

3.7: QUICK CONNECTION GUIDE

TEST	FOLLOW CONNECTION DETAILS
Model A	3.2
Model B	3.2 and 3.3
Cursory Model A	3.2
Cursory Model B	3.2 and 3.3
Model B with Disc	3.2, 3.3 and 3.5
Model A with Econet	3.2 and 3.6
Model B with Econet	3.2, 3.3 and 3.6
Model B with Disc and Econet	3.2, 3.3, 3.5 and 3.6

SECTION 4

RUNNING THE FIT

4.1: GENERAL

This section covers the methods for starting up and running the FIT in all its possible modes. Again, care must be taken to ensure that the correct instructions are followed for your particular setup.

Once everything is connected, as detailed in the previous section, turn the test station ON whilst holding down the SPACE bar. The TS display will then show:

```
BBCpu FINAL TEST STATION TEST A, B, Cursory, Disc or Econet?
```

Typing in the first letter of the type of test required (ie. A, B, C, D or E) will select the correct test from ROM (see 4.8 for quick guide to correct test) and display the message:

Type 'CHAIN'"'"' on UUT, then press a key

Turn the UUT ON and then follow the instructions from the correct section below.

4.2: MODEL A

4.2.1 MODEL A LOADING

PROCEDURE The UUT screen

should show: BBC Computer 16K

BASIC

Type:

```
CHAIN'"'"'
```

on the UUT keyboard (don't forget RETURN!) and press SPACE on the TS. The TS display then shows:

```
BBCpu FINAL TEST STATION
```

```
TEST A, B, Cursory, Disc or Econet?A
```

Type '"CHAIN'"'"' on UUT, then press space Sending Model A tests

whilst the UUT screen adds:

Searching

Loading

TEST 00

and the numbers (in Hex) will slowly increase (just as when loading a cassette) until the test program transfer is complete. A typical final number is: 08 081F.

4.2.2 RUNNING MODEL A TESTS

The test sequence starts by clearing the UUT displays and then gradually printing:

BBCpu MODEL A TEST

PASS BASIC

PASS OS

CHECK SOUND OK, THEN PRESS SPACE

These are ROM CRC checks. The messages have been abbreviated in order to fit in a Model A. If either of these has failed (e.g. the OS ROM) the appropriate line will be replaced by:

FAIL OS

printed in red. This does not stop the remainder of the tests, so note any failiures and continue.

The sound test consists of a sequence of five notes played through the computers own Loudspeaker. The operator should check that these are being reproduced correctly and with no background noise. Then press the space bar, as instructed, to continue.

The screens on the UUT will then be filled with vertical bars of the 7 available colours, with shortened versions of their names at the top (WHITE, RED, GREEN, YELO, BLUE, MAG, CYAN).

After confirming that these are correct (or noting any errors) continue to the next section by pressing the space bar. This will cause a sting of characters, i.e. letters, numbers and symbols, interspersed with blank lines, to scroll up from the bottom of the screen, headed by the legend "MODE 4". The characters are the full keyboard, both lower and upper case, in mode 4 format. After checking that the scroll worked properly and that the characters are of the correct shape, proceed by pressing space. The display will then become a repeat of the last, but in mode 6. Check as before and press space.

The next section of tests checks the colour backgrounds and mode 5 text. This is done by displaying the background colours, one by one, with the legend "RED BACKGROUND" etc. in mode 5 text at the top. The sequence of colours is: Red, Green, Yellow, Blue, Magenta and Cyan. Skip from one to the next with the space bar.

These tests are followed by a sequence of two tests repeated three times. The tests are:

BLACK BACKGROUND: A solid black background with the legend "BLACK BACKGROUND" in white at the top. Check for solid colours and correct shape letters.

FLASHING BLACK/WHITE BACKGROUND: A flashing black and white background

with the legend at the top in white/black. Check as before. Proceed from test to test with the space bar, as normal.

The final section of the test is concerned with the keyboard. After the final background test press space, and the screen will show a map of the keyboard. In order to check the operation of every key, press all of them in turn and they will clear from the display. Be sure to leave the "BREAK" until last, or else you will delete the program and have to start again!

If the speech option has been fitted to the machine this will also be tested. This is done prior to the Basic ROM CRC and consists of a CRC check on the Phrase ROM (or PHROM as it is known!). The message "PASS SPEECH" will appear and the computer will say "PHROM found.". This does take a little time, so don't be surprised if there is a short pause in the program.

4.3 MODEL B

4.3.1 MODEL B LOADING PROCEEDURE

The loading proeedure for Model B is identical to the one for Model As, except that the message:

BBC Computer 32K

BASIC

>_

will appear and you should, of course, select the Model B tests on the TS.

4.3.2 RUNNING MODEL B TESTS

The model B tests are an extension of the model A sequence. The screens are all cleared as before, but will then show:

BBCpu MODEL B TESTS

PASSED 1MHZ BUS
PASSED PRINTER LINES
PASSED USER I/O
OUTPUT PASSED SER I/O
INPUT PASSED A/D
CHANNELS PASSED RS423
PASSED BASIC ROM
CRC PASSED OS ROM CRC

CHECK SOUND OK, THEN PRESS SPACE

or FAILED, as for Model A.

The sound test is identical to Model A.

This is followed by the colour bar test, as Model A, and then the text mode tests, which are the same as for A except that the order of displays is:

MODE 0
MODE 1
MODE 2
MODE 3
MODE 4

MODE 6

'These are followed by the background/Mode 5 and keyboard tests which are identical to the Model A versions. Speech will be tested (as Model A, except that the full "PASSED" message will appear and the machine will say "Another Acorn PHROM found. Program running.") if fitted.

4.4: CURSORY TEST

The cursory test is NOT a full FIT test and MUST NEVER BE USED TO REPLACE THE FIT without specific written consent from the Quality Control Department of Acorn Computers. It was designed for use by Production sites as an intermediate test during assembly.

The cursory test is intended for use on Model B computers but can be used on Model As if the FAIL messages for the additional Model B I/O units are ignored.

4.4.1 LOADING THE CURSORY TEST

This is identical to the Model A load procedure except, of course, that the "Cursory" option (C) should be selected on the Test Station.

4.4.2 RUNNING THE CURSORY TESTS

As with all the FIT tests the Cursory test will start automatically. It consists of the colour bar test (as for Model A or B), but this fills only half the screen. The lower portion of the display then fills with the standard Model B pass/fail messages in abbreviated form. This sequence is repeated until "BREAK" is pressed on the UUT. Speech will be tested (as Model B) if fitted.

4.5 DISC TESTS

This test is intended for use on machines with a disc interface fitted. If a machine also has an Econet interface then follow the instructions in section 4.6 (Econet Tests).

4.5.1 LOADING THE DISC TESTS

When switched on the UUT MUST display the message:

BBC Computer 32k

Acorn DFS

BASIC

This must be checked.

Before it is possible to Load the tests from the Test Station the UUT must be set up to receive through the cassette interface. This is done one of two ways:

(a) Type

*TAPE (RETURN)

on the UUT. This can be abbreviated to

*T. (RETURN)

(b)Hold down SPACE and press BREAK.

The UUT is now ready and the tests are loaded in the usual manner (see Model A) except select D (for disc) on the test station.

DON'T FORGET!!! When you are testing a Disc machine insert the "test disc" into drive 0 and the "drive 1 scratch disc" into drive 1 on the UUT before the tests start!

4.5.2 RUNNING THE DISC TESTS

The disc test sequence consists of a series of disc tests in the middle of the standard Model B tests. The initial program is transmitted to the UUT via the cassette link (as usual). This will cause the UUT to display:

BBCpu MODEL B + DISC TESTS

```
PASSED 1MHZ BUS
PASSED PRINTER LINES
PASSED USER I/O OUTPUT
PASSED USER I/O INPUT
PASSED A/D CHANNELS
PASSED RS423
```

as for the startof the Model B sequence. The program then accesses the drives and runs a series of tests which will add to the display:

```
PASSED DRIVE SELECT
PASSED WRITE PROTECT
```

and the message "Change disc in drive 0 for scratch disc. Press space to continue" will appear at the bottom of the screen. Follow these instructions and the drives will spin and the screen will add:

```
PASSED SECTOR SAVE P
ASSED SECTOR READ P
ASSED R/W DATA
```

and the message "Change disc in drive 0 for scratch disc. Press space to continue" will appear at the bottom of the screen. Follow these instructions and the drives will spin and the remainder of the Model B tests will be run. These start with the ROM CRC checks (including speech if fitted) and include the extra test for the DFS ROM CRC, which displays the usual format pass/fail message.

4.6 ECONET TESTS

These tests are designed for machines with Econet interfaces, wether or not a Disc interface is fitted. They consist of a series of Econet tests followed by the appropriate sequence of other tests (A, B or D). The type of test to be run after the Econet series is decided by the test station and requires no operator intervention.

4.6.1 LOADING THE ECONET TESTS

When switched on the UUT MUST display the message:

```
BBC Computer XXX
Econet station no. XXX
BASIC
```

This must be checked. If the machine is a Model B + Disc + Econet, the standard Disc message may appear on startup. Check this and then switch to NFS by holding down the N key and pressing "BREAK". Then proceed as normal.

Before it is possible to load the tests from the Test Station the UUT must be set up to receive through the cassette interface. This is done one of two ways:

(a) Type

```
*TAPE      (RETURN)
```

on the UUT. THIS CAN BE ABBREVIATED TO

```
*T.        (RETURN)
```

(b) Hold down SPACE and press BREAK.

The UUT is now ready and the tests are loaded in the usual manner (see Model A) except select E (for Econet) on the test station.

DON'T FORGET!!! If you are testing a Disc and Econet machine insert the "test disc" into drive 0 and the "drive 1 scratch disc" into drive 1 on the UUT before the tests start!

NOTE: The test station is ALWAYS Econet Station No. 99. If the machine under test is also 99 it must be changed or the tests will not work.

4.6.2 RUNNING THE ECONET TESTS

A short test program is transferred to the UUT via the cassette link. This requests the values of page and himem (so that the TS can decide which set of tests to run after the Econet series). The UUT replies down the cassette link (displaying the message "Sending to test station") and once this is complete the full series of tests is transferred to the UUT via the Econet. This results in the UUT screen clearing and then showing:

BBCpu ECONET INTERFACE TESTS

```
PASSED CLOCK DETECT LOGIC
PASSED CLOCK SPEED
PASSED CLOCK JITTER
PASSED COLLISION DETECT STABILITY PASSED
COMMUNICATION ON GOOD LINE --1 PASSED
COLLISION DETECT
```

PASSED COMMUNICATION ON POOR LINE --1

whilst the TS shows:

BBCpu ECONET INTERFACE TESTS

PASSED TEST PROGRAM TRANSFER

PASSED CLOCK DETECT LOGIC

PASSED CLOCK SPEED

PASSED CLOCK JITTER

PASSED COLLISION DETECT

STABILITY PASSED COMMUNICATION ON

GOOD LINE --2 PASSED COMMUNICATION

ON GOOD LINE --1 PASSED COLLISION

DETECT

PASSED COMMUNICATION ON POOR LINE -

-2 PASSED COMMUNICATION ON POOR

LINE --1 PASSED TEST PROGRAM TRANSFER

It is important here to watch the TS results as well as the UUT results, because of the extra information displayed.

The series of tests appropriate to the machine (ie. A, B or Disc) will then run, as detailed in the above descriptions. There will be one extra line within this sequence stating "PASSED NFS ROM CRC". This will appear at the start of the ROM CRC checks.

4.7 WHEN THE TESTS ARE COMPLETE

The final item to check before the UUT can be accepted or rejected is that the TS screen is once again asking:

TEST A, B, Cursory, Disc or Econet?

or saying

Press space to continue

If neither of these messages is present then the UUT has failed due to the inability to transmit through the cassette interface.

Assuming that all messages on the screen have begun "PASSED" and the remainder of the tests have appeared visually or aurally correct, then the machine may proceed to the next stage of manufacture, or returned to the customer. If any one or more of the tests were unsatisfactory then the machine must be sent for repair and re-tested before it can be accepted.

4.8: QUICK TEST SELECTION GUIDE

MACHINE UNDER TEST	FOLLOW TEST DETAILS	TEST STATION OPTION
Model A	4.2	A
Model B	4.3	B
Cursory Model A	4.4	C
Cursory Model B	4.4	C
Model 8 with Disc	4.5	D
Model A with Econet	4.6	E
Model B with Econet	4.6	E
Model 8 with Disc and Econet	4.6	E

SECTION 5

ERROR MESSAGE INTERPRETATION

As mentioned in Section 1 the FIT is only intended as a final confidence tester for the BBC microcomputer and will only deliver Pass/Fail messages. The appearance of any Fail message should be noted, as must any abnormalities in the sound and screen tests, and the repair department informed. It is then intended that the Progressive Establishment Tester should be used to help locate the exact area of the fault.

SECTION 6

SERVICE REPORT

It will be appreciated if you could fill in a copy of the Standard Acorn Service Report form and return it to the Service Department at Acorn Computers ever, time a BBC machine is repaired. Outside of the United Kingdom, the forms should be used as directed by the national dealer.

In the case of repairs under warranty, this form provides the mechanism by which the service organisation can be reimbursed for work done and restocked with servicing spare parts. The warranty period is 26 weeks from the date of despatch from Acorn Computers customer order fulfilment house. The warranty period is extended by 26 weeks from the date of repair, but only for those new parts used.

For repairs outside the warranty period, the form is used to report faults back to Acorn and the customer is charged at the agreed rate by the service organisation.

The form may also be used at any time to report modifications which have been carried out as directed by Acorn computers for which the service organisation should be reimbursed. For instance, the replacement of the early EPROM operating system with the Later ROM version.

APPENDIX A

CONVERTING A BBC COMPUTER TO A TEST STATION

1: EQUIPMENT NEEDED

- (a) BBC Microcomputer Model B or Model B + Econet (for testing Econet machines). NOTE: For an Econet Test Station, it is very strongly recommended that Issue 4 or later machines are used for the Test Station.
- (b) FIT Models A & B Test Kit
- (c) Two short lengths of linking wire.
- (d) FIT PCB

2: PROCEDURE

- (a) Dismantle the BBC computer and remove the main PCB from the case.
- (b) Remove ALL ROMs (i.e. anything in ICs 51, 52, 88, 100 and 101).
- (c) Cut two tracks as detailed:
 - (i) The track on the solder side of the PCB which travels from IC 51 pin 1, due North for 9mm to a through-hole.
 - (ii) The track on the component side of the PCB which travels from IC 51 pin 27, due west, between IC 51 pins 1 & 2, then North west and finally due west just below S34.
- (d) Link IC 51 pins 1 & 27 to +5v., e.g. IC 51 pin 28.
- (e) Now fit the ROMs as detailed:

- IC51: TOS (from test kit).
- IC52: BASIC (from original machine).
- IC88: NFS (from original machine, if fitted, otherwise empty)
- IC100: FTR2 (from test kit).
- IC101: FTR1 (from test kit).

Ensure that these are fitted the correct way round - ie. with the semi-circular cutout on the ROMs to the north.

- (f) If Econet is fitted, set the Econet Station number to 99. This is done by setting the links on S11 as follows:

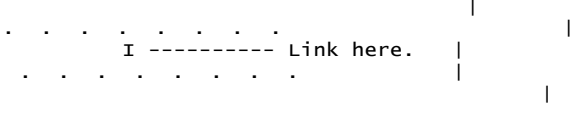
NORTH

0 0
0 0
0--0
0--0
0--0
0 0
0 0
0--0

SOUTH

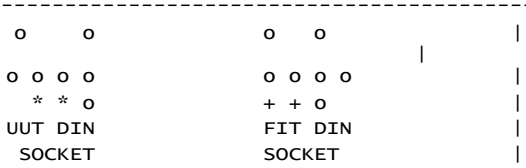
where 0--0 denotes a link.

(g) On the Keyboard PCB, fit a wire link across the fifth pair of holes of the "option switches" situated in the bottom right corner. i.e.:



(h) Reassemble the computer.

(i) On the FIT PCB, solder a 1K5 resistor (supplied in the kit) to the bottom of each DIN socket across the two pins marked * and across the two pins marked + below:



3: TESTING THE TEST STATION

The only way to fully test the test station is with another test station. However, there are certain checks which can be carried out to ascertain if the modifications are correct.

(a) Plug the test station in and connect a screen of any type (TV, RGB monitor or b/w monitor). The message:

```

BBC Computer 32K
Econet Station 099 No Clock
-
  
```

must appear if the Econet is fitted, otherwise the standard test station message (see section 4) will appear.

(b) Hold down SHIFT and press BREAK, and the standard prompt message should appear. Then type:

*HELP (RETURN)

and you should receive the message:

```

NFS 3.34
TOS 1.20
>-
  
```

which indicates the versions of the Econet (NFS, if fitted) and Test operating system (TOS) EPROMS fitted.

(c) Type:

*ROM (RETURN)
*OPT1 2 (RETURN)
*CAT (RETURN)

and check that the following information is displayed:

R	03	0385	00001800	0000801F
FIESTA	08	0808	00001800	0000801F
FTESTB	0C	0C4D	00001800	0000801F
FTESTC	06	0673	00001B00	0000801F
!BOOT	00	002C	00002C00	00002C00
FTESTE1	00	00AF	00002C00	00002C00
FTESTE2	0F	0F36	00001800	0000801F
ASS1	05	0541	00001800	0000801F
ASS2	05	0570	00001800	0000801F
FTESTEB	0C	0CDD	00001800	0000801F
FITFORM	01	01BD	00001800	0000801E
FTESTD1	00	0019	00001B00	0000801F
FTESTD2	0D	0009	00001800	0000801F
FTESTD3	05	05E7	00001800	0000801F

This is a catalogue of the contents of the special FIT EPROMS (Note: the numbers given are for Version 1.0 software). It should appear exactly as above and not include any other statements, like:

DATA?

which indicate a fault in the EPROMS, probably due to incorrect insertion.

(d) Turn the computer OFF. Hold down the "SPACE" bar and turn ON. After about 5 seconds the heading:

BBCpu FINAL TEST STATION

TEST A, B, Cursory, Disc or Econet?

will appear. The test station is now ready for use, as detailed in the main body of this manual. The correct operation of the Station should only be doubted if the same faults are recorded for any machine tested.

