Application Note

Minimal Configuration to Communicate with Intellution FIX 6.1

In order to communicate with Intellution FIX 6.1, you must install Fix Toolkit provide by ASAP, Inc. There are two levels of data exchange between Intellution FIX and ASIC-100/200: The first level is simply displaying the data values in FIX HMI that is accomplished with the FIX Toolkit mentioned above. The second level is actually the SCADA level where the data is exchanged between ASIC-100/200 and Intellution FIX using DDE. This application note demonstrates both methods.

To exchange data at the display level, you must install Intellution FIX Toolkit. To exchange data at the SCADA level, you don't need the toolkit. However, there are two major differences between two methods: Firstly, Symbols that are brought at the display level do not count toward the limited symbols you get when you buy FIX. For example, if you buy FIX for 256 symbols and bring in 10 symbols at the display level, you still have all of the 256 symbols in FIX to make use of. On the other hand, if you bring in symbols at the SCADA level, they count toward the total tags you purchased with FIX. So if you use 10 symbols at the SCADA level, you have 246 symbols left to use in FIX. Secondly, the symbols brought in at the display level cannot be used for Alarming, Trending, and so on. Symbols brought in at the SCADA level can be used for Alarming and Trending. This also means that you will not need to use the FIX database for the symbols used at the display level. They just magically show up as long as you have the FIX Toolkit installed, and ASIC-100/200 has its runtime running with your correct configuration! Of course, you still have to create a FIX configuration. Thus, you need to build a database in FIX only for the symbols you want to bring in at the SCADA level. In order to use the symbols in the database (SCADA level symbols), you must have the ASIC-100/200 runtime running, because ASIC-100/200 and FIX talk using DDE for SCADA symbols. The ASIC-100/200 DDE server starts only when the runtime is running.

Here are the five simple steps to use Intellution FIX with ASIC-100/200 (the order of the steps is important):

1. Install ASIC-100/200 and Intellution FIX 6.x.
2. Install ASIC-100/200 FIX Toolkit.
3. Create a system configuration in FIX that uses DDE driver.
4. Create a database in FIX to use SCADA level symbols.
5. Draw and view your HMI in FIX.

This application note explains steps 3,4, and 5.

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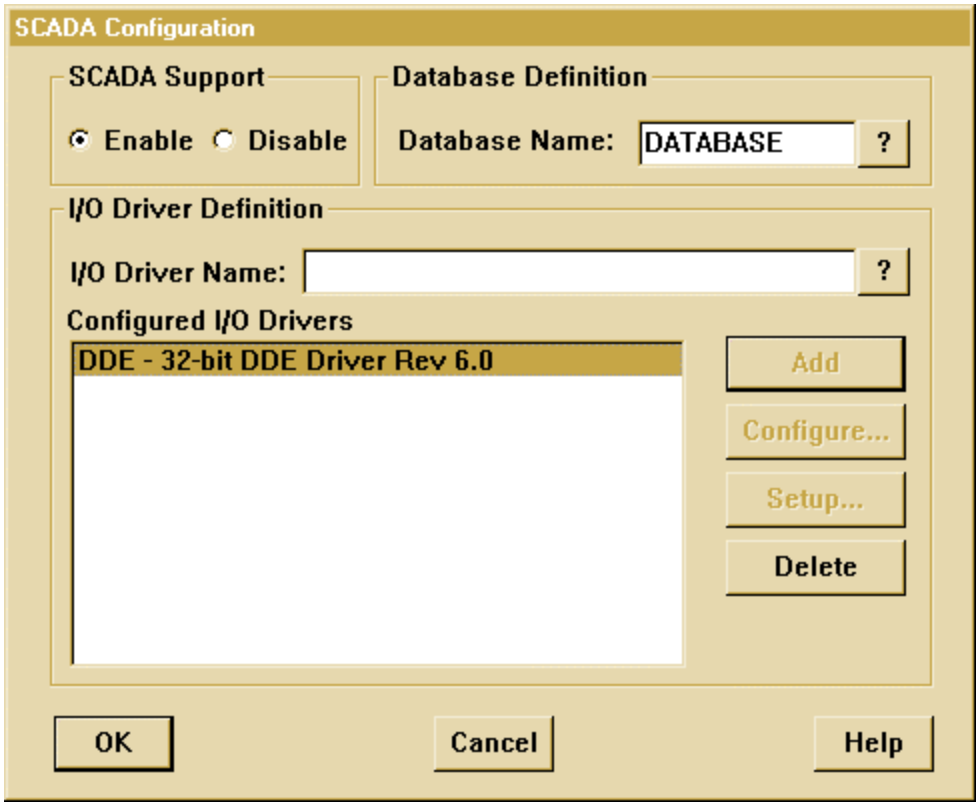
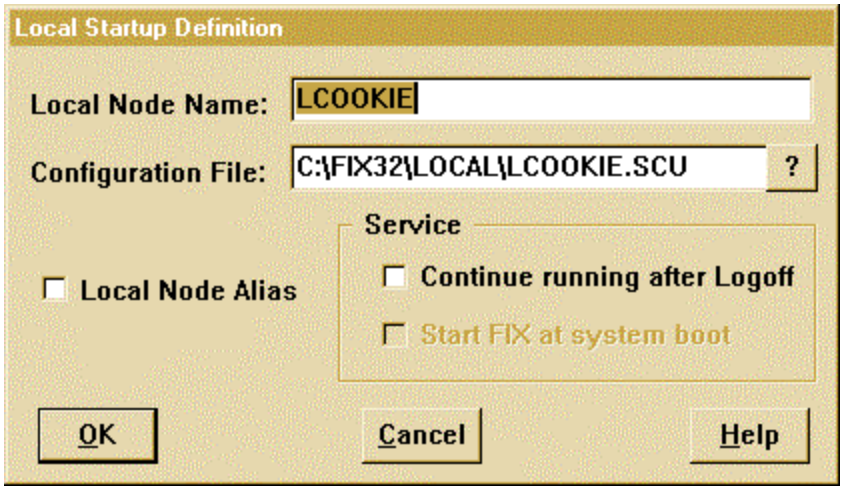
Creating a system configuration in FIX

1. Start up Intellution FIX on your machine by clicking on **Start** | **Programs** | **Intellution FIX** | **Startup**.
2. Start FIX Draw by clicking on **Start** | **Programs** | **Intellution FIX** | **Draw**. This brings up the Intellution FIX Draw window.
3. Click on **Apps** | **System Configuration** in Draw window. This brings up SCU – FIX window.
4. Click on **File** | **New** in SCU – FIX window. This will start a new SCU file.
5. Click on **Configure** | **SCADA…** in SCU – FIX window. This brings up SCADA Configuration window.



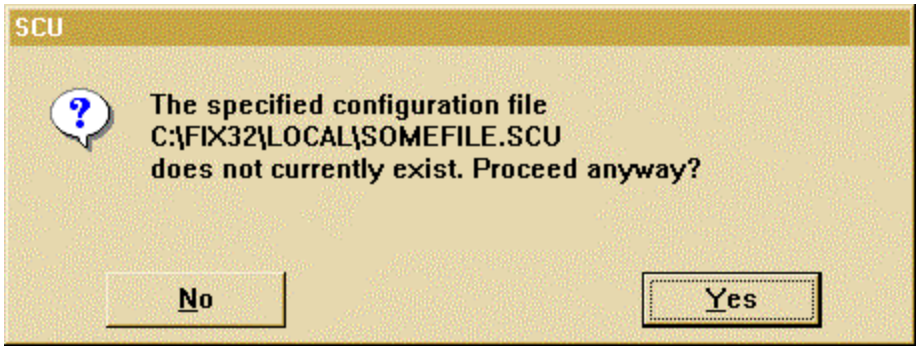
a. Select **Enable** radio button under "SCADA Support" group.
b. Select "DDE – 32-bit DDE Driver" for I/O Driver Name by clicking on **?** button next to it. Now click on **ADD** button to add this driver in Configured I/O Drivers list.
c. Click **OK**.

6. Click on **Configure** | **Local Startup…** which pops up the Local Startup Definition window as shown below.



a. Type in the name of the node. This is a local node. It implies that it cannot be seen over a network. If you want to create a remote node, look up the FIX documentation on the topic.
b. Type in a full path of the configuration file in which, the node settings will be saved.
c. Click on **OK**.

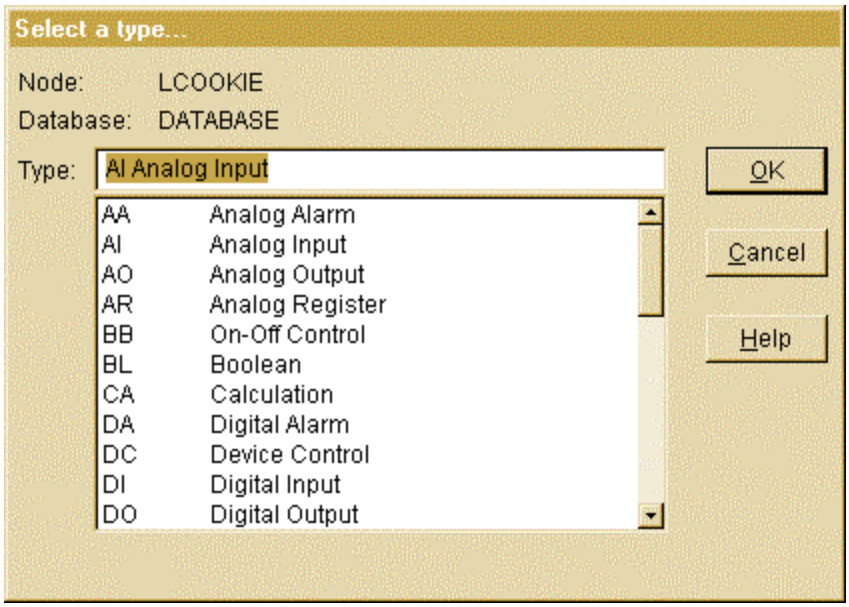
You can leave "Local Node Alias" and "Continue running after logoff" unchecked unless you want to and understand why.
Upon clicking on **OK**, you will receive a warning as shown below. Click on **Yes**.



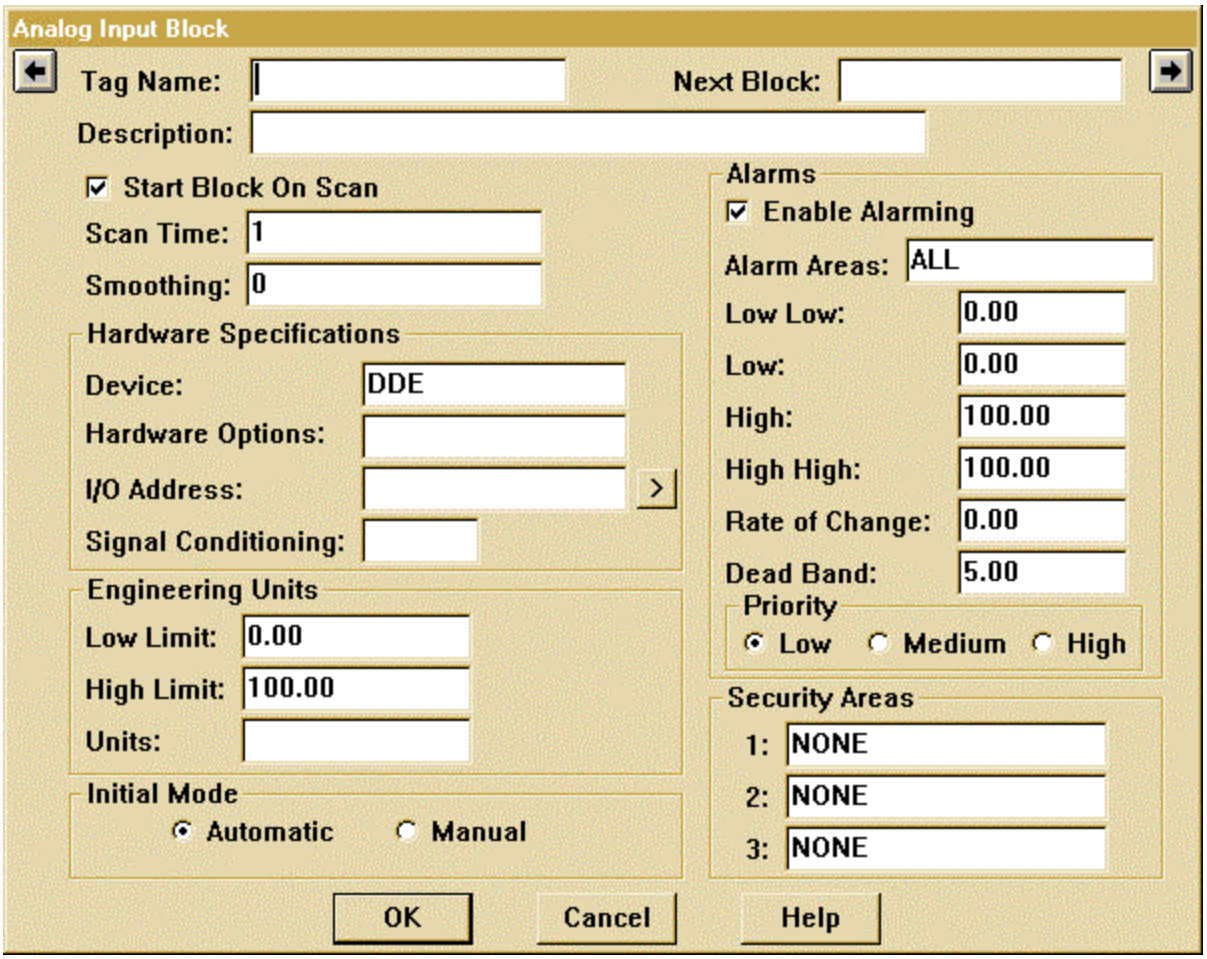
7. You can enter description about this FIX configuration by clicking on **File** | **Description** in the SCU – FIX window. However, it is optional.
8. Click on **File** | **Save** As in the SCU – FIX window. When asked for where to save the configuration (.scu) file, type in the same path as the one in step *6-b*. Then click on **Save**.
9. Close the SCU – FIX window by clicking on **File** | **Exit**.

Creating a FIX Database to add SCADA level symbols

1. You can start FIX Database Builder application from FIX Draw or from FIX program group. To start it from FIX Draw, click on **Apps** | **Database Builder**.
2. Click on **Database** | **Open** in the Database Builder application. Now you can start adding tags to this database. Remember that the tags you add in here are SCADA level tags and hence count towards your total tags purchase.
3. Click on **Blocks** | **Add…** which brings up following window where you can choose the context of the tag. Choose the right type and click on **OK**.



4. Upon clicking **OK** on the above window, following window pops up. Here the type chosen is Analog Input Block but the idea applies to different types (Analog Output, Analog Alarm, etc).



For a minimal configuration, you have to fill in two text boxes in the window above or other similar windows. You must specify a Tag Name and an I/O Address. You can specify any tag name you wish as long as it follows the rules set by FIX. To communicate with ASIC-100/200 using DDE, I/O Address is fixed and should be used exactly the way shown below.

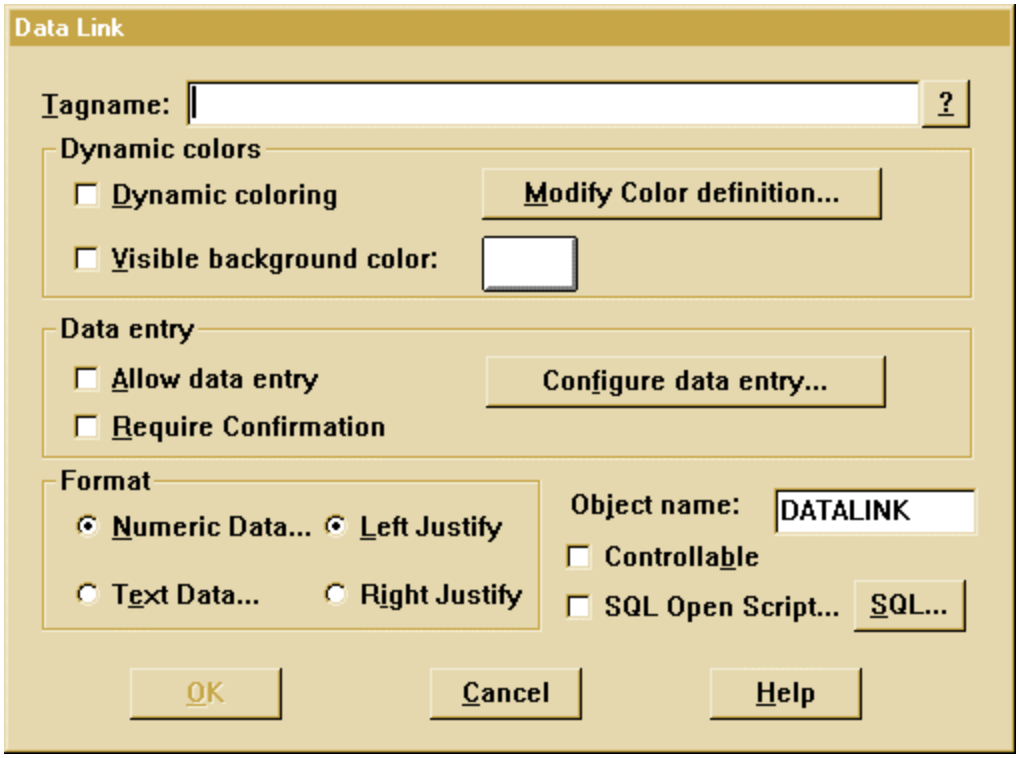
Progmgr|_main _main!<ASIC-100/200 Variable Name Case Sensitive>

There should be exactly one space between _main and _main. "<ASIC-100/200 Variable Name Case Sensitive>" portion should be replaced with a valid ASIC-100/200 tag name. Rest of the dialog box above is left at your discretion. You can change values as you wish!

5. After you are done entering all the symbols, you can now use them for alarming and trending.
6. You can quite Database Builder by clicking on **Database** | **Exit**. When prompted to save changes, click on **Yes**.

Drawing your HMI in FIX Draw application

Now you are ready to draw your HMI screens in FIX. Start Intellution FIX Draw application if you don't have it running. Start a new screen by clicking on **File** | **New** menu. If you don't have toolbox open, you can start it by clicking on **Tools** | **Tool Box…**. Drag and drop "Data Link" icon from the toolbox which pops up the following window.



You can click on **?** to see all the display and SCADA level tags in your current FIX configuration. Make sure that you have the FIX Toolkit installed and ASIC-100/200 runtime is running with a correct configuration activated. Now you can use these tags any way you want!

For more questions, call ASAP, Inc. at (440) 247-9216 and ask for Technical Support.