CableJoG512 ^(TM)

`APPENDIX - E`

ERROR MESSAGES

Only 1024 pairs of connections allowed.

`Err Too Many Conns`

zero is not a valid pin number

`Error Pin addr =000`

greater than 512 is not a valid pin number.

`Error Pin addr >512`

Trying to run TEST with having anything in compare memory to test against.

`Err No Cable learned`

In EDIT 'from' address has to be less than 'to' address.

`Error From addr>To`

In EDIT 'from' and 'to' have to be different.

`Error From = To`

In EDIT connection buffer full.Only 1024 pairs of connections allowed.

`Error Buffer full`

| 64way	d' type	1-64 skt 1	65-128 skt 2	129-192 skt 3	193-256 skt 4	257-320 skt 5	321-384 skt 6	385-448 skt 7	449-512 skt 8
1	1	A01H	A21H	A41H	A61H	B01H	B21H	B41H	B61H
2	14	A01C	A21C	A41C	A61C	B01C	B21C	B41C	B61C
3	2	A01S	A21S	A41S	A61S	B01S	B21S	B41S	B61S
4	15	A02H	A22H	A42H	A62H	B02H	B22H	B42H	B62H
5	3	A02C	A22C	A42C	A62C	B02C	B22C	B42C	B62C
6	16	A02S	A22S	A42S	A62S	B02S	B22S	B42S	B62S
7	4	A03H	A23H	A43H	A63H	B03H	B23H	B43H	B63H
8	17	A03C	A23C	A43C	A63C	B03C	B23C	B43C	B63C
9	5	A03S	A23S	A43S	A63S	B03S	B23S	B43S	B63S
10	18	A04H	A24H	A44H	A64H	B04H	B24H	B44H	B64H
11	6	A04C	A24C	A44C	A64C	B04C	B24C	B44C	B64C
12	19	A04S	A24S	A44S	A64S	B04S	B24S	B44S	B64S
13	7	A05H	A25H	A45H	A65H	B05H	B25H	B45H	B65H
14	20	A05C	A25C	A45C	A65C	B05C	B25C	B45C	B65C
15	8	A05S	A25S	A45S	A65S	B05S	B25S	B45S	B65S
16	21	A06H	A26H	A46H	A66H	B06H	B26H	B46H	B66H
17	9	A06C	A26C	A46C	A66C	B06C	B26C	B46C	B66C
18	22	A06S	A26S	A46S	A66S	B06S	B26S	B46S	B66S
19	10	A07H	A27H	A47H	A67H	B07H	B27H	B47H	B67H
20	23	A07C	A27C	A47C	A67C	B07C	B27C	B47C	B67C
21	11	A07S	A27S	A47S	A67S	B07S	B27S	B47S	B67S
22	24	A08H	A28H	A48H	A68H	B08H	B28H	B48H	B68H
23	12	A08C	A28C	A48C	A68C	B08C	B28C	B48C	B68C
24	25	A08S	A28S	A48S	A68S	B08S	B28S	B48S	B68S
25	13								
26	1	A09H	A29H	A49H	A69H	B09H	B29H	B49H	B69H
27	20	A09C	A29C	A49C	A69C	B09C	B29C	B49C	B69C
28	2	A09S	A29S	A49S	A69S	B09S	B29S	B49S	B69S
29	21	A10H	A30H	A50H	A70H	B10H	B30H	B50H	B70H
30	3	A10C	A30C	A50C	A70C	B10C	B30C	B50C	B70C
31	22	A10S	A30S	A50S	A70S	B10S	B30S	B50S	B70S
32	4	A11H	A31H	A51H	A71H	B11H	B31H	B51H	B71H
33	23	A11C	A31C	A51C	A71C	B11C	B31C	B51C	B71C
34	5	A11S	A31S	A51S	A71S	B11S	B31S	B51S	B71S
35	24	A12H	A32H	A52H	A72H	B12H	B32H	B52H	B72H
36	6	A12C	A32C	A52C	A72C	B12C	B32C	B52C	B72C
37	25	A12S	A32S	A52S	A72S	B12S	B32S	B52S	B72S
38	7	A13H	A33H	A53H	A73H	B13H	B33H	B53H	B73H
39	26	A13C	A33C	A53C	A73C	B13C	B33C	B53C	B73C
40	8	A13S	A33S	A53S	A73S	B13S	B33S	B53S	B73S
41	27	A14H	A34H	A54H	A74H	B14H	B34H	B54H	B74H
42	9	A14C	A34C	A54C	A74C	B14C	B34C	B54C	B74C
43	28	A14S	A34S	A54S	A74S	B14S	B34S	B54S	B74S
44	10	A15H	A35H	A55H	A75H	B15H	B35H	B55H	B75H
45	29	A15C	A35C	A55C	A75C	B15C	B35C	B55C	B75C
46	11	A15S	A35S	A55S	A75S	B15S	B35S	B55S	B75S
47	30	A16H	A36H	A56H	A76H	B16H	B36H	B56H	B76H
48	12	A16C	A36C	A56C	A76C	B16C	B36C	B56C	B76C
49	31	A16S	A36S	A56S	A76S	B16S	B36S	B56S	B76S
50	13	A17H	A37H	A57H	A77H	B17H	B37H	B57H	B77H
51	32	A17C	A37C	A57C	A77C	B17C	B37C	B57C	B77C
52	14	A17S	A37S	A57S	A77S	B17S	B37S	B57S	B77S
53	33	A18H	A38H	A58H	A78H	B18H	B38H	B58H	B78H
54	15	A18C	A38C	A58C	A78C	B18C	B38C	B58C	B78C
55	34	A18S	A38S	A58S	A78S	B18S	B38S	B58S	B78S
56	16	A19H	A39H	A59H	A79H	B19H	B39H	B59H	B79H
57	35	A19C	A39C	A59C	A79C	B19C	B39C	B59C	B79C
58	17	A19S	A39S	A59S	A79S	B19S	B39S	B59S	B79S
59	36	A20H	A40H	A60H	A80H	B20H	B40H	B60H	B80H
60	18	A20C	A40C	A60G	A80G	B20C	B40C	B60G	B80G
61	37	A20S	A40S	A60S	A80S	B20S	B40S	B60S	B80S
62	19								

CONTENTS

INTRODUCTION

CableJoG512 takes the concept of truly portable intelligent ribbon cable & cable harness testing a step further by increasing the number of test points. CableJoG will identify any pattern of connections between any of the 512 connector points. The display will identify each connection made in terms of the connectors true pin number. These connections can then be stored and retrieved at a later time. Using connectors crimped onto ribbon cable, Cable-JoG is both robust in use and simple to repair when worn out .

CableJoG512:

CABLEJOG PSU:

If the PSU supplied is of the switchable voltage and polarity type then please make sure the polarity switch is set to + and the voltage switch is set to 12V.
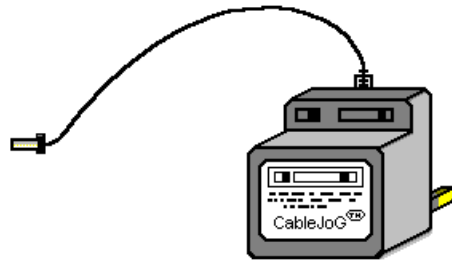
APPENDIX - C

SELF TEST CABLES

No: Description:
59   JOG512 A test
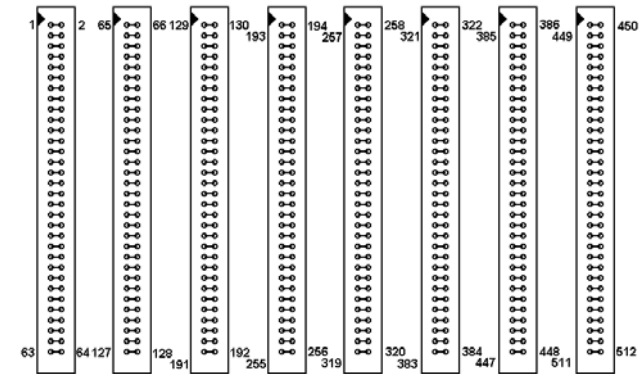
60   JOG512 B test
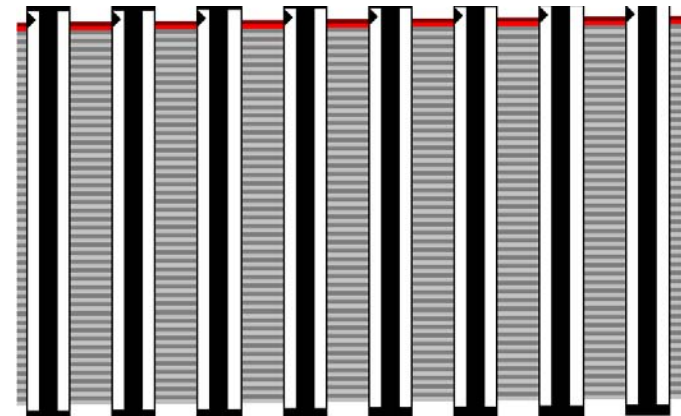
APPENDIX - B

CONNECTOR TYPES

64way IDC
60way IDC
50way IDC
40way IDC
34way IDC
30way IDC
26way IDC
20way IDC
16way IDC
14way IDC
10way IDC

37way 'd' type
25way 'd' type
15way 'd' type
9way 'd' type

50way Centronics
36way Centronics
24way Centronics
14way Centronics

80way SCSI
68way SCSI

1 way

FUNDAMENTALS

Cable testing, whether using LEARN or TEST, start with a signal being set on pin1 of the first connector. The signal is then checked for on all the other 511 pins. If a connection is found the pin number is converted into a connector label and then stored in compare memory. The signal is then moved onto pin2 and again all the other (510) pins are checked for a connection. The process is repeated until pin512 is reached.

FUNDAMENTALS

APPENDIX - A
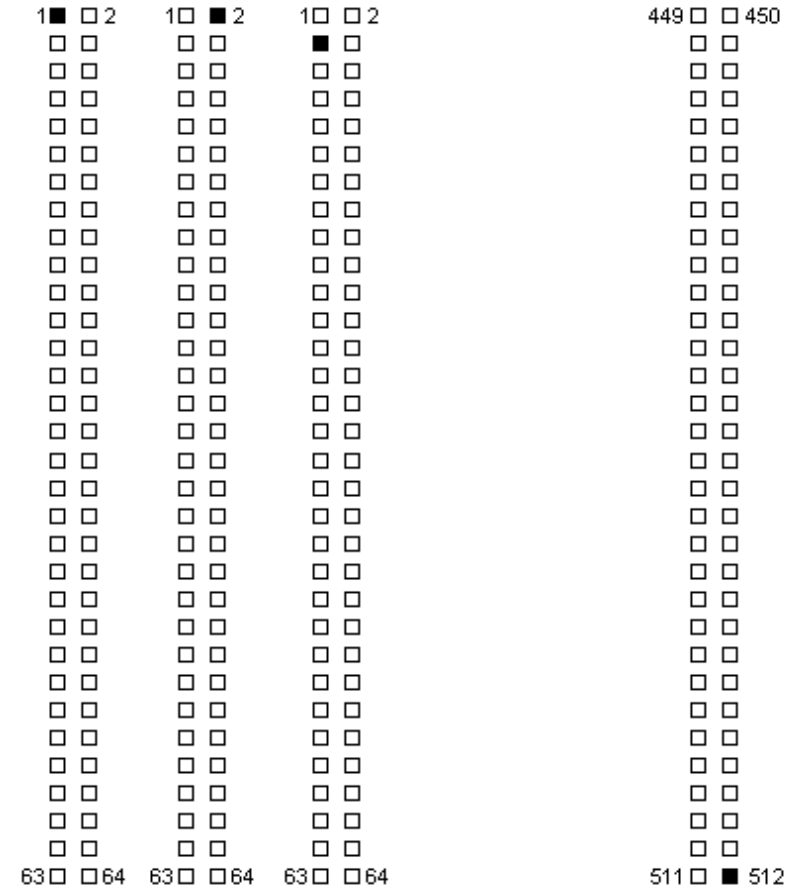
Using the ribbon or IDC versions of the popular multipin connectors it is very easy to assemble a customised test box enabling a great variety of cables/harnesses to be tested. The pin numbering varies between these connector types and normally a 'look up' chart would have to be used to identify a real connection. The figure below shows some of the possibilities:-

26 way idc

25 way 'd' type

24 way Centronics

16 way idc

15 way 'd' type

14 way idc

14 way Centronics

10 way idc

9 way 'd' type

All of these connectors and more are supported by CableJoG so once the connector type has been selected the number displayed will be the actual pin number on the connector. To be of any use CableJoG has to have the relevant connections in its compare memory.

The connections can be entered into the compare memory three different ways. Firstly using EDIT the details can be entered, via the keyboard, off a wire list or circuit diagram. Secondly, using a known actual cable you can LEARN the details. Thirdly if the details have been previously stored they can be retrieved by using RECALL.

Battery Replacement

CMOS memory and clock battery. This is a Lithium CR AA PCB mount cell. Should this need replacing you will need to use a soldering iron to remove the old battery and insert the new. **DO NOT USE** a rechargeable battery in this case.

To change the battery the plastic box needs to be 'split' open without damaging its construction. The preferred method is:-

a) Stand the main box upright on its side.

b) Press hard in the middle of the box, the two halves should start to separate.

c) Whilst still pressing in the middle, unhook one end of separating halves, this should stay open.

d) Whilst still pressing in the middle, unhook the other end. The two halves are now partly open.

e) Turn the box over and repeat the process.

f) Remove the 5 or 6 screws holding the main board to the input/output board.

g) Locate and replace the battery.

If the battery hasn't actually died then it can be replaced without loss of data. This is simply achieved by having the unit powered and switch ON during the battery change over.

To re-assemble the box, align the two halves and press gently until the halves click into place.
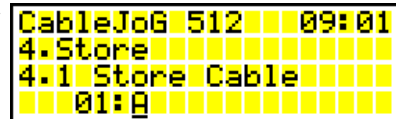
If in doubt contact CableJoG.

SPECIAL USES/STAGED TESTING SETUP

18. Press the ENTER key, you will see the first location in the cable memory:

```
CableJoG 512    09:01
4.Store
4.1 Store Cable
      01:
```
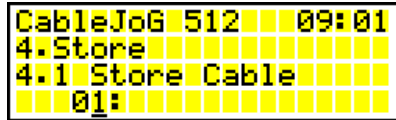
19. In this example location 01 is empty and we shall use it to store our first stage. Press the ENTER key, you will see:

```
CableJoG 512    09:01
4.Store
4.1 Store Cable
      01:A
```

20. Enter the name for these staged tests, the first eight characters have to be identical for all the included stages, but may have blanks or space characters. Press the ENTER key when done. The display will return to the main menu.

21. Repeat steps 5 to 20 for each testing stage.

22. To start testing remove any cabling and RECALL the first stage. then start testing.

FUNDAMENTALS

Once the compare memory has the details it can use them to test an unknown cable through the TEST menu option. Testing can be configured to either a one pass/fail test, or to carry on testing if the cable passes, but to stop once a fail has been detected enabling the cable to be shaken to possibly identify intermittent connections. Or in continuous testing where the test is run continuously regardless of the presence, or not, of the cable. This enables 'hands free' use of CableJoG.

Multiple plugs or 'looms' can be easily set up on CableJoG, below is an example of a test assembly to test 5 small plugs. The plug identities A to E are allocated when the cable is learnt, but can be changed to whatever is required later using the Edit menu.

The purpose of selecting five connectors and inputting the start positions of each of them enables CableJoG to use 'real' pin identification when displaying a short, open or crossed connection.
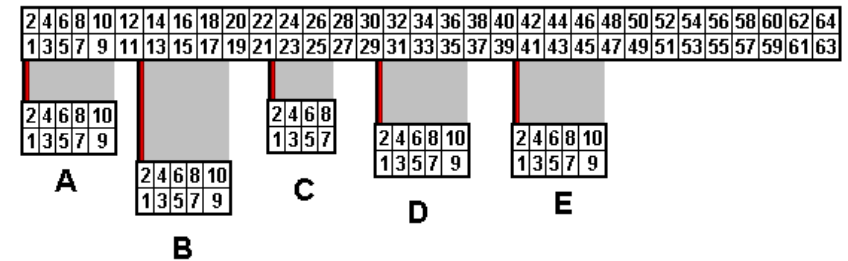
Again the example above would produce a table of Pin Address and Plug Label as follows:-

Address : Label	Address : Label	Address : Label	Address : Label	Address : Label
001 = A 01	011 = B 01	021 = C 01	031 = D 03	041 = E 03
002 = A 02	012 = B 02	022 = C 02	032 = D 04	042 = E 04
003 = A 03	013 = B 03	023 = C 03	033 = D 05	043 = E 05
004 = A 04	014 = B 04	024 = C 04	034 = D 06	044 = E 06
005 = A 05	015 = B 05	025 = C 05	035 = D 07	045 = E 07
006 = A 06	016 = B 06	026 = C 06	036 = D 08	046 = E 08
007 = A 07	017 = B 07	027 = C 07	037 = D 09	047 = E 09
008 = A 08	018 = B 08	028 = C 08	038 = D 10	048 = E 10
009 = A 09	019 = B 09	029 = D 01	039 = E 01	
010 = A 10	020 = B 10	030 = D 02	040 = E 02	

GETTING STARTED

Unpack the CableJoG unit and its power supply. If you have a switchable unit please make sure the polarity switch on the power supply is set to + and the voltage switch is set to 12V.

On switching the CableJoG unit ON, the display will show the current software version, date and time. If the date or time are incorrect see page34 on how to adjust it.

```
        CableJoG512
        Version 1.5
        Date  01/05/05
        Time  09:01:00 _
```

Press Enter to move to the Main Menu:

You can use either of the ⬆⬇ keys to move through the menu options, or press the number that corresponds with the menu option you require. On first switch ON the menu prompts will follow a Learn, Store and Test sequence.

```
Main MENU      09:01
0 PROBE
1 LEARN
2 TEST
```

Should you see:-

With the counter counting to 58 then refer to Appendix A on replacing the memory battery backup unit.

```
        CableJoG512
        Version 1.1
RAM Initialising 01
```

After which you will need to enter the CableJoG's serial number:

```
Serial No. 00701000
```

Or should the following appear after the Time display:-

```
        CableJoG512
        Version 1.1
Enter Number: 0000
```

then the operator private identity number (pin) has been set, if you have a valid number you can enter it now, otherwise contact your supervisor. If the number was correctly entered your name will be displayed briefly before moving onto the main menu's:-

```
  Hello Eddie
```

Should a wrong pin number be entered the display will show:-
Press ENTER to try again.

```
  Sorry Wrong No.
```

Should you see:-
then the CableJoG unit Test Mode has been set to 'Press Once' (see page 37).

```
Main MENU      09:01
  1=Learn   2=Test
```

SPECIAL USES/STAGED TESTING SETUP

8. We need to set the current stage number for this cable, this is done by using the EDIT menu. Key '5' for the EDIT menu. You will see:

```
CableJoG 512    09:01
5.Edit
5.1 Cable 00    [y/n]
```

9. Press ENTER. You will see:

```
CableJoG 512    09:01
5.Edit
5.3 Pin Label   [y/n]
```

10. Unless you need to change the Pin Label, key the Right Arrow and press ENTER.
The display will change to:

```
CableJoG 512    09:01
5.Edit
5.4 Serial No.  [y/n]
```

11. Again unless you need to change the Serial numbering, key the Right Arrow and press ENTER.
The display will change to:

```
CableJoG 512    09:01
5.Edit
5.5 Time Stamp  [y/n]
```

12. Again unless you need to change the Time stamping, key the Right Arrow and press ENTER.
The display will change to:

```
CableJoG 512    09:01
5.Edit
5.6 Test Mode   [y/n]
```

13. This is where we set the stage number so, press the ENTER key.
You will see:

```
CableJoG 512    09:01
5.Edit
5.6 Test
      STAGED   [y/n]
```

14. Press ENTER again, the display will change to:

```
CableJoG 512    09:01
5.Edit
5.6 Test
      Stage Number 1
```

15. Enter the stage number and press ENTER to set it. The display will move onto the last option:

```
CableJoG 512    09:01
5.Edit
5.7 Connections[y/n]
```

16. Again unless you need to change the Connections, key the Right Arrow and press ENTER.
The display will change back to the MAIN menu.

17. Now we need to save these details in one of the cable locations using the STORE menu. So for the STORE menu key '4'. You will see:

```
CableJoG 512    09:01
4.Store
4.1 Store Cable[y/n]
```

SPECIAL USES/STAGED TESTING SETUP

Basic Procedure steps
1. Set the TEST MODE to STAGED in Setup (menu 9, sub-menu 4).
2. LEARN a step (use a known good cable that relates to a particular stage).
3. EDIT that cable, changing the TEST type to STAGED and setting the correct stage number.
4. STORE the edited cable.
These steps are repeated until the cable is complete.

Detailed procedure.
1. Select SETUP menu by using the up/down arrow key and pressing ENTER or key '9'. You will see the first three Setup sub-menus:

```
Setup MENU        09:01
0 DATE & TIME
1 BEEPER
2 n/a
```

2. Select TEST MODE menu by using the up/down arrow key and pressing ENTER or key '4'. You will see:

```
Test MODE MENU
0 NO Loop/ONCE
1 LOOP Till Fail
2 CONTINUOUS
```

3. Select STAGED testing by using the up/down arrow key and pressing ENTER or key '4'. The screen will go back to the previous display, if you want to confirm the TEST MODE was set correctly key '4' again and you will see:

```
Test MODE MENU
3 PRESS ONCE
4 STAGED
5 AUDIO CONNECTORS
```

4. To exit from the SETUP menu key '9', this will take you back to the MAIN menu.

5. Learning the cable/stage, connect the cable for the first/next stage and key '1'. You will see:

```
CableJoG 512    09:01
1.Learn
1.1 Any DIODES[y/n]
```

6. LEARN the cable, in this example we are not using the diode option or the connector selection option (for details on these see page 8).
Press the ENTER key twice. You will see the first connection in this example from pin 1 to pin 2:

```
CableJoG 512    09:01
1.Learn
1.4 Connections
 0001. 0001 to 0002_
```

7. Press the ENTER key to confirm each connection until the display returns to the MAIN menu.

```
Main MENU        09:01
0 PROBE
1 LEARN
2 TEST
```

GETTING STARTED

Should the display show:-
The the CableJoG unit test mode has been set to 'Audio' (see page 37).

```
AUDIO test      09:01
   CHANNELS = 01
```

If one or more of the menus do not appear it may be that someone has set the password option on it/them you will need to know the password to gain access. If you have just received CableJoG from sales or repair then please contact CableJoG for further instructions.

Should this message appear:-
Then communications between the keyboard/display unit and the main test box have broken down. Check the connecting cable before calling CableJoG.

```
CableJoG 512 v1.3




                      /
```

The CLEAR key will always take you back to the main menu.

1.Learn   MENU

This menu deals with the process of determining the connections. If the display shows:-

```
      PASSWORD
      REQUIRED
      ENTER
      _
```

Enter the four digit password, if the password is incorrect then you will be taken back to the main menu. If the password is correct or has not been set then the display changes to:-

```
CableJoG 512    09:01
1.Learn
1.1 Any DIODES[y/n]
```
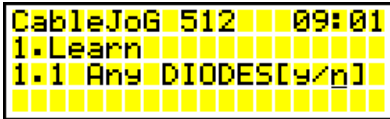
If there are diodes in the cable then press ⌫ to move the cursor under the **Y** then press ENTER, otherwise just press ENTER. With or without diodes the display shows the next stage:-

```
CableJoG 512    09:01
1.Learn
1.2 Sel.Conns.[y/n]
```
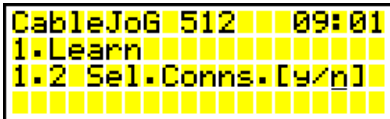
As described in earlier chapters CableJoG works on a four character label for each pin, if you don't want to use this system then press ENTER each pin label will now be its actual number. The cable is then learnt see page 8. otherwise press ⌫ to move the cursor under the **Y** then press ENTER, the next step is to choose the type of connectors used, press ENTER again, the display will show the first connector type:-

```
CableJoG 512    09:01
1.Learn
1.2 Connector    A
      64way IDC [y/n]
```
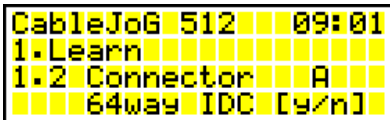
Press ENTER or ⎵ if this is not the correct connector type, otherwise press ⌫ to move the cursor under **Y** then press ENTER to accept that connector. The connector types currently supported can be seen in Appendix B.

Once one of the options has been accepted you have to choose the connectors position within the eight 64 way IDC connectors. The connector pin addresses are numbered on the front of the unit. The display will show:-

```
CableJoG 512    09:01
1.Learn
1.3 Position of A
      Pin 1      0001
```
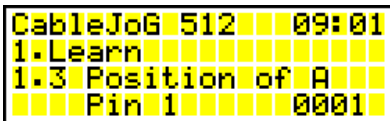
The display is prompting the user to input the location of pin 1 of the connector just selected. The four digit number shown is the first available location, should another location be required use ⎵ ⎴ ⌫ ⎆ keys to change the address to any within the 512 pins.
Press ENTER when finished.

SPECIAL USES / SINGLE ENDED TESTS

Using a shorting plug it is possible to test cables where access to both ends simultaneously is not possible. There are three basic types of shorting plug each has its place in the cable testers tool kit.
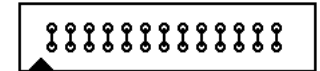
DIODE SHORTING PLUG

Using a diode to connect a pair of wires has the advantage that a short between the pair of wires will be detected and also is the wires are crossed. The cable details need only to be stored once. To enable CableJoG to recognise that a diode test is to be carried out the cable needs to be 'marked' such by including a % character in the cables title when being stored.
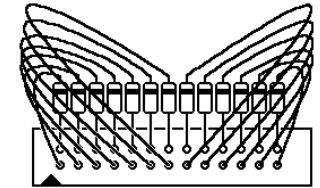
SPECIFIC WIRED PLUG

If the connections are known, but a diode plug is not available then a specific wired plug will identify correct connections along the cable. Two test will need to be carried out. One with the shorting plug on and one with the shorting plug off. Unfortunately to test for crossed wires a further specific wired plug will be needed with a different wiring pattern to the first and three test to fully check the cable out. This sort of plug can be made on site requiring only a plug, wire and a soldering iron. When learning the various patterns the character **%** MUST NOT BE USED as it will probably overflow the compare memory.

SHORTING PLUG

This is the most universal shorting plug and no prior knowledge of the connections to be tested is needed. However, don't exceed the cable connection buffer limit of 512 pairs of connections. This gives a maximum number of wires as 7.
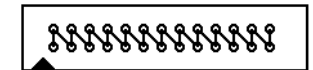
A FEW FURTHER POINTS:-

a. Unless using the diode specific plug, check each end for shorts within that end by Learning/Testing that end without the shorting plug on at the far end.

b. don't forget that the loop configuration is still valid, therefore the cable can still be   checked for intermittent faults.

c. Again unless using the diode specific plug, Learn the two ends with and with out   shorting plugs on a known good cable, this will make testing much easier as the   results are slightly confusing because all the permutation of connections will be displayed.

0.PROBE　　　MENU

Once one of the options has been accepted you have to choose the connectors position within the four 64 way IDC connectors. The connector pin addresses are numbered on the front of the unit. The display is prompting the user to input the location of pin 1 of the connector just selected. The three digit number shown is the first available location, should another location be required enter the address to any within the 512 pins.

```
CableJoG 512    09:01
0.Probe         (001)
0.5 Position of A
        Pin 1      0001
```

Press ENTER when finished.

Once the first connector has been chosen and successfully placed the display will show:-

The connector identifier has now changed to B: and should the cable only have one connector then use the ⬅ key to select **Y** and press ENTER to finish.

```
CableJoG 512    09:01
0.Probe         (001)
0.4 Connector    B
        No More  [y/n]
```

Otherwise press ENTER and the display will return to the connector selection menu and so on until either, the No More option is accepted, or the connectors chosen have filled the available 512 addresses.

The display changes to show that 'probing' is now on:-

```
CableJoG 512    09:01
0.Probe         (001)


        Ready
```

In this example a connection has been found to connector A pin 31.

```
CableJoG 512    09:01
0.Probe         (001)


        Connected   A031
```

And in this example two pins in connector A are connected together, the display will rotate the pins every second to indicate the connection is still valid and should there be more than two connections it will show two at a time again rotating through all the connections found.

```
CableJoG 512    09:01
0.Probe         (001)


        A031 and A032
```

Press any key to stop probing and return to the main menu.

1.Learn　　　MENU

Once the first connector has been chosen and successfully placed the display will show:-

```
CableJoG 512    09:01
1.Learn
1.2 Connector    B
        No More  [y/n]
```

Press ENTER to add another connector. The connector identifier has now changed to B: and should the cable only have one connector then use the ⬅ key to select **Y** and press ENTER to finish.

Otherwise press ENTER and the display will return to the connector selection menu, or using the ⬅ key and pressing ENTER to accept the second connector.

```
CableJoG 512    09:01
1.Learn
1.2 Connector    B
        64way IDC [y/n]
```

The display changes to the Pin 1 address selection:-

```
CableJoG 512    09:01
1.Learn
1.3 Position of A
        Pin 1      0065
```

This time the first available location is 065. As two 64 way connectors were chosen in this example Menu Learn moves onto the next stage, should smaller connectors had been chosen the the display will go back to the No More [y/n] option and the connector identifier will increase to C: and so on until either, the No More option is accepted, or the connectors chosen have filled the available 512 addresses.

Make sure that the cable is connected into CableJoG before selecting **Y** to the No More prompt as the scanning for connections starts straight away.

```
CableJoG 512    09:01
1.Learn
1.4 Connections
        0001. 0001 to 0002_
```

A typical connection would be :-

You will need to press ENTER to confirm each connection, this gives you a chance to check this against a wiring list or to start a wiring list if one doesn't exist. Press the **5** key to automatically move through the next connections.

Once all the connections have been displayed and confirmed CableJoG goes back to the Main Menu from which you can select any of the options, but the most useful is Store so that the details just entered can be filed in battery backed memory. See the Menu STORE chapter for details.


```
1.Learn      MENU
```

Possible PROBLEMS:-
Missing connector label:-
If the unit beeps and the display shows just a number not a proper label. This is caused by a connection being detected on a pin address which has no corre-

```
CableJoG 512    09:01
1.Learn
1.4 Connections
 0001. A001 to 0512_
```

sponding connector assigned to it, the pin address is shown.
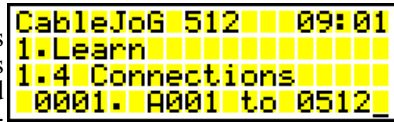
Also:-
Caused by more than 2048 pairs of connections, this is a system limitation contact CableJoG if you need more connections.

```
CableJoG 512    09:01
1.Learn
1.4 Connections
 Err Too Many Conns_
```
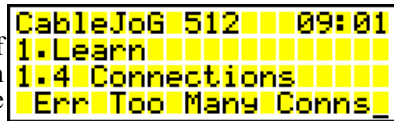
And:-
No connections were found, make sure you have the cable plugged in and try again, or choose the diode option.

```
CableJoG 512    09:01
1.Learn
1.4 Connections
      NONE          _
```
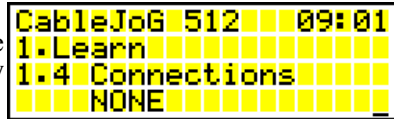
```
0.PROBE      MENU
```

This option uses a wire or 'probe' to be used to identify connections in a cable or cable harness where one or more of the wires or connectors can not be connected directly to the CableJoG unit. If the display shows:-

```
        PASSWORD
        REQUIRED
        ENTER
        _
```

Enter the four digit password, if the password is incorrect then you will be taken back to the main menu. If the password is correct or has not been set then the display changes to:-
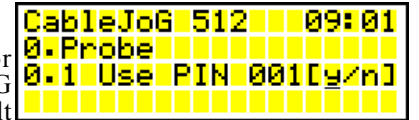
This is the pin to which the 'probe' or wire must be connected, as CableJoG will only test from this pin. The default pin number is 001.

```
CableJoG 512    09:01
0.Probe
0.1 Use PIN 001[y/n]
```

Should another location be required use the ➡ key to move the cursor under the **n** character and then press ENTER

```
CableJoG 512    09:01
0.Probe
0.1 Enter PIN   0001
```
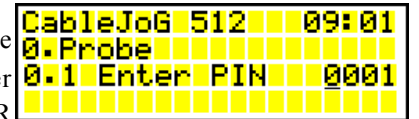
use ⬇⬆⬅➡ keys to change the address to any within the 512 pins.
Press ENTER when finished.

The display will show:-
The next step is to choose how each pin is to be labelled, if you want to use the labels from the cable in compare memory press ENTER,

```
CableJoG 512    09:01
0.Probe         (001)
0.2 Cable Label[y/n]
```
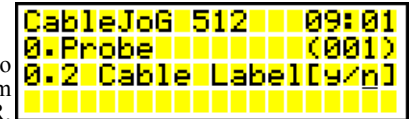
otherwise use the ➡ key to move the cursor under the **n** character and then press ENTER.

If you want to use standard connectors then press ENTER. Choosing **n** will skip the selecting connector stage and each pin label will simply be it's number (1 to

```
CableJoG 512    09:01
0.Probe         (001)
0.3 Sel. Conns.[y/n]
```

512). However selecting the connectors will enable CableJoG to give the real pinnumber that the connection is made to. Press ENTER again the display will show the first connector type:-
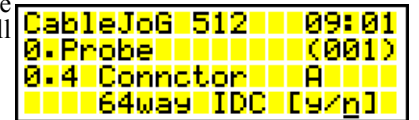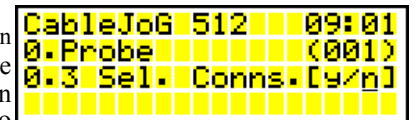
```
CableJoG 512    09:01
0.Probe         (001)
0.4 Connctor    A
      64way IDC [y/n]
```

Press ENTER or ⬇ if this is not the correct connector type, otherwise press ⬅ to move the cursor under **Y** then press ENTER to accept that connector. The connector types currently supported can be seen in Appendix B.

`9.SETUP    MENU`

`8.SERIAL NUMBERS`

This option enables the user to set the start number to be used for tested cable serialisation, the display will show the current value:-

`Serial No. MENU`
`0 NO Serial No's`
`1 Continue`
`  Using   00000000`

In this option the number shown will be the first used when this cable is tested. This enables cables of a particular type to be assigned a specific starting serial number. Use the [↑][↓][←][→] keys to alter the number, or simply enter the number from the keypad. Press ENTER to accept the next number.

After ENTER has been pressed the display will show the ENTER key at the right hand position. Press ENTER again to go back to the date and time option.

`1.Learn    MENU`

`One PRESS`

In One Press mode (see Menu Setup - Test Loop) you only have to press the key once to cmplete the scanning process.If the display shows:-

`    PASSWORD`
`    REQUIRED`
`    ENTER`
`    _`

Enter the four digit password, if the password is incorrect the you will be taken back to the main menu.

If the password is correct or has not been set then the display changes to:-

`Main MENU      09:01`
`  1=Learn  2=Test`

and both the LED's will go out (if fitted). You are now ready to learn the cable.

Diode testing is not available with One Press option. You will have to turn one press off, Learn the cable and then turn One Press back on.

Press the 1 key to learn the new cable. The display will show the number of connections found (64 in this example):-

`Main MENU      09:01`
`  1=Learn  2=Test`
`    Connections`
`    0064`

Check this against the master cable. If correct press the 2 key to test the next cable, if not then change the cable and press one again. If the number of connections is still incorrect chnage the test loop option to no loop which will display the actual connection details found (see Setup Menu, Test Loop option).

`2.Test        MENU`

This menu deals with the process of scanning a cable and comparing the result with   what is in the compare memory locations. If the two are the same the test can be repeated, if not then you can re-view the differences before repeating the test. If the display shows:-

```
        PASSWORD
        REQUIRED
         ENTER
           _
```
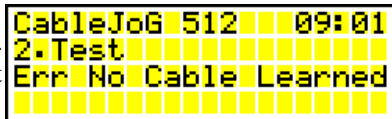
Enter the four digit password, if the password is incorrect the you will be taken back to the main menu.
If the password is correct or has not been set then CableJoG will try to test the cable.

If you see this display:-
you have not 'Learned, Recalled or Edit-ed' a Cable so there is nothing to test against.

```
CableJoG 512    09:01
2.Test
Err No Cable Learned
```

Press ENTER, this will take you back to the main menu, you can then use the most appropriate menu to put a cable's details into the compare memory.

If there is a cable in memory then the display will show the cable name and prompt for confirmation in this case the full name was CAB123456789 but the display shows only the first 9 characters :-
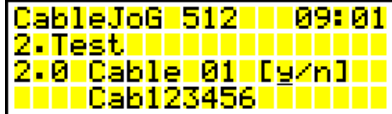
If this is not the right cable then use the
`→` key to move the cursor under the **n** character and then press ENTER, this

```
CableJoG 512    09:01
2.Test
2.0 Cable 01 [y/n]
     Cab123456
```

will take you to the Recall menu and enable you to choose another cable. Press ENTER to continue.

Should the display show:-
Then there are details in compare memory but, as these have not been stored yet there is no name to display,

```
CableJoG 512    09:01
2.Test
2.0 Cable 00 [y/n]
     Not stored yet
```

the number is 00 by default, testing can still take place however a Learn or Recall operation will wipe these details out.

Make sure the cable is now connected into CableJoG, then press ENTER. CableJoG will now scan all 512 connector pins. Depending on which options have been selected in the Setup menus 3,4 or in Edit menu the display will show some sort of result of the comparison between the current connections and the details in compare memory.
The different configuration options are shown in the top right hand corner of the next 2 pages deal with the various display options, followed by the various test loop options.

`9.SETUP     MENU`

`7.RESULTS`

This option controls where test results go. There are two modes.

Mode0 - NO Printout, the test results are displayed on the LCD display.

Mode1 - BUFFERED RESULTS, the test results are displayed on the LCD display and stored in cable memory number 58 for later transfering/printing.

On entering this option the display will reflect the current setting, in this exam-ple it is NO Printout:-

```
Results    MENU
0 NO Printout
1 Buffered Results
2 n/a
```

if this is what you require then press ENTER, otherwise use the ⬆⬇ keys to move through the following modes or simply enter the correct option number.

Pressing ENTER will set the current selected mode and return you to the main menu.

9.SETUP　　　MENU

**6.OPERATORS　　　**

'This option enables ten operators to be identified. Each operator has a four digit 'pin' number. Once an operator has been set up CableJoG will prompt for the 'pin' number on switch ON.
The display will prompt for a 'pin' number:-

```
Operators  MENU
 ADD/CHANGE/REMOVE
 Operators  MENU
Enter Number: _
```

Enter the four digit 'pin' number, if the password is not recognised the display will prompt:-

```
Operators  MENU
 ADD/CHANGE/REMOVE
    NEW Operator
Enter Name: A
```

Accepting the New Operator, the display prompts for a 8 character name. Use the ↑ ↓ keys to move up or down through the Upper case characters, numbers and lower case characters. Press the → key to move onto the next letter. Use the ← key to move back to change a character and finally press ENTER when you have finished. The display will show:-

```
Operators  MENU
 ADD/CHANGE/REMOVE
 Operator: Eddie
 Confirm No: _
```

To confirm the new operator enter the same 4 digit 'pin' number, if entered correctly the display will confirm the new operator:-

If the number entered is incorrect then the new operator will not be entered.

2.Test　　　MENU

Once the test cycle has been completed the display will show the results. The format of the display(s) is determined by the Test Display in Menu Setup.

With the PF Only setting in Test Display you will see:-

```
CableJoG 512   09:01
2.Test
2.1 PASSED
```

if the cable connected is the same as the one in compare memory, if the two are different the display will show:-

```
CableJoG 512   09:01
2.Test
2.1 FAILED
```

if the display shows:-
then NO connections were detected amongst the 512 pins.

```
CableJoG 512   09:01
2.Test
2.1 FAILED
    No Connections
```

If Serial Nmubering has been Setup then the Passed display changes to:-

```
CableJoG 512   09:01
2.Test
2.1 PASSED 00000001
```

With PF + Err setting in Test Display the Passed displays don't change from the above however, the Failed display is follwed by the error report. Depending on the type of fault there are three possible displays you could see:

Missing connection on u.u.t.:-
no connection was found where one was expected.

```
CableJoG 512   09:01
2.Test
2.1 FAILED
    A001 B001 OPEN
```

Extra connection on u.u.t.:-
a connection was found on the u.u.t. that was not in the compare memory.

```
CableJoG 512   09:01
2.Test
2.1 FAILED
    A001 B002 SHORT
```

Incorrect connection:-
this example shows that the original cable had a connection from Connector A pin1 to Connector B

```
CableJoG 512   09:01
2.Test
2.1 FAILED
A001 B001xA001 B002
```

pin1, whereas the u.u.t. hadConnector A pin1 connected to Connector B pin2 the x character represents a crossed connection.

Press a key to move onto the next fault message or, press the **5** key to run through the faults automatically or, press the **0** key to switch to probe mode.
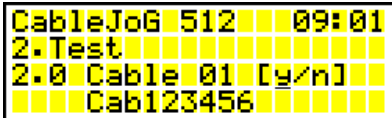
2.Test　　　MENU

TEST MODE OPTIONS:
There are now six different ways of running the test cycle.
0. NO LOOP.

The display will show the cable name that is to be tested (In this case CAB123456789, the name is truncated to 9 characters):-

```
CableJoG 512    09:01
2.Test
2.0 Cable 01 [y/n]
     Cab123456
```
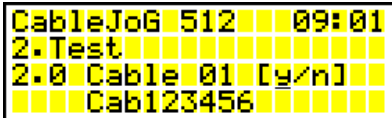
Plug the cable under test in and press ENTER. The display will show the result of the test, the actual display depends on the Test Display settings (see previous pages).

Press ENTER to clear the results run the test again, or use the ⤶ key to move the cursor under the **n** and take you back to the Main menu.

1.LOOP.

The display will show the cable name that is to be tested (In this case CAB123456789, the name is truncated to 9 characters):-

```
CableJoG 512    09:01
2.Test
2.0 Cable 01 [y/n]
     Cab123456
```

Plug the cable under test in and press ENTER. The display will show the result of the test, if the cable has passed the testing continues until it fails or a key is pressed. This allows the user to stress the cable to check for intermittant connections.

2. CONTINIOUS

The display will show the cable name that is to be tested (In this case CAB123456789, the name is truncated to 9 characters):-

```
CableJoG 512    09:01
2.Test
2.0 Cable 01 [y/n]
     Cab123456
```
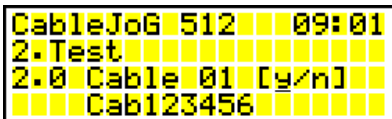
Press ENTER, this will start the testing process.
Plug the cable to be tested in, the display will show the results of the test shortly.

Unplug the tested cable and plug in the next one....

9.SETUP　　　MENU
5.PASSWORDS

This menu option allows the operator to set a four digit 'password' code for each of the main menus i.e.

1 = LEARN	6 = n/a
2 = TEST	7 = RECEIVE
3 = RECALL	8 = SEND
4 = STORE	9 = SETUP
5 = EDIT	0 = PROBE

Once a password has been set on a menu, that menu will not be displayed in the usual process nor can you access it using the ⬆⬇ keys during menu selection. The only way to access a passworded menu is to press the corresponding number key, the display will then prompt for the password to be entered before that menu will be made available.

Once this menu has been selected the display will show the current state of the ten menus, display OFF if no password is set and ON if the password is set. If a menu password has been set you will need to know that password and have access to this menu to reset it, so don't forget those numbers! The default display will are:-

```
Passwords  MENU
0 PROBE         OFF
1 LEARN         OFF
2 TEST          OFF
```

To set a password on a menu that is OFF press ENTER. The display will show:-

```
Passwords  MENU
SET Password for:-
 PROBE      MENU
Enter Number: 0000
```

Enter the four digits of the password, they will not be displayed. Once the fourth digit has been entered you will need to enter the password every time that menu is to used. The display will change to confirm the new setting.

```
Passwords  MENU
0 PROBE          ON
1 LEARN         OFF
2 TEST          OFF
```

To reset a password on a menu that is ON or set, as before press ENTER. The display will show:-
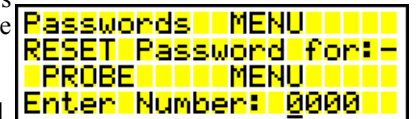
```
Passwords  MENU
RESET Password for:-
 PROBE      MENU
Enter Number: 0000
```

Enter the four digits of the password, they will not be displayed. Once the fourth digit has been the password will be removed and the display will change to confirm the new setting.

`9.SETUP     MENU`

`4.TEST MODE    `

This option allows the default test modes to be set, this default value is used when a new cable is learnt.

The display will sho the sub menu with the cursor indicating the current setting:-

```
Test MODE MENU
0 NO Loop/ONCE
1 LOOP Till Fail
2 CONTINUOUS
```

Mode 0 - NO LOOP :
The test is run just once and the results displayed.

if this is what you require then press ENTER, otherwise use the ⬚⬚ keys to move through the following modes or simply enter the correct option number.

Mode 1 - LOOP Till Fail:
The test is run continually until either the unit under test fails or no connections are found.

Mode 2 - CONTINUOUS:
The test runs continually giving the current results, pressing any key will stop the test.

Mode 3 - Press Once:
The test runs every time the TEST but-ton [2] is pressed.

```
Test MODE MENU
3 PRESS ONCE
4 STAGED
5 AUDIO CONNECTORS
```

Mode 4 - Staged the test runs continually like mode3 giving the current results, once the cable under test has passed CableJoG looks through the cable store for any more cables with the same first 8 characters in the name. If one is found the stage number is check to see if it is the next one to the current, if so that cable is recalled and the test re-started automatically.After the last stage the Passed ticket is printed (if the printer [y/n] is selected) and the first stage recalled.

Mode 5 - AUDIO CONNECTORS:
This mode is designed to work in multiples of a standard 3 way lead. The Main Menu screen will be replaced with a prompt for the number of channels to test. See page 18 and appendix d.

Pressing ENTER will cause that option to be set and the display will return to the date and time option.

`2.Test     MENU`

`One PRESS     `

TEST MODE OPTIONS (Continued):

3. ONE PRESS
This option turns the whole testing process into just pushing one of two buttons:

```
Main MENU      09:01
  1=Learn  2=Test
```

3.1 Press **1** to learn a new cable, this option can be passworded .
3.2 Press **2** to run the test.

Please be aware that the learnt cable details are not catalogued for future use.

3.3 RESULTS

With the PF Only setting in Test Display you will see:-

```
CableJoG 512   09:01
  1=Learn  2=Test
       PASSED
```

if the cable connected is the same as the one in compare memory, if the two are different the display will show:-

```
CableJoG 512   09:01
  1=Learn  2=Test
       FAILED
```

if the display shows:-
then NO connections were detected amongst the 512 pins.

```
CableJoG 512   09:01
  1=Learn  2=Test
       FAILED
     No Connections
```

If Serial Nmubering has been Setup then the Passed display changes to:-

```
CableJoG 512   09:01
  1=Learn  2=Test
       PASSED
       00000001
```

With PF + Err setting in Test Display the Passed displays don't change from the above however, the Failed display is follwed by the error report.
Depending on the type of fault there are three possible displays you could see:

```
CableJoG 512   09:01
  1=Learn  2=Test
       FAILED
   A001 B001 OPEN
```

Missing connection on u.u.t.:-
no connection was found where one was expected.

`2.Test      MENU`

`One PRESS       `

`9.SETUP    MENU`

`3.TEST DISPLAY`

TEST MODE OPTIONS (Continued):

Extra connection on u.u.t.:-
a connection was found on the u.u.t. that was not in the compare memory.

```
CableJoG 512    09:01
  1=Learn   2=Test
        FAILED
    A001 B002 SHORT
```

This menu allows you to set the amount of information to be displayed during the TEST operation, the options vary from simply shown Passed or Failed, to shown the connections found and if failed an analysis of the errors. the first display after selecting this menu will depend on what the current setting is.

Incorrect connection:-
this example shows that the original cable had a connection from Connector A pin1 to Connector B pin1, whereas the u.u.t. had

```
CableJoG 512    09:01
  1=Learn   2=Test
        FAILED
A001 B001xA001 B002
```

The possible options are:-

The cursor will indicate the current setting.

```
Test Display MENU
0 PASS/FAIL only
1 P/F & Errors
2 n/a
```

Connector A pin1 connected to Connector B pin2 the x character represents a crossed connection.

The various options are:-
PASS/FAIL only:
This means PASSED or FAILED messages only will be displayed at the end of the Test program. This is particularly useful if there is a large number of cables to be sorted.

P/F & Errors
This means that PASSED or FAILED messages will be displayed along with an ERROR report at the end of the Test program. In this mode it is possible to switch to Probe mode when the display shows a fault condition (open,short or crossed) just press the 0 key. You will be taken automatically straight into probe mode with the display showing connections using the cable under tests pin labels. To set the probe pin number use the main Probe menui.

```
9.SETUP    MENU
```

```
1.BEEPER
```

The beeper will normally sound after a key has been pressed, or to warn the user of a fault condition, this feature can be turned off or set for a single long beep for a PASS .

```
Setup MENU      09:01
Beeper
BEEP OFF [y/n]
```

If the display shows:-

then the beeper is OFF, if this is what you require then press ENTER, otherwise use the ⮕ key to move the cursor under the **n** character and press ENTER.

```
Setup MENU      09:01
Beeper
BEEP ONCE[y/n]
```

The display will show:-
The beeper will only sound on a PASSED test, if this is what you require then press ENTER, otherwise use the ⮕ key to move the cursor under the **n** character and press ENTER.

```
Setup MENU      09:01
Beeper
BEEP ON  [y/n]
```

The display will show:-
The beeper is OFF, if this is what you require then press ENTER, otherwise use the ⮕ key to move the cursor under the **n** character and press ENTER.

Pressing ENTER when the cursor is under the **Y** character will cause that option to be set and the display will return to the date and time option.

```
2.Test     MENU
```

```
STAGED
```

4.STAGED
This is a varient of the Continious testing mode with the added feature of stringing more than one test together. See Special Uses - Staged Testing on how to set up the stages.

Assuming we have a two stage test procedure then the sequence of events could be:
4.1 Recall the first cable and run the test or run the test with no cable plugged in.You will see:

```
CableJoG 512    09:01
2.Test
2.0 No Connections
```

4.2 Plug in the first stage, if all is well the display will change to:

```
CableJoG 512    09:01
2.Test
2.2 Testing..
     STAGE 1 PASSED
```

4.3 Depending on how quickly you can plug in the next stage in you might see a Failed message,probably an OPEN circuit.

```
CableJoG 512    09:01
2.Test
2.2 FAILED
     0097 0098 OPEN
```

4.4 Once the last stage has passed the display reverts to the normal PASSED one, with all it's possibilities.

```
CableJoG 512    09:01
2.Test
2.2 PASSED 00000001
```

4.5 Remove the Cable under test, once the No Connection display shows the first stage will be automatically recalled and run.

```
Remove the cable...
```

```
2.Test      MENU
```
```
AUDIO CONNECTORS
```

5. AUDIO TEST

This option relies on the test fixture being wired in a very specialised way, see Appenix d.

```
AUDIO test     09:01
  CHANNELS = 01
```

h = HOT
c = COLD
s = SCREEN/SHIELD

If the number of channels is correct press ENTER to start the test, otherwise enter the number of channels up to 64, pressing ENTER will statrt the test.
Testing special cables can be easily integrated into this scheme by learning the cable and saving it. To run the special test enter the numberof channels as the saved cable number plus 64. So cable 01 will be tested as 65 channels.

The cable under test must be plugged into the correct sockets i.e. if the number of channels is 2 then plug 2 cables into sockets A & B only.

5.1 RESULTS
With the PF Only setting in Test Display you will see:-

```
AUDIO test     09:01
  CHANNELS = 01
      PASSED
```

if the cable connected is the same as the one in compare memory, if the two are different the display will show:-

```
AUDIO test     09:01
  CHANNELS = 01
      FAILED
```

if the display shows:-
then NO connections were detected amongst the 512 pins.

```
AUDIO test     09:01
  CHANNELS = 01
      FAILED
    No Connections
```

If Serial Nmubering has been Setup then the Passed display changes to:-

```
AUDIO test     09:01
  CHANNELS = 01
      PASSED
      00000001
```

With PF + Err setting in Test Display the Passed displays don't change from the above however, the Failed display is follwed by the error report.

```
9.SETUP    MENU
```
```
0.DATE & TIME
```

This menu deals with the setting/changing of system parameters.
If the display shows:-
Enter the four digit password, if the password is incorrect the you will be taken backto the main menu.

```
        PASSWORD
        REQUIRED
        ENTER
          _
```

If the password is correct or has not been set then the display changes to:-

```
Setup MENU     09:01
0 DATE & TIME
1 BEEPER
2 n/a
```

If you want to set the date and time press ENTER.
If you don't want to change the date and time values then either use the keys to select another sub-menu or enter the number corresponding to the subs-menu number you require.

Setting the date and time, the display will show the current date and time:-

```
Setup MENU     09:01
DATE AND TIME
Date(ddmmyy): 010604
```

Using the numeric keys and the keys adjust the date and time to the correct value, when finished press ENTER.
The display verifies the new date:-

and new time:-

```
Setup MENU     09:01
DATE AND TIME
Date(ddmmyy): 010604
Time  (hhmm): 0901
```

If everything is correct press ENTER, this will take you back to the setup manu.

`8.Send      MENU`

`Send      CABLE`

This menu allows the transfer of cable details from the CableJoG unit to a PC using the serial port and the CableJoG Command Program (CCP).
If the display shows:-

```
      PASSWORD
      REQUIRED
       ENTER
        _
```

Enter the four digit password, if the password is incorrect the you will be taken back to the main menu. If the password is correct or has not been set then the display changes to:-

```
CableJoG 512    09:01
8.Send
8.2 Cable  01 [y/n]
```

If this is not the correct cable use the

⬚→ key to move the cursor under the **n** character and then press ENTER, otherwise press ENTER.

CableJoG tries to send the cable details . In this example it is number 01:-

```
CableJoG 512    09:01
8.Send
8.3 SENDING ......._
```

When sending has taken place the display will change to:-

```
CableJoG 512    09:01
8.Send
8.4 Cable .....SENT_
```

`2.Test      MENU`

`AUDIO CONNECTORS`

Depending on the type of fault there are three possible displays you could see:

Missing connection on u.u.t.:-
no connection was found where one was expected.

```
AUDIO test    09:01
  CHANNELS = 01
      FAILED
   A01h B01h OPEN
```

Extra connection on u.u.t.:-
a connection was found on the u.u.t. that was not in the compare memory.

```
AUDIO test    09:01
  CHANNELS = 01
      FAILED
   A01h B01c SHORT
```

Incorrect connection:-
this example shows that the original cable had a connection from Connector A hot pin to   Connector B hot   pin, whereas the u.u.t.

```
AUDIO test    09:01
  CHANNELS = 01
      FAILED
A01h B01hxA01h B01c
```

had Connector A hot pin connected to Connector B cold pin the x character represents a crossed connection.

`3.Recall     MENU`

This menu deals with the selection of a cable from the stored list and putting the details into the compare memory ready to be used by either the Test or Edit menus.

If the display shows:-

```
        PASSWORD
        REQUIRED
         ENTER
          _
```

Enter the four digit password, if the password is incorrect the you will be taken back
to the main menu. If the password is correct or has not been set then the display changes to:-

```
CableJoG 512    09:01
3.Recall
3.1 RecallCable[y/n]
```

If you see this display and you don't want to proceed then use the ⊡ key to move the cursor under the **n** character
and then press ENTER, this will return you to the main menu.

Press ENTER to continue, the display will show:-

```
CableJoG 512    09:01
3.Recall
3.1 Recall Cable
    01:
```

The two digit figure on the left is the cable file number. There is now a choice of methods to move through the file index.

Using the ⊡⊡ keys you can scan through until you have recognised the cable you require. The other method is to enter the cable number directly.

Press ENTER the cable name will be displayed:-

Once you are on the right cable press ENTER again, the cable details will be transferred into the compare memory and you will go back to the main menu.

```
CableJoG 512    09:01
3.Recall
3.1 Recall Cable
    59:JoG 512 A tes
```

Self Test cables. There is one self test cable stored in the EPROM. Its number is 59. It is possible to edit these details, but the changed cable will have to be stored under a new cable number below 59. For a full list of the self test cable see Appendix C.

`8.Send      MENU`

`Send      RESULTS`

This menu deals with the transfer of test results from CableJoG to CableJoG Command Program (C.C.P). When enabled, CableJoG uses cable memory area number 58 as a print buffer. During testing the results are stored away and held even if the unit is switched off. Then when a PC running C.C.P. is available the results can be transferred. For details on how to set this see chapter menu SETUP RESULTS.

If the display shows:-
Enter the four digit password, if the password is incorrect the you will be taken back to the main menu.

```
        PASSWORD
        REQUIRED
         ENTER
          _
```

If the password is correct or has not been set then the display changes to:-

```
CableJoG 512    09:01
8.Send
8.1 Results   [y/n]
```

If you see this display and you want to proceed then use the ⊡ key to move the cursor under the **y** character and then press ENTER, otherwise press ENTER this will return you to the main menu.
If there are any results to print from the batch buffer then the display will show:-

```
CableJoG 512    09:01
8.Send
8.3 SENDING ......._
```

If you do want to send the batch results then make sure you have CableJoG connected and ready.

If sending has taken place the display will change to:-

```
CableJoG 512    09:01
8.Send
8.4 Results ...SENT_
```
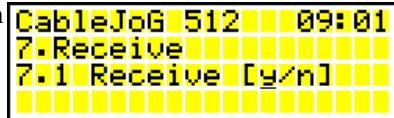
press ENTER, you will be taken back to the main menu.
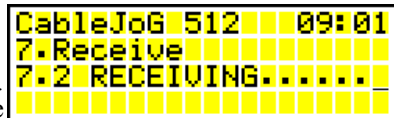
`7.Receive    MENU`

This menu allows the transfer of cable details from CableJoG unit to a PC, if the display shows:-

```
         PASSWORD
         REQUIRED
          ENTER

            _
```
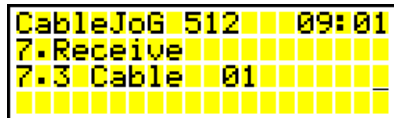
Enter the four digit password, if the password is incorrect then you will be taken back to the main menu. If the password is correct or has not been set then the display changes to:-
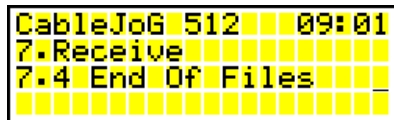
```
CableJoG 512    09:01
7.Receive
7.1 Receive [y/n]
```

If you see this display and you don't want to proceed then use the →| key to move the cursor under the **n** character and then press ENTER. Otherwise, press ENTER to continue, the display will show:-

```
CableJoG 512    09:01
7.Receive
7.2 RECEIVING......_
```

The unit is now ready to receive data. During receiving the display reflects the number of cables currently received.:-

```
CableJoG 512    09:01
7.Receive
7.3 Cable  01       _
```

Finishing off with:-

```
CableJoG 512    09:01
7.Receive
7.4 End Of Files   _
```


`4.Store     MENU`

This menu deals with the transfer of a cables details from compare memory into the cable database.

If the display shows:-

```
         PASSWORD
         REQUIRED
          ENTER

            _
```
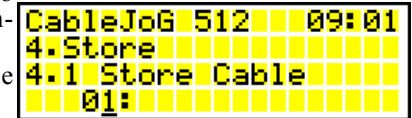
Enter the four digit password, if the password is incorrect the you will be taken back to the main menu. If the password is correct or has not been set then the display changes to:-

```
CableJoG 512    09:01
4.Store
4.1 Store Cable[y/n]
```
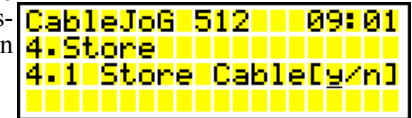
If you want to DELETE a cable then press →| to select **n** then press ENTER see page 22. Press CLEAR to go back to the Main Menu or just ENTER to continue with storing.
The display will show the first cable e.g.:-

```
CableJoG 512    09:01
4.Store
4.1 Store Cable
     01:
```

The two digit figure on the left is the cable file number if the number shown is not correct enter the new number and press ENTER the new file name will be shown (blank = not used). Once you are on the right file press ENTER again, the cursor will move into the filename first character. If this hasn't been used before you will see the letter A :-

```
CableJoG 512    09:01
4.Store
4.1 Store Cable
     01:A
```
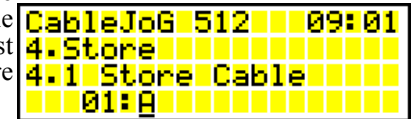
Use the ↑ ↓ keys to move up or down through the Upper case characters, numbers & lower case characters. Press the →| key to move onto the next letter. Use the ←| key to move back to change a character and finally press ENTER when you have finished. To select DIODE test enter the % character anywhere in the title, but not the first character. The % character is available by pressing the ↑ key when moving onto a previously blank entry. For further details see the chapter 'SPECIAL USES / SINGLE ENDED TESTS'. Press ENTER to store the cable details and return to the main menu.

`4.Store▓▓▓▓MENU`

STORE:

4.2 DELETE CABLE:

`CableJoG 512　　09:01`
`4.Store▓▓▓▓▓▓▓▓▓▓▓`
`4.2 Delete Cab.[y/n]`
`▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓`

If you selected no to Store Cable your are given the option to delete or erase a cable from the CableJoG's memory.

Press ENTER to Delete a cable, or use the ⊟ key to move the cursor under the **n** character and then press ENTER to go back to the Main Menu.

To delete cable enter it's number, the cable's name will be shown.
Press ENTER to delete or enter another number.

`CableJoG 512　　09:01`
`4.Store▓▓▓▓▓▓▓▓▓▓▓▓`
`4.2 Delete Cable▓▓▓▓`
`▓▓01:A▓▓▓▓▓▓▓▓▓▓▓▓▓`

Once a cable has been deleted it cannot be restored and you will be taken back to the Main Menu.

`5.EDIT▓▓▓▓▓MENU`

`Edit Connections`

Once you are satisfied with the details press ENTER. The display will show:-

`CableJoG 512　　09:01`
`5.Edit▓▓▓▓▓▓▓▓▓▓▓▓▓`
`5.7 Connections▓▓▓▓`
`▓▓▓▓▓Insert Line[y/n]`

If you don't want to proceed then use the ⊟ key to move the cursor under the **n** character and then press ENTER, this will restore the line to what it was and return you to the line number part. Pressing ENTER will insert this line in the correct place in the compare table. You may find that it is not where you expected it to be, this will be because you have chosen a connector with a different pin numbering scheme to a standard 64way IDC header. The pin number you see will always correspond to the actual number by that pin in the real connector.

By pressing the ENTER key the display will show the entry in its correct location.

If you wish to Delete then once the cursor is in the details area Press ENTER without changing any of the details, the display will show:-

`CableJoG 512　　09:01`
`5.Edit▓▓▓▓▓▓▓▓▓▓▓▓▓`
`5.7 Connections▓▓▓▓`
`▓▓▓▓▓Delete Line[y/n]`

If you want to delete the line then press the ⊟ key to position the cursor under the **Y** character and press ENTER. The display will remove those details and display next connection in the current position.

To complete editing is similar to Deleting a line, that is you have to be on a valid unchanged line then press ENTER three times.

`CableJoG 512　　09:01`
`5.Edit▓▓▓▓▓▓▓▓▓▓▓▓▓`
`5.7 Connections▓▓▓▓`
`▓▓▓▓▓Cable Done [y/n]`

The display will show:-

If you've made a mistake then use the ⊟ key to move the cursor over the **n** character and then press ENTER, this will return you to the line you were editing, otherwise press ENTER and the display will return to the main menu. Remember that the editing is carried out on the details in compare memory and although you will be able to test cables against these settings you have not saved them, to do so use menu STORE.

5.EDIT MENU

Edit Connections

This option allows the actual connections of this cable to be edited.

If you do not want to edit the connections then use the `→` key to position

```
CableJoG 512    09:01
5.Edit
5.7 Connections[y/n]
```

the cursor under the **n** character and press ENTER, this will take out of the edit cable menu. Remember that the editing is carried out on the details in compare memory and although you will be able to test cables against these settings you have not saved them, to do so use menu STORE.

Press ENTER, if you are editing a new cable then there won't actually be any connections and the display will show:-

This of course isn't an actual connection, but identifies a vacant entry.

If you are editing a cable that is already in compare memory (in this example it is cable number 01) the display might show:-

```
CableJoG 512    09:01
5.Edit
5.7 Connections
   0001. 0000 to 0000
```

```
CableJoG 512    09:01
5.Edit
5.7 Connections
   0001. A001 to A002
```

The four digit figure on the left is the cable connection number, press the `↓` key to move onto the first entry.

Use the `↑``↓` keys to select the correct line entry, if you are just starting to enter a wire list then only line 001 is valid. Press ENTER to move into the details area. The cursor will move underneath the first 'A' character. To change this to 'B' press the `↓` key, continue to use the `↑``↓``←``→` keys to move along the line and change any or all the details.

The only rule to remember is that the left hand detail must be less than the right hand detail.

For example:-

```
CableJoG 512    09:01
5.Edit
5.7 Connections
   0001. A001 to A002
```

Is valid,but:-

```
CableJoG 512    09:01
5.Edit
5.7 Connections
   0001. A002 to A001
```

is not and will produce an error message:-

```
CableJoG 512    09:01
5.Edit
5.7 Connections
   Error From addr>To
```

5.EDIT MENU

Edit New Cable

This menu deals with the process of changing the details of an existing cable or entering details of a new cable from a wire list. If the display shows:-

```
       PASSWORD
       REQUIRED
        ENTER

        _
```

Enter the four digit password, if the password is incorrect the you will be taken back to the main menu. If the password is correct or has not been set then the display changes to:-

```
CableJoG 512    09:01
5.Edit
5.1 New Cable  [y/n]
```

If you don't want to proceed then use the `→` key to move the cursor under the **n** character and then press ENTER, the display will show:-

```
CableJoG 512    09:01
5.Edit
5.1 Recall     [y/n]
```

press ENTER, this will take you to the recall menu. Once a cable is recalled see page 24 for Edit Cable 01.

Editing a New Cable, the display will show:-

If you just want the pin label to be it's address (1to512) then use the `→` key to

```
CableJoG 512    09:01
5.Edit
5.3 Sel. Conns.[y/n]
```

move the cursor under the **n** character and then press ENTER, this will set the labels and move you to Edit Serial Number (page 25). Otherwise to choose the type of connectors used, press ENTER again the display will show the first connector type:-

```
CableJoG 512    09:01
5.Edit
5.3 Connector   A
        64way IDC [y/n]
```

Press ENTER or `↓` if this is not the correct connector type, otherwise press `←` to move the cursor under **Y** then press ENTER to accept that connector. The connector types currently supported can be seen in Appendix B.

Once one of the options has been accepted you have to choose the connectors position within the four 64 way IDC connectors. The connector pin addresses are numbered on the front of the unit.

The display will show:-

The display is prompting the user to input the location of pin 1 of the connector just selected. Enter a number within the 512 test pins.

```
CableJoG 512    09:01
5.Edit
5.3 Position of A
        Pin 1      0001
```

```
5.EDIT          MENU
```
```
Edit New Cable
```

Once the first connector has been chosen and successfully placed the display will show:-

```
CableJoG 512    09:01
5.Edit
5.2 Connector    B
     No More   [y/n]
```

The connector identifier has now

changed to B: and should the cable only have one connector then use the ⬅ key to select **Y** and press ENTER to finish.

Otherwise press ENTER and the display will return to the connector selection menu, or using the ⬅ key and pressing ENTER to accept the second connector.

```
CableJoG 512    09:01
5.Edit
5.2 Connector    B
     64way IDC [y/n]
```

The display changes to the Pin 1 address selection:-

```
CableJoG 512    09:01
5.Edit
5.3 Position of B
     Pin 1      0065
```

This time the first available location is 065. As two 64 way connectors were chosen in this example Menu Learn moves onto the next stage, should smaller connectors had been chosen the the display will go back to the No More [y/n] option and the connector identifier will increase to C: and so on until either, the No More option is accepted, or the connectors chosen have filled the available 512 addresses.

Edit moves onto editing the serial number option page 25.

```
5.EDIT          MENU
```
```
Edit Test Mode
```

After confirming the option the display will show:-
Select the stage number for this cable, 1 is the first stage option.

```
CableJoG 512    09:01
5.Edit
5.6 Test
     Stage Number 1
```

NOTE:
1.The first 8 characters of the cable name need to be the same for each cable stage.
2.The passed display and printout will happen on completion of the last stage.

Mode 5 - PRESS ONE BUTTON

This mode set the CableJoG unit to use only one button to run the test, everytime the 2 key is pressed the test will run.

```
CableJoG 512    09:01
5.Edit
5.6 Test
     PRESS 2 [y/n]
```

This option also makes learning into a one button press. However, you can not assign any labels at the learning stage.

If there are no results to display you will see:

```
Main MENU       09:01
  1=Learn   2=Test
```

All of the other menu s still work but, can't be accessed using the arrow keys.

5.EDIT   MENU
Edit Test Mode

Another of the options that can be set for each cable type individually is the test routine itself. The test routine operates in one of three modes. The display will show:-

```
CableJoG 512    09:01
5.Edit
5.6 Test Mode   [y/n]
```

If you do not want to edit this option then use the →| key to position the cursor under the **n** character and press ENTER, this will take you to the next option.
Press ENTER, the first and default mode will be displayed:-

Mode 1 - NO LOOP the test is run just once and the results displayed. If this is what you require then press ENTER, otherwise use the →| key to position the cursor under the **n** character and press ENTER, this will take you to the next option.

```
CableJoG 512    09:01
5.Edit
5.6 Test
     NO Loop [y/n]
```

Mode 2 - LOOP the test is run continually until either the unit under test fails or no connections are found.
If this is what you require then press ENTER, otherwise use the →| key to position the cursor under the **n** character and press ENTER, this will take you to the next option.

```
CableJoG 512    09:01
5.Edit
5.6 Test
     LOOP    [y/n]
```

Mode 3 - Cont. the test runs continually giving the current results, pressing any key will stop the test.
If this is what you require then press ENTER, otherwise use the →| key to position the cursor under the **n** character and press ENTER, this will take you to the next option.

```
CableJoG 512    09:01
5.Edit
5.6 Test
     CONTIN. [y/n]
```

Mode 4 - Staged testing, actual test mode is as for coninituous, but once passed the NEXT stage is automaticaly loaded.
If this is what you require then press ENTER, otherwise use the →| key to position the cursor under the **n** character and press ENTER, this will take you to the next option.

```
CableJoG 512    09:01
5.Edit
5.6 Test
     STAGED  [y/n]
```

5.EDIT   MENU
Edit Cable 01

If a cable is already in compare memory the display will show it and prompt the operator to edit it:-

```
CableJoG 512    09:01
5.Edit
5.1 Cable 01    [y/n]
```

If this is not the right cable then use the →| key to position the cursor under the **n** character and press ENTER, this will enable you to choose another cable using the Recall menu.

```
CableJoG 512    09:01
5.Edit
5.3 Pin Label   [y/n]
```

If this is the correct cable then press ENTER, the display will show:-

This option allows the user change any or all of the 512 pin labels. If there is no need to modify the pin labels then use the →| key to position the cursor under the **n** character and press ENTER, otherwise the display will show:-

```
CableJoG 512    09:01
5.Edit
5.3 Pins
     0001 Label A001
```

The first three characters(001) represent the pin address, see the Fundamentals chapter for details on pin addresses and connector pins, if the correct address is not shown enter it then press ENTER.

```
CableJoG 512    09:01
5.Edit
5.3 Pins
     0001 Label A001
```

The cursor is now under the label that will represent pin address 001. Using the arrow and numeric keys the label can be changed to whatever is required. This feature means that connectors using letters for pin numbers can easily be accommodated. Press ENTER when the label is correct.

To finish editing Pin Labels press ENTER twice in other words there is no change to either the Pin number or it's label. Edit will move onto the serial number option.

5.EDIT MENU
Edit Serial No.

One of the test options that can be set for each cable type individually is the serialisation of each cable tested:-

```
CableJoG 512    09:01
5.Edit
5.4 Serial No. [y/n]
```

If you do not want to edit this option then use the ➡ key to position the cursor under the **n** character and press ENTER, this will take you to the next option.

```
CableJoG 512    09:01
5.Edit
5.4 Serial No.
        Continue[y/n]
```

If you you do want to edit the serial number option, then press ENTER, there are three option for the serial number, Continue (default):-

With the option set to continue each tested cable will be numbered and the number will be a continuation of the fundamental serial number (see SETUP for details on the fundamental serial number). Use the ⬅ key to move onto the next option, or press ENTER to accept the continue option.

The second option is :-

```
CableJoG 512    09:01
5.Edit
5.4 Serial No.
      OFF      [y/n]
```

In this option the tested cables will NOT be numbered. Use the ⬅ key to move onto the next option, or press ENTER to accept the off option.

The third option is:-

```
CableJoG 512    09:01
5.Edit
5.4 Serial No.
      Use   00000001
```

In this option the number shown will be the first used when this cable is tested. This enables cables of a particular type to be assigned a specific starting serial number. Enter the number from the keypad. To change the option to OFF or CONTINUE press the ⬅ key until the display changes. Press ENTER to accept the next number.

After ENTER has been pressed the display will show the ENTER key at the right hand position. Press ENTER again to move onto the next cable option.

5.EDIT MENU
Edit Time Stamp

Another of the test options that can be set for each cable type individually is the Date and Time stamping of each cable tested:-

```
CableJoG 512    09:01
5.Edit
5.5 Time Stamp [y/n]
```

If you do not want to edit this option then use the ➡ key to position the cursor under the **n** character and press ENTER, this will take you to the next option.
If you you do want to edit the Date and Time stamp, then press ENTER, if this option has not been set before then the display will show (default):-

```
CableJoG 512    09:01
5.Edit
5.5 Time Stamp
     Set _- - - - -
```

Using the ⬆⬇ keys you scroll through the date and time options.

Y	=	Year
M	=	Month
D	=	Day
h	=	hours
m	=	minutes
s	=	seconds

Once a value has been set, that value will be attached to each cable tested, there are 6 positions giving a maximum of hmsDMY. Press ENTER when the correct date and time format has been entered.

Press ENTER again to move onto the next cable option.

Example of full time and date stamp:-

```
CableJoG 512    09:01
5.Edit
5.5 Time Stamp
     Set h-m-s-D-M-Y
```

Example of just the time stamp:-

```
CableJoG 512    09:01
5.Edit
5.5 Time Stamp
     Set h-m-s- - -
```