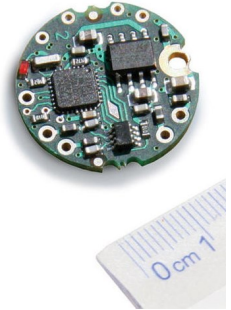


# ScrapMan Load Cell Programmer

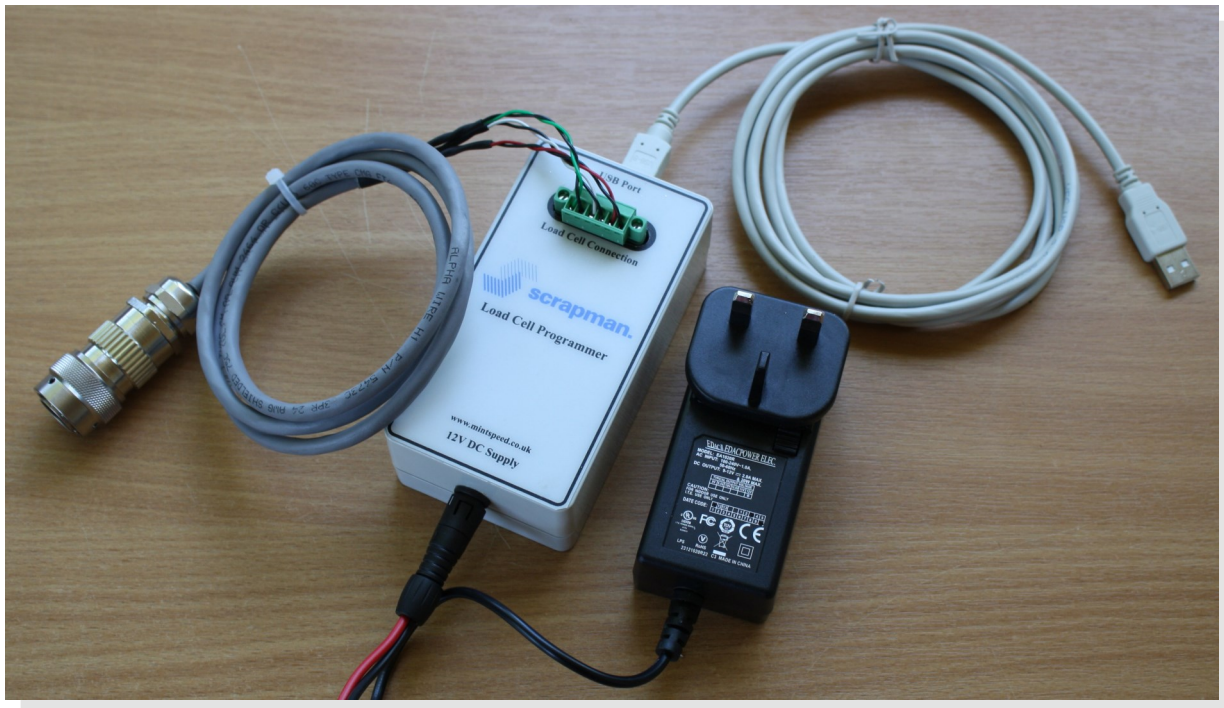


The ScrapMan Load Cell Programmer provides an interface to communicate with a microcomputer that is built into each load cell. This microcomputer converts the analogue signals from the strain gauge into digital format which are subsequently processed by the on-board trailer computer. All data communication is in RS485 format and the ScrapMan Load Cell Programmer converts this into USB format and is used to configure the unique settings within the microcomputer.

This microcomputer (shown right) is called a **D-Cell** and is an item manufactured by **Mantracourt Electronics**; two software drivers are required to control the communication; these are free and are available from Mintspeed. These need to be downloaded and installed to a laptop / desktop PC that will be used for trailer maintenance / support.



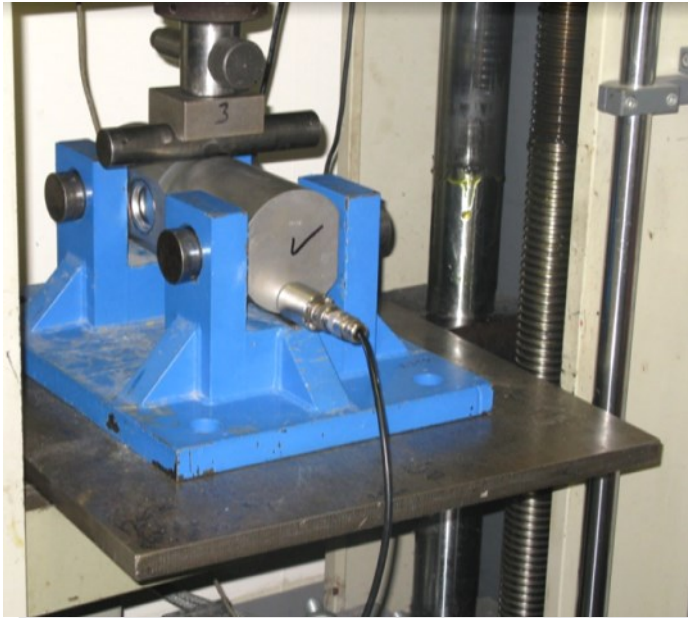
The USB – RS485 programmer is an essential piece of hardware to provide the physical interface between the load cell and the Mantracourt configuration software on a PC and is used primarily to set or change the individual address of a load cell after repair or replacement.



The Kit includes;

1. Load Cell Programmer Module which includes a USB—RS485 converter
2. USB—RS485 Cable
3. Load Cell Cable
4. Mains 12V Power Supply

There are no user controls; all functionality is under software control at the PC selected for this task and loaded with the appropriate drivers.



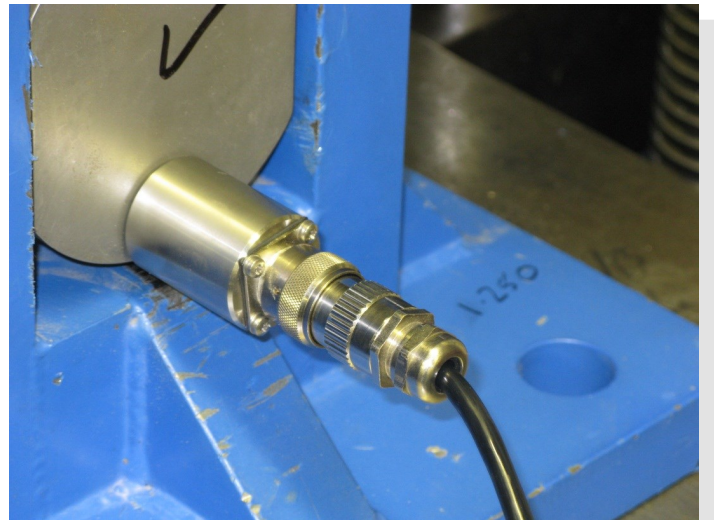
Load Cell under test and calibration in a hydraulic Test Rig.

Load Cell cable connects to Load Cell Programmer (not shown)

Close-up of Load Cell connection and stainless steel housing that contains the **Mantracourt D-Cell** microcomputer. The Load Cell Programmer can be connected direct to the load cell using the short cable with stainless steel connector

**OR**

If connecting to a load cell already mounted to a trailer, it may be considerably more convenient to use the actual trailer load cell cable connected to the programmer.

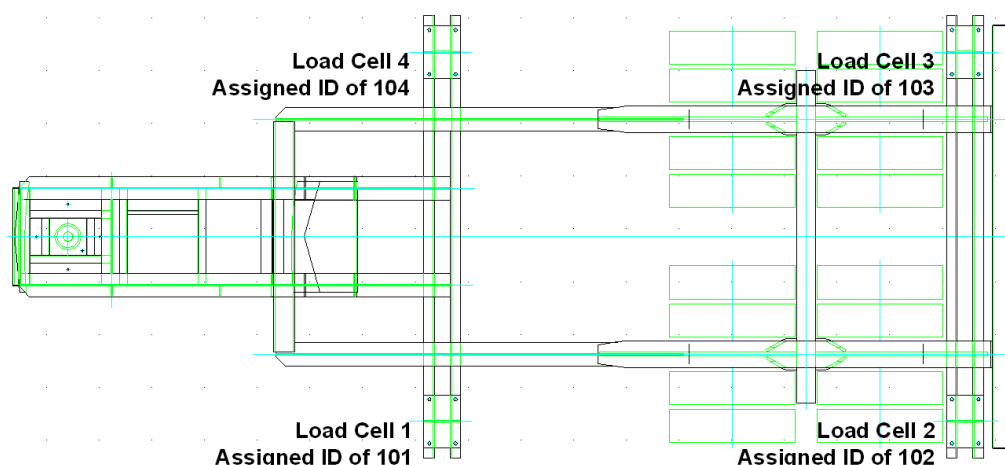


Load Cell complete with mounting cradle in-situ on Trailer Chassis

## Load Cell Identity (Address)

From brand-new, all load cells (and all returned, repaired load cells) have an ID (address) of “1”; however, during the initial configuration of the trailer system a semi-automatic procedure as part of the first boot-up reassigns load cell identities as **101** to **104** inclusive starting at the front, near side and going anti-clockwise as shown in this Trailer chassis diagram viewed from above. All these load cells started with an address of 1 but have been re-numbered as shown...

It is important to remember this if looking for a faulty load cell. The web-browser can view individual load cells on a trailer and PROVIDING the correct load cell and cable is connected to the right connection on the computer mother board, location and diagnoses is straightforward. If connections are made haphazardly, then it becomes difficult to deduce which load cell is faulty.



Any subsequent change of any load cell requires the ID of that load cell to be **EITHER** set to the correct ID for that position (eg **103** for rear, RH side) **OR** set to “1” which will force the system to reassign an ID automatically (**103** in the case of rear, RH Side).

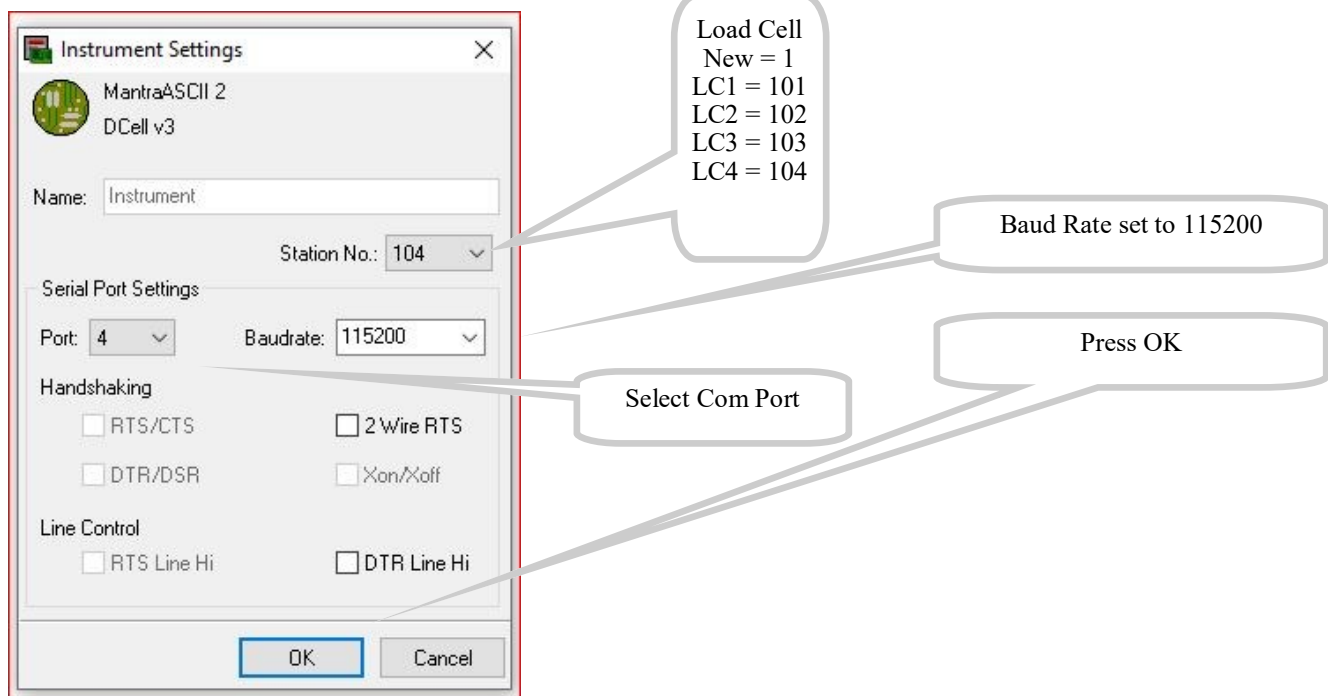
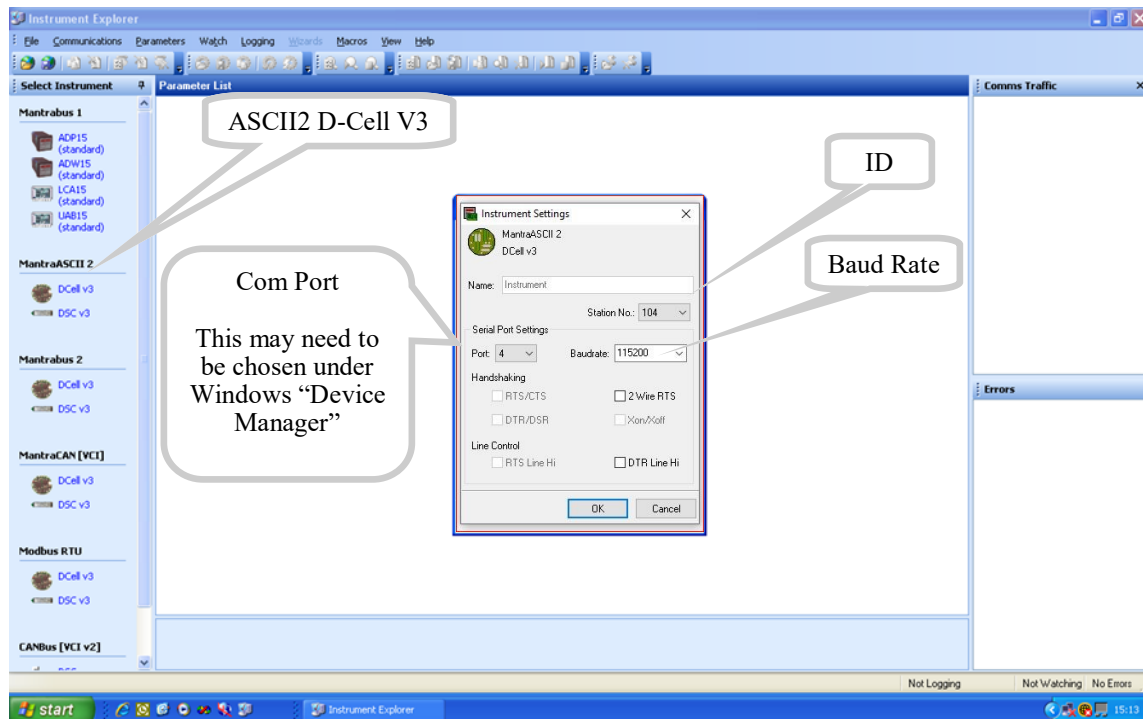
To reassign load cell ID it is necessary to use the Scrapman Programmer in conjunction with some free software which need to be installed. The software can be downloaded from: [Load Cell Programming Software](#)

1. USB232-485.exe                      This configures the USB-RS485 adapter.
  2. InstrumentExplorerSetUp.exe        This provides the software tools to access the D-Cell for programming
- 
- 1) Will install the drivers for the USB-RS485 Converter and once correctly installed a PC com port will be assigned; this should be noted and used subsequently whenever using the programmer on that computer. It may be necessary to use Windows **device manager** to establish which Com port has been assigned for USB communication; this should be noted and subsequently used or re-assigned as required.
  - 2) Will allow direct communication from the PC to the D-Cell inside a particular load cell; this will permit configuration changes such as ID (address). The Software is “Instrument Explorer” the final part of the installation will place an Instrument Explorer icon on your PC screen.

## D-Cell configuration and programming

The Scrapman load cell programmer can be connected at the load cell itself using the test lead provided (as shown in the test rig photographs) or at the computer end using the 6 way choc-bloc connector; the latter is usually **much** easier to get to. Connect this fixture to the load cell; the power supply to the mains supply and the USB connector to the designated USB Port of the PC.

Launch the *Mantracourt Instrument Explorer* and from the left hand column marked “Select Instrument” choose Mantra ASCII2, D-CELL V3 and you should see this screen and sub-screen





The Baud rate is 115200; the Station Number (Address) should be 101,102,103 or 104 depending upon which position on the trailer it came from or “1” for a new or repaired load cell. The com port depends on which socket is used on the PC. Press OK and this screen should appear, choose “Communications and the setting marked “STN” (Station No.) will show a value of “1” or “101 – 104”. This can be overwritten by highlighting the ID and overtyping “1” followed by Carriage Return. Unless someone deliberately changes an ID to a random number, the ONLY numbers you should EVER see on a load cell are 1 (new or repaired unit) or 101,102,103 and 104.

Changing the address from 101 back to 1.....



This should have changed the address; as a check, repeat the procedure using the new address of “1” at the opening screen to see it has been accepted.