# CableJoG128 <sup>(TM)</sup>

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**Manufacturers Name:**   CableJoG Ltd.
**Address:**   18 Browmere Drive, Croft,
WARRINGTON. WA3 7HT.

**Declare that;**

Product:   CableJoG
Model:   JoG128/CT/BL
Options:   Serial Comms, RTC & Backlit display

**conforms to the following Product Specification:**

EN55022 (1995) Class B / CISPR 22 (1993) - Conducted & Radiated Emissions
IEC 1000-4-2 (1995) / EN61000-4-2 (1995) - ESD 4kV CD, 8kV AD
IEC 801-3 (1984) / EN55024-3 (1992) - Radiated Immunity, 3V/m
IEC 1000-4-4 (1995) / EN61000-4-4 (1995) - Fast Transient, 1kV Power Lines

**Supplementary Information:**

Radiated immunity test carried out on 1m ribbon all wires connected to CableJoG, long unterminated wires may cause random 'OPEN' failure in LOOP test modes.

**The products herewith comply with the requirements of the EMC Directive 89/336/EC.**

Dated: 1 September 1996

Eddie Zych
Director.

`APPENDIX - F`

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### Connecting to C.C.P.

CableJoG's RS232 communication port has been designed as a DTE (Data Terminal Equipment) and so a 'one to one' cable is all that is required to Connect CableJoG128 to a PC Serial Communications Port.

A suitable cable :

| CableJoG128 | | PC Comms Port |
|---|---|---|
| 9 way 'd' type female | | 9 way 'd' type female |
| Pin | Signal | Pin |
| 2......... | RXD............... | 2 |
| 3......... | TXD............... | 3 |
| 5......... | GND............... | 5 |
| 7......... | RTS............... | 7 |
| 8......... | CTS............... | 8 |

### Connecting to a Serial Printer.

CableJoG's RS232 communication port has been designed as a DTE (Data Terminal Equipment) and so a 'cross over' cable is required to Connect CableJoG128 to a Serial Printer Port.

A suitable cable :

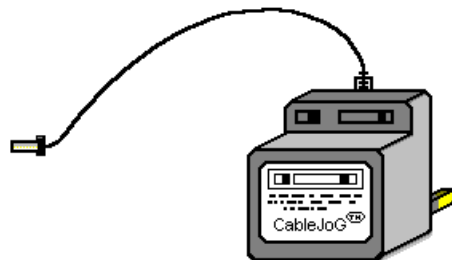| CableJoG128 | | Serial Printer Port |
|---|---|---|
| 9 way 'd' type female | | 25 way 'd' type male |
| Pin | Signal | Pin |
| 2......... | RXD............... | 3 |
| 3........ | TXD............... | 2 |
| 5......... | GND.............. | 7 |
| 7........ | RTS............... | 20 |
| 8......... | CTS............... | 6 |

`INTRODUCTION`

`APPENDIX - E`

## ERROR MESSAGES

CableJoG128 takes the concept of truly portable intelliget ribbon cable & cable harness testing a step further by increasing the number of test points and incorporating a PC/Printer link. CableJoG will identify any pattern of connections between any of the 128 connector points. The display will identify each connection amde 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, CableJoG is both robust in use and simple to repair when worn out.

## CableJoG 128:



## CableJoG PSU:

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



| | |
|---|---|
| Pin number not recognised. | `Err OutOf Range` |
| Pin label conversion error. | `Sorry Wrong No.` |
| Only 64 pairs of connections allowed. | `Err TooMany Cons` |
| There are only 128 test pins. | `Err Pin addr>128` |
| This connector has taken the pin count past 128. | `Err Conn Too Big` |
| Trying to run TEST with having anything in compare memory to test against. | `No Cable in MEM` |
| Results in BATCH mode and this location used as a buffer. | `BUFFER IN USE` |
| In EDIT 'from' address has to be less than 'to' address. | `Err From addr>To` |
| In EDIT 'from' and 'to' have to be different. | `Err From = To` |
| In EDIT connection buffer full. | `Err Buffer Full` |
| There are only 128 test pins. | `Err From > 128` |
| | `Err To > 128` |

APPENDIX - D

FUNDAMENTALS

ONCE

```
 CableJoG128 1.0
CableJoG Serial Number 00001234
Operator: J Brown
Date 10/04/00
Time 11:36:30
Cable 23 TEST CABLE
PASSED 00000001 11:38:22 10/04/00
Cable 23 TEST CABLE
PASSED 00000002 11:38:24 10/04/00
Cable 23 TEST CABLE
PASSED 00000003 11:38:26 10/04/00
Cable 23 TEST CABLE
PASSED 00000004 11:38:28 10/04/00
Cable 23 TEST CABLE
PASSED 00000005 11:38:29 10/04/00
```

CONTIN.

```
 CableJoG128 1.0
CableJoG Serial Number 00001234
Operator: J Brown
Date 10/04/00
Time 11:36:30
Cable 23 TEST CABLE
PASSED 00000001 11:38:22 10/04/00
PASSED 00000002 11:38:24 10/04/00
PASSED 00000003 11:38:26 10/04/00
PASSED 00000004 11:38:28 10/04/00
PASSED 00000005 11:38:29 10/04/00
```

The cable testing starts off at the main connectors PL1 and PL2 on the main circuit board, these connectors are 64 way IDC. PL1 and PL2 are numbered as shown below:-

| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 |
| 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 | 53 | 55 | 57 | 59 | 61 | 63 |

The Learn/Test programs start checking for connections with Pin 1 of PL1, known from now on as A, and all the other pins. After A64 the program moves onto Pin 1 of PL2, known from now on as B, ending at B64.

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**
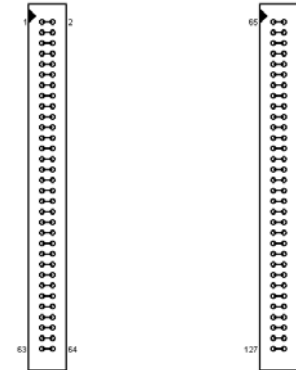
**10 way idc**

**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 four 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 and finally if you have the CableJoG Command Program the connections can be transferred from a database of cables held on the PC.
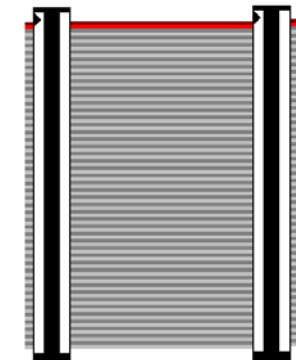
**SELF TEST CABLES**

| No: | Description: |
|---|---|
| 58 | JOG 128 test A |

| 59 | JOG 128 test 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
1 way

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 on using the Edit menu.

The purpose of selecting the 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.
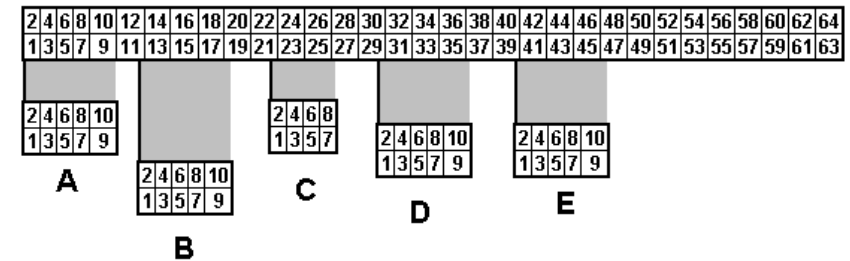


Again the example above would produce a table of Pin Address and Plug Label as follows:-

| Address : Label | Address : Label | Address : Label | Address : Label | Address : Label |
|---|---|---|---|---|
| 001 = A01 | 011 = B01 | 021 = C01 | 031 = D03 | 041 = E03 |
| 002 = A02 | 012 = B02 | 022 = C02 | 032 = D04 | 042 = E04 |
| 003 = A03 | 013 = B03 | 023 = C03 | 033 = D05 | 043 = E05 |
| 004 = A04 | 014 = B04 | 024 = C04 | 034 = D06 | 044 = E06 |
| 005 = A05 | 015 = B05 | 025 = C05 | 035 = D07 | 045 = E07 |
| 006 = A06 | 016 = B06 | 026 = C06 | 036 = D08 | 046 = E08 |
| 007 = A07 | 017 = B07 | 027 = C07 | 037 = D09 | 047 = E09 |
| 008 = A08 | 018 = B08 | 028 = C08 | 038 = D10 | 048 = E10 |
| 009 = A09 | 019 = B09 | 029 = D01 | 039 = E01 | |
| 010 = A10 | 020 = B10 | 030 = D02 | 040 = E02 | |

```
GETTING STARTED
```

Unpack the CableJoG unit and its power supply. Please make sure the polarity switch on the power supply is set to + and the voltage switch is set to 9V. It is recommended that the power supply be plugged in and left switched ON to charge the internal battery for at least 6 hours before use.

Whilst the unit is charging itself, it would be a good time to make any adaptors or non standard connectors. CableJoG comes with two 64way IDC connectors as standard.

On switching the CableJoG unit ON, the display will show the current software version followed by the current date and time. Press Enter to move from date to time and then onto the Main Menu:

```
CableJoG128v1.11
```

followed by:-

```
Date 01/11/04    ⏎
Time 10:01:30    ⏎
Menu LEARN      1
```

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. Should you see:-

```
Next= 00110000
```

then refer to Appendix A on replacing the memory battery backup unit and reprogramming CableJoG. Or should the following appear after the Time display:-

```
Operator No:_
```

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:-

```
Sorry Wrong No._
```

Press ENTER to try again.

```
APPENDIX - A
```

### **Battery Replacement**

There are two batteries in the CableJoG unit.

1. PP3 type rechargeable NiCD or NiMH type. This battery is used during normal operation of the unit. Should this need replacing, only replace with a rechargeable type as detailed earlier. **DO NOT USE** a standard 'dry' or 'alkaline' type as damage to the unit will result.

2. CMOS memory and clock battery. This can be one of three types:-
   a) Lithium CR2430 horizontal PCB mount cell.
   b) Two 'AA' type alkaline cell wired in series and protected in a sleeve.
   c) 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 box upright on the side opposite the ON/OFF switch.

b) Press hard in the middle of the box, on the switch half.
   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,
   but care must be taken NOT to press down on the ON/OFF switch.

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 / 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.
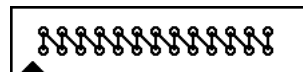
### DIODE SHORTING PLUG

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.
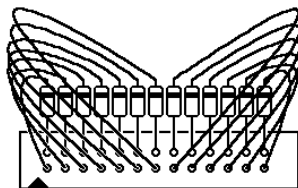
### SPECIFIC WIRED PLUG

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.
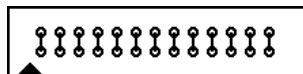
### SHORTING PLUG

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 64 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 byLearning/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.

`GETTING STARTED`

Should the display show:-
`Waiting for CTS_`

just after the CableJoG version display, then
one of the options using the serial interface has been activated and the Printer/PC is not connected or On-Line. Either sort out the problem with the Printer/PC or press CLEAR on the keyboard.
The display will show:-
`Abort Comms[y/n]`

Press ENTER to stop CableJoG trying to connect.

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.

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

If there has been no activity for more than 1 minute (default setting) the unit will beep and then go into power down mode
to conserve battery power. The display will show:-
`** Power Down **`

To restore the unit to a working state switch OFF and then ON again, to change the power down time see the chapter MENU SETUP option 2.

After familiarising yourself with the concept/fundamentals of CableJoG it may be useful to move onto the MENU SETUP chapter to set the unit up to your requirements.

## Menu LEARN    1

This menu deals with the process of determining which pins of connector A are connected to connector B (and any internal links within connectors A & B). If the display shows:-

`Enter No. _`

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:-

`Learn   [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:-

`Any DIODES [y/n]`

If there are diodes in the cable then press ⬅ to move the cursor under **Y** then press ENTER, otherwise just press ENTER. With or without diodes the display shows:-

`Sel.Conns. [y/n]`

As described in earlier chapters CableJoG works on a three character label for each pin, if you don't want to use this system use the ⮕ key to move the cursor under the **n** character and then press ENTER. Each pin label will now be it's actual pin number. The cable is learnt. Otherwise, the next step is to choose the type of connectors used, press ENTER again the display will show the first connector type:-

`A: 64w 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 two 64 way IDC connectors. Connector A has pins with address numbers 001 to 064, connector B has pin addresses 065 to 128. The display will show:-

`Pin 1 addr 001`

## SPECIAL USES / DIN 41612

CableJoG can be used to test cables/harnesses and PCB's with a variety of the DIN 41612 connectors. 96way abc connectors could only be tested going to a 32 way connector because of the overall test pin limit of 128.

DIN 41612 connectors use the same pin number twice with a lower case letter to identify which column the pin number belongs to making the whole pin label three characters long. CableJoG128 has three characters per pin label, but the first character is normally the connector identifier (A,B etc.). As this character is automatically assigned the only way around the problem is to LEARN the cable using the 64way IDC connector in place of the DIN 41612 and then EDIT that cable changing the pin labels.

**Procedure:**

1). Assemble the test adaptor leads, taking care with the orientation of the DIN 41612 connectors, as these seem to come without any identification of pin1.

2). In LEARN mode use the 64way IDC connector for each DIN 41612.

3). Complete the LEARN process and STORE the result.

4). EDIT the cable just stored, go into EDIT PINS and change the details of the 64way IDC to reflect the DIN 41612. i.e. if you had learnt the 64way IDC (DIN 41612) as connector A with its pin 1 in position 001 then the current labels would be:-

> 001: A01
> 002: A02
> 003: A03 etc.

Change these to:-

| 2 row 96way 'a' and 'c' | 2 row 64way 'a' and 'b' |
|---|---|
| 001: a01 | 001: a01 |
| 002: c01 | 002: b01 |
| 003: a02 | 003: a02 |
| 004: c02 | 004: b02 |

**Hint:**

to quickly select the lower case letters **a**,**b**,**c** etc. press **9** then ⬅ to put the cursor back and ⤓ to move to **a**. If you are using more than one DIN 41612 in the cable/harness it might be easier to use x,y or z for the columns on the second connector.

`Menu PROBE     0`

Once one of the options has been accepted you have to choose the connectors position within the two 64 way IDC connectors.

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

`Pin 1 addr 001`

available location, should another location be required use `↓` `↑` `←` `→` keys to change the address to any within the 128 pins.

Press ENTER when finished.

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

`B: No More [y/n]`

The connector identifier has now changed to B: and should the cable only have one connec-

tor then use the `←` key to select **Y** and press ENTER to finish.

`B: 64w IDC [y/n]`

Otherwise press ENTER and the display will return to the connector selection

menu, or using the `←` key and pressing EN-TER to accept the second connector. The display changes to the Pin 1 address selection:-

`Pin 1 addr 065`

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 256 addresses.

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

`Ready`

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

`Connected    A31`

And in this example two pins in connector A are connected together, the display will rotate the

`   A30  and   A31`

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.

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

---

`Menu LEARN     1`

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 use `↓` `↑` `←` `→` keys to change the address to any within the 128 pins.

Press ENTER when finished.
Should you see:-

`Err Pin addr>128`

then a pin number greater than 128 has been entered. Make sure that you have selected the correct connector(s) and placed their pin 1's in the correct addresses.

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

`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.

`B: 64w IDC [y/n]`

Otherwise press ENTER and the display will return to the connector selection

menu, or using the `←` key and pressing EN-TER to accept the second connector. The display changes to the Pin 1 address selection:-

`Pin 1 addr 065`

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 128 addresses.

If the choice of connector causes pins to be placed past address 128 the the display will show:-

`Err Conn Too Big`

Make sure the cable was connected into CableJoG as CableJoG will now scan all 128 pins.

A typical connection would be :-

`From A01 To B01`

If the diode option was selected you also get the reverse connections for non diode connections:-

`From B01 To A01`

## Menu LEARN｜｜｜｜1

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. 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.

Possible PROBLEMS:-

| Err OutOf Range⏎ |
| From 101 To 102⏎ |

This is caused by a connection being detected on a pin address which has no corresponding connector assigned to it press ENTER and the pin address will be shown. Press CLEAR to abort the Learn, check your cable and start the Learn menu again.

| Err TooMany Cons |

Also:-

Caused by more than 64 pairs of connections, this is a system limitation contact CableJoG if you need more connections.

## Menu PROBE｜｜｜｜0

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:-

| Enter No.＿｜｜｜｜ |

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:-

| Probe｜｜｜｜[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:-

| Use PIN 128[y/n] |

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 128.

Should another location be required use the ➡ key to move the cursor under the **n** character and then press ENTER use ⬇⬆⬅➡ keys to change the address to any within the 128 pins.
Press ENTER when finished.

| Enter PIN｜｜｜128 |

The display will show:-

| Cable Label[y/n] |

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, otherwise use the ➡ key to move the

| Sel.Conns. [y/n] |

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 128). 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:-

| A:｜64w 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.

`Menu SETUP     9`

`SERIAL NO.     8`

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

Continue (default):-
With the option set to continue  each tested
cable will be numbered and the number will

`Next= Continue`

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 :-

`Next= OFF`

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:-

`Next= 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. 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.

`Menu LEARN     1`

`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:-

`Enter No. _`

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:-

`1=Learn  2=Test`

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

`001 Connections`

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).

`Menu TEST       2`

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:-

`Enter No._      `

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:-

`Test       [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, if you have not 'Learned, Recalled or Edited' a Cable then the display will show:-

`No Cable in MEM⁰`

Press ENTER, this will take you back to the main menu, you can then use the most appropriate menu to put a cable's detail in 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 TESTCABLE001, but the display shows only the first 10 characters:-

`TESTCABLE0 [y/n]`

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

Make sure the cable is now connected into CableJoG, then press ENTER. CableJoG will now scan all 128 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 next 2 pages deal with the various display options, followed by the various test loop options.

`Menu SETUP     9`

`RESULTS        7`

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

Mode1 - OFF LINE the test results are displayed on the LCD display.

Mode2 - BATCH the test results are displayed on the LCD display and stored in spare cable memory for later printing.

Mode3 - ON LINE with CableJoG permanently connected to a printer, the results are displayed  on the LCD display and printed on the printer.

On entering this option the display will reflect the current setting, in this example it is OFF LINE:-

`OFF LINE   [y/n]`

If you want to change this mode then press ⊡ to select **n** then press ENTER, this will take you onto the next mode.

If mode 1 is correct then press ENTER.

`BATCH      [y/n]`

If mode 2, BATCH mode, had been selected then the buffer will be cleared and the display will return to the date and time display.

If mode2, is selected then CableJoG will scan the cable register memory looking for the last entry all of the memory after this is then allocated to the communications buffer. The display will show the amount available:-

`Comms Buff =18K⁰`

Because this process re-initialises a number of variables you may need to enter the operator pin number again, if that option has been set. The date and time are re-displayed for checking.

`ON LINE    [y/n]`

If mode3, ON LINE, is selected then CableJoG copies all test results to the printer.

`Menu SETUP    9`

`OPERATORS    6`

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 show:-

`Operators  [y/n]`

If you don't want to use this feature then press ⟶ to select **n** then press ENTER. This will take you back to the date and time menu. Otherwise press ENTER to continue.

The display will prompt for a 'pin' number:-

`Operator No:_`

Enter the four digit 'pin' number, if the password is not recognised the display will prompt:-
If you just entered the number incorrectly, or don't want to enter a new operator, then press

`NewOperator[y/n]`

⟶ to select **n** then press ENTER you will be taken back to the date and time option.
The display shows:-

`Sorry Wrong No._`

Accepting the New Operator, the display prompts for a 8 character name. Use the

`Name:_`

↑↓ 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:-

`Confirm  No:_`

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

`John    Entered`

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

`Menu TEST    2`

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

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

`PASSED    ↵`

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

`FAILED    ↵`

if the display shows:-
then NO connections were detected at either end.

`No Connections ↵`

If Serial Numbering has been Setup then the Passed disply changes to:-

`PASSED 00000001↵`

If Date and Time stamping has been Setup then the Passed display changes to:-

`PASSED 09-00-00↵`

And finally if both Serial Numbering and Date and Time Stamping the display Passed display changes to:-

`PASS 0001 09-00↵`

With the 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.

`A01B01   OPEN  ↵`

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

`A02B02   SHORT ↵`

*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 Connector A pin1 connected to Connector B pin2.

`A01B01≠A01B02 ↵`

## Menu TEST ▮▮▮▮▮▮ 2

With the PF +Cons setting in Test Display the firstly you will see all the connections found.Example of a correct 9 way 'd' type to 9 way 'd' type:-

| From A01 To B01↵ |
| From A02 To B02↵ |
| From A03 To B03↵ |
| From A04 To B04↵ |
| From A05 To B05↵ |
| From A06 To B06↵ |
| From A07 To B07↵ |
| From A08 To B08↵ |
| From A09 To B09↵ |

With the PF + Er + C setting all the connections are displayed first. Then you get either Passed or Failed and finally if it was a failure then the display will show the error report.

TEST LOOP OPTIONS:
There are now five different ways of running the test cycle.
1. NO LOOP.
The display will show the cable name that is to be tested (In this case TESTCABLE01, the name is truncated to 10 characters):-

| TESTCABLE0 [y/n] |

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 and take you back to the first step.

2.LOOP.
The display will show the cable name that is to be tested (In this case TESTCABLE01, the name is truncated to 10 characters):-

| TESTCABLE0 [y/n] |

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.

3. CONTINIOUS
The display will show the cable name that is to be tested (In this case TESTCABLE01, the name is truncated to 10 characters):-

| TESTCABLE0 [y/n] |

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....

## Menu SETUP ▮▮▮▮▮ 9

## PASSWORDS ▮▮▮▮▮▮ 5

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

| | |
|---|---|
| 1 = LEARN | 6 = PRINT |
| 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:-

| PROBE ON  [y/n] | EDIT  OFF  [y/n] |
| LEARN OFF [y/n] | PRINT OFF  [y/n] |
| TEST  OFF [y/n] | RECEV ON   [y/n] |
| RECAL OFF [y/n] | SEND  ON   [y/n] |
| STORE OFF [y/n] | SETUP OFF  [y/n] |

To set a password on a menu that is OFF or not set, move the cursor under the **n** character and press ENTER. The display will show:-

| Enter No. _ |

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 be used. The display will change to confirm the new setting.

To reset a password on a menu that is ON or set, as before, move the cursor under the **n** character and press ENTER. The display will show:-

| Enter No. _ |

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.

`Menu SETUP▮▮▮▮▮9`

`TEST MODE▮▮▮▮▮4`

## Mode 5 - PRESS ONE BUTTON

`TEST = PRESS ON`

This mode set the CableJoG unit to use only one button to run the test, everytime the 1 key is pressed the test will run. 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 wil see:

`1=Learn  2=Test`

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

## Mode 6 - WIRES

This option allows for a number of of different types of cable to be tested quickly, connections are assumed to be from the A connector to the B connector and pin for pin e.g. 1wire connection would be: A01 to B01 (001 to 065), 2 wires connection would be A01 to B01 and A02 to B02. and so on to the maximum 64 wires.

6.1 Enter the no of wires (connections) and press ENTER, if the number shown is correct (repeating the same type of cable), just press ENTER.

`▮▮▮▮▮▮▮▮01 Wires`

6.2 LOOP for intermittant connections, once a cable has been tested it is possible to test that cable for intermittant problems by entering 99 wires, this will loop the test until either, a fault occours or, a key is pressed.

6.3 END WIRES mode, switch the CableJoG unit off and on, press Enter when you see the date prompt, then press 9 this will take you to the Setup menu where you can change test modes.

---

`Menu TEST▮▮▮▮▮2`

TEST LOOP OPTIONS (Continued):

### 4.STAGED

This is a varient of the Continious testing mode with the added feature of stringing more than one test together.

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. With out anything connected you will see:

`No Connections ¢`

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

`Stage PASSED 01▮`

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

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

`PASSED 00000001¢`

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

### 5. ONE PRESS

This option turns the whole testing process into just pushing one of two buttons:

`1=Learn  2=Test`

5.1 Press 1 to learn a new cable, this option can be passworded .

5.2 Press two to run the test, the results options are as with the other test loop option.

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

### 6. WIRES

This option allows for a number of of different types of cable to be tested quickly, connections are assumed to be from the A connector to the B connector and pin for pin e.g. 1wire connection would be: A01 to B01 (001 to 065), 2 wires connection would be A01 to B01 and A02 to B02. and so on to the maximum 64 wires.

6.1 Enter the no of wires (connections) and press ENTER, if the number shown is correct (repeating the same type of cable), just press ENTER.

`▮▮▮▮▮▮▮▮01 Wires`

6.2 LOOP for intermittant connections, once a cable has been tested it is possible to test that cable for intermittant problems by entering 99 wires, this will loop the test until either, a fault occours or, a key is pressed.

6.3 END WIRES mode, switch the CableJoG unit off and on, press Enter when you see the date prompt, then press 9 this will take you to the Setup menu where you can change test modes.

`Menu RECALL    3`

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:-
`Enter No. _`

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:-
`Recall    [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:-
`01:PrinterCable1`

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, using the ◀▶ keys to move between digits.

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

   <u>Self Test cables.</u> There are two self test cables stored in the EPROM. They start with cable number 58. It is possible to edit these details, but the changed cable will have to be stored under a new cable number below 58. For details of the self test cables see Appendix C.

`Menu SETUP    9`

`TEST MODE    4`

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

Mode 1 - NO LOOP the test is run just once
and the results displayed.
`TEST = NO LOOP`

if this is what you require then press ENTER, otherwise use the 🔼🔽 keys to move through the following modes.

Mode 2 - LOOP the test is run continually until either the unit under test fails or no connections are found. The display will show:-
`TEST = LOOP`

This is the same display as would be shown if test looping was ON in the first instance, again if this is what you require then press ENTER, otherwise use the 🔼🔽 keys to move through the following modes.

Mode 3 - Contin. the test runs continually giving the current results, pressing any key will stop the test. The display will show:-
`TEST = CONTIN.`

This is the same display as would be shown if continuous testing was ON in the first instance, again if this is what you require then press ENTER, otherwise use the 🔼🔽 keys to move through the following modes.

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. The display `TEST = STAGED`
will show:-

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

`Menu SETUP     9`

`TEST DISPLAY   3`

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.

The possible options are:-

`PF only     [y/n]`

`PF+Err      [y/n]`

`PF+Cons     [y/n]`

`PF+Er+C     [y/n]`

If the option shown is what you require then press ENTER, other wise use the → key to move under the **n** character and press ENTER, the display will move onto the next option. The various options are:-

`PF only     [y/n]`

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.

`PF+Err      [y/n]`

This means that PASSED or FAILED messages will be displayed along with an ERROR report at the end of the Test program.

`PF+Cons     [y/n]`

This means that PASSED or FAILED messages will be displayed along with any connections found during the test program. This is particularly useful if used in conjunction with the Loop test option, as it will shown the test progressing.

`PF+Er+C     [y/n]`

This option will produce a display of all the connections found as well as a full ERROR report at the end of the test program.

Press ENTER over a **Y** to accept that option, the display will return to the date and time option.

---

`Menu STORE     4`

This menu deals with the transfer of a cables details from compare memory into the cable database.
If the display shows:-

`Enter No. _`

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:-

`Store       [y/n]`

If you don't need to keep a record of this cable then press → to select **n** then press ENTER. This will take you back to the main menu. Otherwise press ENTER to continue.

Press ENTER the display will prompt:-

`Sel Number/Name↵`

Press ENTER. The display will show the first cable e.g.:-

`01:PrinterCable1`

The two digit figure on the left is the cable file number, press the ↓ key to move onto the first entry. There is now a choice of methods to move through the file index.

Using the ↑ ↓ keys you can scan through until you either have a vacant position or are over a cable that is no longer relevant. The other method is to enter the cable number directly, using the ← → keys to move between digits. Press ENTER once you are on the right file, the cursor will move into the filename first character. If this hasn't been used before you will see the letter A :-

`02: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 a single ended 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'.

`Store 02:   [y/n]`

Press ENTER to store the cable details and return to the main menu. Or use the → key to select **n** and press ENTER the display will show:-

`Delete 02: [y/n]`

This gives you the option to remove a cable from the register, again use the → key to select **n** and press ENTER if you don't want to delete this cable.

`Menu EDIT      5`

`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:-

`Enter No._     `

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:-

`Edit       [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 return you to the main menu.

Press ENTER to continue, if there is no cable in the compare memory the display will show:-

`New Cable  [y/n]`

If you intended to edit an existing cable then use the → key to move the cursor under the **n** character and then press ENTER, this will take you to the recall menu. If you wish to enter a cable's details from a wiring list then press ENTER to continue, the display will show:-

`Sel.Conns. [y/n]`

As described in earlier chapters CableJoG works on a three character label for each pin, if you don't want to use this system use the → key to move the cursor under the **n** character and then press ENTER. Each pin label will now be it's actual pin number. The program moves onto Cable Ready.

Otherwise, to choose the type of connectors used, press ENTER again the display will show the first connector type:-

`A: 64w IDC [y/n]`

Press ENTER if this is not the correct connector type, otherwise press ← to move the cursor under the **Y** character, then press ENTER to move onto the next 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 two 64 way IDC connectors. Connector A has pins with address numbers 001 to 064, connector B has pin addresses 065 to 128. The display will show:-

`Pin 1 addr 001 `

`Menu SETUP     9`

`POWER DOWN     2`

CableJoG has a power down feature where the microprocessor is switched off after a set period of inaction, this menu allows you to set that period from a minimum of 1 minute (factory setting) through to 99 minutes or never powering down (00).

`PWR DOWN 01 min `

The display will show the current setting and the cursor will appear under the least significant digit.:-

you can use the ↑↓←→ keys to adjust the time, or enter the digits from the keyboard.

`PWR DOWN 00 min `

will leave the unit powered on all the time.

Once you have set the time amount press ENTER, the display will show the result:-

`PWR DOWN 00 min↲`

Press ENTER, the display will return to the date and time option.

`Menu SETUP     9`

`BEEP           1`

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 .

If the display shows:-                                    `BEEP OFF   [y/n]`

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.

The display will show:-                                    `BEEP PASS   [y/n]`

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.

The display will show:-                                    `BEEP ON    [y/n]`

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.

---

`Menu EDIT     5`

`Edit New Cable`

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 use the ⬆ ⬇ ⬅ ➡ keys to change the address to any within the 128 pins. Press ENTER when finished.

Should you see:-                                    `Err Pin addr>128`

then a pin number greater than 128 has been entered. Make sure that you have selected the correct connector(s) and placed their pin 1's in the correct addresses.

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

Using the ⬅ key and pressing ENTER to accept the second connector the display changes to the Pin 1 address selection:-          `Pin 1 addr 065`

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 128 addresses. If the choice of connector causes pins to be placed past address 128 the the display will show:-          `Err Conn Too Big`

In either case Edit moves onto editing the serial number option.

`Menu EDIT       5`

`Edit Cable 01   `

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

`Edit  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.

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

`Edit Pins  [y/n]`

This option allows the user change any or all of the 128 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:-

`001 Label= A01  `

The first three numbers (001) represent the pin address, see the Fundamentals chapter for when details on pin addresses and connector pins, use the ↑ ↓ ← → keys to move around the addresses until the correct one is displayed, press ENTER.

`001 Label= A01  `

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. The display will show the ENTER symbol, if you have made a mistake press the ← key to go back to editing the label, otherwise press ENTER again to accept the new label.

The display will change from:-

`001 Label= A01 ↵`

To:-
And:-

`Label Changed  ↵`

`Another    [y/n]`

If another label is to be edited then press ENTER, other wise press the ← key to move the cursor under the **n** key and press ENTER.

`Menu SETUP     9`

`DATE & TIME    0`

This menu deals with the setting/changing of system parameters.

If the display shows:-

`Enter No.       `

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:-

`Setup      [y/n]`

If you don't want to change the system parameters then press → to select **n** then press ENTER. This will take you back to the main menu. Otherwise press ENTER to continue. The display will show the first option:-

`DATE & TIME    0`

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:-

`13:05 01/08/03  `

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:-

`Date  01/08/03 ↵`

and new time:-

`Time  13:05:01 ↵`

Press ENTER:-

`        OK?  [y/n]`

If everything is correct press ENTER, If there is an error then press → to select **n** then press ENTER. This will take you back to changing the date and time.

`Menu SEND      8`

`Send        CABLE`

This menu allows the transfer of cable details from CableJoG to CableJoG Command Program (C.C.P.).
If the display shows:-

`Enter No. _`

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:-

`Send CABLE [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 send the cable, CableJoG tries to send the details for the cable in compare memory. In this example it is number 01:-

`Send 01    [y/n]`

If this is not the cable you want to send the details of then use the →  key to move the cursor under the **n** character and then press ENTER, this will take you into the cable register and allow selection of the cable to send.

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, using the ←→ keys to move between digits.

Press ENTER, if you see:-
then the link is either not ready or not connected, correct this fault or press any key to break out of printing. The display will change to:-

`Waiting for CTS_`

`Abort Comms[y/n]`

If sending has taken place the display will change to:-
press ENTER, to go back to testing.

`Cable   SENT   ↵`

`Menu EDIT    5`

`Edit Cable 01`

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

`Edit SerNo [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 serial number option, then press ENTER, the display will show:-

`Enter Serial No↵`

Press ENTER, there are three option for the serial number, Continue (default):-

`Next= Continue`

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 :-

`Next= OFF`

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:-

`Next= 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. 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.

`Menu EDIT        5`

`Edit Date 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:-

`01. B01 to A02 ¢`

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, the display will
show:-

`Enter DateStamp¢`

Press ENTER, if this has not been set before
then the display will show (default):-

`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. The display will show the
ENTER key at the right hand position.

Press ENTER the display will confirm the
changes:-

`Stamp Changed  ¢`

Press ENTER again to move onto the next
cable option.

`Set h-m-s-D-M-Y¢`

Example of full time and date stamp:-

`Set h-m-s- - - ¢`

---

`Menu SEND      8`

`Send        BATCH`

This menu deals with the transfer of Batch test results from CableJoG to
CableJoG Command Program (C.C.P.). When enabled, CableJoG uses any
spare cable memory area past the last cable 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. If the password is correct or has
not been set then the display changes to:-

`Enter No._`

`Send        [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, if there are any
results to print from the batch buffer then the
display will show:-

`Send BATCH [y/n]`

If you don't want to send the results use the `→` key to move the cursor under
the **n** character and then press ENTER the display will show (For details on
this option see next page .).

If you do want to send the batch results then
make sure you have CableJoG connected and
ready. Press ENTER, if you see:-

`Waiting for CTS_`

then the link is either not ready or not
connected, correct this fault or press any key to break out of printing.

The display will change to:-

`Abort Comms[y/n]`

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

`Results SENT   ¢`

press ENTER, CableJoG then re-initialises itself going through the power on
sequence of date, time, operator and password (if used).

---

`Menu RECEIVE    7`

`REMOTE LINK`

If you entered to the Receive prompt the display will show:-

`Remote Link[y/n]`

This allows the CableJoG unit to be controlled from CableJoG Command Program (C.C.P.). If you see 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:-

`Remote Link ON  _`

---

`Menu EDIT     5`

`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 five modes.

`Edit Test  [y/n]`

The display will show:-

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:-

`TEST = NO LOOP`

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 move onto the next mode.

Mode 2 - LOOP the test is run continually until either the unit under test fails or no connections are found.
The display will show:-

`TEST = LOOP`

If this is what you require then press ENTER, otherwise use the ↓ key to move onto the next mode.

Mode 3 - Cont. the test runs continually giving the current results, pressing any key will stop the test. The display will show:-

`TEST = CONTIN.`

If this is what you require then press ENTER, otherwise use the ↓ key to move onto the next mode. See next page.

`Menu EDIT       5`

`Edit Test Mode  `

Mode 4 - Staged testing, actual test mode is as for conitinuous, but once passed the NEXT stage is automaticaly loaded. The display will show:-

`TEST = STAGED   `

If this is what you require then press ENTER, otherwise use the ⬇ key to move back to the first mode.

After confirming the option the display will show:-

`Stage Number 01 `

Select the stage number for this cable, 1 is the first stage option.

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

`TEST = PRESS ON `

This mode set the CableJoG unit to use only one button to run the test, everytime the 1 key is pressed the test will run. 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 wil see:

`1=Learn  2=Test `

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

---

`Menu RECEIVE   7`

This menu allows the transfer of cable details from CableJoG Command Program (C.C.P.) into the cable register, if the display shows:-

`Enter No._      `

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:-

`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, this will give you the option of running the CableJoG unit from a PC using C.C.P. (see below).

Otherwise, press ENTER to continue, the display will show:-

`Receiving      _`

Following the instructions for C.C.P. a Cable Profile is chosen and sent to CableJoG128. During receiving the display reflects the number of cables currently received.:-

`Received Cab 01_`

Finishing off with:-

`..End of File(s)`

`Menu PRINT     6`

`Print      CABLE`

`Print       LIST`

This option enables the details of a particular cable to be printed.

`PrintCABLE [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 the display will show:-

`Print LIST [y/n]`

This option prints out the cable store catalogue with any staged details.

Press ENTER to print or use the →⏎ key to move the cursor under the **n** character and then press ENTER the display will show:-

`Print 01   [y/n]`

Press ENTER to print a cable, CableJoG tries to print the details for the cable in compare memory. In this example it is number 01:-

`01:PrinterCable1`

If this is not the cable you want to print the details of then use the →⏎ key to move the cursor under the **n** character and then press ENTER, this will take you into the cable register and allow selection of the cable to print.
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, using the ←→ keys to move between digits.

Press ENTER once you are on the right cable, the cable details will be transferred to the printer, when finished the display will show:-

`Cable   PRINTED⏎`

For examples of print out's see Appendix D.

`Menu EDIT     5`

`Edit Connections`

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

`Edit Conns [y/n]`

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

If you you do want to edit the Connections, then press ENTER, the display will show:-

`Enter Connectn.⏎`

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

`01. A00 to A00`

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:-

`01. A01 to B01`

The two 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 01 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:-

`01. A01 to A02 ⏎`

Is valid,but:-

`01. B01 to A02 ⏎`

is not because B01 has an address of 65 and A02 is 2 and will produce an error message:-

`Err From addr>To`

## Menu EDIT ▭▭▭▭▭ 5

## Edit Connections

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

`InsertLine [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 chang-
ing any of the details, the display will show:-

`DeleteLine [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. e.g. if
the cable was:-

`01. A01 to B01`
`02. A02 to B02`

then after deleting the second entry, the table
would look like:-

`01. A01 to B01`

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

The display will show:-

`DeleteLine [y/n]`

This time press ENTER and the display will
change to:-

`Cable Done [y/n]`

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.

## Menu PRINT ▭▭▭▭ 6

## Print ▭▭▭▭▭ BATCH

This menu deals with the printer batch output. When enabled, CableJoG uses
any spare cable memory area past the last cable as a print buffer. During
testing the results are stored away and held even if the unit is switched off.
Then when a printer is available the results can be printed using this option.
For details on how to set this see chapter menu SETUP PRINTER.
If the display shows:-

`Enter No. ▭_▭▭▭▭▭`

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:-

`Print ▭▭▭▭▭ [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, if there are any
results to print from the batch buffer then the
display will show:-

`PrintBATCH [y/n]`

If you don't want to print the results use the ⟶ key to move the cursor under

the **n** character and then press ENTER the
display will show (For details on this option
see next page.):-

`PrintCABLE [y/n]`

If you do want to print the batch results then
make sure you have the printer connected and
ready. Press ENTER, if you see:-

`Waiting for CTS_`

then the printer is either not ready or not
connected, correct this fault or press any key
to break out of printing. The display will
change to:-

`Abort Comms[y/n]`

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

`Results PRINTED¢`

press ENTER, this batch buffer will be
cleared and its value shown briefly:-

`Comms Buff =18K¢`

CableJoG then re-initialises itself, going
through the power on sequence of date, time, operator and password (if used).
For examples of print out's see Appendix D.