

PatternView™ User's Guide

Customer Product Manual Part 772 090A

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Address all correspondence to:

Nordson Corporation
Attn: Customer Service
11475 Lakefield Drive
Duluth, GA 30097

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PatternView™ User's Guide

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Introduction

PatternView™ is Nordson Corporation's Microsoft®-based personal computer (PC) interface for the Eclipse Series EPC-30 pattern control. With PatternView, you can program all of the functions of an EPC-30 pattern control from a desktop, industrial, or notebook PC.

Some of the time-saving features of the EPC-30 pattern control include:

- Autoscaling
- Fast gun setup
- Quick pattern definition
- Online pattern and volume adjustment

PatternView's easy-to-use graphical user interface allows you to take advantage of all of these features from a PC. With PatternView, you can:

- Graphically define pattern programs
- Get and send programs
- Monitor real-time values
- Manage project files
- Generate reports

Documentation Information

This user's guide is designed to help you understand the basic features of PatternView, guide you through installation, and explain the two methods of operation—working offline and working online. For more detailed information about PatternView, refer to the PatternView Help System by selecting

Help > Help Topics.

The EPC-30 pattern control includes a complete documentation set that guides you through an introduction of the pattern control, installation, operation, and service information. The documentation set is designed to provide all of the information necessary for you to maximize your use of the pattern control.

The EPC-30 pattern control documentation set includes the following documents:

- *Eclipse Series EPC-30 Pattern Control* manual
Provides information on installation, system setup, program setup, operation, troubleshooting, servicing, and parts.
- *PatternView User's Guide*
Provides information on installing the PatternView software, working online, working offline, using the Help system, and generating and printing reports.
- PatternView Help System
Provides context-sensitive information about the software, including project setup and troubleshooting.

Before Using PatternView

In order to take full advantage of PatternView, you should have a working knowledge of the Windows[®] 95 operating system. You should also understand the basic concepts of pattern controls. The *Glossary* included at the end of this guide provides definitions of key terms.

Support Information

Nordson Corporation is available to answer questions about technical support and to assist you with installation, operation, or procedures. Contact Nordson Customer Support at 1-877-NOR D SVC (1-877-667-3782).

You will need the following information when you call:

- The PatternView software version

NOTE: You can find this information by selecting **Help > About PatternView**.

- The unit firmware version

NOTE: You can find this information by selecting **View > Monitor**.

- A brief description of the problem
- Information about your computer (such as operating system, RAM, processor type, etc.)

Software Installation

This section provides the system requirements you need to use PatternView and instructions for installing PatternView.

System Requirements

PatternView requires the following:

- Personal computer with at least 6.5 mb of free hard disk space
- Windows 95 or Windows 98 operating system
- At least 8 mb of memory

How to Install PatternView

1. Insert the floppy disk labeled "Disk 1 of 2" into your floppy disk drive.
2. Select **Start > Run**.
3. Enter a:\setup in the **Open** text box.
4. Follow the instructions on the screen to insert Disk 2 and complete the installation.
5. After installation is complete, remove the floppy disk and restart your computer to initialize the system drivers.

Once you have installed PatternView, you are ready to learn the basics of working offline. If you have any problems installing PatternView on your computer, contact your Nordson representative.


NOTE: If you need to uninstall PatternView, select **Start > Settings> Control Panel > Add/Remove Programs**, choose PatternView, and then click **Add/Remove** to begin the uninstall procedure.

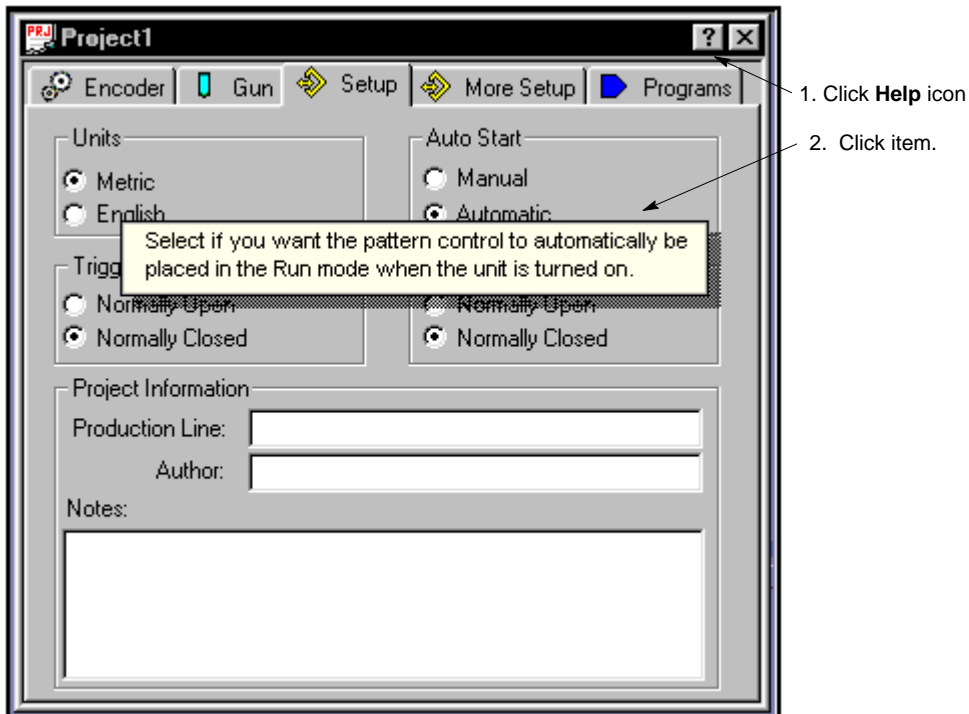
Getting Started

This section explains some of the basics for using PatternView. Refer to the PatternView Help system for more complete information.

How to Use the Help System

PatternView includes a context-sensitive online Help system to assist you in using the software. The Help system, designed to work for all user levels, provides comprehensive instructions and information about using PatternView.

For quick reminders on items in a dialog box, click the **Help** icon () on a dialog box, and then click the item you need information for.

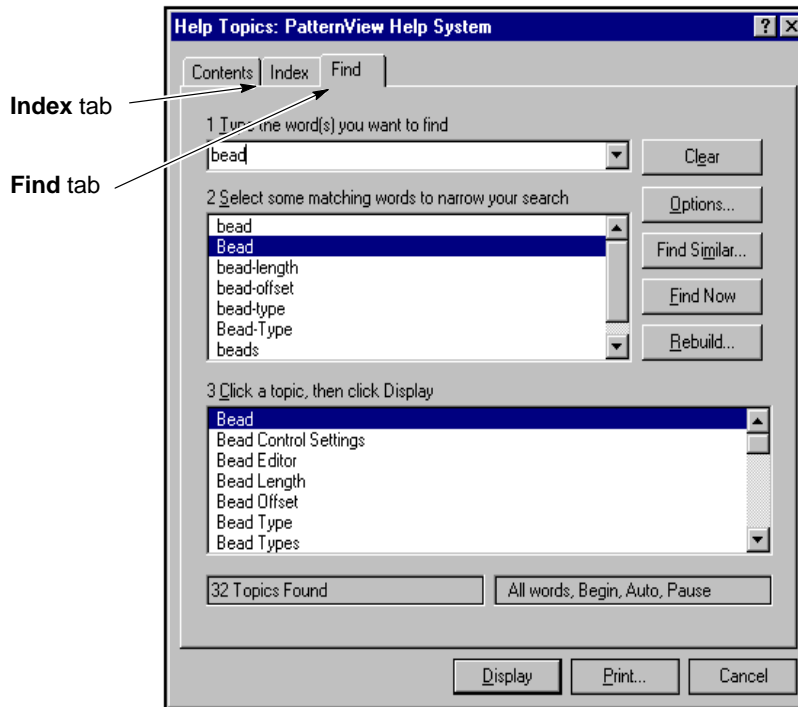


You can also select any component on a dialog box, click the right mouse button, and then click the **What's This** button to view the information.

If you need additional information, select **Help > Help Topics** to open the main Help window:

- To browse through topics by category, click the **Contents** tab.
- To see a list of index entries, click the **Index** tab and then either type a word or scroll through the list.
- To search for words or phrases that may be contained in a Help topic, click the **Find** tab.

NOTE: The first time you select the **Find** tab, you must create a list (or database) of terms. Select the **Minimize database size** radio button and click Next.



Getting Started

PatternView Toolbar

PatternView includes a toolbar to help you quickly access commonly used functions.



Icon	Title	Use to
	New	Create a new project
	Open	Open an existing project
	Save	Save an open project
	Print	Print a report
	Get Project From Unit	Upload a project from the main control unit
	Send Project to Unit	Download a project to the main control unit
	Enter Run Mode	Put the unit in the run mode
	Exit Run Mode	Take the unit out of the run mode (stop the unit)
	Purge Gun Selection	Select the gun to purge
	Purge Gun	Purge the selected gun
	Toggle Monitor Window	Display or hide the monitor window

About Projects and Programs

A project consists of the system settings and all programs for a given production line or a specific pattern control unit. Projects are saved with a *.prj* file extension. A project can contain up to 50 programs. First, you create a project, and then you can begin creating and using programs.

A program contains all of the pattern settings and associated information used to create an adhesive pattern on a single product. Each program, identified by a program number and a description, is stored in the EPC-30 control's memory and in the project file. To view a list of your programs, select the **Programs** tab.

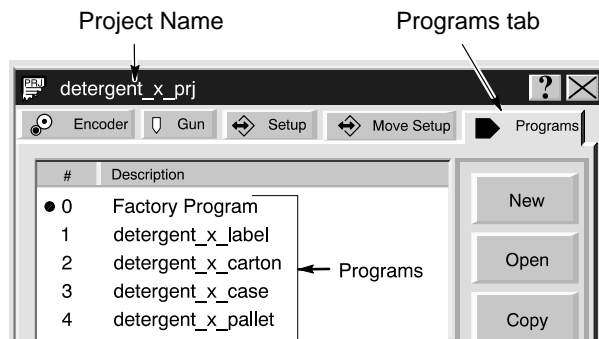
System settings apply to all the programs in a project. The programs within a project vary from one product to the next.

The Factory Program is built into the software, and you cannot change it or overwrite it. However, you can copy the factory program and use it as a template by renaming the program.

Getting Started

The following table and picture provides an example of the use of projects and programs for a product named detergent_x.

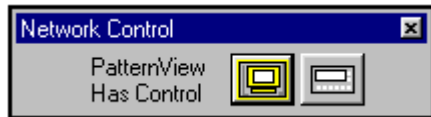
Project Name	Description	Shown on the . . .
detergent_x	where <i>detergent_x</i> is the name of a production line or a particular pattern control unit	Title bar
Program Names	Description	Shown on the . . .
detergent_x_label	program for attaching labels on production line detergent_x	Programs tab for project detergent_x
detergent_x_carton	program for bead pattern for sealing cartons on production line detergent_x	Programs tab for project detergent_x
detergent_x_case	program for case sealing boxes on production line detergent_x	Programs tab for project detergent_x
detergent_x_pallet	program for stabilizing pallets on production line detergent_x	Programs tab for project detergent_x



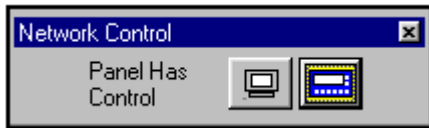
Network Control

PatternView uses the **Network Control** window to communicate the control status information. You can only control the main control unit from one source—PatternView or the operator panel.

When using PatternView to control your system, connect your PC to the main control unit, start PatternView, and click the **Allow Use of PatternView** icon.



When using the operator panel to control your system, select the **Allow Use of Panel** icon.



Methods of Operation

PatternView offers the ability to work both offline and online. The offline method allows you to work away from the production line to create and save projects and programs and then to send them to the unit at a more convenient time. The online method allows you to make real-time changes while your production line is running.

Refer to *Offline Basics* and *Online Basics* for more information on each method of operation.

Offline Basics

When working offline, you will not be able to access some features of PatternView, such as encoder setup. To learn more about working online, refer to *Online Basics*.

How to Start PatternView while Working Offline

To start PatternView, double-click the PatternView icon on your desktop.



PatternView

You can also select **Start > Programs > Nordson > PatternView**.

How to Exit PatternView while Working Offline

1. Save any open projects.
2. Select **File > Exit**.

How to Work with Projects Offline

Use the Help system throughout this and other procedures for more information on settings and possible values.

Creating a Project

1. Start PatternView from the **Start** menu.
2. Select **File > New Project**.
3. In the New Project dialog box, select either **Default Values** or **Template**. Refer to *Using the Project Template* for more information.
4. Click **OK**.
5. Go to the **Setup** tab.
6. Select the units to compute with and display (metric or English).
7. Select the auto start mode.
8. Select the trigger polarity for trigger 1 and trigger 2.
9. Go to the **Gun** tab.
10. Select the gun number to set up.
11. Enter the gun trigger offset for trigger 1 and for trigger 2.
12. Select a method of gun compensation.

NOTE: If you do not already know the gun compensation value, refer to *To Determine and Enter Gun-Compensation Values* in the *Eclipse EPC-30 Pattern Control* manual.

13. Enter speed and time information where appropriate.

14. Repeat steps 9 through 13 for each gun.
15. Go to the **More Setup** tab.
16. Select your preferred options.
17. Select your low line speed handling choices.
18. Save the project. Refer to *Saving a Project*.

Opening a Project

1. Select **File > Open Project**.
2. Navigate to the desired directory and select the project from the list.
3. Click **OK**.

Saving a Project

To save the project with the same file name, select **File > Save**.

To save the project using a new file name, select **File > Save Project As** and enter a new name for the project.

Using the Project Template

A project template is useful for storing common settings so that these settings automatically appear when you create new projects.

1. Select **File > New**.
2. In the **New Project** dialog box, select **Template**.
3. Make any changes for a new project.
4. Select **File > Save Project As** and enter a name for the new project created from the template.

Changing the Project Template

1. Select **File > Open Project**.
2. In the **Open** dialog box, select the *template.prj* file.
3. Make any changes specific for your production line.
4. Select **File > Save Project**. This will overwrite the Nordson default template.

Closing a Project

To close a project, select **File > Close Project**. If you have made any changes to the project, you will be prompted to save your changes before closing the project.

How to Work with Programs Offline

Once you have set up your project, you can start entering information to create programs. To view the programs in a project, select the **Programs** tab. The Factory Program is built into the software, and you cannot change it or overwrite it. However, you can copy the factory program and use it as a template by renaming the program.

A program includes the measurements that define a pattern set and may include volume-control settings (if the runup feature is purchased and installed), optional settings, and custom bead settings, such as stitching or modulation.

NOTE: You can enter settings for runup while working offline; however, the settings are only valid when PatternView detects the optional input/output (I/O) board.

Creating and Setting Up a Program

1. Go to the **Programs** tab.
2. Click **New**.
3. Enter a description of the program, such as *detergent_x_carton*, in the description text box.
4. Click **OK**.
5. Select the program from the list and click **Open** or double-click on the program name.
6. Select the **Pattern** tab.
7. Select the gun number to define.
8. Select the bead type, enter the appropriate bead control values, and select the trigger source.

9. Enter values for the bead offset and bead length or click in the ruler area to draw and adjust the beads.
10. Repeat steps 7 through 9 for each gun.
11. If the optional I/O board is installed, you can define runup by selecting the **Runup** tab; otherwise skip to step 13.
12. Enter all of the values for output 1 and output 2.

NOTE: To see a graphic representation of the values you enter, click **Graph**. To close the graph window, click **OK**.
13. Select the **Options** tab.
14. Enter the minimum distance between trigger events (usually the product length) for trigger 1 and for trigger 2. You can also enter the maximum distance between trigger events.
15. Click the palletizing box to enable the palletizing feature for one or both triggers, and enter the consecutive number of products to apply adhesive to and to skip.
16. Click **OK**.

Copying a Created Program

1. Go to the **Programs** tab.
2. Select the program you want to copy.
3. Click **Copy**.
4. Enter a description of the program, such as *detergent_x_carton*, in the description text box.

5. Select the destination program number using the **Destination Program Number** drop-down box. The system defaults to the next available program number; however, if you want to overwrite an existing program, select that program number and click **OK** to overwrite it.
6. If you select an existing program number, you will be prompted to ensure you want to overwrite the selected program. Click **Yes** to overwrite it.

Renaming Programs

1. Go to the **Programs** tab.
2. Select the program you want to rename.
3. Click **Rename**.
4. Enter the new name (description) for the program, such as *detergent_x_carton*, in the **Description** text box.
5. Click **OK**.

How to Generate and Print PatternView Reports

PatternView can generate the following reports:

- **Project Summary List:** lists the programs in a project
- **Project Information:** provides data pertaining to a project
- **Program Information:** provides data pertaining to all programs or to a specific program

To print a report:

1. Select **File > Print Reports**.
2. Select the type of report you want to print.
3. Click **Generate**.
4. Select a printer.
5. Click **OK**.

The following pages show samples of each type of report.

Sample 1: Project Summary List

Project Summary List (sample)	
Project Name:	detergent_x
Notes:	
Number	Description
1	detergent_x_label
2	detergent_x_carton
3	detergent_x_case
4	detergent_x_pallet

Sample 2: Project Information

Project Information (sample)					
Name:	detergent_x				
Notes:					
Autostart:	Manual				
Units:	Metric				
Trigger 1 Polarity:	Normally Closed				
Trigger 2 Polarity:	Normally Closed				
Enable Alarm Below:	0 m/min				
Disable Outputs Below:	1 m/min				
Re-Enable Outputs On:	Current Product				
Latch Enabled:	FALSE				
Remote Recall Enabled:	FALSE				
Separate Outputs for Faults and Warnings:	FALSE				
Programs					
#	Description				
No.	detergent_x_label				
1	detergent_x_carton				
2	detergent_x_case				
3	detergent_x_pallet				
Gun Control					
No.	GTO Trigger 1	GTO 2 Trigger 2	Compensated Linespeed	On	Off
1	100 mm	100 mm	10 m/min	4.0 ms	4.0 ms
2	100 mm	100 mm	10 m/min	4.0 ms	4.0 ms
3	100 mm	100 mm	10 m/min	4.0 ms	4.0 ms
4	100 mm	100 mm	10 m/min	4.0 ms	4.0 ms

Sample 3: Program Information

Offline Basics

Program Information (sample)						
Name:		detergent_x_label				
Number:		1				
Contained in Project:		detergent_x				
Pattern						
Gun No.	Trigger No.	Bead No.	Bead Offset	Bead Length	Bead Control	
1	1	1	10	75	Solid	
		2	110	75	Solid	
2	1	1	10	75	Solid	
		2	110	75	Solid	
3	1	1	10	75	Solid	
		2	110	75	Solid	
4	1	1	10	75	Solid	
		2	110	75	Solid	
Runup						
Output	Point	Linespeed	% Pressure	Low Limit	High Limit	Purge %
1	1	0 m/min	0%	0%	100%	50%
	2	100 m/min	100%			
2	1	0 m/min	0%	0%	100%	50%
	2	100 m/min	100%			
Options						
Trigger 1						
Minimum Distance Between:		0 mm				
Maximum Distance Between:		0 mm				
Palletizing:		Disabled				
Trigger 2						
Minimum Distance Between:		0 mm				
Maximum Distance Between:		0 mm				
Palletizing:		Disabled				

Online Basics

The operations explained in *Offline Basics* work the same when you are working online. However, when you are working online, you have access to additional features, such as encoder setup.

Hardware Connection

1. Pull the terminal block cover on the main control unit down about 25 mm (1 in.) to disengage its tabs and then remove it from the main control unit.
2. Remove the serial port terminator from the X4 connector.
3. Connect the RJ-45 end of the cable (sent with the software) to the main control unit at the X4 connector as shown.

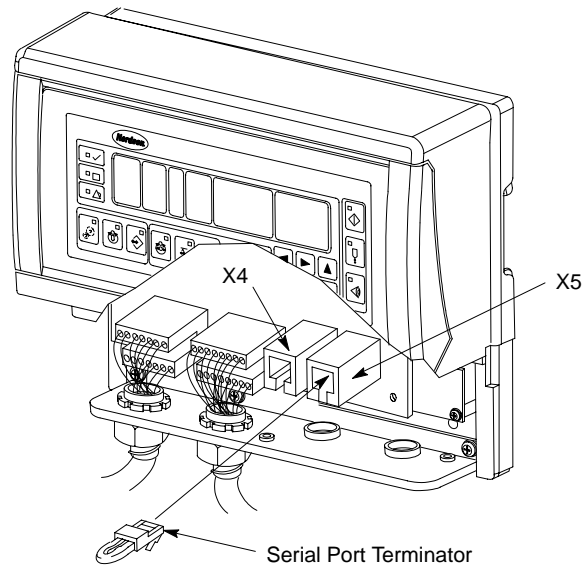
NOTE: If you are using an industrial PC that will be connected to the main control unit on a long-term basis, you have two connection options. You can route the cable through the conduit hole and reattach the terminal block cover, or you can order the optional extension cable that allows you to replace the terminal block cover.

4. Connect the 9-pin D-shell connector end of the cable to the COM1 serial port on your PC.

NOTE: If COM port 1 is not available, use an available serial port and then change the COM port from the **Edit** menu of PatternView.

NOTE: The network requires 10 seconds before it can acknowledge commands when connecting to or disconnecting from the communication link with the EPC-30.

5. If your unit has an operator panel, installation is complete. If your unit does not have an operator panel, you need to ensure the serial port terminator is in the X5 connector.



How to Start PatternView while Working Online

To start PatternView, double-click the PatternView icon on your desktop. You can also select **Start > Programs > Nordson > PatternView**.



PatternView

How to Exit PatternView while Working Online

1. Save any open projects.
2. Select **File > Exit**.

How to Use the Autoscale Feature

1. Go to the **Encoder** tab.
2. Click the **AutoScale** button.



3. Select the type of autoscale procedure you want to use and follow the instructions on the screen to complete autoscaling.

NOTE: Autoscale values are not saved with the system settings. You must perform the autoscale function while you are connected to the EPC-30. Before operating the EPC-30, verify that the control is correctly scaled (geared) to the production line.

How to Use a Program Online

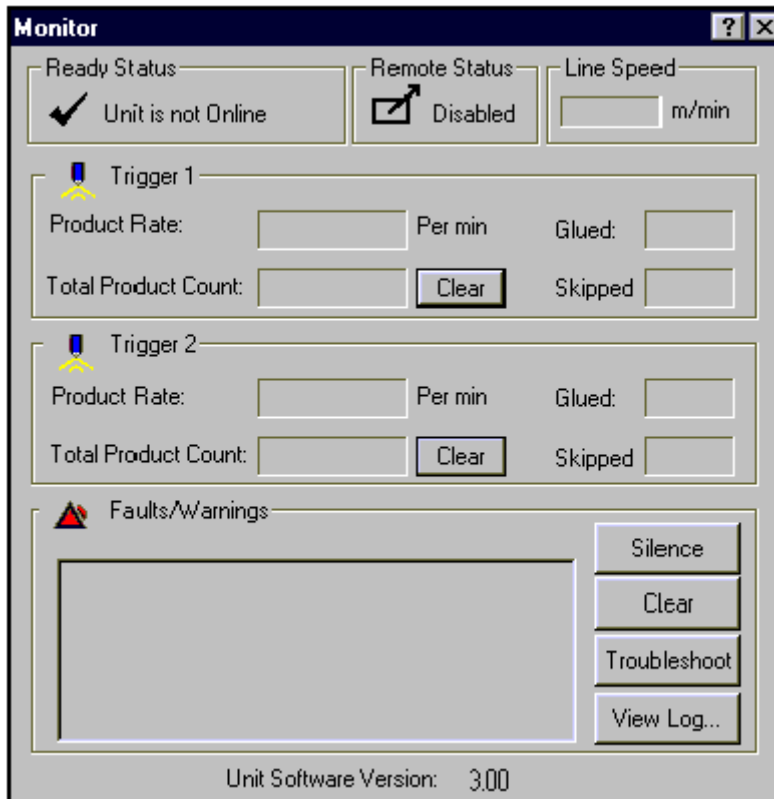
1. Go to the **Programs** tab.
2. Select the program from the list box.
3. Click **Use**.

How to Monitor Production

Toggle the **Monitor** window on and off by clicking the **Monitor** icon on the toolbar.



You can also open the **Monitor** window by selecting **View > Monitor Window**.



How to Clear Faults and Warnings

1. Select **View > Monitor** or click the **Monitor** icon.
2. Select the fault or warning.
3. Click **Clear**.

How to View the Unit (Engine) Status

To view the unit (engine) status, select **View > Unit Status** and note which icon is enabled or flashing.



Enabled when the unit the Ready conditions are satisfied.



Enabled when program activation is being controlled remotely.



Enabled when there is a fault. Flashes when there is a warning.

How to Work with Projects Online

Use the online Help system throughout this and other procedures for more information on settings and possible values.

Getting (Uploading) Projects

To get a project from the unit, click the **Get Project from Unit** icon and wait for the file transfer to complete.



NOTE: If you get a project from your EPC-30 unit that was not created in PatternView, that project will have a file name of *eclipse_default_project_name* and the programs will have numbers instead of names. After transferring this type of project, select **File > Save As** and enter a new name for the project.

Sending (Downloading) Projects

To get a project to the unit, click the **Send Project to Unit** icon and wait for the file transfer to complete.



Troubleshooting

This section provides troubleshooting information for PatternView. If you are experiencing problems with your EPC-30 unit, refer to the following table. If this information does not help you resolve a problem, then refer to the *Troubleshooting* section of the *Eclipse Series EPC-30 Pattern Control* manual.

Problem	Possible Causes and Recommended Action
1. Software will not install	Floppy disk damage. Call Customer Service to order a new set of disks (part 772 130). Refer to <i>Support Information</i> in the <i>Introduction</i> section.
2. Pattern control unit will not come online	Check the cable connection. Refer to <i>Hardware Connection</i> . Verify that the main control unit is turned on. Verify that the COM port for PatternView and the COM port you connected the cable to are the same. Refer to <i>Hardware Connection</i> . Faulty cable. Call Customer Service to order a new cable (part 772 131). Refer to <i>Support Information</i> in the <i>Introduction</i> section.

Troubleshooting

Problem	Possible Causes and Recommended Action
2. Pattern control unit will not come online (<i>cont.</i>)	<p>Conflict between PatternView software and EPC-30 firmware.</p> <p>Verify that the firmware version (from View > Monitor) and the software version (from Help > About) are the same.</p> <p>Verify that the network control is set up correctly. Refer to <i>Network Control</i> in the <i>Getting Started</i> section.</p> <ul style="list-style-type: none">• If you are trying to control the unit using PatternView, ensure that PatternView has control.• If you are trying to control the unit using the operator panel, ensure that the panel has control.

Glossary

Autoscaling

A feature of the pattern control that allows you to determine the encoder gearing ratio without doing calculations. You can use three different methods of autoscaling: the line-jog method, the product-length method, or the line-speed method. You also have the option of entering the value for the encoder-gearing ratio if you already know it.

Autostart

An optional setting that automatically places the pattern control in the run mode when power is applied. When you select autostart, the pattern control system begins generating patterns as soon as the READY light turns on and the first product that the trigger has sensed reaches the guns. If you choose not to activate the autostart setting, you must manually press the **RUN** key to start the generation of pattern sets.

Bead

A continuous line of adhesive or, in the case of a custom bead (a stitched, modulated, or dot bead), a line of adhesive that has been divided into sub-beads. Refer also to *Stitched Bead Type* and *Sub-Bead*.

Bead Length

The distance from the start of the bead to the end of the bead in millimeters or inches (measured to the nearest 0.1 inch).

Bead Offset

The distance from the leading edge of the product to the beginning of the bead. Refer to *Leading Edge*.

Bead Type

A setting that allows you to select one of five different bead types. Your options are solid bead (the default setting), stitched bead, dot bead, modulated bead, and random-length bead.

Dot Bead Type

One of the four different custom bead types the pattern control can generate. The dot bead feature allows you to produce patterns of constant-weight (constant-volume) dots of adhesive spaced apart by a user-determined distance. You control the dot weight by specifying the gun-on time in milliseconds. You control the distance between dots by specifying the dot-interval distance over the length of a specified bead. A constant dot weight and interval can be produced over the entire range of line speed without using external runup equipment.

Encoder

A device that tracks line position. Using the pulse count from an encoder, the pattern control can generate highly accurate pattern sets as line speed varies. The pattern control system uses a quadrature-type encoder with a resolution of 500 pulses per revolution.

Encoder Gearing Ratio

The ratio of encoder shaft rotation to line travel. Encoder shaft rotation is measured in pulses per revolution and line travel is measured in millimeters or inches. The encoder-gearing ratio is expressed in pulses per millimeter or inch.

Fault

Notification that a serious defect or problem has occurred in the pattern control system. When a fault occurs, the Fault icon will flash, the ALARM light turns on, and, if the system is running, the pattern control will stop generating patterns. Faults cannot be cleared until the problem causing the fault is fixed.

GTO

An abbreviation for gun-to-trigger offset, which is the distance from the centerline of the gun nozzle to the centerline of the trigger lens. You must enter the GTO between each gun in the system and the trigger (or triggers, if you have two).

Gun

The dispensing device that applies adhesive to your products. Sometimes called a head or an applicator, a gun can have a single dispensing module or it can have multiple modules. Refer also to *Gun Actuator* and *Output*.

Gun Actuator

The device that opens and closes the gun. A gun actuator can be a pneumatic solenoid valve or an electric gun driver, depending upon the type of guns you use in your production facility.

Gun Compensation

The ability of the pattern control to produce accurate patterns by compensating for the delay, large or small, in gun-response time. For each gun you can enter gun-on compensation, which is the time lag between sending a signal to open and actually applying adhesive on the surface of the product. You can also enter gun-off compensation, which is the time lag between sending a signal to close and actually stopping the application of adhesive to the product. The control can factor line speed into the compensation so that it produces accurate patterns over the whole range of line speeds.

Gun-to-Trigger Offset

Refer to *GTO*.

Gun-On Time

Refer to *Gun Compensation*.

Gun-Off Time

Refer to *Gun Compensation*.

Gun Test Button

A button on the main control board that allows you to test-fire the gun connected to any of the four pattern-control outputs. Using this button and associated DIP switches, you can activate one output or any combination of the four outputs.

Interval

The distance from the start of one bead to the start of the next bead or, in the case of custom bead types (stitched beads, dot beads, or modulated beads), the distance from the start of one sub-bead to the start of the next sub-bead.

Input/Output (I/O) Board

An optional circuit board that allows you to recall programs remotely, operate two independent runup controls, integrate parent machine functions, and monitor for low line speed and other warnings and faults. This option can be either factory-or field-installed.

Latching Feature

A setting you can make that requires an operator to clear each warning. If you choose not to use the latching feature, warnings automatically clear thirty seconds after the condition causing the warning is removed.

Leading Edge

The edge or face of the product that the trigger senses first on the production line. This edge is also used as the starting point for the bead-offset measurement. Refer to *Trailing Edge* and *Bead Offset*.

Because you can use one or two triggers with the pattern control, you can sense two different edges of a product when it has a more complex shape than a case or a box.

Main Control Unit

The enclosure that contains the circuit boards for the pattern control system. The primary board, called the main control board, contains the main microprocessor for the pattern control and the system memory. It receives input from the encoder and triggers and provides the power to drive the outputs. The main control unit also includes a DC-converter board and, on some units, an optional I/O board. It can have an integral operator panel or be connected by a cable to a remote operator panel. Refer also to *Operator Panel*.

Margin

An area at either end of the product where adhesive is not applied when you are generating random-length beads. You can independently set the size of the margin at both the leading and trailing edges of your product. Refer to *Random-Length Bead Type*.

Modulated Bead Type

One of the four different custom bead types the pattern control can generate. The modulated-bead feature provides a nearly constant bead volume below a set line speed. When the production line slows down to a user-selected speed, the control starts dividing each bead into shorter sub-beads to prevent bead volume from increasing. At any given line speed, the total gun-on time to produce each divided bead remains the same as the total gun-on time to produce the original solid bead, so the bead volume remains the same. You can use this feature either with or without runup control.

Multiple Pattern Processing

The ability of the pattern control to simultaneously track the position of up to four products as they move from the trigger to the guns. This feature allows you to install the sensor farther from the guns, space products closer together, and run the production line faster. In systems equipped with two triggers, the control can track four products sensed by trigger 1 while tracking four more products sensed by trigger 2.

Online Pattern Adjustment

A feature of the pattern control that allows you to make quick adjustments to a pattern set as your products run on the production line. Using online pattern adjustment, you can set up your patterns faster and make on-the-spot corrections when you have irregular patterns caused by machine or product variations.

Online Volume Adjustment

A feature of the pattern control that allows you to adjust bead volume as your products run on the production line. Using online volume adjustment, you can quickly change your runup settings and make on-the-spot corrections in bead volume caused by equipment or adhesive variations.

Output

A current or voltage sent from the pattern control for the purpose of operating a gun actuator, transducer, or DC motor drive. The pattern control has four independent outputs for controlling the operation of gun actuators and (if the unit is equipped with an I/O board) two independent outputs for controlling the operation of either transducers or DC motor drives.

Palletizing

A feature of the pattern control that allows it to handle pallet-stabilization applications. You can use this feature to set the number of consecutive products that receive adhesive and the number of consecutive products that are skipped before pattern generation starts again.

Pattern

All of the beads produced by a single gun. You can enter settings for up to 24 beads per pattern. Refer also to *Pattern Set*.

Pattern Set

All of the patterns generated by a single program. Because the pattern control has four outputs for controlling gun operation, you can generate up to four different patterns on any product.

Product

Any item on which the control generates pattern sets. A product can be a manufactured or an assembled item, such as a desk, or it can be a package, such as a carton or a case.

Program

All of the pattern settings and associated parameters for applying adhesive during a single production run. Each program is identified by a program number and is stored in the control memory. A program includes the measurements that define a pattern set and may include volume-control settings (if the runup feature is purchased and installed), optional settings such as the low-line-speed warning, and custom bead settings such as stitching or modulation.

In general, program settings vary from one product to the next. System settings, on the other hand, are global and do not change from product to product.

Program Recall

The capability of activating programs 1–15 from a remote location if your unit is equipped with the optional I/O board. Activation of a program remotely will prevent the user from retrieving other programs. The unit is placed in run mode when the Ready conditions are satisfied.

Purge

The process of removing trapped air or char from the hot melt system or of relieving system pressure by turning the gun (or guns) on. You can purge one or more guns by pressing and holding the **Purge Gun** icon.

Random-Length Bead Type

One of the four different custom bead types the pattern control can generate. The random-length feature allows you to apply a continuous bead of adhesive to products of different length. If desired, you can set a margin at the leading and trailing edges of the product where adhesive will not be applied.

Remote Operator Panel

An operator panel that can be mounted in a remote operator station or control panel. It is connected to the main control board by a cable.

Run Mode

The operating mode used to start pattern generation. You place the control in the run mode by manually pressing the **Run** icon or by applying power to the unit when the autostart feature is enabled.

Run-Permissive Contacts

A set of contacts that can be used to remove the pattern control from the run mode, provide notification of a fault, and deactivate any inputs to the optional I/O board. To use this feature, you must install a remote switch and connect it to the appropriate terminals on the main control board.

Runup Control

A method of pattern control that varies pump output as line speed changes to provide a consistent bead volume. To achieve this result, the pattern control sends a 4–20 mA current signal to a transducer or a 0–10 VDC signal to a DC motor drive. A transducer is used to regulate the air pressure to a piston pump, which in turn adjusts adhesive output. A motor drive is used to control the speed of a gear pump, which varies adhesive output accordingly.

Sensor

Refer to *Trigger*.

Stitched Bead Type

One of the four different custom bead types the pattern control can generate. The stitching feature allows you reduce adhesive usage by entering the percentage of glue savings you want. The pattern control automatically determines the correct length and spacing of the sub-beads in the bead pattern. You have the option of setting a sub-bead interval (the distance from the start of one sub-bead to the next). Refer also to *Sub-Bead*.

Sub-Bead

A bead that results when the pattern control divides a continuous bead into smaller spaced beads. Sub-beads are used in the generation of custom bead types (stitched beads, dot beads, and modulated beads).

Trailing Edge

The product edge that causes the trigger to stop sensing the product as the product passes by the trigger. Although the trailing edge is not used to position beads on the product, it provides information that the pattern control uses to perform a variety of functions. These include generating random-length beads, and scaling the encoder by the product-length method. Refer also to *Leading Edge*.

Transducer

A device that receives an analog current signal from the pattern control and uses it to regulate air pressure. A transducer is used only in systems equipped for runup control. Refer to *Runup Control*.

Trigger

A photosensor that detects products as they travel along the production line. You can equip the pattern control with one or two triggers, depending upon the requirements of your application.

Trigger Memory Mode

A user-determined setting that allows you to either apply or not apply adhesive to products between the trigger and the guns when line speed recovers after falling below your minimum-speed setting. If you set a minimum speed, the pattern control will stop generating patterns whenever line speed falls below this speed.

Warning Message

Notification that an operational problem has occurred in the pattern control system. When a warning occurs, the abbreviation WARN and a warning code (such as 3) appear on the display and the ALARM light starts flashing. Warnings are less serious than faults and clear automatically when the problem causing the problem is fixed (unless the latching feature is turned on). Refer also to *Fault* and *Latching Feature*.

