

Application Note 19:

Barcode Readers

P122685 Issue 1

Introduction

The capabilities of the *TrendView* range of recorders can be extended by a Barcode Reader PCB option, which allows the recorder to receive data from a standard compatible Code 39 barcode reader wand, such as the Hewlett Packard HBSW-8300.

Using *TrendManager Pro*, a barcode description of up to 19 characters may be entered and the barcode printed out. As the barcode is "swiped" by the wand, it can set a Marker, signal the beginning or end of an event; eg. beginning to use particular stocks, or finishing those stocks. An event, in turn, may trigger an effect, such as "Stop Recording". Trigger options available are indicated in the *TrendManager Pro* Marker Effect dialog box.

The example on the next page shows a bar code for "Start Batch 14780" which is swiped by the wand. The event is added to the bottom of the Events List on the recorder. The information is saved to disk, then using *TrendManager Pro*, the event of "Start Batch 14780" is indicated on the graph.

Utilisation

A Barcode Reader can be an effective mechanism in areas of Production Control; User/Operator ID, Batch Control, Work in Progress Reporting or as a Test Facility. Its use is unconstrained in circumstances where a start and stop time may have to be recorded and identified as an event. Elimination of human error in respect of eg. transposing of figures may also be an influencing factor in the selection of this tool.

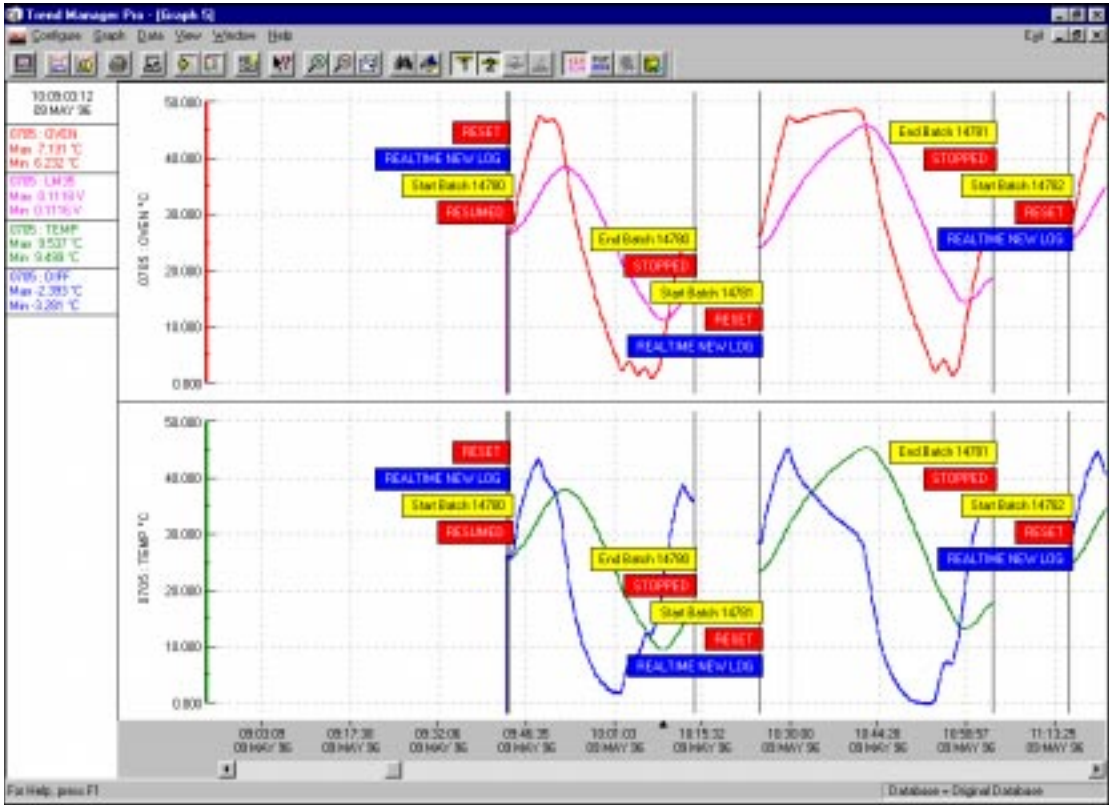
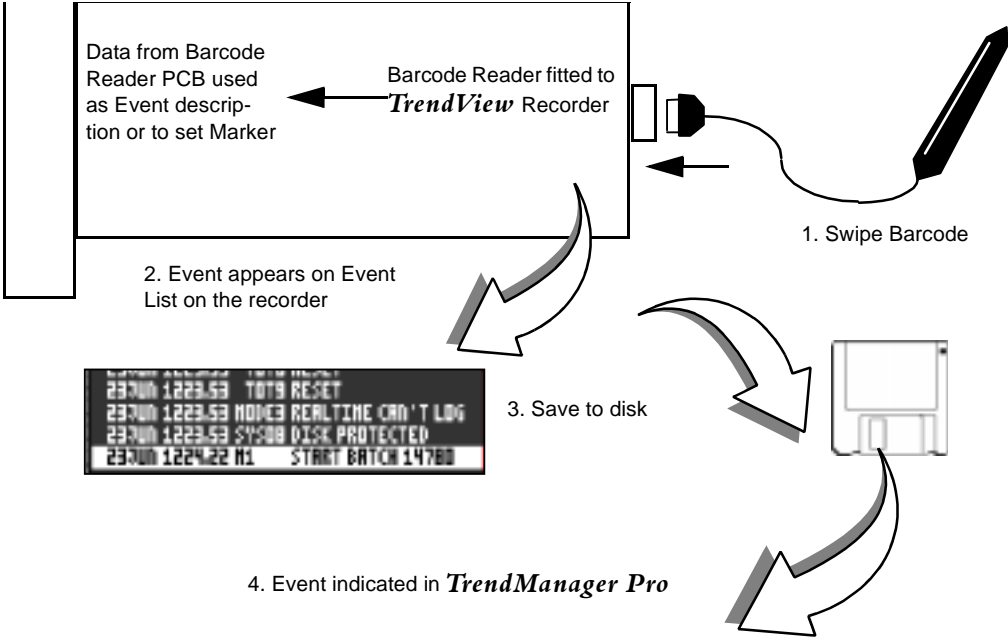


Figure 1

Installation

Ensure all power to the recorder is disconnected before attempting all maintenance procedures. Full anti-static precautions MUST be observed when in contact with the electronics of your recorder. Upon completion of service procedures detailed in this manual two basic safety tests should be performed in order to ensure continued safe operation of the instrument.

1. Earth Resistance; 25 Adc applied between case and protective earth, bonding resistance should be < 0.1 Ohm
2. Insulation Resistance; 500Vdc applied between the earth terminal, and the live and neutral terminal shorted together, insulation resistance to be >2.0 MOhm. (Meg Ohm, NOT milli Ohm)

Removing the rear panel.

- To remove the rear panel of the recorder, loosen and remove the four No 6 x $\frac{3}{4}$ self tap screws at each corner of the rear panel, taking care to retain the toothed washer under each screw head. (Figure 2)
- If fitted, loosen and remove the mounting clamp screws at the top and bottom of the extrusion to allow removal of the back panel. NB. Only one of the two screws may have to be removed while loosening the other will be sufficient.
- Disconnect the 2 pin connector carrying the brown and blue wires from the power supply board.
- Disconnect the flying earth lead from the power supply board to the earth terminal on the filtered mains connector on the rear panel.
- Loosen and remove the small earth screws (M3 x 6mm) and toothed washers on either side of the extrusion to enable the PCB assembly to slide out.

WARNING ! Due to the internal wiring the PCB assembly will only slide out approx. 30mm.

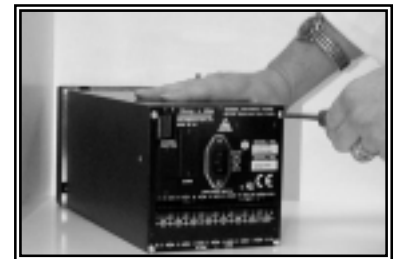


Figure 2

Inserting the Barcode Reader Card .

- Fit the card in connector position (See Figure 3) J9 and J18 on the left side of the motherboard ensuring the pins are in the correctly corresponding ports. That is, the pins on the communications card match the indents on the ports. (i.e the card is placed in its sockets so that pin 1 of the card is fitted to pin 1 of the socket)

Barcode Reader card

Motherboard

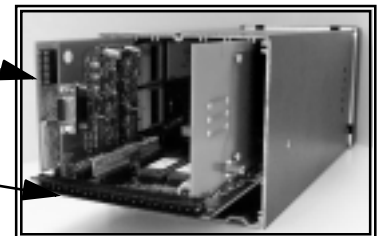


Figure 3

- Slide the PCB assembly carefully back into the extrusion via the guide channels on the extrusion, until the fixing pillars on both sides of the vertically aligned PCBs are in line with the single fixing holes on either side of the extrusion. Ensure that no internal wiring is damaged as the PCB assembly is returned (Figure 4).
- Remove the appropriate plastic blanking plate safety cover on the left of the rear panel by pushing out the push rivets from behind to allow the Barcode Reader socket to fit through the rear panel.

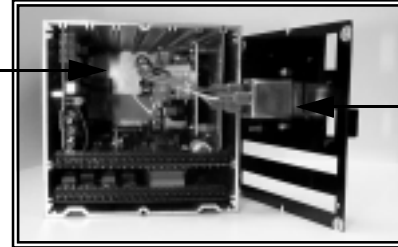


Figure 4

Replacing the rear panel. •

- Replace and tighten the two small earth screws (M3 x 6mm) and toothed washers on either side of the extrusion, torque to 120cNm.
- Reconnect the 2 pin connector carrying the brown and blue wires to the power supply board.
- Reconnect the flying earth lead from the power supply board to the earth terminal on the filtered mains connector on the rear panel. (See Figure 5)
- Reposition the toothed washers and replace and tighten the four No 6 x $\frac{3}{4}$ self tap screws at each corner of the rear panel.
- If fitted, replace and tighten the mounting clamp screws at the top and bottom of the extrusion.

Flying earth lead
from power supply
board



Earth terminal

Figure 5

Configuration

Once the Barcode Reader PCB is installed, configure your recorder to recognise the new hardware. Select the Factory option of the Special Setup menu (as described in Section 6.3.7 of the *TrendView User Manual*), select Hardware Options, then choose the Barcode Reader option (this item will be ticked when enabled).

Printing a Barcode

In *TrendManager Pro* select Data, then Print Barcode from the drop down menu (Figure 6).

The Barcode Printing dialog box will appear (Figure 7). Click in the Enter barcode string and type the description as required using the characters available as a string of up to 19 characters, which is then automatically converted to a barcode

When completed, click OK, and the Print Set Up Box will appear. Ensure the correct printer is selected, paper size is valid and orientation is as required, click OK.

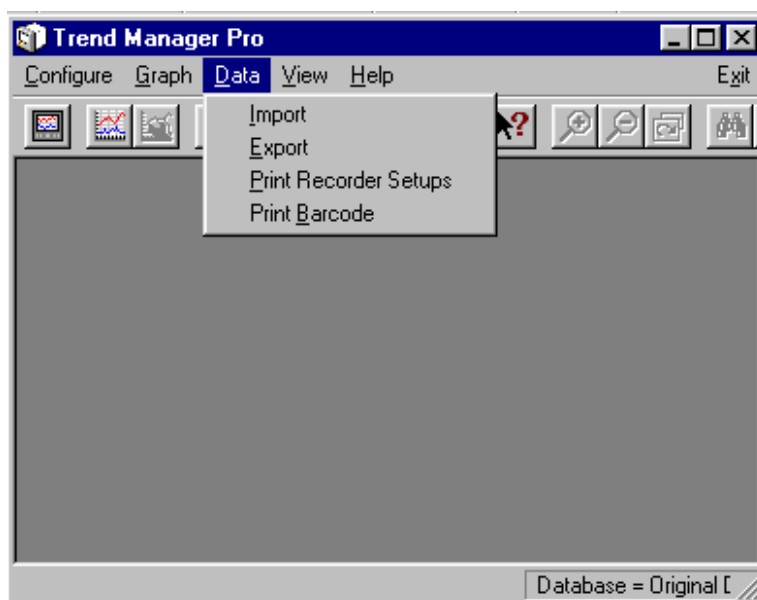


Figure 6

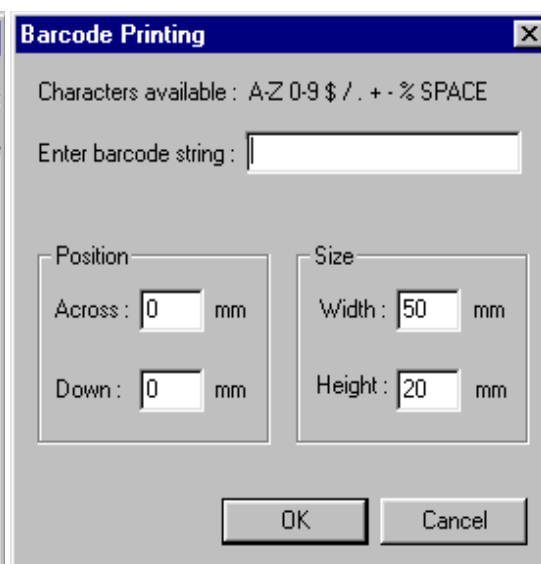


Figure 7

Operation

To configure the barcode reader wand to set a Marker, select the Barcode Reader option from the Marker Causes menu (see Section 6.3.6.1 of the *TrendView User Manual*). Each swipe of the barcode will then activate a Marker in the same way as any other Marker cause.

When a barcode has been successfully read, the recorder will emit an audible "beep". Select Events List from the Quick Menu (see Section 7.3.1.3 of the *TrendView User Manual*), to see the time and date of the swipe and the code in the Description field.

Barcode Reader Test Procedure

- In the Factory Hardware Options, ensure "Barcode Reader code 39" is selected.
- From the Marker menu choose and enable Marker 1.
- Set the Cause to be "Barcode Reader".
- Check the Effect "Mark on Chart" is selected.
- Connect the Barcode Reader to the 9-way connector of the rear of the recorder.

The Barcode Reader should now have a red light visible in the tip. If this is not visible, there is a hardware fault. Once the light is visible swipe the barcode below, an audible "beep" should be heard.



- Press the "Quick Menu" key (!) and select List Events.
- Check the text on the above barcode is shown at the bottom of the list.
- If a "beep" is audible but the text is corrupt, return to the Factory menu, re-select the Barcode Reader and repeat the test.

NB To refresh the Events List, exit the list and re-select it. This will display the most recent events.