



# DpuScan

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## **DpuScan 6.x**

PlugIn Pixtools Barcode

Reference Manual

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## Actuality

It may happen that a more recent version of this manual for DpuScan is available for download from the Internet. Therefore, it is recommended that you should compare the version by means of the date printed on this page with the version on the Internet. You should please use the most up-to-date version of the manual. The actual version of this First Steps Manual is found on the Web at the following address:

[https://www.dpuscan.com/pdf/en\\_manual/DpuScan-Reference-Manual.pdf](https://www.dpuscan.com/pdf/en_manual/DpuScan-Reference-Manual.pdf)

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# 1 Overview

With the PlugIn Pixtools Barcode you can recognize simple 1-dimensional barcodes. Some parameters can be defined as described in this documentation.

## Requirements for using the PlugIn

The PlugIn can be used in all licensed versions of DpuScan from version 5.01. No additional license is required for this PlugIn. The PixTools Barcode library will be installed with the scan program automatically.

## How the PlugIn works

The PlugIn is called when scanning or importing documents. It is called after the image data has been captured and searches for barcodes

In the interactive mode, i.e. the pause after scanning in which the images are displayed, the PlugIn can be used specifically on a single image.

Various configuration steps are required to use the PlugIn:

[Configuration in base profile](#)

[Configuration of the PlugIn](#)

[Konfiguration im Taskprofil](#)

[Configuration in task profile](#)

[Views and return values](#)

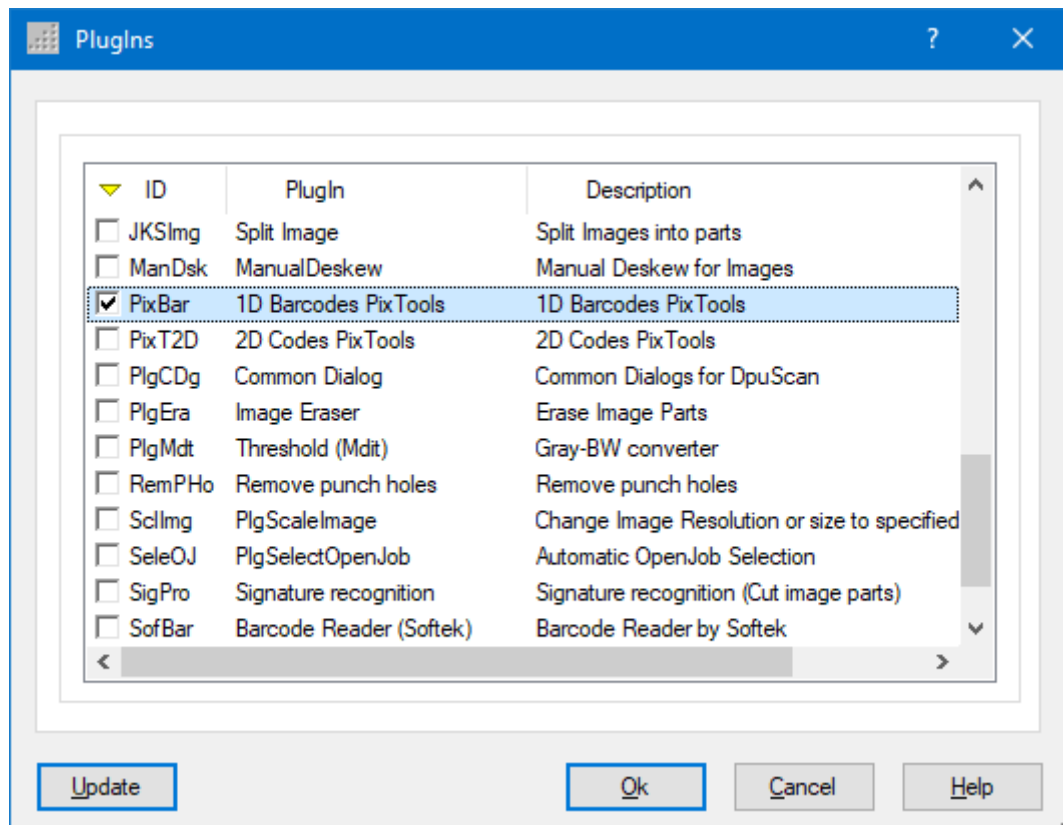
[Summary](#)

[List of known Barcodes](#)

## 1.1 Configuration in base profile

The PlugIn has to be loaded and configured within the basic profile. To do this, open the **Base Profile** configuration, select the **Process** tab and click the **PlugIns** button.

The Add button takes you to the selection of the available PlugIns.

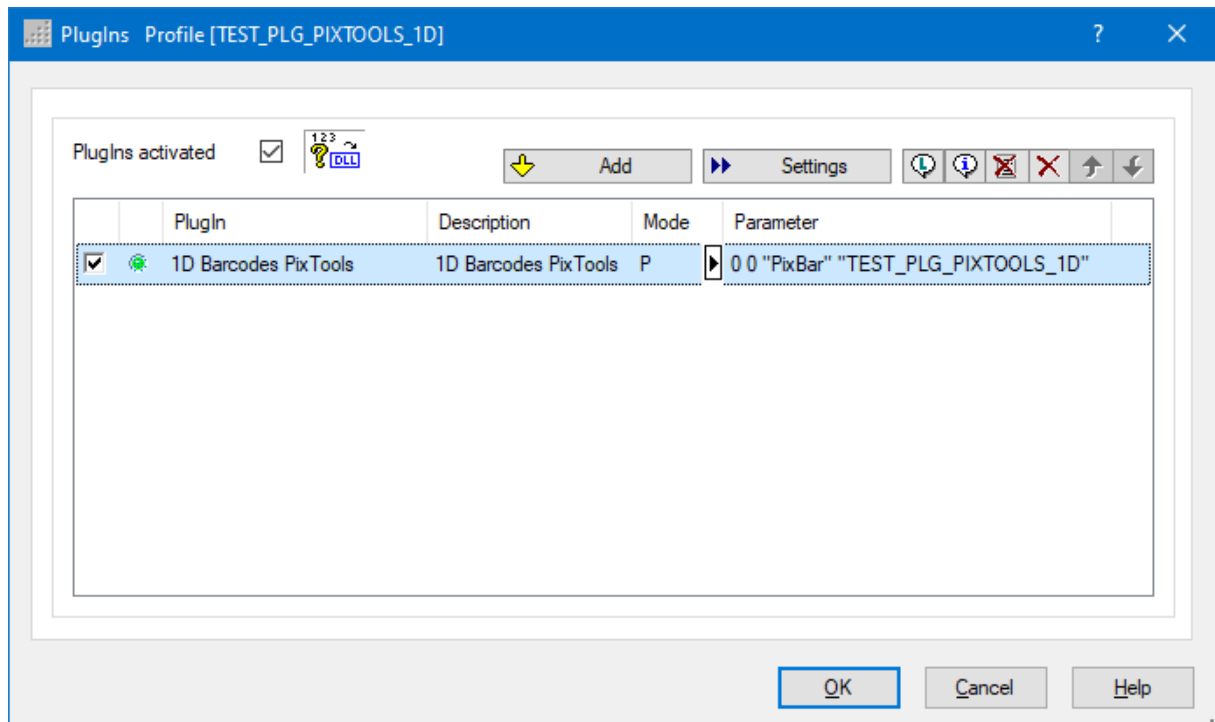


Select the PlugIn

Select the ID "PixBar" for the PlugIn "1D Barcodes PixTools" and confirm with Ok. The PlugIn is now loaded for use within the base profile.

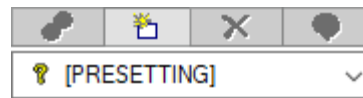
**Please make sure that the check box "PlugIns activated" is checked, otherwise the PlugIns will not be used. The check box can only be activated if at least one PlugIn has been loaded.**

The green point in the list of loaded PlugIn indicates that the PlugIn is ready for use. The entry in the Mode column shows the string "P". This means that this PlugIn works in process mode.



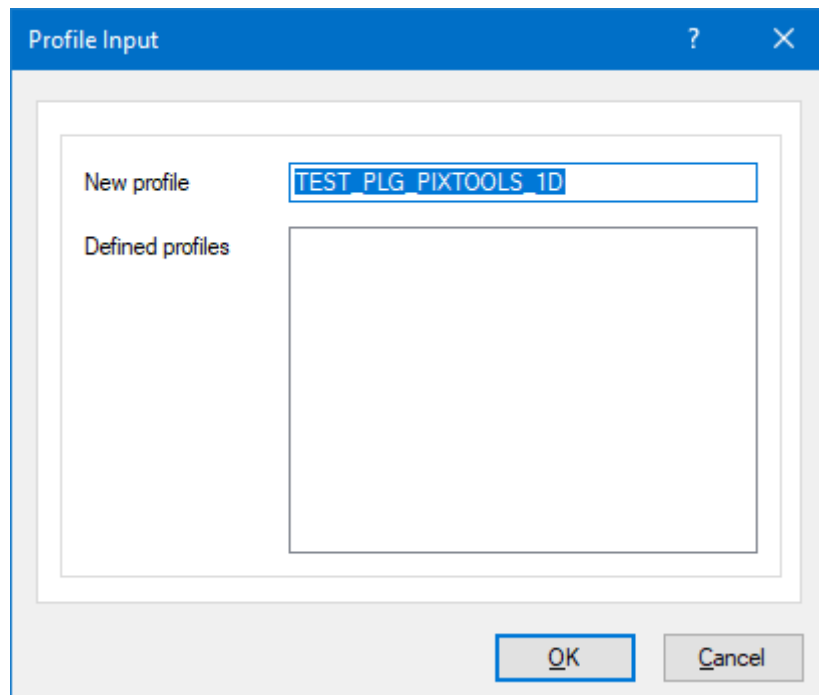
**PlugIn in the list of PlugIns loaded**

Now create a configuration by double-clicking in the cell for the "Parameter" column. The dialog for calling the PlugIn as a broker event or when changing selection opens. There are a number of buttons there:



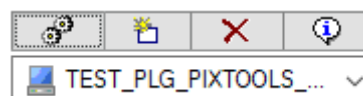
Creating a new subprofile

The only button available is the New button; use it to create a new sub-profile. You will be asked to enter a name for the configuration to be created.



Choosing a name for the new subprofile

After creating the new sub-profile, the other buttons are now available:



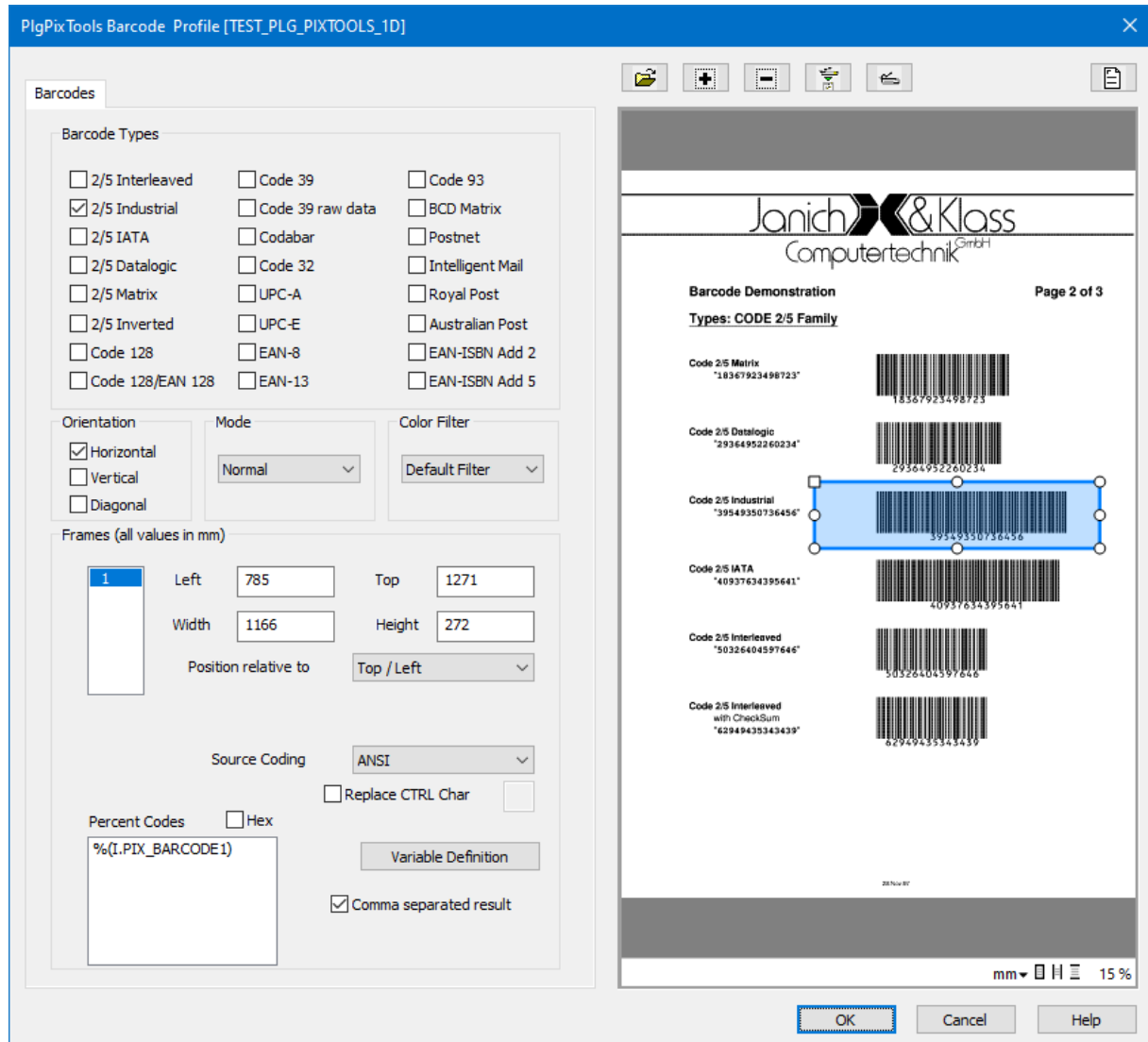
Managing subprofiles

Click on the Change button with the cogs. A separate dialog is available for the actual [configuration of the PlugIn](#). After you have made the settings there, you can exit all open dialogs with OK.

## 1.2 Configuration of the PlugIn

The configuration dialog for the PlugIn is divided and shows the controls for setting the search parameters on the left. Set here what the PlugIn should search for.

On the right side is a preview to test the settings here with images from the scanner or the hard drive.



Configuration of the PlugIn

### Preview window

In order to test the set parameters files are displayed in this window. The image section can be moved by holding and dragging the left mouse button. The view can be enlarged or reduced with the mouse wheel. The right mouse button has no function here.







The window accepts files that are dragged onto it with the mouse. Image files are displayed, other files are ignored.

Bitte beachten Sie, dass nur reine Bilddateien angezeigt werden können, Dateien mit gemischten Inhalten, z.B. durchsuchbares PDF, können nicht angezeigt werden.

For a full image search, you can specify how the results should be separated when returned. If one or more frames (search areas) are specified, each frame can be assigned to one or more variables.



Above the preview window there are some buttons:

	File open	Loads a file from the hard drive and displays the image in the window. All common image formats can be loaded, such as Jpeg, Tiff, Bmp images.
	Add frame	Creates a frame on the image. Position and size of the frame can be changed later.
	remove frame	Removes the frame selected currently.
	Scan	Gets an image from the scanner
	Scanner settings	Opens the setup dialog for the scanner
	Test	Performs the <code>&lt;%PLUGIN_ACTION%&gt;</code> on the selected image in the defined areas.

### Parameter for the search

The settings for the search can then be made on the left side:

<b>List of the search areas</b>	Displays all frames defined in this configuration. Clicking on the corresponding entry in this list field activates the frame and displays its search parameters.
<b>List of the barcode types</b>	The check boxes turns the search for the <a href="#">corresponding type</a> of barcode on or off. Not all combinations are valid, in this case some check boxes will be grayed out.
<b>Color filter</b>	If a color or grayscale image is loaded or scanned, it must be converted to black and white for the search. Specify here whether you want to work with the normal standard filter or a special filter for images with barcodes.
<b>Left top</b>	<p>An entry in this input field changes the left/top position of the currently active frame.</p> <p>The change takes effect immediately and is displayed in the preview window.</p>
<b>Width/height</b>	<p>An entry in this input field changes the width or height of the currently active frame.</p> <p>The change takes effect immediately and is displayed in the preview window.</p>
<b>Position relative to</b>	The position, that is the upper left corner of the frame, can refer to one of the four corners of the document. This corner "anchor" can be defined here.
<b>Max. Number</b>	<p>This field shows how many variables (%-Codes) are assigned to this search area. This assignment can be made in a <a href="#">separate dialog</a>.</p> <p>If only one variable is assigned to a code, this field is hidden.</p>
<b>Hex</b>	<p>It may happen that the text found contains characters that cannot be displayed. To simplify the evaluation of the text, it can be output as a sequence of hexadecimal ASCII values. The values have two hexadecimal digits and are simply one after the other, i.e. without spaces or decoration.</p> <p>For example the sequence "496E766F696365" corresponds to the word "Invoice".</p>

**Source coding**

Here you can specify in which coding ANSI, UTF-8,... the texts are expected in the search result. ANSI should be sufficient in English-speaking countries, "automatic" should be selected in other regions.

**Replace CTRL character**

If this option is activated, control characters are replaced with the specified character. If the field is empty, the control characters are simply removed.

**Procent Codes**

All variables (%-Codes) that belong to the selected search area are listed here.

**Variablen Definition**

Opens the [dialog](#) for assigning the search results to the program variables (%-Codes).

**Comma separated result**

If no frames are specified, this option has no effect, all search results are always returned, separated by commas.

If a frame is specified and several codes are found in it, the following applies:

- If this option is switched on, the codes are returned separated by commas.
- If this option is switched off, **only the first** code found will be returned.

At the bottom there are the usual buttons:

**OK**

Closes the dialog box and saves all search parameters.

**Cancel**

Drops all changes and leaves the dialog box.

**Help**

Opens the help file for PlugIn Pixtools Barcode.

### 1.2.1 Variable assignment

In order to evaluate the found text or to output it later, it must be stored in a variable, a so-called %-Code.

In the simplest case there is only one code in the search area. A name can then be assigned to this. The suggested variable `%(I.PX_BARCODE)` can be used for this or a "meaningful name" like `%(I.Separator)` or `%(I.DocTyp)`. Please only use variables with scope Image, i.e. `%(I.xxxx)`.

If there are several codes in a search area, you can have them numbered consecutively:

Variables Definition

First, set a base name to append the number to. Then decide how many digits you need and how many codes there should be at most.

Then click Apply. If the search is successful, the PixTools library then fills in these variables.

For each Barcode found, the PixTools library also states where it found it and what type it is. For this there are also [variables](#) with the endings `_POS` and `_TYPE`.

#### Number of variables

Maximum number of the Barcodes expected in this search area.

#### Numbering

Enter here how many leading zeros should be used to fill up the number part of the name.

#### Basic name of the variable

Name of the variable in the format `%(x.yyy)` where:

**x** defines the scope of the variable

Default is "I" for (I)mage.

Optional you can choose from (F)ile, (D)irectory, (J)ob, (T)ask, (C)lass (=Base profile) und (A)pplication,

**yyy** can be a sequence of lower and upper case letters as well as

numbers and underlines. Enter an underscore as the last character if the numbers should be separated when numbering, e.g. %(I.Label\_)

*Note that the scanning program does not distinguish between upper and lower case.*

**Apply**

Creates the number of names wanted.

List field

List of the variable's names created automatically.

At the bottom there are the usual buttons:

**OK**

Closes the dialog box and saves all search parameters.

**Cancel**

Drops all changes and leaves the dialog box.

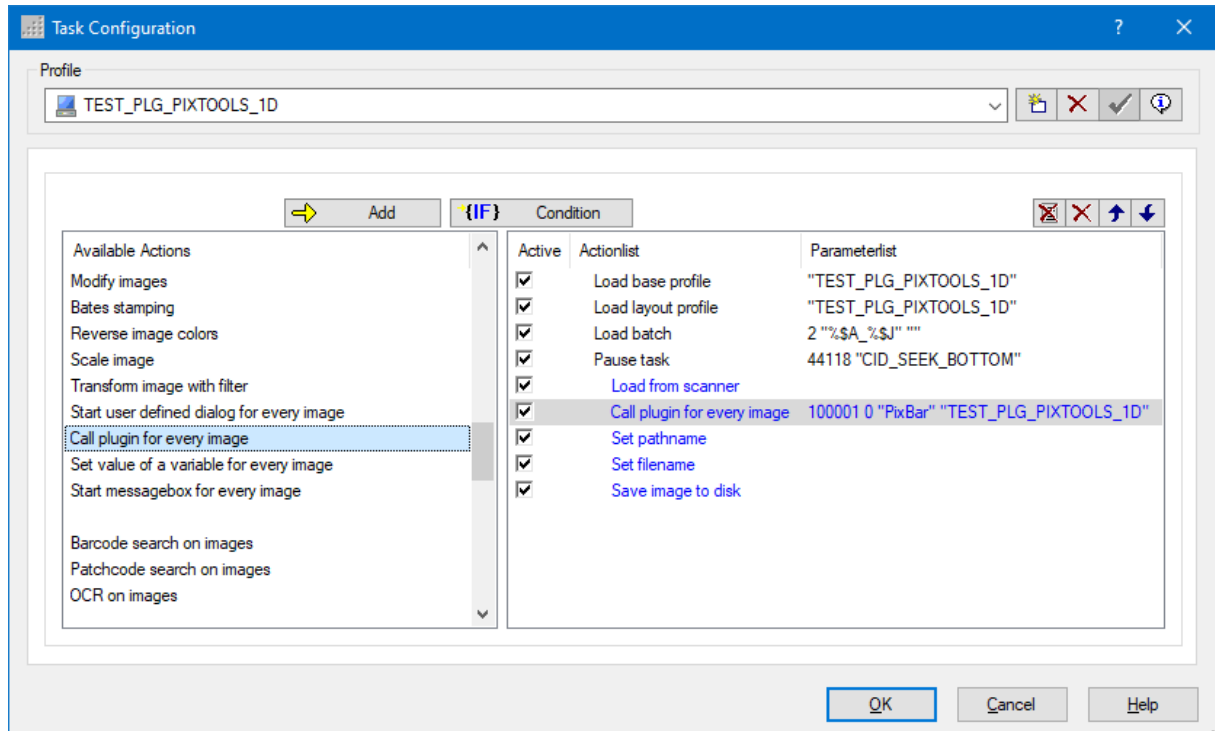
**Help**

Opens the help file for PlugIn Pixtools Barcode.

### 1.3 Configuration in task profile

In the task profile, i.e. in the list of work instructions, the PlugIn can be inserted with the "Call PlugIn for each picture" step.

Make sure that this step occurs after capturing the image, here "Load from scanner". If you need the search result to control the process, it must come before "Event rules".



Call of the PlugIn in the task profile

Since this PlugIn works with images, you must specify which images are to be used:

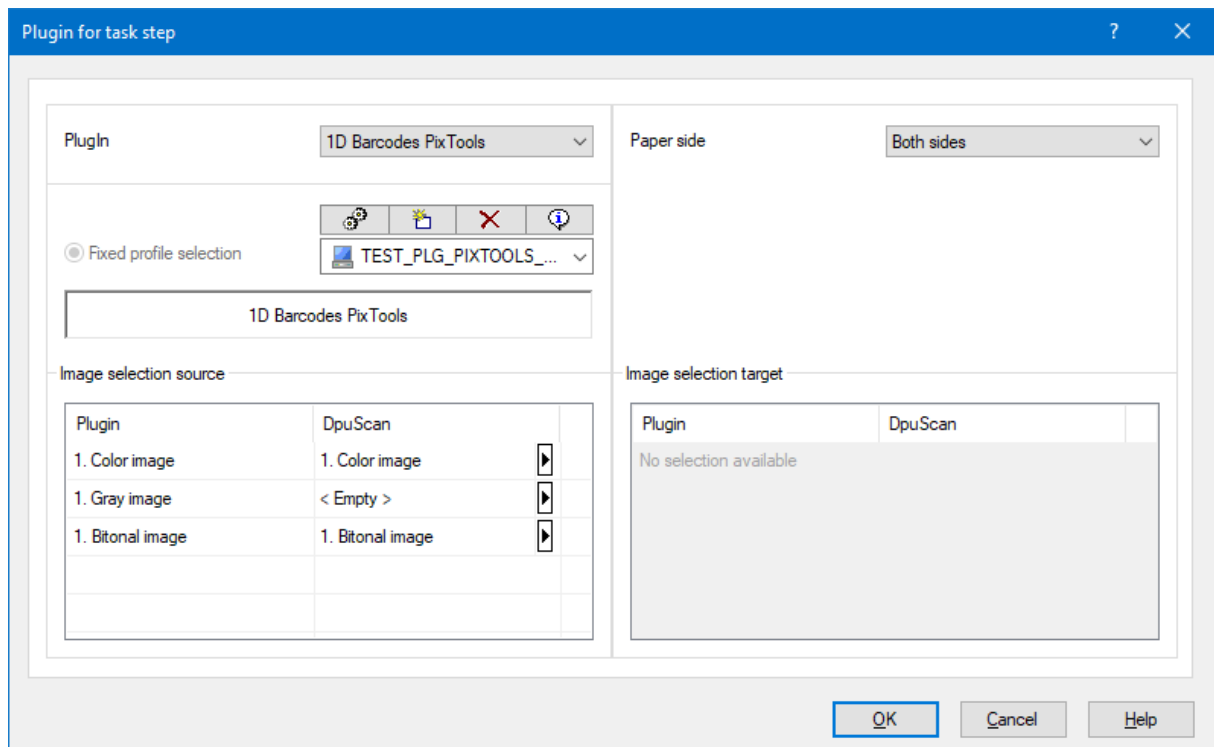


Image selection for PlugIn called as task step

The images are assigned in the dialog at the bottom left. The PlugIn can only process one color, gray or bitonal image at a time. Enter on the DpuScan side which image is to be transferred. Enter the image types that the scanner delivers, in the example this are the color and black and white images.

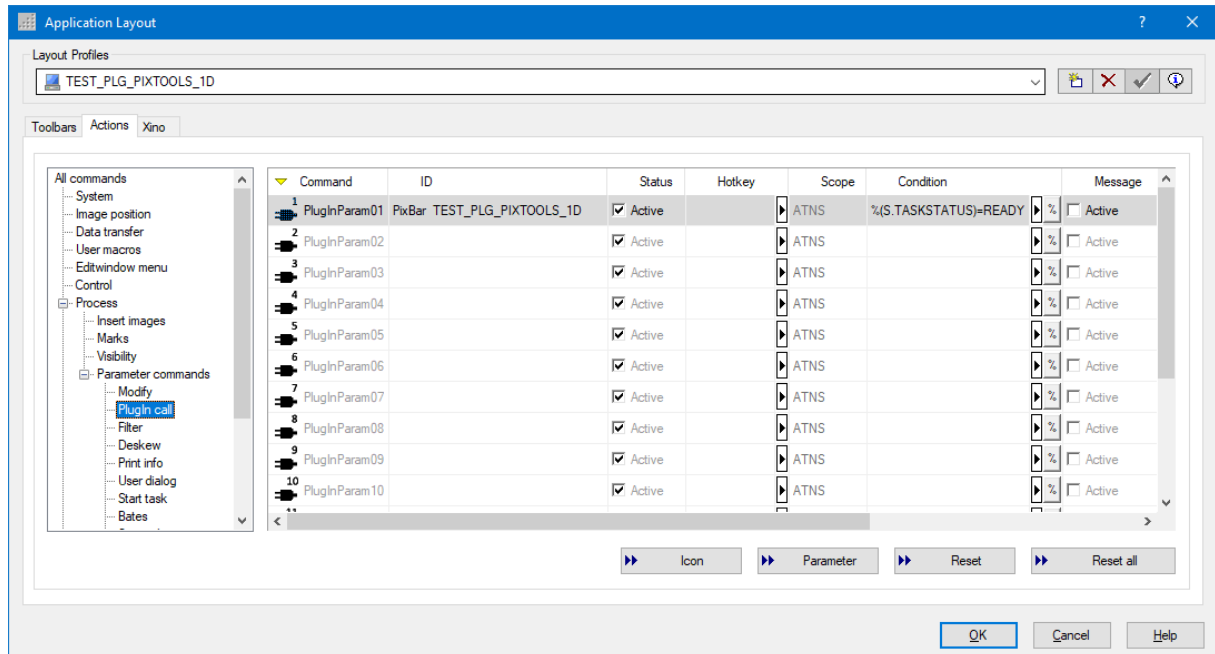
The number of the picture does not indicate the position in the stack, but the position within a group of pictures. In most cases, the 1st image must be used.

Most recognition programs work with black and white images. If the scanner provides both color and black and white images, you should pass the black and white image as a "bitonal image" for recognition.

At the top right of the dialog you can limit the search to the front if you do not want to search on the back.

## 1.4 Configuration as command

The PlugIn can also be applied specifically to a selected image. To do this, open the application layout setup and go to the tab "Actions". In the tree view on the left, select the branch Edit -> Parameter commands -> PlugIn call.



PlugIn call as parameter command.

Clicking on the Parameter button or double-clicking on the Command column opens the [familiar](#) dialog for selecting the PlugIn, subprofile and the images to be transferred.

After entering these values, you can still assign an icon, a keyboard shortcut and various labels and place the button on the toolbar. If the keyboard shortcut is entered or this button is pressed, the PlugIn is called and the search results are updated.

If the search is to be carried out as a **macro**, i.e. as part of a sequence of instructions, select User macros in the tree and insert the PlugIn call as a command. In the same macro you can then, for example, set a flag that records that the stack should be rebuilt and regard the newly found values before finalizing.

## 1.5 Views and return values

The PlugIn does not display any separate windows during operation. Results are only displayed as a list if the search is executed in the configuration dialog:

Variable	Value	Description
% (I.PX_BAR_00)	18367923498723	2/5 Matrix 1041,748,1582,919 [0.1 mm]
% (I.PX_BAR_01)	29364952260234	2/5 Datalogic 1041,1027,1549,1198 [0.1 mm]
% (I.PX_BAR_02)	39549350736456	2/5 Industrial 1041,1308,1816,1479 [0.1 mm]
% (I.PX_BAR_03)	4093763439564	2/5 IATA 1041,1590,1786,1759 [0.1 mm]
% (I.PX_BAR_04)	50326404597646	2/5 Interleaved 1041,1869,1490,2040 [0.1 mm]
% (I.PX_BAR_05)	62949435343439	2/5 Interleaved 1041,2149,1490,2320 [0.1 mm]

50,201 MillSec

OK

View the results

These [variables](#) will be returned after a call

- % ( I . PIX \_ BARCODE **n** ) All 2D codes found in frame **n**. The front part of the name "PIX \_ BARCODE" can be replaced arbitrarily. The last part, **n**=1,2,3,... can be provided with leading zeros.
- % ( I . PIX \_ BARCODE **n** \_ BARPOS ) Positions of all found Barcodes in frame **n**.  
A position specification consists of four numbers separated by spaces.
- % ( I . PIX \_ BARCODE **n** \_ TYPE ) Types of all found Barcodes in frame **n**.

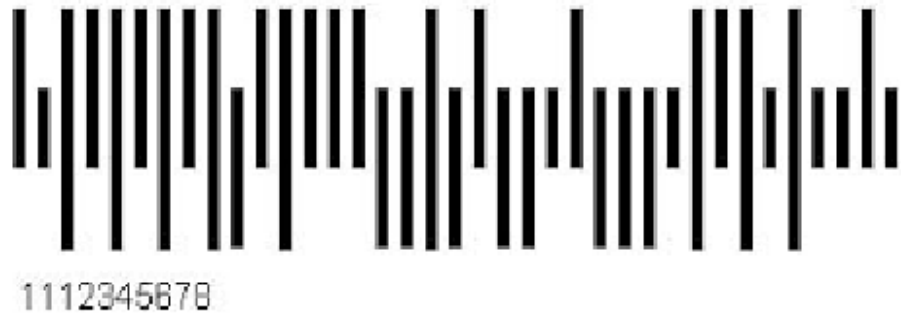


## 1.6 Summary

<b>Name of the PlugIn</b>	PlgPixToolsBarcode
<b>Description</b>	Searches Barcodes with the PixTools-Engine
<b>Revision</b>	4/8/2022
<b>DpuScan</b>	Version 6.01 and higher
<b>PlugIn files</b>	PlgPixToolsBarcode.dll, PlgPixToolsBarcode_07.lng
<b>Additional engine</b>	PixTools 1D Barcodes
<b>Chargeable</b>	No
<b>Can be used as task step</b>	Yes
<b>Can be used as macro command</b>	Yes
<b>Can show a window</b>	No
<b>Reacts on broker event</b>	No
<b>Reacts on selection changes</b>	No
<b>Parameters</b>	
No variables are sent to the PlugIn.	
<b>Return values</b>	
<b>%( I . PIX_BARCODE<sub>n</sub> )</b>	All 2D codes found in frame <b>n</b> . The front part of the name " <b>PIX_BARCODE</b> " can be replaced arbitrarily. The last part, <b>n</b> =1,2,3,... can be provided with leading zeros.
<b>%( I . PIX_BARCODE<sub>n</sub>_BARPOS )</b>	Positions of all found Barcodes in frame <b>n</b> . A position specification consists of four numbers separated by spaces.
<b>%( I . PIX_BARCODE<sub>n</sub>_TYPE )</b>	Types of all found Barcodes in frame <b>n</b> .

## 1.7 List of known Barcodes

Austalian Post



BDC-Matrix



Codabar



Code 2/5 Datalogic



Code 2/5 IATA



Code 2/5 Industrial



Code 2/5  
Interleaved



Code 2/5 Inverted



Code 2/5 Matrix



Code 32



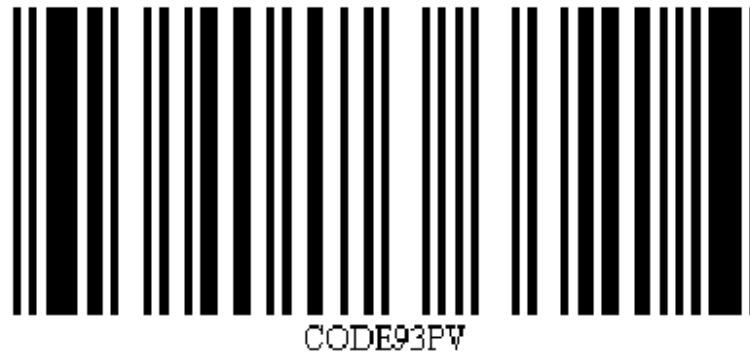
Code 39



Code 39 Full ASCII



Code 93



Code 128



Code 128 EAN



Code EAN ISBN  
Add 2



Code EAN ISBN  
Add 5



Code EAN 8



Code EAN 13



Intelligent Mail

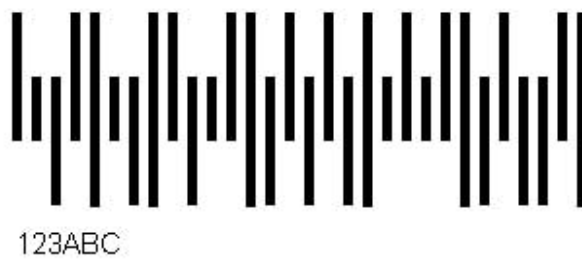


Post Net





Royal Post



UPC-A



UPC-E



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