Data Shuttle Launch Pad

Software Manual

Cumberland
1004 E. Illinois St.
Assumption, IL 62510
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1. **Data Shuttle Launch Pad Overview**

The Cumberland Data Shuttle is a compact portable device that can perform temperature logging, uploading and downloading control settings to and from Farm Hand controllers and temperature ramping to a Farm Hand controller. This manual describes how the Launch Pad software can be used to program the Data Shuttle and to download and plot temperature data using several of the plotting features included in the Launch Pad software. For information on interfacing the Data Shuttle with Farm Hand controllers and use as a stand-alone temperature recorder, see Farm Hand Data Shuttle Owners Manual # 4801-0164.

2. **Data Shuttle Launch Pad Computer Hardware System Requirements**

The FARM HAND Data Shuttle Launch Pad software for Windows requires:

1. A Pentium 200 MHz processor or better,
2. At least 32 Megabytes of RAM,
3. At least 30 Megabytes of Disk Storage, and

3. **Data Shuttle Launch Pad Quick Start**

For those already familiar with Windows operation, the following Quick Start may be used.

1. Load the Launch Pad software on your hard drive.
2. Connect the Data Shuttle to Communications Port #1 (default).
3. Run Launch Pad.
4. To program the shuttle, use the tool bar Load icon and follow the on-screen instructions.
5. To read the shuttle data, use the tool bar Read icon and follow the on-screen instructions.

4. **Installing Launch Pad on a Hard Drive**

To install the Launch Pad software on a hard drive:

1. Insert the Launch Pad CD into the CD ROM drive on your computer.
2. In the Windows Program Manager, select the FILE menu.
3. Choose RUN and type D:\Setup. (Use the appropriate letter to designate your CD drive.) The install program will load the Launch Pad software and the associated help file in the C:\PROGRAM FILES\DATA SHUTTLE LAUNCH PAD directory. You may choose a different directory.
4. The first time Launch Pad is run, the Registration form shown at the right will require the entry of the users name, an optional e-mail entry and a required serial number for the software that can be found in the CD packing material.

5. **Connecting the Data Shuttle to an IBM Compatible Computer**

The Data Shuttle is connected to a communications port on your computer with an IBM compatible DB-9 connector. Cumberland Interconnecting Cable Product #1902-2880 is designed with a DB-9 connector for the computer and an RJ-45 jack that connects into the Data Shuttle as illustrated.
5.1 Starting Launch Pad

The Launch Pad software will place an ICON in your Windows Start-up window. Double click on this icon to start Launch Pad, or use the Start icon from the Windows main screen. The Launch Pad flash screen will appear momentarily.

5.2 Launch Pad Main Window

After the flash screen, the Cumberland Data Shuttle Launch Pad main window will appear. When starting Launch Pad it is recommended that you verify the time and date as displayed in the lower right of the title screen. Since Launch Pad uses the internal clock of the computer for loading and reading the Data Shuttle, this information must be correct. Consult your computer documentation for setting the time and date.

The Main window has a Menu Bar at the top with drop-down menu lists that are selected by clicking on the menu items with the mouse. Below the Menu Bar is a Tool Bar with six icons that can be used as shortcut options. All of the options in the Tool Bar can also be obtained from the Menu Bar. At the bottom of the screen, the Shuttle Status will display the Shuttle type and version when connected to the computer communications port. The current temperature being read by the Shuttle is shown plus the current time and date.

6. Setting the Communications Port

Select the Communications Port Edit menu. Clicking on the Properties item brings up the Set Program Options window. When the Launch Pad software is first run, Communications Port 1 is selected as the default. If it is necessary to change the port number, the Launch Pad software must be re-started for the new port setting to take effect. For a discussion of the Temperature and Pressure Units, Chart Scaling and Manual Y-Axis Limits, see Section 15.
7. Programming the Data Shuttle for Stand-Alone Temperature Recording

This section covers the steps necessary to program the Data Shuttle to record temperatures using the internal sensor or an external temperature probe.

The Data Shuttle can be programmed for recording by clicking on the menu item Program Data Shuttle or by using the icon from the tool bar or by pressing Function key F5. The Data Shuttle Wizard window will appear.

7.1 Data Shuttle Wizard

The Data Shuttle Wizard will lead you through the steps necessary to program the Data Shuttle. The Wizard first requests the way you want to use the Data Shuttle. For stand-alone temperature recording with the internal sensor or with an external probe, check the upper option. To operate the Data Shuttle in conjunction with a Farm Hand controller to record settings or temperatures from a Farm Hand controller, or to use the Data Shuttle to program Farm Hand controllers or temperature ramp, select the second option. See Section 9 for a discussion on programming the Data Shuttle for use with a Farm

7.2 Data Shuttle Wizard – Set Your Interval

The Data Shuttle requires the time period between each temperature sample. The period is entered in the Interval text boxes by typing the number of hours, minutes and seconds.

After entering the Interval, the Duration text box will show the total time period that can be recorded given the specific interval that is entered. In the example shown, a 15 minute sample interval will result in the 32 Kbyte Data Shuttle recording for 48 weeks, 5 days, 7 hours and 45 minutes. The shortest interval that can be entered is 20 seconds.

The field Type a description for the Shuttle allows up to a 39 character name for the temperature data. This name will be programmed into the Shuttle and will be read along with the recorded temperature at the time the data is read back into the Launch Pad software.

If Enable Multiple Sampling is NOT selected, the Shuttle will record the temperature at the end of the interval specified. When this option is selected, the Shuttle will take twenty data samples during the specified interval. These 20 samples are recorded depend on the selection of the Multiple Sampling option.
7.3 **Multiple Sampling and Wrap Data**

Multiple Sampling provides three ways the sampled data will be recorded.

- **Maximum** – The maximum temperature sample taken in the interval will be recorded.
- **Average** – All samples taken during the specified interval will be averaged and recorded at the end of the interval.
- **Minimum** – The minimum temperature sample taken during the interval will be recorded at the end of the interval.

If the **Wrap Data** is NOT checked, the Shuttle will stop recording when the unit fills at the end of the time period shown in the **Duration** box. If **Wrap Data** is checked, the Shuttle will begin to overwrite the oldest data. This will ensure that the Shuttle will always contain the latest temperature data.

7.4 **Data Shuttle Launch and Launch Verification**

To load the Data Shuttle, click the **Launch** button on the Set Your Interval screen. Launch Pad will verify that you want to program the Shuttle with the options shown. If so, click the **OK** button.

The Data Shuttle will respond with this window to indicate that the Shuttle has been loaded properly. The Shuttle may now be disconnected.

After the Shuttle is launched, the Data Shuttle **Status** window will be updated in the Tool Bar on the Main window.

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8. **Using the Data Shuttle to Ramp, Log, or Program Farm Hand Controllers**

After accessing the Data Shuttle Wizard as discussed in Section 7.1, the Wizard can be used to:

1. Provide temperature ramping for a specific Farm Hand controller,
2. Record temperature data from any sensor connected to a Farm Hand controller, or
3. Load settings into any of the Farm Hand family of controllers.

Settings for all of the controllers can be stored in the Shuttle at the same time. The Shuttle can be loaded with the controller settings by using Launch Pad or by downloading the current settings from an operating controller. This later option is discussed in the Data Shuttle Owners Manual #4801-0164.

To select any of these three above options, click the second item and then click **Next**.
8.1 Data Shuttle External Functions -- Options

Use this window to select any or all of the desired options by clicking on the check boxes. A separate window is provided for each of the desired options. When an option is checked, the appropriate tab will become active. The separate windows that are active can be selected by clicking on the tabs at the top of the window.

The Loaded Programs section will show the names of program files that have been saved earlier.

After all new program data has been entered it is necessary to return to this window to Launch the Data Shuttle. Simply click on the Launch Shuttle button.

8.2 Data Shuttle External Functions -- Logging

The following window allows the selection of the two Power Vent controllers or the six Farm Hand Stage controllers or the Alert Alarm to record temperature data in the Shuttle from the controller sensors. When new Farm Hand controllers become available, they can easily be added to this list.

To select any of the controllers, first select the First Choose a Controller Type by clicking the down arrow. The drop down list will appear. Select the desired controller by clicking with the left mouse button. The following parameters can be set using this window:

Sensors/Parameters - Allows any or all of the four temperature sensors to be selected for recording.

Average - Will record the average of the inside sensors.

Target - The target temperature of the Farm Hand controller.

Select All - Will check all of the Sensors/Parameters.

The Interval, Duration, Enable Multiple Sampling and Wrap Data are set the same as discussed in Section 7.2.
The option **Type a description for the shuttle** allows a name to be given to all the settings and saved in the Data Shuttle. This name will be transferred with the temperature data when read by Launch Pad.

### 8.3 Data Shuttle External Functions -- Programs

This window allows selection of the Farm Hand controller settings to be programmed into the Data Shuttle and subsequently uploaded to the Farm Hand controller. To select a controller type, double-click on the controller name. The GENERAL window for the specific controller type will appear.

The details of these programming operations are further discussed in Section 9 of this manual.

### 8.4 Data Shuttle External Functions -- Ramping

To use the Shuttle to ramp controller temperatures, first select the controller from the drop-down list. This controller type **must** be the same as used in the Logging screen. The Ramping Schedule shows a graph of the number of days versus the ramping temperature.

To program Ramping:
1. Set the number of days in the Ramping Schedule.
2. Select the number of temperature divisions. These are points (days) at which the schedule changes Ramping Temperature.
3. With the mouse drag the points to the desired temperature and day. When all programming options are complete, return to the Options window to launch the Shuttle. See Section 8.1

The following parameters can be set using this window:

**Days** – The time period over which ramping is desired.

**Divisions** – The number of points (days) in the ramping schedule at which the slope of the ramping curve changes.

**Target, Day** – As the mouse is moved over the Ramping Schedule, this field shows the day and the temperature calculated in the Ramping Schedule corresponding to the mouse position.
**Load / Save Default** – A single schedule can be saved as a default schedule and recalled with these buttons.

9. **Programming the Data Shuttle to Load Farm Hand Controller Settings**

This section describes the various windows required to load controller settings into the Farm Hand Power Vent, Stage controllers and the Alert Alarm. The Data Shuttle can be loaded with settings for each type of controller. When the Data Shuttle is connected to a controller, the Shuttle recognizes the specific type of controller and sends the appropriate settings.

Before using the Launch Pass software to load controller settings, the user should become familiar with the controllers by reading the appropriate controller user manual. These manuals are listed in the reference section of this document in Section 9.

For the Farm Hand power vent controllers there are three windows: a **GENERAL**, a **RAMPING** and an **ALARM**. To program the Farm Hand stage controllers there are up to four windows depending upon the specific controller: a **GENERAL**, a **STAGE DATA**, a **VARIABLE SPEED** and a **CURTAIN**. The Vent Master uses a **GENERAL**, a **STAGE DATA**, an **INLETS**, a **RAMPING** and an **ALARM**. To program the Alert Alarm there are three windows: a **STATUS**, a **TEMPERATURE** and a **WATER**.

The following sections discuss the various programming windows. After programming the desired parameters, it is necessary to return to the **GENERAL** window for stage controllers and the **STATUS** window for the Alert Alarm and select the OK button to return to the Data Shuttle External Functions window to launch the Shuttle.

10. **Programming Farm Hand Power Vent Controllers**

10.1 **GENERAL Window**

This window applies to:
- Farm Hand Power Vent
- Farm Hand Power Vent with Ramping

This window is selected by clicking on the **General** tab at the top of the window.

This window allows the Power Vent **Static Pressure** to be adjusted. Also, the **High** and **Low Pressure Limits** and **Vent Time Delay** can be set. A check box is provided to either enable or disable the use of Ramped Values, which are set in the Ramping window.

The **Program Loader** allows the reading and saving of Power Vent settings into files which can be recalled for later use. Vent settings that are frequently used can be easily retrieved, modified and transferred to the appropriate Farm Hand controller. To retrieve a file, double click on the file name.

The **Save** and **Open** options are used with this feature. In the example below, a file called Summer.dsp contains previously loaded power vent settings.
The **General** window sets the high and low static pressure that the power vent will use. The units of Static Pressure can be set to Inches of Water, Millimeters of Water or Pascals. See Section 15. The pressures can be adjusted by moving the pointers, by dragging the mouse, or by clicking on the up and down arrows next to the **Pressure Limit** text boxes. If the **Use Ramped Values** is checked, the parameters entered on the **Ramping** window will be used and the High and Low Pressure Limits set in the window are ignored. The following parameters can be set using this window:

**High Pressure Limit** - Exceeding the high (negative) pressure limit causes the controller to further open the vents.

**Low Pressure Limit** - Exceeding the low pressure limit causes the controller to further close the vents.

**Vent Time Delay** - The length of time a pressure reading must be out of range before the controller will operate the vents.

### 10.2 RAMPING Window

This window applies to: ➔ **Farm Hand Power Vent with Ramping**

This window is selected by clicking on the **Ramping** tab at the top of the window.

The window is used to set the **High and Low Outside Temperature Limits** and adjust the **Low** and **High Pressure Limit** for each Low and High Outside temperature limit.

The **High Outside Temperature** - The temperature the controller will use with the corresponding high and low pressure limits.

**Low Pressure Limit** - The lower limit for pressure when outside temperature is at the high temperature limit.

**High Pressure Limit** - The upper limit for pressure when outside temperature is at the high temperature limit.
**Low Outside Temperature** - The outside temperature the controller will use with the corresponding high and low pressure limits.

**Low Pressure Limit** - The lower limit for pressure when outside temperature is at the low temperature limit.

**High Pressure Limit** - The upper limit for pressure when outside temperature is at the low temperature limit.

### 10.3 ALARMS Window

This window applies to: **Farm Hand Power Vent with Rampping**

This window is selected by clicking on the **Alarms** tab at the top of the window.

This window is used to adjust the **Alarm Cycle Time in Minutes** and the **Static Pressure**. Also, the **Low Pressure Limit** and the **High Pressure Limit** can be set.

The following parameters can be set using this window:

**Cycle Alarm - Cycle Time in Minutes** - The cycle alarm will warn if the timer fans failed to operate. The controller will look for a pressure surge which would normally be caused when the timer fans turn on. If this pressure surge is not sensed within the Cycle Time specified, the controller will signal the alarm system. Setting the Cycle Time to 0 (zero) prevents the alarm from sounding.

**Cycle Alarm - Static Pressure in Inches of Water** - Sets the static pressure that the cycle alarm uses to alarm. In the above example, if the pressure is set to 0.10 inches of water (0.10"w.c.) and the controller never sees a pressure spike of at least this level, the alarm will sound.

**Low Pressure Limit** - The low pressure alarm will send a signal when pressure drops below the Low Pressure Limit (setpoint) for greater than 45 seconds. This alarm warns if the vents failed to close. Setting the Low Pressure Limit to 0 (zero) prevents the alarm from sounding.

**High Pressure Limit** - The high pressure alarm will send a signal to the alarm system in the same manner as the Low Pressure alarm, but only when pressure exceeds the High Pressure Limit (setpoint) for greater than 45 seconds. (High Negative Pressure) This alarm warns if the vents did not open. Setting the High Pressure Limit to its maximum of 0.20 prevents the alarm from sounding.
11. Programming Farm Hand Stage Controllers

11.1 GENERAL Window
This window applies to: All Stage Controllers

This window will permit the adjustment of the Target Temperature, Stage Timer Percentage, Cool Timer Percentage and Room Temperature display.

The Program Loader permits the settings to be read from an existing file. The file names will be listed in the window and are selected with the mouse. The OPEN and SAVE buttons at the bottom of the window control access to the selected files. The following parameters can be set using this window:

Target Temperature - The temperature that the controller tries to maintain.

Stage Timer Percentage - The percent of the timer cycle that a stage on a timer will run.

Cool Timer Maximum Percentage - The percent of the system timer that the fan will run when the temperature is at the maximum on-point. A stage is placed on the system timer when the temperature rises above the off-point for the stage. As temperature increases, the timer percentage also increases based on the difference between the stage’s on and off points.

Cool Timer Minimum Percentage - The percent of the system timer that the fan will run when the temperature is at the minimum on-point.

Room Temperature Display – The source of temperature data for the controller front panel display.
11.2 STAGE DATA Window

This window applies to: All Stage Controllers

NOTE: The number of stages on this window varies with the controller type. The Timer, Mode, Sensors, On At temperature and the Off At temperature can be set in this window. The options for Timer, Mode and Sensors are available by using the drop-down text boxes.

The following parameters can be set using this window:

The Timer options are:
- **None** – Stage will not be on a timer.
- **Runtime** – The stage will operate off the system timer while the temperature is below the stage’s on-point. Once the temperature reaches the stage’s on-point the stage will come on full time.
- **Cooltimer** – The stage is placed on the system timer when the temperature rises above the off point for the stage. As temperature increases, the timer percentage also increases based on the difference the stage’s on and off points.

The Mode option allows the cooling stages to be set to five types of operation:
- **Heat** – Equipment operates only when the temperature is below the on-point for the stage, and the curtains are closed.
- **Cool Stir** – Equipment operates whether the main curtain is open or closed. This mode will not run during the tunnel mode.
- **Cool Negative** – Cooling equipment will run only if the main curtain is closed. Equipment operates independent of curtain position. This stage will not run during the Cool Tunnel Mode.
- **Cool Negative Tunnel** – Cooling equipment will run only if the main curtain is closed. This stage will run if the controller is in the Cool Tunnel Mode.
- **Cool Tunnel** – This stage only runs when the controller is in the Cool Tunnel Mode.

The Sensors options for the stage are:
- **Sensor** 1, 2, 3, 1 & 2, 2 & 3, 1 & 3, or 1 & 2 & 3.

The On At and Off At adjust the temperatures at which the stage turns on and off.
11.3 VARIABLE SPEED Window
This window applies to:
- Swine Finisher 1 Variable Speed Stage
- Swine Finisher 2 Variable Speed Stage
- Stage Master 8 Variable Speed
- Stage Master 12 Variable Speed

This window adjusts the Variable Speed Fan Mode, Full On, and Minimum On temperatures, plus the Timer Minimum Speed and Minimum Time Percent, plus the selection of the Sensors and the type of Motor Curve. While the user is adjusting the data, the speed versus temperature data is automatically plotted in the graph. The following parameters are set using this window:

Mode - See Section 11.2.

Full On - The temperature corresponding to the full on (100%) speed.

Minimum On - The temperature at which the fan runs at its minimum speed.

Minimum Speed - The speed at which the fan runs at the Minimum On temperature.

Minimum Timer Percent - If temperature is below the Minimum on-point, the percent of the system timer that the fan will run at its minimum speed.

Timer and Sensors options - See Section 11.2.

Motor Curve

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11.4 CURTAINS Window

This window applies to: ➔ All Stage Controllers

The window allows the adjustment of the Curtain Cycle Time and the Degrees Above Target Before Machine Operates, the Machine Runtime, and the Initial Drop. Other options are the Tunnel On At and Tunnel Off At temperatures. The following parameters are set using this window:

**Cycle Time** - The length of time in minutes between the start of one curtain position adjustment, and the start of the next curtain position adjustment. (For example, a cycle time of 3 means that the curtain will move up or down (or remain stationary) depending upon temperature for its machine runtime once every 3 minutes.)

**Degrees Above Target Before Machine Operates** - Many times it is more cost effective to bring a slightly high building temperature back into range with a fan before opening the curtains. This setting allows you to specify a number of degrees above the target temperature that the controller will allow before trying to open the curtains. Settings are available for Curtain Unit 1 and Curtain Unit 2.

**Machine Runtime** - The number of seconds that the curtain machine will run opening or closing at the beginning of each curtain cycle (See Cycle Time).

**Initial Drop** - The number of seconds to run on the first drop from closed. This is to ensure the curtains have cleared the top of the opening. This setting only applies when the controller senses that the curtain is closed.

**Tunnel On At** - The outside temperature at which the controller will go into tunnel mode.

**Tunnel Off At** - The outside temperature at which the controller will go out of tunnel mode.
12. Programming the Alert Alarm (Version 10)
The following three windows are used with the Cumberland Alert Alarm to enable or disable sensors, set sensor limits, and reset water total.

12.1 STATUS Window
This window applies to:  The Alert Alarm

This window allows the Sensor 1, 2, 3 and Water Rate sensors to be enabled or disabled. The Program Loader allows the reading and saving of Alert Alarm settings into files which can be recalled for later use. Alarm settings that are frequently used can be easily retrieved, modified and transferred to the appropriate Farm Hand controller. To retrieve a file, double click on the file name. The Save and Open options are used with this feature. The following parameters can be set using this window:

Alarms Enabled – To enable an alarm, click the check box ON. Alarms that are not enabled will not generate an alarm even thought their parameters are out of limits.

Program Loader – This option allows settings for Sensor 1, 2, 3 and Water Rate to be saved in a file for later use. The enable status of each sensor is also saved.

Save – Saves the program file.

Open – Opens a highlighted file.

Cancel – Returns to the data shuttle External Functions – Programs screen without making any changes in the enable settings. If a .DSP program has been loaded by double clicking on the file name, this option cancels any changes.

OK - Returns to the data shuttle External Functions – Programs screen and saves any changes made.

12.2 TEMPERATURE Window
This window applies to:  The Alert Alarm

The temperature window allows setting the high and low limits for the three sensors. To adjust, move the arrows on the thermometer graphic or use the arrows on the text boxes. The following parameters can be set using this window:
High Limit – The high limit used to set off and alarm.

Low Limit – The low limit used to set off an alarm.

Use same limits for all Sensors – If this box is checked the high and low limits will be the same for all three sensors. Only one thermometer graphic will be available.

### 12.3 WATER Window
This window applies to: The Alert Alarm

This window allows the high and low water rate limits to be adjusted. To set the water limits use the arrows by the text boxes. The following parameters can be set using this window:

**High Limit** – The high water rate limit used to set off and alarm.

**Low Limit** – The low water rate limit used to set off an alarm.

**Reset Water Total 1** – Resets the water quantity reading to zero.

**Show Range on Meter** – This setting is only for adjusting the meter display. No information is transferred to the Alert Alarm specific to this setting.

### 13. Programming the Vent Master
The Vent Master has five programming screens that are similar to those of the Stage Master controllers and the Power Vent controllers.

#### 13.1 GENERAL Window
This window applies to: The Vent Master

This window allows setting the Target Temperature limits, timer percentages and provides access to the Program Loader. The following parameters can be set:

**Target Pressure** – The Vent Master has two basic pressure settings, a Target Pressure, and a Pressure Differential. The Target Pressure is the static pressure that the system tries to maintain within the limits of the Pressure Differential. The Pressure Differential is the range around the Target Pressure that is considered satisfactory. From the Target Pressure and the Pressure Differential the High and Low Pressure limits are calculated. The High Pressure limit is the Target Pressure plus half of the Pressure Differential and the Low Pressure limit is the Target Pressure minus half of the Pressure Differential.

The small red lines around the temperature needle represent the differential.

Use the mouse to adjust the target temperature thermometer graphic or the arrow buttons.
Pressure limit is the Target Pressure minus half of the Pressure Differential. The controller will open and close the vents as needed to maintain pressure between the high and low limits.

**Pressure Differential** – The difference in pressure around the target that is used to establish the high and low temperature limits

The remaining parameters on this screen are similar to the stage controllers and are described in Section 11.1 of this manual. These parameters are:

- Target Temperature
- Stage Timer Percentage
- Cool Timer Minimum Percent
- Cool Timer Maximum Percent
- Room Temperature Display
- Program Loader

### 13.2 **STAGE DATA Window**

This window applies to: ➔ **The Vent Master**

The stage data window for the Vent Master is very similar to the screens used for other stage controllers. See Section 11.2 for a discussion of the following parameters:

- **Timer**
- **Mode**
- **On At**
- **Off At**
- **Sensors**

### 13.3 **INLETS Window**

This window applies to: ➔ **The Vent Master**

This window is used to adjust the inlet Vent Time Delay, the Tunnel Target Pressure and the Tunnel On At and Off At temperatures. The following parameters can be set with this window:

- **Vent Time Delay** – This setting is the length of time a pressure reading must be out of range before the controller will operate the vents. This will keep the vents from constantly cycling open, then closed. If the vents cycle too much, increase this setting using the plus (+) button.

- **Tunnel On At** – The temperature at which the controller will go into tunnel mode.

- **Tunnel Off At** – The temperature at which the controller will go out of the tunnel mode.
Tunnel Target Pressure - In tunnel mode, this is the target pressure that will be maintained if and only if SWX 4 of the Tunnel Switches is ON. See the Vent Master Owners manual for instructions on setting this switch.

13.4 RAMPING Window
This window applies to: ➔ The Vent Master

Ramping allows you to set a band of pressure to be maintained, taking into account the OUTSIDE temperature. If the outside temperature is warm, it will allow taking in a large volume of slow moving warm air (low static pressure), but when outside air is cold, the Vent Master will adjust to allow a low volume of fast moving cold air (high static pressure). This window is used to set the High and Low Outside Temperature Limits and adjust the Target Pressure for each Low and High Outside temperature limit when ramping. The Target Pressure is the static pressure the system tries to maintain within the limits of the Pressure Differential. The Pressure Differential is the same as set in the General window. See Section 10.1 of this manual.

The High Pressure Limit is the Target Pressure plus half of the Pressure differential. The Low Pressure Limit is the Target Pressure minus half of the Pressure Differential.

Use Ramped Values - A check box is provided to either enable or disable the use of Ramped Values.

13.5 ALARMS Window
This window applies to: ➔ The Vent Master

The Alarms Window sets the Static Pressure for the Cycle Alarm and the limits for the High and Low pressure alarms. The following parameters can be set with this window:
Cycle Alarm Static Pressure - The cycle alarm is a very important alarm in that it will warn if the timer fans failed to operate. The controller will look for a pressure surge which would normally be caused when the timer fans turn on. If this pressure surge is not sensed within the timer period specified, the controller will signal the alarm system, thus triggering an alarm.

Disable Cycle Alarm – Checking this box prevents the cycle alarm from sounding.

Low Pressure Alarm - The Low Pressure alarm will send a signal when pressure drops below the Low Pressure setpoint for greater than 45 seconds. This alarm warns if the vents failed to close.

Disable Low Pressure Alarm – Checking this box prevents the Low Pressure alarm from sounding.

High Pressure Alarm - The High Pressure alarm will send a signal to your existing alarm system in the same manner as the Low Pressure alarm, but only when pressure exceeds the High Pressure Setpoint for greater than 45 seconds. (High Negative Pressure.) This alarm warns if the vents did not open.

Disable High Pressure Alarm – Checking this box prevents the High Pressure alarm from sounding.

14. Reading from the Data Shuttle

Connect the Data Shuttle to the selected communications port of the computer. Verify that the Data Shuttle has been previously “launched” and is functioning properly by noting the LED is flashing every two seconds.

Starting

Select MENU: or TOOL BAR:

<table>
<thead>
<tr>
<th>Shuttle</th>
<th>Program Data Shuttle F5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read from Shuttle F6</td>
<td></td>
</tr>
<tr>
<td>Launch Last Shuttle F7</td>
<td></td>
</tr>
</tbody>
</table>

Click on the Shuttle tool bar or the menu bar. From the drop-down menu click Read from Shuttle or press the F6 function key. The Read Data Shuttle screen provides three options when reading from the Shuttle:

(1) Read Temperatures and Continue Logging – Reads the Data Shuttle and continues temperature recording as already programmed. With this option there is no additional programming or push button operations required by the Shuttle. After the Launch Pad reads the Shuttle data, the Save As window will appear. See the next section for discussion of the Save As Window.

(2) Read Temperatures and Reset Data Shuttle – Reads the Shuttle data and clears the Shuttle memory so the Shuttle can be re-programmed. After the Launch Pad reads the Shuttle data, the Save As window will appear. See the next section for discussion of the Save As Window. If the Shuttle has not been triggered, a warning message will appear and Launch Pad will not attempt to read from the Shuttle.
Save As window - The default file name is the description of the log chosen when the Shuttle was launched. Choose either the default name or type in a new file name for storing the data from the Shuttle. A plot of the data will be displayed as soon as the data is saved.

(3) Read Stored Programs from Data Shuttle - The screen shown at the right will indicate the quantity of programs. Clicking OK will indicate the type of controller that the program is intended for. After clicking “OK”, Launch Pad will read each program from the Data Shuttle and request a program name.

Enter a program name - Clicking OK on the “Enter a Program name” screen will save the program into the Controller’s program folders. This program can then be used to program a controller at a later time through the controllers programming screens.

15. Viewing Temperature Data from the Data Shuttle

Starting

Select MENU: or TOOL BAR: File

Open Data
Close
Save Data
Print Data
Exit

The Open window will display the current files that can be viewed by the Launch Pad. Your listing will, of course, be different from the one shown here. Double click on the file name or select the file name and click on Open. The following plot is of the file Overnight ramping!!!
The temperature data is plotted from the first data point to the last recorded point.

As the cursor is scanned across the plot, the time and temperature of the sensor is displayed here.

This scale in Fahrenheit Degrees.

This scale in Celsius Degrees.

Celsius Degrees

Shows the current data plotted, based on the selections made from the Properties window.

Clicking on the Properties control from the Edit Menu button brings up the Set Program Options window. The Comm Port options have been discussed in Section 6.

Temperature Units - The units of the temperature measurement default to Fahrenheit, however, Celsius can be selected as an alternative. It is not necessary to re-start Launch Pad when the temperature units are changed.

Pressure Units - The Pressure Units used by the Vent Master can be set to Inches of Water, Millimeters of Water or Pascals.


Whole Chart shows all of the data recorded in the chart record. The Manual Y-Axis Limits will be displayed if the Manual Chart Scaling option has been selected. This option lets the user manually sets the Maximum and Minimum temperatures displayed in the active chart.
To implement any changes, click the **OK** button.

**Expanding the View**

In this view the plot of the Overnight Ramping!!! has been expanded to start at 18:00 and end at 21:00. Note that the **Up One Zoom Level**, the **Reset Zoom** control buttons and the **Horizontal Scroll bar** have been activated. Since multiple zoom levels can be developed, the **Up One Zoom Level** returns to the previous zoom level. **Reset Zoom** returns to the original plot. The horizontal scroll bar will move the chart to the right or left and display the same time period in the view.

Further Expanding the View

The previous view can be further expanded by placing the cursor at the starting time the data should be expanded, then holding down the left mouse button and dragging the mouse to the stop time. In the above example, the start time was selected to be 18:30 and the stop time was 19:00. As the cursor is moved to the right, the area of interest is highlighted in black. Clicking the right mouse button expands the view as shown in the figure at the right.

Also in this view, the Chart Scaling option from the Properties window in the Edit menu has been set to the **Zoom +/-1** option. This displays a maximum temperature one degree above the highest temperature data point in the view and one degree below the lowest temperature data point in the view.
16. **Using the Edit Command to Copy a Chart to the Clipboard**

These edit options are used to transfer the contents of an active VIEW window to the clipboard for use by programs external to Launch Pad.

**Copy as Graph**

Select the tool bar camera icon or the menu. The **Copy as Graph** copies the view as a bitmapped file that can be pasted in the Windows clipboard or other graphics capable programs such as Microsoft’s WORD.

**Copy as Data**

Select the menu. The command **Copy as Data** copies the information to the clipboard in a standard database format that can be read with database programs such as EXCEL.

17. **Printing Charts**

After preparing a chart and placing the chart in the active window, selecting the tool bar printer icon will print the chart to the default printer. An example is shown in the following figure.

**View Grid Option**

By clicking on the View Grid Option a chart of the data will display the Date/Time and reading of each data point. See the example at the right.
18. Reference Manuals and Product Part Numbers

Manuals
Farm Hand Power Vent Owners Manual............................................ # 4801-0149
Farm Hand Swine Finisher 5 Stage Owners Manual.............................. # 4801-0150
Farm Hand Stage Master 12 Stage Owners Manual.............................. # 4801-0151
Farm Hand Stage Master 8 Stage Owners Manual................................ # 4801-0155
Farm Hand Stage Master 4 Stage Owners Manual................................ # 4801-5058
Farm Hand Vent Master Owners Manual.......................................... # 4801-5098
Farm Hand Alert Alarm Owners Manual.......................................... # 4801-5085
Farm Hand Data Shuttle Owners Manual.......................................... # 4801-0164

Products
Farm Hand Data Shuttle (16 Kbytes)................................................... # 6607-1550
Farm Hand Data Shuttle (32 Kbytes)................................................... # 6607-1552
Farm Hand Data Shuttle/Computer Connector..................................... # 1902-2880
Data Shuttle Launch Pad Software & Cable Kit................................. # 6650-5035