

Application Note 6

X-Series Recorder Demo Mode

Setting up and using the Demo function on the QX and SX Recorders

The QX and SX recorders have a built-in demo mode feature to aid in demonstrating the capabilities of the recorder. Up to 16 Pens can be set up as Demo Traces to produce a number of different signals such as Sine, Square waves, Ramps, a Pulse or just a Random noise signal. Adding Alarms, Events and Messages can further enhance the demo. When using the "Demo Traces" Mode in the recorder, keep in mind that these are only displayed if there is **no** Analog or Digital I/O card installed in the first two slots (Slots A and B) of the recorder. The first two board slots are the only ones that support the use of the Demo Traces function.

Configuration of the Demo Traces Function

Using the "Demo Traces" function can be very useful for demonstrating many of the features and capabilities of the recorder without have to connect an actual signal to the analog or digital input channels of the recorder. When using the Demo Traces, there are a number of steps required in order to generate the most impact. It requires not only turning on the Demo Trace function but setting up the corresponding Analog I/O channels, the Pen Settings and the Layouts that will show these values.

The first step is to make sure that no boards are in the slot(s) you plan to use for the demo traces (slots A or B), if there is, you need to remove this board for the Demo Traces to work.

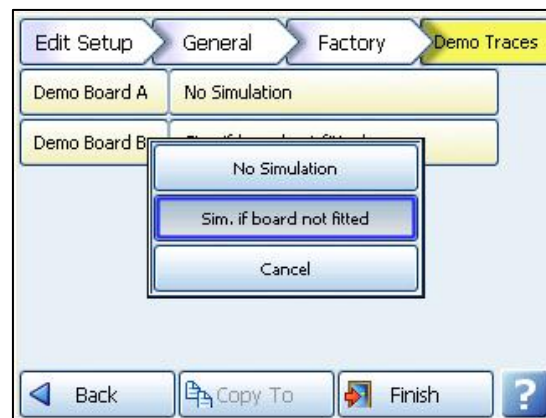
Once this is done, go into the recorder's Menu system to enable the Demo Traces; this is found by following the path:

Main Menu > Configure > Setup > Edit > General > Factory.

This gets you to the Factory and Demo traces menus shown here. Select "Sim.if board not fitted", which enables the Demo Simulation Traces if board is not fitted.



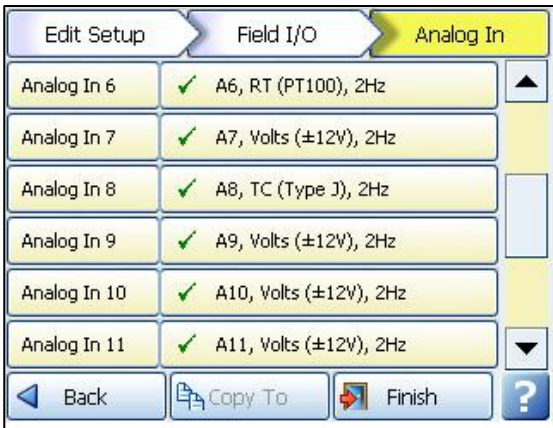
Factory Set Up Menu
Setting up the Analog I/O for Demo Traces



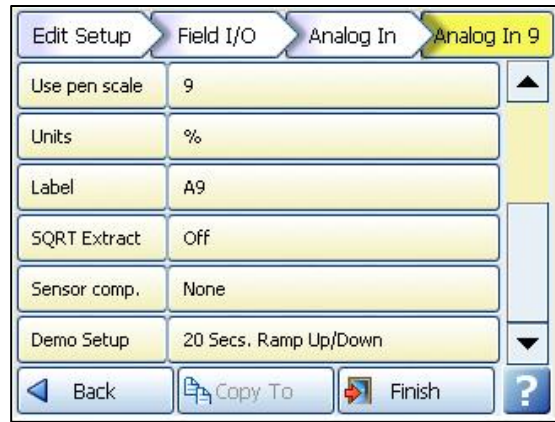
Enable Demo Traces

The Analog I/O menu controls the basic traces used in the demo program; this is where you set the type of demo trace to be displayed, whether it is a square wave, sine wave, ramp or other type of trace. To set this, go to *Main Menu > Configure > Setup > Edit > Field IO > Analog In*.

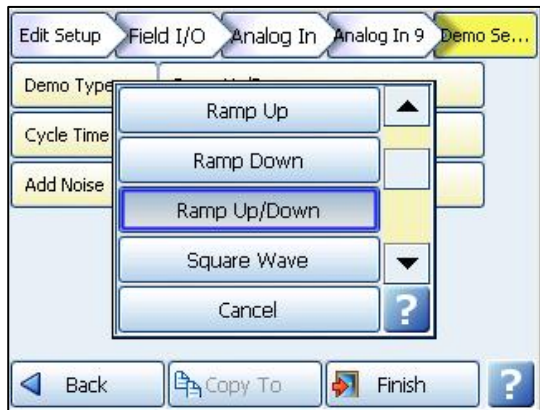
- Select the Analog Input that corresponds to the inputs for the Slot being used for the Demo – If Slot A is being used these would be AI 1 through AI 8; Slot B would be AI 9 through AI 16. In this example we are using slot B so the first input, AI 9 will be set up as a Demo trace using a Ramp Up/Down signal.
- Select each Analog number in turn eg. Analog In 9
- Scroll to the bottom on the menu and select Demo Setup
- From the pop up list, select the desired trace type
- The Cycle Time of the demo trace and Add Noise if required



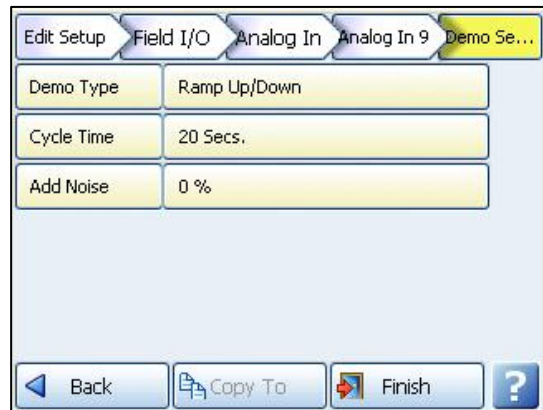
Setting AI 9 to Be a Demo Trace



Setting Type of Demo Trace



Demo Trace selecting Ramp Up/Down



Setting Parameters for the Ramp

Setting up the Pens and Layout for Demo Traces

The Pens setup menus allow you to set the Pen to the Analog Input that has the Demo Trace. The Pen features can be modified to display the Scaling, enable Logging and set Alarms.

For the demo:

- Set the “Edit Maths” expression in the Pen menu, to equal the previously set Analog input. By default the Edit Maths for Pen # will display the corresponding Analog #, eg. Pen 9 displays A9 in Edit maths).
- Enable Logging and select an appropriate rate in order to acquire some logged data that can be imported into the Trend Manager PC software.
- Set an Alarm that can be used to demonstrate some of the Alarm features like displaying a Message when an Alarm is triggered by ticking the Mark on Chart feature in the Pen, Alarms menu. Other useful demo features to activate are “Allow Change” and “Alarm Acknowledge”.
- Another way of putting an Alarm Message on the chart (and in the messages list) is to set up an Event with the Alarm as a Cause and the Effect as “Mark Chart”.

Maths Type	Full Maths
Edit Maths	A9
Scale	0.0 to 100.0 %
Logging	<input checked="" type="checkbox"/> 10 Sec Cont
Alarms	1 Hi
Totaliser	

Setting Pen Parameters for Demo

Enabled	Enabled Always
Type	High
Level	40.0 %
Tag	P9 Alm 1
Allow Change	<input checked="" type="checkbox"/>
Relays Out	None

Setting Alarm Parameter for Ramp Demo

Once the Pen, Alarm and Event parameters have been set, the final step is to configure the Layout to show the Pens being used for the demo traces.

The QX can support up to 20 different screens while the SX can have up to 30 different screens.

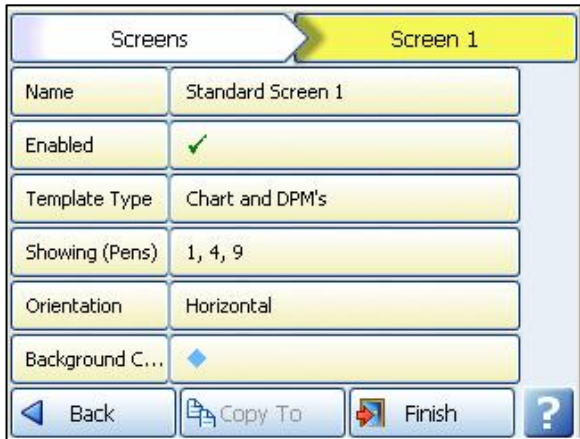
For demo purposes it is best to configure a few of the screens to show the different types of Standard screens available to the user. These include screens like the Digital Panel Meter, Digital Panel Meters and Bar graphs, Charts and Digital Panel Meters, Charts and Scales (Single or Multiple Scales) and Charts, Digital Panel Meters and Scales.

Custom Screens can also be used to display demo traces. The Custom Screens function is a firmware option that needs to be enabled in the “Credits” Menu.

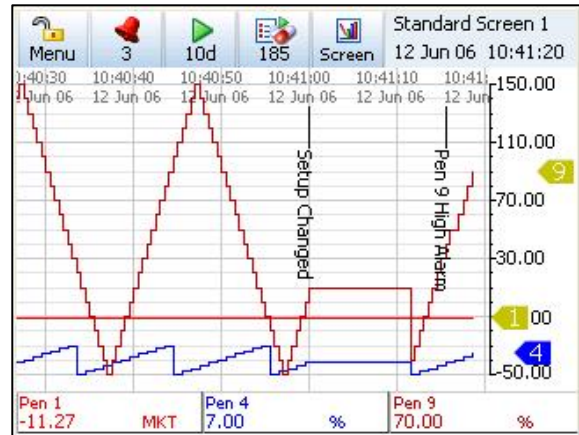
To set up the Layouts, go to:

Main Menu > Configure > Layout > Screen 1 and set the Template Type and Pens to be displayed.

Once these Configuration parameters have been committed, select the screen that you set up to see the final results of setting up the Demo Traces; The Analog I/O, the Pens with an Alarm, the Event and the Layout as shown in the next images.



Setting Layout Parameters



Final Demo - Display Chart & DPM's

Summary

As you can see the Demo Traces can provide a convenient, simple method of demonstrating many of the features found in the X-Series recorders without having to supply your own input signals. The demo traces make it easy to set up a variety of changing signals that make the demo more interesting. Setting up the Demo Traces will provide a good understanding of how the functions within the recorder interact since it requires you to set up an Analog Input, a Pen, an Event and the Layout in order to show the demo trace.