1.0 Quick Start Guide

1.1 Open the Shipping Container

Remove the Catalyst and Catalyst CD, as well as any cabling you have ordered from the factory. You may find it necessary to refer to the manual during setup and testing. Just click on "Catalyst Manual" when the CD is running and the menu selections are displayed.

The Catalyst CD contains;

- Alarmware Configuration Software
- Catalyst Manual in .PDF format
- Catalyst Memory Allocation Tool
- Tutorials
- Specifications
- RACO web links

1.2 Find a Location for Mounting

This location should be within 5 feet of a standard RJ-11 phone jack and a grounded 120 VAC power outlet.

1.3 Connect Wiring

(Refer to the diagram located in section 2.5 Catalyst RTU Interior View Diagrams in the Installation Guide)

1. Inspect and remove any foreign materials which might create short circuits.
2. Connect the red (positive) battery lead to the positive terminal on the battery.
3. Plug the Catalyst power cord into the outlet (or optionally use the terminal power strip TS1).
4. Next, optionally connect physical channel inputs at terminal strip P6. Each physical input point is marked 1 through 4 with common grounds marked with C. Caution: Verify that the circuits you connect are not directly connected to power, as that would damage the unit.
5. Connect PLC industrial network cable if required.
6. Connect the telephone line to the telephone connector on the bottom of the Catalyst so the unit can make out-going calls, as well as being able to answer incoming calls.
7. If a parallel printer is specified, connect the LDL cable from the Catalyst to the printer.
8. If Alarmware connections will be made via the computer's COM port, connect the Serial Port cable from the Catalyst to the appropriate computer serial port.

1.4 Powering Up the Unit

1. Press the "Power On" button on the Catalyst keypad.
2. The Catalyst will take a short time to initialize. The front panel LEDs will display the initialization pattern while booting.

3. The unit is ready when the NORMAL LED is ON.
4. Verify the Catalyst time and date is correct.
5. Press the PROGRAM key on the front panel.
6. The Catalyst will respond with "Enter Program Code."
7. Press 42 [ENTER].

If either the time or date should be changed, use the following Keycodes to update the unit:

To change the time:

Press 421*HHMMSS (HH=hour, MM=min, SS=sec) [ENTER].

To change the date:

Press 422*MMDDYY (MM=month, DD=day, YY=year) [ENTER].

To exit PROGRAM mode, press NORMAL.

1.5 Install Alarmware from Catalyst CD

1. Place Catalyst CD in CDROM tray and close. If the CD fails to start, run the "welcome.exe" program located in the top level directory of the Catalyst CD.
2. When the Menu Page appears, click on "Install Alarmware" menu item.
3. Follow the on-screen instructions to install the Alarmware program. Alarmware is the program is designed to allow you to make programming changes to your Catalyst, using your computer.
4. Once the software has been installed, launch Alarmware.

1.6 Configure Connections

1. To connect with the Catalyst, you will either:
    a. Connect via the phone line to a computer modem
    b. Connect directly to the Catalyst, using your computer's serial port
2. Click the "Cancel" button on the "Select RTU" dialog.
3. From the "Options" menu, select "Modem" or "COM Port" depending on desired connection type. You may want to configure both connection types at this step.
4. Select the appropriate COM Port number and click OK.

1.7 Add RTU

1. Click on the "Select RTU" menu item.
2. Click on the ADD button.
3. When the Add/Edit RTU dialog appears, enter the RTU Name, the number of the phone line connected to the unit, and choose the proper Catalyst model number from the pull-down list.
4. Click the "Set" button. Note: the serial number will appear after the first connection made to the Catalyst added.

1.8 Connect to the Catalyst

After adding the RTU, the addition you just made should be highlighted in the list of RTUs.
Click on the proper connection button;

- "Connect Phone" for connections using the phone line and modem
- "Connect COM port" for a direct connection session

A "Database Mismatch" will occur because the Alarmware database and the Catalyst database do not match. At this point, you must determine which database is the one you want to keep.

-- If the Catalyst is **not** being configured for the first time, or, if you don't know whether the unit has been previously configured, the safest course of action is to "Import settings to Alarmware." This will ensure that previous settings will be preserved. Importing to Alarmware will change the RTU name to whatever the Catalyst database has configured. By default, the Catalyst RTU name is CATALYST. If the Catalyst database does not have a configured phone number, then that information will also need to be re-entered.

-- If the Catalyst **is** being configured for the first time, you will probably want to select "Export Settings to RTU." This operation will export the information from Alarmware database to the Catalyst database. All the information in the Catalyst database will be overwritten by the information in the Alarmware database by this action.

When the "Online with RTU" window will appears, the databases are synchronized. The Alarmware front panel is a representation of the LEDs on the Catalyst front panel. Flashing LEDs are an indication that a problem exists with a channel, device, or version. When Channel LEDs are solid ON, the alarm(s) has been acknowledged.

1.9 Configure a Destination

1. From the "Configuration" menu, select "Destinations."
2. When the Destination Settings dialog appears you will be given a choice of destination types.
3. For initial setup and testing, let's configure a telephone destination. This is where the Catalyst will call, when an alarm occurs.
4. From the destination types provided, select "Telephone."
5. Fill in the number of the phone to be called when an alarm occurs. For testing purposes, choose a phone that you can readily answer when called by the Catalyst.
6. Fill in the name of the person or organization to be called. Naturally, this name is not important if you are only setting up for a test.
7. Click the "Close" button.

1.10 Configure a Channel

1. From the "Configuration" menu, select "Channels."
2. Channels 1 through 4 are configured by default to be discrete physical channels.
3. These channels can be configured to alarm on;

    a. "Open" or "Close",
    b. "1" or "0",
    c. "On" or "Off"

4. By default, these channels are normally closed, meaning they will alarm on an open circuit.

5. By default, these four channels should be in alarm right now, as indicated by flashing LEDs for channels 1 – 4.
6. For testing purposes, we can leave these channels in alarm.
7. When you are ready to start configuring channels for actual monitoring, you will start by entering the source net address (SNA). This is the physical or network address used by the Catalyst to find and retrieve data.
8. As you can see for Channel 1, the "SNA" is set by default to "0*1*1." (0= physical input, 1= node, 1=input point 1) *Note: for more information on SNAs, please refer to the Operator's Manual.*
9. Click the "Close" button.

1.11 Record Messages

1. From the front panel of the Catalyst, press PROGRAM.
2. To record a message that will identify the RTU, press 60* [ENTER].
3. When prompted, press and hold the RECORD button while you recite a unit ID message, e.g. "North Pointe Hydro-Electric Plant."
4. Release the RECORD button when you are done reciting the message.
5. The Catalyst will repeat the message you just recited to verify clarity and appropriateness. For each channel message, you will record a message 1 and message 2 message. Keep the printout from the Memory Allocation Tool handy, so the process of recording messages for all active channels can be accomplished quickly.

6. The Keycodes for recording channel messages are:

Analog Channel Messages	
Message 1	1*N
Message 2	2*N

Digital Channel Messages	
Normal Message	1*N
Alarm Message	2*N

*Note: where **N** is the Channel Number.*

7. Press NORMAL to exit PROGRAM mode.

1.12 Test Alarm Condition

1. With a destination configured for an alarm call, and channels 1 – 4 in alarm, all we need to do is disconnect from the RTU and the Catalyst will initiate an alarm notification call.
2. Click on the "Disconnect" button.
3. The Catalyst should start the outgoing call right away.
4. Answer the call when the phone that the Catalyst called rings.
5. The Catalyst will prompt you to "enter a 5" to listen to the Alarm report.
6. Once you have listened to the Alarm Report, press 3 or 9 to acknowledge the alarms. With no further input, the Catalyst will hang up within 10 seconds.
7. The front panel LEDs for channels 1 – 4 will now be solid ON, indicating the alarms for those channels have been acknowledged.

1.13 Run Catalyst Memory Allocation Tool

1. This tool is an Excel file, utilizing Visual Basic for applications. It is located both on your Catalyst CD and can be run by clicking on the "Tools | Catalyst Memory Allocation Tool" menu item or can be found in the directory where Alarmware has been installed.
2. When you launch this tool, you may be asked to enable the macros. In order to use this tool, you will need to select "enable macros."
3. This tool is designed to help you allocate the memory installed with your Catalyst.
4. Non-volatile memory or NVM is available for;

    a. Catalyst configuration changes
    b. Log File Reserve
    c. User-Recorded Speech Messages

5. To help determine how much memory should be reserved for logging, you will be asked to enter information such as;

    a. Installed NVRAM
    b. The number of channels to be sampled
    c. How often the channels will be sampled
    d. How often the data in the reserve is transmitted to a permanent location
    e. The rate at which messages will be recorded

6. The recommended reserve size can then be calculated. This information will yield how much memory is left for user-recorded messages.
7. The next feature of the tool is for developing channel messages for recording.
8. For each channel that will have a user-recorded message, you can enter how the messages will be recited.
9. Once the message is constructed, press the Start Timer button, recite both messages, and press the Stop Timer button.
10. The tool will keep track of how much message time is used, and how much remains;

    a. For analog channels, the message will consist of the combination of message 1 and message 2. Message 1 generally describes the monitoring point, e.g. "Water tank level is." Message 2 normally describes the units of measure, e.g. "feet."
    b. For digital channels, there is both the Normal state message, e.g. "Pump is ON," and the Alarm state message, e.g. "Warning! Pump is OFF."

11. When you are satisfied with the configuration, perform a "Save As" operation to save the file under a new name on your computer hard drive.
12. Finally, print the information for future reference.

1.14 Configure a Log File

1. With the information you printed from the Memory Allocation Tool, launch Alarmware and connect again to the Catalyst unit.
2. When you are ONLINE with the RTU, from the "Configuration" menu, select "Devices."
3. Click on the tab labeled "Log File."
4. Enable the Log File.
5. Select the events and information that you would like to be saved in the log.
6. Enter the data sampling information;

a. The base time is the starting point for sampling
b. The frequency is how often the channels are sampled

7. Click on the "Advanced" button.
8. For the log file reserve size, enter the recommended size as provided by the Memory Allocation Tool. *Note: this value cannot be changed while "offline."*
9. Close the Advanced dialog, and then close the Devices dialog.
10. The Log File can be delivered to a destination on a scheduled basis when the destination is properly configured. Destinations eligible to receive Log File reports include;

    a. Fax Machines
    b. Remote Data Terminals
    c. Email Recipients

11. Log Files can also be retrieved using Alarmware or a terminal program e.g. "ProComm Plus.'
12. After desired configuration changes have been made, disconnect from the RTU.