Digital Sheet Die-cutter ColorCut SC6500 Series

Operating Instruction

Read this manual carefully before you use this product and keep it handy for future reference.
For safety, please follow the instructions in this manual.

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Introduction

This manual contains instructions on the operation and maintenance of this machine. To get maximum versatility from this machine all operators should carefully read and follow the instructions in this manual. Keep this manual in a handy place near the machine.

Please read the Safety Information before using this machine. It contains information related to USER SAFETY and PREVENTING EQUIPMENT PROBLEMS.

How to read this manual

Notation conventions

Whenever necessary, the following points for attention are indicated in this manual.

Warning:
Indicates a potentially hazardous situation which, if instructions are not followed, could result in death or serious injury.

Caution:
Indicates a potentiality hazardous situation which, if instructions are not followed, may result in minor or moderate injury or damage to machine or property.

Notes

NOTE: A NOTE message tells you additional useful and important information about a procedure. It is recommended that you read notes.

Safety Information

When using this machine, the following safety precautions should always be followed.

Safety during operation

Warning:

- To avoid hazardous situations like for instance electric shock or danger while exposed to moving, rotating or cutting devices, do not remove any covers, guards or screws other than those specified in this manual.
- Turn off the power and disconnect the power plug (by pulling the plug, not the cable) if any of the following conditions exists:

  - You drop objects or spill something into the equipment.
  - You suspect that your equipment needs service or repair.
  - Your equipment's covers has been damaged.
  - You notice unusual noises or odours when operating the equipment.
  - If the power cable or plug becomes worn out or otherwise damaged.
  - Before cleaning and care (unless otherwise specifically instructed).

- Electromagnetic compliance:

  - This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
  - The product (System) which is connected to this machine will be class A.

General safety

Warning:

Always connect the equipment to a properly grounded power source (wall outlet). Wall outlet should be located near the system and easily accessible. If in doubt, have the power source checked by a qualified electrician.

Improper grounding of the equipment can result in electrical shock. Never connect the machine to a power source that lacks a ground connection terminal. This machine is destined for specific purpose only. Any use going beyond this specific purpose is regarded as beyond the determination. The manufacturer will not be liable for damages resulting from any use beyond the determination, unallowed operation, respectively. The user alone bears the risk.

Do not make arbitrary changes or modifications to the machine. The manufacturer will not be liable for modifications made at the machine on your own and damages resulting thereof. CE declaration of conformity and the mark CE will be invalidated, if you make changes at the machine or at the individual components.

Do not override or bypass electrical or mechanical interlock devices.

The machine is to be used only by authorized and instructed persons. The responsibilities on operating the machine have to be strictly laid down and observed so that there are no unclear competencies regarding safety aspects.

Vent holes serve for air circulation to protect the machine from overheating. Make sure that the holes are not covered.

Do not expose fingers or other parts of the body to moving parts.

Always locate the equipment on a solid support surface with adequate strength tor the weight of the machine.

- This equipment is not suitable for use in locations where children are likely to be present.
- This equipment is only intended for instructed and qualified operators.
- Operators and technicians shall be familiar with the safety information in this manual and other safety information supplied with this equipment.

General safety, continued

Caution:
- Always follow all warnings marked on, or supplied with, the equipment.
- When you disconnect the power plug from the wall outlet, always pull the plug (not the cable).
- Disconnect the power cord before you move the machine. While moving the machine, always exercise care and make sure that the power cord will not be damaged under the machine.
- Do not move the machine while the machine is running.
- Do not open covers while the machine is running.
- Do not switch off the power while the machine is running. Make sure the machine cycle has ended.
- Lay the power cord in a way that nobody will stumble over it. Do not place things on the cord.
- Never attempt any maintenance function that is not specifically described in this documentation.
- Always keep magnets and all devices with strong magnetic fields away from the machine.
- If the place of installation is air-conditioned or heated, do not place the machine where it will be:

  - Subject to sudden temperature changes.
  - Directly exposed to cool air from an air-conditioner.
  - Directly exposed to heat from a heater.

- If the machine is not used over an extended period of time it should be unplugged to prevent damage in the case of overload.
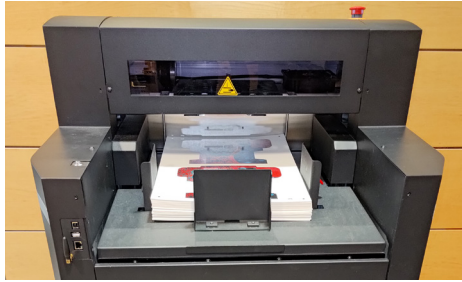
NOTE:
- The indications like front and rear, left and right refer to the paper transport direction.
- The operator manual always has to be available at the place of use of the machine.
- In the interest of technical development the company reserves the right to make alterations to specifications without prior notice.

General safety, continued


Warning: PINCH/CRUSHING HAZARD!

There are "Pinch Hazard" stickers on the SC6500 to remind the user to pay extra caution when the machine is running:

- Do not ever put your hand under vacuum belt area while machine main switch is ON. Vacuum feed belt goes up and down. Hand or fingers can be crushed.
- Paper load table goes up and down. Do not load while machine is running.
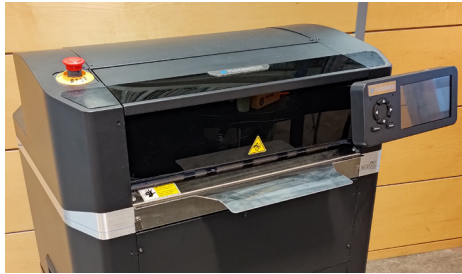
- Keep fingers and hands away from the moving carriage. The carriage changes direction quickly and moves with lot of force.
- Keep all the covers closed while running.
- Keep hair away from the outfeed area. Hair entanglement hazard.
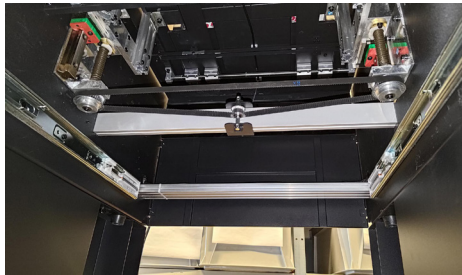
- Keep fingers and hands away from moving parts underneath the machine (above the storage area).

Safety measures

Please read the information and safety measures carefully prior to initial operation of the unit.

- Do not place any magnetic objects in the vicinity of the cutting head; otherwise uniform contact pressure may not be ensured.
- Do not remove the connection cable to the computer while cutting is in progress.
- Relieve the pressure on the pressure rollers when not in use by moving the pressure lever up.
- Do not open or reach into the unit when it is connected to electricity supply.
- Never open the casing and do not make any modifications to the unit yourself.
- Ensure that neither liquids nor metal objects are put inside the SC6500 Sheet Label Cutter.
- Ensure that the wall socket used is grounded.
- Ensure that the connected voltage (100-240V) does not deviate by more than ±10%. Otherwise install a voltage stabiliser.
- Remove the power plug from the unit if it will not be in use for a longer period of time.
- Never reach into the unit in the vicinity of the blade holder during the cutting operation.
- Stop any cutting jobs in progress before re-adjusting the blade holder
- Always ensure that the Auto Sheet Cutter remains inaccessible to children during operation and never leave the unit or individual parts of it switched on without supervision.
- Do not touch the tip of the cutting blade to avoid injury.
- Always place the unit on a stable base or use the supplied stand to prevent it from falling down.
- Disconnect from the power supply during thunderstorms; it can be damaged or destroyed by electrical surges caused by lightning.
- Do not sit or step on the stacker tray. Stacker will break or machine will tilt over. The maximums load for the stacker tray is 15 kg.
- Be cautious when the top lis is open. Prior to accessing the interior, always ensure that the cutter is turned off and disconnected from power supply.
- Do not use emergency stop button for regular operation of the Cutter. The emergency stop button is designed for immediate stop solely for emergency situations to ensure the safety of all individuals involved.
  To reset the emergency stop button rotate it clockwise direction and pull it back upwards to its original position. The emergency stop button should only be reset after addressing and resolving the emergency condition that triggered its activation.

Emergency stop button

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What You Can Do With This Machine

The SC6500 is a compact dual tool digital cutter offering a highly advanced and reliable high capacity (1000 sheets) auto-sheet feeder to cut and crease light sheet card (up to 350 micron), or labels, to any shape without any set up costs. With its vacuum belt feeder, the SC6500 can be left to cut unattended, while the camera registration system automatically retrieves cut files by reading the QR codes on each sheet.

The SC6500 combines ultra-reliable feeding with an instant job retrieval system and flawless high-speed cutting and creasing. This compact free-standing device is conveniently mobile.

Leading features:

- Digitally cut-through any shape sheet card item - with SmartTag (also known as TAGs) retention - on up to 350 micron media, or kiss-cut sheet labels - all at up to 1060 mm/sec
- Auto feeder stacks up to 1000 sheets. Up to 340 mm x 710 mm and custom sizes - with self centring function and Air Blade Lite separation
- Extendable paper tray
- Integral media storage area
- ColorCut Pro - Production Studio software included
- * QR codes and SmartMarks (also known as PageMarks) are generated as part of the included ColorCut Pro software plugin which integrates with vector artwork created in Adobe® Illustrator® and CorelDRAW®
- * QR code/Job Library retrieves associated cut files - even for mixed job batch sessions or rotated sheets
- SmartMark registration delivers accuracy - enabled via included ColorCut Pro software

Complete standalone operation - even with a stack of mixed jobs

- 8th generation Vision3 CCD camera reads and instantly retrieves cut files for every sheet on the fly! Accepts a mixed stack of jobs, cutting one after the other in a seamless and uninterrupted flow
- Dual 'Grip and Drive' feed system holds media during cutting on both sides of the cutting head, enabling it to cut closer to media edges
- Cutting strip delivers an optimal surface for both cut-through, creasing and kiss-cut
- SmartTags are left in the cut lines to retain the item in the sheet - leaving a tidy and manageable stack of finished complete sheets in the catch tray
- High-capacity auto feeder works in conjunction with air blade separation and automated jog function, to present every sheet perfectly for the cutter, every time.
- Held mode allows running 'without wires' or external connections. Using the held mode, jobs can be driven directly on the machine itself, without connection to a computer.

To operate your ColorCut machine and set up processing jobs, you will need a computer. This manual provides an introduction to the ColorCut Pro Software Suite, which is used for creating files and controlling your cutter. Additionally, it outlines the hardware requirements for your workstation.

Workstation Hardware Requirements

Compatible Vector Programs

	Adobe Illustrator® *		CorelDRAW® **
PC Windows	CS6; CC		X4 - X8
	CC 2014	CC 2020	2017 - 2023
	CC 2015	CC 2021	
	CC 2017	CC 2022	
	CC 2018	CC 2023	
	CC 2019	CC 2024	
Mac OS	CC 2017		
	CC 2018		
	CC 2019		
	CC 2020		
	CC 2021		
	CC 2022		
	CC 2023		

*Does not support illegal copies of Adobe Illustrator

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

1. Multicore Intel processor with 64-bit support
2. Windows 10 Professional / Windows 11 Professional x64 bit
3. 4 GB of RAM (8 GB recommended (As supplied with ColorCut Pro Server Station)
4. Minimum display resolution: 1024x900
5. Recommended Display Resolution: 1280x960 or higher.
   (Screens with resolutions such as: 1152x900, 1024x900, 1280x960, 1440x900, 1440x960, 1440x1024, 1440x1080, 1600x900, 1600x1080, 1600x1280, 1920x1080 or higher)
6. 2x available USB Ports (Note KB & Mouse often use a port each so factor this in)

Compatible OS Versions
PC Windows 10 or 11 Pro – 64bit

Mac OS version 10.11 (El Capitan) - Mac OS version 13 (Ventura)

Introduction

Introduction to ColorCut Pro Software

To cut your projects with the ColorCut SC6500 cutter, you need to be able to design your artwork and then apply lines that you designate for cutting, creasing, scoring or perforating. Projects and artwork can be created using either Adobe Illustrator on Mac or PC, or CorelDRAW on PC.

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 ColorCut cutter with no need to convert them to a different format.

After you install ColorCut Pro™ (including ColorCut Pro - Production Studio) you will be provided with a new option within your Adobe Illustrator® or CorelDRAW® software program enabling you to send vector lines from your software to your ColorCut SC6500 cutter. During the installation, ColorCut Pro will also add an option that enables you to automatically add Page Registration Marks (Refered to as PageMARKs in this manual) for print & cut jobs, these are scanned automatically using the ColorCut SC6500's Vision3 CCD sensor, providing origin, scale, skew and rotation information. In addition ColorCut Pro will add an option for you to assign Job numbers or QR Codes to your cut jobs, enabling you to build a library of cut job files which can be used with a stand alone version of ColorCut Pro known as ColorCut Pro - Production Studio (or Job Server).

Files can be cut directly from your graphics application using the ColorCut Pro plug-in, or using the ColorCut Pro - Production Studio version of software, which can be launched separately either on the same or a different computer. ColorCut Pro - Production Studio is a simple interface that enables other individuals within your company the ability to directly cut jobs at any time without requiring Adobe Illustrator or CorelDRAW, and without having to re-open the original file. Directly cutting files using the ColorCut Pro app is the recommended way to cut files for users with constantly changing cut files and designs, or where frequent changes to the speed or force functions are desired (i.e. because of changing media). The SC6500 also adds a new way for users to cut files - The Held Mode. The Held Mode allows users to wrap up all their cut settings within ColorCut Pro Production Studio and save these as a fully featured CCH (ColorCut Held file), this file can be transferred to a USB stick and when inserted into the cutter, the file can be cut at any time with no PC connected.

The Held Mode, is only recommended, where users are repeating the same job/template multiple times, and do not need to change settings such as speed or force, as these are embedded within the file, when frequently changing design / speed or Force the use of Direct mode to send the files directly to the cutter is recommended to avoid the need to consistently remove and replace the USB stick.

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

Files may be cut directly from PC Graphics applications using ColorCut Pro's plug-in or using the by using ColorCut Pro - Production Studio (PC only). Mac users can design their jobs, add cutting registration marks, assign Job numbers, add QR Codes and add jobs to the ColorCut Pro Job library using the ColorCut Pro Mac Client. The Mac workstation is not used to cut the files, Mac jobs are sent to the ColorCut Pro job library on a remote PC for cutting directly or for the ColorCut Pro Production studio software to create Held Mode cut files for later use.

Compatibility

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

ColorCut Pro - Production Studio (The main application) is PC only. This is the application that communicates with cutter and will directly cut designs or can be used to created held mode cut files (*.cch files) that can be transferred along with all the cutting parameter settings directly to the cutter. This can be launched in two ways:

ColorCut Pro (Direct Plug-in): The ColorCut Pro plug-in can be accessed and launched from inside Illustrator or CorelDRAW - just under your Print command. When starting ColorCut Pro directly from Illustrator or Corel-DRAW, it works just like the Print command. When the ColorCut Pro option is selected from the File drop-down menu in your graphics application, the vector lines on the currently selected layer are directly exported into the ColorCut Pro cutting window. Once exported to ColorCut Pro, simply choose the action for each colored line in your design e.g. Cut, Crease, Ignore, Perforate, Score and click start. Cutting will commence immediately. This is a very simple way to cut directly from your file.

Where access to the original artwork files is not practical, such as where a different user wishes to cut the job, it is recommend jobs are created with a job number and/or QR code. Adding a Job Number will automatically add the Cut file to the ColorCut Pro Job library, thereby enabling the job to be cut using ColorCut Pro - Production Studio software (detailed below), either on the directly by using the same computer or a different computer and also enables the job to be cut in held mode and stored on a USB drive within the cutter itself.

ColorCut Pro - Production Studio (Job Server) Launched from the Start Menu on your computer. Identical to the main application that launches from inside Illustrator or CorelDRAW, ColorCut Pro (Job Server) will open with no cutting file or job selected. Instead cut files are retrieved from the ColorCut Job library by entering the job number or scanning the QR Code on the printed sheets and then cut the file. The Job Server version of ColorCut Pro is stand alone, thus will cut files or jobs created and saved to the ColorCut Pro Job library using the ColorCut Pro add PageMarks & QR code feature (detailed below). Both in Direct or Job Server mode, users can choose speed, force and other cutting related controls and can set productivity options such as number of copies to cut. ColorCut Pro standalone can also be used to wrap up all those settings into a *CCH file, a ColorCut Pro HELD mode file, this file can be saved to a USB drive and cut at any time on the cutter without the need to be directly connected to ColorCut Pro.

Within Illustrator (Mac or PC) or CorelDRAW (PC only) you will find 2 additional functions:

ColorCut Pro ADD PageMARKs is a utility that automatically adds cutting registration marks to your artwork. (Known as PageMARKs). Illustrator or CorelDRAW files with PageMARKs can be cut directly from Illustrator or Corel Draw by using the ColorCut Pro application.

ColorCut Pro ADD PageMARKs & QR code is a utility that enables users to assign a Job number and a QR code to their artwork so that is may be cut at a later date. The QR code is automatically generated and the job number and placed on your artwork. Once a QR code has been assigned to your artwork, the cutting file is sent (in the background) to the ColorCut job library for use later with the main ColorCut Pro (Job Server) application. With Job numbers and QR codes, files can be printed (or sent to RIP's (like a Fiery) and printed at a later date). The sheets can be cut using the ColorCut Pro (Job Server) version which can be done on a separate PC and does not require the original file to be opened. The design to be cut is retrieved automatically as the user enters the job number or the cutter reads the QR code. This is ideal for larger companies looking to separate design and finishing (Cutting) of jobs.

ColorCut Pro for Mac Users

Mac users can design and generate jobs on Mac workstations using ColorCut Pro's Job library feature.

NOTE: The main ColorCut Pro (Production Studio) cutting application is PC only, so Mac users can design their artwork on the Mac and use a PC to connect to the cutter for the cutting of the jobs. Please be aware whilst held mode files can only be created by the PC based ColorCut Pro (Production Studio) application, MAC users do need to be able to have access a PC for Directly cutting their files, (or access to a PC Windows environment within their MAC to run the ColorCut Production Studio software and create the HELD mode files.

Mac users can design and cut files using 3 different approaches:

1. You can use the Mac ColorCut Pro feature 'ColorCut Pro ADD PageMARKs'; this utility will add the registration marks necessary to cut your file. You should then save your design as an illustrator file that can be opened on the PC which is connected to the cutter. (If you save the files in Illustrator format, you must have Illustrator also installed on the PC to open Illustrator files). You can then use ColorCut Pro in direct mode and then cut directly from the PC version of Illustrator.

2. Connect a PC to your cutter and install ColorCut Pro - Production Studio, on the PC (on the same network as the MAC), configure the ColorCut Pro Job Library feature to act as a cut job library server for your Mac.

3. Using either a PC or by running MAC Parallel or similar virtual PC Windows environment, install ColorCut Pro - Production Studio, on the PC environment (on the same network as the MAC), configure the ColorCut Pro Job Library feature to act as a cut job library server for your Mac then use the ColorCut Pro Production Studio software to generate held mode cut files for saving to a USB stick for cutting when not connected to a computer – or if the cutter is in a completely different location.

Use your Mac to create your artwork and then use the Mac ColorCut Pro feature 'ColorCut Pro ADD PageMARKs & QR Code'. (On MAC, this feature is found in the Illustrator main menu, just under the Print command). This feature enables Mac users to design on their Mac and then when the 'Add PageMARKs & QR Code' feature is selected from the Illustrator menu, ColorCut Pro will assign a Job number and a QR Code to the artwork, the cut file is automatically sent (in the background), to the ColorCut Pro Job library server on your PC so that is may be cut at a later date. This enables Mac designers to design efficiently on their MAC and allows Print Production operators to cut the Mac designed jobs from the remote PC connected to the cutter using the Job Server and Job Library feature.
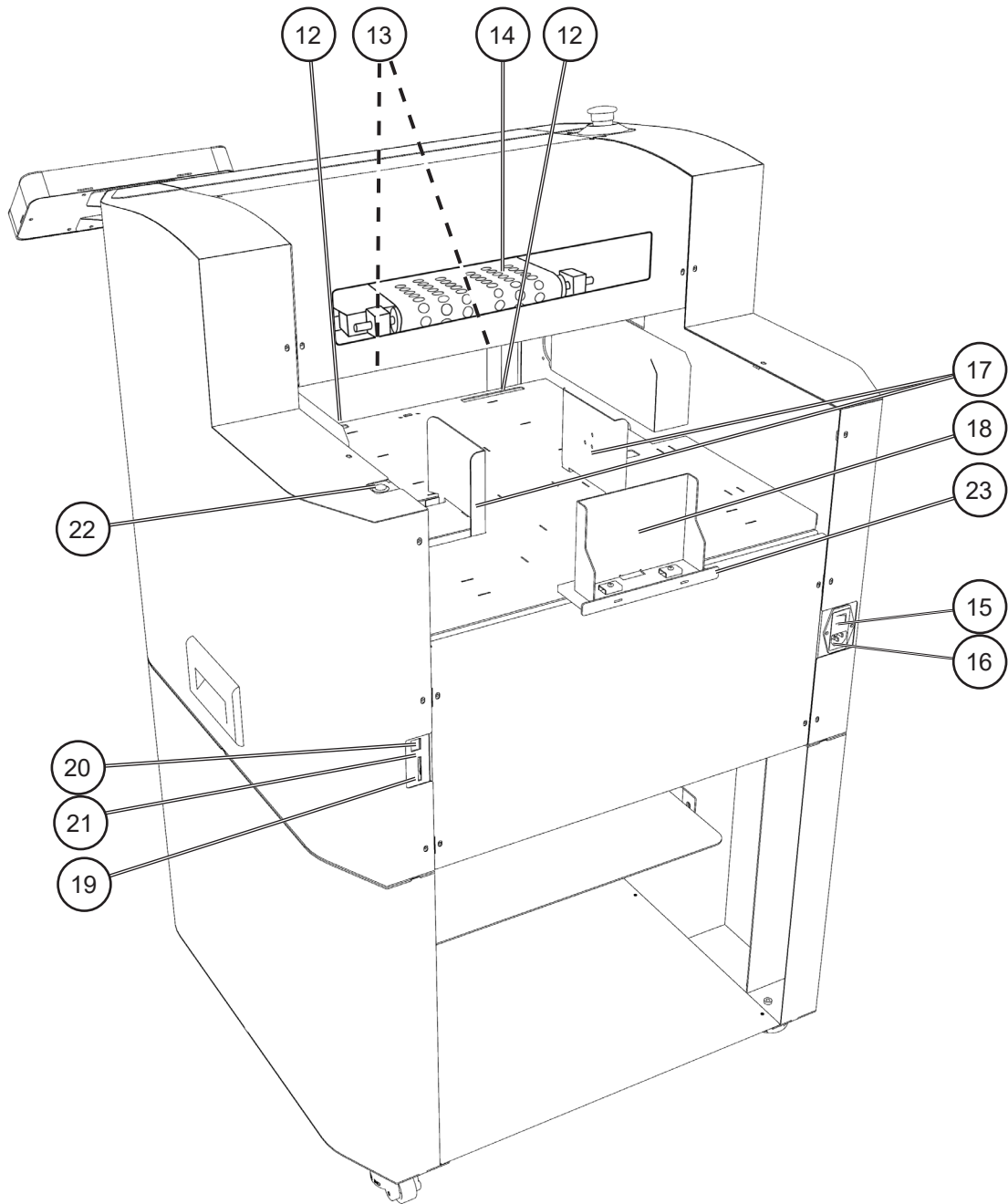
Guide To Components
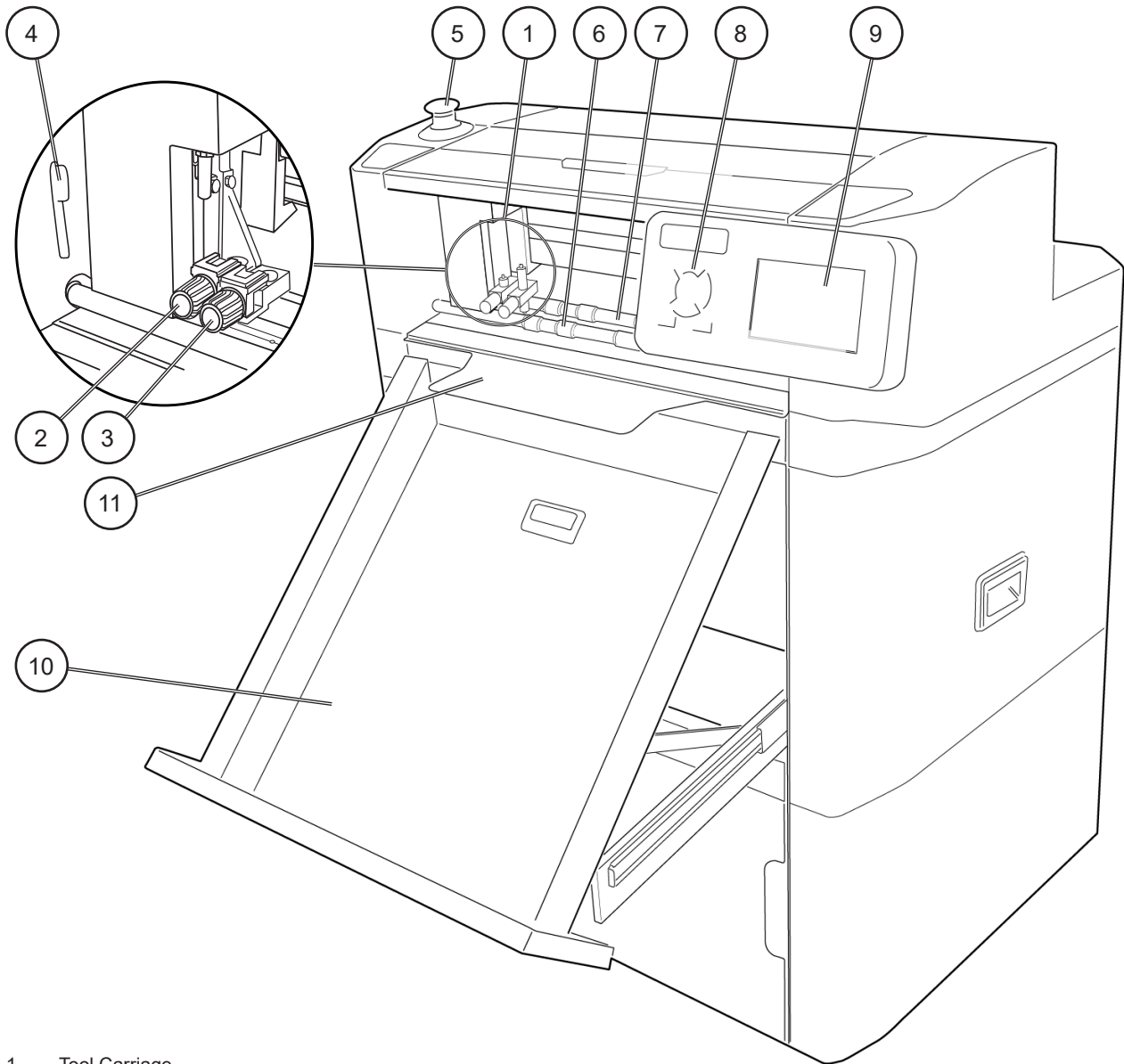
1	Tool Carriage
2	Tool 1
3	Tool 2
4	Front 'Dual Grip' Roller
5	Emergency Stop Switch
6	Main Feed Roller
7	Secondary Grip Roller
8	7'' LCD Touch Panel
9	Hard Keys
10	Exit Tray
11	Tag Reduction Plate

Guide To Components, continued

12	Front Media Guides
13	AirBlade
14	Vacuum Pick Up Belt
15	Power Switch
16	Power Cable Socket
17	Side Media Guides
18	Rear Media Back Stop
19	SD card
20	USB Interface Connector
21	Wi-Fi antenna
22	Stacker Control Button
23	Long Media Extension Plate

User Interface ColorCut SC6500
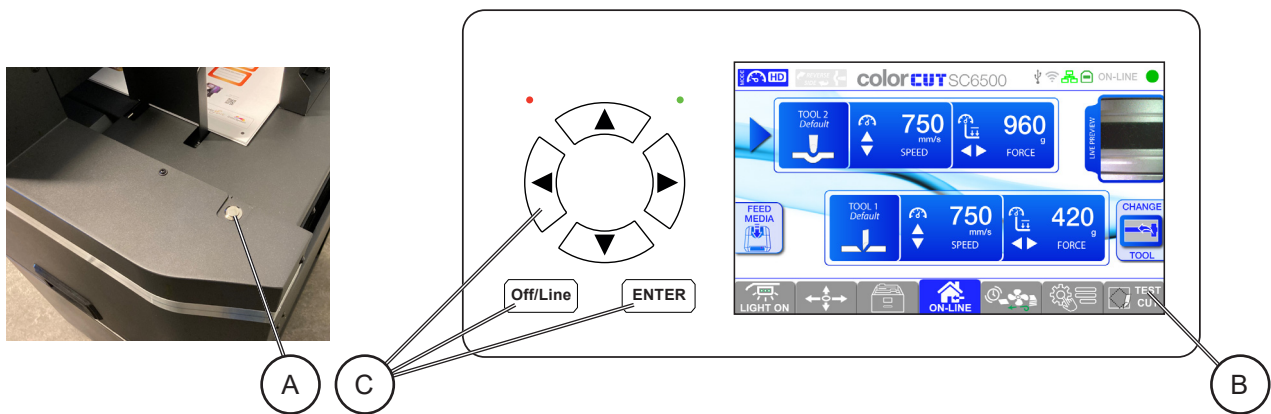
The SC6500 rear side panel includes a large silver button which is the Feed Stacker control button. On the control panel there is a 7" Color LCD "Touch" LCD panel, with 6 hard buttons to help you make selections and change values to control the SC6500 cutter.

The Feed Stacker Control Button [A] - Pressing the button cycles through the functions of the Media Feed Stacker.

- Press to Lower the stacker.
- Press again to Stop the stacker from lowering (It will auto stop when it is at its lowest point).
- Press once more to Raise the stacker (it will auto-stop when the stack height is at the fully raised position).

The 7" LCD display [B] is a Touch sensitive control panel, situated on the right side of the Control panel, it displays the camera feed, information about the current tool settings, and has several sub menus and options for controlling the machine which are detailed more in this section. A range of Hard buttons [C] can be found to left of the display.

NOTE: The RED LED indicates the unit is powered on, and GREEN LED, illuminates as a key is pressed.
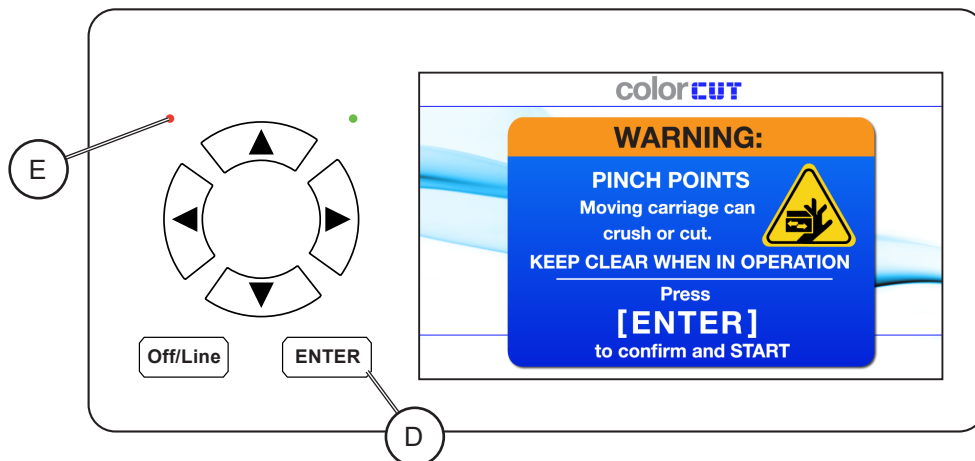
When you power on the SC6500 cutter, the message shown should be displayed on the LCD panel. This is a safety warning, that prevents the carriage moving until you press the [ENTER] key [D] on the control panel.

Warning:
If you have powered on the SC6500 cutter using the Power switch at the back of the machine and the Power switch is Illuminated, but you do not see anything on the display, and the RED LED [E] is not Illuminated. Then it is likely the EMS switch (Emergency Stop Switch) (See section "Guide To Components") has been depressed/activated. To release the EMS function - press and slightly twist the EMS button so it goes back up. Now Power will reach the display and the red LED will be illuminated and the display will be as shown above.
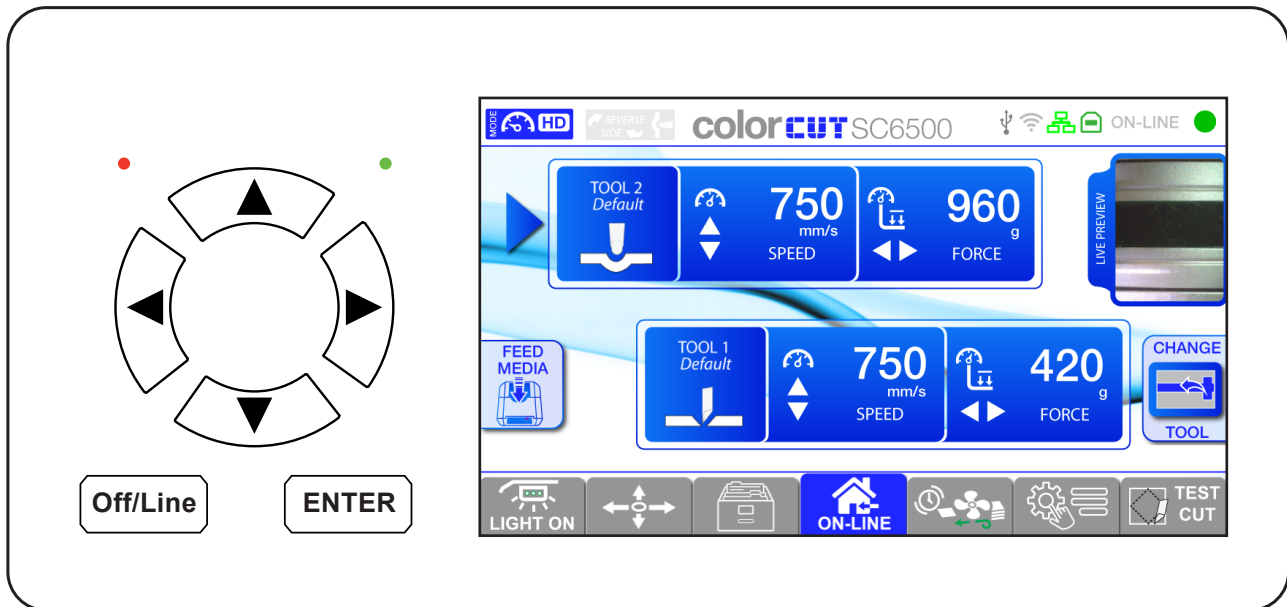
When the Home screen is displayed, the Speed and Force for the each tool on the tool carriage is displayed and can be adjusted. At the base of the touch screen is a tab control strip with several buttons and sub-menus. The tab key's control the SC6500 light feature and access the move function, hold mode, fan settings, tools, and test functions.

The 7" LCD panel screen has a number of touch zones enabling you to control the settings, and select alternative functions.

Upper row TOOL 1 can be touched to control TOOL 1. When TOOL 1 is selected an arrow will be displayed, indicating that this is the selected tool. SPEED and FORCE for TOOL 1 can now be adjusted.
Pressing TOOL 2 will move arrow to TOOL 2, it is active and selected then, you can adjust the settings for the tool.

With a Tool selected, please find below details of the function for each hard button.

NOTE: When a hard button is pressed the green led briefly illuminates to confirm.

Up	Increases speed for the selected Tool when the Home screen, is displayed	(Range 0 - 1060 mm/s)
Down	Decreases speed for the selected Tool when the Home screen, is displayed	(Range 0 - 1060 mm/s)
Left	Reduces force for the selected Tool when the Home screen, is displayed	(Range 0 - 760 g)
Right	Increases force for the selected Tool when the Home screen, is displayed	(Range 0 - 760 g)
Enter	Pressing the button will accept the setting shown on the LCD panel when changing menu options	
Off/Line	Pressing the button places the cutter offline and jobs can not be sent. Pressing the button again, will take place the cutter ONLINE ready to cut jobs.	

Max speed is based on Quality mode, 1060 mm/s can only be selected in FAST mode. See section "Quality Mode" for more details.

In addition, when you scroll through the menu options, or setting the parameters. Pressing the [OFF/LINE] key leaves the menu list and returns to the default home screen.

Feed Media

The [Feed Media] button activates the feed function and the media on the feed platform is being passed through the cutter.

Eject Media

The [Feed Media] button changes to [Eject Media] when media is detected in the cutter. This can happen if you cancel a job (or if you have sued the Feed Media button to load a sheet). When pressed any media loaded is ejected.

Change Tool

When [Change Tool] is pressed, the Tool carriage is moved to the rail's far left side to allow for easier tool changes. Press [ENTER] to move the carriage in start position.

The home screen also features designated Long Press Zones that serve as convenient shortcuts, providing immediate access to frequently used settings.

Long Press Zones:

- Quality Mode [A]
- Connection Info [B]
- Image Control [C]

NOTE: Section "Settings and Options" provides detailed explanations of these settings.

Lights On/Off

Pressing [LIGHT] button can be used to control the Light Bar function. The Light Bar is situated under the front upper panel.

The light bar will also illuminate the Vacuum pick up belt and display window at the rear of the machine.

The Light function Tab button, is a toggle action - press once to turn on the Light Bar. Press again to Turn Off the Light Bar. The [LIGHT] TAB key will change to reflect the status of the Light Bar.
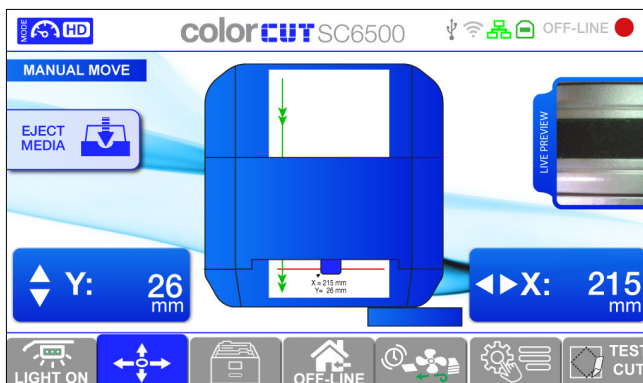
Move

The Move screen allows you to move the Tool carriage and Feed the media feed rollers backwards or forwards on cutter.

The Move function is a crucial tool when using the Test Cut function, as it allows to manually feed media into the cutter from the front. This function can also come in handy in a few other situations:

1. Removing an element that was cut out but wasn't held in place by tags on the sheet.
2. Clearing a jam or fixing misfed media.

3. When dealing with special types of media like sugar or rice paper. Move function can be used to move the rollers forward to help clean them.

# User Interface ColorCut SC6500, continued
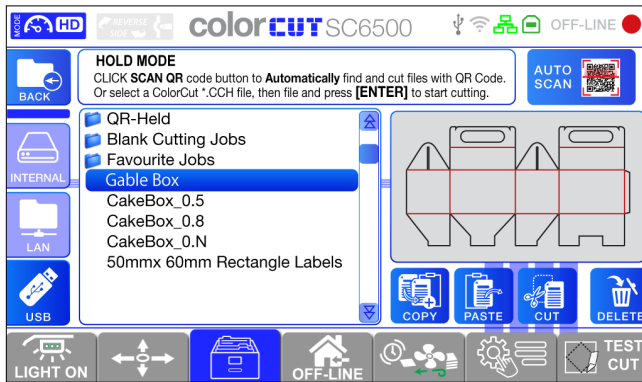
Hold Mode

The Held screen, allows you to cut jobs directly on the cutter without the need for your computer to be connected.

There are 2 ways to start cutting.

1. Click the "Scan QR CODE" to automatically retrieve a QR code job stored in the QR-Held folder;

2. Manually select a Cutting file in the directory listing show on the screen from the USB drive or Network share by selecting the cut file name from the list (you will be able to see a preview) on the right side of the LCD panel, with the file selected then press the [ENTER] hard key to cut the job.
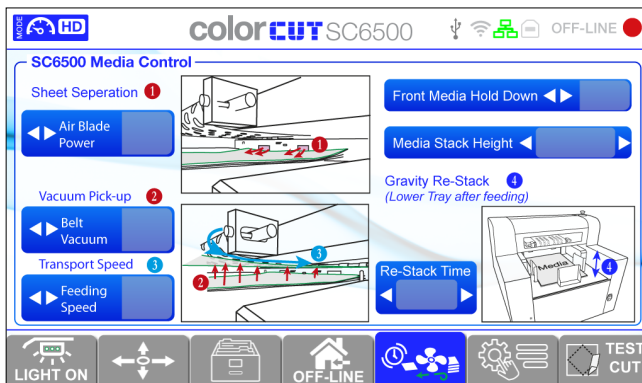
Media Control (Advanced Feeder Settings)

The Media Control settings allow for exact control of media pick up and transport through the cutter. This feature can be useful when working with difficult media types, allowing for fine-tuned modifications.

1. Air Blade gives you control to increase or decrease air flow from the air blade lite, which can help in sheet separate (or can be reduced for light or delicate media).

2. The Vacuum Pick-up is the vacuum force lifting the media to the feeding belt above. This can be reduced for porous media to prevent the vacuum picking up multiple sheets or increased for heavy media.

3. The Feeding Speed controls the speed of transport through the machine. On soft pliable media, the media can be advanced so fast that the media creates a soft wave and does not feed well. Reduce this setting for soft or delicate media, set it to maximum for normal media and rapid loading times.

4. Front Media Hold Down, increases the vacuum between the two grip rollers, ensuring sheets are held down when advanced between the two rollers, prevent the front lifting.

5. Media Stack Height is used to control the height of the stack of media when the feeder tray is raised. This can be used to reduce the height of the top sheet if your media is very flat and thin. However, if you have pre-printed labels that have a light curl, you may need to raise the stack height to help overcome the curl tricking the sensor.

6. Gravity Re-stack enables the feeder to lower the media feed tray after feeding a sheet of media. There is a time setting associated with this option (Re-Stack Time). If 0 seconds is set, the media tray does not adjust after a feed. 3, 5 and 8 seconds can be set, to lower the media tray that set amount of time and then raise it. This enables any slightly mis-fed media to fall back in between the media guide and re-stack itself using gravity. The longer time period you choose, the further the media tray drops to restack. The default value is 0 (off).

User Interface ColorCut SC6500, continued

Menu - Settings & Options

The Settings & Options Menu screen allows to perform calibrations, or check and modify settings.

Press the Menu Tab to select the Menu Settings & Options screen. In the Menu mode, the cutter status changes to [Off Line] and will no longer receive new cutting files. When you have finished changing the menu settings press the [Home / ON-LINE] key to return the cutter to the Home screen and change the SC6500 cutter status back, to Online.

Test Cut

The Test Cut function allows you to check your blade depth/force settings.

Press the [TEST CUT] tab, to initiate the Test Cut function.

A quick check and final adjustment of the blade depth & pressure can be made by using the Test Cut function.

The test media should be loaded in the feeder, the cutter feeds media and performs the test cut. To save on waste the test cut can carried out by loading a sheet of media in from the front of the cutter (this enables you to leave a stack of media in the feeding tray).

ColorCut Pro Main Interface

Job Preview Window
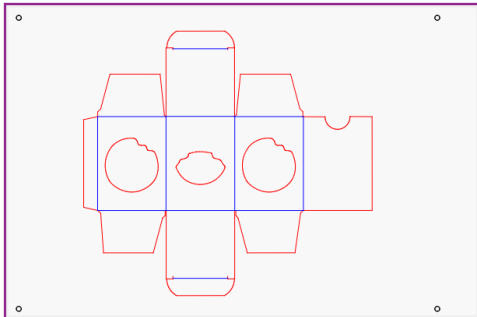
ColorCut Pro Direct Mode
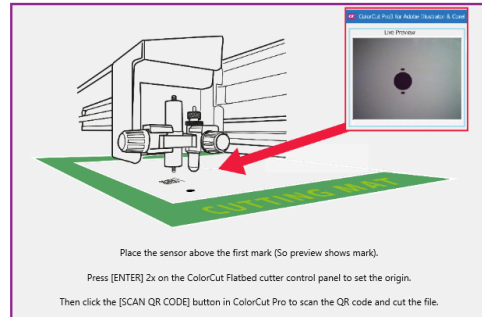
ColorCut Pro Job Server Mode

When launching ColorCut Pro in Direct mode a preview of the cutting profile on the selected layer will be shown in the Job Preview Window.

When launching ColorCut Pro in Job Server mode an information graphic will be displayed in the Job Preview Window. This will be updated with the Cut Job file preview once you have manually entered the Job number or scanned the Barcode.

Live Preview Window

Live preview is fed through the USB cable and is shown here for setup and troubleshooting purposes.

The Live Preview Window displays a real-time video of what the Vision3 CCD camera sensor captures. When starting a Cut Job, you will see the initial PageMARK [A] being captured. If you are also scanning QR codes [B], you will see it being captured and then each of the other PageMARKs. Also during the cutting you will see Live Video of the media surface (your printed job) [C] as it cuts.

A

B

C
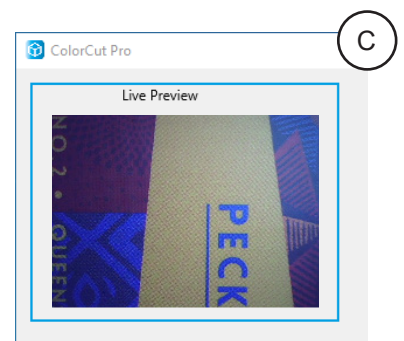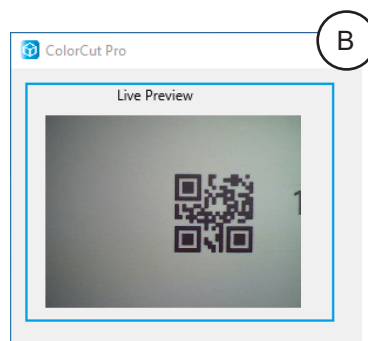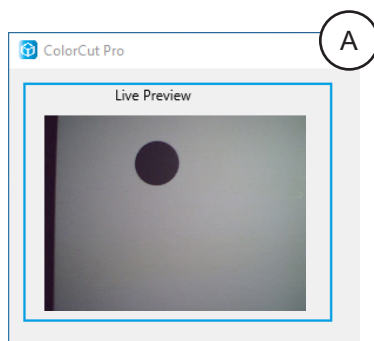
Brightness/Illumination Control

The Vision3 CCD camera sensor, includes a LED strip that illuminates the area being captured. With some types of media it may be necessary to increase or decrease the brightness of the illuminated area, particularly with porous substrates like rice paper, or reflective/foiled materials. Adjusting the slider [A] up, will increase the brightness, while adjusting the slide down will reduce it, same applies for exposure slider [B]. When positioned right at the bottom of the slide, the illumination will be Off.
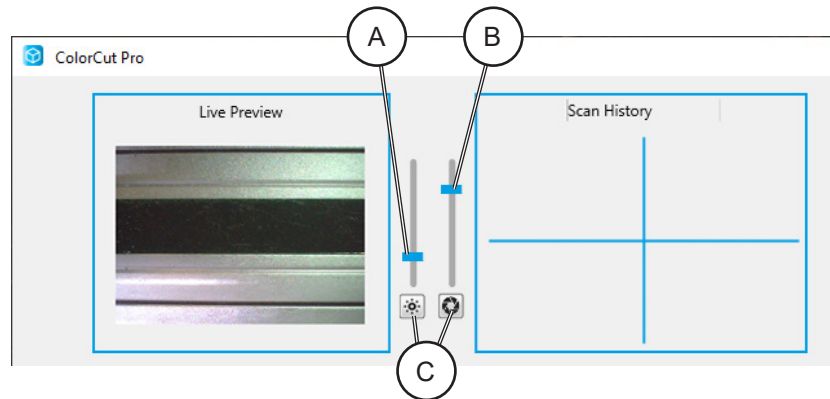
The buttons at the base of the sliders [C], will reset sliders to the Default level that is recommend for daily operation.

NOTE: While adjusting the slider may help for a one off, selected media (if you find you are frequently having difficulty scanning marks on a specific colour media or reflective media). You may find it better to use the Automatic: Retry Scan with Varying Light Levels feature. This will scan the marks on the current light level then retry the scan on a lower, then a higher light level automatically for you (See section "Advanced Productivity options").

Scan History

The Scan History window will display the history of each scan, enabling you see if a scan failed and to help you understand the progress of your cutter.
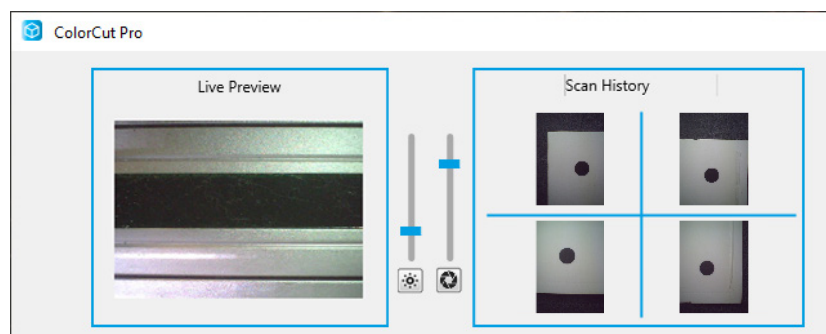
You can watch the live video preview and the Scan History window, when a sheet is loaded. If your page size is configured correctly - then during the initial loading of a sheet the Vision3 sensor will move directly over the 1st mark. In the live video preview the 1st Mark (Target) should appear in the centre of the video preview area. If it is slightly off centre the cutter will readjust for centre and save the position in the Scan History window, and move on to the next mark.

The SC6500 will position the Vision3 sensor over the first Mark based on the media size set under the Productivity window. If the page size set under the Productivity window does match the media size loaded, then the PageMARK (targets) may not scan. You should be able to see the SC6500 moving the Vision3 sensor to the wrong position if this is the case and correct the issue.

In addition, if you have changed the margin/offset of the Targets from the edge of the sheet, it may also be that the Vision3 sensor does not move to the correct location. Again, the margins you are using for the 1st pageMark can be defined in the productivity window (See section "Productivity Options").
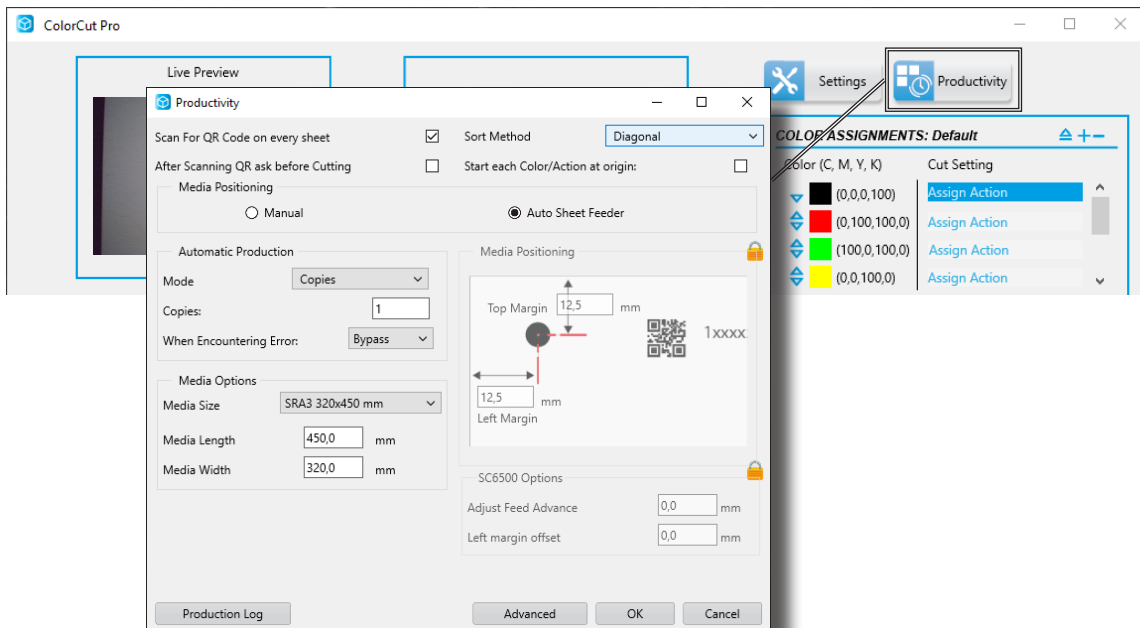
Settings

The Settings Button will display the Settings Window as shown below, which allows you adjust general settings such as knife offset, target scanning, units, etc.
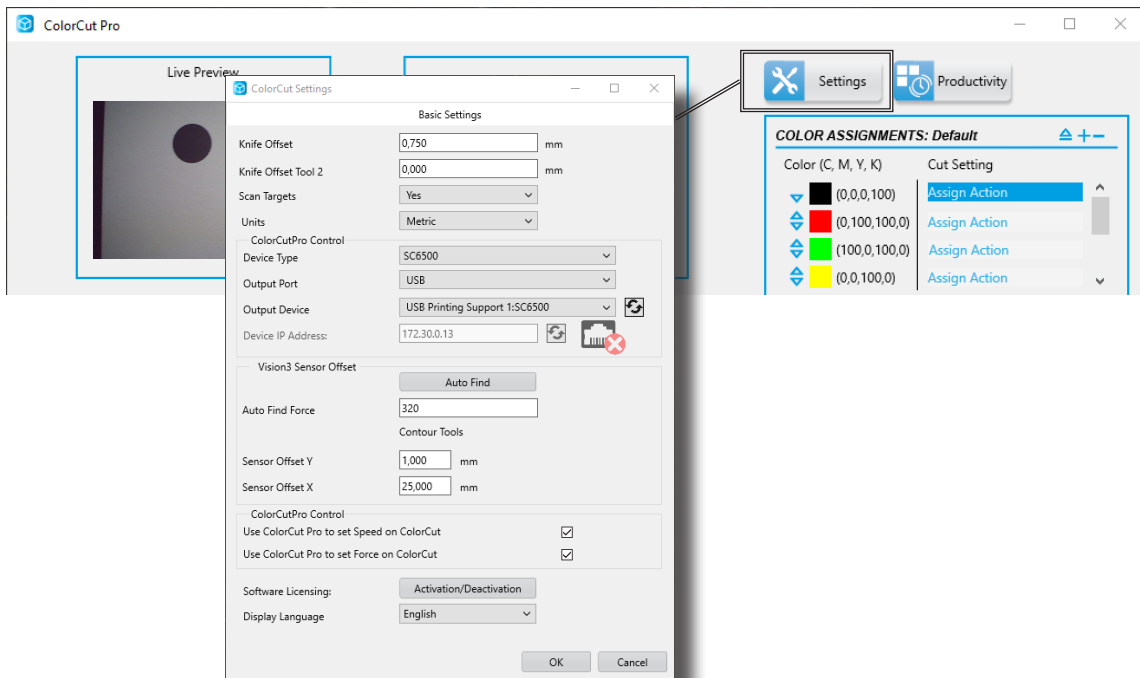

Productivity

The [Productivity] Button will display the Productivity Window, required for setting the Media size loaded in the Auto-Sheet feeder and the default margin of the 1st PageMark (These are required for correct scanning of the PageMARKs & QR code). The Productivity options also enabling optimization of features that affect the cutters productivity, including the ability to handle single sheets, copies or continuous mode.

Cut Settings

ColorCut Pro displays a preview of the file to be cut in the Job Preview Window [A]. If the cut file contains different line colors then each color is matched to one of the 8 primary colors that ColorCut Pro recognises (See section "Line Colors recognised by ColorCut Pro"). The cutting lines are displayed in their respective colors, with each color listed in the Color Assignments window.

Next to each color, a Cut Setting/Action will be shown. The software will remember previous Cut Setting assignments applied to a color from the last time the Color was assigned. (If a Color has not previously been used, the assignment may be blank).
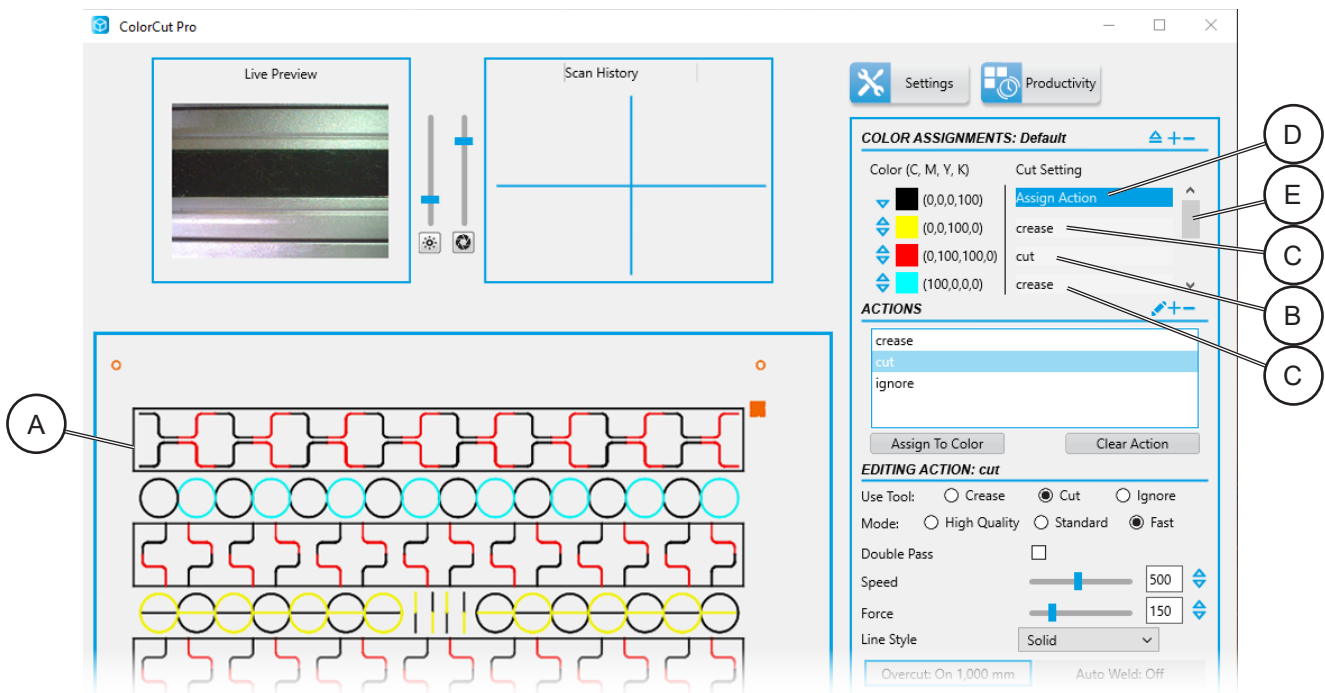
In the example above (showing a different cut profile in the Job Preview Window [A] for explanation purposes) there are multiple colored lines within the cutting profile. The Red line has the Cut Setting/Action 'cut' [B] next to it; Yellow & Cyan are set to 'crease' [C] while the Black colored lines [D] are yet to have an action assigned to them. If there are more colors than shown on the list, use the scroll bar [E] to see the additional colors.
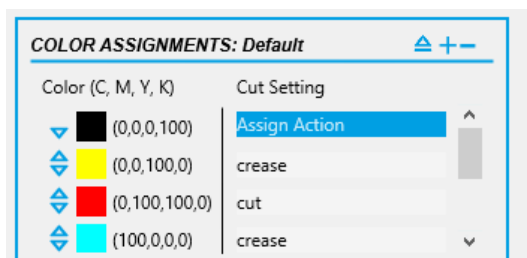
The sequence/order in which the actions are completed is the order in which the colors are shown in the Cut Settings list.

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

NOTE: Remember colors at the top of the list will be processed first.

Actions

You can create Actions for each process/task you wish the cutter to perform in Actions panel [A].
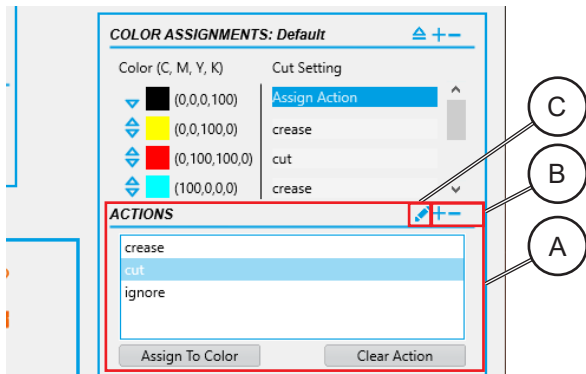
An Action is a profile consisting of the following saved settings being used:

- Cutting Tool (Cutter, Crease, or Ignore)
- Speed of Tool
- Force/Pressure applied by Tool
- Type of Line (Solid, or Dashed, or with Tags)
- If the Tool should double pass (e.g. Double Crease)

As you get used to your SC6500 and the different materials you cut, you can start to save these profiles for different cutting forces or speeds dependant on the media types.

The Actions Window [A] shows a list of all the pre-defined settings/profiles you have created that you can use or employ. You can click the [+/-] symbol [B] to add a new Action. If you wish to rename the Action, click on Pencil symbol [C] and enter new action name, then click [OK].
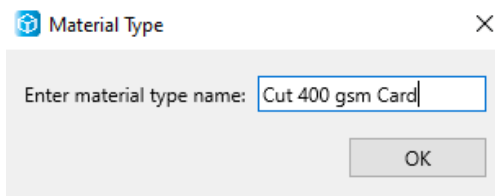
After clicking the [+] symbol you will be prompted to enter the name you wish to call your Action.

Click [OK] and then follow the instructions in following sections.

Assigning an Action to a Color (or clearing one)
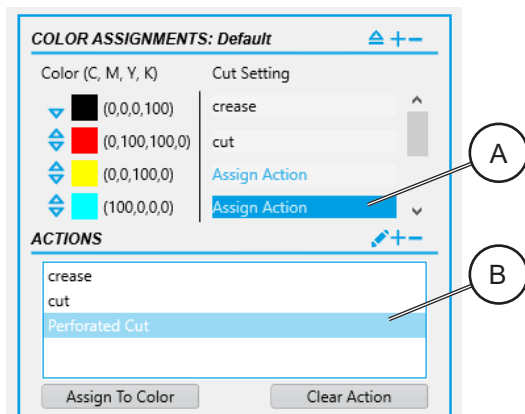
1. To assign an Action to a colored line, select the Line Color you want to assign the action to in the Cut Setting Panel, in this example we will click on the Cyan/light Blue color [A]. (Click on the "Assign Action", next to the Color).

2. Then select the Action you wish to be applied (in this case we selected a new action we created called 'Perforated Cut' [B]).

3. Finally click the [Assign To Color] button.
   The name of the selected action will appear next to the Line Color.

4. To change an action, follow the same steps, Click on the right side of the Color Settings (on the currently assigned action name). Then select the new Action you wish to apply and click [Assign To Color].

5. To Clear a Action from a Cut setting, Click on the right side of the Color Settings (on the currently assigned action name). And click [Clear Action].
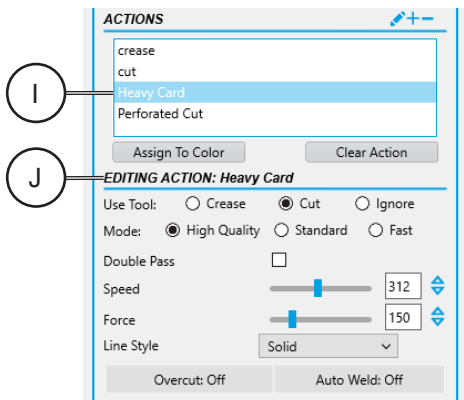
The Editing Action Window

The Editing Action Window displays the parameters used for the Action selected. You can check,review and edit the settings to suit the action and any changes will be applied to the Action immediately on the next cut.
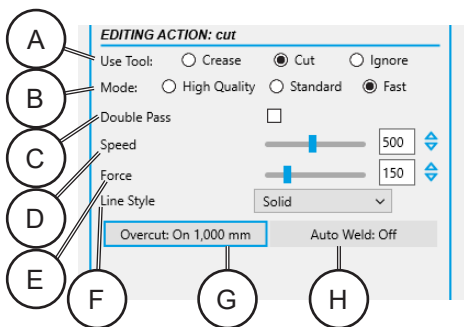
Each Action, includes the following adjustable settings:

- Tool Used [A]
- Quality Mode [B]
- Number of Passes for the tool [C]
- Speed of the tool during cutting [D]
- Force/Pressure applied during cutting [E]
- Line Style (Solid or dashed/perforated) [F]
- Overcut [G]
- Auto Weld [H]

When creating a new Action, first create a new name (See section "Actions").

To edit Action select it's name from the list in the Action Window. When a Action is highlighted (in this case you can see we have highlighted the action 'Heavy Card' [I]). The name of the selected Action 'Heavy Card' can be seen in the top of the Editing Action section [J].

All parameters displayed in the section below combine to create the profile for the Action "Heavy Card".

You can edit these values if required to adjust the profile to suit your requirements.

Selecting the Tool (Cutting/Creasing/Ignore)

The Use Tool [A] to be used is shown (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 from on the Tool Carriage). Or you can choose to Ignore the line for cutting.

The Ignore feature is useful if you realise that your cut file 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 [C] function 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 Rice Paper for foodstuffs. A Double Pass here will often provide a cleaner cut.

Selecting the Line Style of the Cut or Creasing Tool
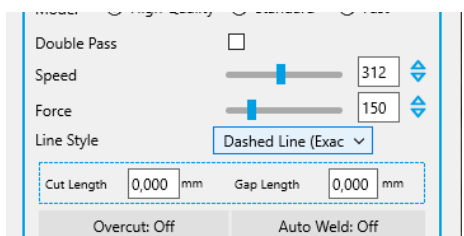
The parameter Line Style [F] controls the type of line that will be cut or creased. By default this is a Solid line. However, you can change the line style to a Dashed Line for a perforated cut.

Changing the Line Style will update the preview in the Job Preview Window (if the Action is assigned to one of the Line Colors in the job preview) so you can see the Line change to a dashed line.

You can set the distance of the knife down (cut) and the knife up (gap) so this feature can also be used to create tags to hold elements in the sheet.

Dashed line (Adjustable) - creates cuts based on Cut length as a Priority and a gap. When the Gap is specified, the software aims to keep the Cut Length the same while also making sure the cuts align with the object. It does this by adjusting the gap so that the number of line lengths in a object line stays consistent for cutting.

Dashed line (Exact) - maintains the Cut Length and Gap as specified. This can result in some long lines appearing to have inconsistent line lengths. For example, if Cut Length is set to 50 mm and the Gap of 0.5 mm, a 230 mm line may have 4 cuts of 50 mm and one cut of 30 mm, but gaps between the cuts will be 0.5 mm

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Creating TAGs to hold elements in Using "Line Style"

The SC6500 is an X-Axis cutter. This means during cutting the sheet is moved back and forwards. This type of cutter is common for label cutting as the backing sheet for the labels naturally holds the labels in place.

When using the SC6500 for Die-Cutting (full cut through), applications, it is important to place TAGs in the cutting lines to hold the elements in the sheet to prevent them from falling out during cutting and causing an obstruction. This can be done automatically using the Line Style feature.
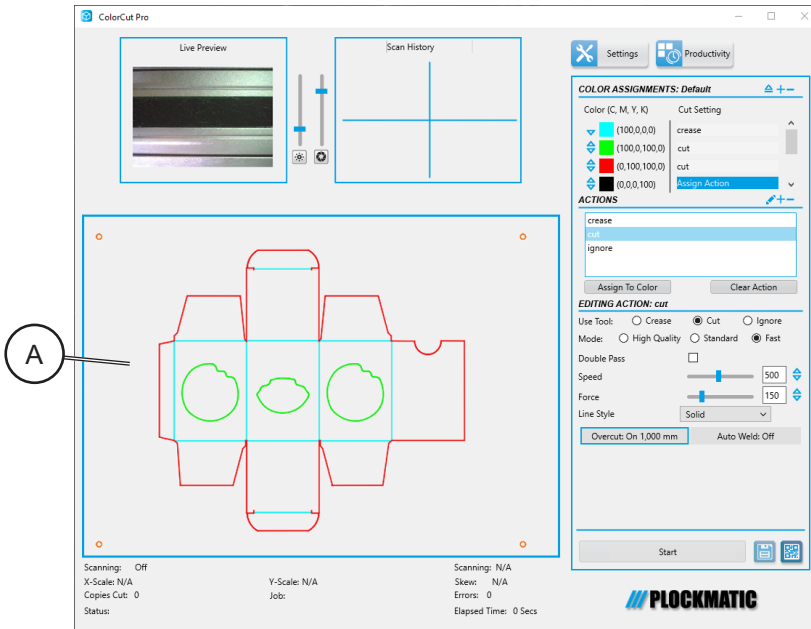
1. In the preview window [A], the box has a cut line for windows (in Green) and a cut line for the outside (in Red).

   Currently both green and red line colors & are assigned to cut (which is a solid cut).

   The preview shows these lines as solid.
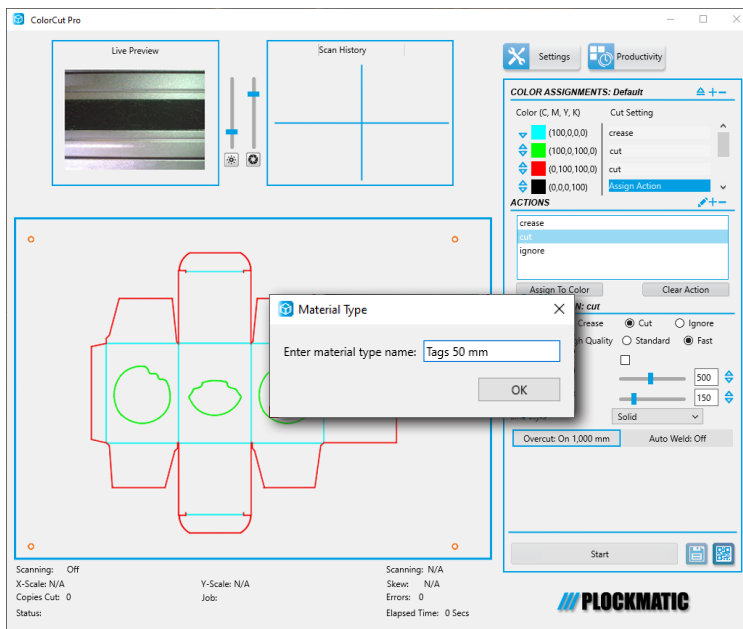
2. To automatically add Tags to the cut file, first create a new Action by clicking the [+] button.

   Create a name to reflect the Action your are creating e.g. "Tag every 50 mm".

3. Select the new Media Type ("Tags 50 mm")
   Ensure the "Tags 50 mm" Use Tool is set to Cut tool [B].

4. Set the Line Style to "Dashed Line (Adjustable)"[C].

5. Complete the Line Style profile by setting a Cut length to 50 mm and the Gap Length to 1 mm [D]. This will create a Action that assigned to a line color will provide a 1 mm Tag every 50 mm.

6. Now the action has been created, apply the action for creating tags to the line you wish to contain tags. Click on Cut Setting section, next to the Color green, then select the new "Tags 50 mm" /Action and assign it to the Color Green. The preview (above) updates to reflect the new (Tags 50 mm) that you created and will show the line with gaps every 50 mm

NOTE: If your tags are small (such as 1 mm) you may need to make the tag slightly larger (3-5 mm) to see it in the preview, then reduce it back to 1 mm).

This will prevent the Green inside elements falling out of the sheet during cutting.

You could also assign the new "Tags 50 mm" /Action it to the Color red as well.
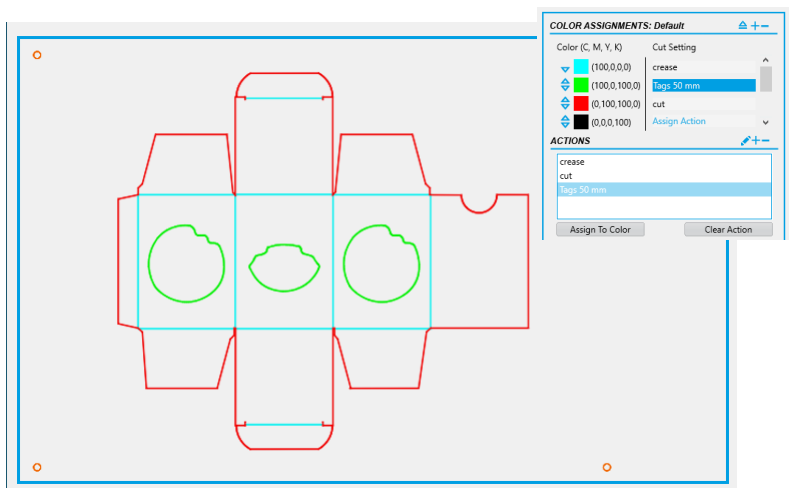
However, the perimeter cut line is usually a long cut line and a tag every 50 mm may create a lot of tags - slowing production and making the element difficult to easily pop out.

Therefore we recommend you use different colors in your design for larger and smaller elements when you design your jobs. This will then enable you to use a new with less frequent tags for longer cut lines. (Detailed following).

7. Repeat Step 2 to add another new . In next example we will add a "Tag 200 mm" for longer lines.
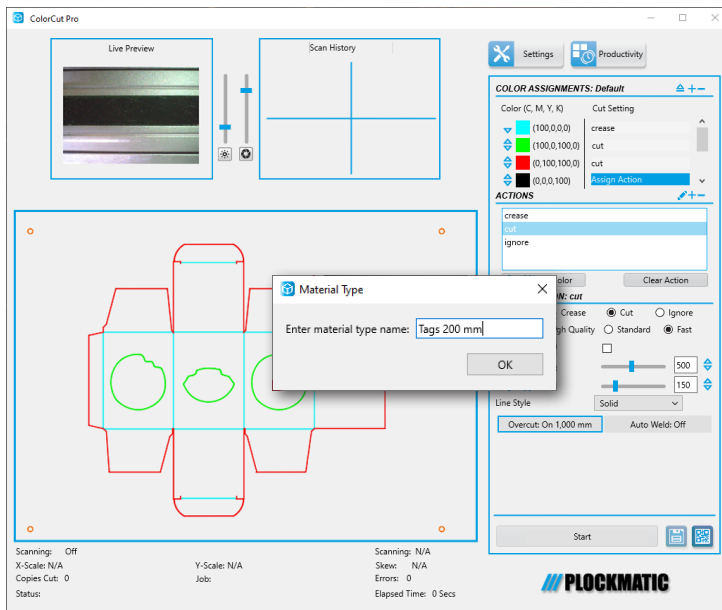

8. Use the [+] symbol under Actions to add a New Material Type and enter the name "Tag 200 mm". Select the "Tag 200 mm" from the list once added and Edit the settings as detailed in steps 3 to 5 above. But this time set the Cut length to 200 mm.

9. To apply for to the red line click next to the Color Red in Cut Setting section, then select the "Tags 200 mm" /Action and assign it to the Color Red.
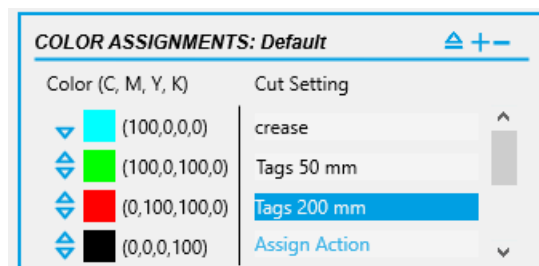
The preview updates to reflect the new (Tags 200 mm) for the red line with "Tags 50 mm" for the green line.

Speed of Cut or Creasing Tool

The parameter Speed [D] controls the speed of the carriage while cutting your design/project. The available range is 7 mm/s - 1060 mm/s.
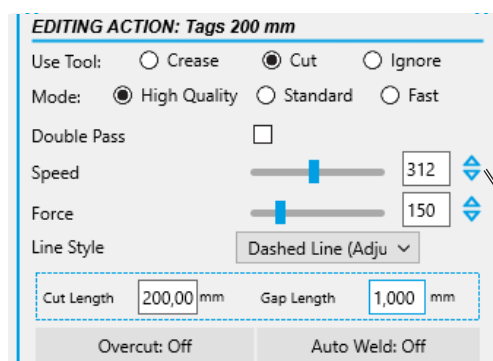
When cutting packaging projects with predominantly straight lines and sweeping curves, high speeds can be used for example 850 - 1060 mm/s. However for small delicate shapes slower speeds are recommended.

When using the creasing tool, on some substrates a slower crease may yield superior results.

It is possible to create multiple s with different speeds. You can then apply the different s to various elements within your cutting design (the design will need to be created using different line colors to allow you to identify each element) This makes ColorCut Pro highly versatile as it enables you to assign multiple different speed profiles within one cut file using the different line colors.

Force of the Cut/Crease

The parameter Force [E] controls the force applied by the tool. The range available is 0 - 750 g.
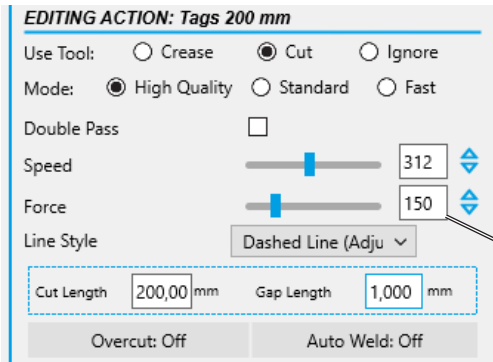
- A cutting force of 250-350 g should be sufficient for card or media up to 350 microns thick. Settings above 550 g may suggest that more blade is required.
- Settings below 220 g may suggest that you have too much blade exposed and less blade is required (except when cutting labels).

The most optimal cutting results are achieved when using pressure to help cut, not by extending the amount of blade. For the best results, you require the smallest amount of blade achievable.

NOTE: Cutting with too much blade, will reduce the life of the blade and cause excessive wear on the cutting strip. In addition it is likely to create poor inverted turn (tears - a name for corners on inverted turns being turned over).

Please take care to observe the above guide lines for cutting force with regular card on die-cut projects.

However, creasing often requires maximum Force and often up to 750 g for is used for creasing applications. Users can also select 'DoublePass' to further increase the creasing effect.

Overcut

OverCut extends the cutline at the end of an object line (or curve) at the point where the blade would normally be lifted.

This way it makes sure that the design is completely cut through. Due to a variety of tolerances without the OverCut function, the cut line may not be completely closed causing unwanted Tags on die-cut items or difficulties when weeding label media.
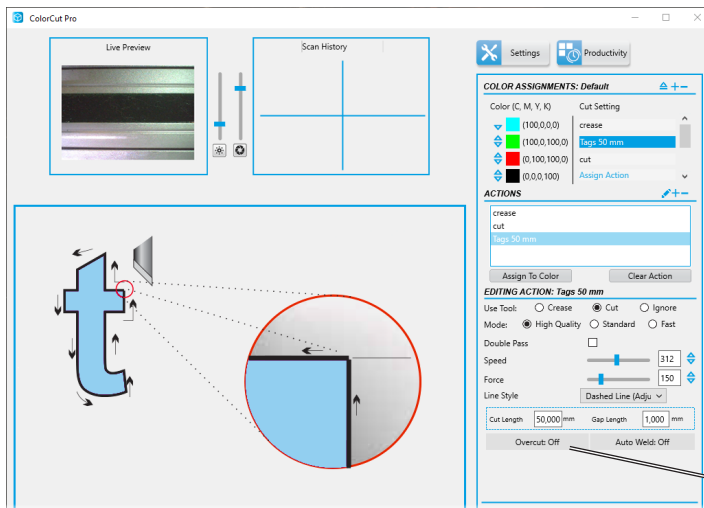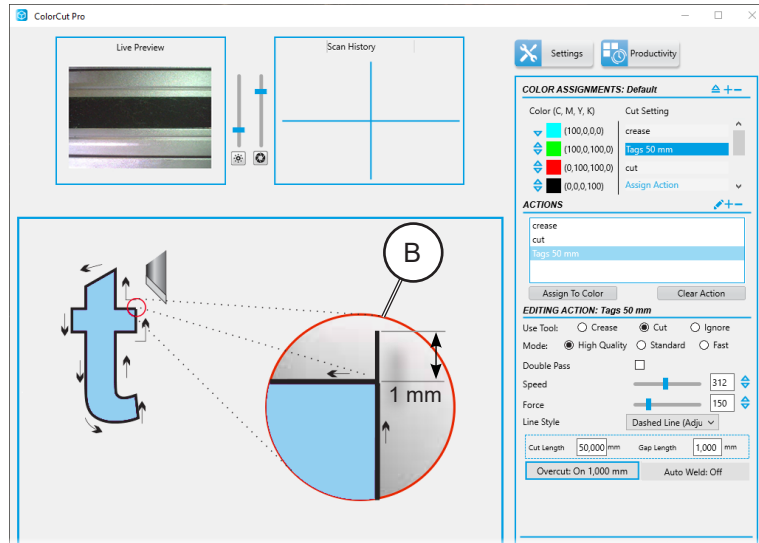

The default setting for Overcut is "Off" [A].

To Activate OverCut, click on the Blue button on the right side of the OverCut section and a dialogue box will appear asking you what value you wish to set OverCut to.
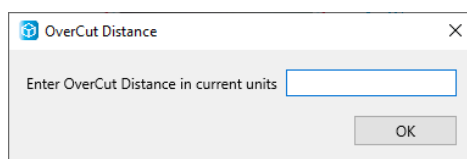
Set the OverCut value to approx. the width of the blade (for labels) or approx 1 mm for Card based projects.
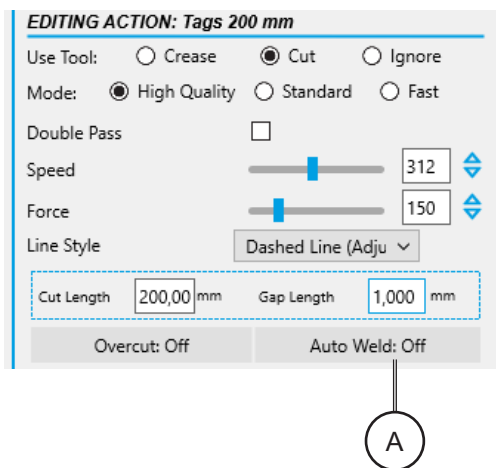
With OverCut enabled the blade will overcut the endpoint of the object prior to lifting [B].

NOTE: If cutting complete shapes and 1 mm is insufficient, it may be necessary to increase the value to 2 or 3 mm.

Auto Weld

The Auto Weld [A] function serves as an indispensable tool for rectifying errors in artwork where lines are disjointed.

This function is especially useful for keeping the cutter head from rising while transitioning from the end of one line to the start of another, essentially combining these segments into a single continuous cut. By seamlessly connecting these lines, Auto Weld not only saves time but also ensures a smoother and more precise cutting process.

Start/Scan QR Code

The [Start] or [Scan QR Code] control is a dynamic button which changes based upon the mode you are work-ing in.
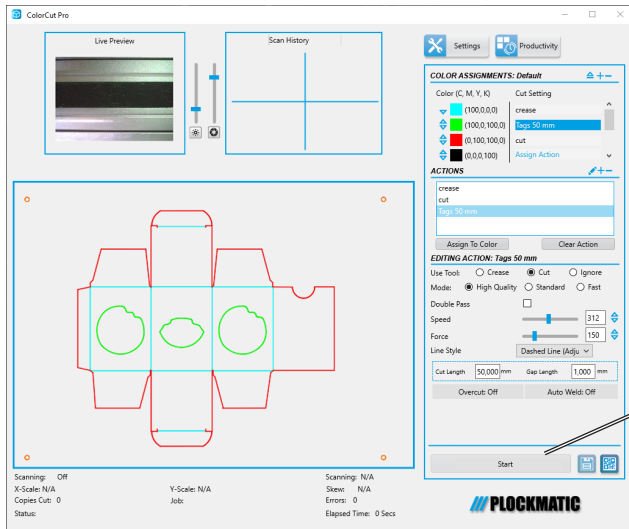
If you have opened the Cutting file directly from your Graphics application, or you have manually entered a Job ID (See section "Enter a Job number to retrieve the Cut Job file directly") to manually load a job to be cut, the Job preview area will show the job which will be sent to the cutter, and the button will display 'Start' [A] enabling you to start cutting.

This is also known as Direct Cutting Mode.
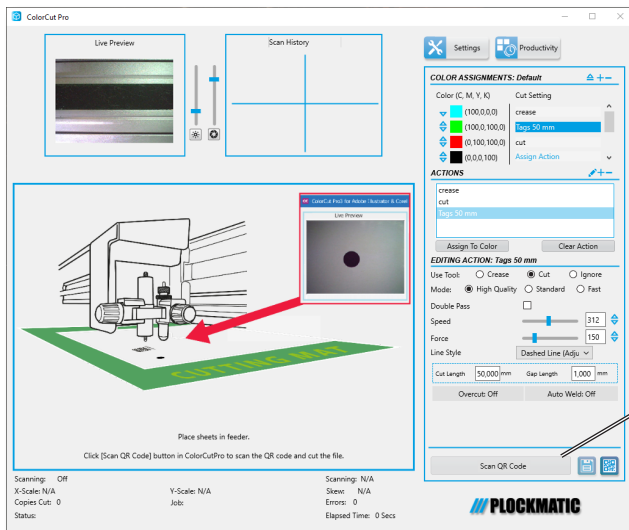
Alternatively, if you have opened ColorCut Pro Stand Alone (Job Server Mode) there will be no preview of a job in the preview area.

In Job Server mode the button will show 'Scan QR Code' [B], which when clicked, will load a sheet and scan the QR code to retrieve the job and load it into the cutting preview area, then start cutting as defined in the Productivity set-up.

Switch Modes
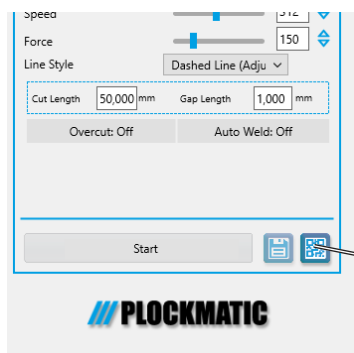
The QR code icon [A] enables you to change the mode of the current instance of ColorCut Pro.

Clicking the icon, when no job is shown in the preview window (When the ColorCut is in Job Server Mode), enables you to manually enter a QR code to pre-load the job.

This enables you to check line/action assignments prior to large produc-tions. See section "Retrieving Jobs from the Job Library (Job Server Mode)").

Clicking the Icon, when a Job is loaded in the Preview Window (the cutter is in Direct Cutting Mode) switches to Job Server mode (ready to Scan a QR code).

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1. Basics

Turning On / Off the Main Power
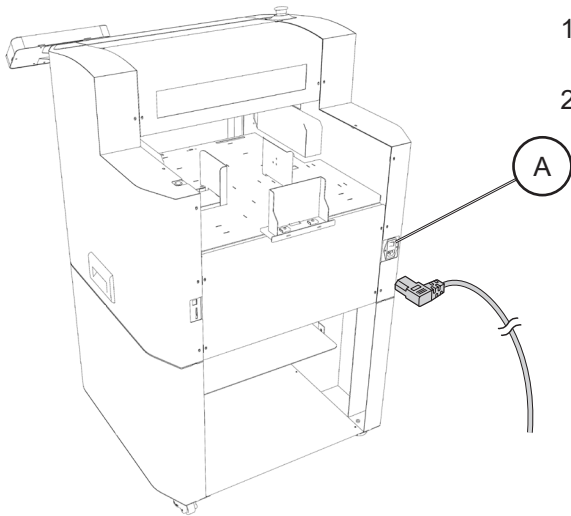
1. Make sure that the SC6500 power cord is plugged into the wall outlet.
2. Set main power switch on to ON position [A].

Launching ColorCut Pro

There are two different ways to Launch ColorCut Pro Production Studio. ColorCut Pro - Production Studio is the full version of ColorCut Pro, and is used to cut your files. It can be used in two different ways, you can select the most suitable method for your working environment.

1. ColorCut Pro (Direct Plug-in) is launched Directly from your graphics application. Launching ColorCut Pro, directly from your Graphics application will transfer the currently open design file (specifically the currently selected layer) directly to ColorCut Pro for cutting. This enables you to cut the file you are working on (or open a previously saved file). This way of working is ideal for testing a design or where the cutting will be handled by the same person that makes the artwork.

NOTE: When working in ColorCut Pro (Direct) mode, as ColorCut Pro is launched directly from the graphic application it requires either Adobe Illustrator or CorelDRAW installed on the computer that will do the cutting. In addition the operator will need to locate the file to cut and to be able to use the graphics application in order to launch ColorCut Pro. For this reason we typically recommend using the stand-alone mode of ColorCut Pro - Production Studio, also known as ColorCut Pro Job Server mode.

2. ColorCut Pro (Job Server Mode) does not need a graphics application installed on the computer. It also does not require you to locate the original graphics file. In addition the simplified interface is designed to be used by any operator (typically a Print Finisher with no specific computer or Graphic Applications skills) by providing a [Start/Scan QR Code] button to start operation.

When using ColorCut Pro in Job server mode your files must already have been created and have PageMARKS and a Job Number/QR Code added during the design stage. When the 'Add Job Number & QR Code' feature is carried out by the designer, the cutting lines are saved automatically for all users in the Job library folder.

When using ColorCut Pro - Production Studio (Job Server Mode), ColorCut Pro is launched on its own (stand alone) on your computer from the Windows Start Menu. The appropriate cutting file is retrieved by the operator entering the job number or can be retrieved automatically as the SC6500 scans the QR Code.

Using ColorCut Pro - Production Studio in (Job Server) mode streamlines the cutting process and retrieves cut files for you making cutting much easier. It is the recommended way of working for busy designers so they can find the files quickly and especially in companies where the cutter operator is a different person to the graphic designer, or where a different computer will be used for the cutting such as in MAC environments.

NOTE: When working in ColorCut Pro - Production Studio (Job Server) mode, as ColorCut Pro will retrieve the cutting files from the job library for you, it is important that your files were created with a Job Number and QR Code using the 'ColorCut Pro 'Add PageMARKS and QR Code' feature in the design process from your Graphics Application.

The following sections of this manual details how to launch ColorCut Pro - Production Studio to cut your files using either method.

Direct Mode

Selecting the Cutline Layer

It is important to note that when you launch ColorCut Pro - Production Studio, 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.

NOTE: 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

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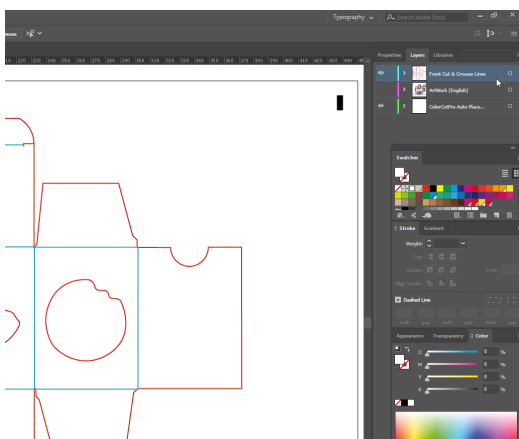

Adobe Illustrator
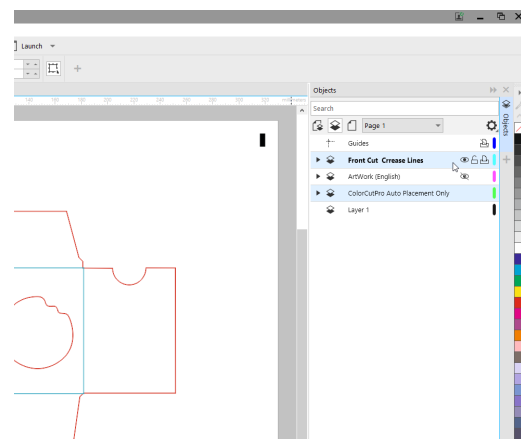
CorelDRAW

NOTE: Although most of the screen-shots shown in the manual are from Adobe Illustrator, CorelDRAW (as shown above right) uses object layers enabling you to separate the cut lines & artwork to different layers

Direct Mode, continued

Launching ColorCut Pro (Direct Mode)

After selecting the layer you wish to send to the ColorCut SC6500 Cutter, select ColorCut Pro from the File menu. Both Adobe Illustrator and CorelDRAW can be seen below with the Cutline selected and then ColorCut Pro selected from the [File] drop-down menu.
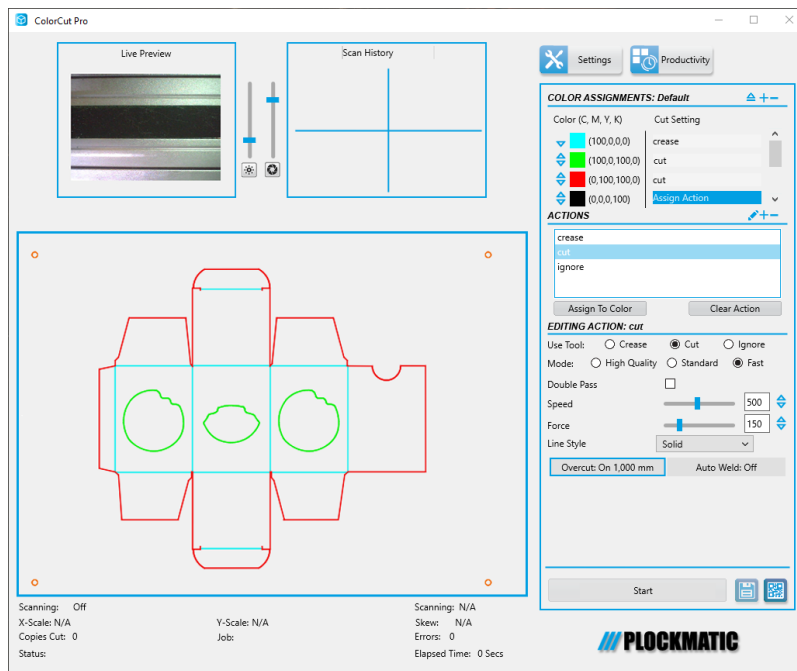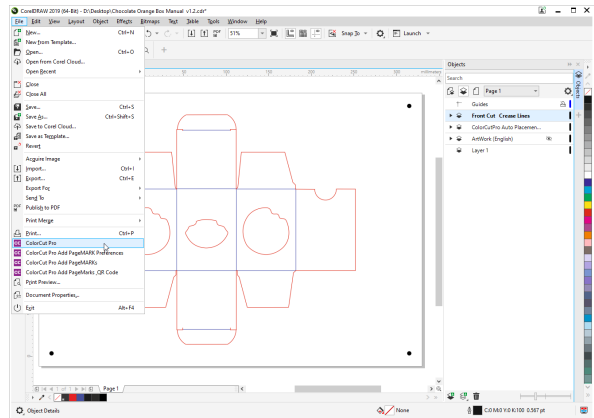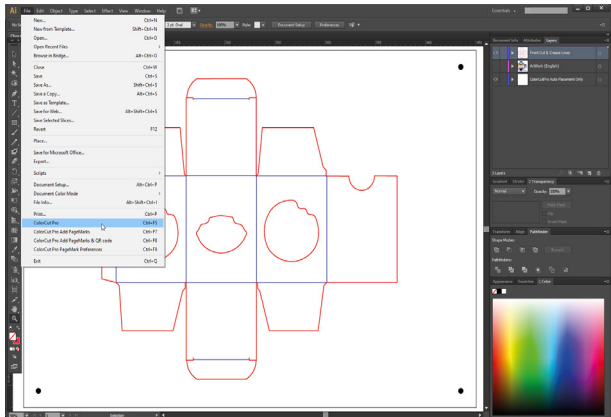
The ColorCut Pro splash screen will briefly appear, then the main ColorCut Pro application will be displayed. You will see a preview of the cutting profile from the Currently Selected Layer in the window.

The ColorCut Pro - Production Studio application handles all the functions for the automation of the digital cutting process. When launching ColorCut Pro in Direct Mode, ColorCut Pro transfers the currently selected layer containing contour cut lines from Adobe Illustrator or CorelDRAW directly into ColorCut Pro.

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

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, ColorCut Pro must have the Sensor offset aligned and you must set the correct Blade offset.

Direct Mode, continued

## Overview of the ColorCut Pro Main Screen (Direct Mode)

1	Preview of selected cut/crease job	9	Change Cutting order
2	Vision3 Sensor video echo	10	Pre-Set Action
3a	Camera Illumination control	11	Assigning an action to a color
3b	Default Camera Illumination	12	Edit Material/Action setting
4a	Exposure control	13	Auto Weld option
4b	Default Exposure	14	OverCut option
5	PageMARK registration history	15	Switch to Job Server mode (Access QR code mode & Job Library)
6	Settings	16	Save cutting file
7	Productivity Options	17	Start Cutting
8	Colours available in job & actions	18	Status bar

Job Server Mode

There are 2 ways to launch the ColorCut Pro (Job Server) version of ColorCut Pro.
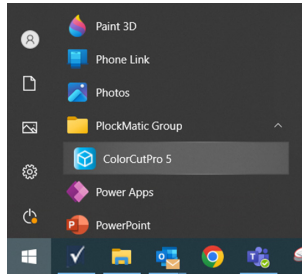
1. Open the ColorCut Pro (Job Server) from Start menu
    - Open the Windows [START] menu, and select ColorCut Pro from the Programs/PlockMatic Group folder*.
    - The ColorCut Pro splash screen will briefly appear then the main ColorCut Pro application will be displayed In the preview window, an informational image will appear showing you where to position a job (if manually positioning). Once a job is retrieved by scanning a QR Code or by entering a job number, the preview of the loaded job will then be displayed.

    *The folder path may alter.
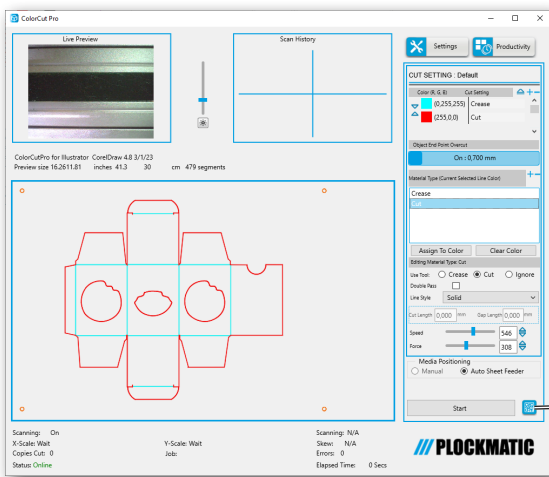
2. If you are already running ColorCut Pro (Direct mode) then open from ColorCut Pro (Direct)
    - If you already have ColorCut Pro (Direct) open, you can switch to Job Server mode, by clicking the QR Code icon [A].

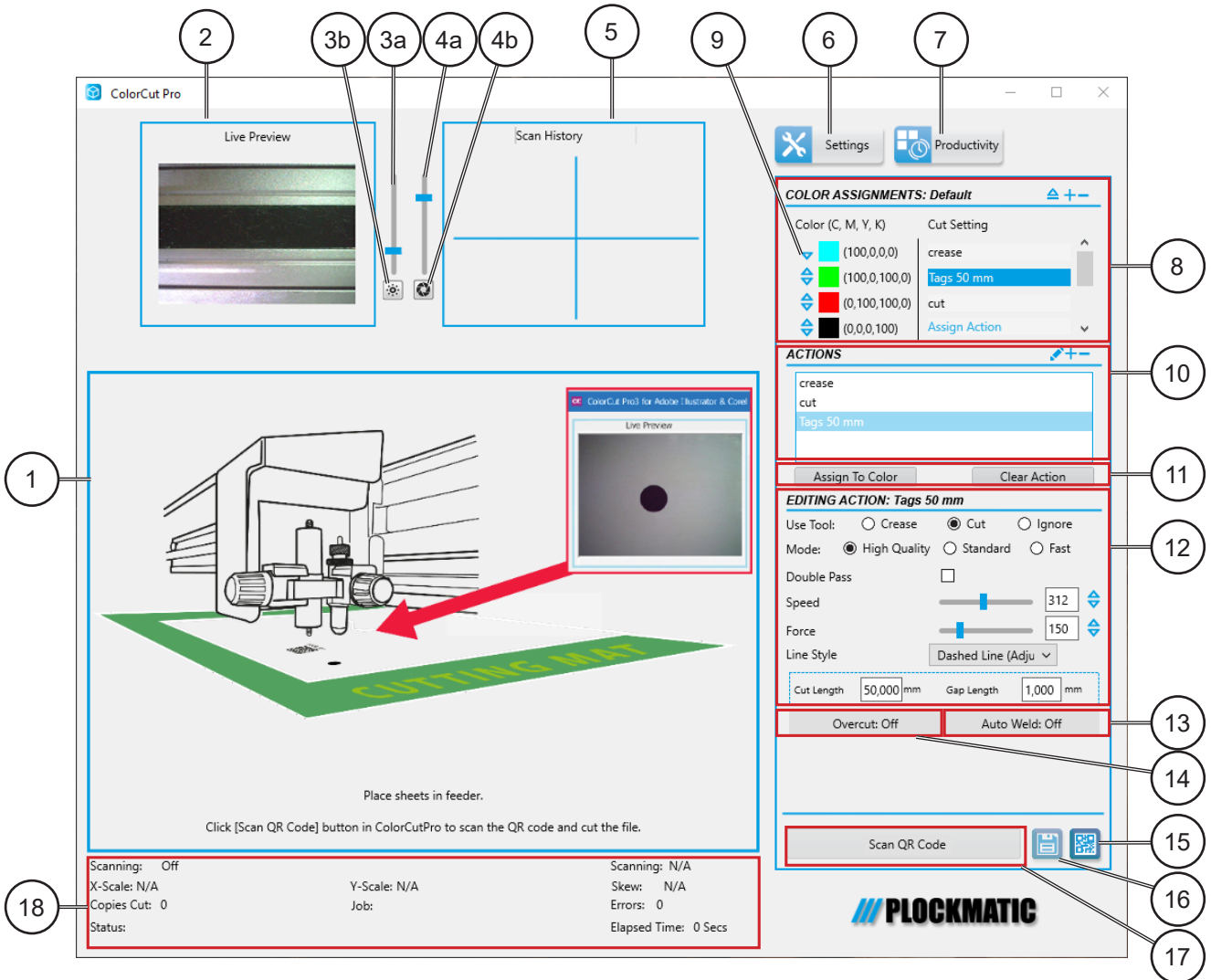## Overview of the ColorCut Pro Main Screen (Job Server Mode)

The ColorCut Pro - Production Studio application handles all the functions for the automation of the digital cutting process. When launched in Job Server Mode, ColorCut Pro will load Cut Job files from the Job Server Library by either by scanning the printed QR code on the artwork or keying in the Job number (also printed on the artwork). No additional software is required to load or open the cut files.

The screen options and layout are almost identical to the ColorCut Pro (Direct Mode), with the exception of items. 2, 9, 15 & 16 detailed below. For an overview of the options available to set the proper cutting parameters, please see next page.

NOTE: Before cutting for the first time, ensure that you have set up your ColorCut in the [Settings] dialogue box. Prior to first use ColorCut Pro must have the Sensor offset aligned and set the correct Blade offset.
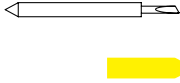
Overview of the ColorCut Pro Main Screen (Job Server Mode), continued

1

1	Preview of selected cut/crease job	9	Change Cutting order
2	Vision3 Sensor video echo	10	Pre-Set Action
3a	Camera Illumination control	11	Assigning an action to a color
3b	Default Camera Illumination	12	Edit Material/Action setting
4a	Exposure control	13	Auto Weld option
4b	Default Exposure	14	OverCut option
5	PageMARK registration history	15	Switch to Job Server mode (Access QR code mode & Job Library)
6	Settings	16	Save cutting file
7	Productivity Options	17	Start Cutting
8	Colours available in job & actions	18	Status bar

Cutter Blades (An overview of Blade types)

Your cutter comes with a selection of blades. The blades are packed in a foam packing material. In addition to this there is a colored rubber protective cap. The yellow caps indicate 30°, red caps indicate a 45° blade while the blue caps are 60° blades. Be careful when handling the blade as the cutting end is very sharp. Blades are selected for different applications; a guide is shown below:

| Name	Image	Angle	Blade Diameter	Features and Application
Blade		30°	1 mm	For Film, very soft material, thin label material.
		45°	1 mm	Typically for labels, stickers, and very thin paper/card
		60°	1 mm	For hard media. The sharply angled tip provides a sharper point edge. Suitable for penetrating harder media types.
Circlip Knife		45°	1.5 mm	Most packing board up to 400 micron. Circlip provides better pressure and improves blade direction changes on dense media. Suitable for cutting media from 0.25 to 0.4 mm thick
Creasing Blade				Bearing-based creasing ball, double-ended for different width creasing. Suitable for media ≤350 g Cardboard, corrugated paper
Pen Holder				Used at setup, to calibrate the offset between the Optical Registration Mark sensor (Red light) and the centre of Tool1 (The blade).

* Maximum cutting depth is defined by the machine type and pressure available rather than the blade (which is 350 microns for the SC6500)

The Blade Holder

Pin

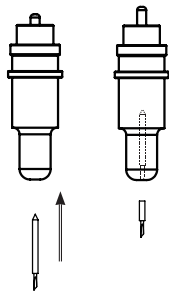Blade Depth Adjustment

Lock

Flange

Exposed Blade
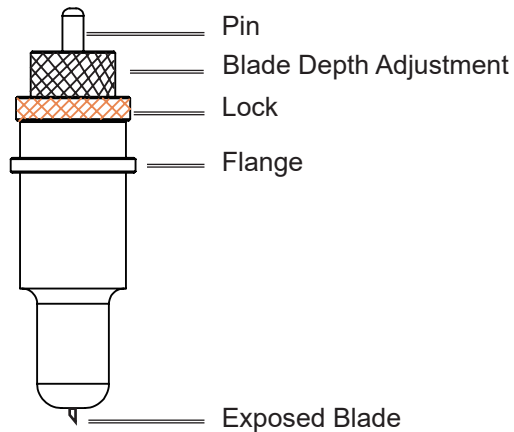
Replacing the blade

The blade is a consumable item and you'll always get the best quality cut with a newer blade. Please replace with a new blade when the cut quality reduces.
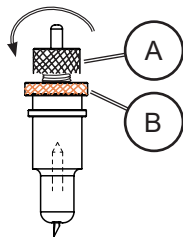
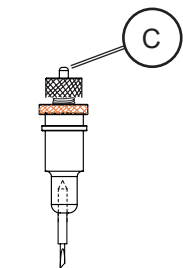## For Standard blades

(Without the circlip)

1. Push the blade into the bottom of the blade holder.

2. Adjust the amount of exposed (visible) blade tip to a suitable length by rotating the Adjustment depth knob [A] and then tighten the lock [B].

3. Press the push-pin [C] to remove the blade from the blade holder when replacing blade.

For CirClip Blades

1. Unscrew the lower (cover) part of the blade holder.

2. Insert the Circlip blade into the inner blade holder. Then replace the outer cover of the blade holder

3. Adjust the amount of exposed (visible) blade tip to a suitable length by rotating the Adjustment depth knob [A] and then tighten the lock [B].
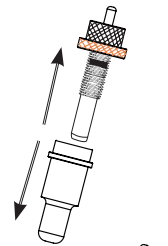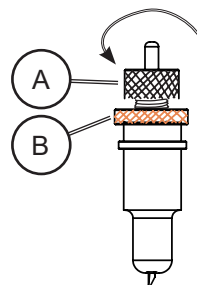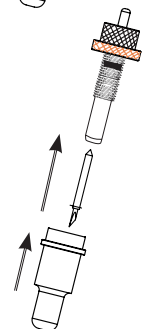
4. Replace the blade by following the steps above

NOTE: You cannot push the pin as you do with standard blades as the circlip prevents the blade being removed.

Blade Adjustment

Blade Depth is a major factor in how well the machine cuts and along with the downforce / pressure, determines how cleanly the material cuts and how easy or difficult it will be to 'weed' the material. Too much blade depth is as bad as not enough.

> NOTE: If you have enough blade sticking out to clearly see and feel the tip, it's probably too far out. Most new SC6500 cutter owners improperly install the blade with too much of it protruding from the holder. Set it so that you can barely see the tip.

Then take the blade holder and manually drag it across a sheet of card or label that you wish to cut, making a box pattern or square.

Card:

1. Lay a scrap piece of material on a hard work surface with 2 sheets of copier paper underneath, (not on a nice table in case you cut through paper underneath).
2. With the blade holder in your hand, press down and cut a circle in the material. Press down using a moderate amount of force while you cut the circle.
3. You will not be able to cut through the second sheet of paper when the blade depth is set correctly. If it cuts through the second sheet then the depth is too much and you need to retract the blade.

Labels:

1. Lay a scrap piece of material on a hard work surface (not on a nice table in case you cut through the backing).
2. With the blade holder in your hand, press down and cut a circle in the material.
3. Press down using a moderate amount of force while you cut the circle.
4. Adjust the blade depth so that only traces of the blade's cut appear on the backing sheet when a cutting test is performed. You will not be able to cut through the material backing when the blade depth is set correctly.

If it cuts through the backing then the depth is too much and you need to retract the blade.

The blade length is adjusted by turning the blade adjustment knob.

- To extend the cutter blade, turn the knob in the direction A.
- To retract the cutter blade, turn the knob in the direction B.
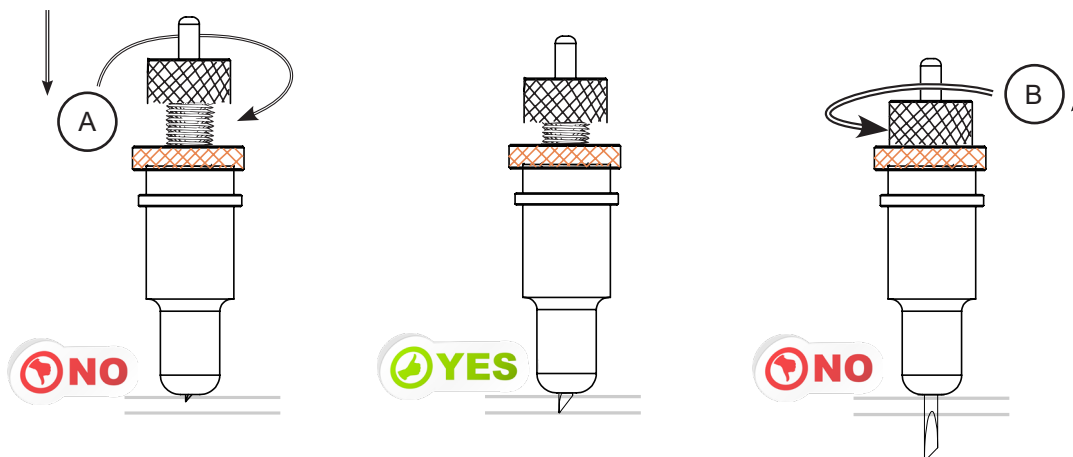
Test Cut

The Test Cut function allows you to check your blade depth/force settings on your ColorCut SC6500 cutter and perform calibration of Align Tool2 to Tool1.

Warning:

Do not press [TEST CUT] until you have loaded a sheet of media and moved the tool carriage into a clear area on the media, away from the far left side of the cutter (see following steps). The Test Cut function will draw a Diagonal (Diamond shape) using Tool 2 and a Square using Tool 1, at the tools' current location. If you press [TEST CUT] without moving the Tool Carriage away from left side, then the display will show an error message (due to the fact the Test Cut function would require the tool carriage move left into the side of the cutter to perform a Test cut and this is not permitted). If you see this error message press [Enter] on control panel and move the carriage away from the left side. Please follow the steps below to perform a Test Cut.

NOTE: Test Cut is very useful for checking your blade depth and the pressure/force used during cutting, prior to starting a job.

After the Blade tool has been loaded and you have manually adjusted the blade depth to a level you believe is correct. Load a sheet of your media, and perform a test cut, following the instructions below. Then adjust the blade and pressure accordingly. Checking and adjusting the settings for your specific media prior to a production saves time and eliminates waste.


Performing a Test Cut to check depth/force:

1. Place a blank sheet of paper in the feeder.

2. On the main screen press [Feed Media] button, that will feed the media to the rollers and move the carriage over the sheet.

3. Make sure the carriage is positioned in clear area with approximately 25 mm of space (1") available in either direction around the Blade Tool's position.

4. If there is not enough clear space then, press the [MOVE] tab button on the display:

   - Press the Up/Down arrow buttons on the key pad to move the media feed rollers (Which will move media backwards (+Y) / forwards (-Y)).

   - Press the Left/Right arrow buttons on the key pad to move the tool carriage across the media in +X or -X directions.
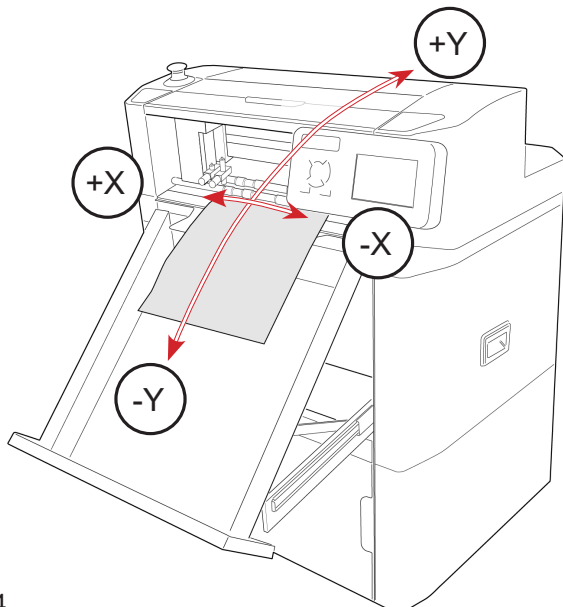
Test Cut, continued
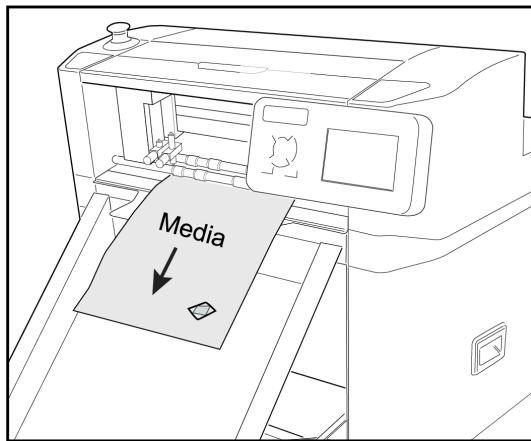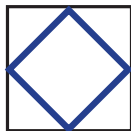
5. Press [CUT TEST] button. The SC6500 will draw a Diamond Shape using Tool2 (The creasing tool) and cut a Square around the Diamond shape using Tool1 (The blade).

6. The SC6500 will then eject the media forwards so you can check the cut quality/depth and pressure. If you are cutting Through the media (Die-Cutting), then please remember the least amount of blade possible will provide the best result.

> NOTE: The minimum level of exposed blade will provide the best quality on sharp inverted turns and extend your cutting strip life. Too much Blade, will result in the Blade cutting through your media and cutting into the cutting strip. This will reduce your blade life, create poor quality cutting on sharp inverted turns and damage the cutting strip reducing the cutting strip life.

7. Check the made test cut on the ejected sheet, if the cut depth is not sufficient, (or it is too excessive) then select the appropriate Tool (i.e. Tool1) and adjust the Force using the Left arrow and Right arrow keys on the panel until you can cut your material correctly.

8. If you cut through your Card media with a pressure <220 g then it is likely you have too much blade exposed. Stop, remove the blade holder and reduce the blade amount exposed and then test again. If you cannot cut through normal card with a force >450 g, then it is likely you may not have enough blade exposed.

> NOTE: The maximum 760 g is typically only used for creasing, although cutting pressures higher than 450 g may be used for metallic materials, PET and vinyl's.

9. When new settings are applied, repeat the test cut until the desired cut is achieved. There is no need to move the carriage while performing a new test cut since the carriage will shift to the left side each time a new test cut is performed.

Test cut using both pen tools to calibrate Tool2 to Tool1:

1. Retrieve calibration pen tools from accessory kit and instal in to Tool holder 1 and Tool holder 2;

2. Repeat steps 1 to 4 from 'Performing a Test Cut to check depth/force';

3. Press [Test Cut]. The SC6500 will draw a Diamond Shape using Tool2 and a Square around the Diamond shape using Tool1;

4. The SC6500 will then eject the media forwards so you can check the alignment of the drawn shapes. Evaluate if the Diamond is in the middle of the square;
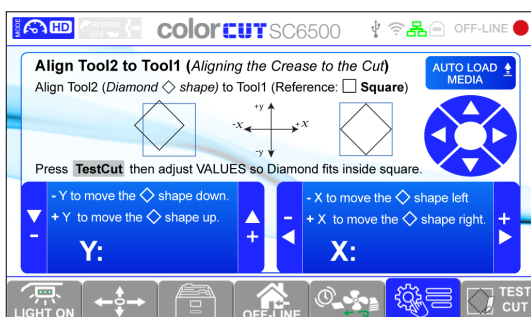
5. If the shapes does not align, on LCD panel enter Settings and Options menu and open 'Align Too2 to Tool1' calibration screen.

6. Using arrow bottons on key pad adjust the coordinates of the Diamond shape:
   - Press the Up/Down arrow buttons on the key pad to move the diamond shape up (+Y) or down (-Y).
   - Press the Left/Right arrow buttons on the key pad to move the diamond shape right (+X) or left (-X).

7. When new settings are applied, repeat the test cut until the desired alignment is achieved (Diamond fits inside the square).

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Configuring the ColorCut Pro Plug-in

In addition to setting the cutter model upon first use, it is important to set/check the configuration settings for the software. Among the settings there are several that are important to understand to get the best results from your ColorCut Flatbed cutter.

These are:

Knife Offset: A range of blades fit SC6500 cutter and different blades may alter the way corners and shapes are cut. It is important that each time the blade is changed 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 further on in this section of the manual. Nominally this value should be 0.25 for standard (Label) blades or 0.75 for Circlip (Card-die cut) blades.

The Creasing Tool for tool position2, does not require an offset so should be set to 0. However, if you place a second blade tool in position2, then you must also set the Knife Offset for position2.

Scan Targets: This tells the ColorCut Pro software that it should look for the registration PageMARKs and adjust the position and compensate the cutting lines for scale and skew errors on the printed sheet. This provides very accurate cutting in conjunction with images or artwork on the sheet. Default setting: Yes

NOTE: Alternatively it is also possible to cut sheets that are blank or do not contain PageMARKs. This can be useful when it is not necessary to register the cut line to a specific place on the media i.e. when cutting shapes out of blank media such as hearts from red card on Valentines Day, or Face Shields/Visors from Clear Polyester material.

When cutting without marks, the origin is manually set by the user on the cutter and it does not take into account skew, scale or mis-positioning of the sheet. (Not recommended if artwork is on the media). For this reason we normally recommend that a user should use 'Scan Targets', in conjunction with PageMARKs on their artwork.

Device Type: This adjusts the ColorCut Pro application's appearance and screens to match your cutter model. Ensure this is set to the appropriate model for your cutter.

Output Device: This shows where your Cut file will be sent to. When the SC6500 cutter is detected on the USB port this should show USB Device. If it shows File Output then the Cutter can not be seen, check your connection and that the cutter is ON-LINE and ready.

Vision Sensor Offset: Cutter is fitted with a Vison3 registration sensor to detect PageMARKs 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, the Auto Find feature will automatically it. It is important to have these values set for SC6500 cutter otherwise you will not cut accurately. It is also detailed in the following pages for your reference.

Blade Adjustment

The ColorCut series of cutters use a contour-cutting blade (sometimes referred to as a 'drag knife') to accurately cut shapes. The blade revolves/rotates around its centre as the carriage moves following the cutting path and as the Tool Carriage changes direction.

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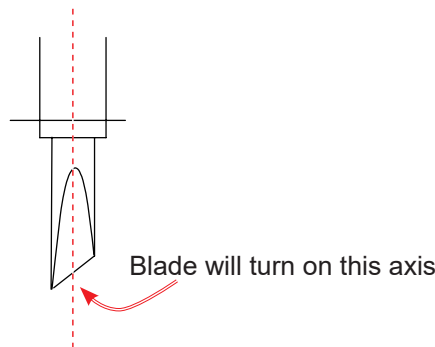
When the blade reaches a corner its axial centre (the point around which it rotates) arrives before the cutting point and unless there is some means of causing it to do so, the cutting part of the blade would never reach the corner and would start to turn as the cutter changed direction thus creating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

No Blade offset compensation
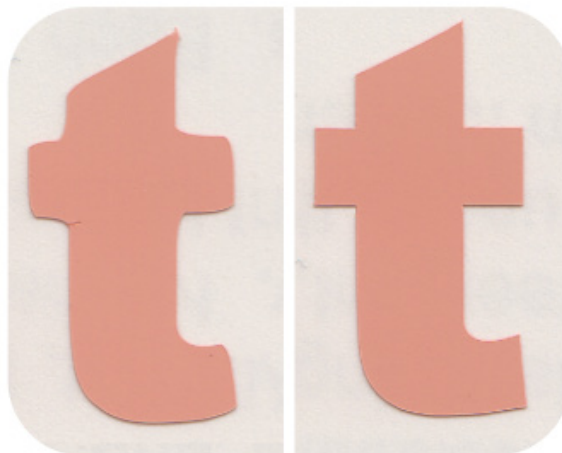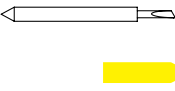
Knife Offset compensation applied

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.

Setting this correctly and checking it each time you change blades is important because 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.

Choosing the Correct Blade for the Job

Each packet of Blades shows the Knife Offset on the front of the packet. Nominally the standard Yellow, Red and Blue blades that are 1 mm, use a 0.25 mm Knife offset, while the 1.5 mm larger Circlip blades use a 0.75 mm Knife Offset.

Name	Image	Angle	Blade Diameter	Knife Offset	Features and Application
Blade		30°	1 mm	0.25 mm	For Film, very soft material, thin label material.
		45°	1 mm	0.25 mm	Typically for labels, stickers, and very thin paper/card
		60°	1 mm	0.25 mm	For hard media. The sharply angled tip provides a sharper point edge. Suitable for penetrating harder media types.
Circlip Knife		45°	1.5 mm	0.65 - 0.75 mm	Most packing board up to 400 micron. Circlip provides better pressure and improves blade direction changes on dense media. Suitable for cutting media from 0.25 to 0.4 mm thick

* While technically the blade can cut 1.0 mm thick material, the force required can vary significantly based on material density therefore on typical card based stocks we only recommend up to 350 micron board for optimal results.

NOTE: Remember to check and set the Knife Offset when changing blades.
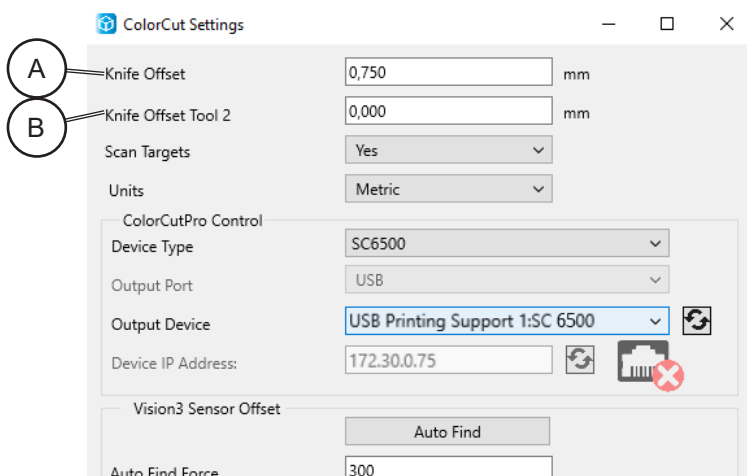
1. Click the [Settings] button on the main ColorCut Pro screen to display the ColorCut Settings Dialogue box.
2. Enter the value in Knife Offset text field [A].
3. Click [OK] to save the settings.

Normally Tool position2, will hold the creasing tool. No Knife offset is required for the creasing tool, so Knife Offset Tool 2: should be 0 [B]. However, if you fit 2 Blade Holders into the SC6500, then please remember to set the appropriate Knife Offset for Tool position 2.
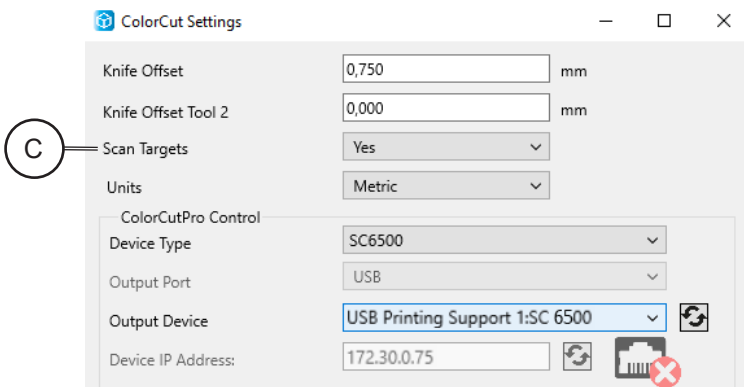
Scan Targets

Due to a potential variability when printing sheets, it is possible that a printing device may not consistently start/position the image in exactly the same position on every sheet. In addition some printers may scale or distort the image. Further accuracy issues can occur if you do not position your sheets perfectly squarely on the cutting table.

If your image starts in a different position on varying sheets or suffers from image distortion created by your printer, it is possible the cutter may not cut in accordance with the printed design.

To eliminate imaging issues and enable faster positioning of your sheets on the cutting bed the ColorCut Pro software can be set to read PageMARKs added to your printed sheet enabling it to precisely locate the origin of your artwork. In addition the positioning data read from the printed PageMARKs is used to compensate for scale or skew of up to 3 mm coming from your digital printer, or up to 5 mm rotation from sheet placement. Your cut lines are then automatically adapted by ColorCut Pro to compensate for these issues, delivering precise and accurate cutting for all your jobs.

However, when cutting shapes with no need for alignment (such as blank media) the cutter can be set to disable the scanning of these registration targets.


1. Set Scan Targets [C] to Yes to ensure the PageMARKs are scanned and any positioning or printing errors are corrected (this is the recommended mode).

2. Set Scan Targets [C] to No for the alternative mode of operation where the origin is set manually using the cutter control panel and the PageMARKs 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).

NOTE: Positional accuracy cannot be assured if you set the cutter to not scan for PageMARKs.

The graphics should be designed in accordance with the guide in this manual on PageMARK creation (See section "Registration Pagemarks"). Only the specific PageMARKs detailed will provide origin reference, scale, skew and rotation references for the ColorCut software so it can adjust your cutting line appropriately for accurate cutting.

Device Type

This setting shows the current output type of Cutter connected. The main screen and controls for ColorCut Pro will change based upon the Device Type [D] selected and not all features will be available as detailed in this manual unless you have selected the cutter type to match your Model.
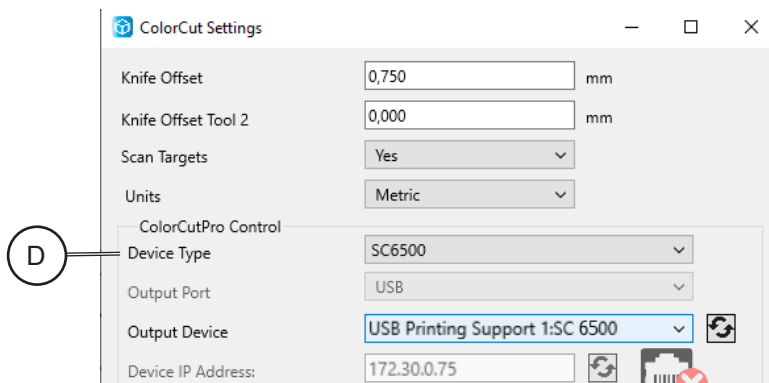
For the SC6500 X-Axis sheet cutter with an auto-feeder, set the Device type to 'SC6500'.

Output Device

This setting shows the current Output Device [E] connected. When the ColorCut SC6500 is connected this should read 'USB Printing Support: x', where 'x' is your cutter type, or 'Ethernet Direct connect' (If it is ON-LINE).
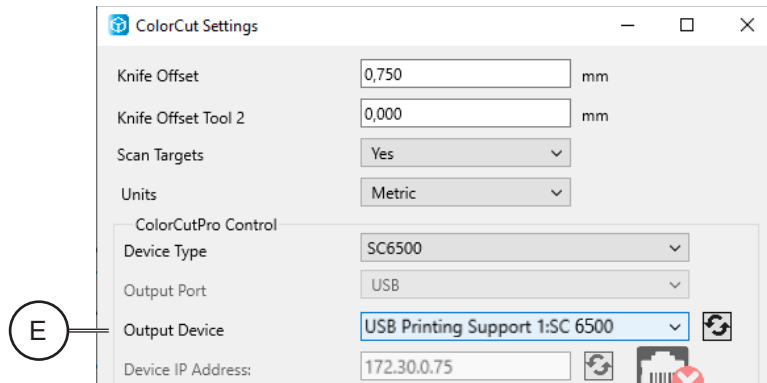
If the ColorCut Pro software cannot sense the SC6500 cutter on the connection of your computer, then this will show: "File Output".

In such circumstances, check your connection to your computer and power cycle SC6500 cutter. (Ensure it is off for 45 seconds to enable the 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 Vision sensor that reads the PageMARK 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.
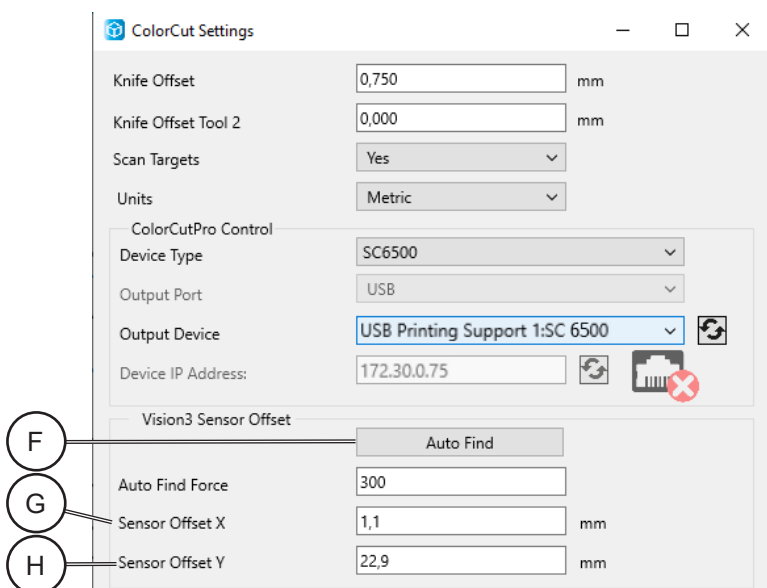
- The Sensor Offset can be set automatically by using the Auto Find [F] feature (detailed in the next section)
- or it can be manually entered or adjusted by editing the Sensor Offset X [G] text field (looking from the control panel - left to right across the bed) or the Sensor Offset Y [H] text field (Back to front).

Auto Find - Setting the Sensor Offset to the Blade

NOTE: This section is only for reference; this procedure is already completed during installation (Section 1.7.2. in Installation Manual)

The ColorCut Flatbed cutter includes a Vision3 ARMS system (Automatic Registration Mark Sensor). The Vison3 ARMS sensor uses an high quality CCD camera to automatically detect Registration Marks (PageMARKs), enabling accurate cutting using ColorCut Pro. Being able to automatically detect the PageMARKs 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. In addition to reading PageMARKs the Vision3 camera can read job QR codes and provide live video echo to show progress during cutting.

The Vision 3 ARMS sensor is mounted next to the cutting blade holder and the distance between the centre of the blade, and the centre of the Vison3 camera sensor (known as the sensor offset) must be compensated for to ensure accurate cutting.

Before you use the 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.
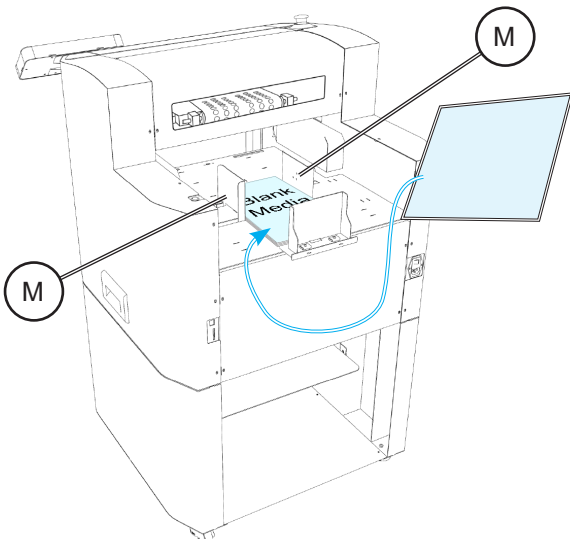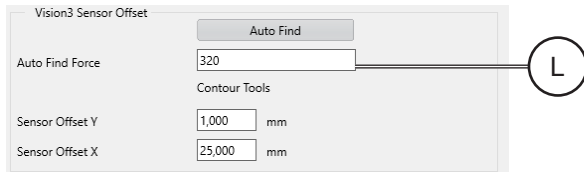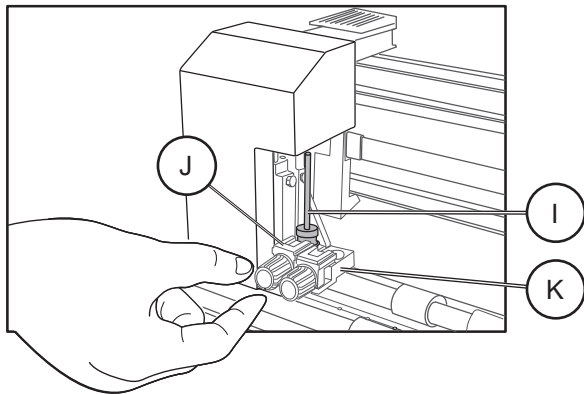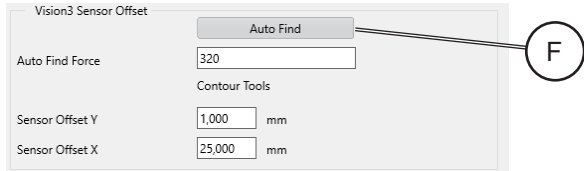
The Auto Find [F] feature calibrates the offset automatically. This is achieved by using the Pen Calibration Tool. The pen tool is used to draw a circle shape, the Vision3 ARMS sensor then moves over the shape, scans to locate the shape and determine the exact centre point of the circle shape. The ColorCut Pro software then calculates the distance the Vison3 sensor is offset from the centre of the cutting tool automatically.

1. Place the Calibration Pen Tool [I], in to Tool Holder 1 [J] (normally the position for the Blade Holder). You can place and/or leave the creasing tool into Tool Holder 2 [K].

2. Set/Check the appropriate pressure for the Calibration Pen Tool. (Not too much pressure or you may break the pen).

   Check the AutoFind Force [L] pressure is set to between 200 - 320 gms of pressure.

   Recommended pressure is 220 gms. For very thin paper it should be reduced.

   NOTE: Too little pressure and the pen will not write.

3. Load blank paper sheet(s) into the media tray. Adjust the side guides [M] to the edges of the media. Ensure they are not too tight against the side of the media.

4. Connect cutter to network using either Wi-Fi, Ethernet or USB.

5. Launch the ColorCut Pro application from your computer.

1
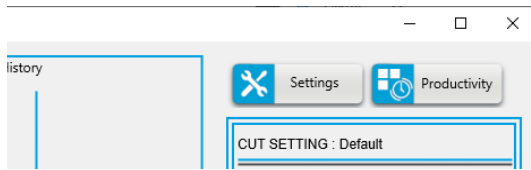
6. Before using the auto-sheet feeder, (used in the auto-calibration process) it is important to ensure the correct media size has been set.

   To set/check the media size loaded into the SC6500 Auto-Sheet Feeder, and ensure it matches the media you have loaded, click on the [Productivity] button at the top of the ColorCut Pro window.
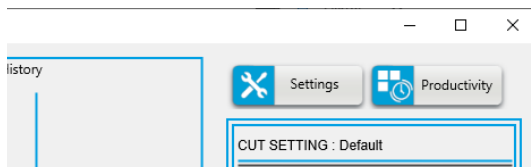
7. From the Media Options [N] click on the media size to match the paper size you placed in the feeder.

   Recommend paper size to carry out calibration procedure is SRA3 (EU/ROW) or Tabloid (USA).

   If selecting A4 or US Letter, ensure you set SEF (Short Edge Feed) orientation. Then click [OK].
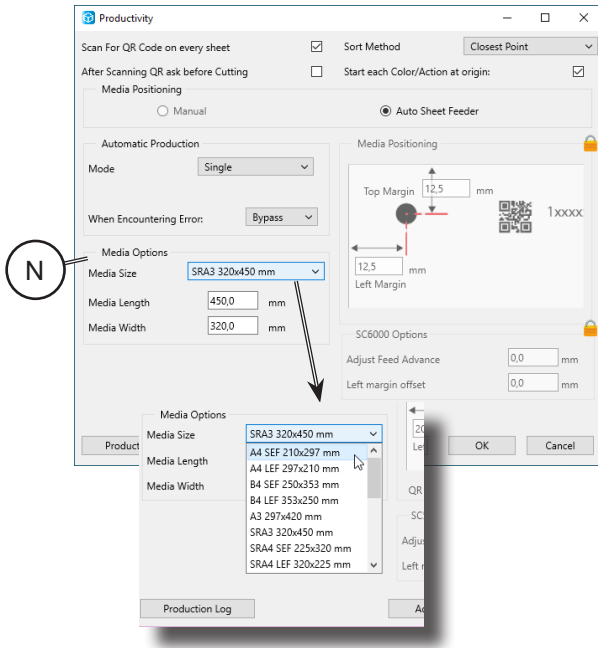
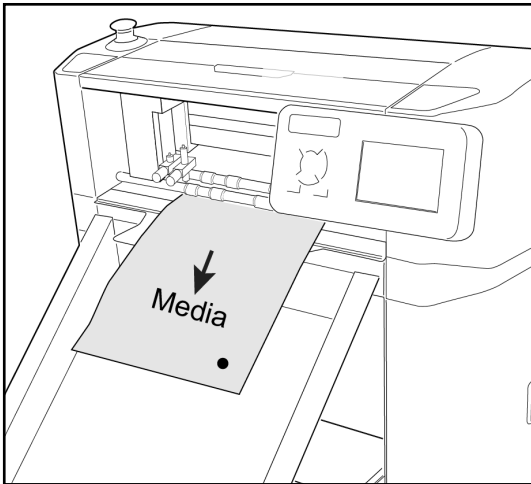8. In the main ColorCut Pro application screen, click on the [Settings] button.

9. The ColorCut Settings dialogue box will appear. Here you can manually enter the Sensor offset or automatically set it by clicking the [Auto Find] button. (The force used, can be manually set in Auto Find Force text field. Value between >200 <320 g should not need to be changed)
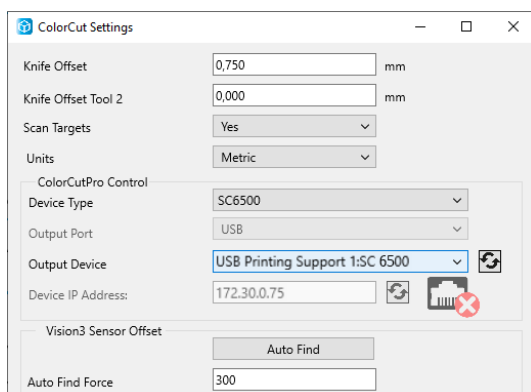
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10. Click the [Auto Find] button, a message will appear asking you to place a sheet of media in the cutter, and click [OK], then the ColorCut SC6500, will load the sheet automatically from the feeder and use the Pen Calibration Tool, to repeatedly draw a spiral pattern to simulate a registration mark. It will then move the Vision3 sensor over to find the mark and automatically enter the values into your Sensor Offset X and Y settings. Once completed you will see a confirmation message.

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

12. If you do not set the X and Y Sensor offset values (either using the Auto Find function - or manually) then the cutter will not cut accurately. Please ensure you have done this. However once done, this should not need to be repeated.

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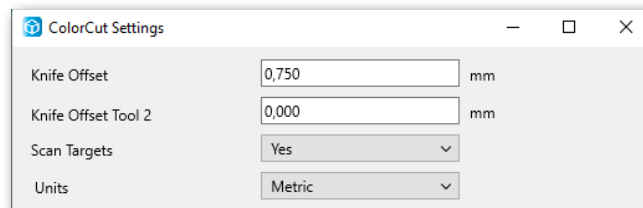
ColorCut Pro can be operated in Metric (mm) or Inches (Imperial). Use the Units control to set the measurement units to your preference.

Choosing where to set Speed and Force

ColorCut Pro allows you to define the Speed and Force Settings for each 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).
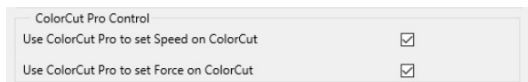

Alternatively large sweeping curves may be cut quickly however complicated delicate shapes can be drawn using different colored line so you can associate a different speed for each line. To achieve this the speed and force settings must be controlled by ColorCut Pro. Ensure that the check boxes are enable to ensure ColorCut Pro can control your cutters speed and force.

NOTE: 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 shown on the LCD panel of the Cutter itself. You can change the values by selecting the Tool directly on the LCD panel and using the Hard keys to adjust speed or force as shown on the panel.

Activation/Deactivating ColorCut Pro License
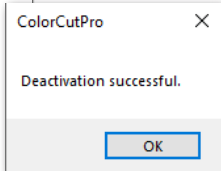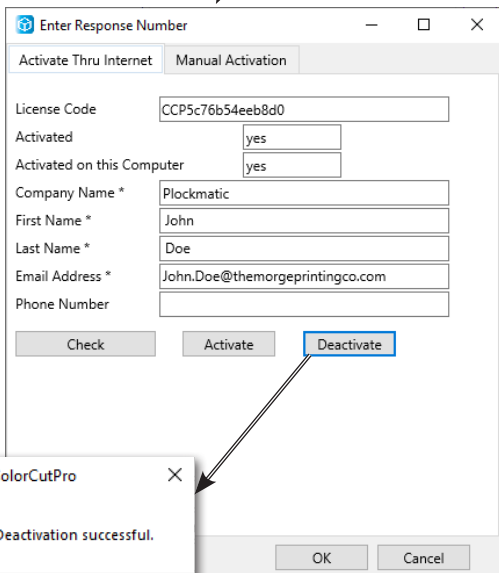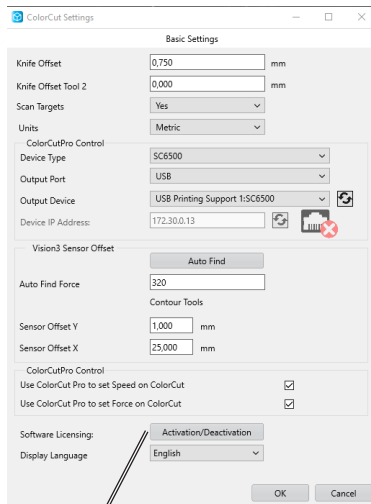
ColorCut Pro is activated and licensed using an On-Line License server. You receive a license providing 2 activations. One is for your Artwork PC, one is a remote cutting computer in case you do not wish to use your design PC (or the same person) to perform your cutting tasks.

The Mac client does not require a license.

If you wish to move ColorCut Pro from one computer to another, you must deactivate ColorCut Pro on your current computer before installing on the new one.

Warning:

If you do not deactivate ColorCut Pro license, the online activation server will run out of activations/licenses for your license code and you will not be able to license the new computer. Therefore ColorCut Pro will not run. In this circumstance, you will need to either de-activate your previous installation of ColorCut Pro or purchase an additional license code.

Deactivating ColorCut Pro

After clicking the [Activation/Deactivation] button the license activation screen will appear at the bottom of this screen. Click on the [Deactivate] button.

Clicking the Deactivate button will connect to the On-Line license server and deactivate your license. At the same time it will disable your license on this computer and you will free up one license code for either re-activation on this computer or for installation on an alternative PC.

NOTE: If an on-line connection is not available then it will not be possible to deactivate your license until you have an on-line connection.

Regional Language Options
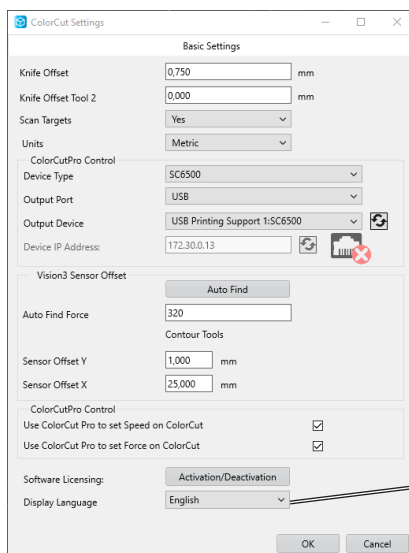
ColorCut Pro is installed by default into the English language. If you wish to use ColorCut Pro in an alternative language then use the drop down menu at the bottom of the settings screen to change languages.

At the time of writing this manual, English and Italian are available, please contact your dealer regarding the latest translation files for additional languages.

After changing the language, Restart ColorCut Pro to enable all fields to be updated correctly.
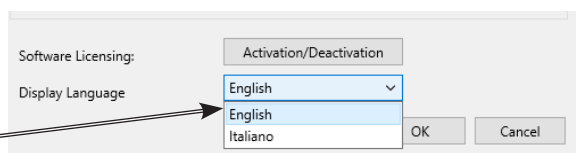
Productivity Options

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] menu.
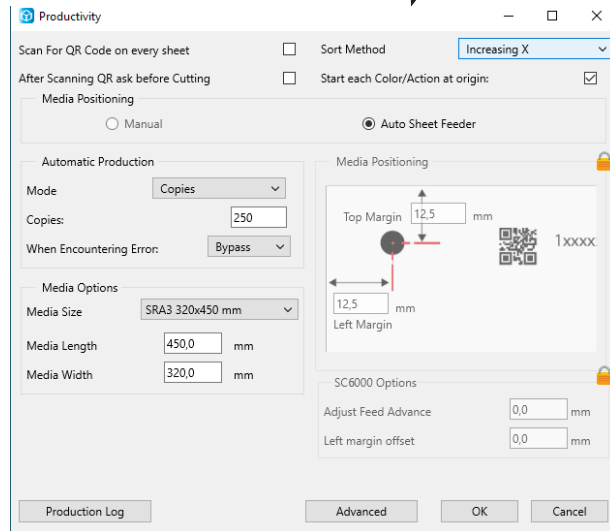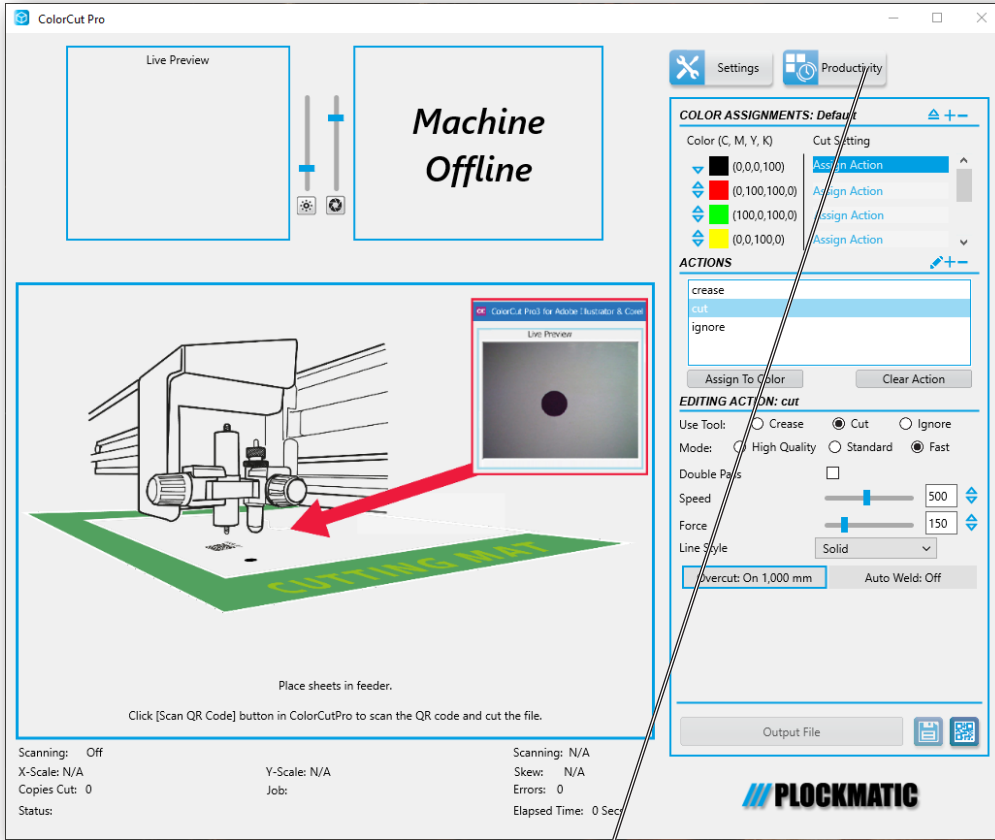
The 'Sort Method', 'Scan For QR Code on every sheet', 'After Scanning QR Code ask before Cutting', Automatic Production control: 'Mode', 'Copies' and 'Media Size' Control options are available at any time and apply to all jobs when the cutter is set to Media Positioning - AutoSheet Feeder.

Sort Method

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

The ColorCut Pro software can operate in 6 modes:

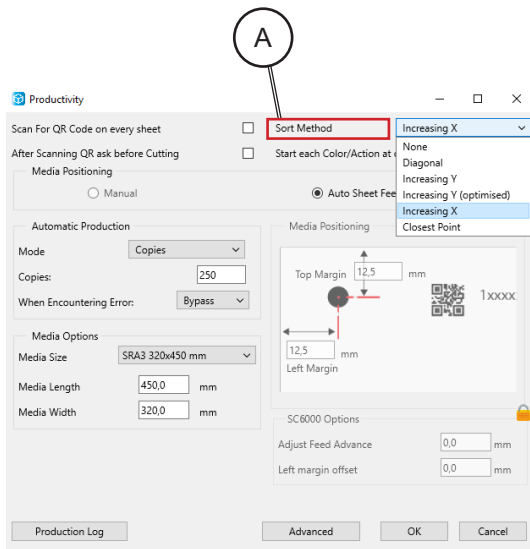1. **None:** No sort to the cutting is employed and the software will cut in the order it read the lines into the application.

2. **Diagonal:** Aimed to reduce cut times based on the principle that while moving between cuts, both the X, Y motors may be used. If both motors are used the travel speed is higher. Diagonal sort gives weighting to close movements that engage both motors. (Sometimes but not always producing diagonal travel paths).

3. **Increasing Y:** Cuts all lines starting from the top of the sheet, working down the sheet (along the Y axis only).

4. **Increasing Y (optimised):** A combination of Increasing Y and Closest point sort methods. It will check the closest 4 objects for the most efficient start position then honours increasing Y.

5. **Increasing X:** Cuts the longest straight cut first on the X axis only. A predictable cutting sort method but not always the fastest.

6. **Closest point:** The order of the cutting is sorted such that the ColorCut will cut closest to 4th PageMARK first. At the end of each cut, ColorCut will continue cutting from the next closest point trying to avoid long circuitous travel paths.

There is no wrong setting; however Increasing Y is best for most profiles, especially Die-Cut (Cut Through applications) as any elements that might drop out will 'stay out of the machine', as the cutter continues to work down the sheet.

However if you are experiencing a peculiar cutting problem, changing between the options can change the direction of the blade and may help eliminate issues.
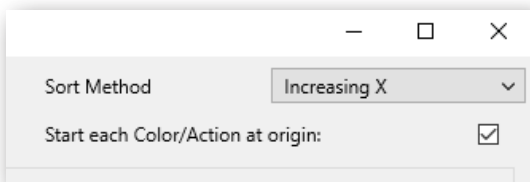
NOTE: Typically it is recommended to use the sort method "Increasing Y" for optimum output path.

When using Increasing Y, it is recommended to ensure 'Start Each Color at Origin' is checked. If more than 1 color/action is used (such as first Creasing), this will ensure ColorCut Pro to start the cut sequence at the top of the sheet.

Scan for QR Code on every sheet
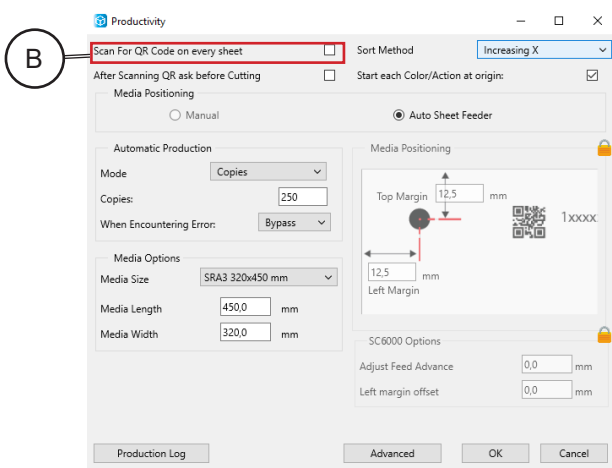
This is a useful feature which allows users to choose if the ColorCut Pro software should scan for a QR Code code on every sheet.

ColorCut will load the job to cut as follows:

- In Direct mode, by using the selected/open file in Illustrator or CorelDRAW
- In Job Server mode - from scanning the QR Code or from the job number keyed.

When 'Scan Qr Code on every sheet' box is checked [B]; after cutting the first job the SC6500 will automatically eject your sheet and ColorCut Pro will clear the job in the preview screen the load the next sheet of media in the auto-sheet feeder and scan the QR code to check which cutting file should be used.

Scan for QR Code on every sheet, continued

In **Job Library mode** this function is recommended and can very useful when different/mixed jobs are placed in the auto-sheet feeder, as each cut file will be retrieved automatically. In addition by scanning each QR Code, ColorCut Pro, will detect if a sheet has been accidentally loaded in the wrong orientation, or rotated around 180 degrees, and automatically rotate your cutting file to match the way you loaded the sheet. This ensures each sheet is cut correctly, even if different jobs have been mixed in the auto-feeder, or if you loaded the sheets the wrong way around. (This only works if you use QR codes on the sheets).

When operating in **Direct Mode** (cutting directly from the application without QR codes on the printed sheet). You should disable 'Scan QR Code on every sheet' [B] then after cutting the currently loaded job ColorCut will keep the current cut file loaded and cut the same file again on the next sheet loaded by the auto-sheet feeder. Otherwise you may need to return to your Graphics Application and resend the file from the Graphics application.

You can also retrieve jobs by manually keying in the job number (printed at the end of the sheet), If you plan to cut multiple sheets of the same job, you may wish to manually enter the job number and remove the step of scanning the QR Code (which can save a small amount of time. However, if you skip reading the QR Code on each sheet, while cutting time is reduced by approx. 1/2 sec per sheet (which is the length of time required to scan the QR Code) - ColorCut Pro will no longer recognise if Mixed Jobs are loaded into the feeder (or if a job is accidentally placed in the wrong orientation).

NOTE: If you enable 'Scan QR Code on every sheet' [B] and the sheets do not contain QR Code codes, the SC6500 will error and the cutter will stop. Therefore it is only recommended to enable the scanning of QR Codes if you have placed QR Codes on each sheet.

# After scanning QR Code ask before cutting
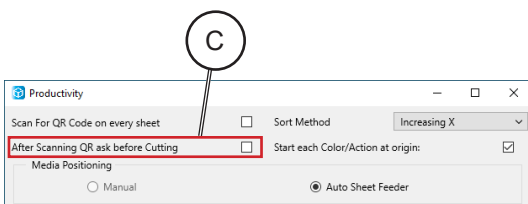
ColorCut Pro performs the actions (i.e. cut, crease, ignore, perforate) according to the line colors which you specify.

It will remember the previously used assignment of line colors in relation to an action i.e. if the last job you cut you had previously set Red to Cut and Blue to Crease, then when the next file is opened using Red or Blue, ColorCut will assume you wish to continue to use that Color/Action assignment unless you change it.

When 'After scanning QR code ask before cutting' [C] is enabled then after scanning a QR Code, ColorCut Pro will read the Colors used within your cut file design and automatically assign each color to the last action (i.e. cut or crease) it used for that color (Or set it to none, if that color has not been used before) then wait for you to confirm the assignment is okay before cutting the job [D].

When loading a job for the first time, this may be useful as you may not have correctly assigned the right action for each line color [E].
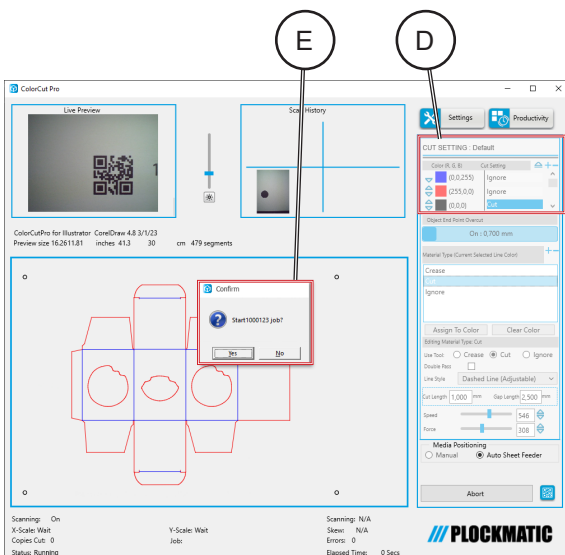

However, if you have previously cut a job (i.e. a long production) or you typically use the same action for each color in all your jobs then you may not wish to see this dialogue box.

To prevent this message appear after each sheet is loaded and scanned Uncheck the tick box next to 'After scanning QR Code ask before cutting' [C].

NOTE: It is recommended to do a single manual test cut prior to an production run. For simplicity and optimum efficiency, you should try to design your jobs using the same line colors. If you have performed a test cut and previously defined the action for each colored line, or consistently use the same action for each colored line (i.e. Red = cut, Blue = crease), you can disable this warning to ensure uninterrupted cutting of your production jobs.
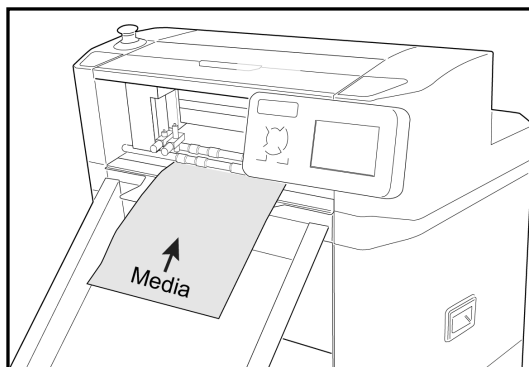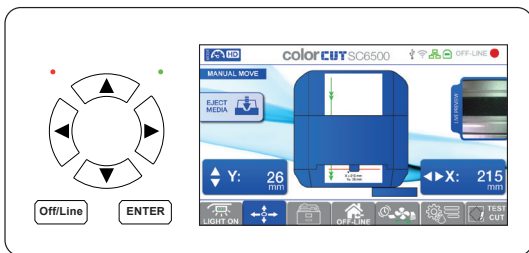
Media Positioning
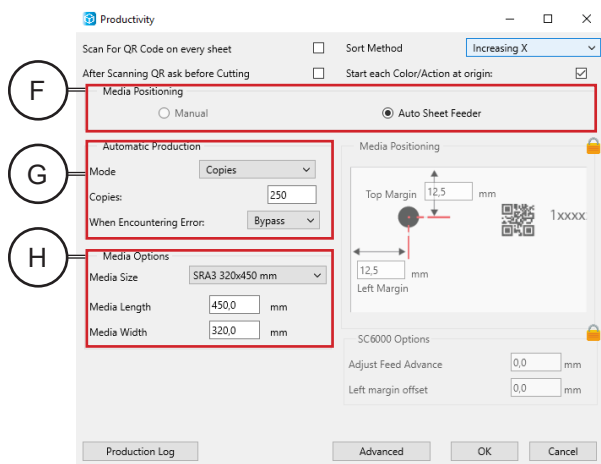
The default setting is to use the Auto-Sheet feeder. However, you can also switch to Manual mode if required here, in the Productivity screen. (The change will be Mirrored on the main screen when you return to that).

The Auto-Sheet Feeder, will load sheets following the Automatic Production Profile [G] and the Media size (See section "Media Options" [H]).

In most cases we recommend you use the Auto-Sheet feeder. However, as previously detailed, the Manual mode is designed for manually feeding odd shaped media from the front of the cutter which does not include Targets.

The "Manual" positioning mode allows users to place non-standard sizes of media Manually in to the SC6500 from the front. (Typically this may be used for cutting Vinyl lettering, on sheets of colored vinyl).

The manually positioned mode is for unique or custom sized sheets which are not printed and therefore will not have any PageMARKs or QR codes on them.

To use the SC6500 in Manual media positioning mode;

1. Set "Scan Targets" to No within the Settings options. (See section "Scan Targets")
2. Switch the cutter to the Move mode on the SC6500 LCD Panel and Manually load a sheet from the front, using the Up arrow key.
3. Use the Move mode and the arrow keys to move the tool carriage to the position on your media where you wish to start cutting.
4. When the Tool Carriage is where you want cutting to start, press the [ENTER] key 2x, to set the Orgin.

Now select "Manual" under media positioning and send your cut file for cutting.

If "Scan Targets" is set to Yes within the Settings options. "Manual" positioning option will be greyed out.
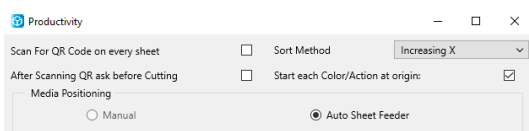
Automatic Production Options

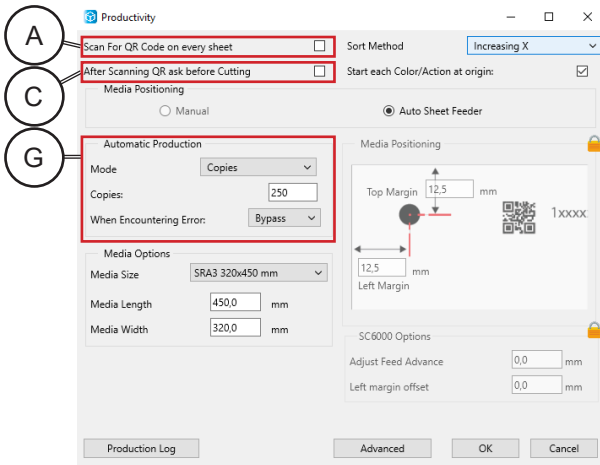The Automatic Production [G] section in the Productivity dialogue box enables you to change between production modes.

The options are:

Copies Mode

Displays a new dialogue box in the area, allowing you to enter the number of copies to cut.
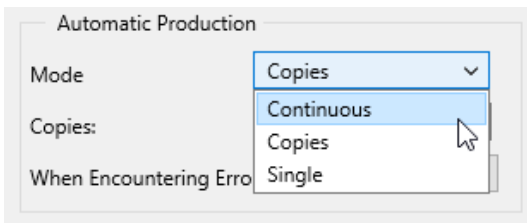
Single Mode

The SC6500 will load a single sheet of media and cut/crease the media accordingly. (Will hide the Copies entry area.)
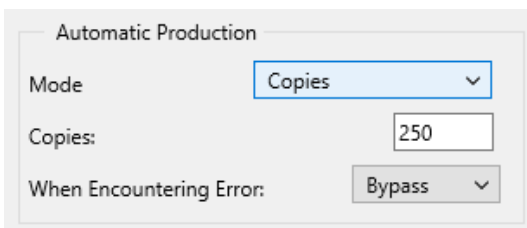

Continuous Mode

Continues to cut all sheets in the feeder until the feeder is empty.

Clicking on the drop down selection next to 'Mode' will allow you to select the production option.


Copies Entry

When the Production 'Mode' is set to Copies, enter the number of copies you would like to cut into the Copies Text Field.

Error handling

Another important item to consider is what should happen if an error is encountered. This can be a mis-feed so the target was not read, an error reading a QR code, or a blank sheet mixed in with your cut jobs.

The error handling is set within the option 'When encountering an Error' [I]. The recommended action is to Bypass the error. When this is set and after an error is encountered, there is a short pause then the sheet will be ejected and the production process will continue.
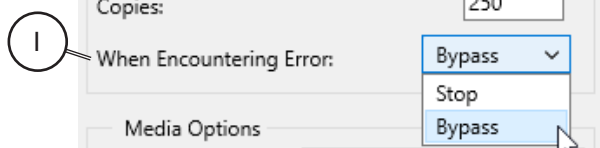
The alternative option is to Stop which will halt production and leave the sheet in the SC6500. You will need to remove the sheet and then start production again after resolving the error. For the most efficient and easiest production, use a combination of the options in the Production dialogue box. i.e.:
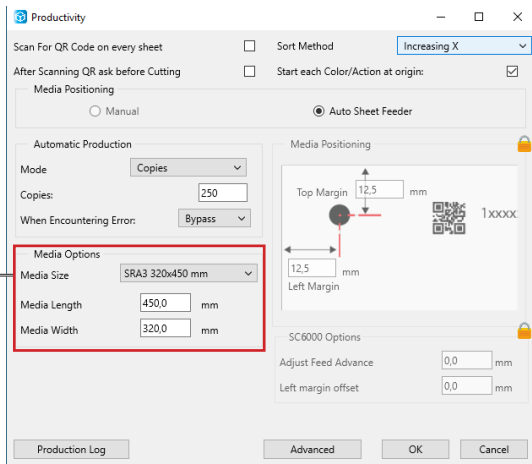
- Enable the Scan QR code on every sheet [A];
- Disable the After Scanning Ask before cutting [C];
- Set Productivity mode to Copies or Continuous;
- Set When Encountering an Error to Bypass [I].

This will cut the number of jobs you require without requiring user intervention or stopping and will reject/bypass any failed sheets.

Media Options

The Auto-Sheet feeder, uses self centering media guides, this means the edge of the media will be located in different positions depending on the media size you have loaded.

Therefore, Media options is one of the most important areas to set within the Productivity settings screen.

ColorCut Pro uses the media size set here to correctly calculate the position for the Vision3 sensor to scan for the registration PageMARK (and QR code - if applicable).

NOTE: As different media sizes will result in the edge of the media being in a different (and therefore your registration PageMARK) location, it is very important to ensure you set the Media Options correctly to match the media size loaded in the Auto-Sheet Feeder.

Media Size
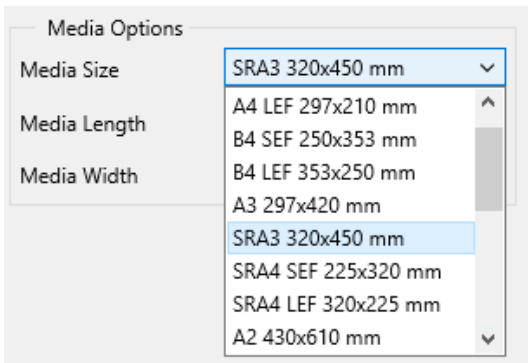
The most popular media sizes are listed under the Media Size drop down menu.

Typically, you only need to select your media size here. Selecting a media size within this menu, will automatically populate the Length and Width fields for your media.
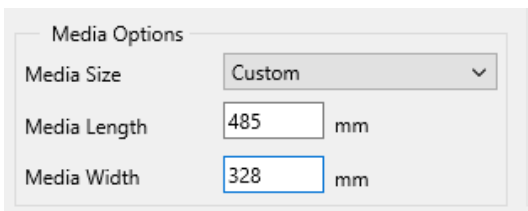
However, your media size is not listed in the Media Size list scroll to the base of the list and select 'Custom'. Now enter :

Media Length (the distance from the front of the media to the position of the backstop in the media feeder)

Media Width (the left to right distance across the mouth of the cutter).

Position of PageMarks on Media
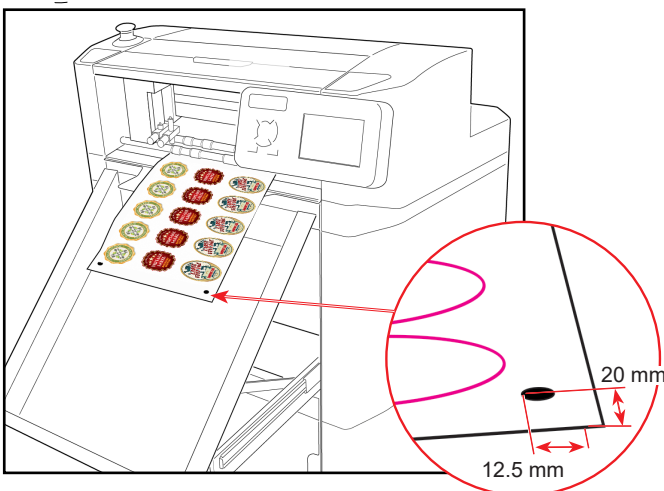
PageMARKs are applied during the design stage, in your Graphics Application.

It is important that you followed the recommendation to set ColorCut Pro to place PageMARKs relative to the Page Size (See section "Registration Pagemarks") which keeps PageMARK positioning consistent across all of your designs. It is also recommend you use the same margins, to avoid having to frequently change settings.

The 1st PageMARK, is located on the lead edge of sheet at the offset/margin you specified when applying the PageMARKs (See section "Registration Pagemarks" and "Automatically Adding Registration PageMARKs")

Media Positioning

The Media Positioning [J] control sets location that the SC6500 should move to, when scanning for the 1st PageMARK. The Top Margin and the Left Margin settings should reflect the margins set under the ColorCut Pro PageMark Preferences in your Graphics Application.
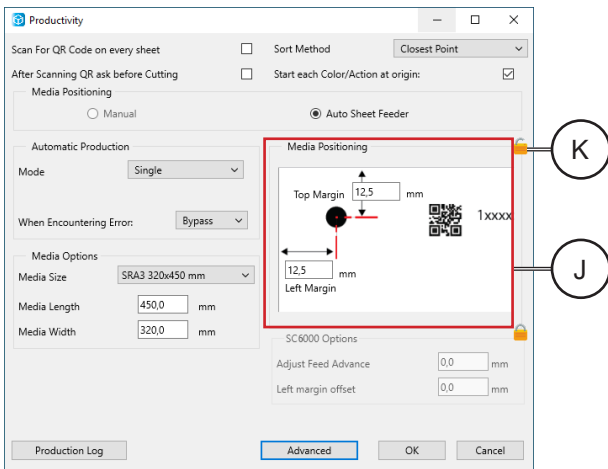
Once set, it should not need to be changed again (assuming you do not frequently change the PageMARK margins).

To prevent accidental changes, the control is locked by default. If you need to adjust the values (normally only first time to match your design positions), click the Padlock [K] to edit the values.

Cutting without Targets (Origin fine tuning)

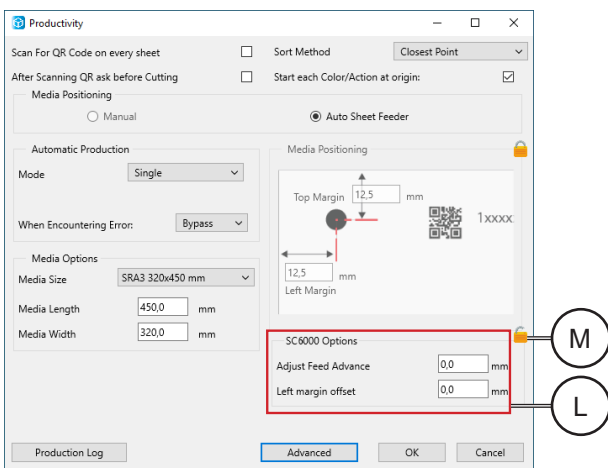The SC6500 uses an optical sensor to detect the front edge of the sheets when fed into the cutter, and the self-centering feed guide system which will correctly position the Left Side of your sheets.

However due to manufacturing tolerances, the actual position of the front or left side of the sheet may vary slightly. The Vision3 registration system will automatically adjust for this, so this normally these values do not need to be adjusted.

However, if you plan to cut without registration PageMARK targets, then you may wish adjust the SC6500 Options [L], which controls the origin point (the point at which cutting starts) for each sheet loaded.

As typically the values do not need to be adjusted, they are 'Locked' by default. To change the values, click on the Padlock symbol [M] to unlock the fields for editing.

- Adjust the Feed Advance (The default value is 0). Increasing the value will advance the sheet further (placing your origin and any cut lines further down the sheet). Decreasing the value will move the sheet further back, effectively moving the origin Up the sheet and any cut lines.
- Adjust the Left Margin Offset value (The default value is 0). Increasing the value will increase the left margin position and move your cut further into the sheet or decreasing the value (negative values are permitted) will reduce the left margin, moving the cut out further to (or beyond) the sheet edge.

NOTE: ColorCut Pro uses cut files containing the vector lines exported from your artwork. It does not know your Page Size. Therefore, when cutting without targets - the cutting starts from the top corner of any elements (Not the edge of your page). You can visualise this by drawing a select marque around your cutting elements. The Top corner of this marque will be the cutting origin not your page. Please see the section later on in this manual to learn how to modify your design to enable ColorCut Pro to cut relative to your page size. Do not edit the Feed Advance or Left margin Offset values when cutting without PageMARKs, if you have not adjusted your design to as detailed in Section "Cutting without using PageMarks". Excessive changes in these values may affect the normal operation of SC6500.

Production Log

The SC6500 has two different log's that provide feedback on your cutting.
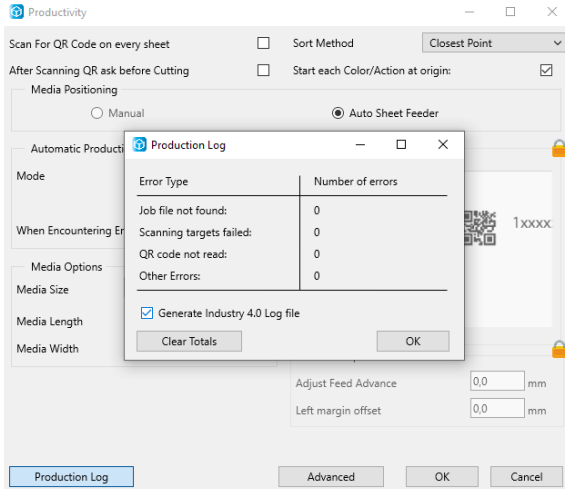
To view the basic log, click the [Production Log] button at the bottom left of the Production screen.

Here you will be able to view a summary of any errors during cutting. i.e. Jobs not found, QR codes not read and Target Scanning errors.

The summary totals can be cleared, by clicking the [Clear Totals] button.

A more advanced log can be generated by enabling the Generate Industry 4.0 Log file check box.

The Industry 4.0 log is an external log.file (Tab delimited) that is generated as each job is output, including identification of the Job ID, the time released, the status of the job, number of colors within the job, along with the color used, tool applied and length cut for the specified tool (example shown)

The Industry 4.0 Log may be required by EPOS systems and certain JDF systems. To find the location of the output data file, for your EPOS, JDF system (or third party application) navigate to:

C:\Program Files (x86)\PlockMatic Group\ColorCutPro\industry4

The file path may alter.
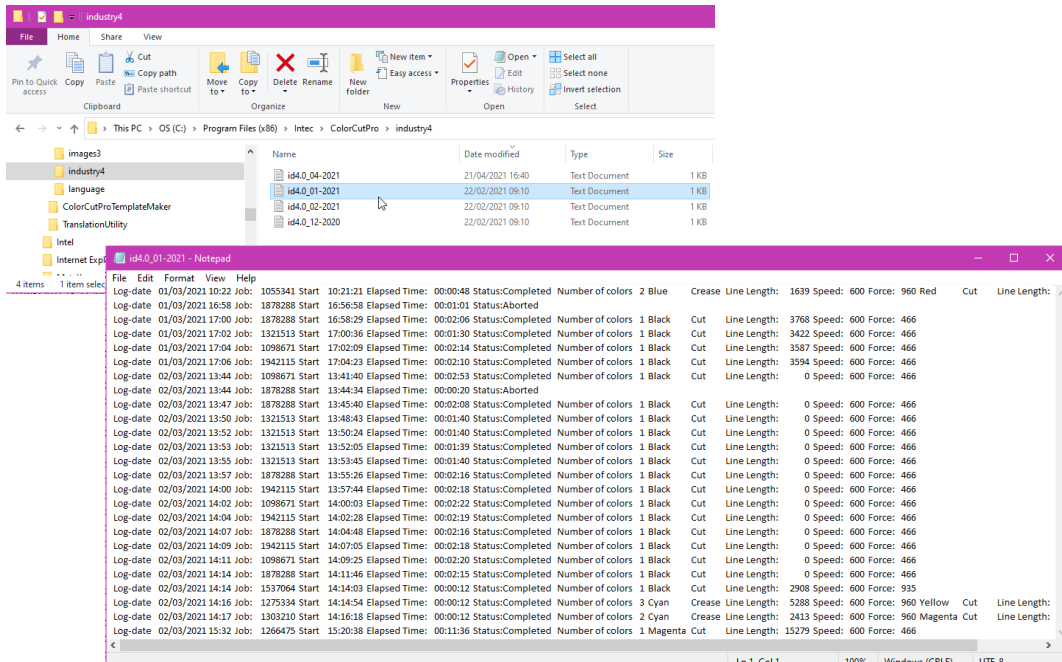
Advanced Productivity options

The SC6500 uses a sophisticated image processing system to identify the PageMARK registration targets (and QR codes). Designed primarily to read Black PageMARKs on White media the advanced Vision3 sensor, will auto invert images, to additionally enable the reading of White PageMARKs on Black Sheets.

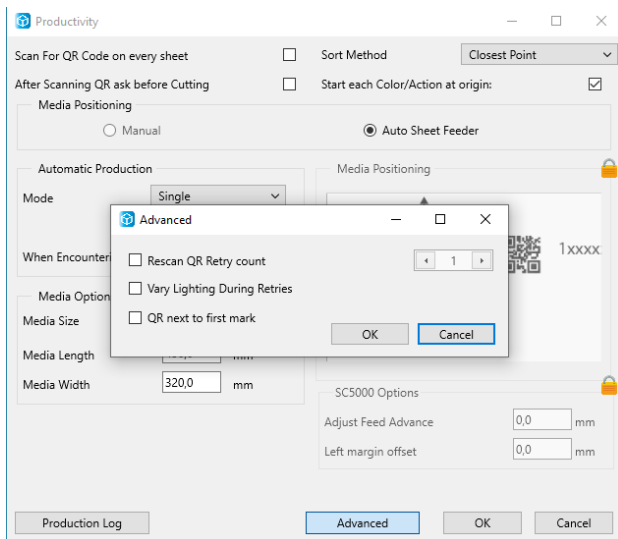The Vision3 image scanning system is designed to determine the DMIN vs DMAX of the Mark versus the background area (Using edge detection based on maximum dynamic range contrast point and determining the centre point).

You can widen the range of media that can be scanned by adjusting the back lighting system (See section "Brightness/Illumination Control") on ColorCut Pro's main interface panel.

However, the [Advanced] button within the Productivity Dialogue box provides the user with some extended options and automated options to assist scanning of registration PageMARKs and QR codes that increases the scanning tolerance and helps scan a wider range of media.

Click the [Advanced] button to display the Advanced scanning options.

Checking the ReScan QR Rerty Count check box, will instruct the SC6500, to ReScan both Registration PageMARKs and QR codes as set (the applicable range is 1 - 5 times). This can be useful on some colored media, metallic or foiled media and porous media such as Inkjet Printed rice paper. However note, this may fractionally reduce productivity as the Scanning of each PageMARK will take fractionally longer (approx 1.5 sec more per target).

Checking the Vary Lighting During Retries check box, is very useful, as this will pulse the background lighting from low to high during the mark scanning (then returning it to the previous setting). This avoids the need for the user to adjust the Back lighting control on the main ColorCut Interface, and enables automation of a range of lighting conditions during the PageMARK scanning and QR code scanning.

While both of these functions can widen the tolerance for different media that can be scanned and read, it should be noted that each additional step will extend the time required for scanning and reduce productivity, Thus, for the optimum productivity when using standard media or paper/card/label stocks it is not necessary to activate these features.

1

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2. Setting Up a Job

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).
- PageMARKs, the marks that are used for Page Registration are automatically placed for you on a different (3rd) layer.

Graphics/Artwork layer

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. The layers feature enables you turn layers on or off as required. But in both cases, you need to have the registration marks available.

NOTE: 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.

Cut contour layer
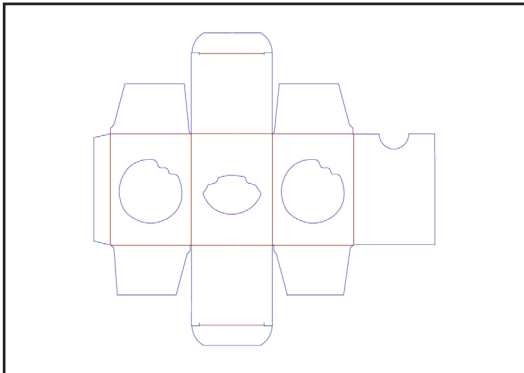
Similar commands are available in Adobe Illustrator and Corel-DRAW to enable and disable the layers.

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.

Automatic ColorCut Pro Marks Layer

When opening 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 Color-Cut Pro software.

Layers

Layers for Printing

In this example, the main graphics layer is visible and active. The ColorCut auto-generated 3rd layer with Alignment PageMARKs is also visible. (Detailed later). The cut contour layer is disabled.
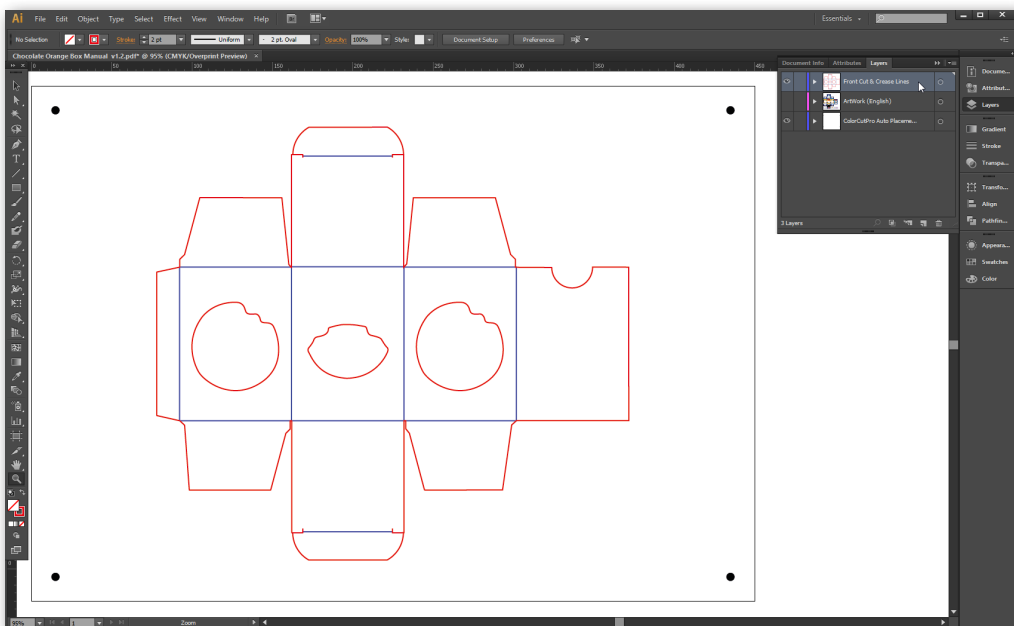

Drawing is ready for printing.

Layers for cutting

In this example, the main graphics layer is disabled. The ColorCut auto-generated 3rd layer with Alignment PageMARKs is still visible. (Detailed later).

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.

Drawing Cut, Perforated or Crease Lines

The 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 projects you may wish to perform 2 or more actions with cutter. For example cutting a box and creasing the folds.

The easiest way to do this in 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.

If you created a job with 4 colored lines (For example; RED, YELLOW, BLUE, GREEN) 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
>
> BLUE to Crease using the Creasing Tool, with full pressure.
>
> GREEN 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

ColorCut Pro uses 8 standard colors, which when used on the cutting layer are recognised by ColorCut Pro. Even if your cut lines are not drawn in these specific colors, the ColorCut Pro software will intelligently Color match up to 256 variations of these each of these colors and assign your colored line to the closest match with one of the below colors.

ColorCut Pro will recognise the named colors in either RGB or CMYK.

	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]

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

Registration Pagemarks

Before you design your page you need to consider that for accurate cutting each job requires 4 Registration PageMARKs. The PageMARKs are automatically placed 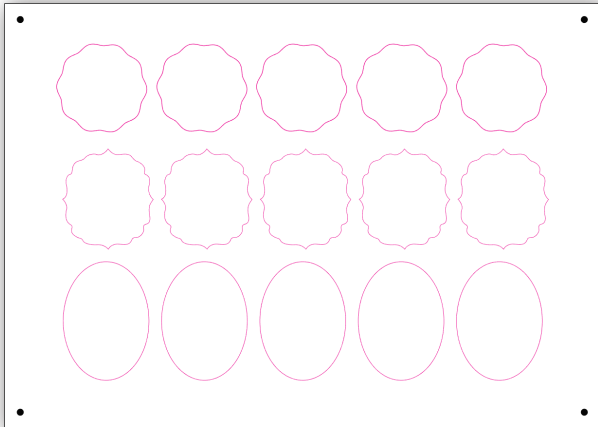on your artwork by ColorCut Pro's Add Pagemarks option. They are placed on all 4 corners of a rectangle that is typically surrounding the cut lines.

The PageMARKs can be placed at a fixed position on the Page, or anywhere on the page as long as it surrounds your design. Either example below can be used.

PageMARK's based on **PageSize.**

Fixed position of targets (PageMARKs) near page edges to maximise cutting area.

(Recommended for easier sheet replacement)
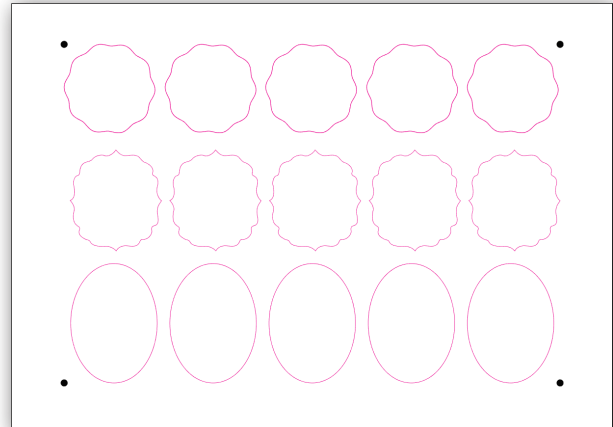
PageMARK's based on **Design size**.

Marks around artwork.

(Alternative to PageSize)

The first Registration PageMARK provides the origin of the job and is positioned at the bottom left edge of the sheet. The second which provides scale (Y) and skew parameters 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), skew and error checking is bottom right.

Each Registration PageMARK is a 5 mm x 5 mm circle and 100% K black with no outline.

Although you can manually draw the Registration PageMARKS on to your design, PageMARKs do not need to be manually drawn on; ColorCut Pro simplifies this, and will automatically add them for you.

5 mm

5 mm
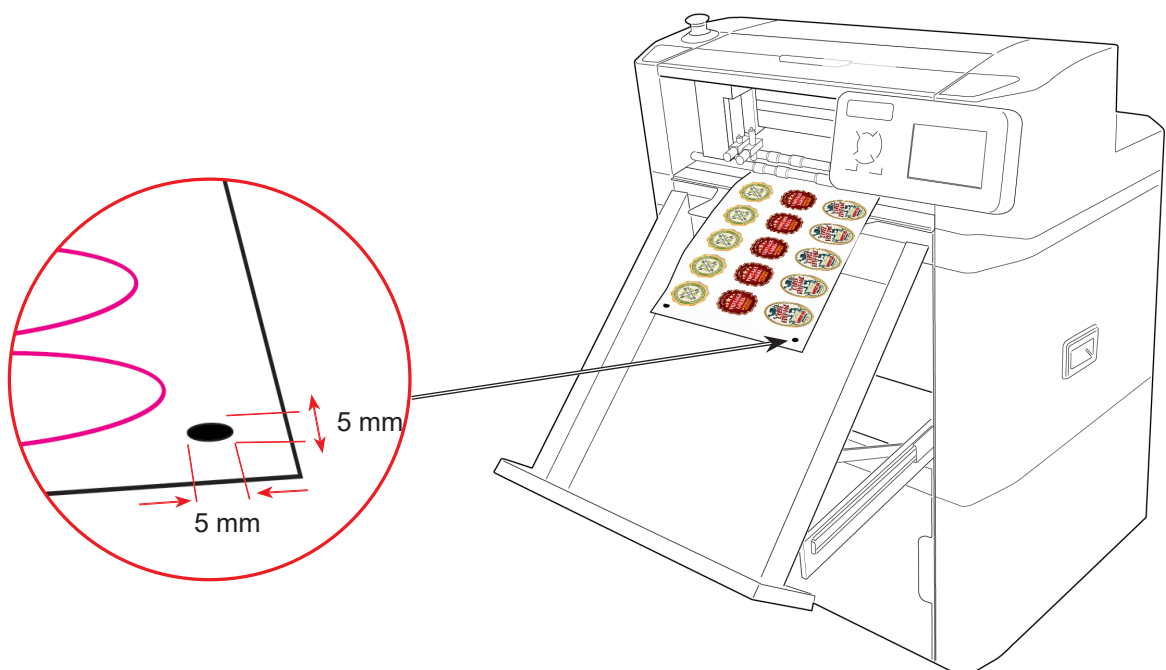
Positioning of Registration PageMARKs

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 8 mm scanning zone around the cut mark, (shown in red) so care should be taken not to place artwork too near the mark as this may be read by the sensor and cause an error or reduce the accuracy of PageMARK scanning.

The Vision Sensor needs 8 mm 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 PageMARK.

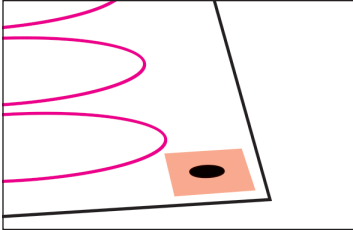Technically the absolute minimum margin (due to the scanning window) is 8 mm from the page edge or 8 mm to artwork elements. However for best practise, it is recommended to place the marks with a 10 mm margin to the leading page edge and to either side. (For the rear of the page please see the considerations below).

NOTE: The ColorCut Plug-in that applies PageMARKs automatically includes a preferences option that enables you to define the margin you wish to use. The value you enter here in this option/setting, is the distance to the centre of the PageMARK. The PageMARK is a 5 mm diameter circle, so you should set a 12.5 mm margin in PageMARKs preferences to achieve the recommended 10 mm margin from the edge of your media to the edge of the PageMARK).

Considerations for rear PageMARK placement

The SC6500 does not hold the sheet static while cutting, instead it uses an X-axis cutting system, (this is commonly the type of cutting system most vinyl cutters use), meaning it moves the sheet along the X-axis during cutting. Typically in this type of cutter, the main feed rollers grip the sheet during cutting. However, the cutting head cannot cut the sheet under the grip rollers therefore for under normal circumstances it is not possible to cut the last 30 mm of a sheet.
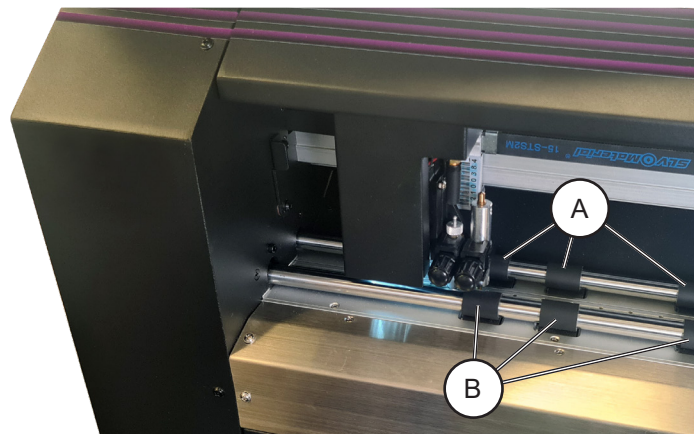
To enable you to cut the entire sheet and minimise label sheet waste the SC6500 is fitted with a unique Dual Grip roller system.

The Dual Grip roller system, incorporates a second set of rollers known as Secondary grip rollers, which holds the media further up the sheet enabling you to cut the last 30 mm.

Dual Grip Roller configuration: Main Grip Rollers [A] and Secondary Grip Rollers [B].
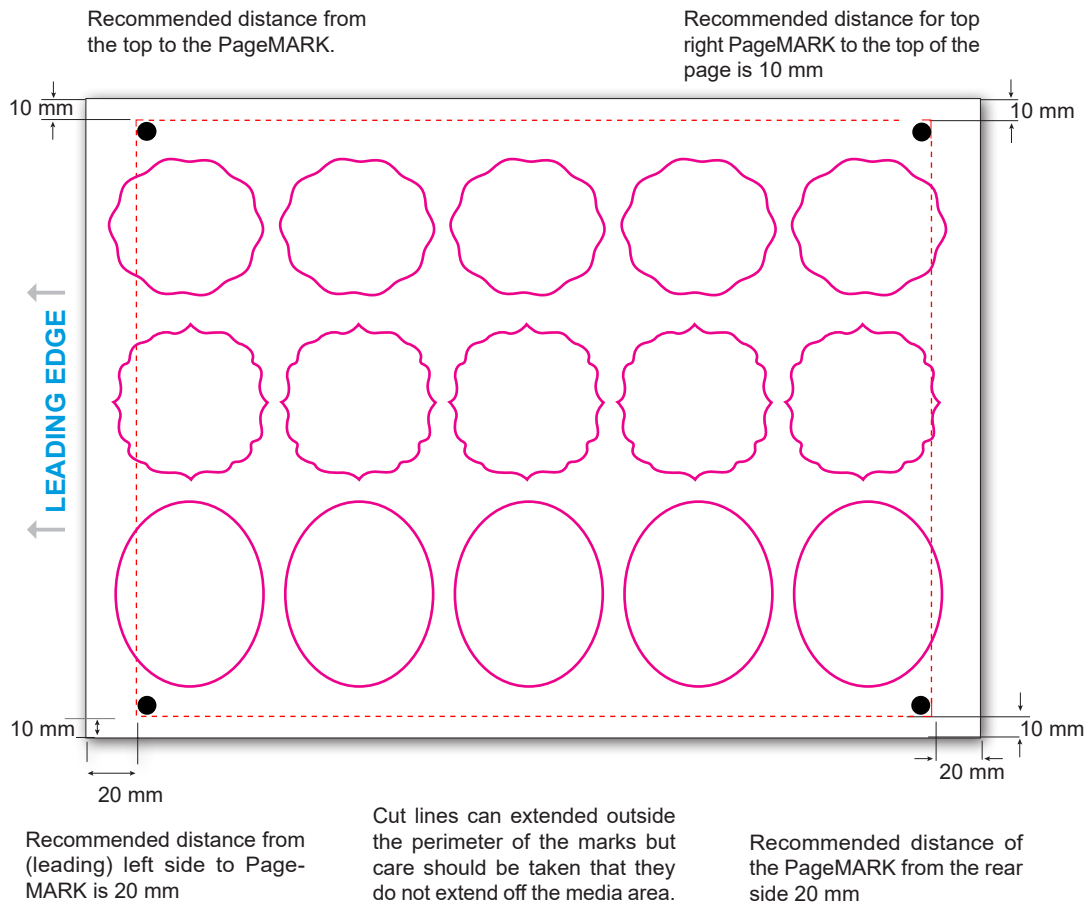
NOTE: Please be aware, when the media is held only by the 'Slave' grip rollers during the registration process or in the cutting process, the accuracy may be fractionally reduced.

Configuring PageMARKs for maximum cut accuracy

For designs or elements requiring the highest cut accuracy, it is recommended that the all PageMARKs are placed in a position that enables the main grip roller to retain grip of the sheet during the registration process. If the design includes PageMARKs placed close to the trailing edge of the sheet then only the Secondary grip rollers will hold the sheet when it is advanced to scan the trailing edge PageMARKS. This may affect the overall registration of the sheet and all cut lines on the sheet.

Therefore, the recommended margins for the highest cut accuracy are shown below.

Recommended distance from the top to the PageMARK.

Recommended distance for top right PageMARK to the top of the page is 10 mm

10 mm

10 mm

LEADING EDGE

10 mm

10 mm

20 mm

20 mm

Recommended distance from (leading) left side to Page-MARK is 20 mm

Cut lines can extended outside the perimeter of the marks but care should be taken that they do not extend off the media area.

Recommended distance of the PageMARK from the rear side 20 mm

As previously mentioned, using the above mark distance, will ensure the media is held within the main grip rollers while all marks are scanned and adjustments for registration scale and skew are calculated. The sheet can then be cut from the lead edge, delivering the highest degree of accuracy for all elements within the main cutting area. However, it is also possible to cut outside the cut mark perimeter. Therefore, while the rear Page-MARKS are set at 20 mm from the rear edge of the sheet, you can design and cut elements up to 10 mm from the rear of the sheet using the dual grip roller system.

NOTE: Any element in the last 20 mm of the cutter area will have fractionally reduced cut accuracy due to only the slave roller retaining the sheet during cutting. In most cases this reduction in accuracy will not be noticeable.

Configuring PageMARKs for maximum efficiency

Maximising the space on the page is important for many users and here the Dual Grip roller system provides users with the ability to achieve a full page and enable cutting right up to the edge of the media.

You can cut beyond the PageMARK position, so it is possible to right to the edge of the sheet but in most cases you will need some media/matrix left on the label sheet to make removing he waste matrix on your labels easier. Also, cutting off of the sheet is not recommended as the blade, may snag the side of the sheet as it turn to come back onto the sheet area.

Typically we recommend you observe the 10 mm margin on all sides, this will eliminate the risk your cut lines will exceed the media size and allow enough waste material on the sides of your media to ensure the waste matrix can easily be removed.

The recommended margins for the maximum efficiency of the media usage are shown below.

Recommended distance from the top to the Page-MARK.

Recommended distance for top right PageMARK to the top of the page is 10 mm

10 mm

10 mm

LEADING EDGE

10 mm

10 mm

10 mm

10 mm

Recommended distance from (leading) left side to Page-MARK is 10 mm

Cut lines can extended outside the perimeter of the marks but care should be taken that they do not extend off the media area.

Recommended distance of the PageMARK from the rear side 10 mm

NOTE: When feeding the sheet during the registration process or cutting the sheet. Please be aware that any time the sheet is held only by the 'Slave' grip rollers the accuracy may be fractionally reduced, if maximum accuracy is required please see previous section.

# Automatically Adding Registration PageMARKs

You do not need to manually draw your PageMARKs on to your designs. ColorCut Pro will automatically add the marks for you. After installing ColorCut Pro and launching Illustrator (or CorelDRAW), you will find a new set of options [A] under the Print command in the File drop-down menu.
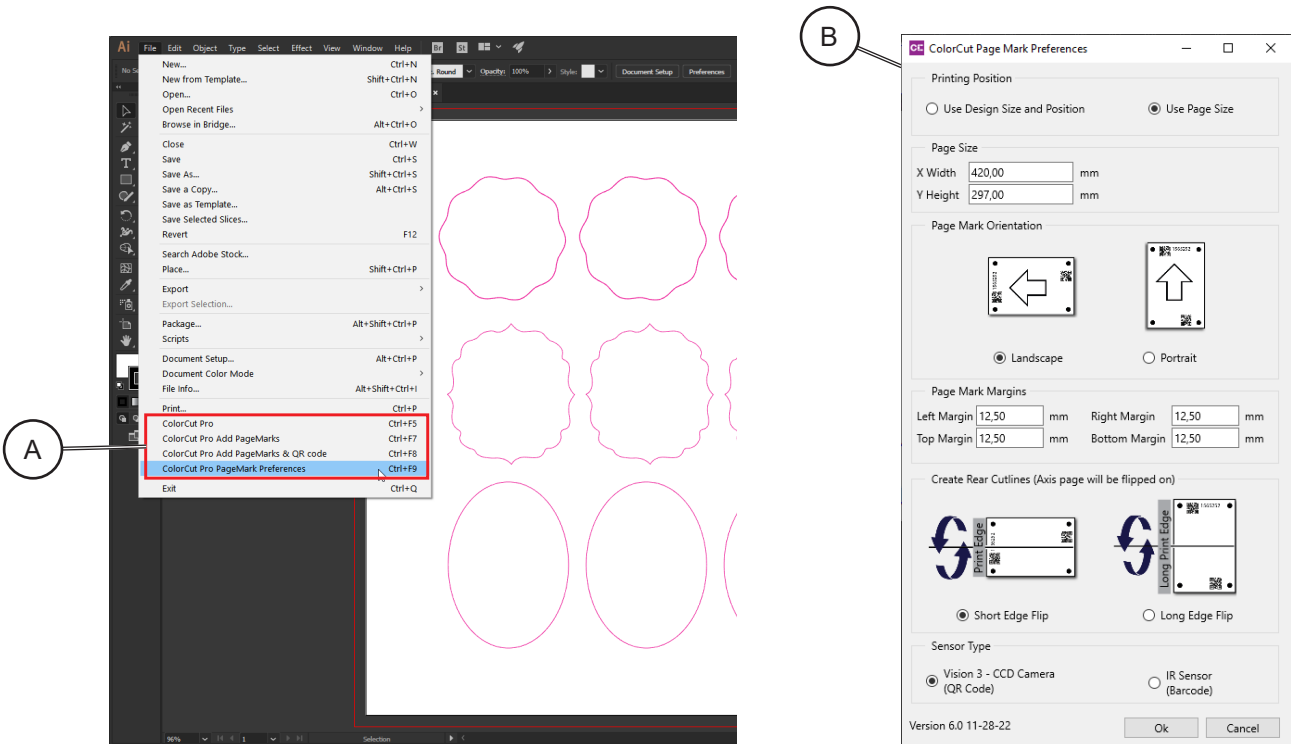
1. Launch Illustrator (or CorelDRAW). In the File drop-down menu under the Print command click the [ColorCut Pro PageMARK preferences].
   (You only need to do this on initial use.) Therefore, the recommended margins for the highest cut accuracy are shown in picture.
2. The ColorCut Pro PageMARKs Preference dialogue box [B] will appear. You can use this control to set where the cutting registration marks (PageMARKs) will appear on the sheet.
3. Choose Printing Position of page marks.
4. Define the margins based on chosen print position:
   • Distance from the page edge to the centre of the PageMARK for Page Size position
   • Distance from the design edge to the centre of the PageMARK for Design Size position

NOTE: With the SC6500 series of auto-feed sheet cutters, it is recommended that you place the PageMARKs based on "Use Page Size" (as opposed to based on "Use Design size and Position"). We also recommend you keep the Mark position margins consistent across your jobs. This is because your SC6500 will load the sheet and move a pre-set distance in from the edge of your sheet to scan the PageMARK. If your PageMARK position changes on subsequent sheets you will need to adjust the location setting in your software before starting each cut job to enable your sheet's marks to be located. Therefore placing marks based on Design size is not recommended when using the auto-feeder.

Configuring Automatic PageMARKs
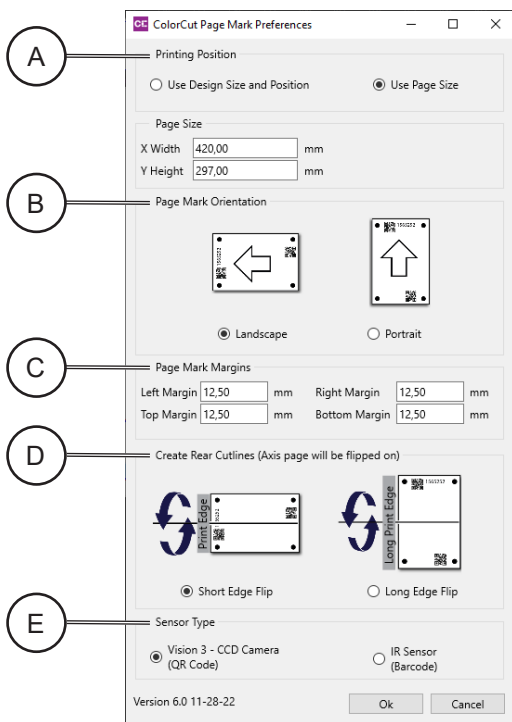
1. In ColorCut Pro PageMARK preferences window under Printing Position section [A] select 'Use Page Size'.

   NOTE: Page size is updated from your Artboard size in Illustrator, so you do not need to adjust the page size setting here it will automatically adjust when the PageMARKs are added.

2. Locate the Page Mark Orientation section [B] and select the orientation for your design.

3. Ensure the PageMARKs are orientated so the 1st mark and the QR Code are placed on the lead edge of your media when placed on the table.

4. ColorCut Pro scans identifies the origin mark and then moves the appropriate distance (based on your design) to locate the second/next mark (across the lead/feed edge of the media). When designing jobs on to be cut on the SC6500 using SRA3 media, ensure the 1st mark is placed on the lead edge used in the auto-feeder (This will be Narrow edge of the media). So it is important you add your marks using the correct orientation.

Failure to choose the correct orientation can mean your cutter will try to scan a mark that is located at a different position and fail (i.e. a distance equivalent to the length of your sheet rather than the width).

NOTE: The terms Landscape or Portrait in the ColorCut Pro PageMarks preferences, relate to the positioning of the marks on the sheet based on the thumbnail shown (i.e. Landscape places them on the left of the design and so if your design is already Landscape then choosing landscape in the ColorCut Pro preferences will effectively rotate the mark position and add your marks to the left edge as you design on screen. Thus, ColorCut Pro will add marks 1 & 2 (& QR code if appropriate) on the left edge - this is now the lead edge when placed into the Auto-sheet feeder which will be correct for SC6500 users. Note however applying the marks using the Portrait option - will add PageMARKs to the top of the sheet (the wide edge) this will not be correct as it is not possible to place the wide edge of the sheet as the leading edge in the auto sheet feeder.

With the SC6500, if your design is Portrait, then choose to add the PageMARKs in a Portrait Orientation. (Adding marks 1 & 2 (and QR code if appropriate) to the top edge - Please consider the orientation you need the marks to ensure the PageMARKs are added to the lead edge of your sheet when it is placed in the Auto-Sheet feeder.

5. Locate the Page Mark Margins section [C] and enter the margin you would like.

It is also important to note that the measurements are to the centre of the 5 x 5 mm Circle registration Page-MARK. When adding PageMARKS, consider therefore to use a 12.5 mm margin for the left Margin & Right Margins (Portrait) and 20 mm - 22 mm margin to the Lead edge (top) and tail edge (bottom) boundaries to give recommended margin to the page edge.

6. Select the Short Edge Flip or Long Edge Flip [D] to produce cut lines on the back side of your page. This option is very useful when printing designs that necessitate precise and accurate trimming, such as those printed on both sides. By selecting this option, you may verify that printed pages are accurately aligned and cut to their exact final size.

7. Sensor Type [E] - The SC6500 uses an advanced Vision 3 CCD camera sensor which reads round registration marks and will recognise QR codes. However the ColorCut Pro application supports a number of different cutters, some with standard IR sensors that use traditional square marks and barcodes. Therefore to ensure that ColorCut Pro adds Round marks, please ensure that the 'Sensor Type' is set to "Vision3 CCD Camera (QR Code)" in this dialogue box.

Additional Configuration for Mac users
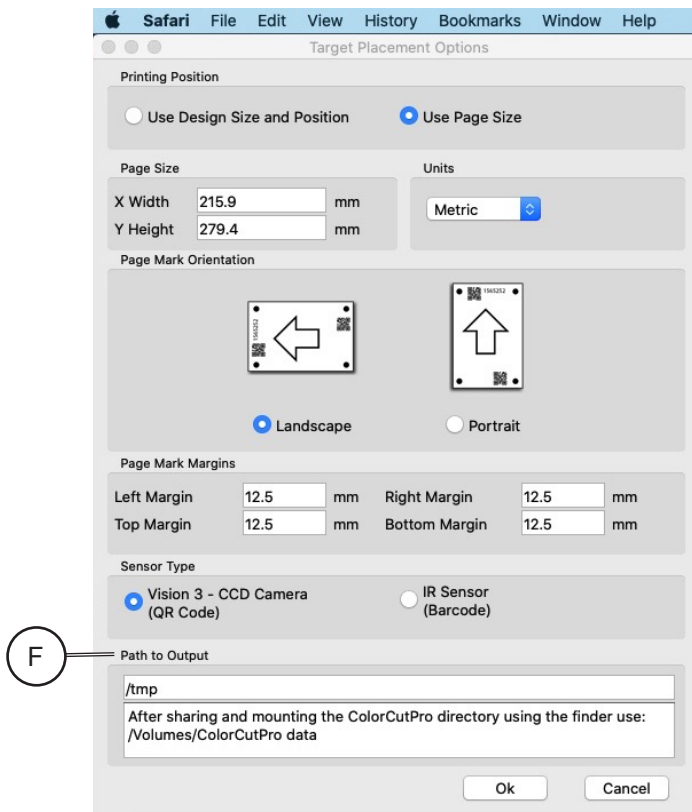
Adding PageMARKs is exactly the same for Mac users, however Mac users will typically use ColorCut Pro's Job Library feature to assign a job number (and QR code where applicable) to their jobs - enabling them to be cut efficiently in a production environment.

Mac users wishing to use the Job Library and QR code feature must ensure that they configure the connection to the Job Library correctly, otherwise Job Numbers and QR codes can not be generated and added to jobs.

You will need to configure the PC which is hosting ColorCut Pro and connected to the cutter, to broadcast/share the ColorCut Pro Job Library folder.

There is a video guide on the website to guide you through this process, under support, in the How to section; https://intecprinters.com/how-to-video-support/

Once you have enabled the PC to share the Job Library folder (ColorCut Pro Data), then you will need to mount this share on your Mac, and enter the path to it in the Path to Output section [F] in the ColorCut Pro Add PageMARKs preference screen.

To confirm the path to be entered, please follow the video guide highlighted above or read the section 'Mac users - Connecting to the ColorCut Pro Job Library' in the separate 'Setup & Installation guide'.

Using 'ColorCut Pro Add PageMARKs'

It is important to note, that when you activate the 'Add PageMARKs' feature from the [File] menu, the ColorCut Pro 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. You can avoid this by drawing the cutting profile and the artwork graphic on separate layers.

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


Warning:
Launching ColorCut Pro Add PageMARKs with the artwork layer selected will generate an error:
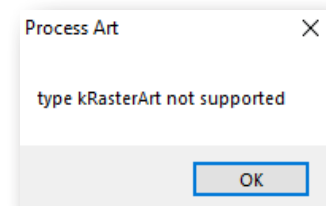
kRasterArt not supported ColorCut Pro does not know how to interpret the Graphics as cutting lines.

Selecting the Layer to Add PageMARKs

Ensure only the vector lines you wish to cut and send to your ColorCut are on the layer selected before adding the PageMARKs using 'ColorCut Pro Add PageMarks'. (You do not need to delete your artwork. It simply must be on a separate layer). In the example below the Cutline is selected (The artwork layer is not selected) and the layer is ready for you to 'Add PageMARKs'.
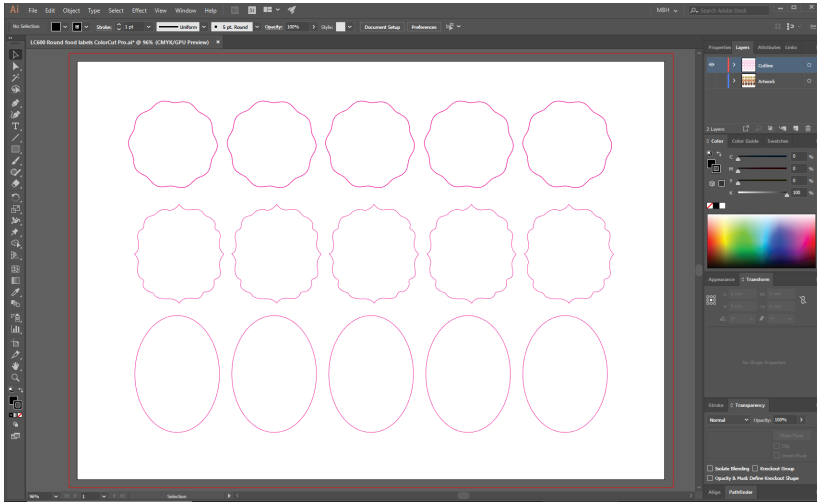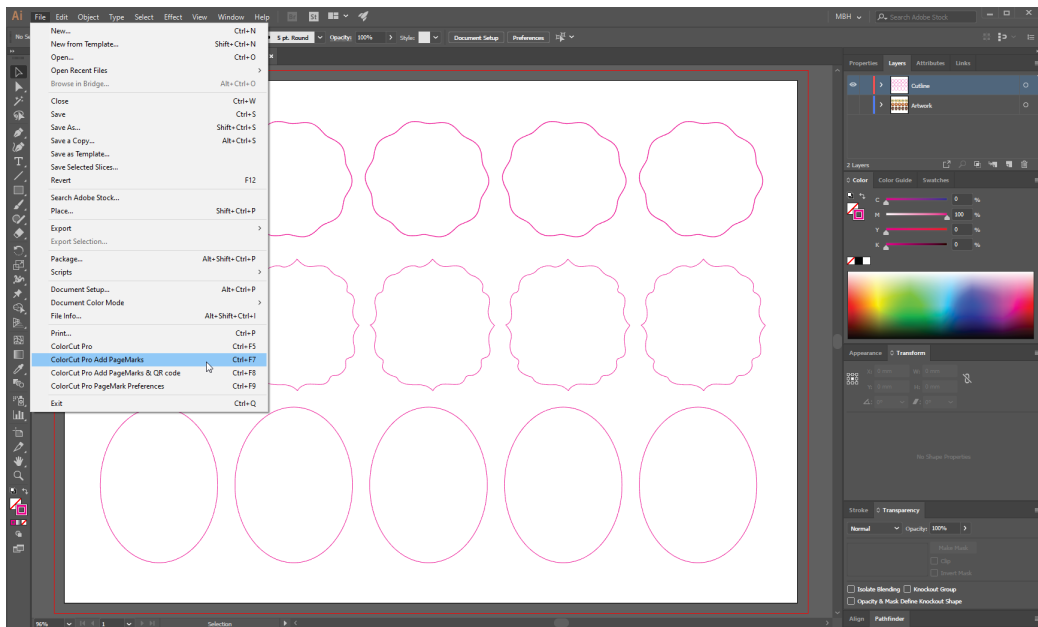

NOTE: The Artwork layer is hidden in this example, however you do not need to hide the artwork layer.

The only requirement is that you must select the vector/cut line layer and there should be no artwork/printed elements on the layer you wish to cut or 'AddPageMARKs' to.

Automatically Adding PageMARKs

From the File menu in Illustrator or CorelDRAW, select the menu item 'ColorCut Pro Add PageMARKs'.
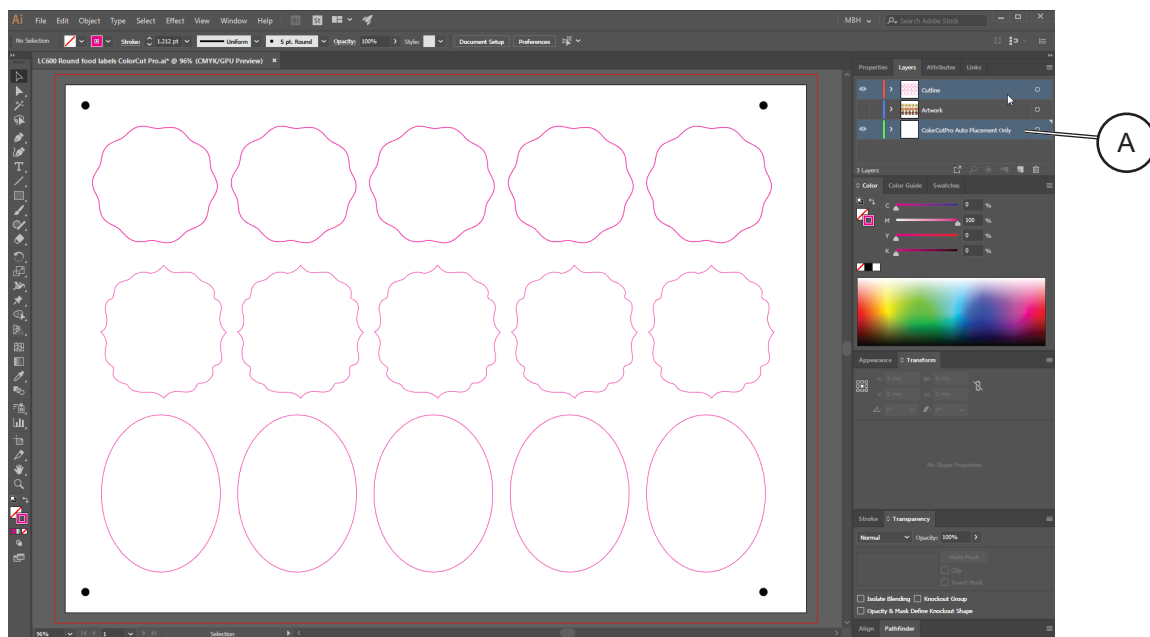
From the File drop-down menu in Illustrator or CorelDRAW, select the menu item 'ColorCut Pro Add PageMARKs'.

PageMARKs will be automatically added to your job and you will see a New Layer ColorCutPro Auto Placement Only [A] added in your Layers palette.

When printing your artwork you will want to hide the cut lines as you do not want these to print. Generating the PageMARKs on a separate layer means that you don't hide your PageMARKs when hiding your cut lines and enables you to leave the PageMARKs layer visible alongside your artwork layer (while still enabling you to hide your cut lines).

In example above the file is prepared for Printing (or saving as a PDF for digital printing systems). The cut line layer is hidden and not visible however the New Layer which includes the alignment PageMARKs ('ColorCutPro Auto Placement Only') is visible alongside the layer including your artwork, enabling your job to print with your artwork and the PageMARKs visible on your document.

Job Numbers, Barcodes and the Job Library

The standard way of adding PageMARKs (detailed above) provides accurate cutting of your files directly from Illustrator or CorelDRAW. However in many cases the Graphic Designer who generates the designs may not be the operator who is responsible for also cutting the jobs.

Files including PageMARKs must be cut from Illustrator or CorelDRAW, so this means that the operator responsible for cutting the jobs must also use Illustrator or CorelDRAW. Even when the same operator is cutting the files, it may be some time later when the printed job needs to be cut and this would require the operator to find and open the original file again.

The ColorCut Pro Job Library feature assigns Job Numbers for your cut jobs and makes cut file retrieval simpler, faster and more efficient while also making cutting much easier.

Cutting without using PageMarks

It is recommended that normally you use PageMARKs, ColorCut Pro will scan the PageMarks on your sheet to calculate where your sheet is (the origin) and compensate for any positional errors, scale or skew therefore accurately aligning your cut with a print or position on the sheet. However, in some cases, e.g.:

- On a sheet that is unprinted/blank, such as a clear sheet of Polyester to be used as a face shield. You only need to cut a visor shape and have no print, and no PageMARKs on the sheet.
- On clear material for Mobile phone screen covers. Again, no PageMARKs and the sheet is blank, you are not aligning to an element.
- Blank red card at Valentines day, to cut multiple red heart shapes. The hearts will be blank and not aligned to the sheet.
- A difficult media which has been foiled and the PageMARKs can not be read using the normal process (This may have print to align to, but the accuracy of alignment has a high degree of tolerance).

Cutting without PageMARKs is simple and often quicker as the process of scanning the PageMARKs is skipped, however the downside of skipping the registration PageMARKs is that there is no process to register the position of the sheet accurately and no ability to adapt your cutting lines for printing scale, skew or rotation errors.

Disabling Scan Targets
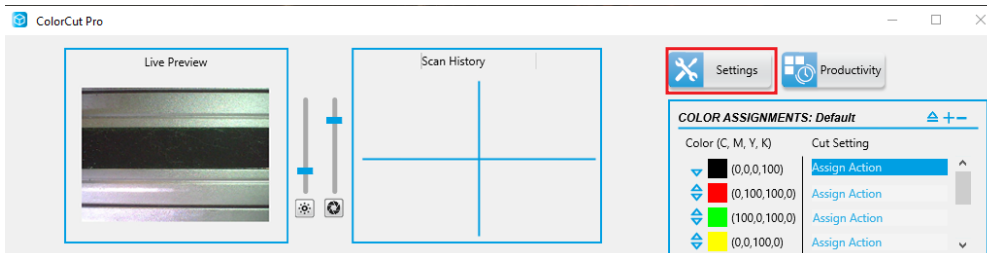
1. To cut sheets without PageMARKS, open the [Settings] window.
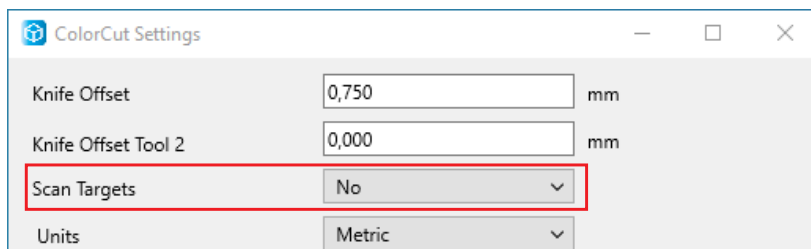
2. Set the Scan Targets option from to [NO]. This setting applies to all sheets until the setting is changed back to [YES]. Click [OK] to save the settings and close the window.

The cutting accuracy in respect to where the origin of your cut starts on the sheet or in respect to alignment of the cut to printed elements varies according to the media size you set, the feed and feed advance and left offset values (under the [Productivity] button) and the first cutting element on your design.

NOTE: Setting "Scan Targets" to [NO] also disables scanning of QR codes, so if you have a stack of sheets in the Auto Sheet Feeder, some without PageMARKs and some with. It will no longer detect any PageMARKs.

Design requirements when cutting without PageMARKs

ColorCut Pro does not use your document page size, normally cutting starts relative to the first PageMARK. Therefore if you disable 'scan targets', cutting will start at the furthest left and upper point of the perimeter around your elements for cutting. It is therefore recommended you consider this in the design.
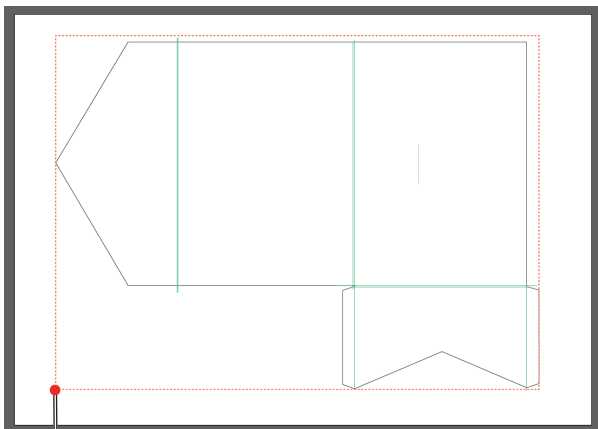

Desired result
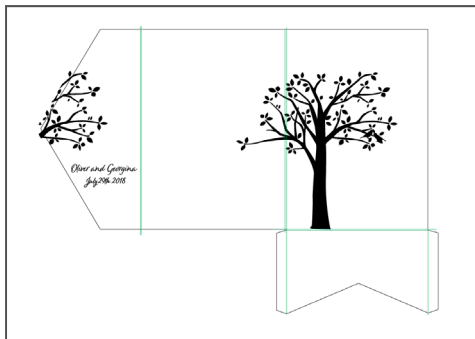

Artwork (before modification)

In given example, the used media was foiled, in addition the surface of the media contained glitter, which rendered the foiled PageMARK's unreadable. As the artwork is such that a small degree of movement would not be noticeable, this job was cut with Scan Targets disabled.

The frame on the artwork design represents the media size the job was printed on. However, ColorCut Pro files only contain the cut line and position data relative to each element (the elements inside the red dotted line), not your design in relation to the media size. Therefore to cut accurately we would need to manually adjust the start/origin point [A] of the cutting to the position.
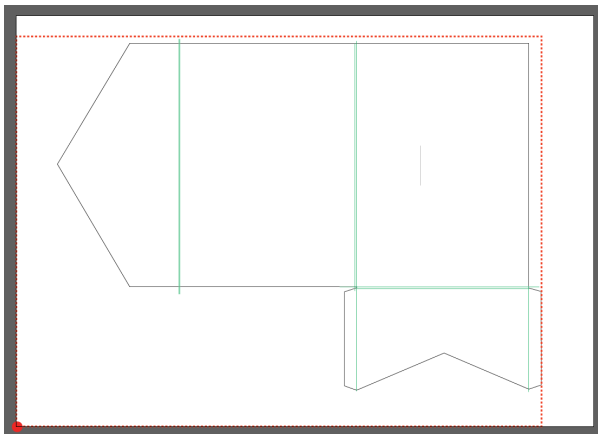
As ColorCut Pro, works from the First element on your page it is much easier and simpler to set ColorCut Pro to use the leading corner of the sheet as the origin. This can be easily achieved by adding a small dot or 0.1 mm circle on the corner of your Page.

The perimeter of your cut lines/elements now relate to the corner of your media. If the Productivity settings for feed advance and left margin offset are correct then this will now cut relatively accurately.

Use a different color for this dot, then you can set a specific action for this color to lightly tap the creasing tool there before cutting the rest of your design as desired.

Setting the Origin when cutting without Marks

Due to manufacturing tolerances, the feeder guides may present the media fractionally offset from the zero point. However, under normal circumstances the origin for the position of the sheet is automatically obtained using the Vision 3 camera sensor, as it scans the first PageMARK. Any positional inaccuracy in the feeder guides or feed advance is automatically adjusted for and the Mark recentred.

When you disable the Vision3 Registration sensor for scanning the PageMARK you no longer have the automatic adjustment system available, therefore you should manually check and adjust the alignment and the feed advance settings to enable sheets to cut as accurately as possible.

Feed Advance & Left Margin offset control

The option to adjust the offset when feeding sheets can be found in the Productivity window.

The default settings should be :

- Adjust feed Advance: 0
- Left Margin Offset: 0

To check and adjust the origin for cutting without PageMARKs (Targets):
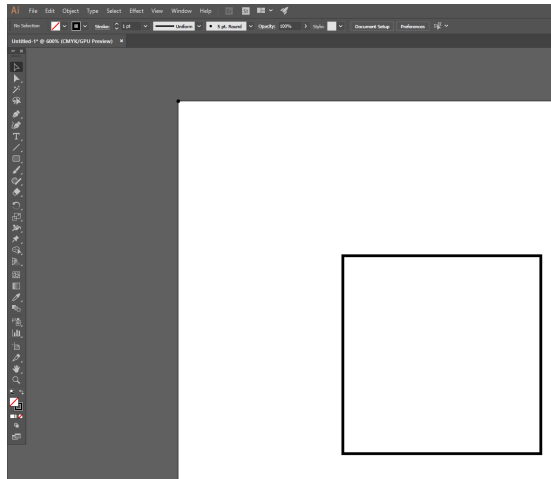
1. Using your graphics application, create a job in your graphics application, consisting of a 25 mm x 25 mm (0.98″ x 0.98″) box, placed 25 mm (0.98″) from left margin and 25 mm (0.98″) from the top margin With a 0.1 mm (0.039″) circle placed on the top left corner (the origin) of a page.

2. Print the job file on the media size that you will normally use for cutting with Scan Targets off.
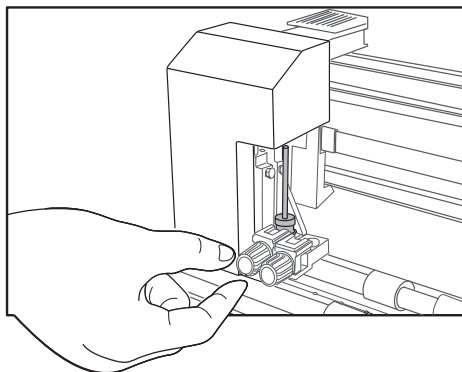
3. Replace the Tool1 (Knife tool) with the calibration Pen in the Tool Carriage of your SC6500.

4. Ensure that Scan Targets (See section "Disabling Scan Targets") is set to NO.

5. From your graphics application send the job Directly using ColorCut Pro, from your graphic applications main menu. (See section "Cutting Jobs Directly from Graphics Application (Direct Mode)")

6. Your SC6500 should place a tiny dot in the corner of the sheet, then draw the 25 mm (0.98″) square. (The Black square is the printed image, the Red square is an example of what the cutter may have drawn).

7. Measure the distance from the top of the sheet:
    • If the square is not 25 mm (0.98″) from the top of the sheet adjust the "Adjust Feed Advance" value within the SC6500 options under the Productivity Window.
    • If the square is not 25 mm (0.98″) from the left of the sheet adjust the "Left Margin Adjust" value within the SC6500 options under the Productivity Window.
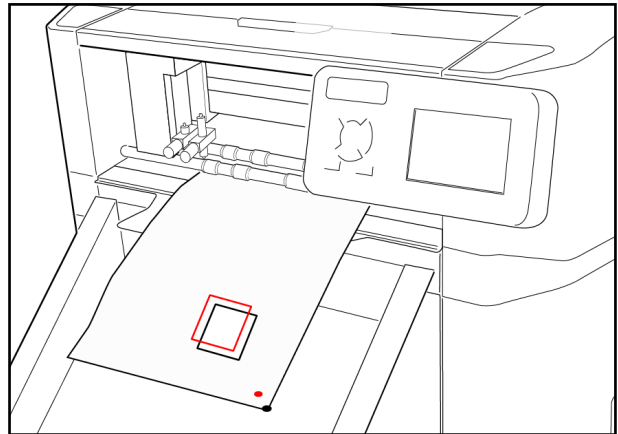
8. Print your file again, and retest your new values .

NOTE: Any large values >8 mm (>0.31″) may reduce the tolerance when scanning normal PageMarks and QR codes. The adjustments should be <8 mm (<0.31″) providing you placed the dot in the corner of your page and you have set the Media size under Productivity to the size that you are loading in to the SC6500. If you have not set the Media size correctly the left margin will be incorrect. If the adjustments are >8 mm (>0.31″) you may need to zero them back out when turning back on Scan Targets otherwise the cutter will seek in the incorrect position for the 1st PageMARK.

How To Cut Files Using ColorCut Pro

There are two different ways to Launch ColorCut Pro Production Studio.

ColorCut Pro - Production Studio is the full version of ColorCut Pro, and is used to cut your files. It can be used in two different ways, you can select the most suitable method for your working environment.

1. ColorCut Pro (Direct Plug-in) is launched Directly from your graphics application. Launching ColorCut Pro, directly from your Graphics application will transfer the currently open design file (specifically the currently selected layer) directly to ColorCut Pro for cutting. This enables you to cut the file you are working on (or open a previously saved file). This way of working is ideal for testing a design or where the cutting will be handled by the same person that makes the artwork.

NOTE: When working in ColorCut Pro (Direct) mode, as ColorCut Pro is launched directly from the graphic application it requires either Adobe Illustrator or Corel Draw installed on the computer that will do the cutting. In addition the operator will need to locate the file to cut and to be able to use the graphics application in order to launch ColorCut Pro. For this reason we typically recommend using the stand-alone mode of ColorCut Pro - Production Studio, also known as ColorCut Pro Job Server mode.

2. ColorCut Pro (Job Server Mode) does not need a graphics application installed on the computer. It also does not require you to locate the original graphics file. In addition the simplified interface is designed to be used by any operator (typically a Print Finisher with no specific computer or Graphic Applications skills) by providing a [Start/Scan QR Code] button to start operation.

When using ColorCut Pro in Job server mode your files must already have been created and had PageMARKS and a Job Number/QR Code added during the design stage. When the 'Add Job Number & QR Code' feature is carried out by the designer, the cutting lines are saved automatically for all users in the Job library folder.

When using ColorCut Pro - Production Studio (Job Server Mode), ColorCut Pro is launched on its own (stand alone) on your computer from the Windows Start Menu. The appropriate cutting file is retrieved by the operator entering the job number or can be retrieved automatically as the SC6500 scans the QR Code.

Using ColorCut Pro - Production Studio in (Job Server) mode streamlines the cutting process and retrieves cut files for you making cutting much easier. It is the recommended way of working for busy designers so they can find the files quickly and especially in companies where the cutter operator is a different person to the graphic designer, or where a different computer will be used for the cutting such as in MAC environments.

NOTE: When working in ColorCut Pro - Production Studio (Job Server) mode, as ColorCut Pro will retrieve the cutting files from the job library for you, it is important that your files were created with a Job Number and QR Code using the 'ColorCut Pro 'Add PageMARKS and QR Code' feature in the design process from your Graphics Application.

The following section of this manual details how to launch ColorCut Pro - Production Studio to cut your files using either method.

Cutting Jobs Directly from Graphics Application (Direct Mode)
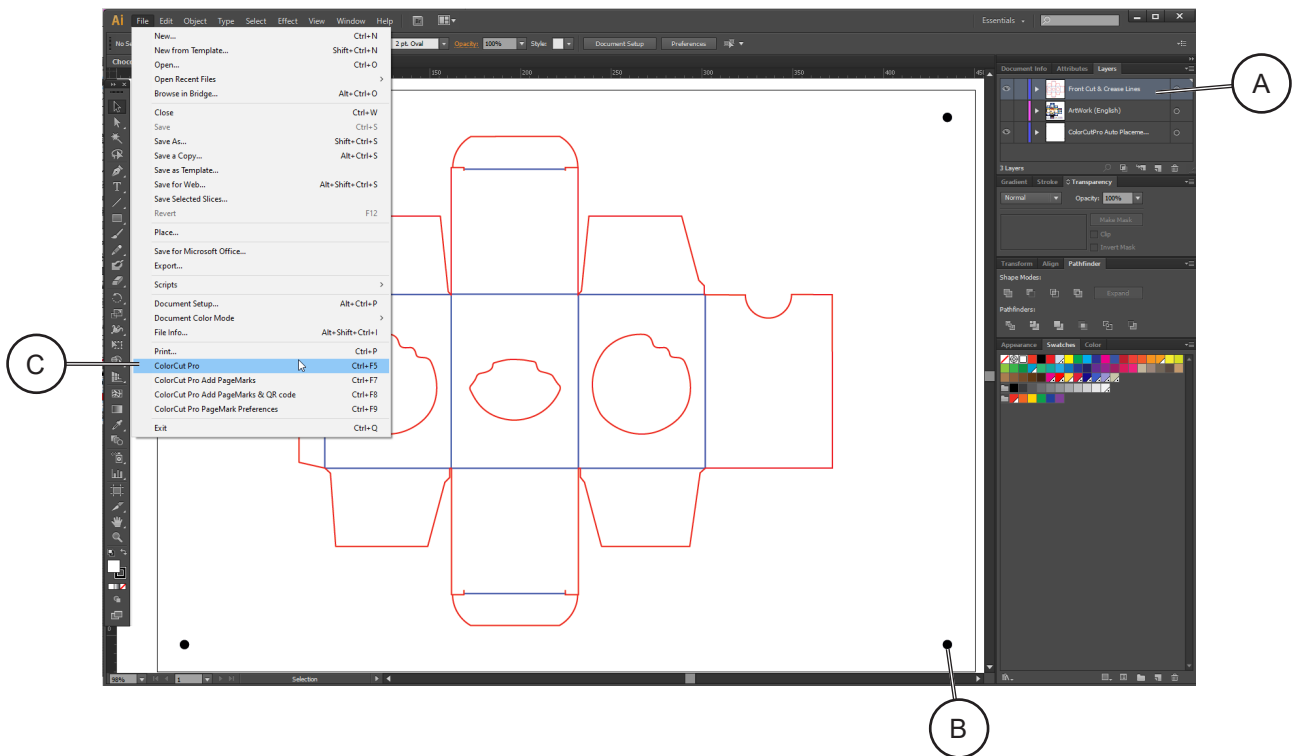
1. In Adobe Illustrator or CorelDRAW, open the file you wish to cut.
2. Ensure you have selected the layer with the Cutting lines [A] you wish to cut.
3. Ensure you have already added PageMARKs [B] using the ColorCut Pro add PageMARKs feature.
4. With the Layer which you wish to cut selected, choose the [File] Menu in Illustrator or CorelDRAW.
5. Now select 'ColorCut Pro' [C] from just under the Print command in the File menu.
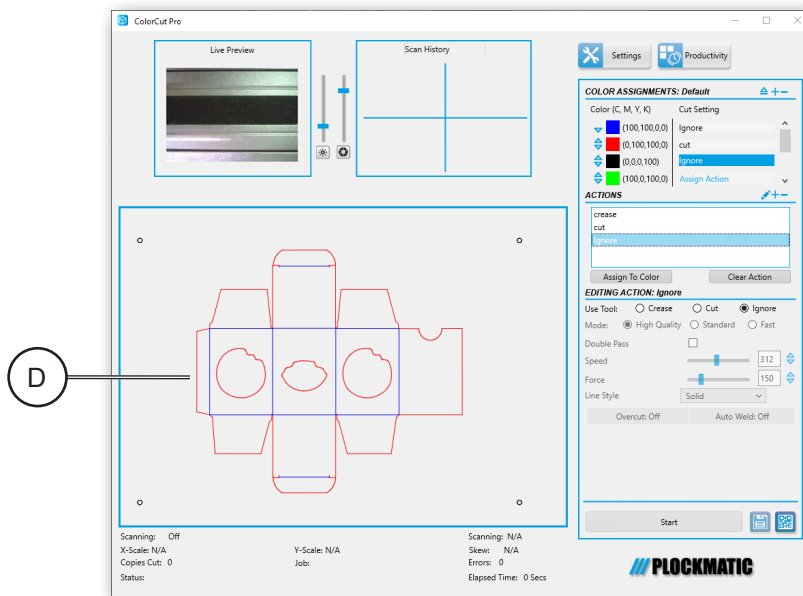
6. The ColorCut Pro will launch, and Cut lines will appear in the preview window [D].

Please review the section in this manual for ColorCut Pro main interface functions to understand how to create and save Material/Actions, and how to assign Line Colors to the material/actions.

Retrieving Jobs from the Job Library (Job Server Mode)

Retrieving Jobs from the Job Library

Job Server mode enables you to open files previously saved during the design process, to the ColorCut Pro Job Library. This can streamline your production and make your design process easier.

Creating Cut Job files using Job Numbers means you can assign a Cut Job number to a specific customer or assign a specific 'Design Template'/ Style to a Cut Job number.

Your Cut files are saved to the Job Library when you generate the Job number & QR code for the cut line. The Job Library can be accessed at any time without Illustrator or CorelDRAW on the PC hosting the Job Library. To launch ColorCut Pro - Production Studio (Job Server Mode), simply launch the ColorCut Pro software from the Start menu (or desktop shortcut if you created one) on your computer.

There are two ways to retrieve Jobs from the Job Library.

1. To 'Scan QR Code'
2. To manually enter the Job Number.

Retrieving Jobs with QR codes printed on them

1. Place your sheet to cut in to the guides in the Auto Sheet Feeder [A]. (Try to ensure the end with the Job number is on the leading edge - although if you do place the sheets in the wrong orientation ColorCut Pro will correct this for you).

   NOTE: When placing the sheets in the feeder, make sure that the sheets are also positioned inside the Front guides [B].

   You can use the Silver button [C] on the side panel to lower the feeder bed. (Pressing the button a second time will stop the bed lowering). Pressing again will raise the feeder - or the feeder will raise automatically when you click Start on your ColorCut Pro software screen.
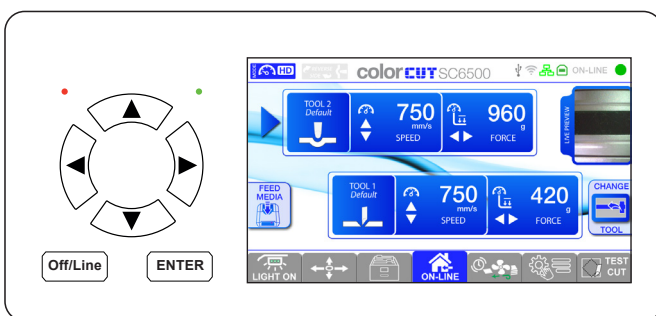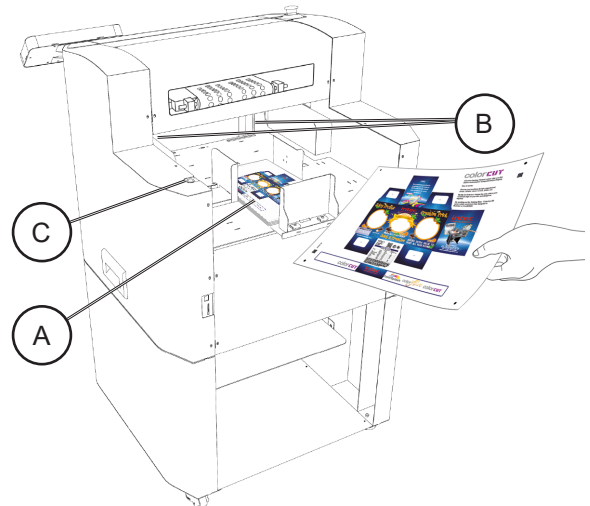
2. On the SC6500 control panel check that the LCD panel shows cutter is ON-LINE and ready to receive jobs (The Home screen). The LCD display should show the status of Each Tool and show the ON-Line icon.

3. If 'ON-LINE' is not shown on the SC6500 Control Panel, then press the [Home] button to place the cutter On-Line and to display the Home Screen as shown.
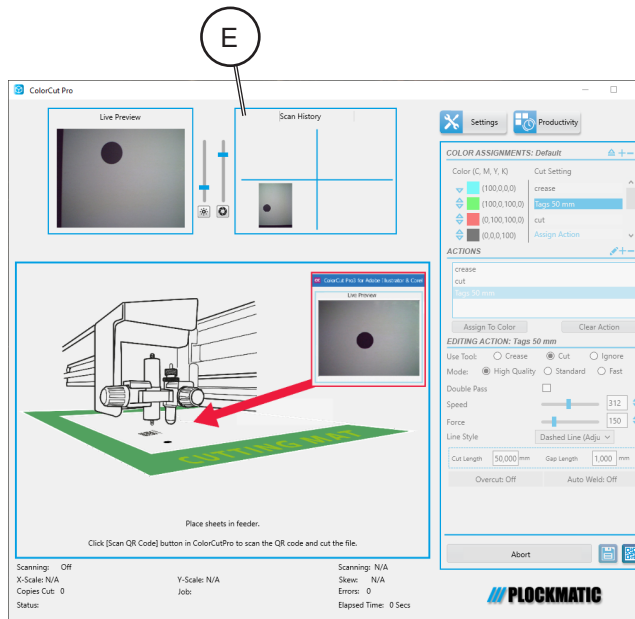
2

4. Using ColorCut Pro, Click on the [Scan QR Code] button [D] on the main application to load the media from the Auto Sheet Feeder and to scan the QR Code

In Live Preview Window you will be able to see an 'echo' of what the Vision3 registration sensor is seeing.

The first PageMARK scanned will appear in the Live preview Window, as the position is captured the Scan History of the location will be shown [E].

NOTE: If the PageMARK is not in the centre of the Live Preview when it is scanned, then check your margins on the printed sheet match your setting in Productivity settings, for both the Top Margin, and the Left Margin (See section "Media Positioning").
The PageMARK position setting under the Productivity window is only important for the 1st PageMark (the location and margins for the others is taken from the cutting file.

Jobs are saved to the Job Library during the design process. Each job is stored with the designated Job Number. The QR code carries the Job number and retrieves the Job cut file for you.

As soon as the QR code is recognised, a preview of the job to cut will appear in the Job Preview Window
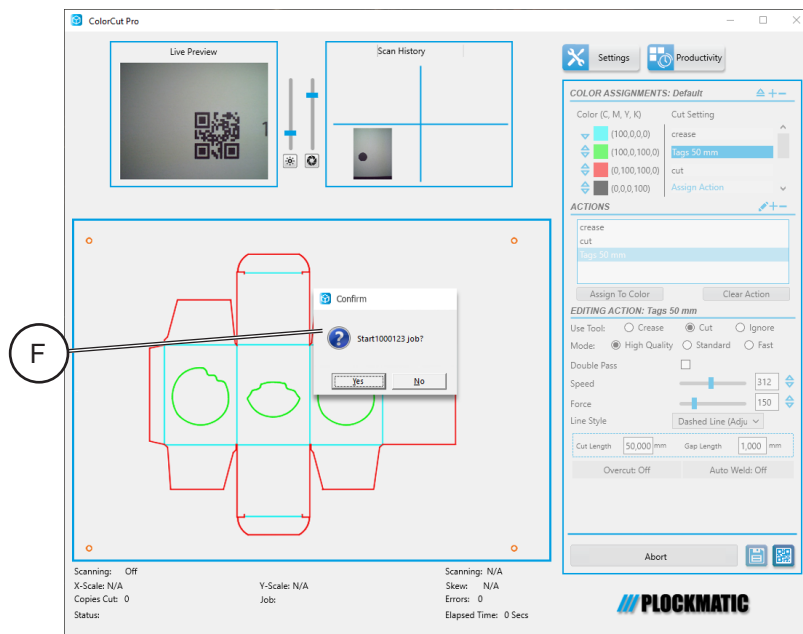
NOTE: When you first start using the SC6500 it is recommended that you enable 'After scanning QR ask before cutting' in the Productivity menu. This will pause the SC6500 cutter after loading the cut job and display the message [F] asking if you wish to Start the job (See section "After scanning QR Code ask before cutting").

This is useful when first using the cutter, as it provides the opportunity to set up the actions, cutting force and speed and helps you understand how to assign actions to each of the colored lines.

After you are confident with your cutter and the selection of actions in respect to Colors, you should disable this setting, so full automated operation can be achieved.

Enter a Job number to retrieve the Cut Job file directly

In addition to scanning a QR code to retrieve a cut file, from the Job Library you can also manually enter the job number to load the cut file. There are several reasons why it is useful to enter the Job number directly rather than scanning the QR code:

Manually entering the Job Number can enable you to pre-load line Color assignments

In Production menu, you would normally have the option 'After scanning QR Code ask before cutting' set to no. This enables automatic production so that after scanning a QR code the ColorCut SC6500 will automatically start cutting your job using your currently assigned Material actions/ line colors. However in some circumstances this may not be desired, e.g. if the artwork/job contain lines that do not follow your normal (assigned) convention (e.g. the red color was designed by another use and is intended for crease in this job and green for cut), so to automatically start cutting will assign the wrong actions and this may not be ideal.

To solve this you could set the 'After scanning QR Code ask before cutting' to Yes, but this would stop at every sheet. So, to avoid the need to enable and disable the 'After scanning ask before cutting' control you can simply load your sheets and manually enter the Job number, of your first sheet.

This will load the Cut Job file and enable you to check/assign cut actions and line colors - giving you the option to start the cutting only after you have set the line color actions and when you are ready.

Manually entering the Job Number can enable Jobs without QR codes to be retrieved without the original graphics file

Adding your Jobs to the ColorCut Pro Job Library is useful as this enables the job to be retrieved at a later stage or another user to cut the file without needing the original file, or the graphics application that created the design.

In the design stage, Jobs can be added to the Job Library by selecting "Add PageMARKS and QR Code" from the Graphics application's main menu. However, there are occasions where it may be necessary to Add the Job to the ColorCut Pro Job Library, without the QR code on the printed sheet.

i.e. when cutting artwork which contains some graphics or elements that would obscure the QR code (such as a solid bleed color) or when the Graphic Designer needs to maximise sheet area used for cutting but in doing so the QR code may resultantly appear within the finished product

In the above instance, the graphic designer, "Add PageMARKs and QR Code" as normal, to assign the Job tot he ColorCut pro Job Library, but then delete the QR code from the artwork after they have assigned a job number to the design.

Jobs that have been created with a QR Code and Job number (but then have, had the QR code removed), can be recalled from the Job Library by simply entering the job number (normally) printed at the top of the sheet.
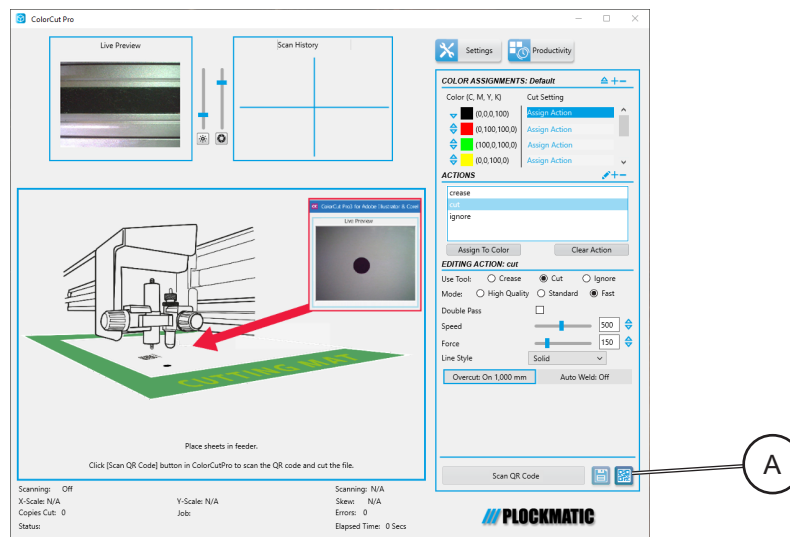
1. To load a Job file from the Job Library using the Job Number click on the QR Code Icon [A]. This will display a dialogue box asking you to enter the Job Number manually.
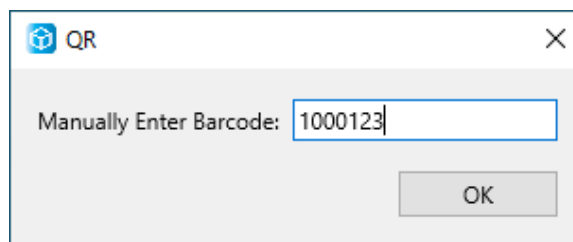
2. Enter the Job Number (found at the end of the printed sheet) and click the [OK] button to accept.

Your Cut Job File will be loaded directly into the Job Preview window [B].
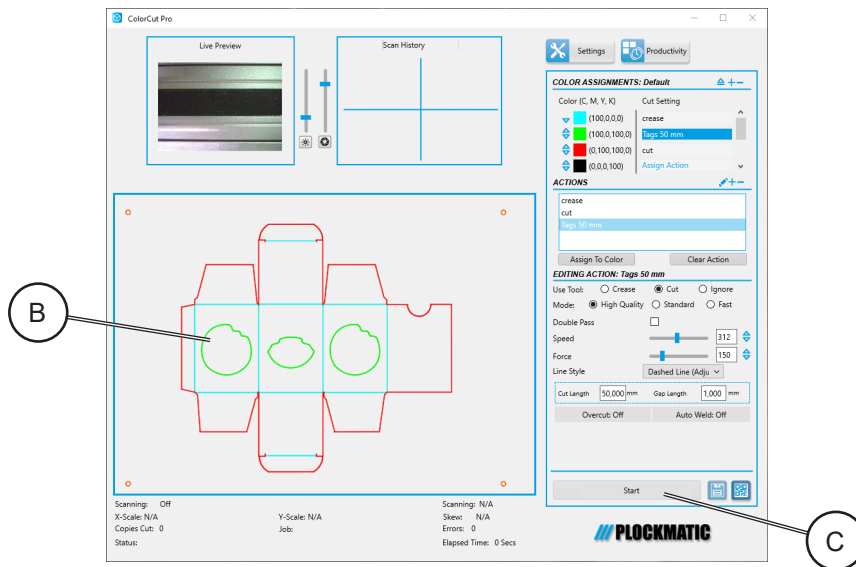
You will notice the [Scan QR Code] button has now changed to [Start] [C].

3. Assign actions to each Color.
4. Set the number of copies you want to cut after assigning actions to colors and making any other necessary changes, and then click the [Start] button.

2

Page Intentionally Blank

3. Settings and Options

This section contains previously outlined ColorCut Pro settings that may be changed directly via the cutter's user interface. If you wish to utilize the cutter in standalone mode by importing files through USB, you won't need to make modifications in the ColorCut Pro and may instead do it directly through the cutter's user interface.

The Settings and Options screen
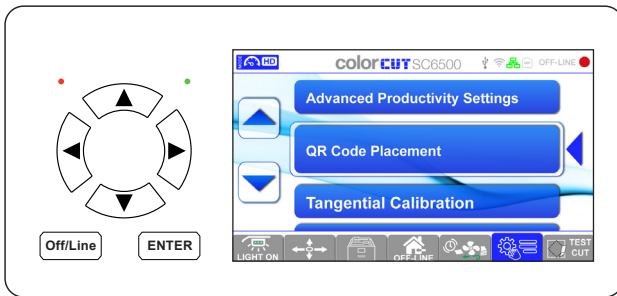
Press the [Settings and Options] Tab to get to the Tools screen. Select the setting you want to change by moving up/down with arrow keys and once select pressing [ENTER]

After changing setting in the sub screen, press the [ENTER] button to save your changes and return to the Settings&Options screen.

Align Camera Sensor to Tool1
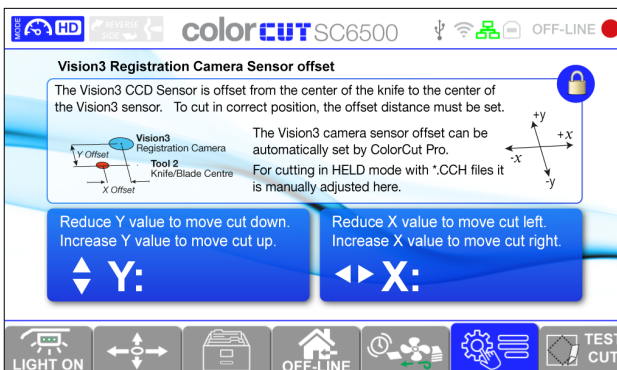
NOTE: Camera Sensor is not factory calibrated, so it must be done prior to cutting any jobs.

Sensor Offset tells the difference in position between the actual Blade on the cutter and the Vision sensor that reads the PageMARK positions.

The Sensor Offset needs to be set once and once set it does not change. It is very essential that it is set prior to cutting any jobs.

Offset is manually adjusted by editing the Sensor Offset X and Y values in tools section. For detailed description See section "Sensor Offset & the Auto Find feature".

Align Tool2 to Tool 1
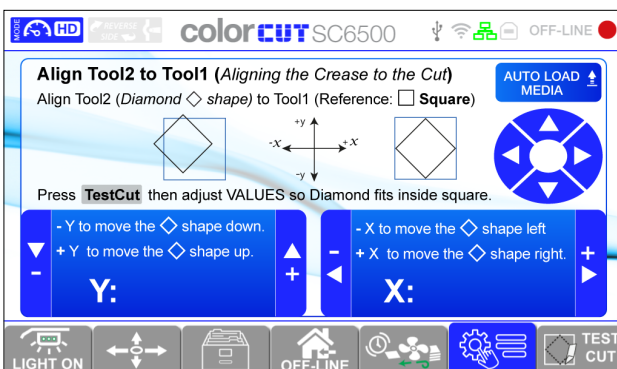
NOTE: Tool alignment is already set in factory, but it's a good practice to know what it is and confirm it

Perform a calibration to determine the precise alignment between Tool1 and Tool2, thereby ensuring the accuracy of the crease relative to the cut.

To achieve this alignment, utilize the Pen tools available in the accessory box. Perform a test cut (See section "Test Cut"), and carefully assess whether the diamond shape of Tool2 aligns precisely with the square shape of Tool1.

If adjustments are necessary, modify the Y and/or X parameters, and repeat the procedure until the desired alignment is achieved.
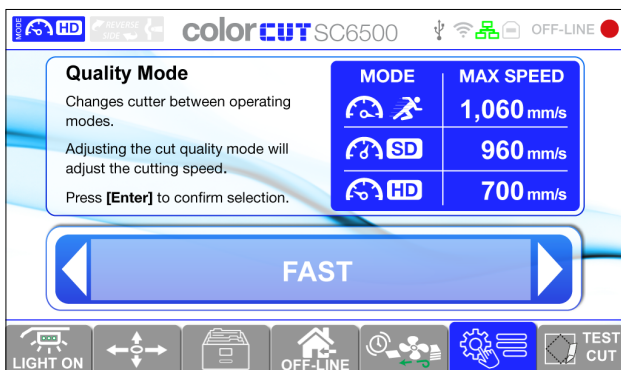
Scale Calibration
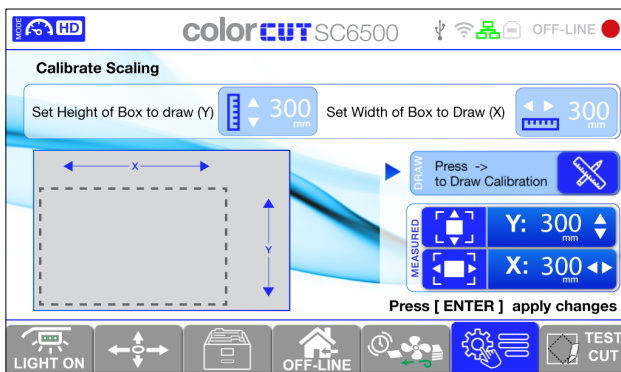
To ensure accuracy and precision in the cutter's cutting process the scale calibration is performed.

Scale Calibration involves creating a box shape with predefined measurements and comparing it to the actual dimensions. If there's a difference, the measurements are adjusted until they match, guaranteeing precise cutting.

Quality Mode

Three cutting modes are available for selection, each of which enables a modification in cutting speed by adjusting the mode of the cutter.

When handling cutting and creasing tasks of relatively straightforward complexity, it is advisable to employ the Fast Quality mode.

For projects involving thicker media or intricate designs with finer details, such as demanding perforations, the HD Quality mode is recommended due to performance and precision.

For tasks that don't specifically necessitate the use of either the Fast or HD Quality modes, opting for the Standard Quality mode is recommended for achieving consistent and balanced results.

Image Control
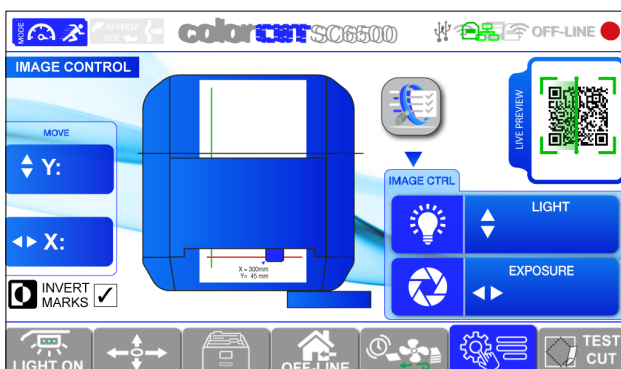
The Image Control feature promotes adjustments to the video camera's image parameters, allowing for fine-tuning of both lighting conditions and exposure levels. Within this interface, it is possible to inspect page marks and QR codes to ensure their readability by the cutter, making necessary adjustments to lighting and exposure as required.

Invert marks provide the reversal of color schemes. For example, in cases where the media is black and the marks are white, this feature permits the seamless transition between these configurations.
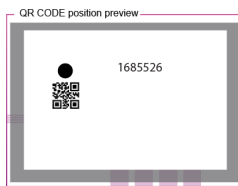
QR Code Positioning
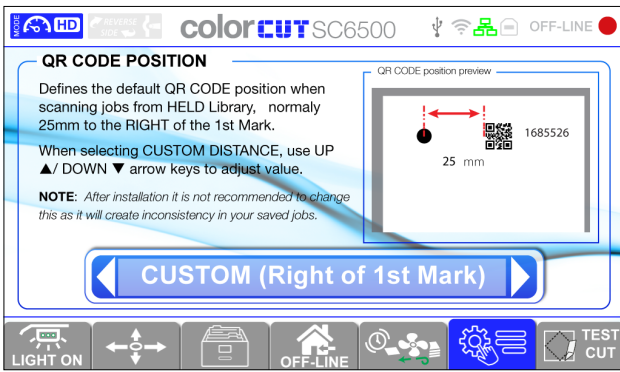
Within the QR code position menu, users have the flexibility to select from five distinct positioning options.
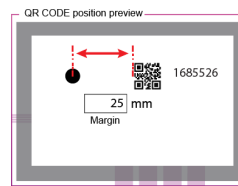
This feature proves particularly valuable in scenarios where the design elements intersect with the QR code's intended location, necessitating an adjustment for optimal placement.
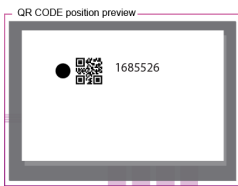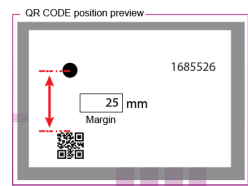

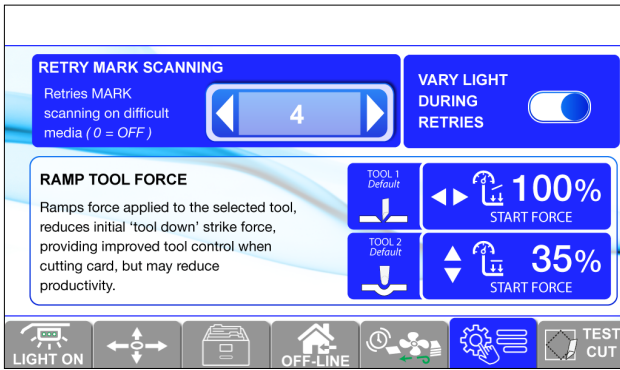Next to 1st Mark (Right)

Next to 1st Mark (Below)

Custom (Right of 1st Mark)

Custom (Below 1st Mark)

Advanced Productivity Configuration

Retry Mark Scanning function enhances mark reading success and cutting accuracy. When set above the default value (OFF), the cutter retries scanning the mark if it fails, up to the specified number of times.

If the same mark position is detected twice consecutively with a rescan level >2, it proceeds to the next task.

Ramp Down Tool Force is used to prevent excessive damage when using creasing or cutting tools, the Ramp Down Force reduces initial force by 30-100% below the set force. After delay, the force increases to the level defined in the LCD panel or cutting file.

This feature minimizes entry point damage caused by the initial solenoid strike on high pressures. Note that setting Ramp to 100% disables this feature.

Vary Light During Retries feature adjusts lighting conditions during mark scanning retries to improve accuracy. When Retry Mark Scanning is set to 2, it cycles light levels from low to medium to high on successive retries. For Retry Mark Scanning >2, the light range adapts accordingly for each mark scan. This feature helps when scanning media is challenging, allowing the cutter to move to the next process upon detecting any valid position.

Network Settings
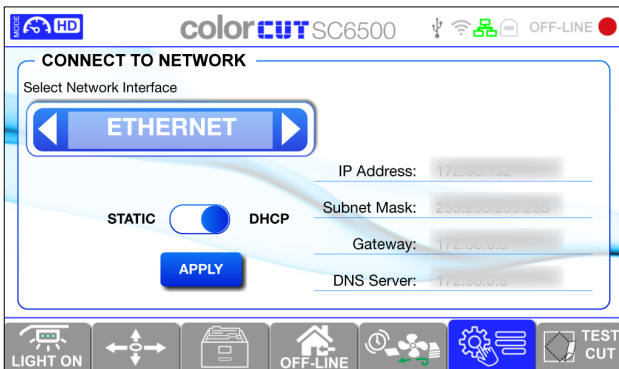
The network settings screen allows to connect the cutter to either Wi-Fi or Ethernet.

When static settings are enabled, it is possible to manually configure the connection settings, while with DHCP turned on, the settings are automatically assigned by default.

The default settings after Factory reset is Ethernet - DHCP.

When the connection type is changed to Wi-Fi, the Wi-Fi settings display.

NOTE: Wi-Fi is deactivated after a factory reset or the first time the machine connects.
When switched on, the cutter remembers the last set settings. (Wi-Fi will be activated, and any previously selected connections will be reconnected.)
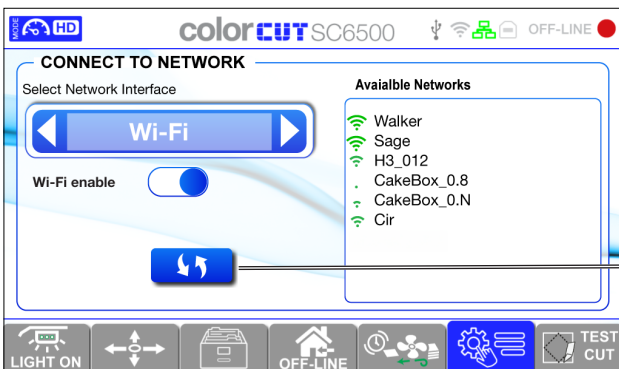
When Wi-Fi is enabled but not selected, a list of accessible networks is displayed.

The Refresh button [A] refreshes the network list.
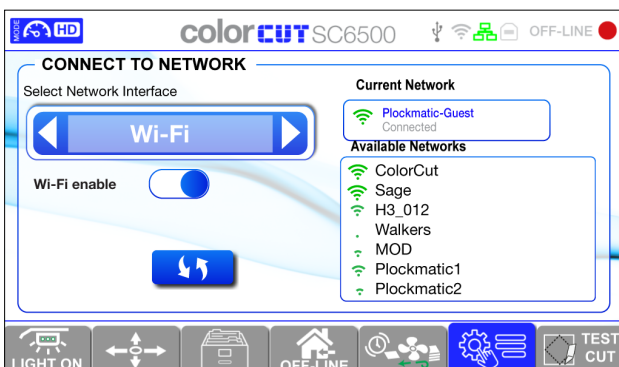
When clicking on a network, the keyboard appears to enter SSID password.

When Wi-Fi network is connected, it appears at top in separate box.

Holding the name of the linked Wi-Fi allows you to forget (clear the password) for the connected Network.

Network Share
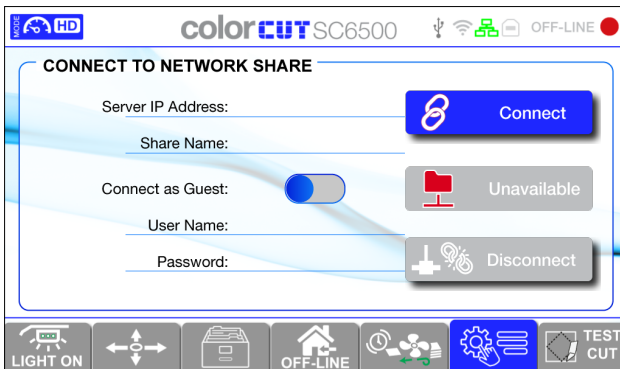
Connecting to a network share makes it easier to access data stored on a workstation. To begin this connection, provide the Server IP address and the Share Name "ColorCut_Held" as the cutter system will recognize and connect to this folder address. Legitimate network credentials must be supplied, such as a username and password.
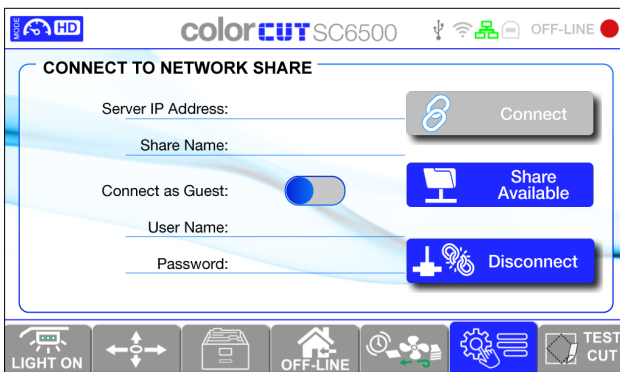
Upon successful entry of the correct credentials, the status indicator labelled 'Unavailable' will transition to 'Share Available,' signifying a successful connection.

Following that, the unit is able to access files over the LAN (Local Area Network) when in Hold mode (See section 4.Hold mode).
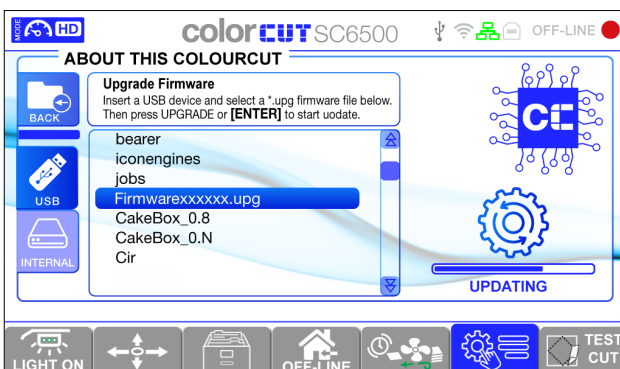
Firmware
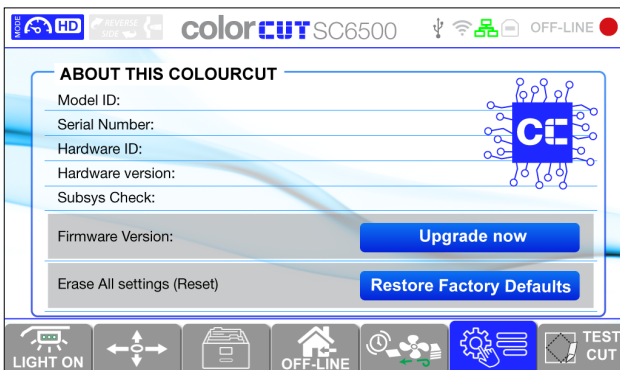
The firmware menu displays extensive information on the cutter's specs, including the model ID and serial number. The hardware ID corresponds to the identification of the main PCB, while the version number pertains to the specific revision of the PCB in use.
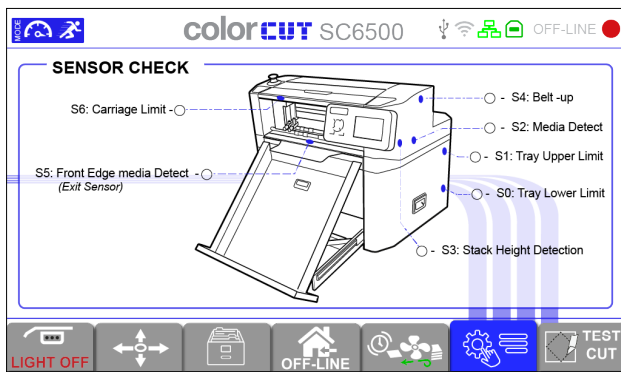
The firmware version is prominently presented and can be subject to updates from this interface.

All configurable settings can be restored to their default values if necessary.

When [Upgrade now] is pressed Firmware Upgrade screen opens and new Firmware can be imported with USB.

Sensor check

The sensor check screen allows to inspect the operating status of a given sensor.

When the sensor is obstructed, the indicator dot will transition to a green state, indicating successful detection.

3

4. Hold Mode

The Hold mode offers the capability to operate the machine directly using files stored on a USB drive or within the machine itself. This means that for repetitive high-volume production tasks, there is no necessity to maintain a connection to a computer or server station. Users can effortlessly engage this mode, select their desired file, input the desired quantity, and initiate the operation with a simple click, streamlining the workflow.

Note that the Cutter has limited storage capacity so it is recommended to keep job files stored in the USB.

On the LCD screen, press the [Hold Mode] button to be able to load, change or delete jobs.

How to create cut files (.cch files for held mode)
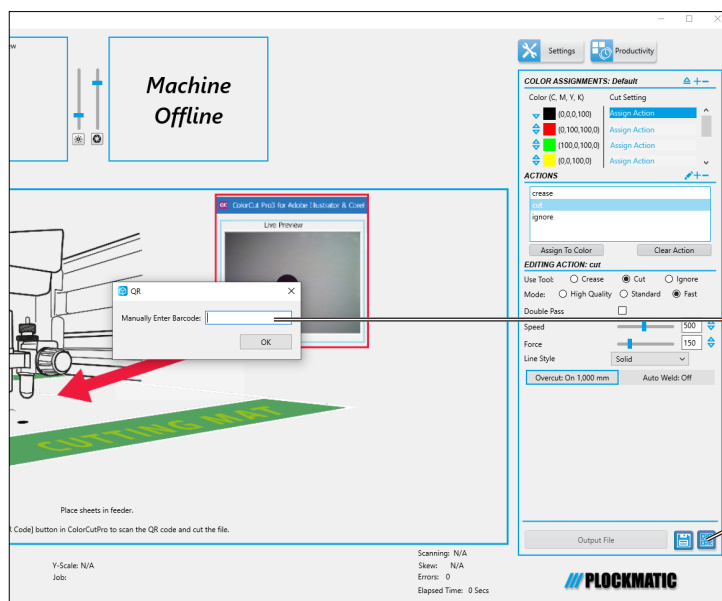
1. Launch Color Cut Pro.
2. Locate the QR code icon [A] and click on it.
3. Enter the QR code of the design [B] to be converted to a .cch file and press [OK].
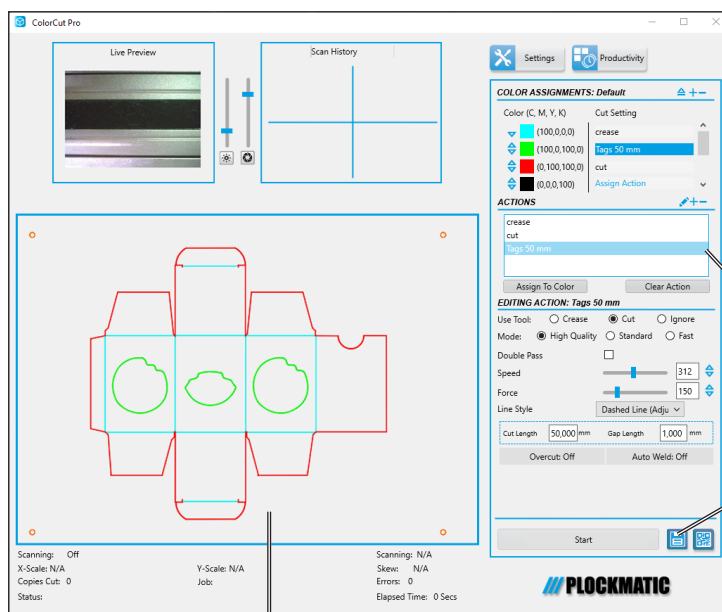
4. The design will appear in the Preview section [C]. Actions can be assigned, and speed and force settings for each action can be input [D].

NOTE: Once the .cch file is created, settings cannot be changed.

5. When satisfied with the settings, click the Save icon [E].

How to create cut files (.cch files for held mode), continued
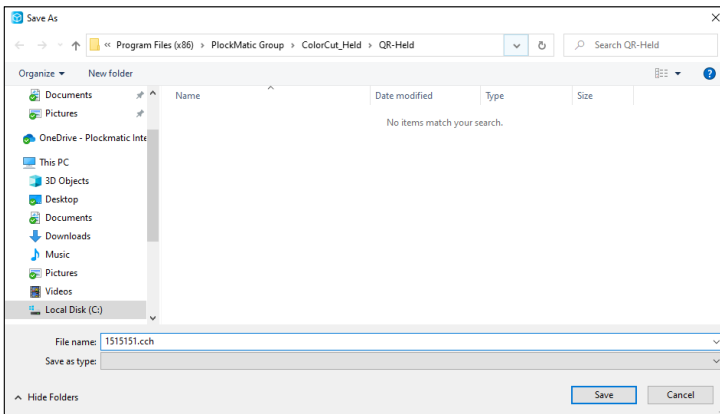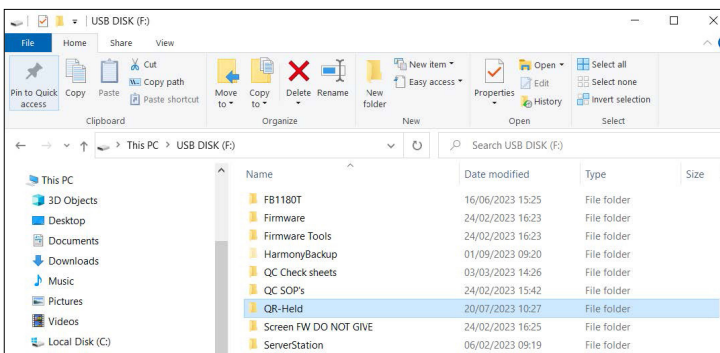

6. The default save location is:
   C:\Program Files (x86)\PlockMatic Group\
   ColorCut_Held\QR-Held

   Click [Save] to create the .cch file for Hold
   Mode on the cutter.

7. To run the .cch file to the cutter, there are
   two options:
   - a. Share the ColorCut_Held folder over the
     network.
   - b. Plug a USB stick into the cutter, then click on
   the Folder Icon and the USB Icon.

8. If using a USB stick, ensure the .cch file
   is in a root folder named 'QR-Held' for the
   cutter to find.

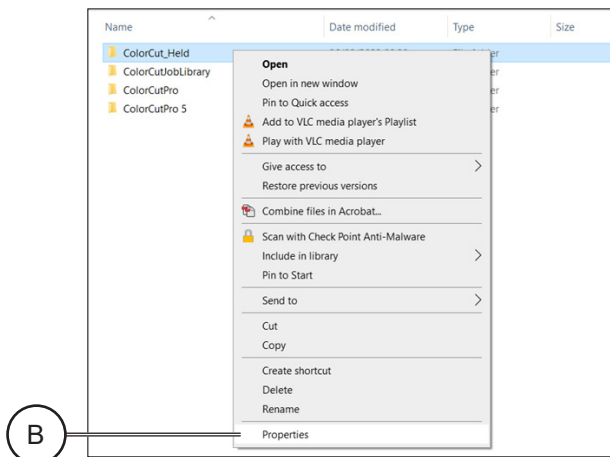# Sharing ColorCut_Held Folder for Network Share on SC6500

In order to make the ColorCut_Held folder accessible for Network Share on the SC6500, it must be shared on
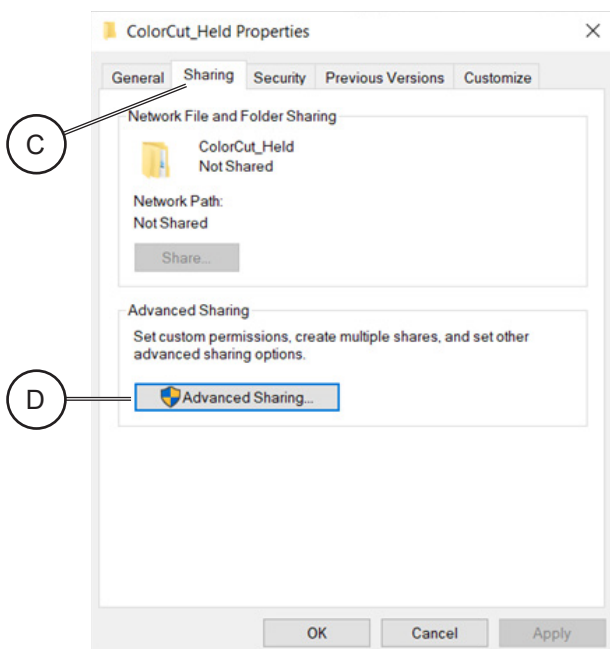your PC. Without sharing it, the folder will not be available for Network sharing.
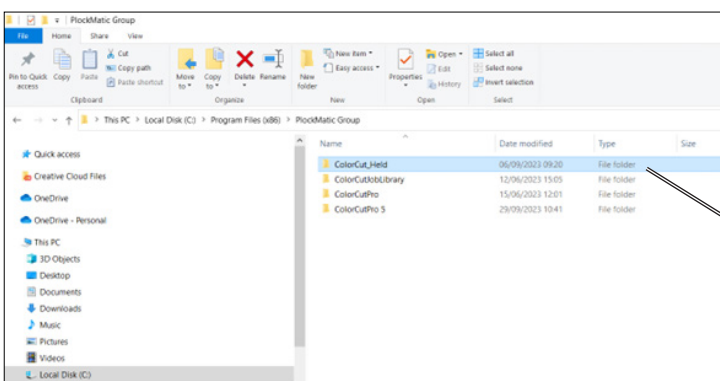
1. Navigate to:
   C:\Program Files (x86)\PlockMatic Group

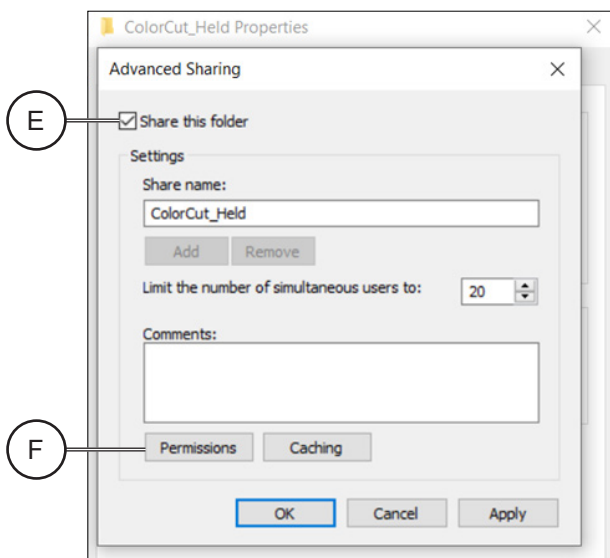2. Select the ColorCut_Held folder [A].

Sharing ColorCut_Held Folder for Network Share on SC6500

3. Right click on the ColorCut_Held folder and select Properties [B].

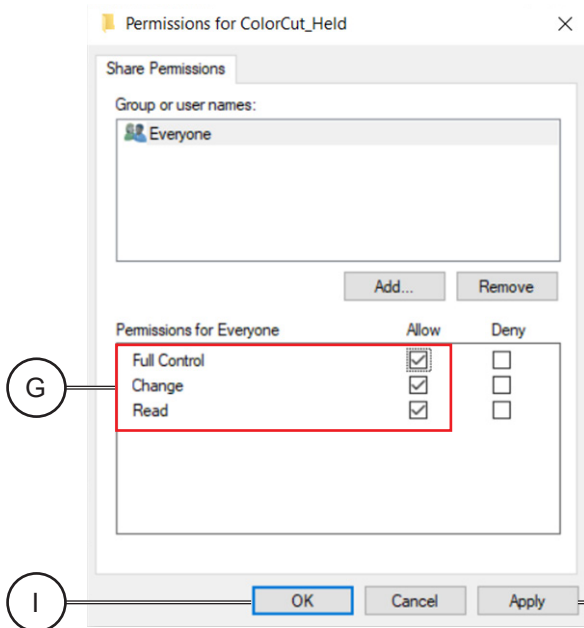4. Click on the Sharing tab [C] and then click on Advanced Sharing [D].

5. Select the check box 'Share this folder' [E].
6. Click on Permissions [F]

Sharing ColorCut_Held Folder for Network Share on SC6500

G
I
H

7. Select the 'Allow' check boxes for Full Control, Change, and Read [G] under the 'Permissions for Everyone' section.

8. Clicking Apply [H] and then OK [I].

K
J
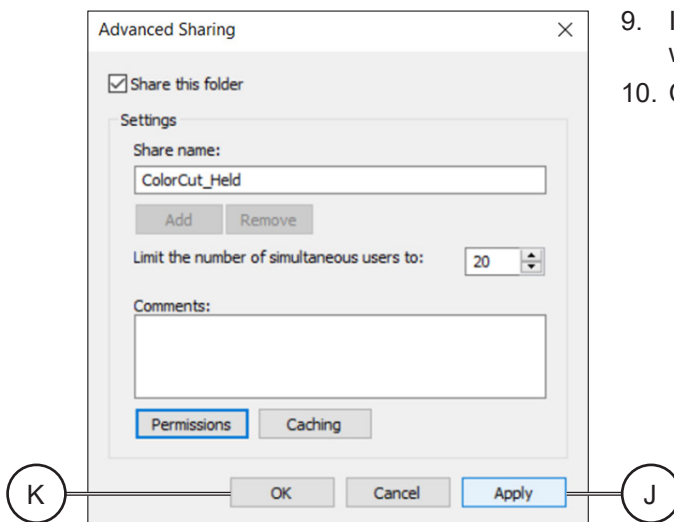
9. It then takes you back to the Advanced Sharing window.

10. Click Apply [J] and then click OK [K].

L

11. It then takes you back to the ColorCut_Held Properties window.

12. The Network Path has now been changed to reflect the Share [L].

How to run job with USB stick
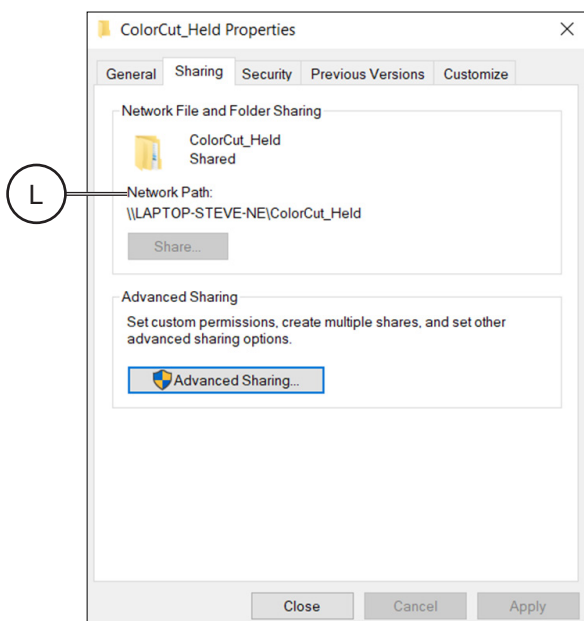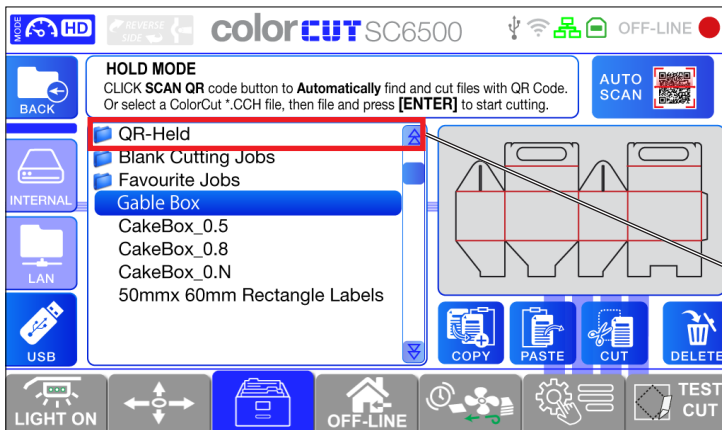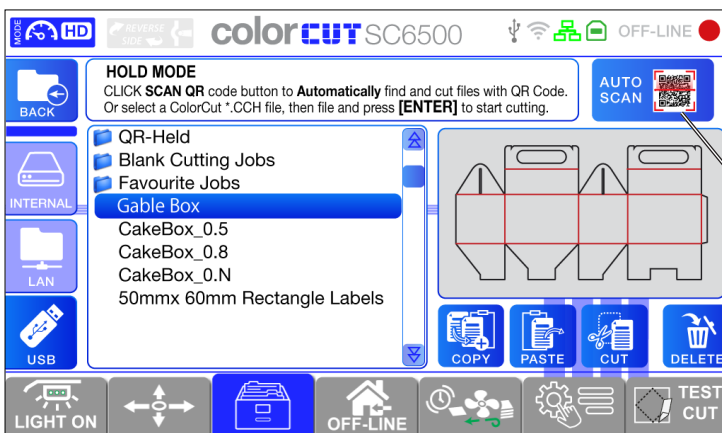

1. Insert the USB stick into USB port on the rear side of the machine.

2. Enter Hold Mode and choose USB.

3. The cutter will display the available folders on the USB. Locate and select the 'QR-Held' Folder [A].

4. Inside the QR-Held folder, the .cch files that can be run directly from the cutter are found.

5. To start cutting, either select the desired design or, for mixed batches, click on the Scan icon [B].

6. Specify the number of copies to run and select [OK] to start cutting.
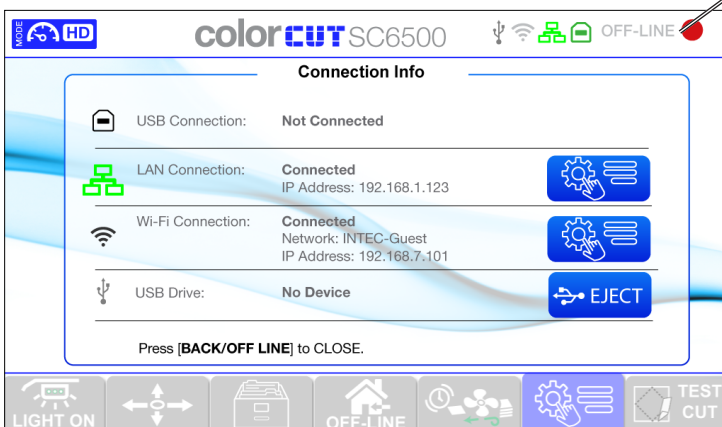
7. When the cutting job is finished eject the USB properly before removing it from the cutter.
   To eject the USB access the Connection Info screen by holding 'On-Line/Off-Line' in the top right corner [C] of the LCD screen, then click [Eject] and remove the USB stick from the cutter.

4

How to run cut files via LAN

1. Open Network Share screen
2. Provide the Server IP address and the Share Name "ColorCut_Held" as the cutter system will recognize and connect to this folder address.
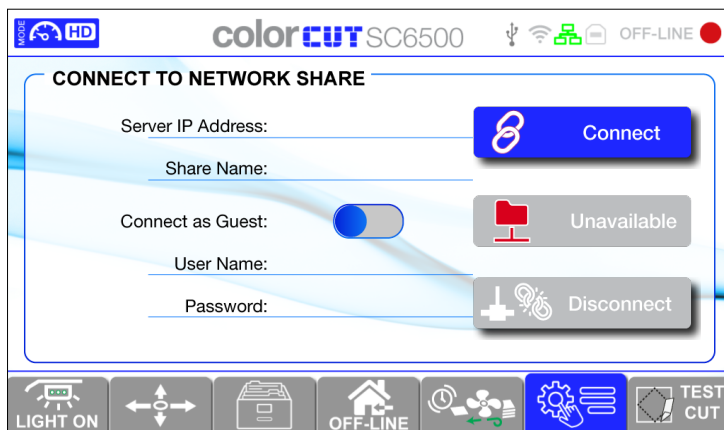3. Enter network credentials: user name and password.
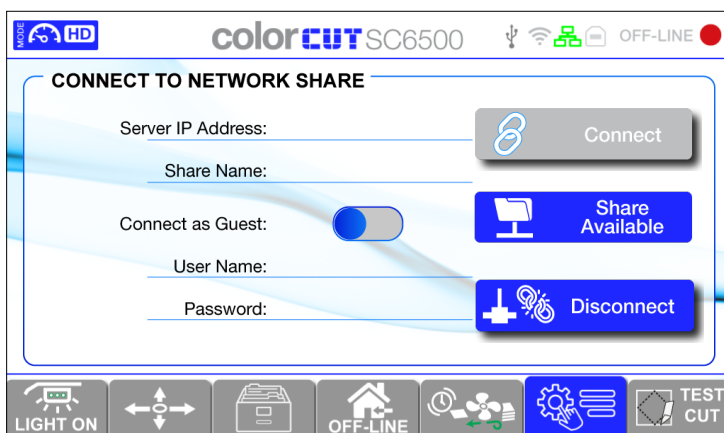
4. Upon successful entry of the correct credentials, the status indicator labelled 'Unavailable' will transition to 'Share Available,' signifying a successful connection.
5. Following that, the unit is able to access files over the LAN (Local Area Network).
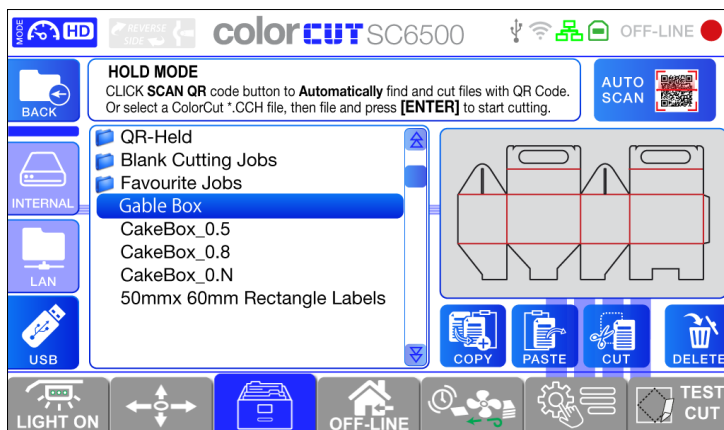
6. Enter Hold Mode and choose LAN.
7. The cutter will display the 'QR-Held' folder that is being shared from the "ColorCut_Held" folder.
8. Select the 'QR-Held' folder to view and select the desired job by highlighting it on the screen.
9. Press [Enter] on the Keypad or press the Auto Scan icon on the LCD screen.
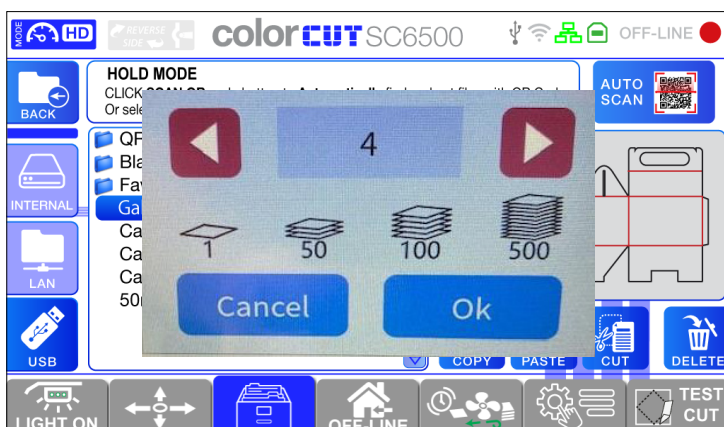
10. Specify the number of copies to run and select [OK] to start cutting.

5. Remarks

Do's and Don'ts

- Always follow all warnings marked on, or supplied with, the equipment.
- Always exercise care in moving or relocating the equipment.

Caution:
Unplug the power cord from the wall outlet and machine before you move or relocate the equipment.

- Do not remove the covers or guards that are fastened with screws.
- Do not override or bypass electrical or mechanical interlock devices.
- Do not operate the equipment if you notice unusual noises or odours. Disconnect the power cord from the power source and call your authorized technician to correct the problem.

Warning:
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

NOTE: The domestic environment is an environment where the use of broadcast radio and television receivers may be expected within a distance of 10 m of the apparatus concerned.

- Do not switch off the power while the machine is running. Make sure the machine cycle has ended.
- Do not open covers while the machine is running.
- Do not move machine while the machine is running.
- Do not make arbitrary changes to the machine.
- Do not sit or step on the stacker tray. Stacker will break or machine will tilt over. The maximums load for the stacker tray is 15 kg.

Where to put Your Machine

Machine Environment

- Always locate the equipment on a solid support surface with adequate strength for the weight of the machine
- Always keep magnets and all devices with strong magnetic fields away from the machine

If the place of installation is air-conditioned or heated, do not place the machine where it will be:

- Subjected to sudden temperature changes
- Directly exposed to cool air from an air-conditioner
- Directly exposed to heat from a heater

Power Connection

- **Always** connect the equipment to a properly grounded power source. If in doubt, have the power source checked by a qualified electrician.

Warning:
Improper grounding of the equipment can result in electrical shock

- **Never** connect the machine to a power source that lacks a ground connection terminal. A missing ground will cause damage to electronics and cause machine malfunctions.

Maintaining Your Machine

Never attempt any maintenance function that is not specifically described in this documentation.

Cutting strip

The cutting strip should be checked for signs of wear daily, if the strip is damaged and worn it should be replaced.

The longevity of the cutting strip's effectiveness depends by the material being cut and the operator's skills in adjusting the blade depth. It is recommended to replace the cutting strip on a monthly basis on average.
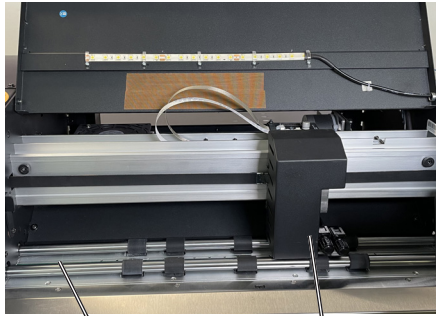
Cutting strip   *Tools carriage*

1. Turn off the machine and disconnect the power cord.
2. Open the top cover and manually move the Tools carriage if it is in front of the cutting strip's edge.
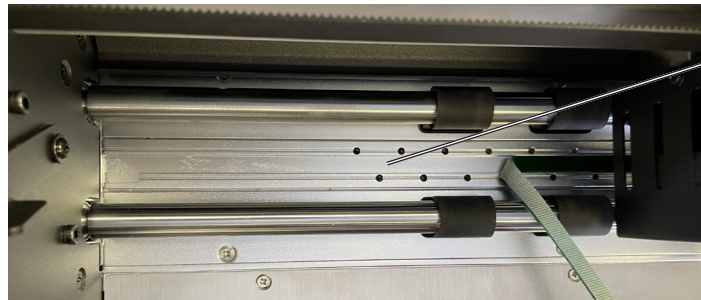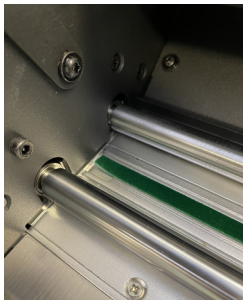
Gully

3. Peel off the cutting strip from one corner, dispose damaged strip.
4. Clean the gully of the glue residue with label cleaner. The gully must be residue free to ensure a flat surface for the new cutting strip. Leave it dry or dry it with cloth.
5. Stick the new strip down in the gully, cut it to the size.

Cleaning of tools

The tools should be checked and cleaned of paper dust weekly to ensure the blade rotates freely in the holder.

Outer cover   *Blade with circlip*   *Inner blade holder*

1. Unscrew the outer cover, clean it with small brush or compressed air.

Caution:
Take caution with the blade to avoid cutting your hands!

2. Take the blade out of the holder, clean from paper dust.
3. Lubricate the stud of the blade with bearing grease and put it back in the inner blade holder, screw back the outer cover.

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Paper Path

The Feed table through to exit tray should be cleaned from paper dust daily using compressed air, engineer wipe and brushes. Turn off the machine and disconnect the power cord before performing any procedures.
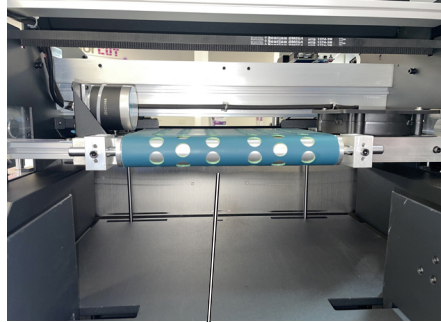
Feed table   *Paper path*   *Paper exit*

Media optical sensors

The sensors need to be cleaned every day, more frequent cleaning may be required depending on media type. Using a lint free cloth, compressed air or soft bristled brush clean the sensors. Turn off the machine and disconnect the power cord before performing any procedures.

Caution:
Never use cleaning fluids on sensors!

Platform media sensor
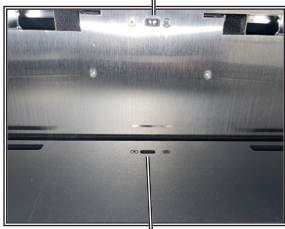
Front edge media sensor

Paper exit sensor

Cutting head rail

Weekly clean the Cutting head rail with engineer wipe and lightly lubricate top rail with PTFE lubricant spray.

Cutting head rail

Dual Grip Roller

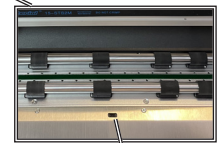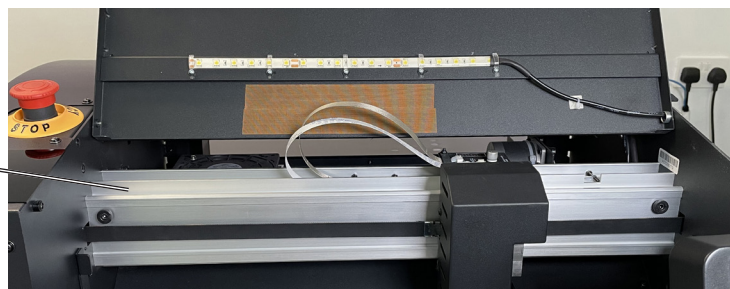Typically a vinyl cutter grips and feeds the media using a 'Pinch' roller system situated behind the Tool Carriage position. This means the rear of the sheet would not be held by the grip roller during cutting therefore typical cutters can not cut within 30 mm (1" 1/4) of the rear of the sheet. However, to solve this problem the SC6500 is fitted with an advanced Dual Grip roller system to maximise cutting area and to enable the SC6500 to cut closer to the rear and front edge of your media than any other X-Axis cutter.

The main (Master) grip roller is the Rear Grip roller, (and is the most accurate) grip roller that holds and drives your media backwards and forwards during registration or cutting. The SC6500 is also configured with a supplemental slave grip roller at the front of the cutter (So the media is gripped either side of the cutting head). This Front Roller functions in conjunction with the main roller, and the combination of feed rollers is referred as the Dual Grip Rollers.

NOTE: Please be aware; when the cutter scans the registration marks, the most accurate cut is achieved when the rear grip (Master) rollers grip the sheet during scanning of all 4 marks, as any calculations for all cut lines are done after scanning the marks. Please refer to the SC6500 ColorCut Pro manual for further details, on PageMark placement on your design for the optimum results.

From time to time, it may be necessary to lift, or remove the dual grip rollers to assist in cleaning or removing media from under the rollers when elements have fallen out of your cut sheet due to insufficient TAGs. It is also necessary to remove the Front Grip roller when changing your cutting strip. Therefore please follow the guide below showing how to release pressure on the rollers for simply lifting them to remove debris or removing them completely.
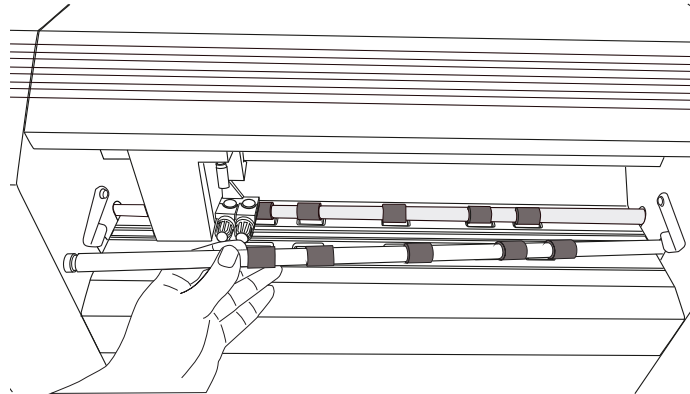
Replace the Dual Grip Rollers
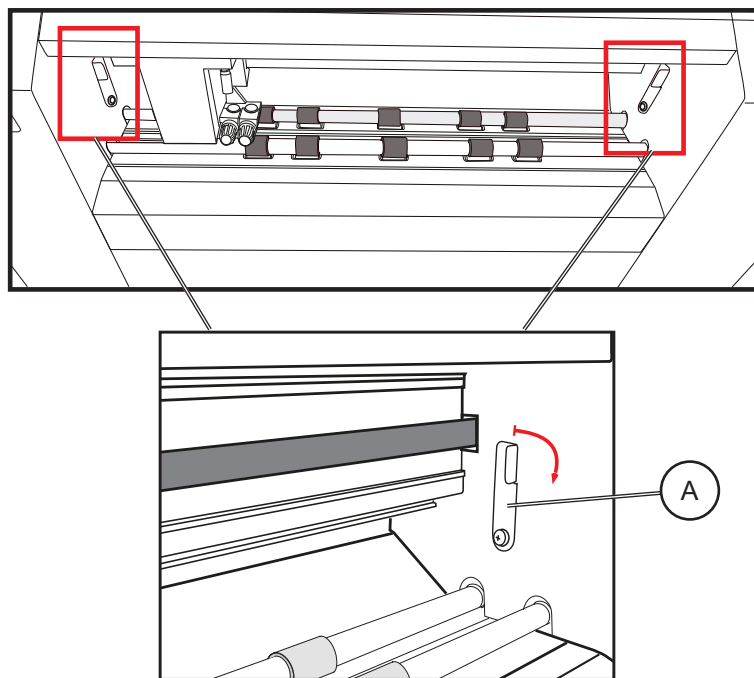
1. The Dual Grip front roller is held in place by the Dual Grip Clamps, these can be lifted using the Dual Grip Levers [A] at either side, on the front of the SC6500.
2. Open the Dual Drip Lever clamps to release the pressure on the Dual Grip Rollers.
   (Release lever clamps on both sides)

3. With the pressure released from the Dual Grip Levers you can move the Front Grip Roller right (in to the SC6500 chassis) 5 - 10 mm then diagonally move the opposing (left) end of the Grip bar out from the Left side (of the SC6500 chassis) and then diagonally up and out of the cutter.

NOTE: Due to manufacturing differences on some units it may be easiest to move the Grip Roller into the right side of the machine and turn the left end rotating this out first. However on other machines, you may find it easier to move the opposite end (left side) of the roller into the left chassis of the machine and rotate the right side of the roller out.

4. In most cases it is not necessary to remove the Rear Grip roller, but while the pressure is released, it is easy to lift to remove any debris. However, if you need to remove the Rear Grip Roller, please ensure the tools are removed from the tool carriage. The process is the same, move the roller into one side of the chassis and diagonally slightly rotate and move out.

NOTE: You may need to fractionally lift the roller before moving into the chassis as there is a small lip holding the roller that may make it difficult to move far enough into the chassis to enable you to move the roller out.

5. Replacing the Dual Grip Rollers is the opposite procedure, diagonally fit the bar towards the one side and then down into position.

Warning:
You must ensure the Rubber Roller sections on the Grip roller align with the Knurled Metal Grip Rollers in the base of the cutter. The Grip Roller is designed to fit in one orientation only.

6. Close the Dual Grip Lever clamps [A] to secure the Dual Grip Roller.

NOTE: The Dual Grip roller enables you to cut closer to end of the sheet than normally possible, however the accuracy may decrease when sheets have PageMarks or Cutting elements within the last 22 mm of the sheet, when the sheet is held by the secondary grip roller and no longer held by the main drive roller.

To achieve the highest cutting accuracy it is important that the sheet is held at all times by the main grip rollers particularly while scanning the PageMarks. Therefore, always ensure the rear / tailing edge registration PageMARKs are 22 mm from the rear edge of the sheet. This will ensure during the scanning of the pagemarks, the sheet is retained at all times by the main grip rollers. When positioning PageMARKs in the last 22 mm of the sheet there is a risk, the final marks will be read in a less accurate position and as a result scale or skew compensation can be incorrectly applied for the entire sheet. Please see the SC6500 ColorCut Pro manual for tips and details about Graphic File Design and how to get the best results from your SC6500.

SC6500 Best Practices

- It is recommended to crease from the backside of the sheet, as this will provide a more aesthetically pleasing crease on the visible outer edges of your products.
- Sheets with Curl will cause more frequent misfeeds and lead to greater inaccuracy during cutting. Be sure to use your printers de-curl function if possible.
- Set design rules within your organization to keep consistent smart mark and QR code locations. That will lead to minimal set up changes when cutting on the SC6500.
- Set design rules with regards to what color is used for crease and cut. Generally, red is the most common cut color and blue is the most common crease color.

SC6500 Limitations

- GSM lower than specification (140 gsm) may cut perfectly fine but is more dependent on curl and paper properties. (The paper may bend and the marks will be difficult to read resulting in a less accurate cut)

Material Limitations

5

- Magnetic paper cannot be cut on the SC6500 due to steel construction
- Metallic effect media (paper OR polyester) may be cut, but it depends on the composition

6. Specifications

Media Handling		
Standard media sizes		A4, A3, SRA3, A3+, max 340 x 520 mm (13.39″ x 20.47″)
Custom sized label media	Width	Media width (min - max): 185 mm - 340 mm (7.28″ x 13.39″)
	Length	Media length (min - max): 279 mm - 710 mm (10.98″ x 27.95″)
Media thickness		0.17 mm (150 g/m²) - 0.35 mm (350 g/m²)
Max Stack Height		87 mm (3.43″) Equivalent: Up to 900 sheet auto-sheet feeder (Based on 80 gsm paper)
Max Stack Weight		15 kg (33 lbs)
Media alignment		Dual (Front and side) self centring guides with locking mechanism.
Dual Tool Carriage		
Tool Carriage Speed		Both tools provide variable speed - up to maximum speed 960 mm/s (37.8 in/s)
Mountable tools (Tool1)		12 mm (0.47″) Ø Blade Holder (Supplied) & calibration pen (Supplied) for auto-calibration
Tool1 (force)		Contour cutter, with up to 750 gf (7.35 N) delivered in 190 steps programmable through ColorCut Pro cutting software
Mountable tools (Tool2)		14 mm (0.55″) Ø Creasing Tool (Supplied), 14 mm (0.55″) Ø Blade Holder (optional) for dual blade mode
Tool2 (force)		Contour cutter, with up to 750 gf (7.35 N) delivered in 190 steps programmable through ColorCut Pro cutting software
Blade Holder		Supports 0.9 mm (0.04″) Ø, 30°, 45° or 60° Cutting Blades for a labels & thin media & also 1.5 mm (0.06″) Ø, 45° Industrial Cir-clip Blades for Die-Cutting up to 350 µ card.
Software & Connectivity		
ColorCut Pro - Plugin (PC)		ColorCut Pro 3 plug-in (all features available). ColorCut Pro sends projects designed in Adobe® Illustrator® or CorelDRAW® directly to ColorCut label cutter with no need to convert them to a different format. Requires: PC - Adobe® Illustrator® CS1 – CS6, CC, CC2014 - CC2021, or CorelDRAW® X4 - X8, 2017 - 2021
ColorCut Pro - Plugin (Mac)		ColorCut Pro Plugin for Mac enables the ColorCut Pro Job Library Client. Mac users add cut marks to Illustrator files and assign Job numbers and QR codes. The jobs are sent to the remote ColorCut Pro Job Library on a PC for cutting. Requires: Illustrator CC2018- 2021
ColorCut Pro - Production Studio PC Standalone		ColorCut Pro (Job Server) version of ColorCut Pro is PC only and enables jobs created by the ColorCut Pro plug-in (above) to be cut at any time, without requiring Adobe® Illustrator® or CorelDRAW® and without having to re-open the original file
PC minimum specification		64-bit. 4 GB of RAM (8 GB recommended). Minimum display resolution: 960 × 830
Connectivity		USB (1 connection to PC is required), Ethernet, Wi-Fi
Registration Control & Job Management		
Registration system		Vision3 - High resolution CCD vision system reads registration marks on media, automatically adjusting cut lines to correct for scale or skew.
Cut position accuracy		+/- 125 micron* (*Note: accuracy may be reduced if sheet is only held by single Grip roller)
Auto job recognition		Yes: Cut file retrieval, supported through QR code (requires ColorCut Pro)
Mixed job recognition		Yes
Machine specifications		
Ratings		100-240 Vac ±10%
		3.4-1.7 A
		50-60 Hz