www.datataker.com

dataTaker®

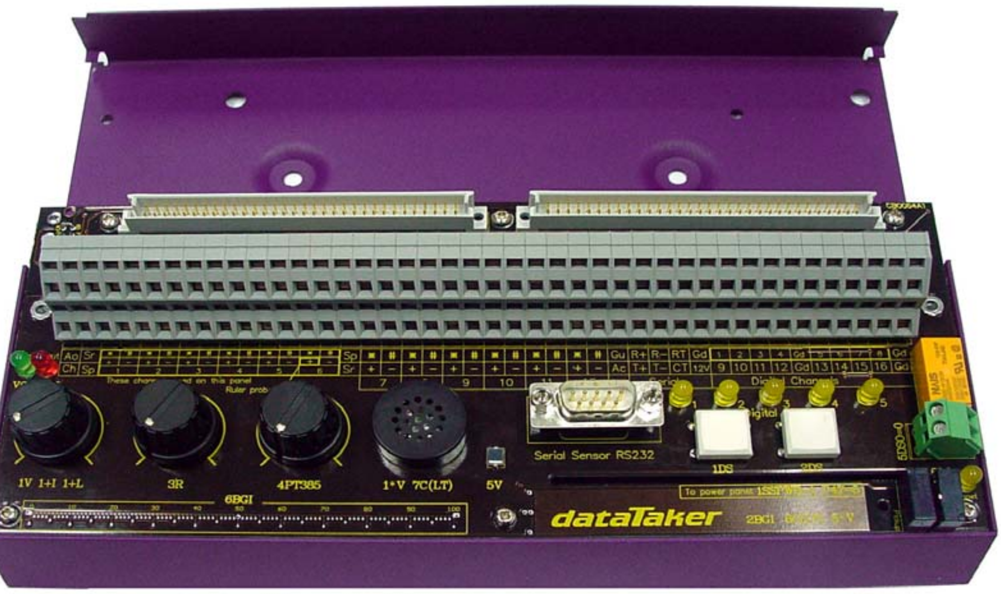


Table of Contents

Table of Contents

1. Introduction

The dataTaker DT800 Sensor Simulation Panel (SSP) provides a number of different analog and digital inputs and outputs for the DT800.

The Sensor Simulation Panel can be used for a variety of purposes including, but not limited to,

- Evaluating suitability of the dataTaker for particular applications, sensors and signal combinations
- As a source of test inputs and outputs during the development and testing of dataTaker programs and calculations procedures
- As a source of test inputs and outputs during the development and testing of applications software for a host computer supervising the dataTaker
- For teaching the principles of data acquisition, process control, system monitoring, data capture and transfer, etc. in educational institutions

2. Installing the Sensor Simulation Panel

The SSP replaces the DT800 terminal assembly. The SSP is installed on the DT800 as follows

1. Using a flat-bladed screwdriver, undo the two top-cover screws (one each side of the terminal block on the front panel).

Fig. 1.

2. Grasp under each side with your fingertips and use your thumbs to press down on the top of the terminal block. Lift hard enough with your fingertips to unplug the full-width connector strips inside.

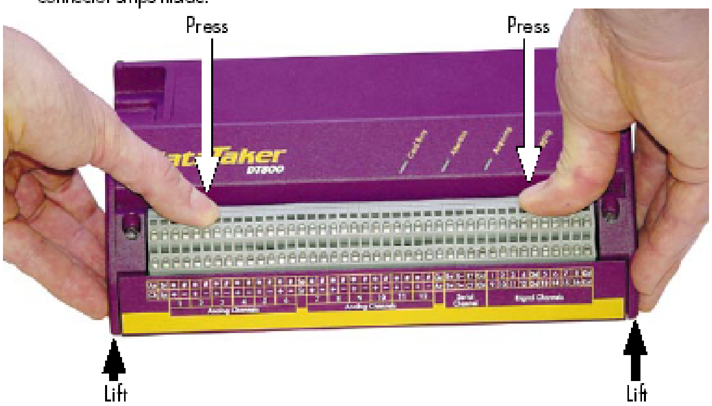


Fig. 2.

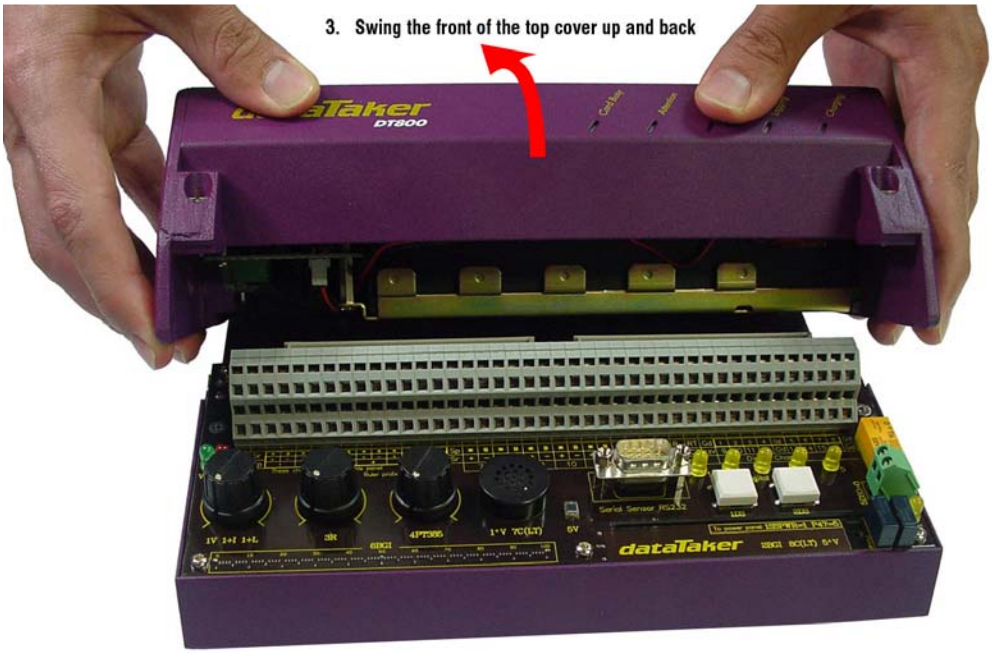


Fig. 3.

Fig. 4.

Closing the case

5. Lie the rear of the top of the DT800 along the rear of the base (Figure 6). Align the top direcily over the base and 'hinge' the two backs together (Figure 7).

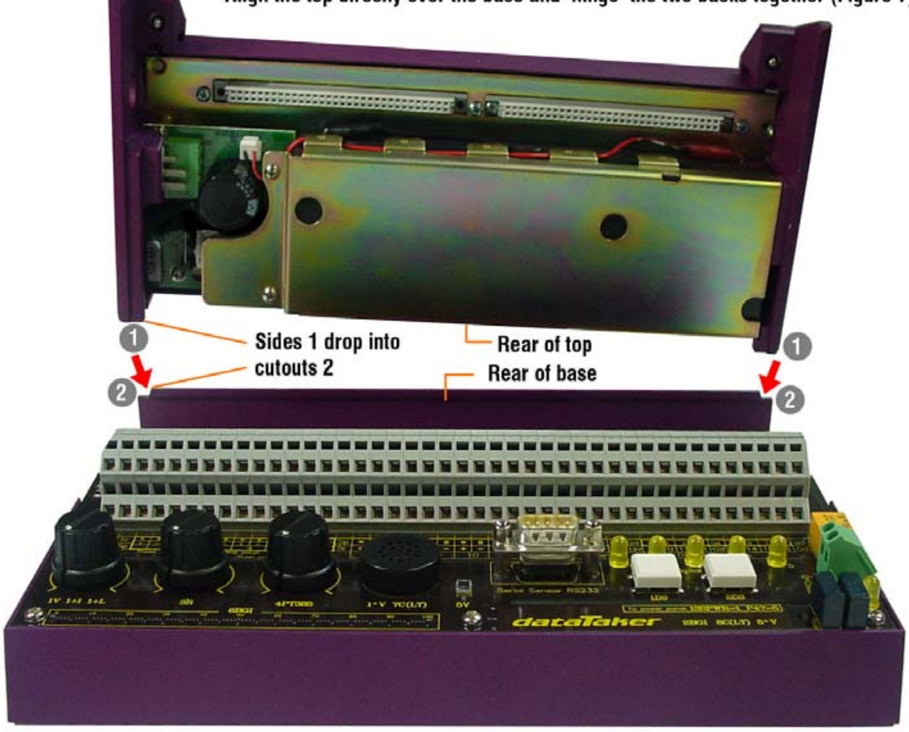


Fig. 5.

6. Swing the front of the DT800 down onto the base. Press firmly to make the connector strips inside. If the top of the DT800 wont press home, check that the main battery's cable is not trapped between the connector strips.

Fig. 6.

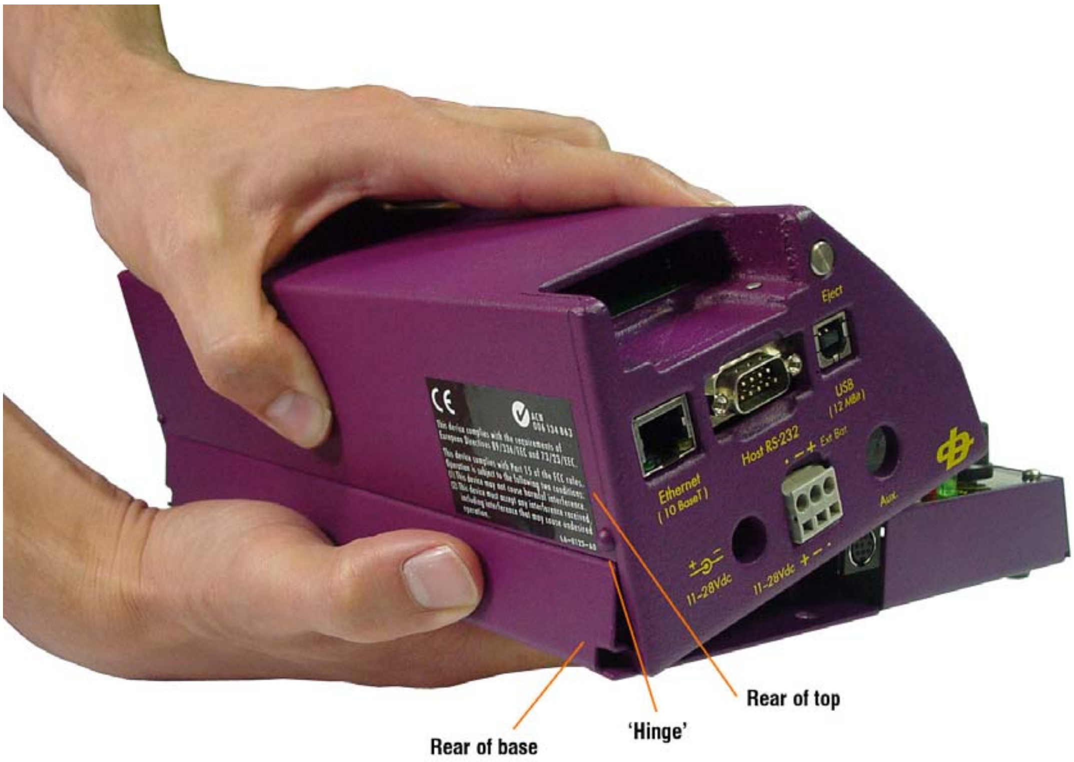

Rear of top
'Hinge'
Rear of base

Fig. 7.


8. Press to close
dataTaker
DT800

Fig. 8.

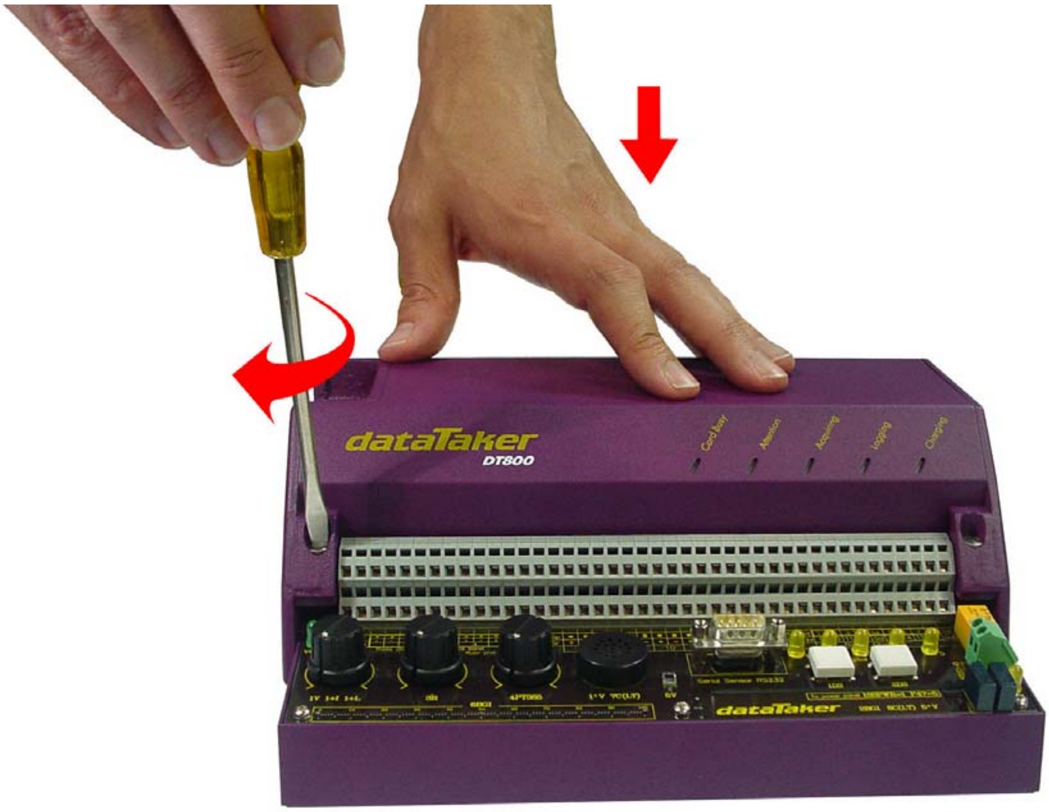


Fig. 9.

3. A Quick Tour

The SSP has the following sensors and actuators

- Potentiometer 1 – variable voltage, current or current loop
- Potentiometer 2 – variable resistance
- Potentiometer 3 – variable RTD simulator
- Speaker / Microphone
- Light Sensor – a silicon photodiode which outputs a voltage and current proportional to ambient light
- Ruler – configured as a full bridge, in which 2 halves of the ruler are two active arms of the bridge
- DB9 connector for serial data channel, configured as a PC COM1
- 2 push buttons – digital inputs
- 5 yellow LEDs –digital outputs
- Single pole changeover Relay (under pcb) and 2 terminal block
- Flexible tongue – configured as a full bridge, where fine copper tracks on the topside and underside of the tongue are two active arms of the bridge
- Magnetic pickup on the tongue
- Analog output LEDs

The SSP uses analog input channels 1 through 6, and digital channels 1 through 8. These channels are indicated with a heavy border on the terminal block legend, and cannot be used to connect external sensors to the logger while the SSP is attached.

Analog channels 7 through 12, digital channels 9 through 16 and the serial data channel are not used by the SSP, and therefore can be used to connect external sensors to the logger while the SSP is attached.

It is suggested that you connect the thermocouple originally supplied with the DT800 to analog input channel 6 to complete the sensor set.

4. Powering the SSP

Several of the sensors and actuators on the SSP require power, which is supplied by the DT800. Two power supplies are used, the 5 VDC sensor power supply provided on terminal **Sp**, and the 12VDC serial data channel power supply provided on terminal **Serial 12V**.

These power supplies are turned on by the DT800 commands

```
P47=5
1SSPWR=1
```

Most of the sensors and actuators require one or other of the power supplies, however it is simplest to always have both power supplies enabled at all times when using the SSP.

These two commands can be entered directly into DeTransfer text programs. In DeLogger4 the parameter command can be set in the DT800 program builder and click on the Parameter tab. The P47 value can be changed by clicking on the down arrow and selecting one of the values

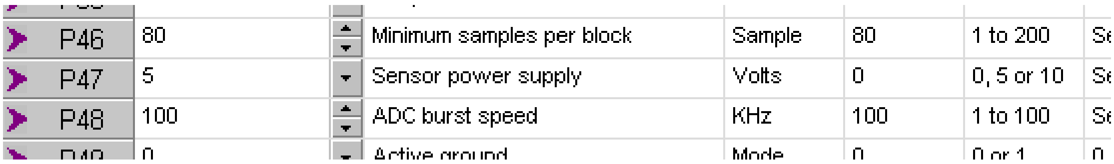


Fig. 9.

The sensor power value should be set by clicking on the Immediate tab in the DT800 program builder window. Then enter a User channel type and typing in the serial sensor power command.

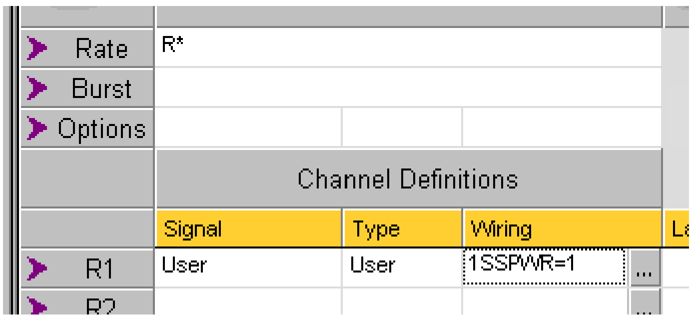


Fig. 10.

Note: If you send a RESET or FORMAT command or perform a push button reset at any time while using the SSP, this will turn these power supplies off and so affect the function of powered sensors and actuators.

5. Using the SSP with DeTransfer

This section briefly describes the use of each of the sensors and actuators on the SSP. The sample programs can be run from DeTransfer. The DeTransfer programs can either be typed into the send window, copied and pasted from this document, loaded directly from the CD ROM or copied from the CD ROM to the DeTransfer sub-directory C:\Program Files\Datataker\Detransfer.

To open a command file in DeTransfer, Click on File and select Open from the drop down menu. In the file selection dialog box select the path to where your files have been saved and open the appropriate command file.

5.1 Potentiometer 1 (Labelled 1V, 1+V, 1+L)

This potentiometer is connected to analog input channel 1, and produces the following signals on the terminals (ranges are approximate)

- 1V a variable voltage in the range of 0 to 1800 mV
- 1I a variable current in the range 0 to 18 mA
- 1+I a variable current in the range 4 to 20 mA
- 1+L a variable current loop in the range 0 to 100 %

These inputs can be read by the following DeTransfer program. (Prog1.dxc)

```
BEGIN"Pot_1"
P47=5
RA1S
        1V
        1I
        1+I
        1+L
END
```

5.2 Potentiometer 2 (Labelled 3R)

This potentiometer is connected to analog input channel 3 as a 4 wire resistance input, and produces a variable resistance in the range approximately 0 to 500 Ohm.

The potentiometer resistance can be read by the following DeTransfer program. (Prog2.dxc)

```
BEGIN"Pot_2"
RA1S
        3R(4W)
END
```

5.3 Potentiomener 3 (Labelled 4PT385)

This potentiometer is connected to analog input channel 4 as a 4 wire RTD input, and produces a variable temperature in the range approximately -20 to 200 deg C.

The RTD resistance and corresponding ‘temperature’ can be read by the following program. (Prog3.dxc)

```
BEGIN"Pot_3"
RA1S
        4R(4W)
        4PT385(4W)
END
```

5.4 Speaker / Microphone (Labelled 1*V 7C(LT))

The speaker / microphone is connected to analog terminal 1* and digital input 7.

A signal waveform can be captured from the microphone by the program (Prog4.dxc)

```
BEGIN"Mic_1"

 RA;BURST(100,10000,LEVEL,50,5S)
   1*VNC(LEVEL>10,GL50MV,FF5)
END
```

Tap the microphone sharply with your finger or a pencil.

An analog frequency and digital frequency from the microphone can also be read by the program. (Prog5.dxc)

```
BEGIN"Mic_2"
 RA100T
   1*F
   7C(LT)
END
```

Tap the microphone sharply with your finger or a pencil.

The resistance of the speaker coil (nominally 8 Ohm) can be read by the program. (Prog6.dxc)

```
BEGIN"Mic_3"
 RA500T
   1*R
END
```

This repeatedly outputs an excitation current into the speaker coil, which will also drive the device as a speaker producing a soft beep when each reading is taken.

5.5 Light Sensor (Labelled 5V)

The light sensor is a silicon photodiode which outputs a voltage and current proportional to the ambient light intensity. The light intensity can be read by the program. (Prog7.dxc)

```
BEGIN"Light"
 RA1S
   5V
   5I
END
```

Shade the sensor, or shine brighter light onto it, to change the readings.

5.6 Ruler (Labelled 6BGI)

The ruler along the front edge of the SSP configured as a resistance bridge, in which 2 halves of the ruler are two active arms of the bridge.

Connect a flying lead wire to the + terminal of analog channel 6, and touch the other end onto the white markings along the ruler while running the program. (Prog8.dxc)

```
BEGIN"Ruler"
 RA1S
  6BGI
END
```

Initially the channel will read approximately –8000 ppm when not touching the flying lead onto the ruler.

- touch the flying lead onto the 0 marking, and the reading will be around –300 ppm.
- touch the lead onto the 100 marking, and the reading will be around 300 ppm.
- touch the lead onto the 50 marking, and the reading will be around 0 ppm.

The readings can be scaled to the 0 to 100 range of the ruler by the span. (Prog9.dxc)

```
BEGIN”Ruler_2”
 S1=0,100,-300,300 "Units"
 RA1S 6BGI(S1)
END
```

Touch the flying lead at various markings along the ruler and read the position.

The span can be set more accurately for your SSP by setting the lower and upper signal values to the actual readings produced by your SSP when the 0 and 100 markings are touched respectively.

5.7 Serial Data Channel (Labelled Serial Sensor RS232)

The SSP provides a 9 pin D connector for the RS232 function of the serial data channel of the DT800. This connector is configured the same as a COM port of a PC viz

- pin 2 Receive
- pin 3 Transmit
- pin 7 RTS
- pin 8 CTS

and so RS232 devices that can be connected to a PC can be connected to the SSP using the same cable. The SSP does not provide any serial sensor simulation.

However the serial data channel could be demonstrated by connecting an RS232 serial dot matrix or ticket printer to the SSP, or a PC running a terminal program such as DeTransfer or HyperTerminal, and running the following program. (Prog10.dxc)

```
BEGIN”Serial_1”
 ‘Set serial channel baud rate to match printer or terminal
 PS=9600,N,8,1,NOFC
 RA10S
  1SERIAL(RS232,”{DT800 Serial Sensor Port\\13\\10}”,W)
END
```

which will print the message every 10 seconds.

Similarly a dataTaker 500 series data logger could be connected to the SSP (make sure that the DT500 series logger is reset and in default data format), and read the voltage on channel 1 of the logger by the program. (Prog11.dxc)

```
BEGIN"Serial_2"
 PS=9600,N,8,1,SWFC
 1SERIAL(RS232,"\\e{/e\\013}",W)
 RA5S
  1SERIAL(RS232,"{1V\\013}",W) 'Request voltage on ch 1
  DELAY(W)=2000
  1SERIAL(RS232,"%2s[1$]\\013\\010%f[1CV]\\e",W,10)
  1$   'Command echo
  1CV(FF3)  'Returned voltage reading
END
```

5.8 Digital Inputs (Labelled 1DS and 2DS)

The SSP has two push buttons, connected to digital input channels 1 and 2 respectively. The state of the push buttons, and the number of pushes, can be read by the program. (Prog13.dxc)

```
BEGIN"Push"
 P47=5
 1SSPWR=1
 RA1S
  1DS 1C
  2DS 2C
END
```

5.9 Digital Outputs

The SSP has LEDs connected to digital channels 3 and 4 to indicate the output state of these channels. The channels are turned on the commands

```
P47=5
1SSPWR=1
3DSO=0
4DSO=0
```

and turned off by the commands

```
3DSO=1
4DSO=1
```

5.10 Delay

The SSP has a single pole relay and LED connected to digital channel 5, which can be turned on the the commands

```
P47=5
1SSPWR=1
5DSO=0
```

and turned off by the command

```
5DSO=1
```

The relay has a terminal block with Common, Normally Open and Normally Closed terminals, for connecting external devices to be switched.

5.11 Flexible Tongue (Labelled 2BGI, 8C(LT) 5*V)

The SSP has a flexible tongue along the front edge, which has fine copper tracks on both the topside and underside of the tongue that are configured as two active arms of a bridge.

The strain on the tongue as the tongue is depressed can be read by the program. (Prog14.dxc)

```
BEGIN”Tongue_1”
 RA500T
  2BGI
END
```

The strain will increase from approximately 3500 to 3540 ppm as the tongue is fully depressed. The strain on the tongue can be zeroed or tared as follows (Prog14.dxc)

```
BEGIN”Tongue_2”
 2BGI(=1CV,W)
 RA500T
  2BGI(=2CV,W)
  3CV(“Change =”)=2CV-1CV
END
```

The tongue also has a coil (in blue block) on its free end, immediately adjacent to a fixed coil (also in blue block). When the coil on the tongue is energised, its magnetic field influences the fixed coil. If the tongue is depressed then released smartly so that it vibrates, then these coils can be used as a magnetic pickup to measure the vibration either as:

- an analog frequency (Prog15.dxc)

```
BEGIN”Tongue_3”
 RA500T
  5*F
END
```

- a digital count (Prog16.dxc)

```
BEGIN”Tongue_4”
 RA500T
  8C(LT,R)
END
```

5.12 Analog Output

The SSP has two LEDs connected to the analog output channel. The yellow LED indicates positive analog output voltages, while the green LED indicates negative analog output voltages.

The analog output can be set by the command

```
VO=level
```

where level is in millivolts in the range –10000 to 10000mV.

For example the command

```
VO=5000
```

will turn the yellow LED on to approximately half intensity, while

```
VO=-5000
```

will turn the green LED on to approximately half intensity. (Prog16.dxc)

```
BEGIN"Output"
1CV=-10000
RA100T
      VO=1CV
      1CV=1CV+100
END
```

5.13 Thermocouple

If you connected the thermocouple supplied with the DT800 to analog input channel 7, then the temperature can be monitored by the command. (Prog17.dxc)

```
BEGIN"Temp"
 RA1S
  7TK
END
```

5.14 Scan Schedules

The SSP can be used to demonstrate several of the scan schedule triggers available in the DT800 as follows:

- **5.14.1** Poll trigger by host (Prog18.dxc)

```
BEGIN"Poll"
 P47=5
 1SSPWR=1
 RAX          'Schedule triggers when host sends XA command
  1V 3R 4PT385 5V
END
```

Send X or XA command from host PC (DeTransfer) to scan schedule

- **5.14.2** Realtime trigger (Prog19.dxc)

```
BEGIN"Time"
 P47=5
 1SSPWR=1
 RA5S        'Schedule triggers every 5 seconds
  1V 3R 4PT385
END
```

- **5.14.3** Digital event trigger (Prog20.dxc)

```
BEGIN"Event"
 P47=5
 1SSPWR=1
 RA1+E       'Schedule triggers when digital input 1 goes high
  1V 3R 4PT385
END
```

Press push button 1 to produce digital events

- **5.14.4** Counter event trigger (Prog21.dxc)

```
BEGIN"Counter"
 P47=5
 1SSPWR=1
 RA2C(5)     'Schedule triggers when counter 2 reaches 5
  1V 3R 4PT385 5V 1..2DS
END
```

Press push button 2 to produce counts events

- **5.14.5** Trigger schedule only while digital state is true (Prog22.dxc)

```
BEGIN"While"
 P47=5
 1SSPWR=1
 RA2S:1W     'Schedule triggers only while digital 1 is true
  1V 3R 4PT385
END
```

Press push button 1 to stop schedule scanning

- **5.14.6** Trigger schedule by change of value of a CV (Prog23.dxc)

```
BEGIN"While"
 P47=5
 1SSPWR=1
 RA1CV  'Schedule triggers when CV changes value
  1V 3R 4PT385
END
```

Send 1CV=1 and 1CV=0 commands from host PC (DeTransfer) to trigger schedule

5.15 Alarms

The features of the DT800's alarms can be readily demonstrated on the SSP, for example (Prog24.dxc)

```
BEGIN"Alarm"
 P47=5
 1SSPWR=1
  RA1S
   ALARM(1V>1000)3DSO"High Voltage ! ?c ? ?u @ #^M^J"
END
```

Increase and decrease the voltage by rotating potentiometer 1. The LED on digital channel 3 will illuminate when the input voltage on channel 1 exceeds 1000mV. A message is also sent to the host computer if the set point threshold is exceeded.

6. Using the SSP with DeLogger4

This section briefly describes the use of each of the sensors and actuators on the SSP. To run the example programs run the distribution CD ROM to load the project into DeLogger. Then open DeLogger4 then click on Open and select DT800 SSP and click on open. Select the file named DT800 SSP.dlw and click on open

6.1 Potentiometer 1 (Labelled 1V, 1+V, 1+L)

This potentiometer is connected to analog input channel 1, and produces the following signals on the terminals (ranges are approximate)

- 1V a variable voltage in the range of 0 to 1800 mV
- 1I a variable current in the range 0 to 18 mA
- 1+I a variable current in the range 4 to 20 mA
- 1+L a variable current loop in the range 0 to 100 %

These inputs can be read by loading and running the DeLogger program Prog1.dl8. To open and run this program, from the DeLogger top menu bar, click on Window and then click on Prog1.dl8. Then select Program and click on send to connection.

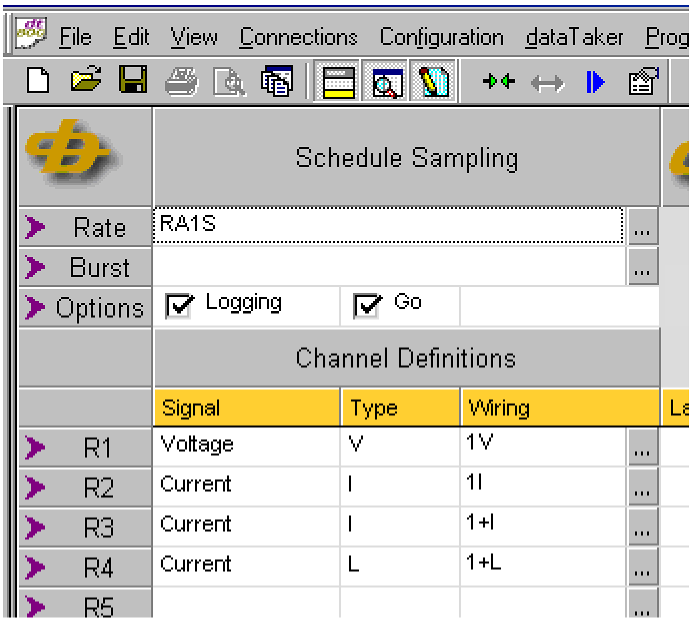
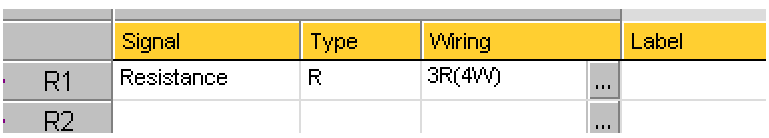


Fig. 11.

6.2 Potentiometer 2 (Labelled 3R)

This potentiometer is connected to analog input channel 3 as a 4 wire resistance input, and produces a variable resistance in the range approximately 0 to 500 Ohm.

The potentiometer resistance can be read by loading the DeLogger program Prog2.dl8.



	Signal	Type	Wiring	Label
R1	Resistance	R	3R(4W)	
R2				

Fig. 12.

6.3 Potentiomener 3 (Labelled 4PT385)

This potentiometer is connected to analog input channel 4 as a 4 wire RTD input, and produces a variable temperature in the range approximately -20 to 200 deg C.

The RTD resistance and corresponding 'temperature' can be read by loading the program Prog3.dl8

	Channel Definitions			
	Signal	Type	Wiring	Label
R1	Resistance	R	4R(4W)	
R2	Temperature	PT385	4PT385(4W)	
R3				

Fig. 13.

6.4 Speaker / Microphone (Labelled 1*V 7C(LT))

The speaker / microphone is connected to analog terminal 1* and digital input 7. A signal waveform can be captured from the microphone by the DeLogger program Prog4.dl8 This program takes 1000 samples at 100000 Hz. It also uses a level to start the burst sample taking 500 samples before the trigger and 500 post trigger.

	Schedule Sampling	
Rate	RA	
Burst	;BURST(1000,100000,LEVEL,50,5S)	
Options	Logging	Go

	Channel Definitions			
	Signal	Type	Wiring	Label
R1	Voltage	VNC	1*VNC	
R2				
R3				
R4				
R5				

Fig. 14.

Tap the microphone sharply with your finger or a pencil. The wave form produces can be viewed by the chart window.

An analog frequency and digital frequency from the microphone can also be read by loading the program Prog5.dl8

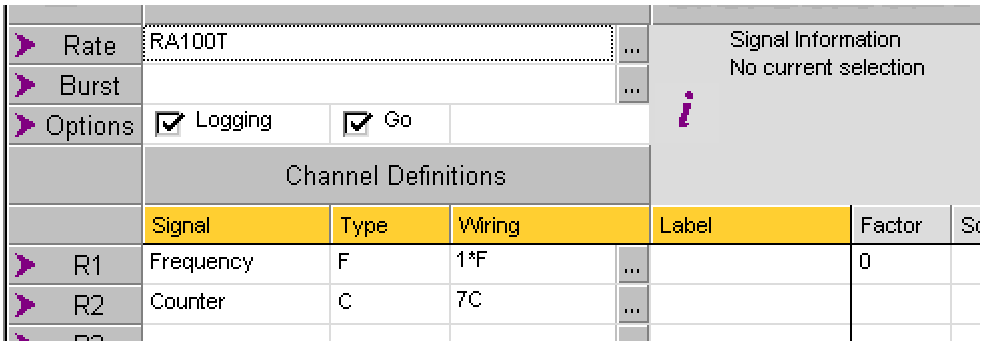


Fig. 15.

Tap the microphone sharply with your finger or a pencil.

The resistance of the speaker coil (nominally 8 Ohm) can be read by the program Prog6.dl8

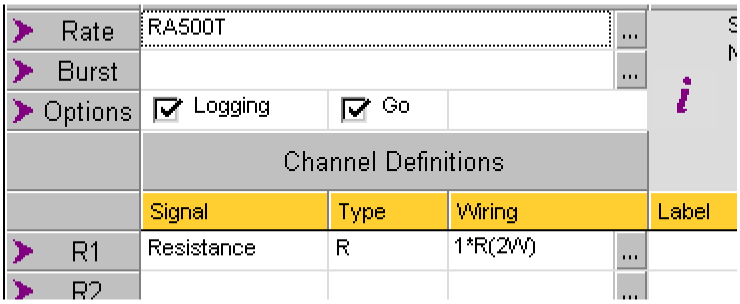


Fig. 16.

This repeatedly outputs an excitation current into the speaker coil, which will also drive the device as a speaker producing a soft beep as each reading is taken.

6.5 Light Sensor (Labelled 5V)

The light sensor is a silicon photodiode which outputs a voltage and current proportional to the ambient light intensity. The photodiode output current and voltage can be read by Prog7.dl8

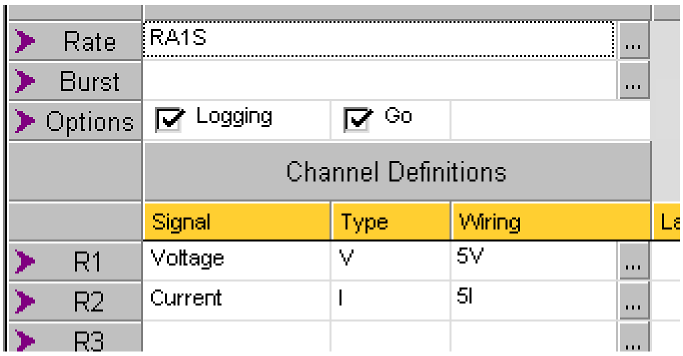


Fig. 17.

Shade the sensor, or shine brighter light onto it to change the readings.

6.6 Ruler (Labelled 6BGI)

The ruler along the front edge of the SSP configured as a resistance bridge, in which 2 halves of the ruler are two active arms of the bridge.

Connect a flying lead wire to the + terminal of analog channel 6, and touch the other end onto the white markings along the ruler while running the DeLogger program Prog8.dl8

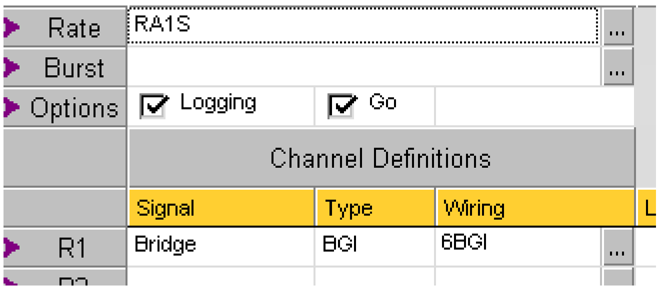


Fig. 18.

Initially the channel will read approximately –8000 ppm when not touching the flying lead onto the ruler.

- touch the flying lead onto the 0 marking, and the reading will be around –300 ppm.
- touch the lead onto the 100 marking, and the reading will be around 300 ppm.
- touch the lead onto the 50 marking, and the reading will be around 0 ppm.

The readings can be scaled to the 0 to 100 range of the ruler by the span. Prog9.dl8

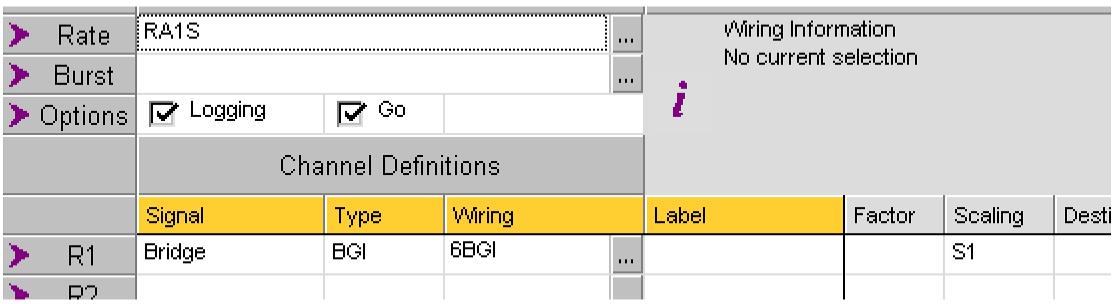


Fig. 19.

By selecting the scaling tab a span or polynomial can be entered to linearis and scale the data.

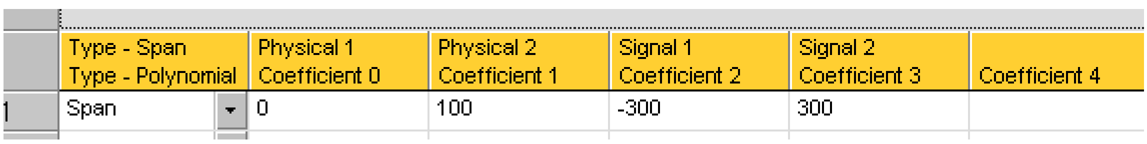


Fig. 20.

Touch the flying lead at various markings along the ruler and read the position.

The span can be set more accurately for your SSP by setting the lower and upper signal values to the actual readings produced by your SSP when the 0 and 100 markings are touched respectively.

6.7 Serial Data Channel (Labelled Serial Sensor RS232)

The SSP provides a 9 pin D connector for the RS232 function of the serial data channel of the DT800. This connector is configured the same as a COM port of a PC viz

- pin 2 Receive
- pin 3 Transmit
- pin 7 RTS
- pin 8 CTS

and so RS232 devices that can be connected to a PC can be connected to the SSP using the same cable. The SSP does not provide any serial sensor simulation.

However the serial data channel could be demonstrated by connecting an RS232 serial dot matrix or ticket printer to the SSP, or a PC running a terminal program such as DeTransfer or HyperTerminal, and running the following program. (Prog10.dl8)

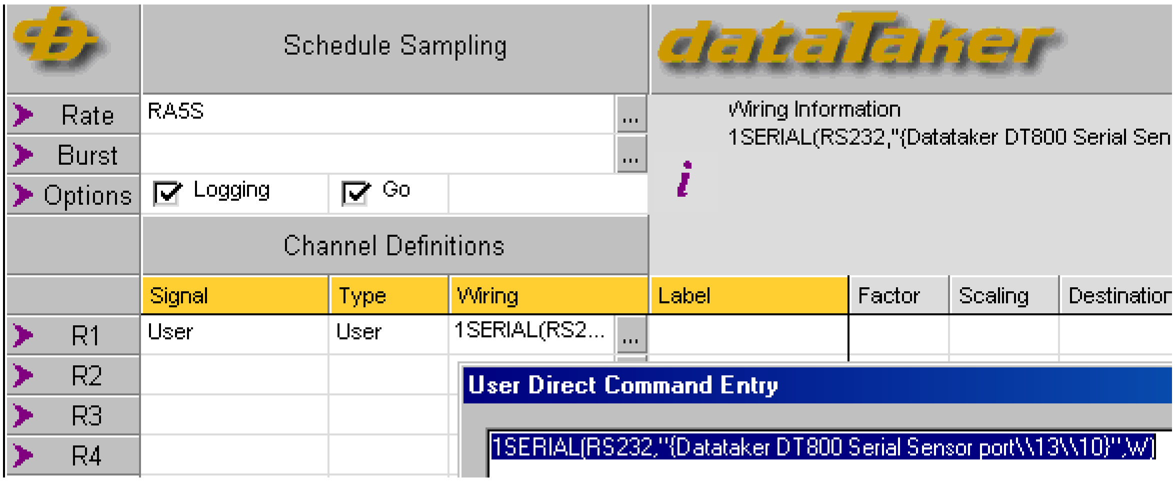


Fig. 21.

The program will print the message “Datataker DT800 Serial Sensor Port” every 10 seconds.

Similarly a dataTaker 500 range data logger could be connected to the SSP (make sure that the DT500 series logger is reset and in default data format), and read the voltage on channel 1 of the logger by the program. (Prog11.dl8)

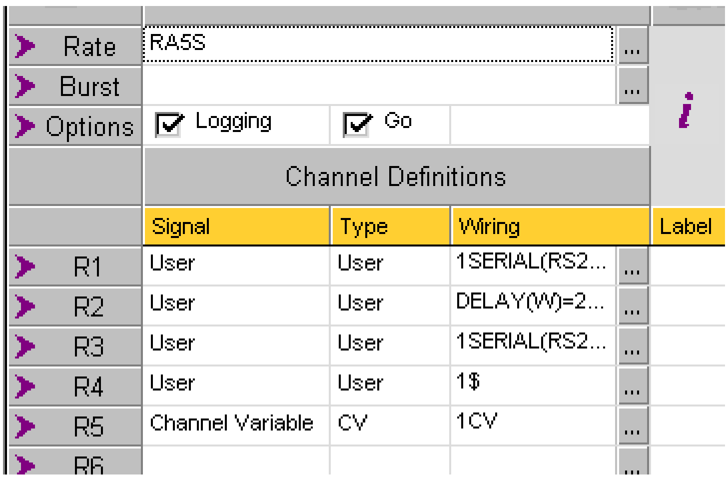


Fig. 22.

This program requests the voltage on channel one of the connected DT500 and then waits for the value to be returned.

6.8 Digital Inputs (Labelled 1DS and 2DS)

The SSP has two push buttons, connected to digital input channels 1 and 2 respectively. The program can read the state of the push buttons and the number of pushes Prog12.dl8

	Signal	Type	Wiring	Labe
R1	Digital	DS	1DS	
R2	Counter	C	1C	
R3	Digital	DS	2DS	
R4	Counter	C	2C	
R5				

Fig. 23.

6.9 Flexible Tongue (Labelled 2BGI, 8C(LT) 5*V)

The SSP has a flexible tongue along the front edge, which has fine copper tracks on both the topside and underside of the tongue that are configured as two active arms of a bridge.

The strain on the tongue as the tongue is depressed can be read by the program. Prog13.dl8

Rate	RA500T			
Burst				
Options	Logging	Go		
	Channel Definitions			
	Signal	Type	Wiring	Label
R1	Bridge	BGI	6BGI	

Fig. 24.

The strain will increase from approximately 3500 to 3540 PPM as the tongue is fully depressed. The strain on the tongue can be zeroed or tared as follows Prog14.dl8

Rate	RA500T			Signal Information No current selection					
Burst									
Options	Logging	Go							
	Channel Definitions								
	Signal	Type	Wiring	Label	Destination	Alarm	Statistical	Variables	De
R1	Bridge	BGI	6BGI		W			=2CV	
R2	Channel Variable	CV	3CV=1CV-2CV						
R3									

Fig. 25.

The tongue also has a coil (in blue block) on its free end, immediately adjacent to a fixed coil (also in blue block). When the coil on the tongue is energised, its magnetic field influences the fixed coil. If the tongue is depressed then released smartly so that it vibrates, then these coils can be used as a magnetic pickup to measure the vibration either as:

- an analog frequency Prog15.dl8

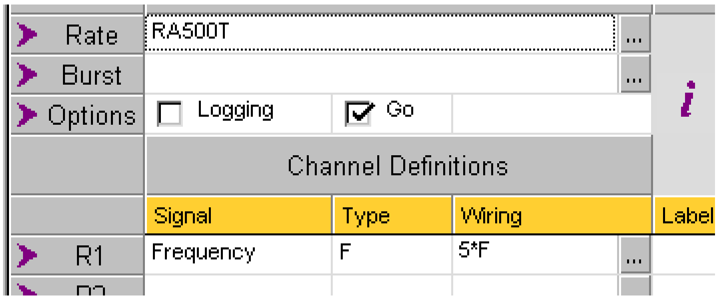


Fig. 26.

- a digital count Prog16.dlp

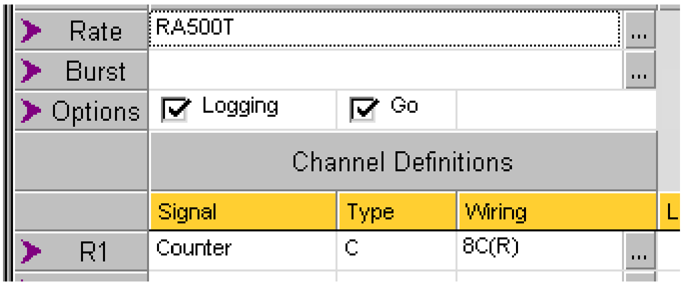


Fig. 27.

6.10 Analog Output

The SSP has two LEDs connected to the analog output channel. The yellow LED indicates positive analog output voltages, while the green LED indicates negative analog output voltages.

The analog output can be set by the command

```
VO=level
```

where level is in millivolts in the range –10000 to 10000mV.

For example the command

```
VO=5000
```

will turn the yellow LED on to approximately half intensity, while

```
VO=-5000
```

will turn the green LED on to approximately half intensity.

The DeLogger program Prog17.dl8 puts a ramp volt output on the AO channel. You will observe the intensity of the two LEDs changing.

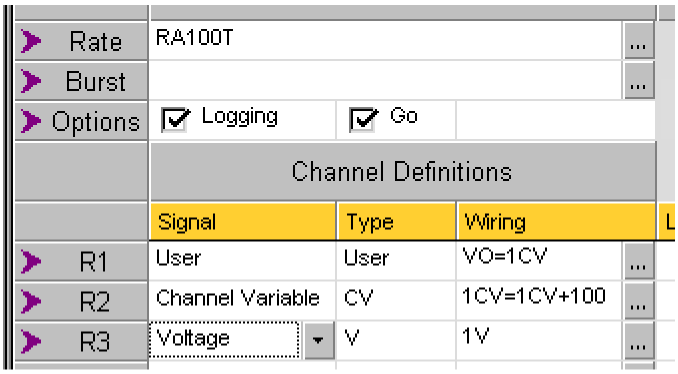


Fig. 28.

6.11 Thermocouple
If you connected the thermocouple supplied with the DT800 to analog input channel 7, then the temperature can be monitored by the command. (Prog18.dl8)

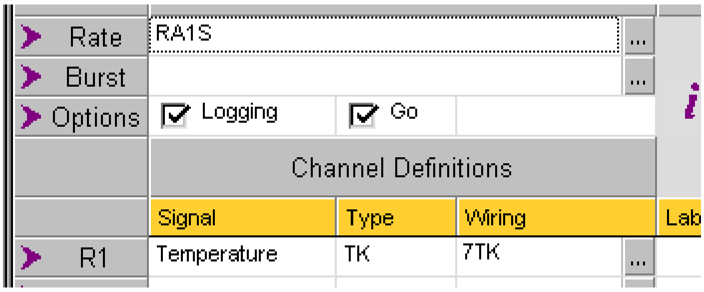


Fig. 29.

6.12 Scan Schedules
The SSP can be used to demonstrate several of the scan schedule triggers available in the DT800 as follows:

- **6.12.1** Poll trigger by host (Prog19.dl8)

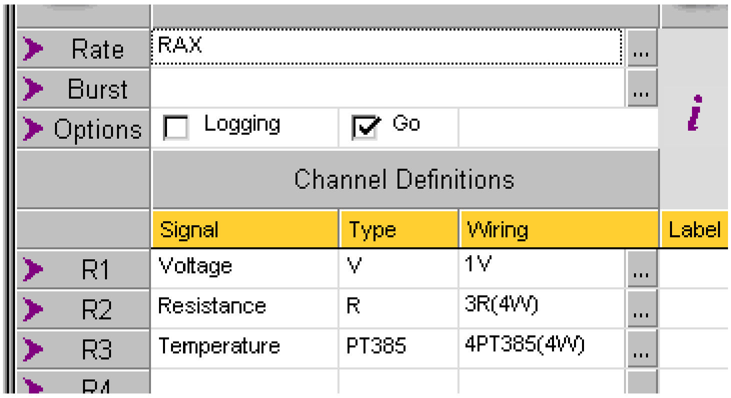


Fig. 30.

Send X or XA command from host PC (DeLogger text window) to scan schedule

- **6.12.2** Realtime trigger (Prog20.dl8)

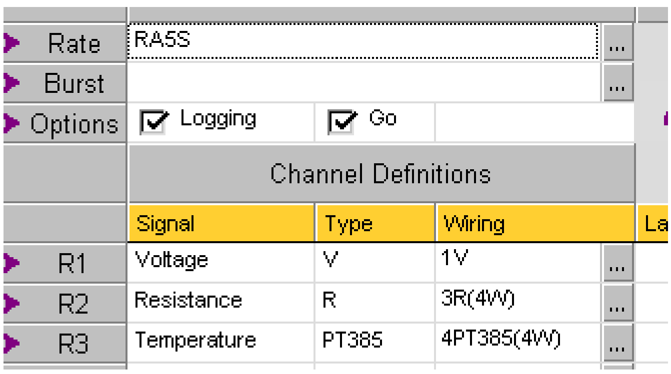


Fig. 31.

- **6.12.3** Digital event trigger (Prog21.dl8)

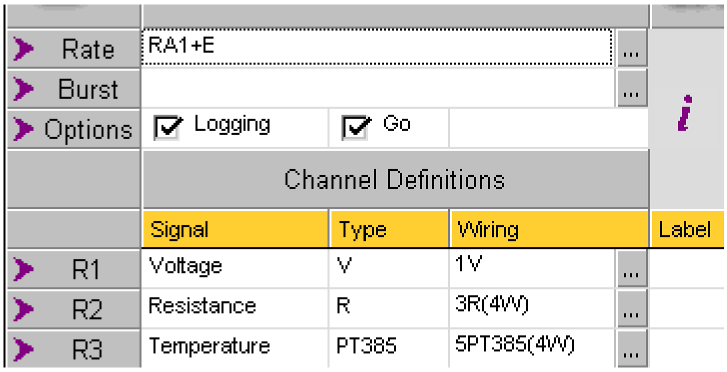


Fig. 32.

Press push button 1 to produce digital events

- **6.12.4** Counter event trigger (Prog22.dl8)

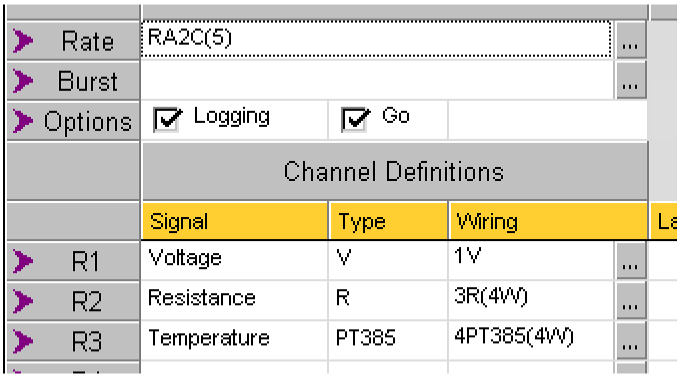


Fig. 33.

Press push button 2 to produce counts events

- **6.12.5** Trigger schedule only while digital state is true (Prog23.dl8)

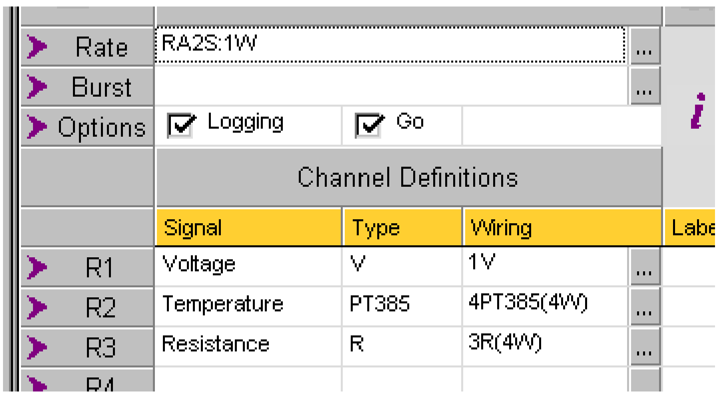


Fig. 34.

Press push button 1 to stop schedule scanning

- **6.12.6** Trigger schedule by change of value of a CV (Prog24.dl8)

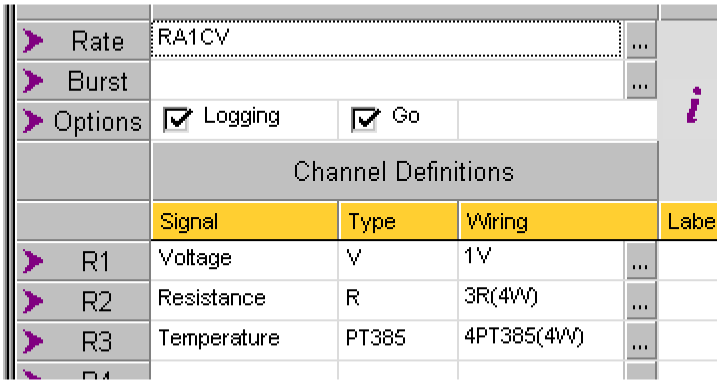


Fig. 35.

Send 1CV=1 and 1CV=0 commands from host PC (DeLogger text window) to trigger schedule

6.13 Alarms

The features of the DT800's alarms can be readily demonstrated on the SSP, for example (Prog25.dl8)

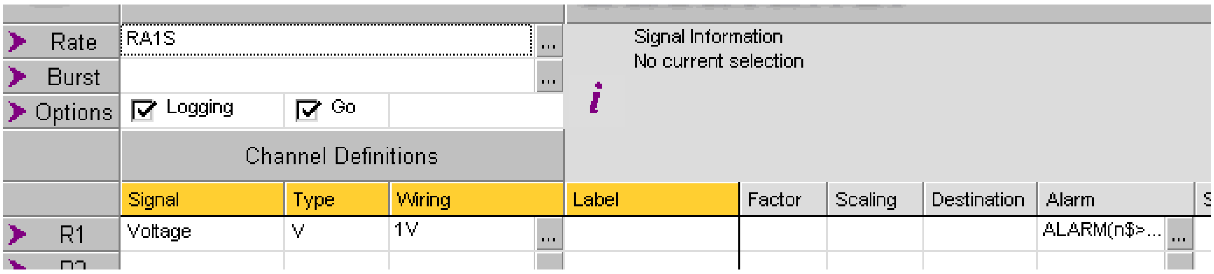


Fig. 36.

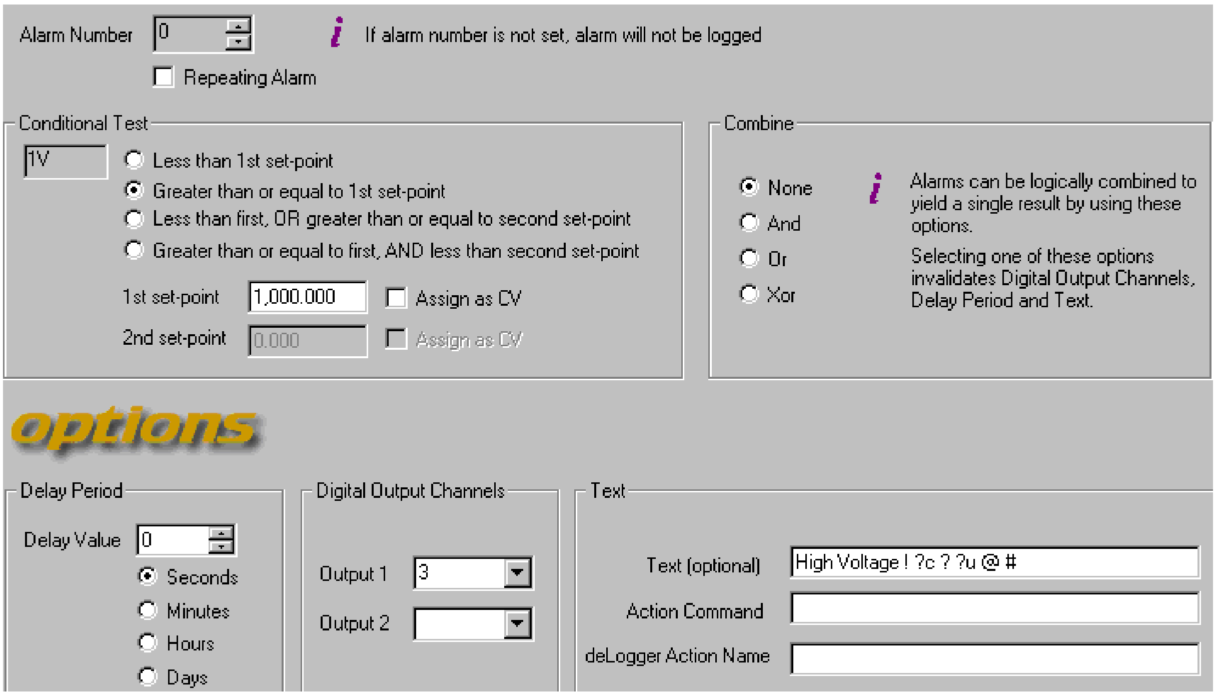


Fig. 37.

Increase and decrease the voltage by rotating potentiometer 1. The LED on digital channel 3 will illuminate when the input voltage on channel 1 exceeds 1000mV. A message is also sent to the host computer if the setpoint threshold is exceeded.

7.0 Further help and support.

For further information on DeTransfer text based programming environment please consult the DeTransfer help file that is included as part of DeTransfer.

For further information on programming your dataTaker in the DeLogger graphical programming environment please consult the User's Manual, DeLogger4 and DeLogger4 Pro.

For details of the dataTaker programming language, wiring configurations and capabilities please consult your dataTakers User's Manual.

All software, manuals etc. for use with your dataTaker can be down loaded from our web page www.dataTaker.com

If further technical support is required, please contact your local dataTaker dealer or our technical support staff at the following email addresses.

Australasia and Asia Pacific region.	support@datataker.com.au
UK and Europe.	support@datataker.co.uk
America, South America and Canada	support@datataker.com