PATTERN EDITING GUIDE

Autoline
Standalone Roadmarking Controller
Rev 2.1

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Introduction

The Autoline roadmarking controller uses editable patterns that generate the line outputs.

It is possible to edit, add, or remove patterns by using either the PC based Pattern Editor program or the built-in pattern editing function.

The PC based Pattern Editor program can generate and save pattern files. These files can then be loaded onto the Autoline controller via the Autoline-USB cable connected to a PC. The Pattern Editor can also be used as a means of updating the software in the Autoline unit.

The built-in pattern editing function allows the operator to edit the pattern cycle of the user pattern in the field. Please refer to the main Autoline Manual for further details on the built-in pattern editing function.
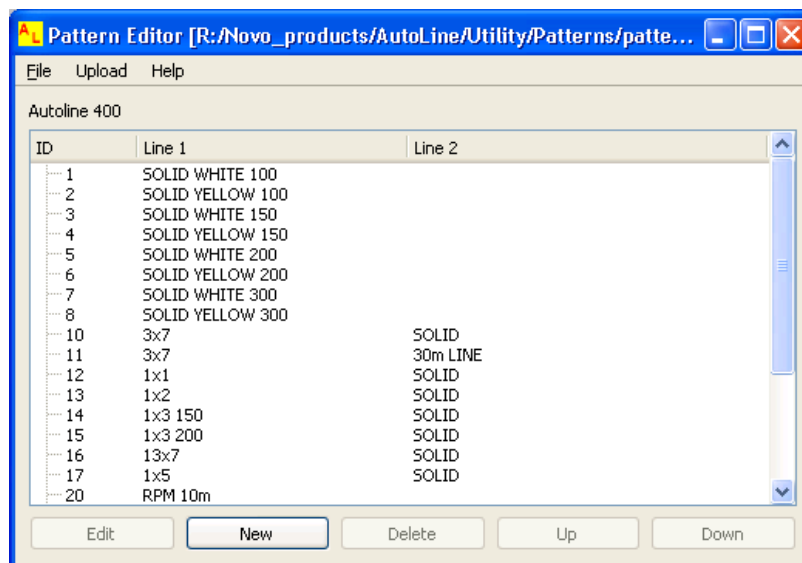
Pattern Programming Elements

Element Definitions:

The pattern program consists of a series of elements that define the required pattern generation. Following is a table outlining the basic pattern programming elements.

Element	Description	Details
L	Line	Line generation. "L" element is followed by line length (e.g. L3).
G	Gap	Gap generation. "G" element is followed by gap length (e.g. G9).
LS	Distance Spot	Distance spot generation. Length is dependent of spot length setting in the Autoline controller setup menu.
S	Timed Spot	Time spot generation. Duration is dependent of spot length setting in the Autoline controller setup menu.
C	Continue / Go To	This element is used to define a jump in the pattern generation. Normally is used on the end of the pattern program to jump back to the start.

Note:
Pattern program lengths apply to the unit setting of the Autoline controller. So a L3 will be 3m if Metric units are selected, or 3 feet if Imperial units are selected.

Pattern Program Examples:

Following is a series of pattern program examples to show the use of the pattern programming elements:

L
Generates an indefinite line output. Used for solid line generation.

G
Generates an indefinite gap output. Used for measurement patterns that require distance measurement but no output generation. Also used in counting patterns.

L30
Generates a 30m line, and then STOPS.

L3G9C
Generates a 3m line, a 9m gap, and then continues with a 3m line, a 9m gap, and so on…

LSG12C
Generates a distance-based spot, a 12m gap, and then continues with a spot, a 12m gap, and so on…

L3G4.5LSG4.5C
Generates a 3m line, a 4.5m gap, a distance-based spot, a 4.5m gap, and then continues with a line, a gap, a spot, a gap, and so on…

Note:
The following example shows how the "C" element can be used to jump to a program location other than the start. This is done by defining the required element number for the continue point (the first element being number 1).

G9L1G1C2
Generates a 9m gap, a 1m line, a 1m gap, and then jumps back to the 1m line, 1m gap, 1m line, 1m gap, and so on…
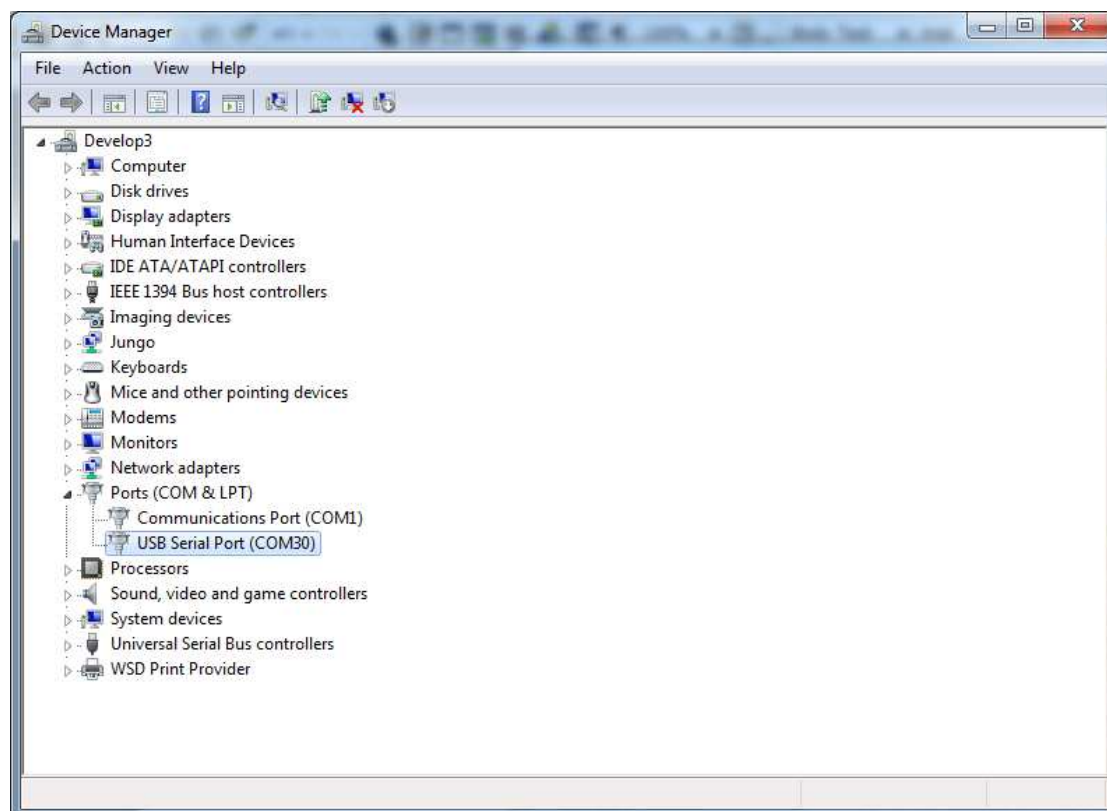
PC Pattern Editor Program

Installation:

Compatible PC operating systems are Windows XP or later.

PC Pattern Editor Program:

1. PC Pattern Editor program is distributed via USB flash drive or online download.

2. Locate the file named **AutolinePatternEditor.exe** and double-click to run.

3. An install wizard will open and follow the on screen prompts.

USB Serial Port:

1. Plug Autoline-USB into PC. Windows will display the "Found New Hardware".

2. Install drivers. Use the browse Windows for driver option, and either locate the drivers in C:\Program Files\NOVO Innovation\Autoline Pattern Editor\USB Drivers or on the USB flash drive.

3. Once the drivers are installed, go to Control Panel and then Device Manager to determine the COM # assigned to the USB Serial Port. This will be found under the Ports branch. Take note of the COM #.

Operation Description:

The VX10 Pattern Editor has the following capabilities:

- Generate new or modify existing pattern files.
- Create line patterns using the pattern programming elements (e.g. L3G9C).
- Configure trigger inputs.
- Configure outputs.
- Enable trigger latching.
- Update Autoline software.

Editor Operation:

List Management:

New Pattern:
Click the 'New' button to add a pattern. Select the correct model required. The "Autoline 400" setting applies to both Autoline 400 / 410 models.

Edit Pattern:
Click on the required pattern to select and then click the 'Edit' button. Alternatively double-click on required pattern to edit.

Delete Pattern:
Click on the required pattern to select and then click the 'Delete' button.

Move Up / Move Down:
These functions change the location of the pattern within the list. Click on the required pattern to select and then click the 'Up' / 'Down' buttons.

Pattern Editing and I/O Configuration:

ID:

Each pattern must be given a numerical ID. The application uses this ID number for referencing purposes.

Description:

The description is a text field used to describe the pattern (e.g. Solid, 3x7).

Program:

The program field is where the pattern program is entered. The pattern program consists of a script that uses pattern programming elements (e.g. L3G7C).

Triggers:

The triggers field selects the trigger inputs that will activate the line outputs.

It is possible to trigger line generation from the activation of another line generator in the same pattern:

'Other Line Output':
This is useful in thermoplastic tactile applications, where one line may be a slave of the other. The slave line will only be activated if the master line has an active output.

'Other Line Latched':
This is useful in multiple line (barrier) and thermoplastic tactile applications, where one line may be a slave of the other. The slave line will be activated if the master line is active, this includes when both line or gaps are being outputted.

Outputs:

The outputs field selects the outputs that will be activated during line operation.

Gun Offset:

The Gun Offset provides a permanent distance offset so the output will not activate for a defined distance after the pattern has been activated. This is for advanced use only.

The Autoline controller has built-in output offsets that can be edited in the field, which provide better flexibility to the operator. Please refer to the main Autoline Manual for further details on the built-in Output Offset function.

Trigger Latching:

The trigger latching checkbox enables the pattern to operate in semi-automatic mode.

This mode latches ON the line outputs until the completion of the line pattern (if enabled in the pattern program). This semi-automatic functionality is useful for remark work and multiple line (barrier) applications. The 'Trigger Latching Mode' needs to also be enabled in the 'Painting Setup' menu of the Autoline controller.

Count Trigger Events:

Patterns can be configured to count trigger events. These trigger events can be use to log the number if RRPMs, road-signs, pedestrian crossings etc. Counting patterns use the pattern program "G".

Enable Trigger:

This enable sets an unused trigger as a master enable for multiple line (barrier) applications. This provides a simple method of activating and deactivating both lines so they start and stop together. Please refer to the main Autoline Manual for further details on the Enable Trigger function.

Pattern File Upload Procedure:

1. Using the PC based Pattern Editor program, open the pattern file to be uploaded to the Autoline unit.

2. Connect the Autoline controller to the PC via the Autoline-USB cable.

3. Click 'Upload', and then 'Send Pattern File'.

4. Enter the correct COM # if not already present. See Installation/USB Serial Port for details.

5. Then click 'Start' to upload pattern file.
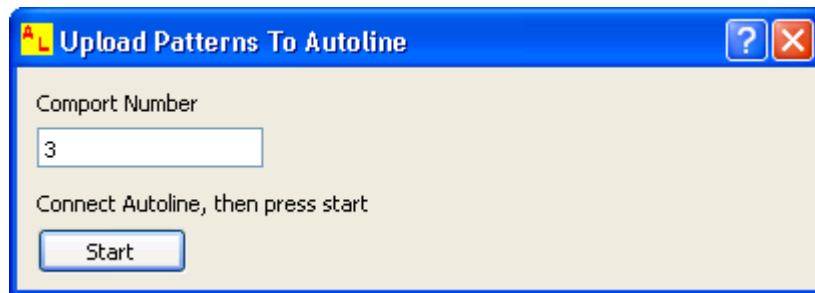
Update Autoline Software Procedure:

1. Connect the Autoline controller to the PC via the Autoline-USB cable.

2. Click 'Upload', and then 'Update Autoline Software'.

3. Select the directory location of the software hex file to be programmed into the Autoline controller.

4. Enter the correct COM # if not already present. See Installation/USB Serial Port for details.

5. Then click 'Start' to begin the software update.
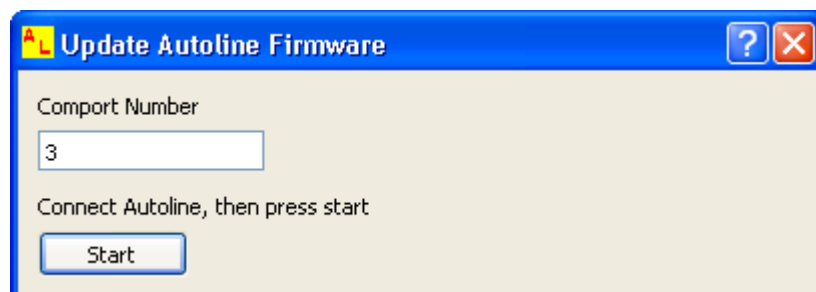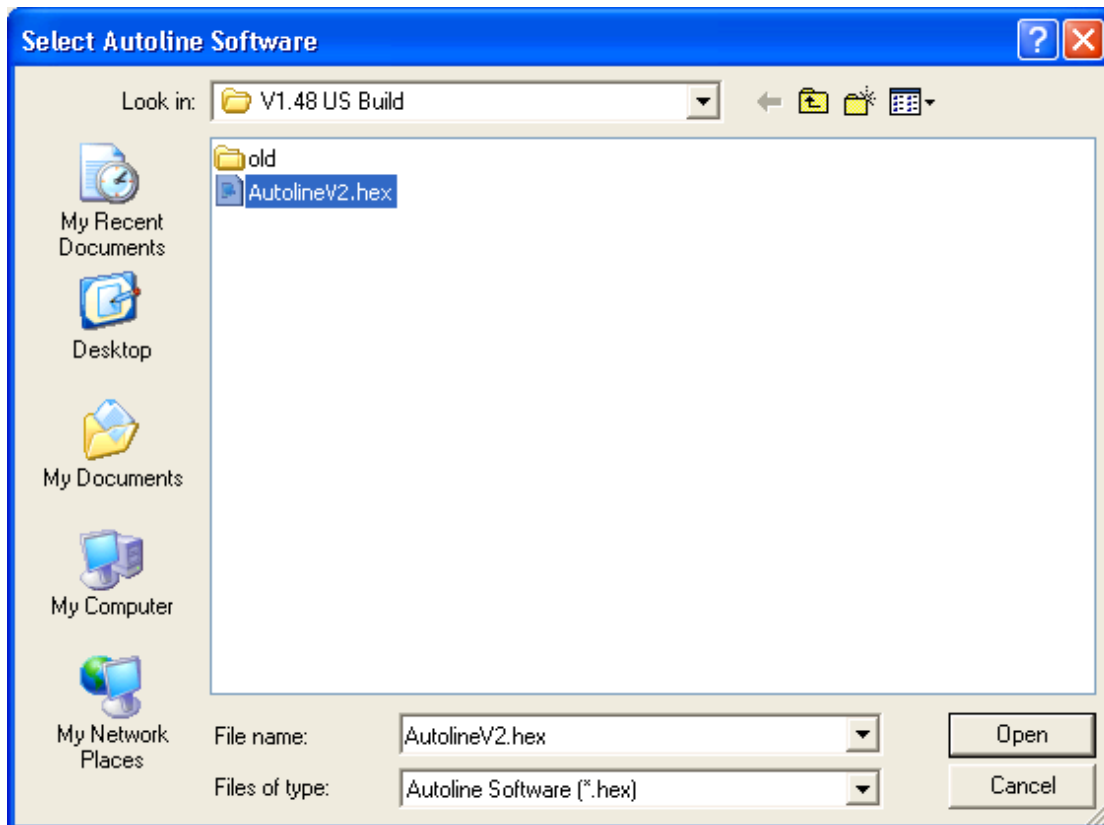
Appendix A:
Software Revision History

Autoline Pattern Editor Program:

Version	Release Date	Comments
2.1	28-10-2010	Revision release. Compatible with revised Autoline software.

Appendix B:
Document Revision History

Revision	Release Date	Comments
2.1	10-09-2012	First release.

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