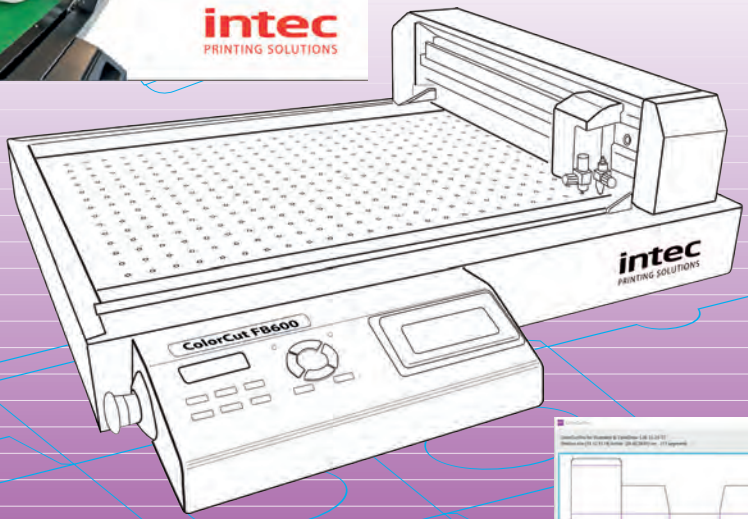
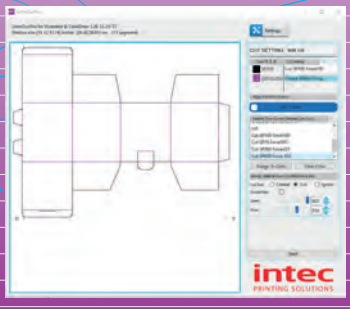
intec PRINTING SOLUTIONS | colorCUT

ColorCut FB520 / FB600 / FB900 and FB1060 Series

ColorCut Pro User Guide - English

Revision: 1.40e





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INTRODUCTION

To cut your projects with the Intec ColorCut Flatbed cutter, you need to be able to design your artwork and then apply lines that you designate for cutting, creasing, scoring or perforating. If you do not have any software to create your designs, then projects and artwork can be created then the lines added for your projects using the package SignMaster Pro.

Graphic professionals with sophisticated drawing programs such as Adobe Illustrator® or CorelDRAW® can use ColorCut Pro to design and cut the way you want. ColorCut Pro is a plug-in that provides you the ability to send projects that you have designed in Adobe Illustrator® or CorelDRAW® directly to your Intec ColorCut Flatbed cutter with no need to convert them to a SignMaster® compatible format.

Install ColorCut Pro™ and you will be provided with a new option within your Adobe Illustrator® or CorelDRAW® software program to send the vector image to your ColorCut Flatbed cutter. Simply add registration marks for print & cut jobs, which work with the ColorCut Flatbed's registration mark sensor

The plug-in does not currently work with any other vector imaging programs aside from those listed in the Compatibility section below.

Once installed, the plug-in is accessed directly from either Adobe Illustrator® or CorelDRAW®.

Compatibility

The plug-in requires Adobe Illustrator® or CorelDRAW® to be installed on the computer in question. The ColorCut Pro™ plug-in does not include the Adobe Illustrator® or CorelDRAW® software.

Compatible Vector Programs:

Adobe Illustrator®* CS1 – CS6, CC, CC2014, CC2015, CC2017, CC2018
CorelDRAW®** X4 - X8, and 2017

* Does not support illegal copies of Illustrator
** Full version only. Does not support "Home and Student", "Essentials" edition, or illegal copies of CorelDRAW

Compatible OS Versions:

PC - Windows XP, Vista, 7, 8, 8.1, 10
Compatible Cutting Units:

Intec ColorCut® Flatbed (FB520, FB600, FB900, FB1060)

Graphics File Design - Creating your Artwork

The ColorCut Pro Plug-in works directly from Adobe Illustrator or CorelDRAW. It requires the lines for cutting, perforating and creasing to be organised on a single layer. Therefore when designing with graphics, you should organize the graphic design in different layers:

- **One or more layers for the main graphics (The printed artwork).**
- **One layer for the contour (The lines to be cut).**
- **SmartMARKs, the marks that are used for registration should be on <u>both</u> layers.**

When printing you don't want to print the cutting lines or folding lines on your artwork. Equally, when sending cutting lines to the cutter, you don't want to confuse the cutter with lines that may be in your printed design. But, in both cases, you need to have the registration marks available.

The most common mistake people make is to print all the layers including the contour layer (the cut lines) that make the prints unusable in most cases.

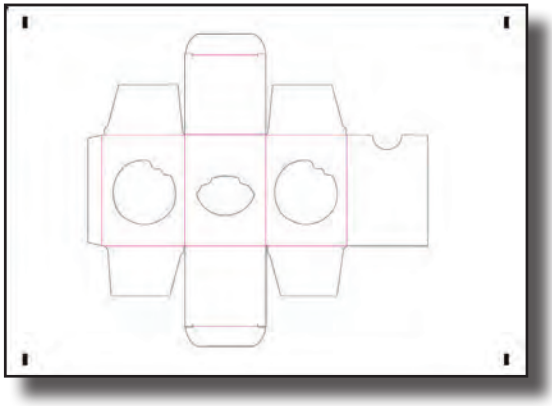
Similar commands are available in Adobe Illustrator and CorelDRAW to enable and disable the layers.
In the pictures shown on this page there is an external frame to indicate the border of the sheet making it easier for you to see the page.

Note: This is for illustration purposes only.

Also please note: When you open some PDF format files directly in Adobe Illustrator or CorelDRAW, very often you may also find an external frame on the graphics. You will need to delete the external frame, if it exists for the file to operate correctly with the ColorCut Pro software.

Graphics/Printing layer

Cut contour layer

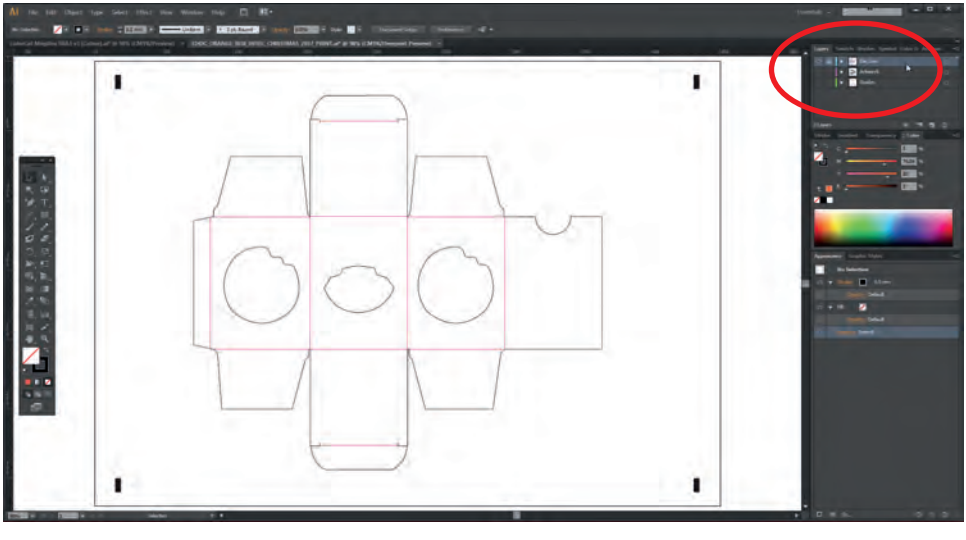


Layers for printing

In this example, the main graphics layer is active.
The cut contour layer is disabled.
This drawing is ready for printing.

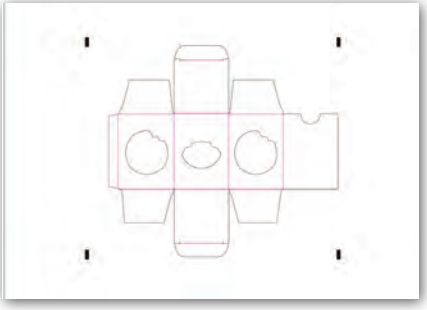
Layers for cutting

In this example, the main graphics layer is disabled.
The cut contour layer is active.
This drawing is ready for cutting.
If you used guidelines then it is not necessary to hide or remove them before saving.

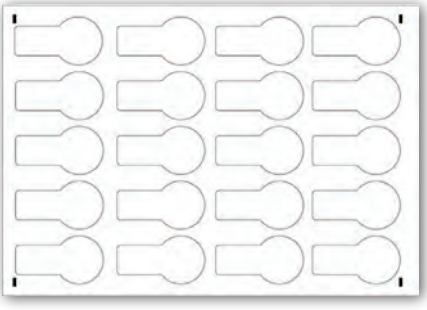


Explanation of the SmartMARKs

Before you design your page, you need to consider that each job requires 4 SmartMARKs. The SmartMARKs should be on all 4 corners of a rectangle that is at least 1mm larger than the cut lines. (i.e. The SmartMARKs are parallel and perpendicular to each other around your artwork, with no cutlines extended beyond the perimeter of your marks.). Either example below can be used.



Marks around artwork.

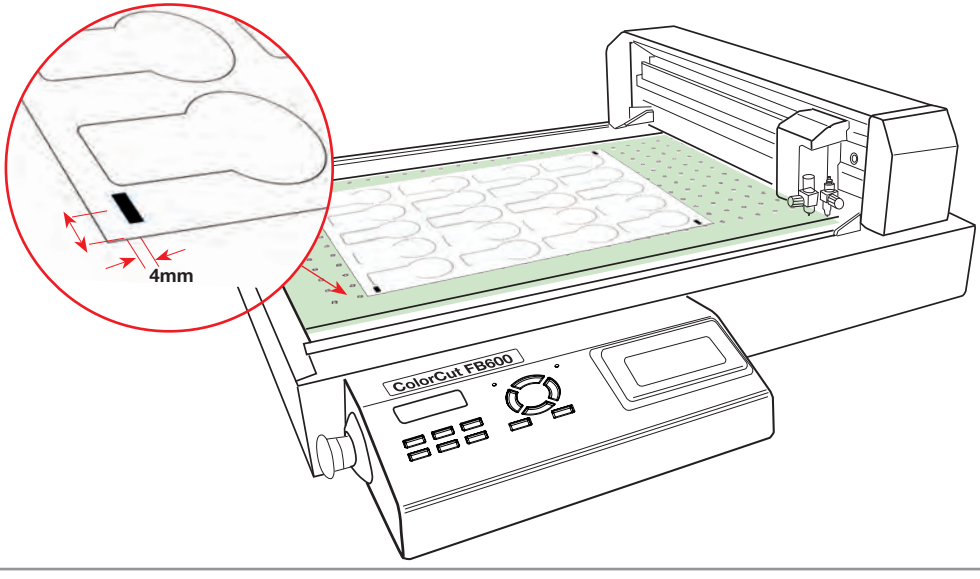


Marks near page edges to maximise cutting area.

The first SmartMARK provides the origin of the job and is positioned at the bottom left edge of the sheet The second provides scale (Y) and skew parameters and is positioned top left in the drawing shown. The third mark provides skew and rotation information and is positioned at the top right in the drawing shown and the final fourth mark, provides scale (X) and skew, bottom right.

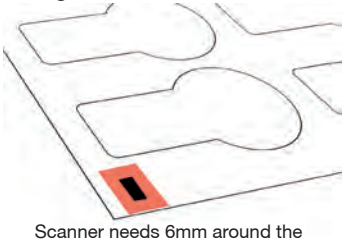
Each SmartMARK is a 4mm x 10mm rectangle, and should be 100% K black with no outline.

SmartMARKs are orientated so that the width of 10mm runs across the bed in the scanning direction (front to back) and the height of the mark (4mm) runs from left to right on the bed.



Explaination of the SmartMARKs (Cont)

To maximise your cutting area, you may choose to place the cut marks close to the edge of your media. Be aware that there is a 6mm scanning zone around the cut mark, (shown below in red) so care should be taken not to place artwork near the mark as this may be read by the sensor and cause an error or reduce the accuracy of SmartMARK scanning.



Scanner needs 6mm around the mark to read correctly

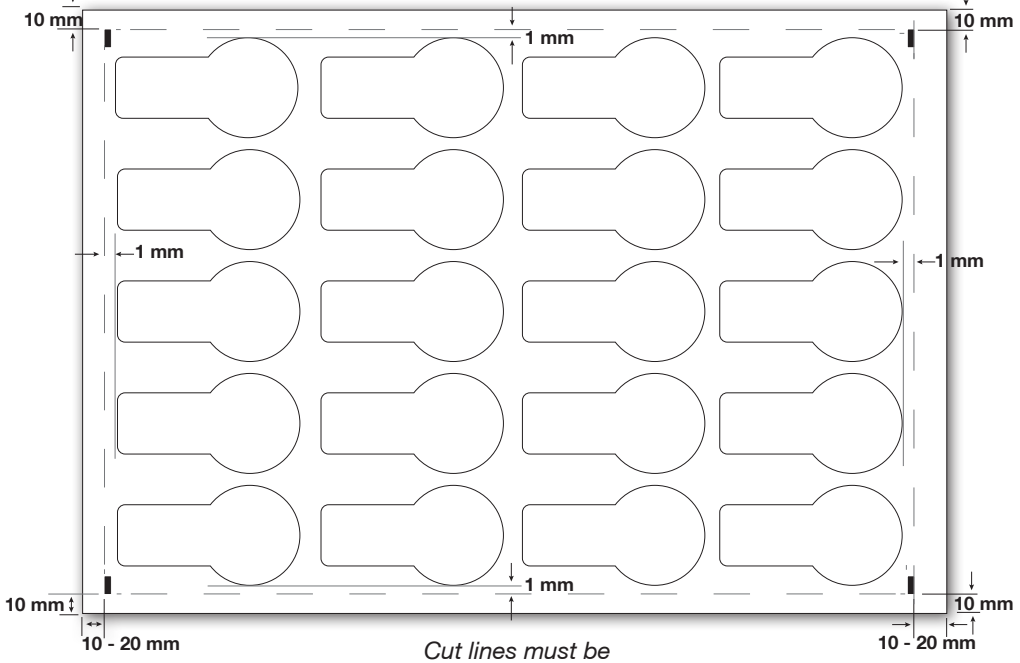
In addition be aware that digital printers may have a non-printable margin around the edge of the sheet. So take care to observe your printer's non-printable margin when printing near the edges of a page so as not to 'clip' the SmartMARK.

The absolute minimum margin (due to the scanning window) is 6mm from the page edge or artwork elements. However for best practise, it is recommended NOT to place the marks closer than 10mm to the page edge. The minimum margins are shown below.

Minimum distance from the top to the SmartMARK.

Cut lines must be positioned inside the outer perimeter of the marks by 1mm

Minimum distance for top right SmartMARK to the top of the page is 10mm



*Recommended distance from **left** side to SmartMARK 1 is **20mm***

Minimum distance of the SmartMARK from the front side (10mm) but positioning the Sensor on Mark one is easier when margin is 20mm

Cut lines must be positioned inside the outer perimeter of the marks by 1mm

*Recommended distance of the SmartMARK from the rear side **20mm***

Minimum distance of the SmartMARK from the front side (10mm)

Drawing Cut Lines, Perforation Lines or Crease Lines

The Intec ColorCut has 2 tools.

A Blade Tool, which can be used to:	A double ended Creasing Tool which can be used for:
Contour-Cut shapes	Wide Crease lines
Score lines	Narrow Crease lines
Perforate lines	

When creating your projects you may wish to perform 2 or more actions with your cutter.

For example, *cutting* a box, and *creasing* the folds.

The easiest way to do this in your artwork, is to use a different coloured line in your design for the Crease line to the Cutting line. ColorCut Pro can recognise up to 8 pre-defined colored lines (detailed below) making it easier for you to design and assign actions for each line.

For example, if you created a job with 4 colored lines (RED, YELLOW, GREEN, BLUE) in the ColorCut software, you could set the actions as follows :

RED to Cut using the Blade with full pressure
YELLOW to Score, using the Blade with half pressure
GREEN to Crease using the Creasing Tool, with full pressure.
and BLUE to Perforate, using a dashed line and the Blade with full pressure.

NOTE: The actions you select a Line Color to perform can be reassigned at any time, and the order in which they are performed can be adjusted easily. (See following pages).

Line Colors recognised by ColorCut Pro

These are the standard 8 colors that are can be recognised by ColorCut Pro. ColorCut Pro will recognise the named colors in either RGB or C,M,Y,K.

	Black	**Red**	**Green**	**Yellow**
RGB No:	(0,0,0)	(255,0,0)	(0,255,0)	(255,255,0)
CMYK No:	[75,68,67,90]	[2,98,95,0]	[76,0,100,0]	[4,2,98,0]

	Blue	**Magenta**	**Cyan**	**Violet**
RGB No:	(0,0,255)	(255,0,255)	(0,255,255)	(115,0,204)
CMYK No:	[91,80,1,0]	[0,100,0,0]	[100,0,0,0]	[70,87,0,0]

The ColorCut Pro software will use Color matching for up to 256 variations of these colors and it will generate the closest color to one of the above colors.

If you have designed your cut lines using a Pantone or other color spaces you must use the Illustrator or ColerDRAW color commands to convert to (or remap) the color to one of the above RGB or CMYK line colors.

Selecting the Cutline Layer.

It is important to note, that when you launch ColorCut Pro, the software will examine the currently selected 'Layer' in your graphics application and isolate all vector lines and curves on the page.

You may see an *Error Message* if there are artwork elements or images on the layer selected when you launch ColorCut Pro. Therefore by drawing the cutting profile and the artwork graphic on separate layers you may simplify the process.

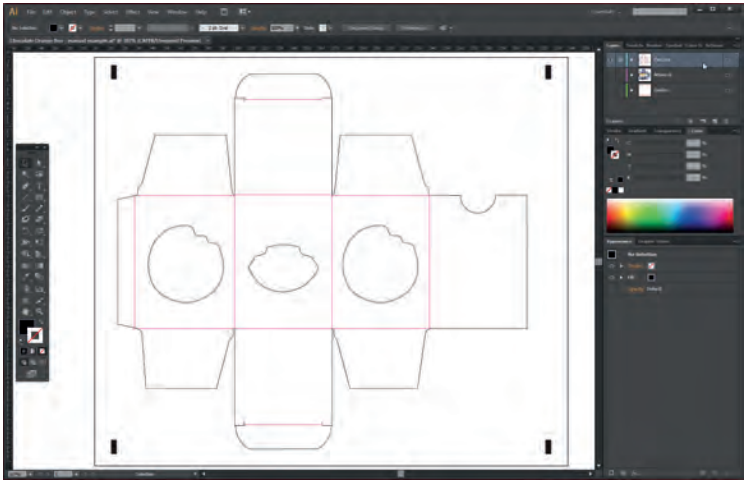
In this example, the graphic layer is active, this drawing is ready for printing.

Launching ColorCut Pro with this layer selected will generate an error as ColorCut Pro does not know how to handle graphics to a Cutter

SELECT THE LAYER FOR THE CUTTING

TOP TIP

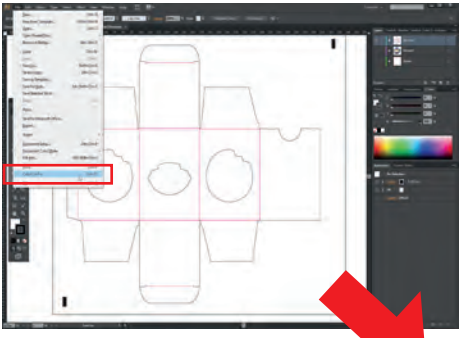
Ensure ONLY the vector lines and SmartMARKs you wish to send to your Intec ColorCut are on the layer selected before launching ColorCut Pro. In the example below, the layer is ready for you to launch ColorCut Pro.



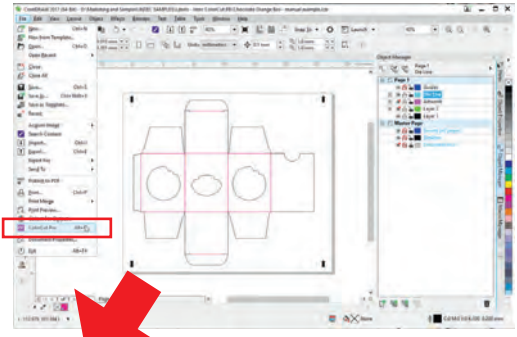
Launching ColorCut Pro

After selecting the layer you wish to send to the Intec ColorCut Flatbed Cutter, select ColorCut Pro from the File menu. Both Adobe Illustrator and CorelDRAW can be seen below with the Cutline selected, then ColorCut Pro selected from the [FILE] menu.

Adobe Illustrator

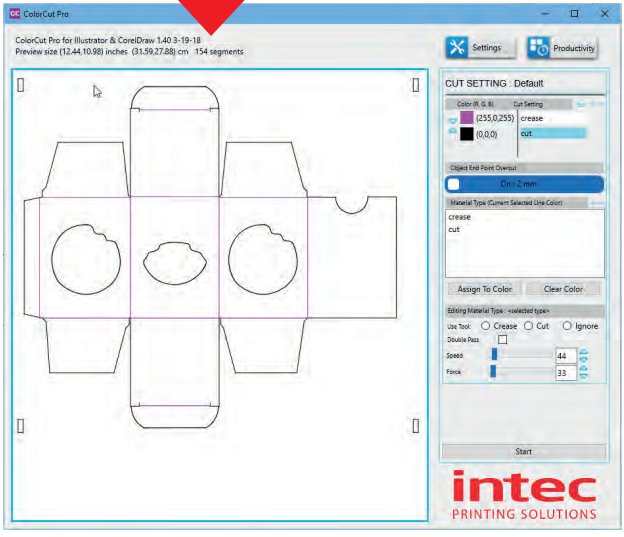


CorelDRAW



The ColorCut Pro splash screen will briefly appear, then the main ColorCut Pro application will be displayed.

You will see a preview of the cutting profile in the window in front of you.



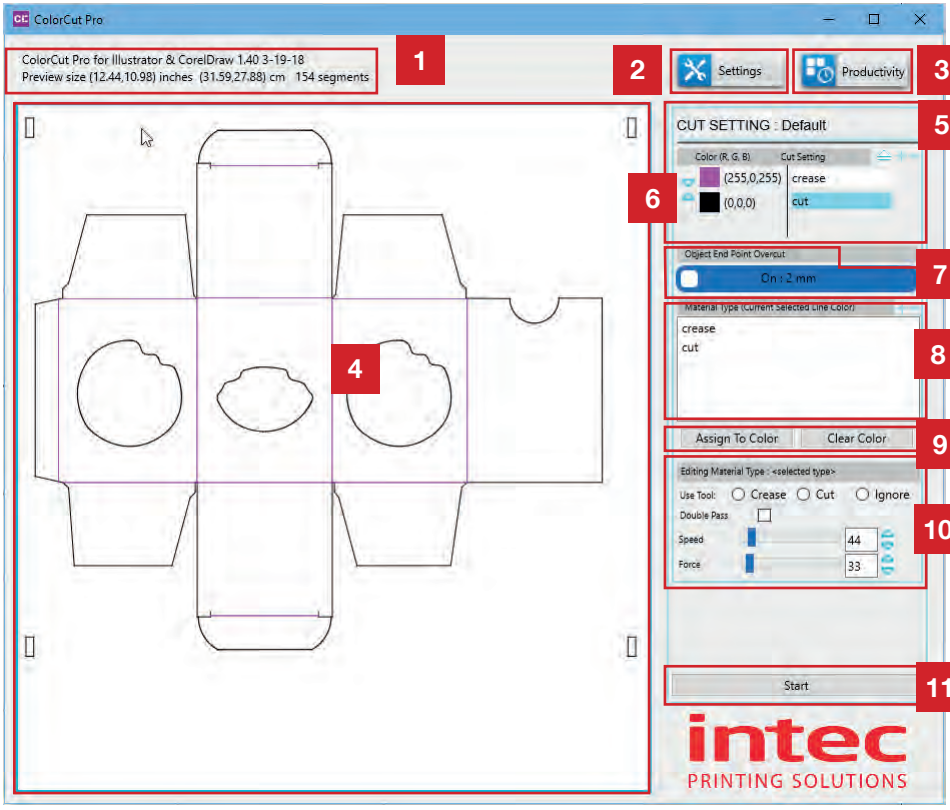
Overview of the ColorCut Pro Software Panel Layout

The ColorCut Pro software handles all the functions for the automation of the digital cutting process. It works directly from a selected artwork layer containing contour cut lines from either Adobe Illustrator or CorelDRAW.

Specific parts of the software panel are dedicated to controlling how the different tools in your Intec ColorCut are controlled, and can be customised by material type.

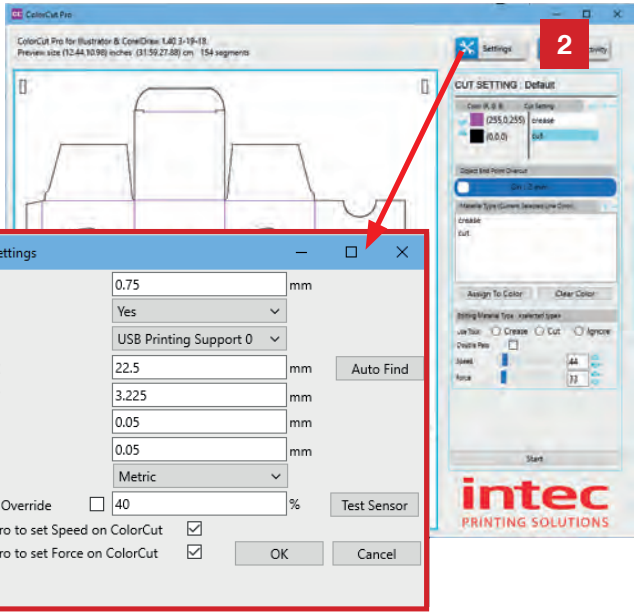
For an overview of the options available to set the proper cutting parameters, please see below:

Before cutting for the first time, ensure that you have set up your ColorCut in the [**Settings**] dialogue box. Prior to first use your copy of ColorCut Pro MUST have the Sensor offset aligned and you MUST set the correct Blade offset.



1. Current Plug-in version details
2. Settings Button
3. Productivity Options.
4. Preview of current cut/crease job.
5. Colours available in job & actions
6. Change Cutting order.
7. OverCut option.
8. Material/Action setting.
9. Assigning an action to a color
10. Define a material /action
11. Start Cutting.

Upon first use, it is important to set/check the configuration settings for the software. The Settings Button 2 provides a dialogue box which displays the current configuration settings and enables you to adjust them.



Among the settings, there are several that are important to understand to get the best results from your Intec ColorCut Flatbed cutter.

These are;

KNIFE OFFSET : A range of blades fit your Intec ColorCut Flatbed and different blades may alter the way corners and shapes are cut. It is important that each time the blade is changed, to ensure you set the correct Blade offset for the new blade fitted. This is because different sized blades turn on a different axis. Further information on Knife Offset can be found on the following pages. Nominally this value should be 0.25 for standard blades, or 0.75 for Circlip blades.

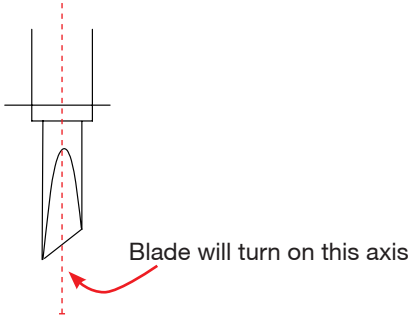
SCAN TARGETS: This tells the software whether it should look for the SmartMARKs and adjust the origin based upon their position or if it should assume the sheet is blank and simply cut/crease from the manually set origin on the cutter. - (Not recommended if artwork is on the media) . **Normally this should be set to : Yes**

OUTPUT DEVICE: This shows where your Cut file will be sent to. When the Intec ColorCut Flatbed cutter is detected on the USB port, this should show USB DEVICE. If it shows File Output then the Intec Cutter can not be seen, please refer to your Installation Manual.

SENSOR OFFSET: Your cutter is fitted with a sensor to detect your SmartMARKs, but this is in a different position to the centre of the blade. Therefore it is important to tell the software the 'offset' between the blade and the sensor itself. This can be manually set, however to make life easier, an ***Auto Find*** setting will automatically set this for you. (This is detailed in the Intec ColorCut Installation guide as it is important for set up or your cutter will not cut accurately. However it is also detailed in the following pages for your reference).

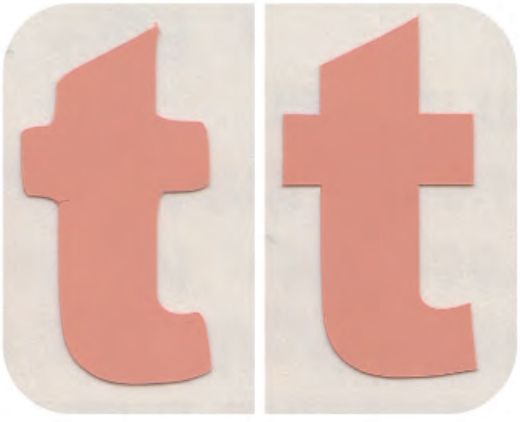
Knife Offset

The Intec ColorCut series of flatbed cutters use a contour-cutting blade to accurately cut your shapes. The blade revolves/rotates around its centre as the carriage moves following the cutting path and as the Tool Carriage changes direction.



When the blade reaches a corner its axial centre [the point around which it rotates] arrives before the cutting point and unless there is some means of causing it to do so, the cutting part of the blade would never reach the corner and would start to turn as the cutter changed direction thus creating a radius instead of a sharp corner.

No Blade offset compensation



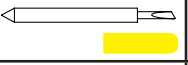
Knife Offset compensation applied

Intec ColorCut Digital cut engines have a built in routine to manoeuvre the blade in a way that compensates for this, it is known as Knife Offset. BUT ONLY IF YOU SET IT CORRECTLY.

Setting this correctly and checking it each time you change blades is important because Intec supplies a range of blades to enable the cutting of different media and various thickness's. Some blades have a thicker shaft than others. This means the distance from the blade's centre to the cutting point (the knife offset) will be different depending upon the blade. The knife offset value is used by the software to compensate for the distance from the point at which a blade cuts to the point around which it rotates.

Knife Offset

Each packet of Intec Blades shows the Knife offset on the front of the packet. Nominally the standard Yellow, Red and Blue blades that are 1mm, use a 0.25mm Knife offset, while the 1.4mm larger Circlip blades use a 0.75mm Knife offset.

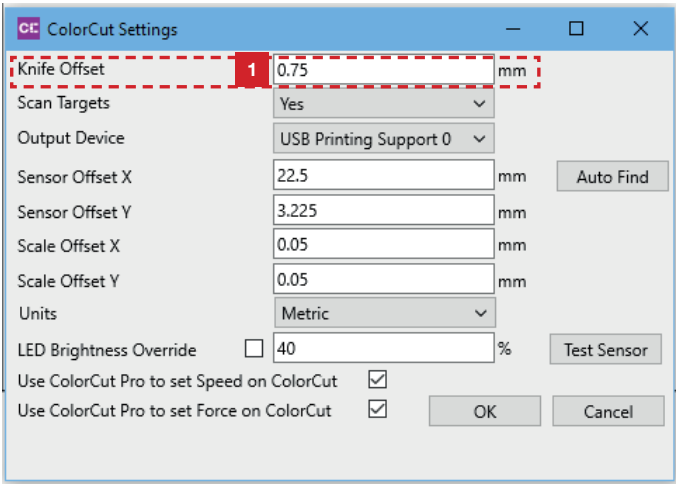
Name	Image	Angle	Blade Diameter	Knife Offset	Features and Application
Blade		30°	1mm	0.25mm	For Film, very soft material, thin label material.
		45°	1mm	0.25mm	Typically for labels, stickers, and thin paper/card,
		60°	1mm	0.25mm	For thick media. Sharply angled tip provides a longer cutting edge, for cutting media from 0.5 to 1.5 mm thick.*
Circlip Knife		45°	1.4mm	0.65 - 0.75mm	Most packing board up to 500 micron. Circlip provides better pressure and improves blade direction changes on dense media, from 0.25 to 0.5 mm thick
		60°	1.4mm	0.65 - 0.75mm	For cutting high-intensity reflective film, magnetic media or thick media. The sharply angled tip provides a longer cutting edge, for cutting media from 0.5 to 1.5 mm thick.

Always remember to check and set the Knife Offset when changing blades.

Click the SETTINGS button on the main ColorCut Pro screen to display the "ColorCut Settings" Dialogue box.

Enter the value for your Knife offset in the box 1 shown.

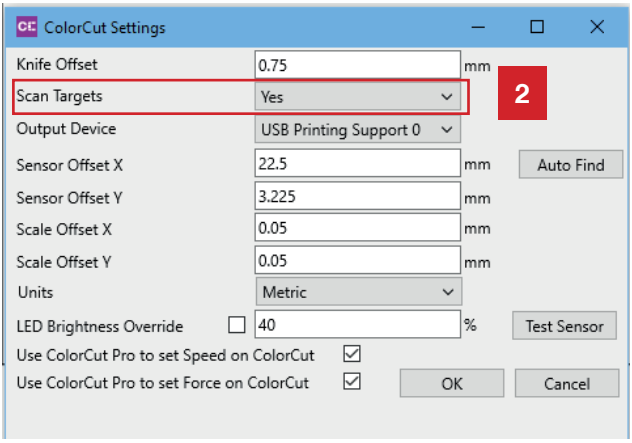
Click OK to save the settings.



Scan Targets

When sheets are printed it is possible that the printer may scale or distort your image. Alternatively it is possible that you may not position your image perfectly squarely on the cutting table.

The Intec ColorCut Pro software can accurately locate the origin of your artwork so as to accurately apply your cutting profile. In addition ColorCut Pro can compensate for scale or skew of up to 3mm coming from your digital printer, or up to 3mm rotation from sheet placement to enable faster positioning of your designs and artwork on the cutting bed.



The Intec ColorCut software achieves this by using an optical sensor to scan registration targets know as SmartMARKs. The graphics should be design in accordance with the guide earlier in this manual on SmartMARK creation.

As a result of following the guide on SmartMARK placement, you should have 4 Black SmartMARKs of the dimensions 4mm x 10mm, placed in a rectangle surrounding your cutting profile.

When read by the Intec ColorCut software, the SmartMARKs; profile an origin reference, scale, skew and rotation references for the Intec ColorCut software so it can adjust your cutting line appropriately for accurate cutting.

The Intec ColorCut Pro software can operate in 2 modes:

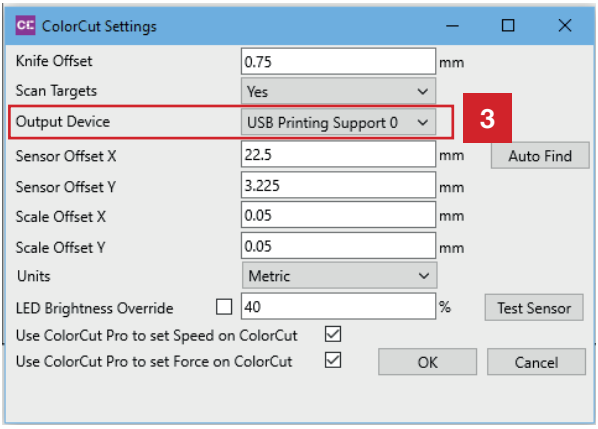
1. Where the SmartMARKs are read and any positioning or printing errors are corrected (this is the typical recommended mode). To ensure the SmartMARKs are scanned, ensure that **Scan Targets** 2 is set to **YES.**

2. The alternative mode of operation is where the origin is set using the cutter control panel AND the SmartMARKs are NOT scanned. (This option is used for cutting blank sheets where registration or alignment of the cut to the image on the sheet is not important). Thus in order to disable scanning of the SmartMARKs set **Scan Targets** 2 is set to **NO.**

Positional accuracy cannot be assured if you do not set the cutter to scan for SmartMARKs.

Output Device

This setting shows the current output device connected. When the Intec ColorCut Flatbed is connected this should read "*USB Printing Support:x*"

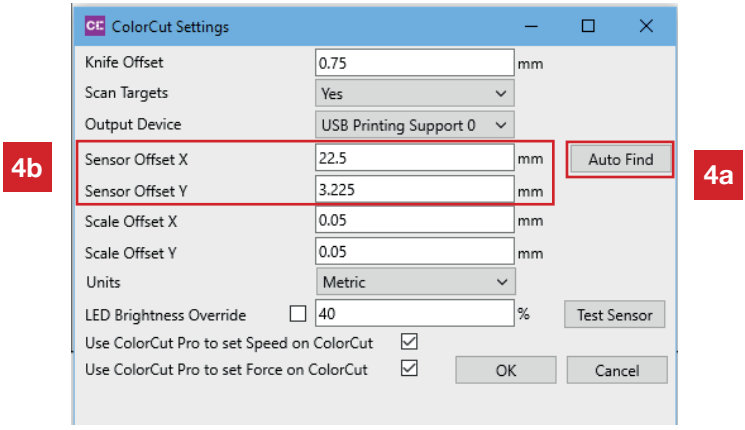


If the Intec ColorCut Pro software cannot sense an Intec ColorCut Flatbed cutter on the USB connection of your computer, then this will show: "*File Output*".

In such circumstances, check your connection to your computer and power cycle your Intec ColurCut Flatbed cutter. (Ensure it is off for 45 seconds to enable the USB cache to flush).

Sensor Offset & the Auto Find feature

Sensor Offset is critical for accurate cutting. It tells the ColorCut Pro software the difference in position between the actual BLADE on the cutter and the sensor that reads the SmartMARK positions. This only needs to be set once and once set it does not change but it is very important that this is set prior to cutting any jobs.



The Sensor Offset can be automatically set by using the Auto Find feature 4a (detailed in the next section) or it can manually entered, or adjusted by editing 4b the Sensor Offset X box (looking from the control panel - left to right across the bed) or the Sensor Offset Y box (Back to front).

Auto Find - Automatically Setting the Sensor Offset to the Blade

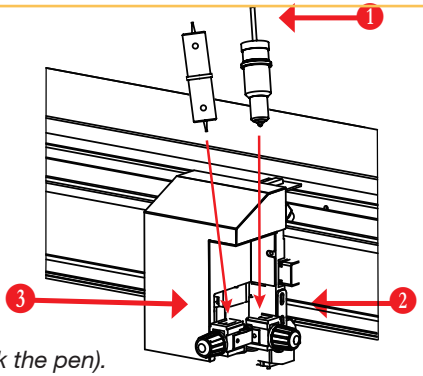
The Intec ColorCut Flatbed engine includes an ARMS system (Automatic Registration Mark Sensor). ARMS uses an optical sensor to automatically detect Registration Marks, enabling accurate cutting using ColorCut Pro. Being able to automatically detect the Registration Marks enables ColorCut Pro's sophisticated algorithms to compensate for any scale or skew errors during printing or any positional errors, adapting the cutting lines accordingly.

The ARMS sensor is mounted just behind the cutting blade holder and must be calibrated to offset the distance from the Sensor to the Cutting Blade

Before you use the Intec ColorCut Pro software for the first time you will need to calibrate the Sensor Offset so your software knows how to adjust the difference between the cutting blade and the actual optical sensor.
NOTE: The Sensor Offset value is stored within the software application, so if you also have SignMaster Pro and have calibrated it already in that, you STILL need to calibrate the sensor in ColorCut Pro in order for them to both cut accurately.

The [Auto Find] feature sets the offset for you and uses the PEN CALIBRATION TOOL to achieve this. The pen tool is used to draw lines that are used to define to point of the cutter blade, then the ARMS sensor reads these back and the software calculates the offset automatically for you.

1. Place the Calibration Pen Tool 1. In to Tool Holder 1 2. (Normally the position for the Blade Holder). Then place the creasing tool into Tool Holder 2 3.



2. Set the appropriate pressure for the Calibration Pen Tool

(Not too much pressure or you may break the pen).

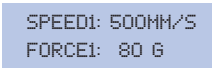
With the LCD panel showing the values for SPEED2/FORCE2 (This is the default HOME screen). Press [**Set**] to change the LCD display to show SPEED1 / FORCE1.

Press the [**SET**] key.

The LCD display will now change to show SPEED1:xx FORCE1:xx .

Use the UP / DOWN keys to set the speed. (to 500mm/s))

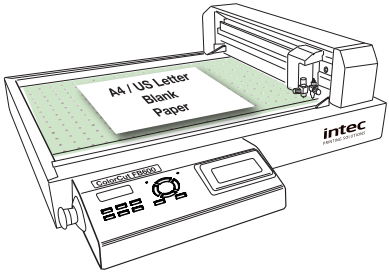
Use the Left / Right keys to set the Force. (to 80 g)



*When finished press the [**Enter**] key to accept the settings, then press the [**F2**] button to return the Ready/Settings display.* (LCD display shows SPEED2/FORCE2)

1. Check the LCD panel, *If the display shows the Speed2:xx and Force2:xx option then press the* **[Offline]** *key, to change the display to show MOVE X:xx and Y:xx.*

Using the **Left / Right keys** move the carriage so that you can place a sheet of paper on the cutting bed.



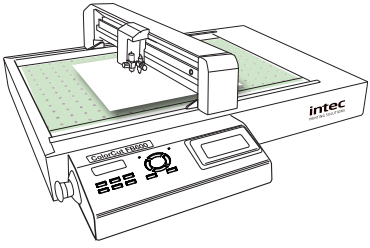
2. Place a Blank sheet of A4 / US Letter paper in the middle of the cutting table.

Turn on the vacuum, by pressing the [**F1**] key on the control panel.

3. Ensure that the LCD display shows **MOVE X: and Y:** .

(If the display shows Speed2:xx and Force2:xx then, press the **[Offline]** *key, and the display will change back to MOVE X:xx and Y:xx.*

Using the **Left / Right** keys move the beam over the sheet of paper then using the **Up / Down** keys move the Tool Carriage to the middle of the piece of paper.

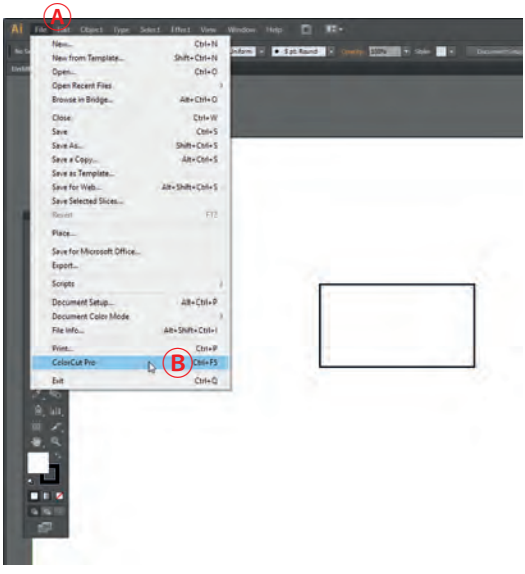


With the Tool Carriage is in the middle of the sheet of paper, press the [**ENTER**] key twice to set a new ORIGIN point (when done the display will show Speed2/ Force2).

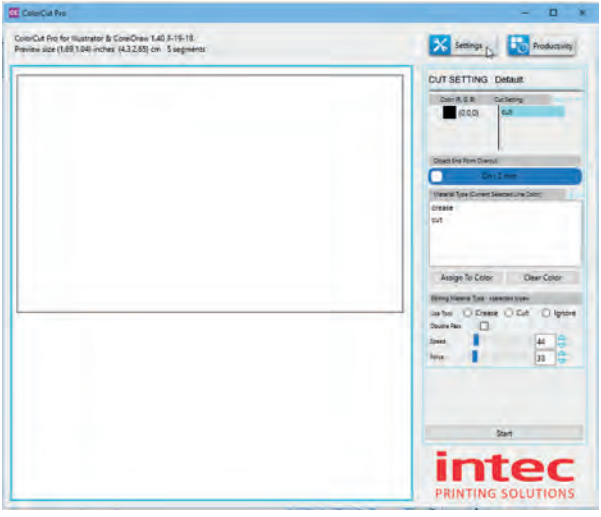
(When you press ENTER key the second time, TOOL2 will briefly activate to confirm).

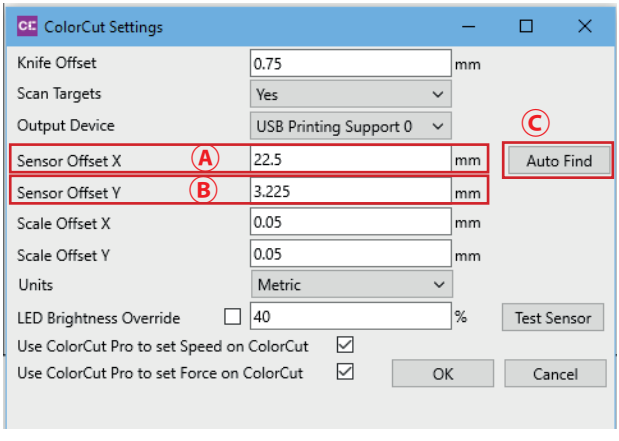
4. Open a NEW document in Illustrator or CorelDRAW and Draw a single line or square. (You require a line vector on the page for ColorCut Pro to launch)

Then from the File menu Ⓐ, select the ColorCut Pro item Ⓑ to launch ColorCut Pro application.



5. At the top right hand side of the ColorCut Pro application, click on the [**SETTINGS**] button.

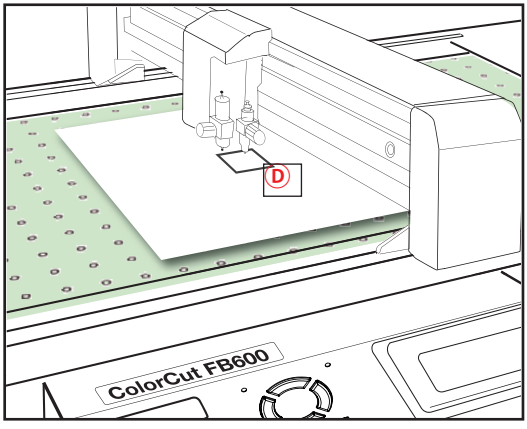




6. The ColorCut Settings dialogue box will appear. Here you can automatically set the sensor offset by clicking the [**Auto Find**] button Ⓒ.

7. After clicking the [**Auto Find**] button, the Intec ColorCut will use the Pen Calibration Tool to repeatedly draw a box with a thick frame Ⓓ. After drawing the box, it will then scan the frame, and automatically enter the values into your Sensor Offset X and Y settings.

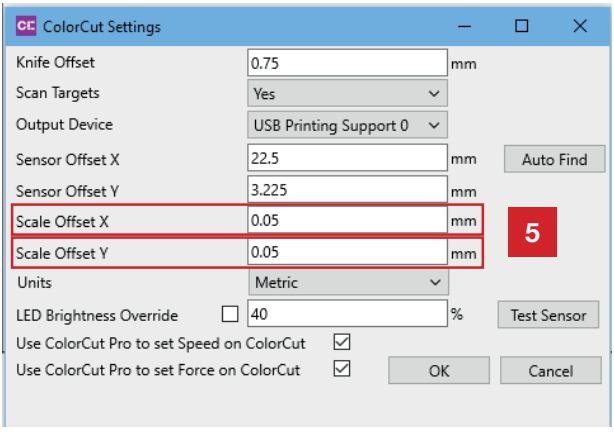
You can close this window, the calibration for ColorCut Pro is now complete.



Scale Offset X & Y

This is an advanced feature and is not required by most users. However, it provides advanced users with additional control over their Intec ColorCut.

Each Intec ColorCut is calibrated in the factory; the movement of the tool carriage is read mechanically using a high definition encoder scale and then advanced by a fixed amount read by the mechanical system internally. Due to this, the movement in all cases will remain consistent. However in some instances the scale of the movement may need to be adjusted.



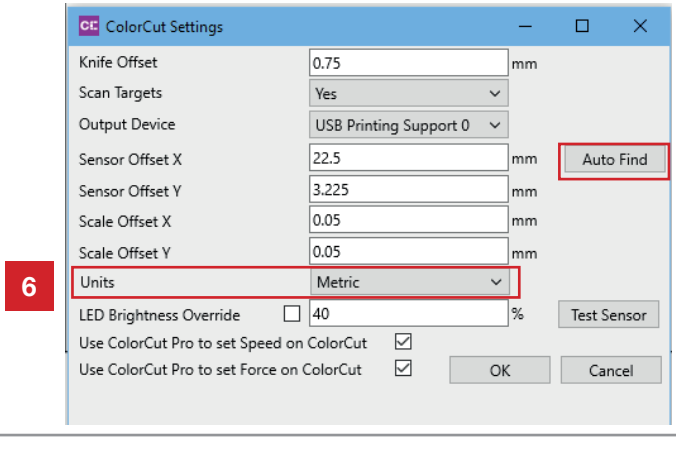
If you have previously run the [**Auto Find**] feature or manually set the *Sensor Offset* and after calibration find the first SmartMARK is read accurately but despite this, the cut lines are consistently fractionally larger or smaller in either or both directions. Then you can use the *Scale Offset* function to adjust the cut.

Adjusting the *Scale Offset (X)* will make the cut longer or shorter across the bed (Left to right - looking from the control panel). *Scale Offset (Y)* will cut shorter or longer from front to back.

This value should not be adjusted if you have not performed the *Sensor Offset* calibration and are not accurately cutting from the origin point initially.

Units

ColorCut Pro can be operated in Metric (mm) or Inches (Imperial). Use the Units 6 control to set the measurement units to your preference.



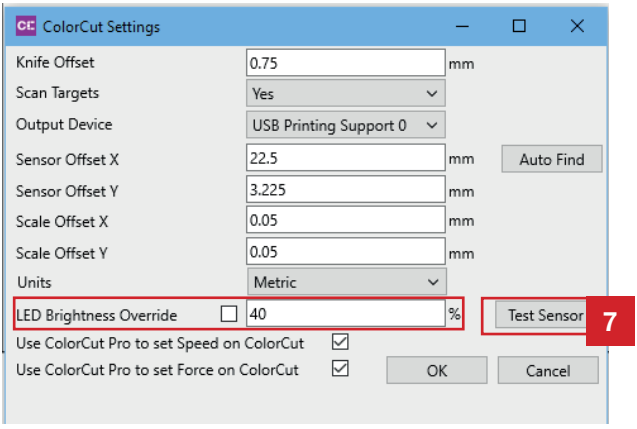
LED Brightness Override & Test Sensor

This is an advanced feature and is not required by most users. However, it provides advanced users with additional control over their Intec ColorCut.

The power/intensity of the calibration sensor needs to be adjusted for different lighting conditions and paper types (Glossy or Matte). At the start of each scan, prior to scanning the first SmartMARK, the ColorCut Pro software performs a media and sensor calibration, under normal circumstances you do not need to alter these settings. Only advanced users experiencing difficulties with a specific paper/media substrate are recommended to change this value.

In normal operation, the Intec ColorCut Pro software automatically calibrates the SmartMARK sensor at the start of each scan using a binary search. If the response from the media is 40 (100%), the ColorCut Pro software assumes that the intensity is too high. If the response is 0-35 (0-87.5%) it is assumed the intensity is too low.

During the 4 intensity searches to establish the intensity setting used by the ColorCut Pro software prior to scanning the first SmartMARK, the ColorCut Pro software seeks to set the value within 15 (6%) of the correct intensity.



The LED Brightness Override function allows manual adjustment of the intensity setting.

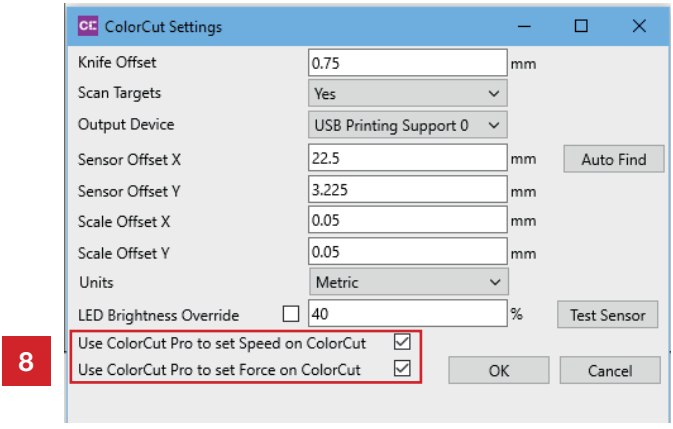
The **Test Sensor** function displays the response in the **status message** window.

WARNING: This feature does not normally need to be adjusted. If you enable the override box, the auto-calibration function is disabled and may cause difficulties with normal paper types. However, use of this feature can be helpful for difficult papers or some stocks that are colored and are proving difficult to scan

Choosing where to set Speed and Force

ColorCut Pro allows you to define the Speed and Force Settings for each line color, which is important especially if you wish to cut with different pressures in one job (i.e. A high force to cut through an element, and a light force to apply a score to the element).

Alternatively you may have a large item with sweeping curves you wish to cut quickly, combined with a complicated delicate pattern, you wish to cut carefully, which can be drawn in a different colored line, so you can associate a different speed for that area.

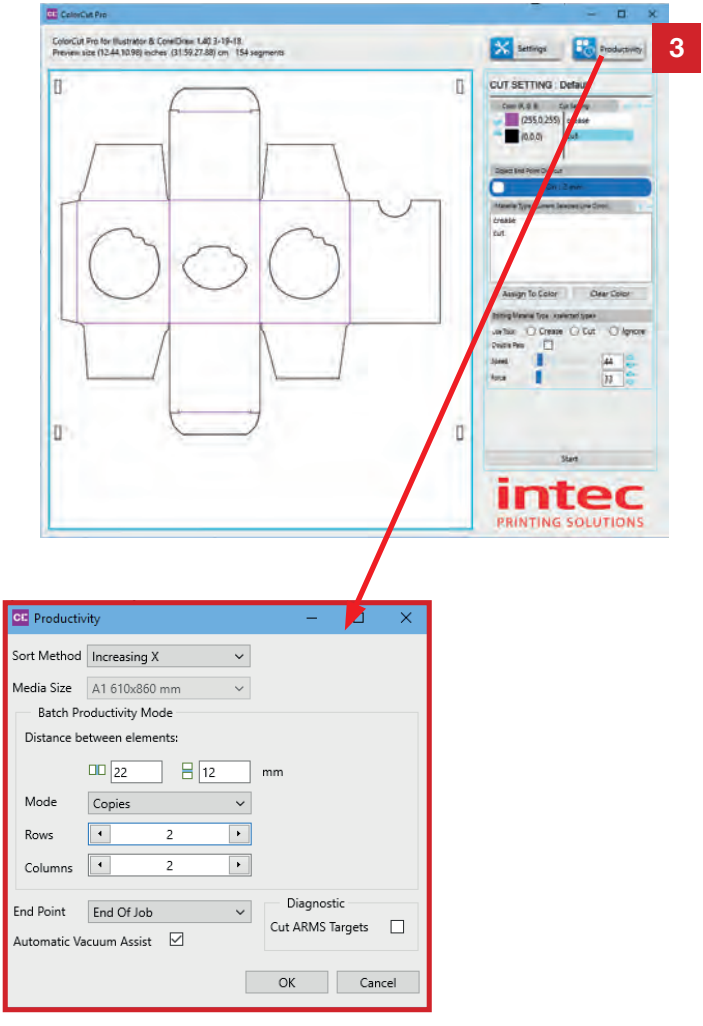


To acehive this, the speed and cut/crease force settings must be set by ColorCut Pro. Ensure that the check boxes 8, are enable to ensure ColorCut Pro can control your cutters speed and force.

TOPTIP: It is sometimes necessary to control the cutter directly from the control panel. If you wish to ignore the Speed and Force Settings set under ColorCut Pro's options, unchecking these boxes, will stop the Speed and Force settings being sent to your cutter. When these options are NOT checked, all artwork lines being cut or creased will be controlled by the settings under SPEED1/FORCE1 (for Cut) and SPEED2/FORCE2 (for Crease) on the LCD panel of the Cutter itself.

Controlling options that influence productivity.

In addition to the configuration settings, there are additional settings that can influence your productivity and furthermore enable automated batch production . These settings are all grouped under the **[Productivity]** button 3.



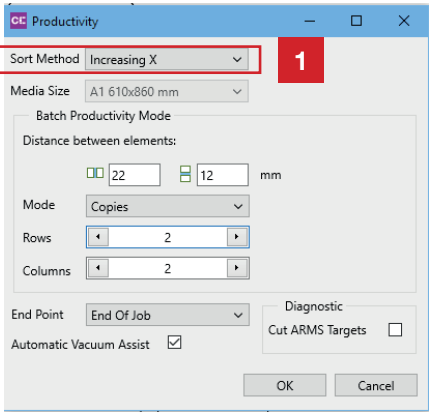
The [**Sort Method**], [**End Point**], [**Automatic Vacuum Asisst**], and Diagnostic [**Cut ARMS Targets**] options are available at any time, and apply to all jobs.

We will start by covering these options.

In addition to this, **Batch Producivity Mode**, (and therein, Media Size) enable users to cut multiple sheets autonomously and we will look at this seperately and in detail later.

Sort Method

The Sort Method setting changes how the cutter moves from the end of one cut to the beginning of the next.



The Intec ColorCut Pro software can operate in 4 modes:

1. **None**: No sort to the cutting is employed and the software will cut in the order it read the lines into the application.

2. **Distance** : The lines are sorted into lengths and the software will instruct the cutter to cut the longest straight cut in the file first and work back in successively shorter line lengths.

3. **Increasing X**: Cuts the longest straight cut first on the X axis only. This is similar to (2) above but only in the X direction first (Beam movement).

4. **Closest point** : The order of the cutting is sorted such that the ColorCut will cut closest to the SmartMARK first.

There is no wrong setting, probably *Increasing X* is best for long cutting profiles.

However if you are experiencing a peculiar cutting problem, changing this between the options can change the direction of the blade and may help eliminate issues.

Typically is recommended to use the sort method “Increasing X” for optimum output path.

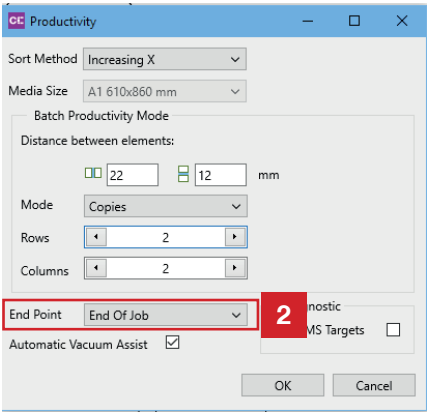
End Point

This is a very useful and commonly used feature which allows users to choose where the Tool Carriage and Cutting Beam on the Intec ColorCut will finish after cutting.

There are 2 options:

Origin: The Tool Carriage will return to the Origin you set prior to the start of cutting.

(This normally leaves the Carriage and Cutting beam covering the top part of your sheet making it difficult to remove and replace without first moving the carriage out of the way by using the X and Y move control on the LCD panel.)



End of Job: Moves the tool carriage to the furthest point on the sheet, enabling you to remove the finished, cut sheet without manually moving the Tool carriage.

When cutting multiple copies of the same job, setiing this option to **"End of Job"**, enables you to remove the cut sheet more quickly and easily . In addition, it is useful to note that the cutter will return to the *last* set origin. So for optimum output productivity it is recommended to set the **End Point:** to **"End of Job"** because if you routinely place the next sheet in the same place as the previous sheet, then when the START button is pressed, the cutter will automatically return to the origin point you scanned on the previous sheet, (Which would be the first target position on the new sheet) and start scanning without delay or without needing you to set the origin.

Automatic Vacuum Assist

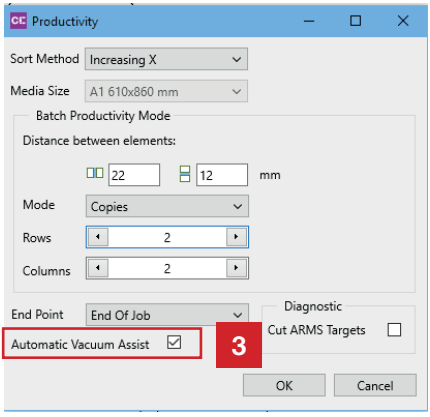
Automatic Vacuum Assist default value is: **Not Checked**.

Enabling the **Automatic Vacuum Assist** check box will mean that ColorCut Pro will automatically turn on or off your vacuum bed for you.

This is not enabled by default however it is useful to activate this mode;

1) It turns on the vacuum when START is clicked (incase you forget).

2) When Cutting is finished, then it will automatically turn OFF the vacuum.



The AutoVacuum Assist control uses specific ON commands at the start of the job, and OFF commands at the end of a job (It does not TOGGLE the vacuum), so it won't overide or reverse what you do manually.

Diagnostic - Cut ARMS Targets

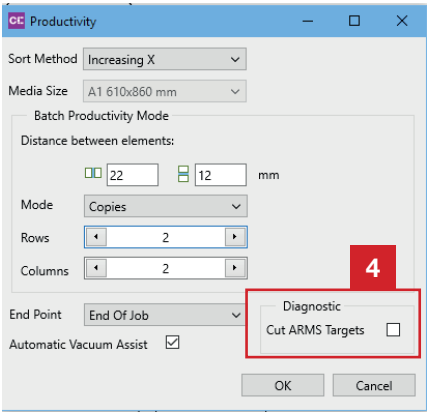
Diagnostic - Cut ARMS Targets default value is: **Not Checked**.

This function is intended for diagnostic use. Enabling the Cut ARMS Targets check box will mean that ColorCut Pro will pause to cut the targets on your artwork as well as the cut lines on your cutting profile.

This is not enabled by default as;

1) It reduces productivity.

2) The algorithm employed for scale, skew and rotation does not cover distortions caused by parallelogram errors. It is therefore normal for one registration target to be cut slightly off; this is not representative of the cutline and can confuse users.

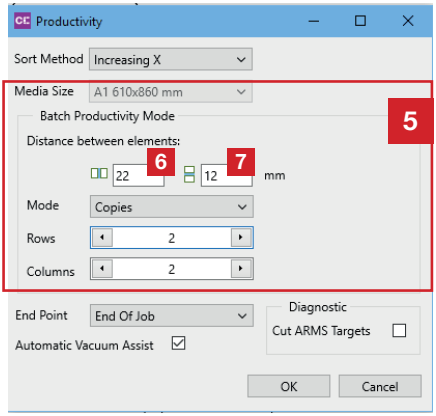


Advanced users can enable this function and use it in conjunction with the cut position on registration marks to help setting the X/Y Scale offset factors in advanced user mode.

For maximum productivity ensure you disable this before normal production.

Batch Productivity Mode

When enabled, the Batch Productivity mode enables users to to place multiple copies af a cutting job on the vacuum bed an cut them autonomously.



The Intec ColorCut Pro software can operate in 3 Batch Productivity modes:

1. **Disabled**: No batch mode is employed and the software will cut a single copy of the cutting job you have created.

2. **Copies** : In this mode, the ColorCut Pro software will cut multiple copies of your artwork arranged in Rows, Columns or Grids. After cutting all jobs on the vacuum table it will automatically stop.

3. **Continuous**: In this mode ColorCut Pro, will cut the first job, then seek the next job - continuing untill there is no space on the Media size.

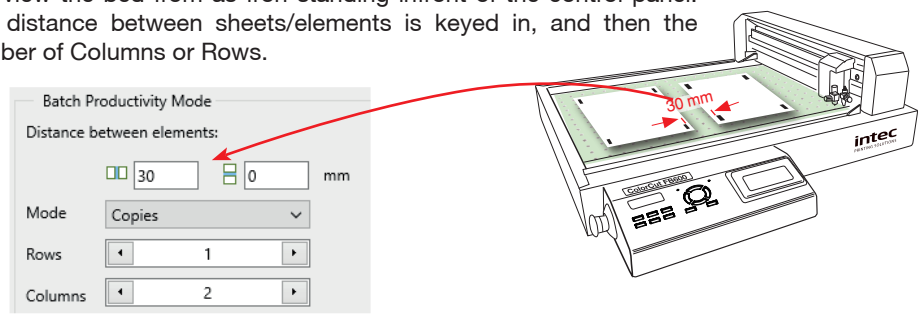
The default vaule of **Batch Productivity Mode**: is **DISABLED**.

Using Batch Producivity in Copies Mode

Overview

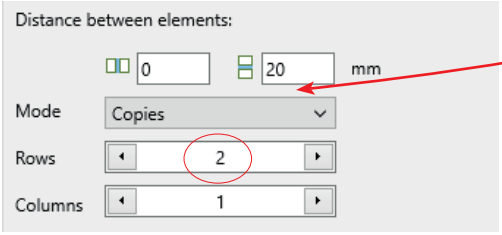
Copies is the most commonly used Batch mode. You define the distance between your 'SMARTMARKS' and how the jobs are laid on your vacuum bed using the ROWS and COLUMNS control.

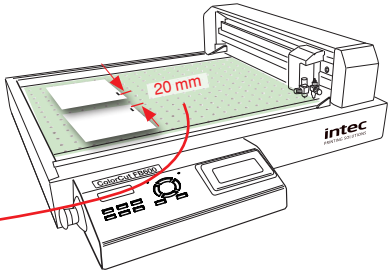
You view the bed from as fron standing infront of the control panel. The distance between sheets/elements is keyed in, and then the number of Columns or Rows.



Cutting in Rows

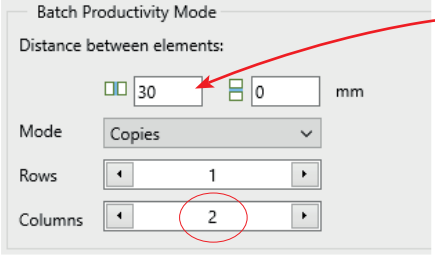
When looking at the Vacuum bed, from the control panel, (the example on the right shows), the sheets are laid out 20mm apart in 2 Rows, as a single colum. So, you would configure the Batch Productivty mode as:

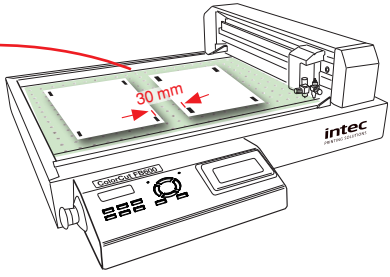




Cutting in Columns

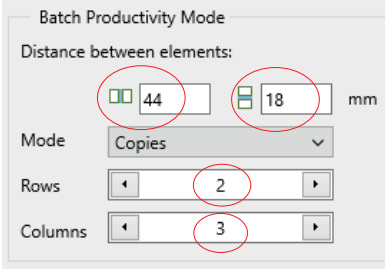
Conversly when looking at the Vacuum bed, from the control panel . Two sheets laid on the bed as show (right) are placed 30mm apart, in 1 Row, with 2 columns. So, you would configure the Batch Productivty mode as:

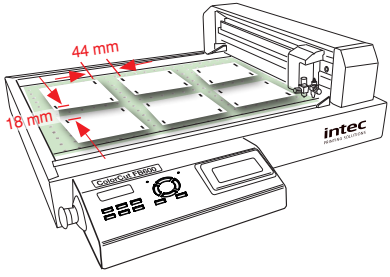




Cutting as a Grid

When looking at the Vacuum bed, from the control panel, (the example on the right shows), the sheets are laid out in a grid, with 44mm between each of the 3 Columns, and 18mm separating the 2 Rows.

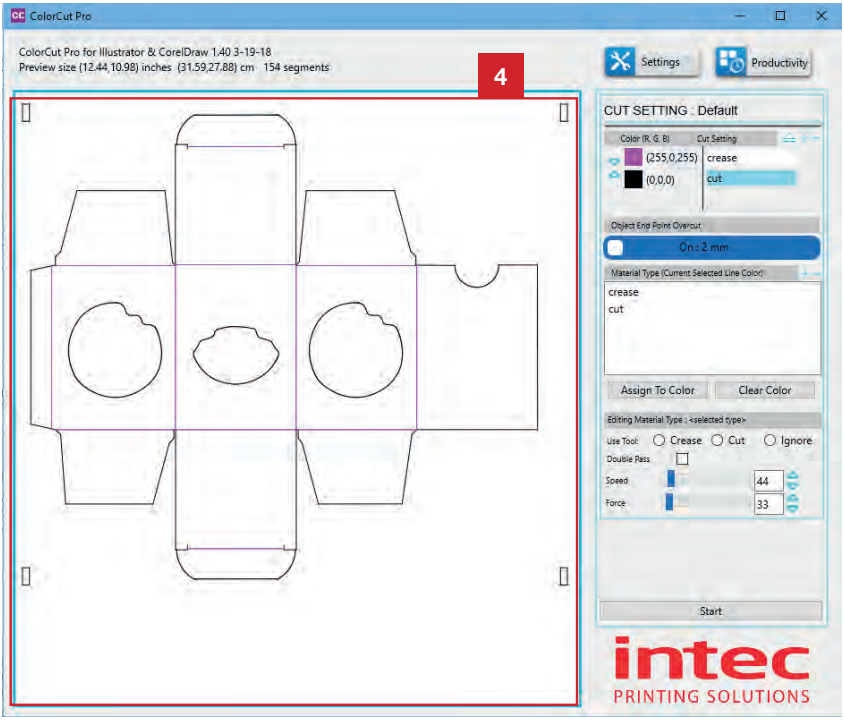




TOP TIP The distance entered is SmartMark to SmartMark, not the distance between pages.

The Preview Window

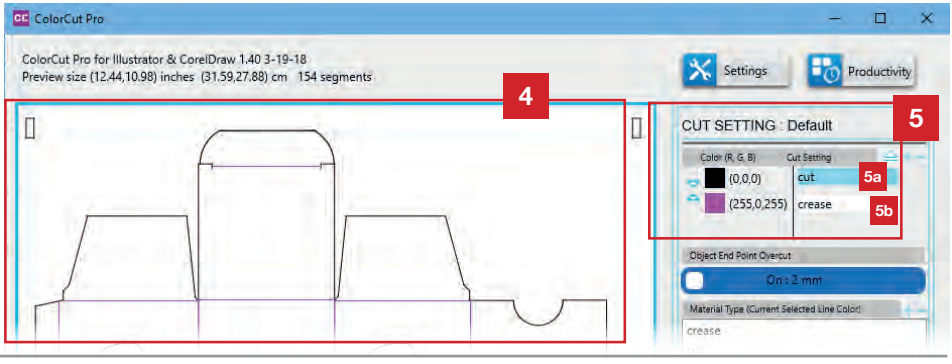
Upon launching ColorCut Pro, a preview of the cutting profile on the selected layer will be shown in the Preview Window 4 .



The Cut Settings Window

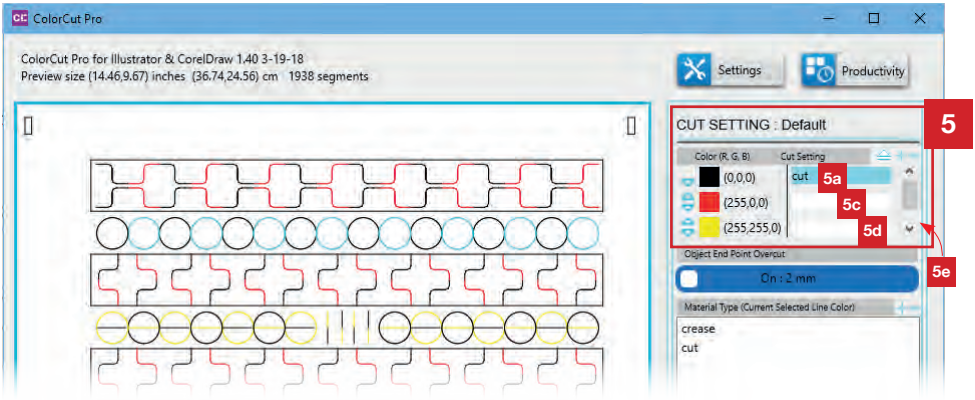
Colors recognised by ColorCut Pro are displayed/previewed in their respective colors, and listed in the *Cut Setting* window 5. Next to each Color, a Cut Setting/Action will be shown. The software will remember previous Cut Setting assignments applied to a color.

In the example below the Black line has the Cut Setting/Action '*cut*' next to it 5a, while the Magenta line has the Cut Setting/Action '*Crease*' 5b next to it.

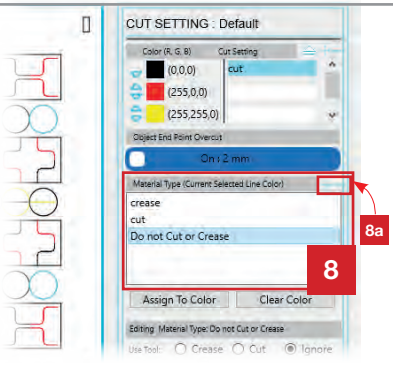


The Cut Settings Window - Continued

In the example below (showing a different cut profile for explanation purposes) there are multiple colored lines within the cutting profile. Again the Black line has the Cut Setting/Action '*cut*' next to it 5a, while the additional colored lines are yet to have actions assigned to them. If there are more colors than shown on the list, use the scroll bar 5e to see the additional colors.



The Material Type/Actions Window



A Material Type can also be considered an action. You can create actions for each process/task you wish the cutter to perform.

A Material Type/Action is a profile consisting of the following saved settings being used:

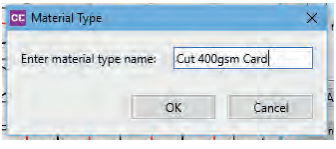
- Intec Cutting Tool (Cutter, Crease, or None)
- Speed of Tool
- Force/Pressure applied by Tool
- If the Tool should double pass.

As you get used to your Intec ColorCut Flatbed and the different material you cut, you can start to save these profiles for different cutting forces or speeds dependant on the media types. So the Action Window is also known as the Material Type Window.

The Material Type/Actions Window 8 shows a list of all the pre-defined settings / profiles you have created that you can use or employ.

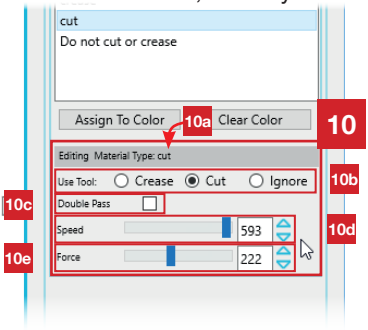
You can click the [+] symbol 8a to add a new Material Type/ Action.

After clicking the [+] symbol you will be prompted to enter the name you wish to call your Material Type/Action.



Click **[OK]** and then follow the instructions following for *EDITING Material Type /Actions*.

The Editing Material Type Window 10 will display the parameters used for the cutting/creasing action selected. You can adjust the parameters to suit the action, and any changes will be applied to the Material Type/Action immediately on the next cut.



To edit a Material Type/Action; select a Material Type from the *Material Type Window* 8. If a Material Type/Action is highlighted (in this case you can see we have highlighted the material type 'cut' at the top the the image below). Then that selected Material Type/Action 10a can be seen in the top of the Editing Material Type: xxx window.

Selecting the Cutting/Creasing Tool

The tool to be used is shown 10b (in this case the radio button for *cut* is selected). You can choose between the **Cutting Tool** (the Tool positioned closest to the Carriage Beam on the Tool Carriage), the **Creasing Tool** (the Tool positioned furthest out on the Tool Carriage). Or you can choose to **Ignore** the line for cutting.

The **Ignore** feature is useful if you realise that your cutline includes some lines you did not intend to cut or crease. (All other features such as speed or force will also be ignored if you select **Ignore**).

Selecting the Double Pass Feature

The Double Pass function 10c enables you to enhance the cut or crease function, by effectively repeating the process selected. This can be useful for creasing (when pressure can not be increased further) as Double Pass will cause the ColorCut Pro software to crease the lines twice therefore providing a stronger crease.

However it can also be useful for some cutting applications on particularly soft media, such as Icing Paper for foodstuffs. A Double Pass here will often provide a cleaner cut.

Selecting the Speed of the Cut or Creasing Tool

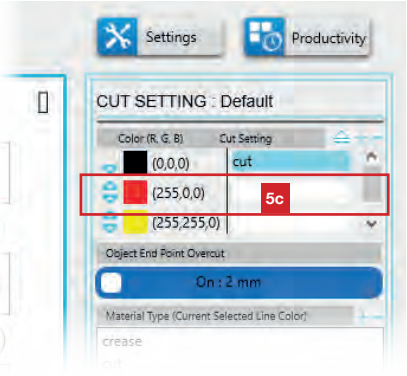
The parameter Speed, 10d controls the speed of the carriage while cutting your design/project. The available range is 7mm/s - 600mm/s. A slower crease of 200mm/s will provide a better result but in most cases 450-500mm/s is sufficient.
When cutting packing with predominantly straight lines and sweeping curves, high speeds can be used for example; 450 - 600mm/s. However for small delicate shapes slower speeds are recommended.

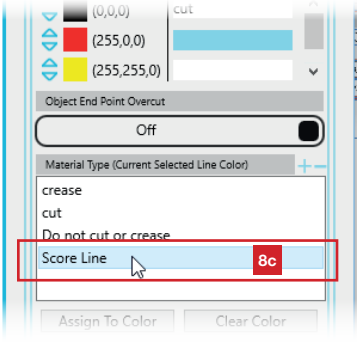
Selecting the Force of the Cut/Crease

The parameter Force, 10e controls, the Force applied by the tool. The range available is 0 - 510g for Standard models, or 0 - 960g for Pro models. A cutting force of 200g should be sufficient for card or media up to 300 microns thick. Settings above 300g may suggest that more blade is required. Settings below 200g may suggest that less blade is required (except when cutting labels). Creasing often requires heavier Force and often 450 -510g for std models or up to 960g for Pro models is used for creasing applications.

Assigning a Material Type/Action to a Color (or clearing one)

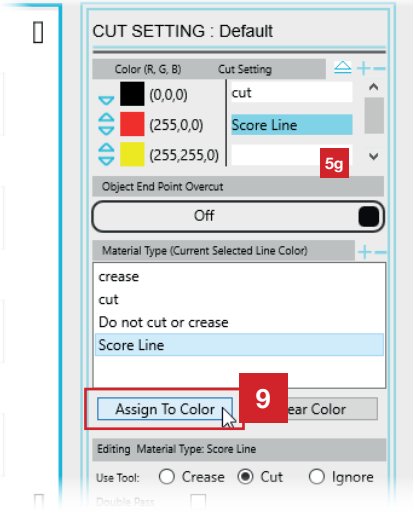
To assign a Material Type/Action to a colored line. Select the Line Color you want to assign the action to in the *Cut Setting* Window 5c .





Then select the Material Type/Action you wish to be applied 8c (in this case we selected 'Score Line').

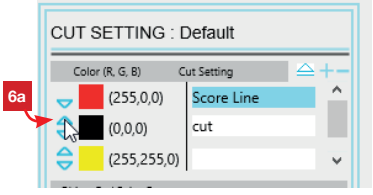
Finally click 9 the **[Assign Color]** button. The name of the selected action will now appear next to the Line Color 5g.



Selecting Order of the Cut/Creasing to be performed.

The sequence/order in which the actions are completed are the order of which the colors are shown in the Cut Settings list.

It is normal to perform Creasing or Scoring operations BEFORE cutting your substrate. If necessary the cutting and creasing order can be changed by using the arrow 6a symbols next to each color. The UP arrow will move a color up the list.



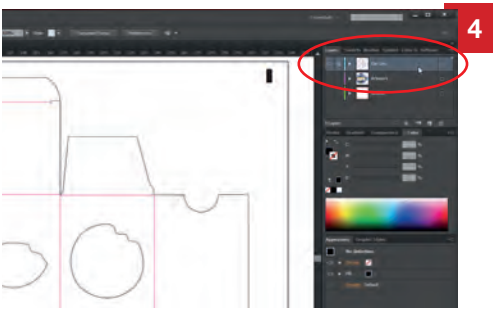
TOP TIP Remember colors at the top of the list will be processed first.

1. Open the File to be cut.

2. Ensure that the file contains 4 SmartMARKS as described in SmartMARK explanation earlier in this manual.

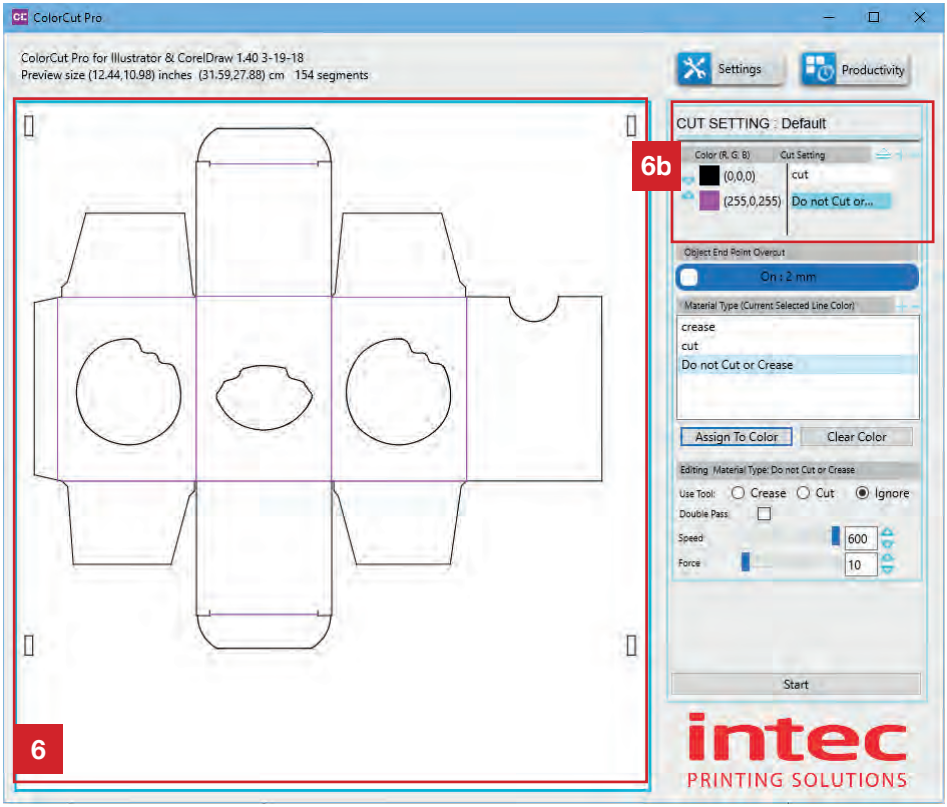
3. Print the Artwork with the SmartMARKs (but not the cutting profile).

4. Select the cutting layer (again ensure the cutting layer also has the same 4 SmartMARKs on the cutting layer).



5. Launch the ColorCut Pro application from the File menu in your graphics application.

6. The cutting profile on the selected layer will be shown in the Preview Window 6 . Colors recognised by ColorCut are previewed in their respective colors and listed in the *Cut Setting* Window 6b.

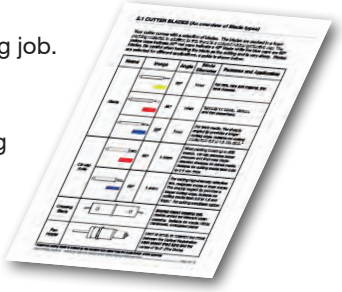


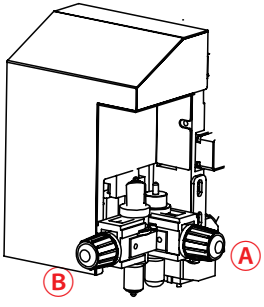
7. Ensure that you fit the correct Cutting Mat for the cutting process on your Intec ColorCut Flatbed cutter. Your Intec ColorCut came with 2 cutting mats:

GREEN: For kiss-cut, labels, and swing tickets.
FELT: For packaging and creasing.

Change the Cutting Mat if necessary for your cutting job.

8. Refer to the Cutting Blade Guide in your Installation Manual and select the correct Blade for your cutting profile then set the blade depth for your media, according to the instructions in the Installation Guide.



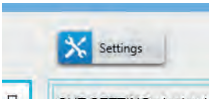


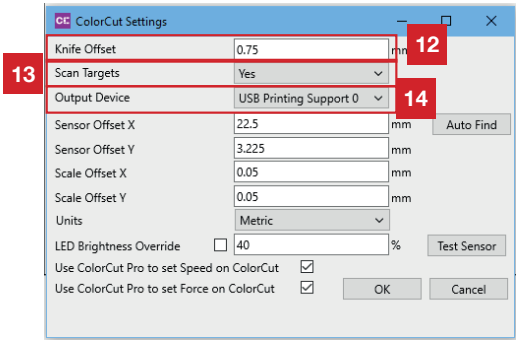
9. Fit the Blade Holder in Tool Holder 1 (A).

10. Fit the Creasing Tool in Tool Holder 2 (B)

11. Now review your SETTINGS within the ColorCut Pro application to ensure they match your cutter.

Click the **SETTINGS** button.





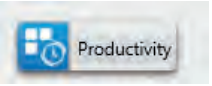
12. Ensure that the Knife Offset matches the Blade fitted to cut your job. (The offset value is found on the blade packet)

13. Ensure **SCAN TARGETS** is set to **YES**

14. Ensure the Intec ColorCut Flatbed is connected and is showing as **USB printing support** (not "File Output" which means it is not connected).

15. Close the Settings Dialogue box. Now review the **Productivity** settings for your job.

16. Click the **PRODUCTIVITY** button.

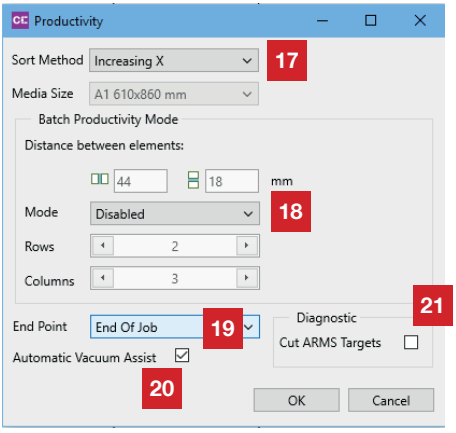


17. Check that **SORT METHOD** is set to **Increasing X**

18. Under Batch Productivity mode, if you are only cutting a single sheet ensure **MODE** is showing as **DISABLED.**

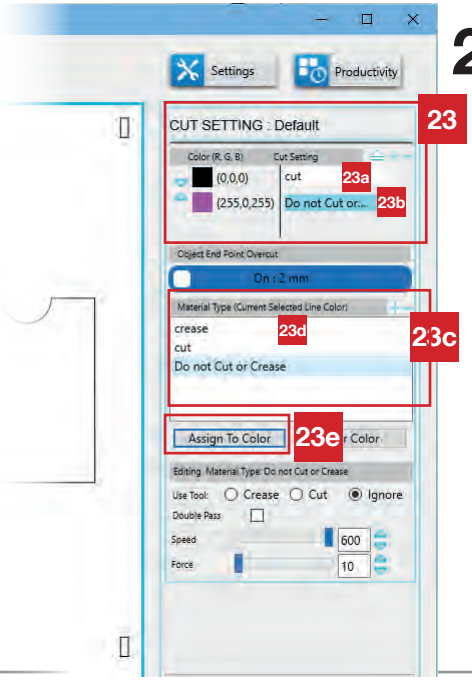
19. Set **END POINT** to **End of Job**

20. It is useful to enable **AutoVacuum Assist.** So check that this has been ticked.



21. Ensure that under the Diagnostics area, **CUT ARMS TARGETS** is **NOT** checked.

22. Close the Productivity Dialogue box. Now review the **Cutting parameters in the main screen** for your job.

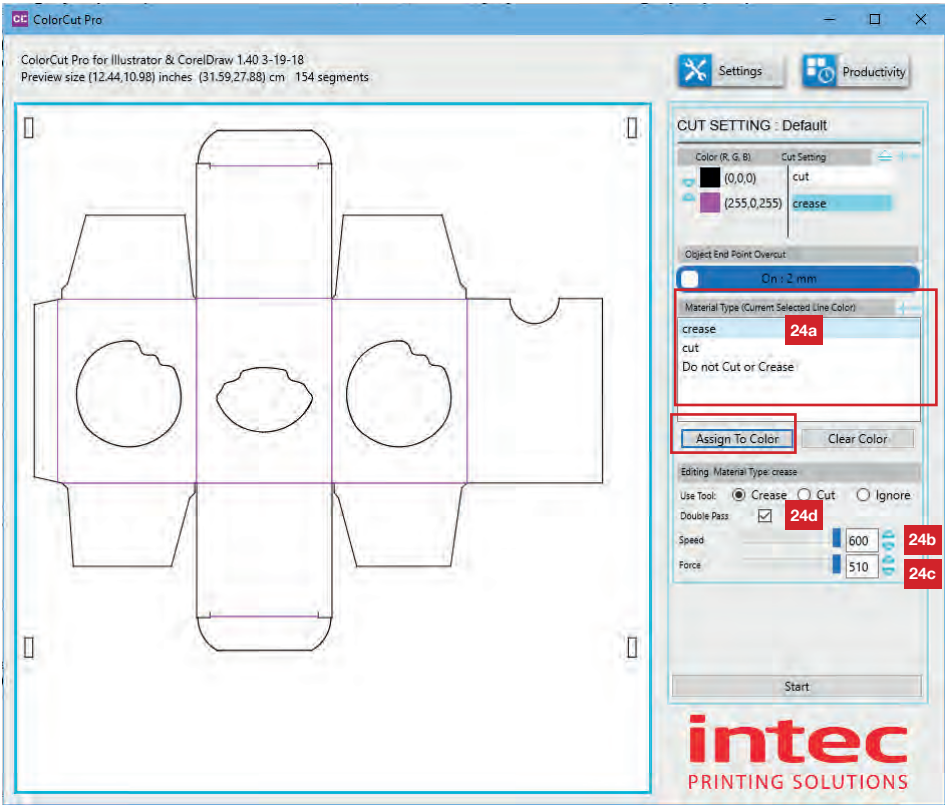


23. If the Cut Setting/Action is not correct, then you can change or assign a different Cut Setting/Action. To do this, click on the name of the Cut Setting/ Action next to the colored line you wish to change in the *Cut Settings* Window.

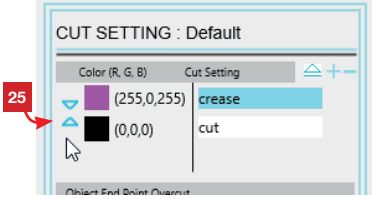
For example, if you wish to CREASE the Magenta line in the example below, then click in the *Cut Settings* Window at point **23b** on the action next to the Magenta Line Then select the Cut Setting/Action you wish to perform from the *Material/ Type* Window **23**, in this case, as we wish to Crease, click on the action Crease **23c**. Then click on the [**Assign To Color**] button **23e**. You will see the action change in the *Cut Settings* window.

24. If you have not created specific Speed and Force settings for your media as a Material Type, then check the Speed and Force for Cutting or Creasing is correct for your job.

To do this, click on the Material Type /Action e.g. Crease 24a then review the *Editing Material* window below, check the Speed 24b and Cut Force 24c is appropriate for this Material Type. If not adjust the Speed and Force accordingly. Then consider if the media that you are cutting or creasing needs a Double Pass (particularly creasing). If so check 24d to enable Double Pass Creasing.

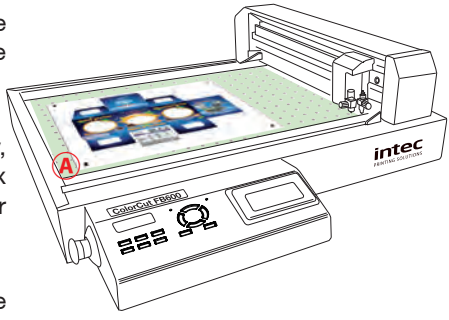


25. Finally consider if the order of cutting is correct. If not click the arrows next to the colors to re-organise the cutting order, remembering the order of cut is the first color on the list down. It is recommended to perform creasing before cutting.



26. Check the LCD panel, *If the display shows the Speed2:xx and Force2:xx option then press the* [**Offline**] *key, to change the display to show MOVE X:xx and Y:xx.*

Using the **Left / Right keys** move the carriage so that you can place the sheet to cut on the cutting bed.



27. With the carriage out of the way, place your artwork to cut approx 75mm from the left edge of the cutter and 20mm from the front edge Ⓐ.

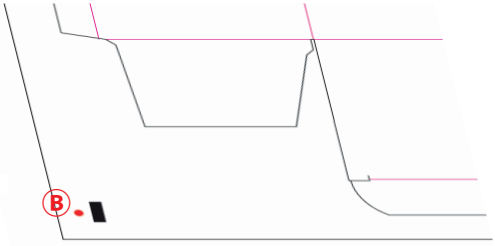
Turn on the vacuum by pressing the [**F1**] key on the control panel.

28. Ensure, that the LCD display shows **MOVE X: and Y:** .

(If the display shows Speed2:xx and Force2:xx then, press the [**Offline**] *key, and the display will change back to MOVE X:xx and Y:xx.*

Using the **Left / Right** keys move the Tool Carriage just above the first SmartMARK Ⓐ.

29. Press the [**F2**] key on the control Panel of the Intec ColorCut to activate the Sensor Led. With the Sensor Led illuminated adjust the position until the RED dot is just above (3 - 5mm) the centre of the first SmartMARK Ⓑ.



30. Press the [**ENTER**] key twice to set the ORIGIN point at this location (When done the display will show Speed2/Force2).

(When you press ENTER key the second time, TOOL2 will briefly activate to confirm).

31. Click [START] on the ColorCut Pro software and your job will start cutting.