UniNet®

iColor LF700+

User Manual

Version 2.0-3.6

I. Important Notice

For Users in Europe

This is a Class A product approved for industrial environments.

For Users in the United States

This equipment has been designed and tested to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Trademarks Mentioned in this Manual

LF700+, Summa, WinPlot and Rapid are registered trademarks or product names of UniNet, AND SUMMA.

• Windows XP, Windows Vista, Windows 7 and MS- DOS are registered trademarks or product names of Microsoft Corporation.

• Intel and Pentium are trademarks or registered trademarks of Intel Corporation.

• Other company and product names may be registered trademarks or product names.

⚠ CAUTION

Changes or modifications not expressly approved by UniNet which is responsible for FCC compliance, could void the user's authority to operate this equipment.

No part of this product or publication may be stored, reproduced, copied, or transmitted in any form or by any means without the express permission of UniNet.

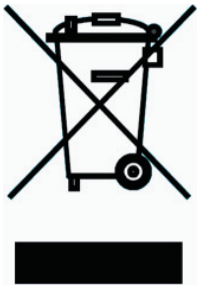
The product and the contents of this publication may be changed at any time without prior notification.

UniNet has made the best efforts to keep this publication free from error, but if you find any uncertainties or misprints, please call us or the dealer from where you bought this equipment.

UniNet shall not be liable for any damages or losses resulting from the use or mis-use of the equipment or this manual either directly or indirectly.

II. Waste Electrical & Electronic Equipment (WEEE) Directive

Directive 2002/96/EC of the European Parliament and of the Council.



The symbol (right) is shown on this product. It indicates that the product should not be disposed of with regular household waste, but should be disposed of separately.
Electrical and electronic equipment can contain materials that are hazardous to the environment and human health and therefore should be disposed of at a designated waste facility or returned to your retailer for the appropriate recycling to take place.

If you wish to dispose of this product and the product still functions, please consider recycling / reusing it by donating it to a charity shop, selling it or part-exchanging it with your retailer.

III. Warning symbols

Warning labels are attached to areas where care should be taken. Read and understand the positions and contents thoroughly before operating the machine.
Make sure that all warning labels can be recognized. If text or illustrations cannot be seen clearly, clean or replace the label. When cleaning warning labels, use a cloth with water or neutral detergent. Do not use any solvent or gasoline products. If a warning label is damaged, lost, or cannot be recognized, replace the label.

IV. Warnings, Cautions and Notes

Safety terms in this manual and the contents of warning labels attached to the LF700+ Cutter are categorized into the following three types depending on the degree of risk (or the scale of accident).

Read the following explanations carefully, and follow the instructions in this manual.

WARNING	Must be followed carefully to avoid death or serious bodily injury.
CAUTION	Must be observed to avoid slight or moderate bodily injury or damage to whole or part of the product.
NOTE	Contains important information and useful tips on the operation of the product.

V. Important Safety Instructions

1. General safety instructions that must be observed to use the equipment safely are explained below.

2. Do not place the cutter in the following areas. Doing so may result in the LF700+ cutter tipping or falling over and causing serious injury:

- Unstable or loose surfaces
- Angled surfaces
- Areas subject to vibration by other equipment

3. Do not stand on or place heavy objects on your LF700+ cutter. Doing so may result in the cutter tipping or falling over and causing injury.

4. Do not place the cutter in humid and dusty areas.

5. Make sure to use the power cable packed with the LF700+ you have purchased.

6. Do not use the power cable if it is damaged in any way. Doing so may result in electrical shock or fire.

7. Do not insert or drop metal or objects which are easily combustible through the openings such as the ventilation hole of your cutter. Doing so may result in electrical shock or fire.

8. Do not operate the cutter if it has been contaminated by foreign substances or liquid spills as doing so may result in electrical shock or fire. Immediately turn off the power switch, disconnect the power plug from the electric socket, and contact your authorized dealer.

9. Make sure to use only the specified power supply (AC 100 V / 120 V - AC 220 V / 240 V). If the power supply other than the specified voltage is used, it could cause an electric shock and fire.

10. Take power for the cutter directly from the power socket (AC 100 V / 120 V - AC 220 V / 240 V). Do not use complex multiple plugs on the same socket. This could generate heat and might cause fire.

11. Make sure that the following is performed before parts replacement.
- Turn off the power to the printer.
- Remove the power cable from the power outlet. Not doing so may cause electric shock or damage to the electric circuit.
- Unplug the cables connected to the printer. Failure to do so could result in damage to the printer.

12. Do not wear any loose clothing and tie back any long hair whilst operating this machine, failure to adhere to this warning could result in serious injury.

13. Do not remove the rear cover with the power on, high voltage power units are located behind the cover, only a trained LF700 Technician should remove the panel.

VII. About this Manual

A. Purpose and Target Readers.

This manual explains the preparations and procedures for operating the LF700+ .

This is a common User Guide for the UniNet series of digital cutters. Unless specifically mentioned to the contrary, the descriptions in this manual are common for all UniNet series models.

This manual is designed to assist the end user in the use, maintenance and general troubleshooting of the UniNet series digital cutters. Before using the UniNet series digital cutter you are required to read and fully understand the contents and directions in this manual.

B. Manual Configuration.

1. Unpacking the machine.

2. Components & Product Overview.
Explains the features, part names, and functions of the digital cutter.

3. Initial Setup and Basic Operations.
Explains the procedures for the initial setup & basic operations of the digital cutter.

4. Cutting Labels.
Explains the procedures of preparation for cutting labels.

5. Maintenance
Explains daily and other periodical maintenance of the cutter.

6. Hints & Tips.
Explains troubles that may occur when using the cutter and how to solve them.

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Section 1

Preparation

This section explains all of the details and requirements of the machine before you unbox it, from preparing the space to computer specifications.

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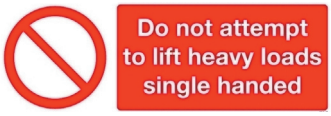
Unpacking the LF700+ Cutter

NOTE: Save the shipping box and any other packaging items in case the cutter needs to be shipped. Do not ship the cutter without first completely repacking it in its original packaging.

Before unpacking the cutter, make sure that there is enough space to lift the Cutter onto the designated table.

> ⚠ CAUTION
>
> CAUTION: For safety reasons, no fewer than four people should be involved in unpacking the cutter.



Choose your work area carefully, the machine weighs approximately 100kg and must be lifted into place by 4 strong adults. Do not place the cutter in or on the following areas, doing so may result in the cutter tipping or falling over and causing serious injury:

- Unstable or loose surfaces • Angled surfaces • Light weight table • Areas subject to vibration by other equipment .

The machine must be levelled using an accurate levelling device, the machine has been designed to have adjustable feet.

Place the machine close to the computer that will operate the machine, only a 2 metre or less USB cable can be used to connect to the machine.

> ⚠ CAUTION
>
> Do not power the machine on until you have read and understood this manual and followed all of the setup steps.

Getting Started Checklist

- Strong and level table, capable of withstanding the weight of the LF700+.
- Laptop or PC containing:
    - CD Drive
    - USB 2.0 socket
    - Minimum computer specification: Genuine Windows Vista or Windows XP, 3GB memory, 500GB hard drive (7200rpm), Graphics Card. (Apple Mac unsupported).
- Power Supply: Single phase AC 100 V / 120 V - AC 220 V / 240 V, frequency 50/60HZ +/- 2%.

Please be aware that the graphic software you choose will also have a minimum computer specification that will differ from your UniNet machine.

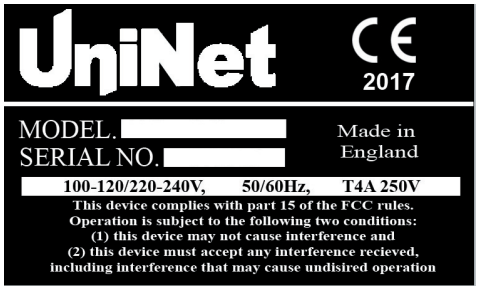
LF700+ Specifications

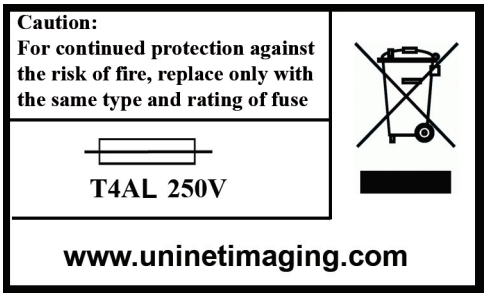
- Weight: 80 kg
- Dimensions
    - Width: 1200 mm Depth: 660 mm
    - Height: 510 mm
- Power Supply: Single phase AC 100 V / 120 V - AC 220 V / 240 V , frequency 50/60HZ +/- 2%.
- Cut Speed: Dependent on graphic
- Cut Force: 0 – 400 grams in 5 gram steps
- Cut Type: Drag knife and tangential emulation
- Cut To Registration: Single point registration mark
- Cut Ability: Both printed and unprinted media
- Max Label Length: 12¼ inch repeat, 304.8mm
- Lamination: Unsupported laminate roll
- Maximum Roll Diameter: 300 mm
- Waste Matrix: Removal and rewind
- Roll Core Size: 76 mm
- Interface and Software: WinPlot (Windows OS) cut software, cutter control parameter software.
- Plug-ins for Corel Draw and Adobe Illustrator.

Options.
Lamination: Un-supported laminate

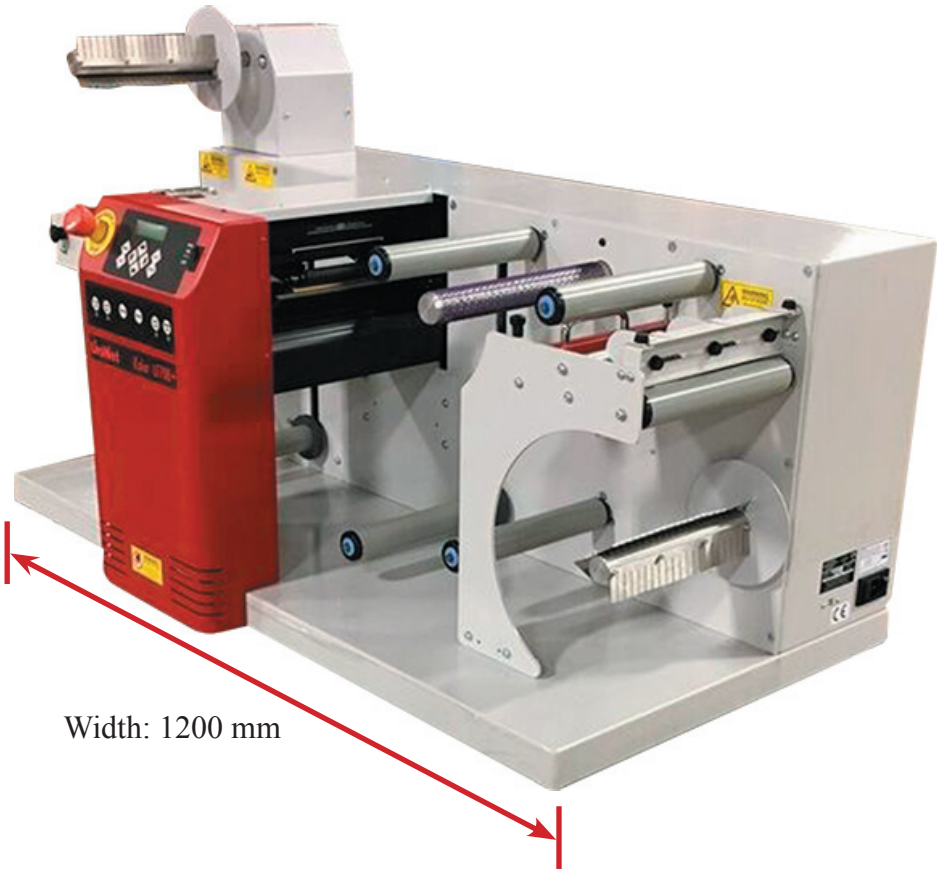
Serial and Fuse Plate

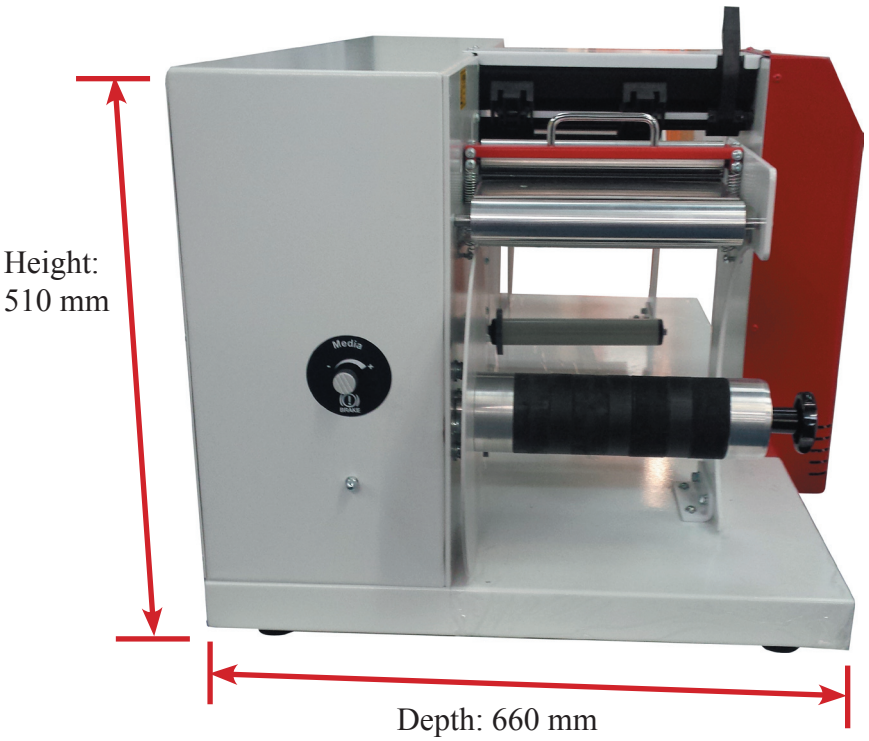
The serial and fuse plate are located on the right hand side of the machine next to the power and USB connection sockets. To change the fuse, see page 57 ‘Changing the Fuse’





Machine Dimensions





Caution

An insulated ground conductor must be installed as part of the branch circuit that supplies power to the wall outlet to which the cutter is connected. The ground conductor must have the same size, insulation material and thickness as the grounded and ungrounded branch circuit supply conductors, but the insulating sheath should be green or green with yellow striping.

The ground conductor described above must be grounded at the electrical distribution board or, if power is supplied by a separate system, at the power supply transformer / motor generator set.

The wall sockets into which the cutter is plugged must be of the grounded type. The grounded conductors serving the wall socket must be properly connected to the ground.

PROPERLY GROUNDED CONNECTION

WARNING

• Before changing the fuse, make sure that the cutter is completely disconnected from its power source.

• For continued protection against risk of fire, replace only with the same type and rating of fuse.

Fuse Rate: T4AL 250V. To change the fuse, see page 57 ‘Changing the Fuse’

CAUTION

• The internal power supply detects the line voltage and switches automatically between 110V - 240V.

• Be sure the power switch is turned off before connecting the power cord (the “0” side of the ON / OFF rocker switch should be pressed).

WARNING

KEEP FINGERS AND OTHER BODY PARTS AWAY FROM THE CUTTING AREA.
THERE ARE HAZARDOUS MOVING PARTS.

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Section 2

Getting To Know Your Machine

This section details all of the components of your machine, including the keypad and buttons located around your UniNet LF700+ machine.

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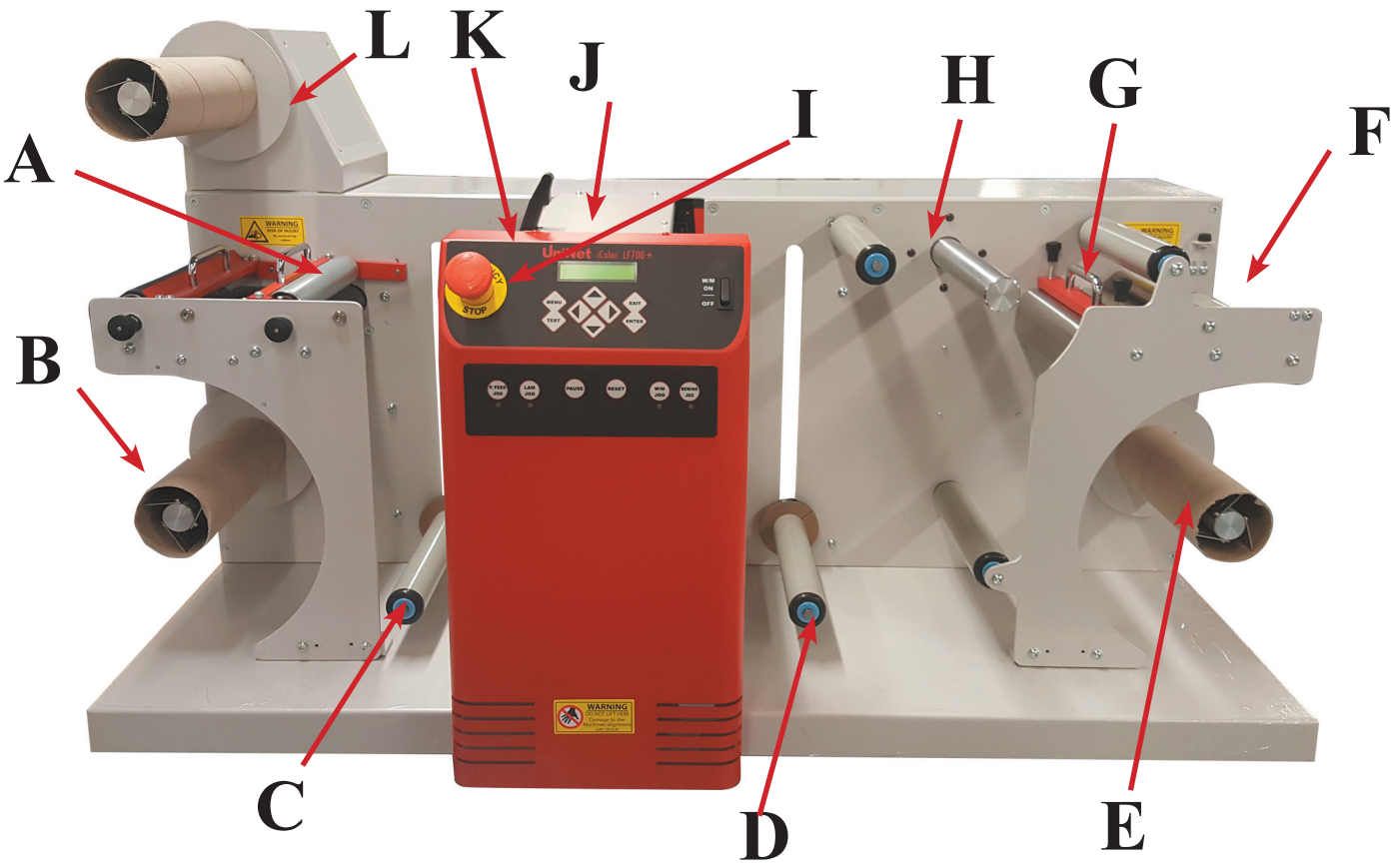
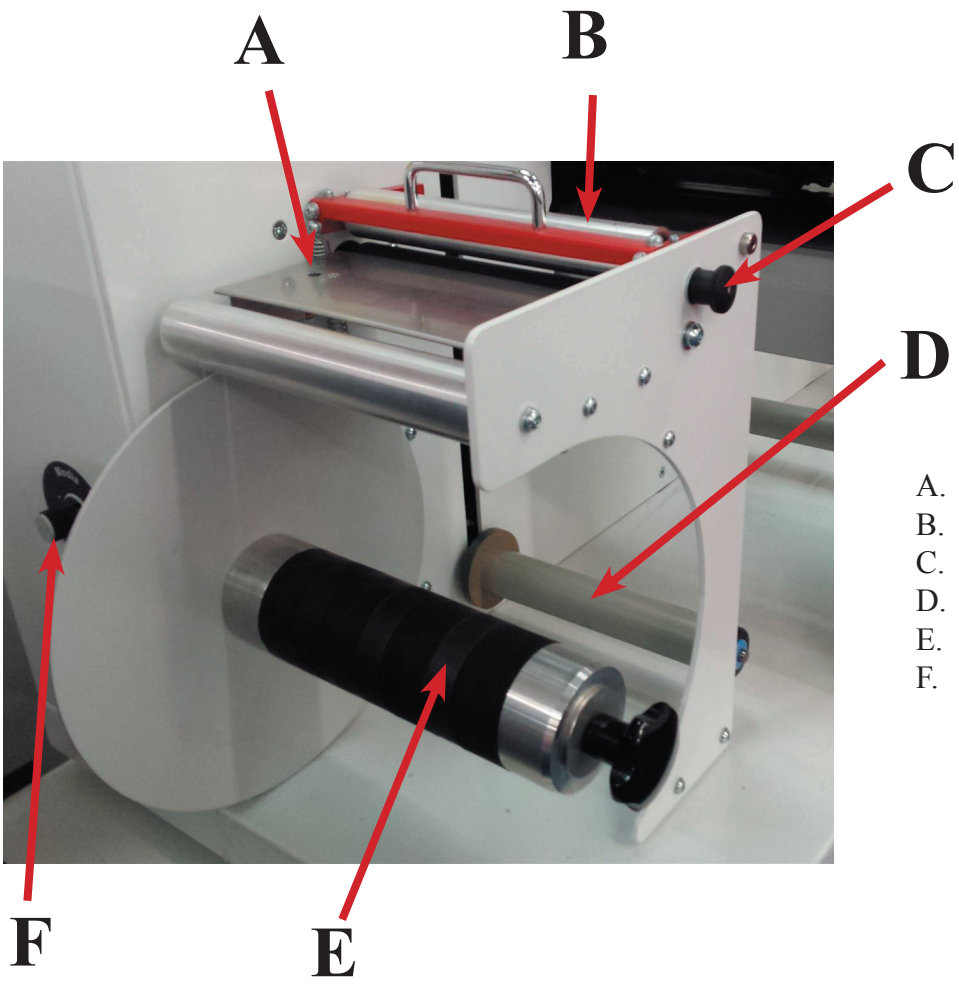
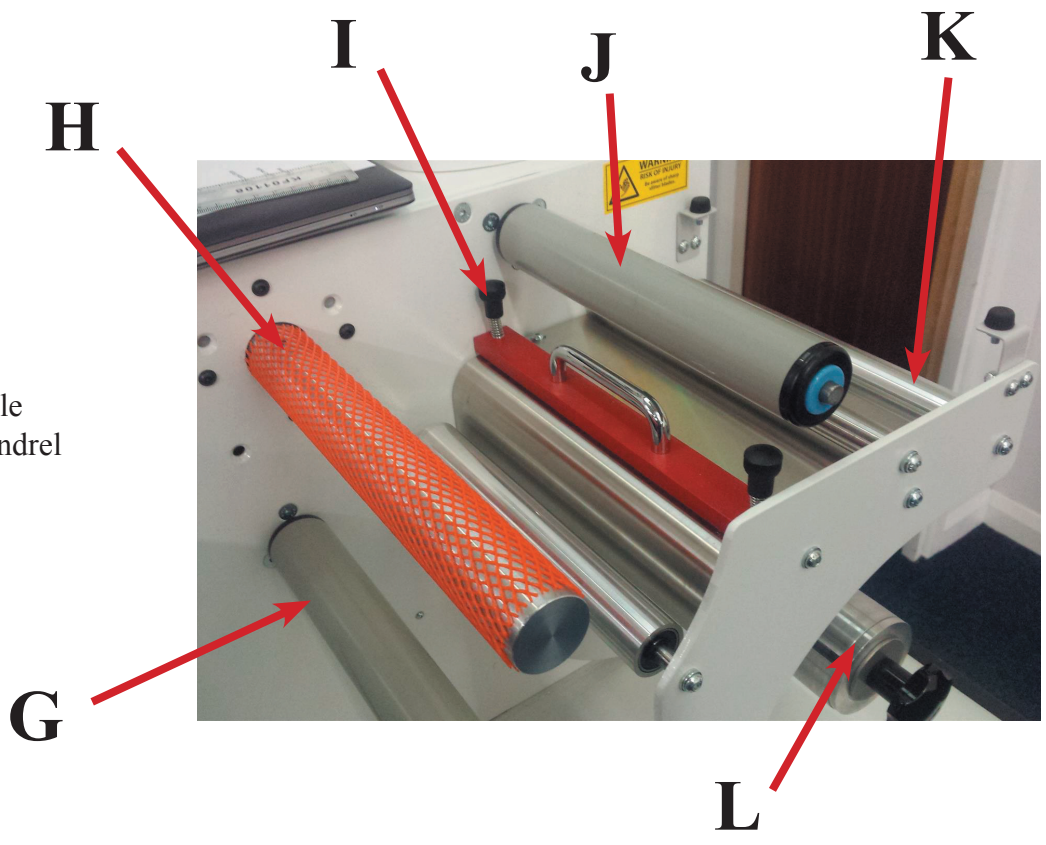
LF700+ Components



A. Media Feed Nip Roller
B. Media Unwind
C. Media Feed Dancer Bar
D. Media Rewind Dancer Bar
E. Media Rewind
F. Slitter Module
G. Brake Bar
H. Waste Matrix Rewind
I. Emergency Stop
J. Cutter Assembly
K. Control Panel
L. Lamination unwind



A. Media Sensor
B. Media Feed Nip Roller
C. Nip Roller Latch
D. Media Unwind Dancer Bar
E. Media Unwind Mandrel
F. Media Brake



G. Static Bar
H. Waste Rewind
I. Brake Bar
J. Static Bar
K. Slitter Knife Module
L. Media Rewind Mandrel

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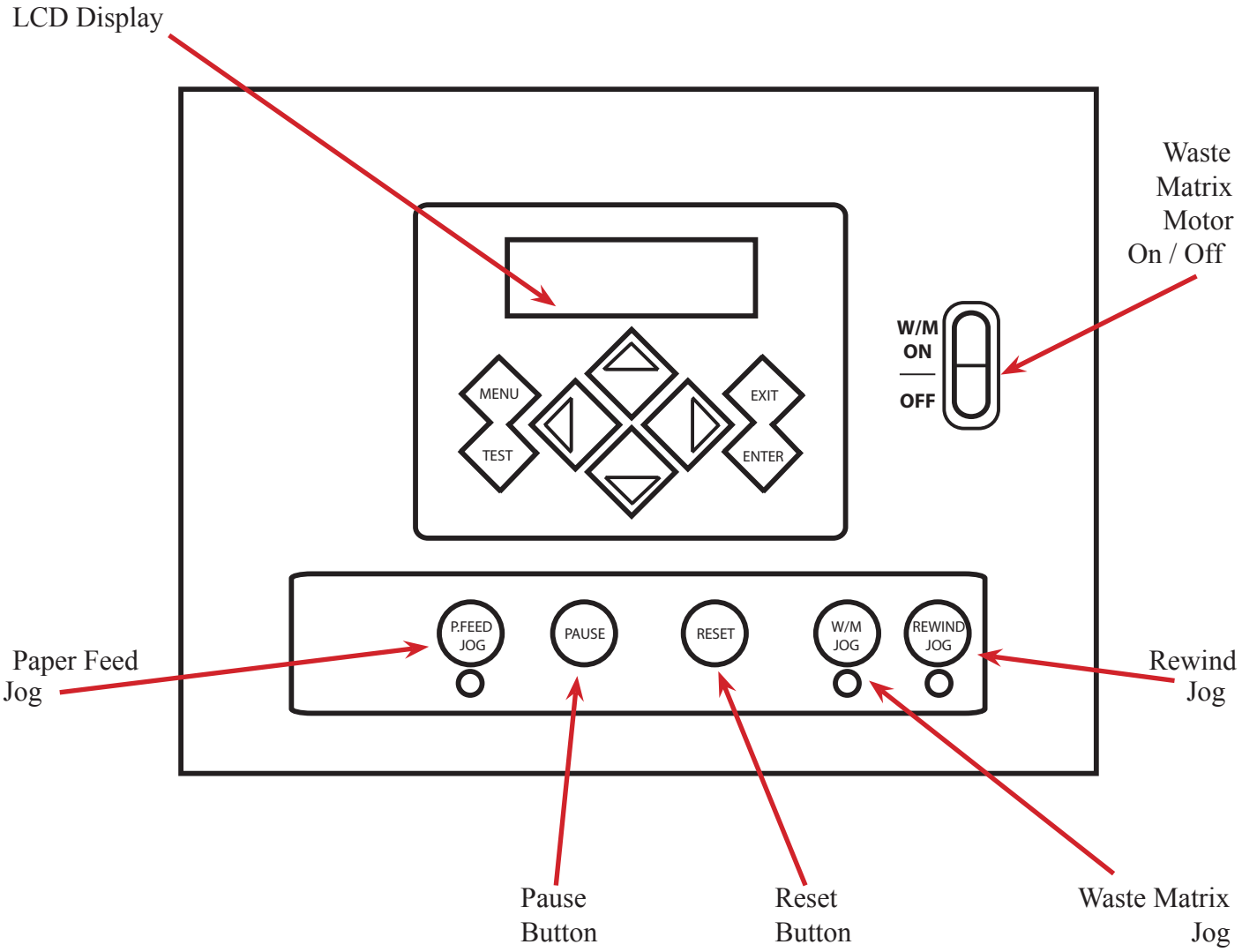
Key Pad



LCD Screen.
Displays all machine information.

Paper feed jog.
This button jogs the motor in a clockwise direction to feed paper through the machine.

Pause button.
This button pauses the operation of the machine.

Reset button.
This button resets the motors and dancing bars ready for a new job.

Waste matrix jog.
This button jogs the motor in a clockwise direction to tighten the wind of the matrix.

Rewind jog.
This button jogs the motor in a clockwise direction to wind the finished label.

Waste matrix On / Off.
This toggle switch enables the waste matrix rewind motor.

Control Panel

The menu key

The MENU key is used to reach the most common menu items of the cutter quickly. A last menu item in the row gives access to a submenu with which all the other functions of the cutter can be reached.

The exit key

The EXIT key (cancel key) cancels the current operation.

Pressing this key when the cutter is cutting stops and ends the current job.

The enter key

The ENTER Key (confirm key) confirms a selected menu or a changed menu item.
As long as this key is not pressed a changed value of a menu item is not saved internally and can will be lost if the menu is left.

The test key

If there is a certain test routine in a submenu, then it can be activated to start it.
The test key can also be used to set the cutter offline during a job and check the result with the jogging keys. Press the key to go online again.

The jogging keys

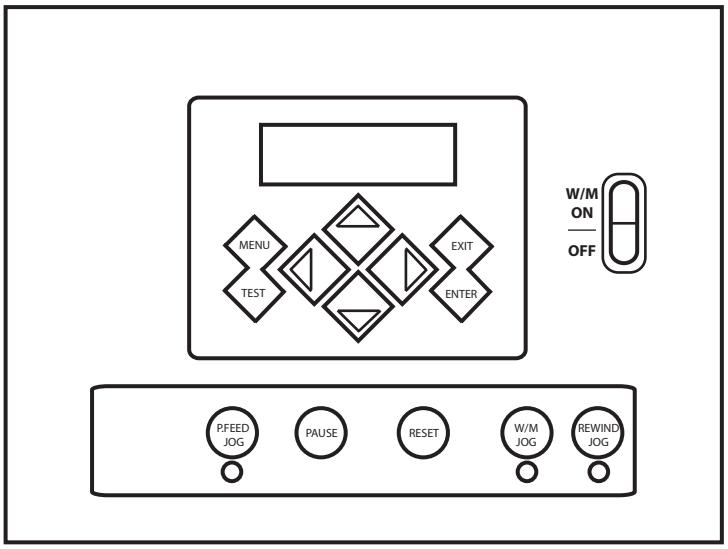
The use of the jogging keys varies according to the operation in progress.

For example, when working with different submenus, the or jogging key is used to select the next or previous submenu.

When in a submenu the values can be changed by pressing or .
When the cutter is normal operation, then by pressing either one of the jogging keys, the origin can be changed.

LCD Screen

The liquid crystal display (LCD) contains one line of 16 characters. The LCD provides cutter status information during operations and displays menu options for the configuration of the cutter.



The various menu and submenu items are always presented in a loop, which means that, when the last menu or submenu item is displayed, pressing the appropriate key will automatically take you back to the first item of the same menu or submenu.

NOTE A parameter or parameter value preceded with an asterisk (*) is the current selected parameter or parameter value. If a menu is left with a value on the LCD which is not preceded by an asterisk, then this will not be the saved value.

Each keystroke can initiate an internal test or movement of head or media.

WARNING KEEP FINGERS AND OTHER BODY PARTS AWAY FROM THE CUTTING AREA. THERE ARE HAZARDOUS MOVING PARTS.

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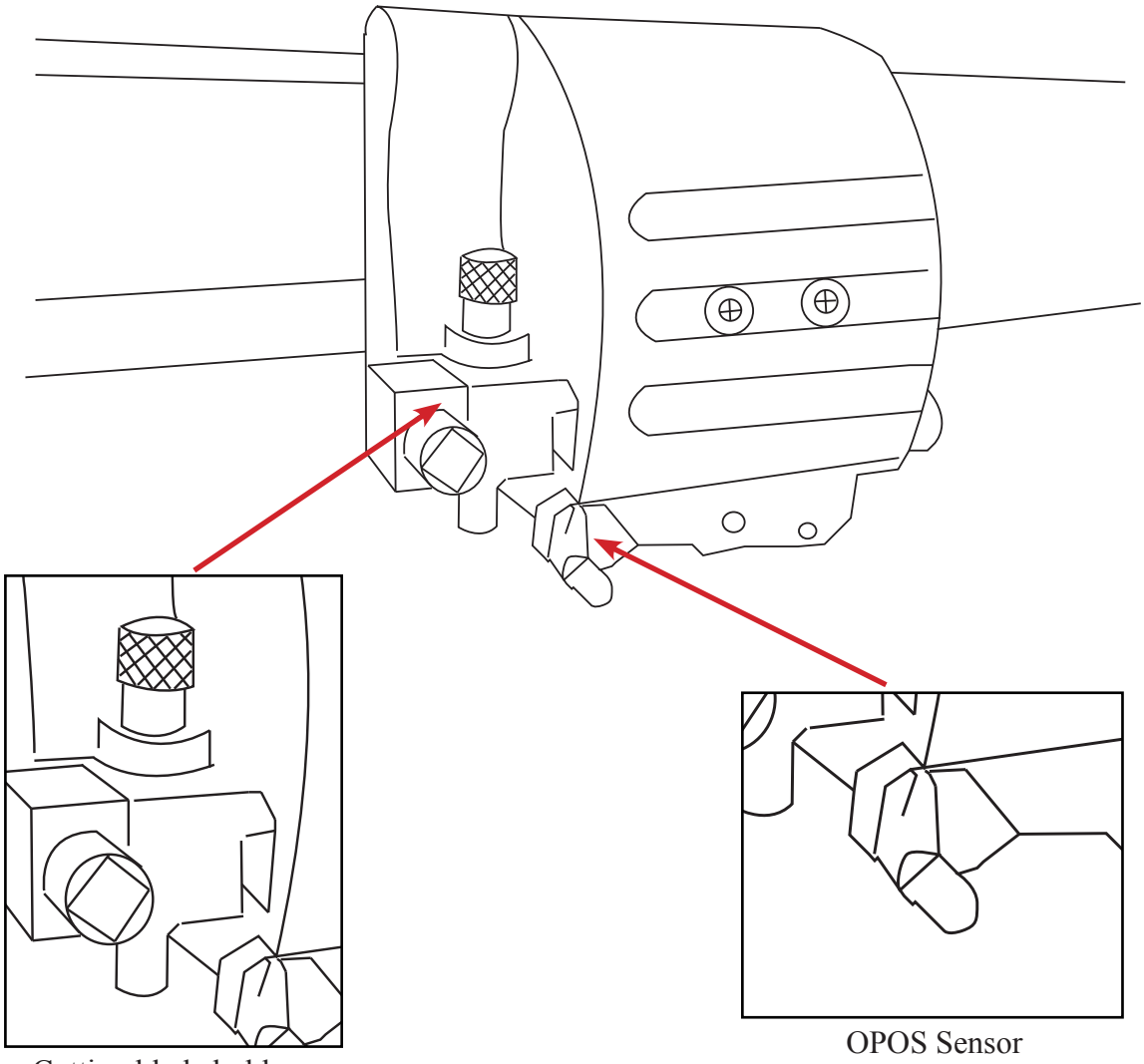
Cutting Head



Cutting blade holder

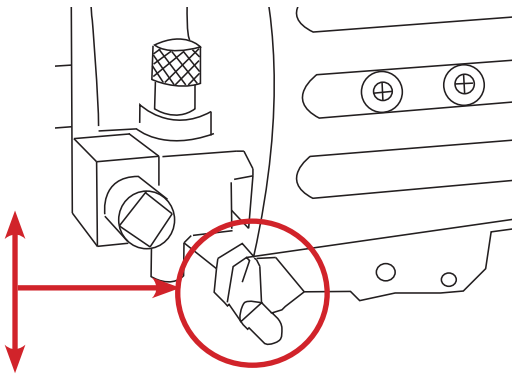
OPOS Sensor

The cutting head of the LF700+ machine contains the cutting blade and OPOS registration sensor as referred to in this document.

To install and replace the cutting knife and the OPOS sensor functionality are explained later in this manual.

NOTE

It is important to note that the OPOS sensor has two positions, up and down. The machine will only sense correctly if the sensor is in the down position. To place the sensor in the down position simply push the sensor down with your finger until it sits just above the media or until the sensor can no longer move any lower.



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Section 3

Computer Setup

This section explains the install procedure for the LF700+ software, your computer must have the minimum specifications as laid out in Section 1 - Preparation.

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• Adding the LF700+ to the software	29

Connecting the LF700+ Digital Cutter to a Computer

The LF700+ cutters support bi-directional USB connectivity.

Please follow the instructions on Installing the software before connecting to the cutter for the first time. failure to follow the setup instructions might cause the incomplete install of the USB driver and connectivity.

USB connection

The USB cable should be 2 meters or less in length. The connector on the cutter side of the cable should be USB series B 4-pin. The connector on the computer side of the cable should be USB A 4-pin.

Connecting the LF700+ digital cutter to a PC using a USB cable

Power off the cutter.
Insert the LF700+ User CD into the computer's CD-ROM drive.
Let auto play run auto start (or start by hand).

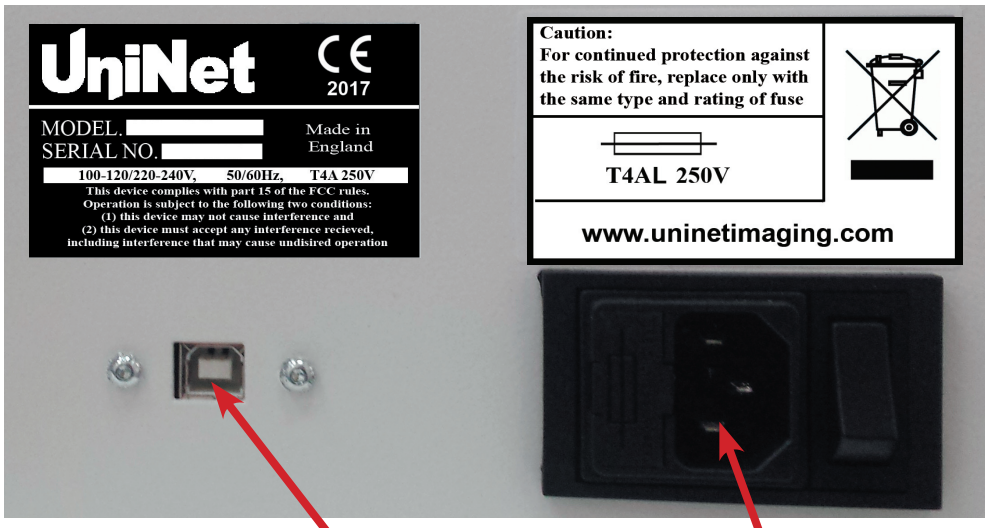
NOTE

• For connecting more than one cutter to one computer, see section on USB class.

• It is recommended to use always the latest version of the driver. The CD is made so that it downloads the latest version automatically. If no internet connection is available, then it is possible that the driver on the CD is outdated.

• When installing a cutter on Windows Vista or Windows 7, then make sure that the user has administrative rights and that UAC is deactivated.

NOTE Do not connect the UniNet LF700+ to the PC yet, if you do the installation of the software can be effected.



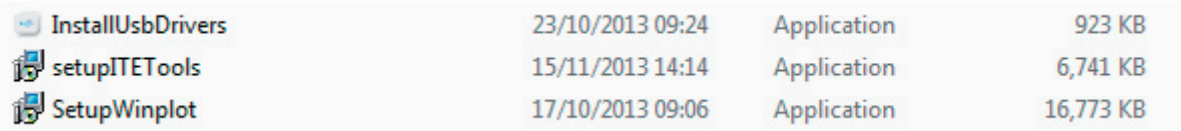
USB Socket Power Socket

Software installation

NOTE Do not connect the UniNet LF700+ to the PC yet, if you do the installation of the software can be effected.

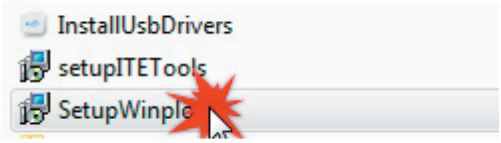
Installing the software. All relevant software can be found on the User CD packaged with the machine.

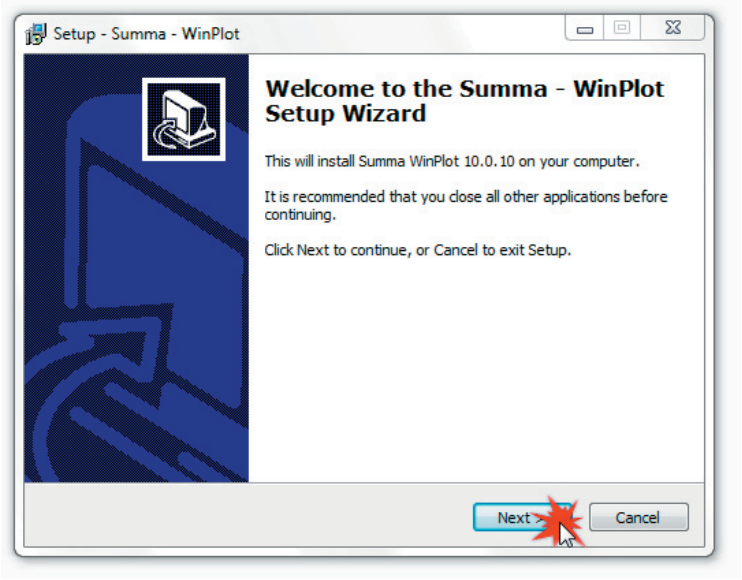
On the CD you will find a folder entitled 'Software' the contents of this folder will contain all of the software you will need to run the UniNet LF700+.



Summa WinPlot Installation

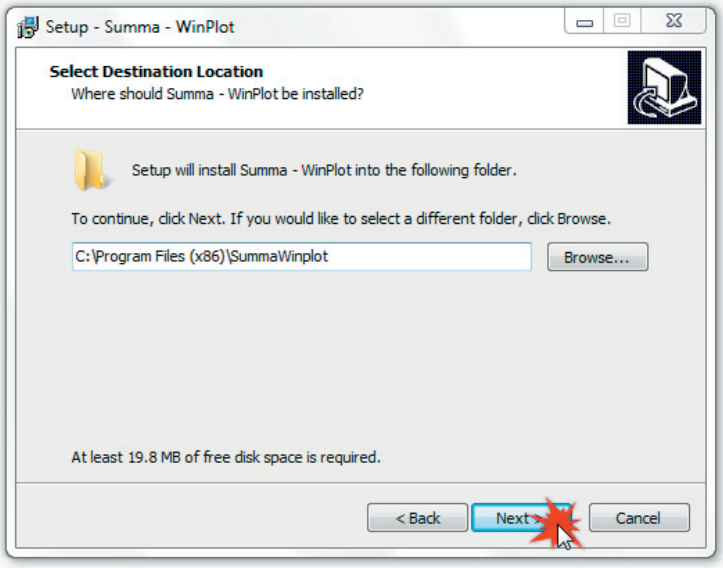
The firstly select the 'Setup Winplot' installation icon. Double click to run.



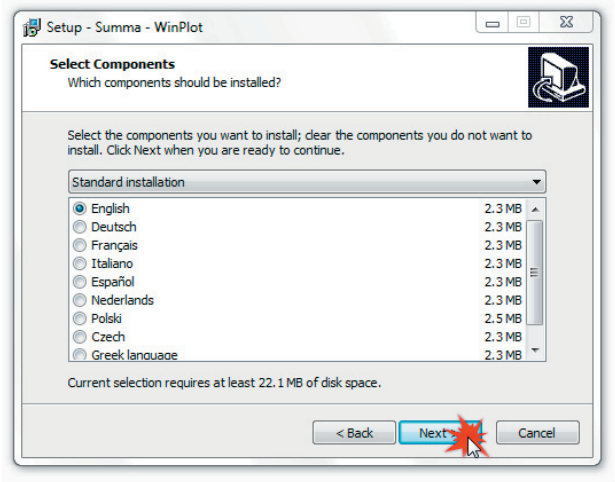


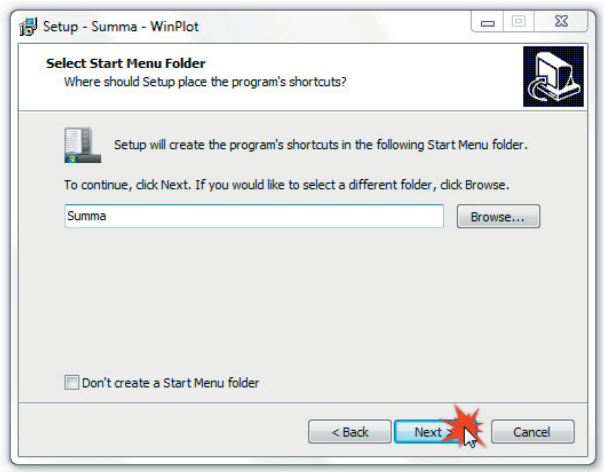
The software will start an installation Wizard that will guide you through the install process, you will also get the chance to change languages and source directories as the install progresses.

If you are happy with the default install directory please continue by pressing 'Next' otherwise browse and create a new directory, then select 'Next ' to continue.



Summa software has a large amount of pre-installed languages that can be selected in this next install window, select your preferred language and select ‘Next’ to continue.

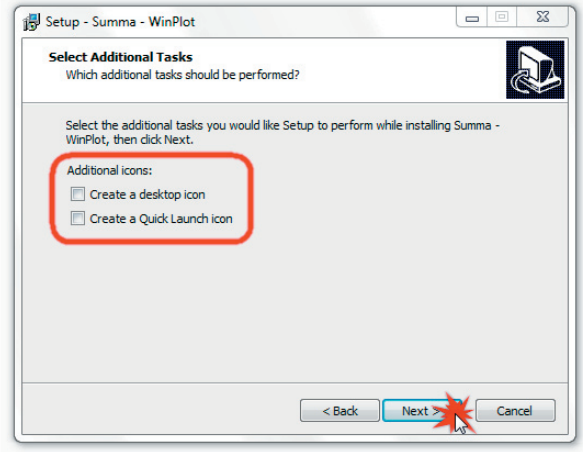


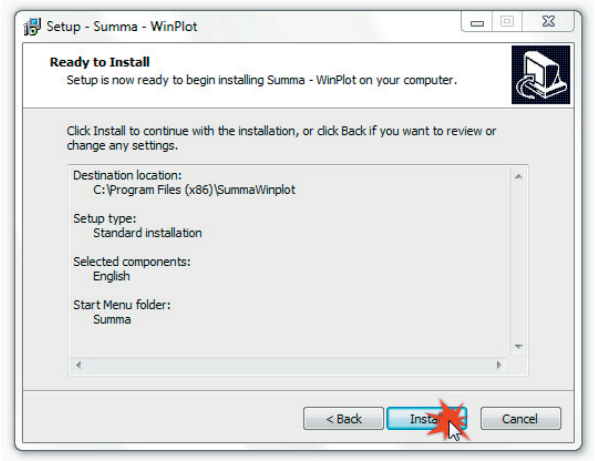


In this install window the Start programme shortcut can be changed. When your happy press ‘Next’ to continue.

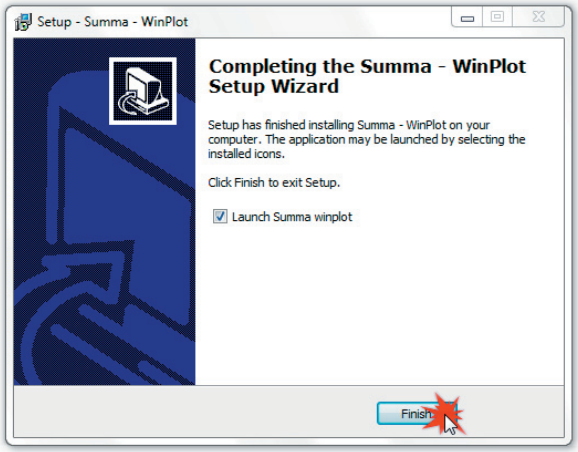
Select which icons you would like the software to automatically generate by checking the correct boxes.

Press ‘Next’ to continue



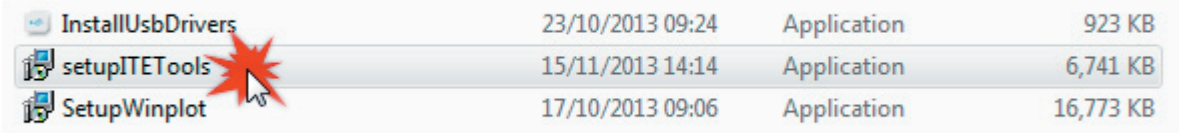


Select ‘Next’ to finalise the Winplot software installation.

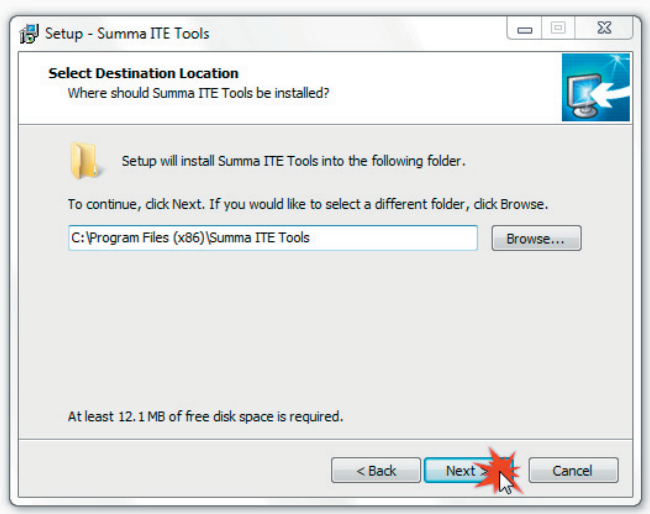


ITE Tools Installation.

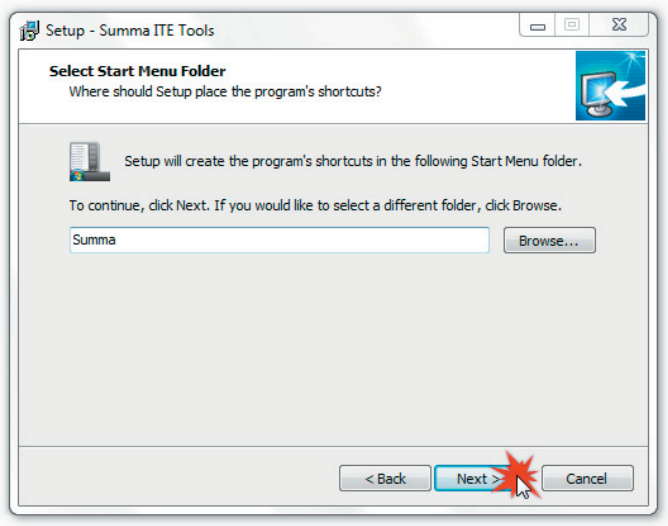
Navigate to the Software folder on the User CD and select the ‘setupITETools’ installer. Double click the icon to run.



The software will start an installation Wizard that will guide you through the install process, you will also get the chance to change the source directories as the install progresses.

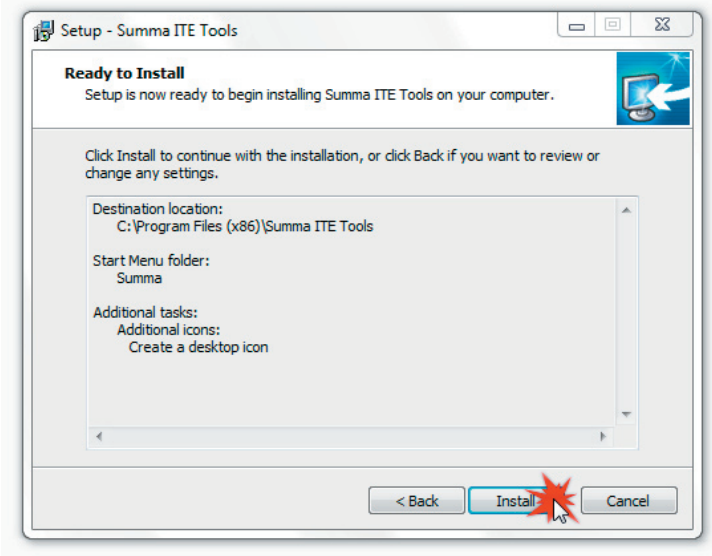


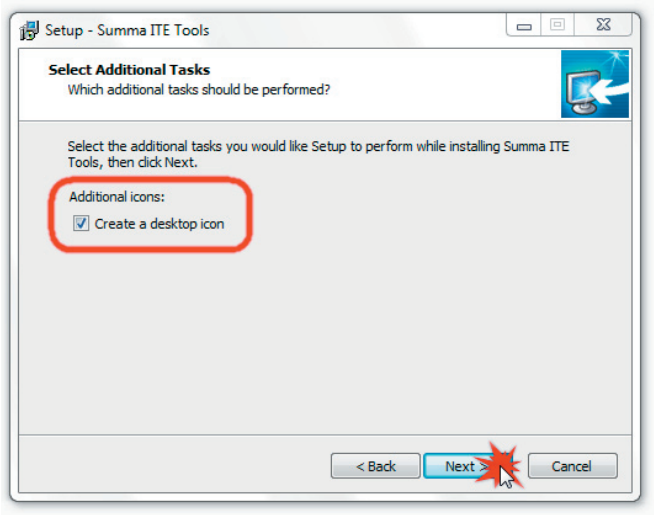
If you are happy with the default install directory please continue by pressing ‘Next’ otherwise browse and create a new directory, then select ‘Next ‘ to continue.



Select if you would like the software to automatically generate an icon by checking the correct box.

Press ‘Next’ to continue



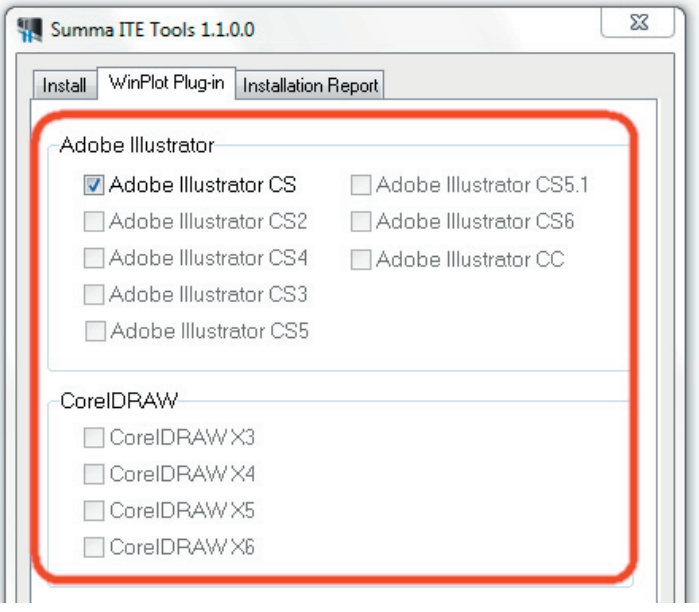


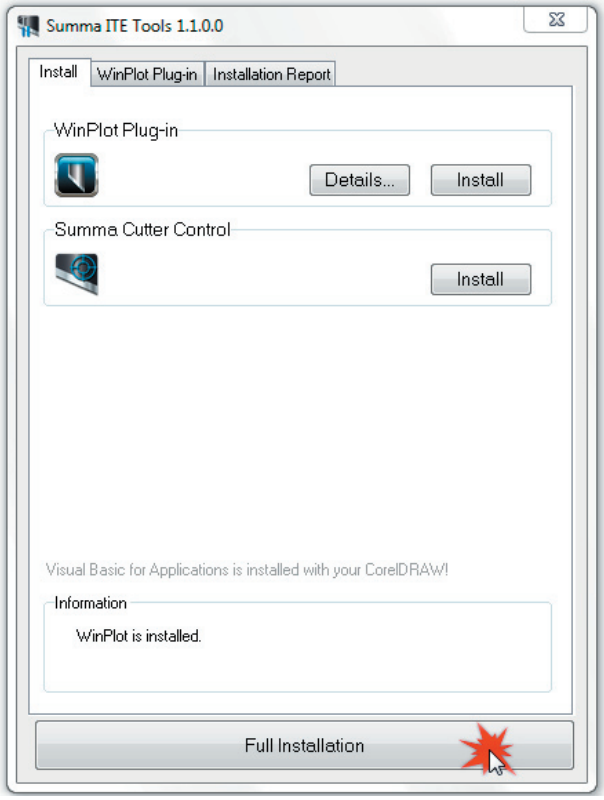
Check the installation details are correct. Select ‘Next’ to finalise the install.

Summa Cutter Tools

Summa Cutter Tools will install all of the necessary plugins associated with Illustrator or Coral Draw, these software programmes must be pre-installed on your PC.

Plugins for Illustrator and Coral Draw can be installed again if you perform a software upgrade.



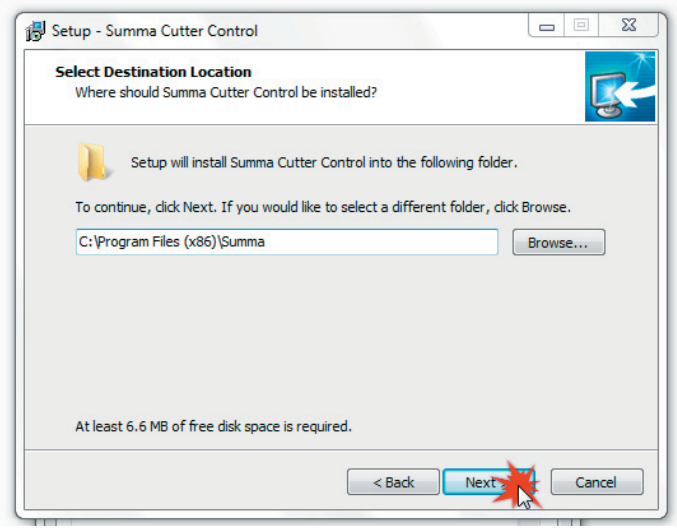


NOTE This is a list of the compatible versions of Illustrator and Coral Draw at the time of writing the manual, an updated list of software compatibilities can be obtained from your LF700+ dealer.

Summa Cutter Control

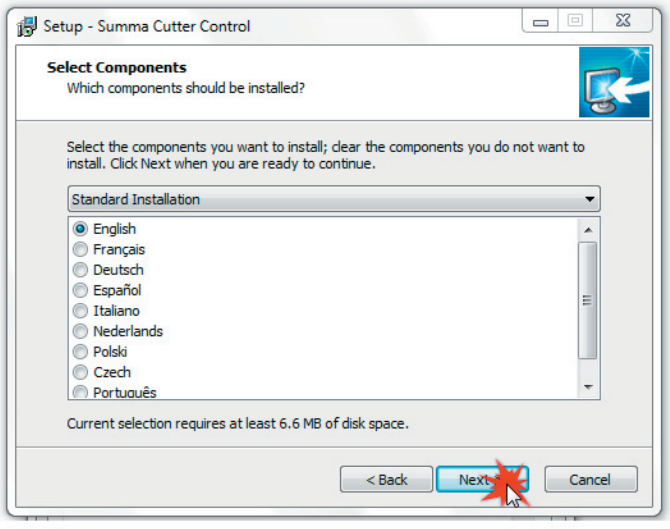
Summa Cutter Control can be accessed through the Summa ITE Tools programme.

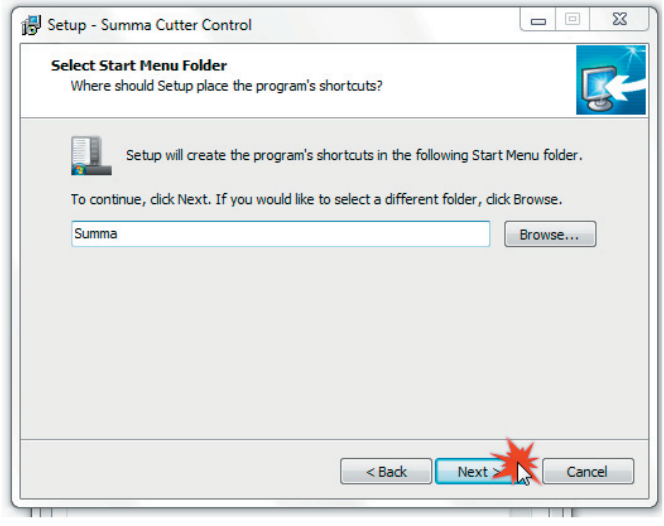
This is an automatic installation when selecting a ‘Full Installation’ in ITE Tools.



If you are happy with the default install directory please continue by pressing ‘Next’ otherwise browse and create a new directory, then select ‘Next ‘ to continue.

Summa software has a large amount of pre-installed languages that can be selected in this next install window, select your preferred language and select ‘Next’ to continue.





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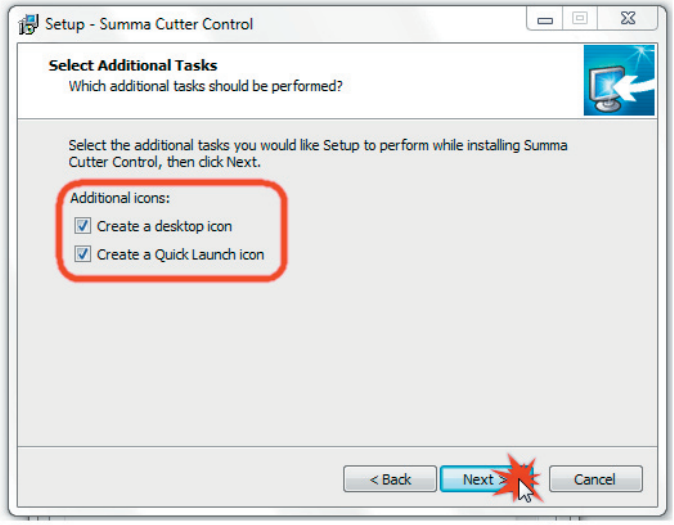
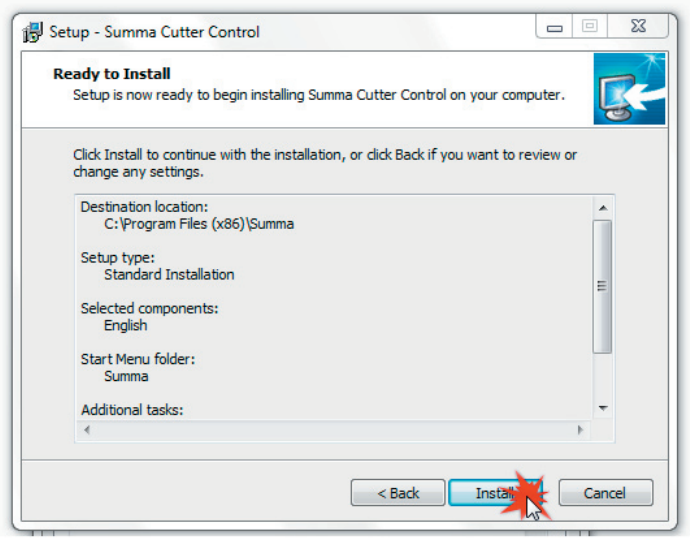
Select which icons you would like the software to automatically generate by checking the correct boxes.

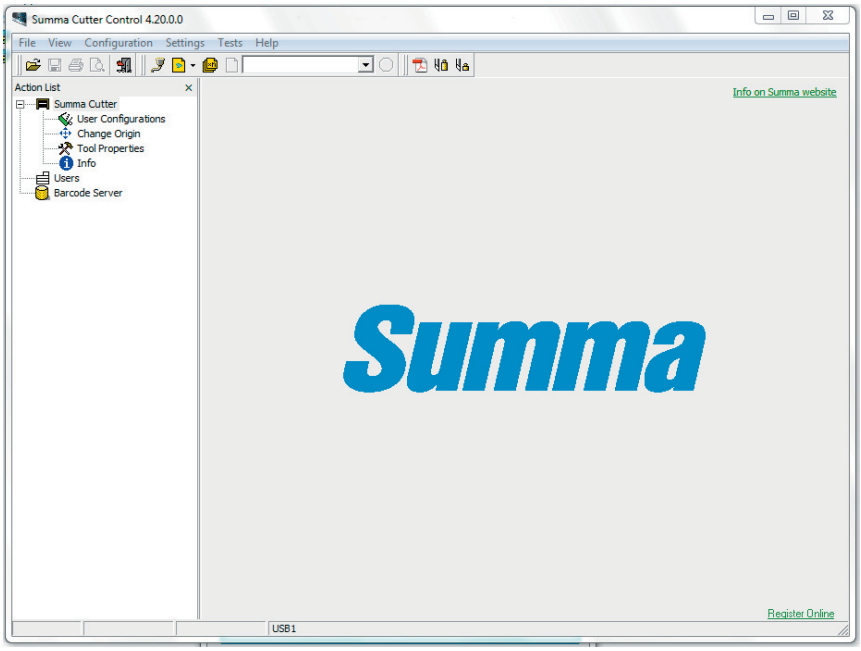
Press ‘Next’ to continue.





Check the installation details are correct.
Select ‘Next’ to finalise the install.

Summa Cutter Control Interface.



Your UniNet LF700+ has been professionally calibrated during manufacture, only change settings within Summa Cutter Control when instructed to do so by an UniNet LF700+ trained technician.

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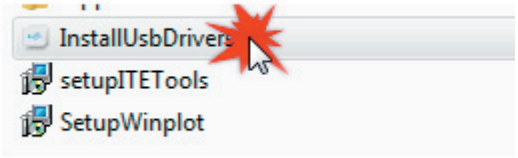
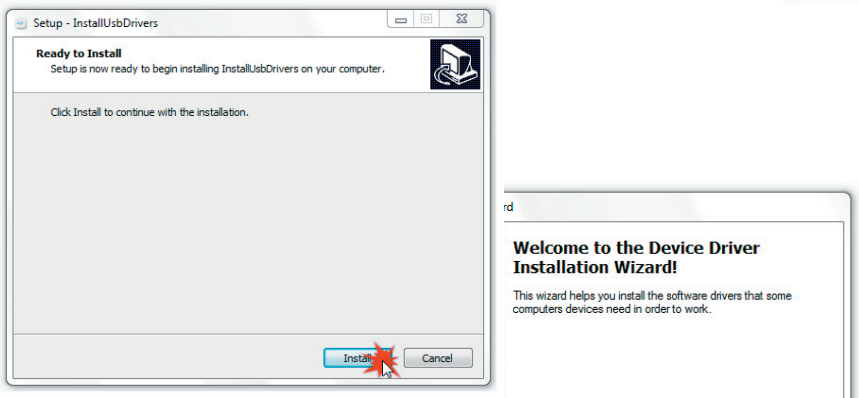
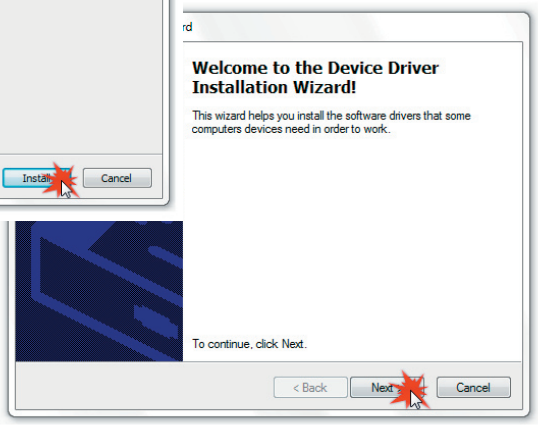
USB Driver install

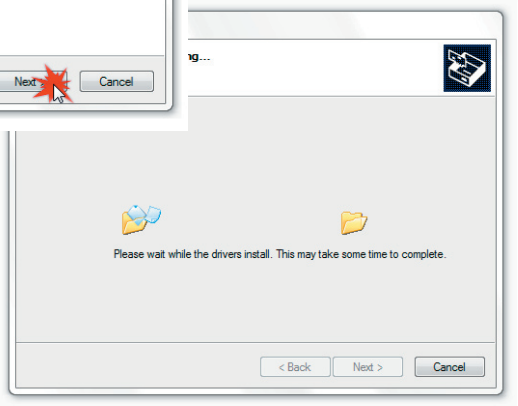
Navigate to the ‘InstallUSBDrivers’ icon, double click to run.

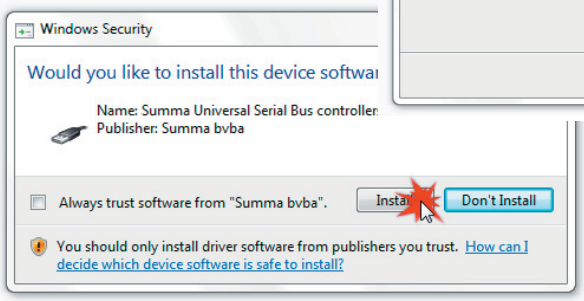


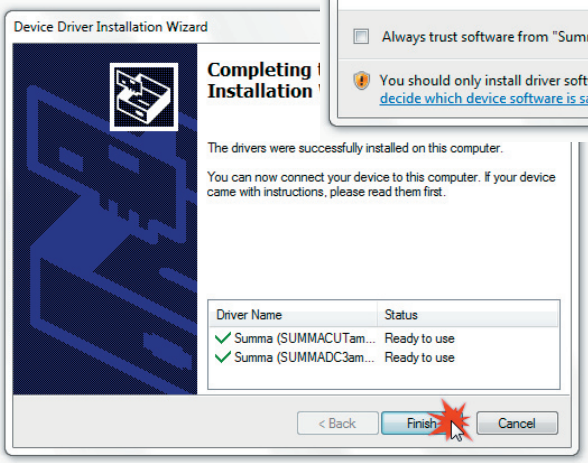




Select ‘Next’ to continue

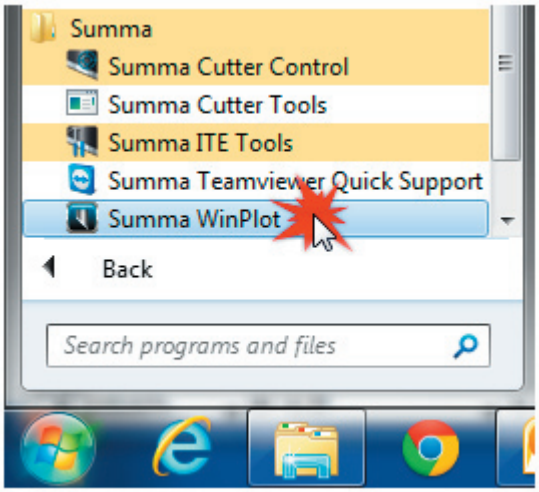


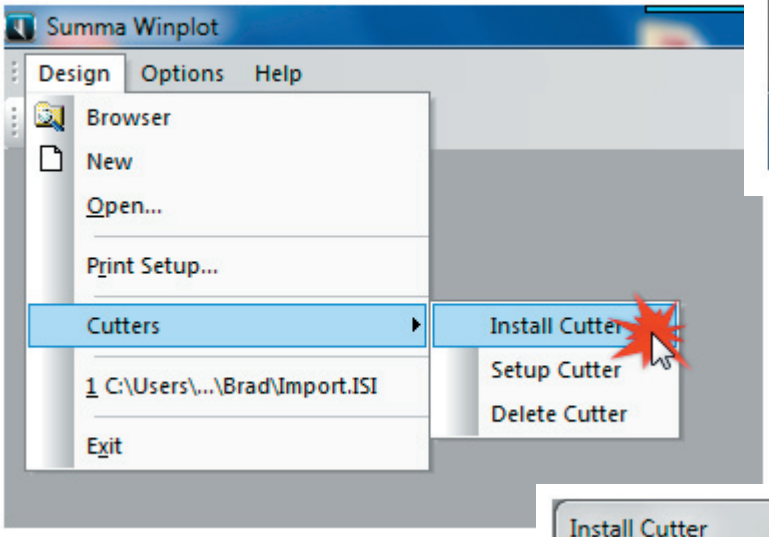




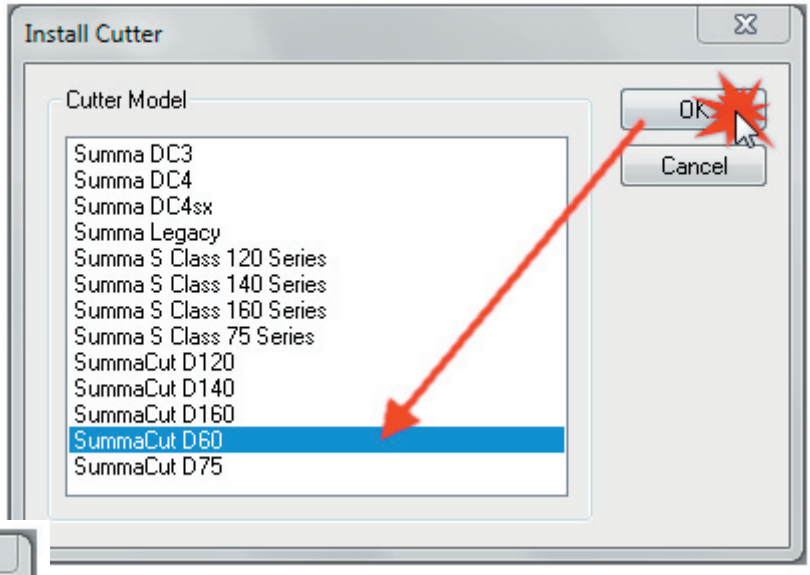
Procedure for adding the LF700+ in Winplot

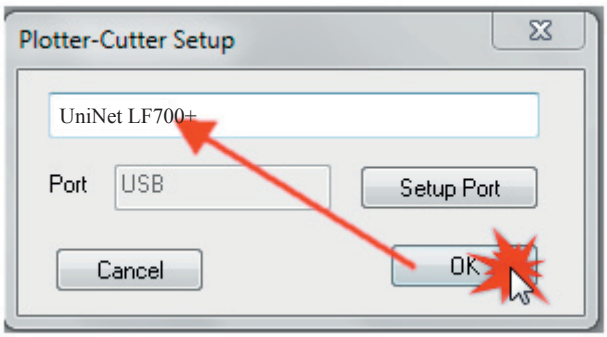
Start WinPlot, make sure there is no job open.





Click the 'Design' menu, then click 'Cutters and 'Install Cutter'.





Select Summa Cut D60. Changing the name is recommended to allow for easier cutter recognition,

Change the name to UniNet LF700+ and select 'OK' to finish.

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Section 4

Setting Up The Machine

	Page
• Setting up the machine for the first time	31
• Slitter blades	32
• Ajusting the brake bar	33

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Setting up the Machine

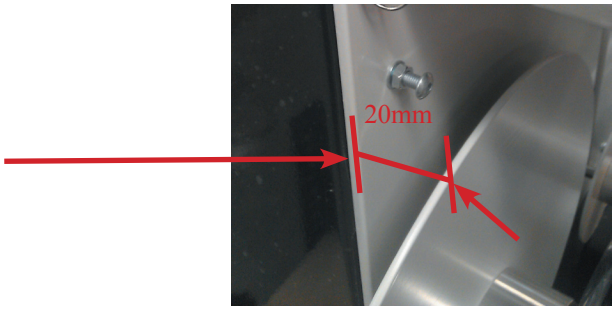
Choose your work area carefully, the machine weighs approximately 100kg and must be lifted into place by 4 strong adults, Do not place the cutter in the following areas. Doing so may result in the cutter tipping or falling over and causing serious injury.

• Unstable or loose surfaces, • Angled surfaces, • Areas subject to vibration by other equipment

Do not add power to your machine yet !

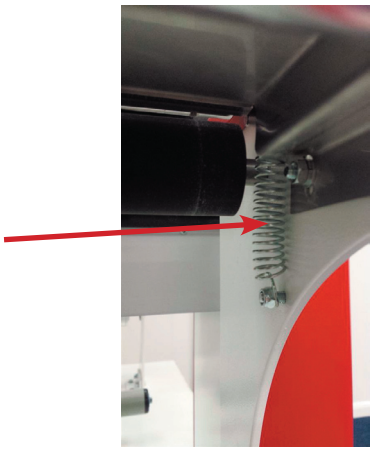
The back plate screws to the back of the mandrel using the screws and locating holes provided.
The mandrels are not identical and will only fit onto corresponding motor shafts.

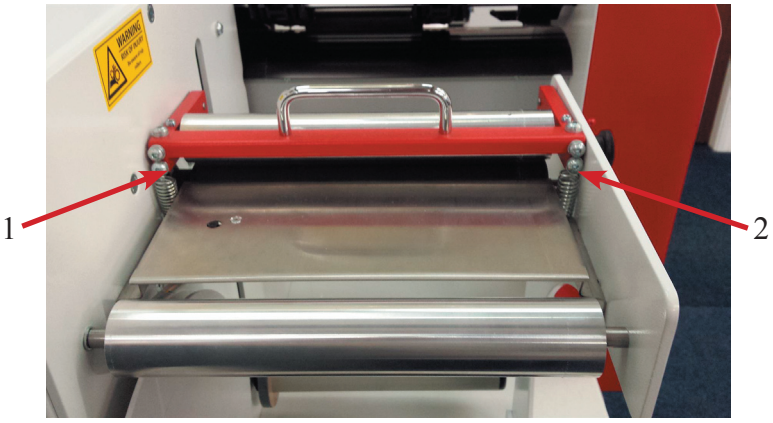
Before adding media to your machine make sure that the outside edge of the mandrel back plate is exactly positioned 20mm (2cm) away from the chassis plate.



Media feed roller and pinch roller

The machine will arrive with the media feed roller and pinch roller latched up and with the 2 tension springs unattached, start by unlatching the rollers and extending the 2 springs down to the spring hooks as shown below.





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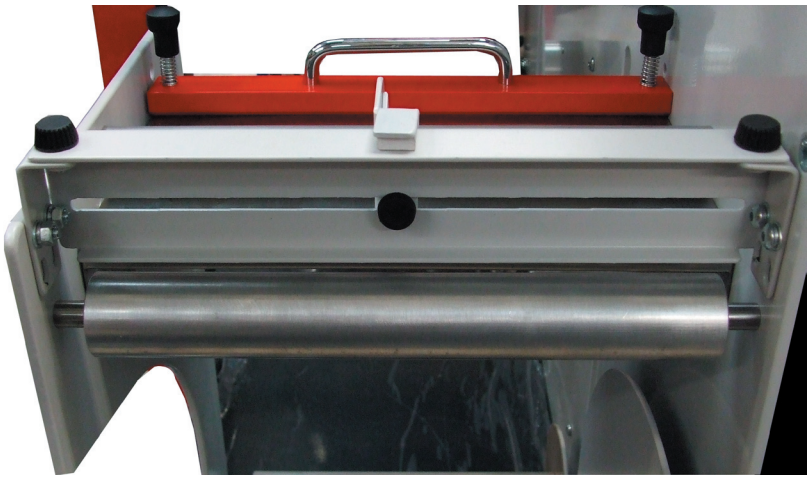
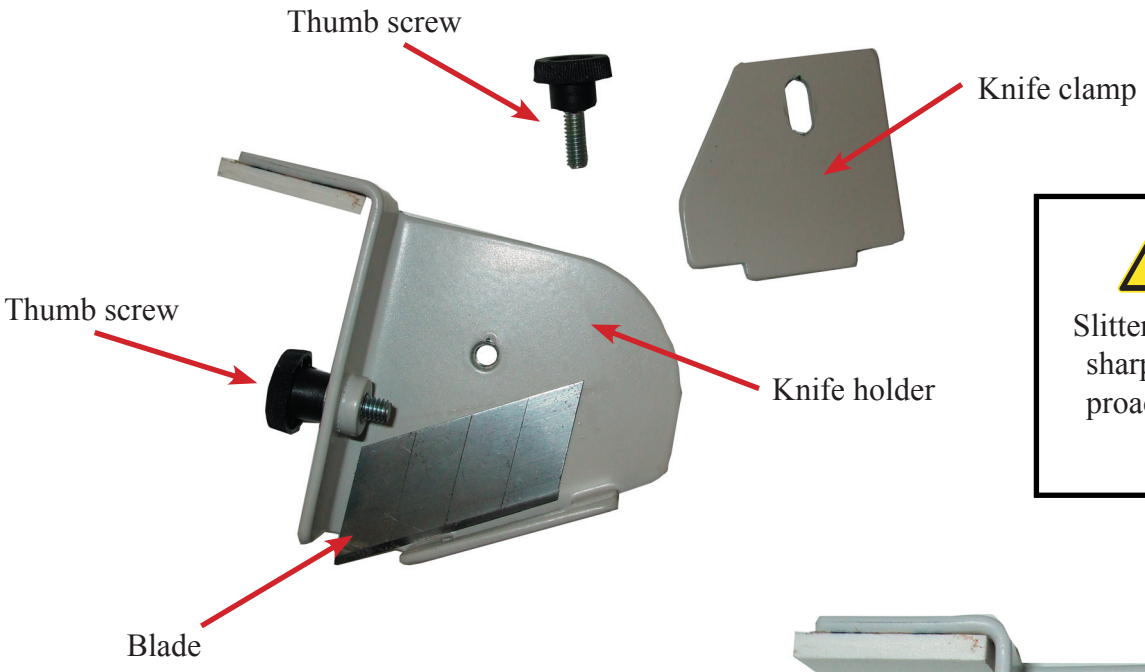
Slitter Blades



The LF700+ is equipped with a slitter blade station as standard, multiple slitter knives can be added to the machine.

Slitter knives are easy to change and take a standard Stanley blade in the holder.

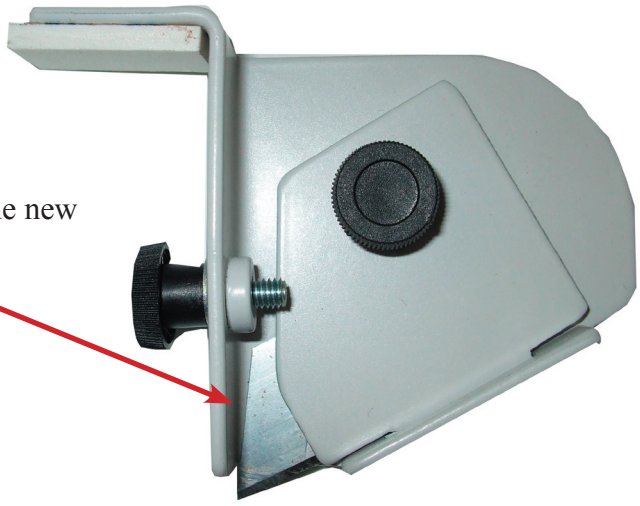
The holder is in 5 components.
2x thumb screws, 1 knife holder, 1 knife clamp and 1 blade.



WARNING

Slitter blades are extremely sharp, take a cautious approach when changing or fitting slitter blades

Changing a knife
Release the thumb screw holding the knife clamp, insert the new knife and align its front edge against the holder
Secure the knife in place by using the thumb screw and clamp.



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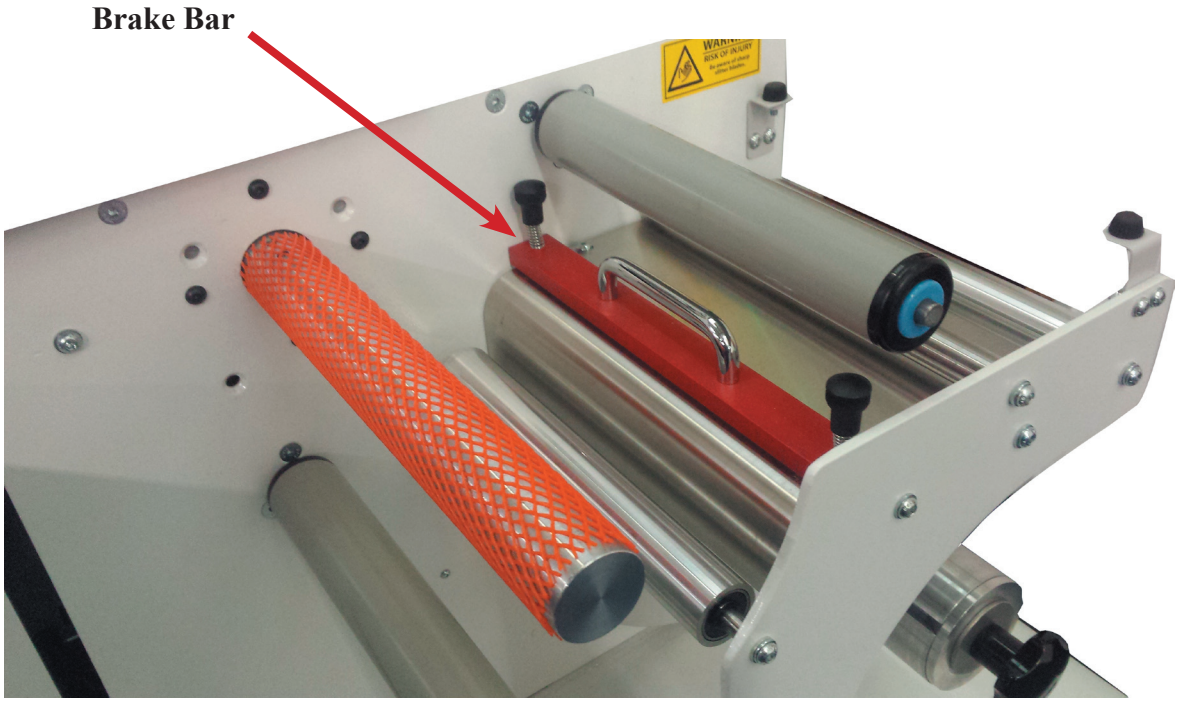
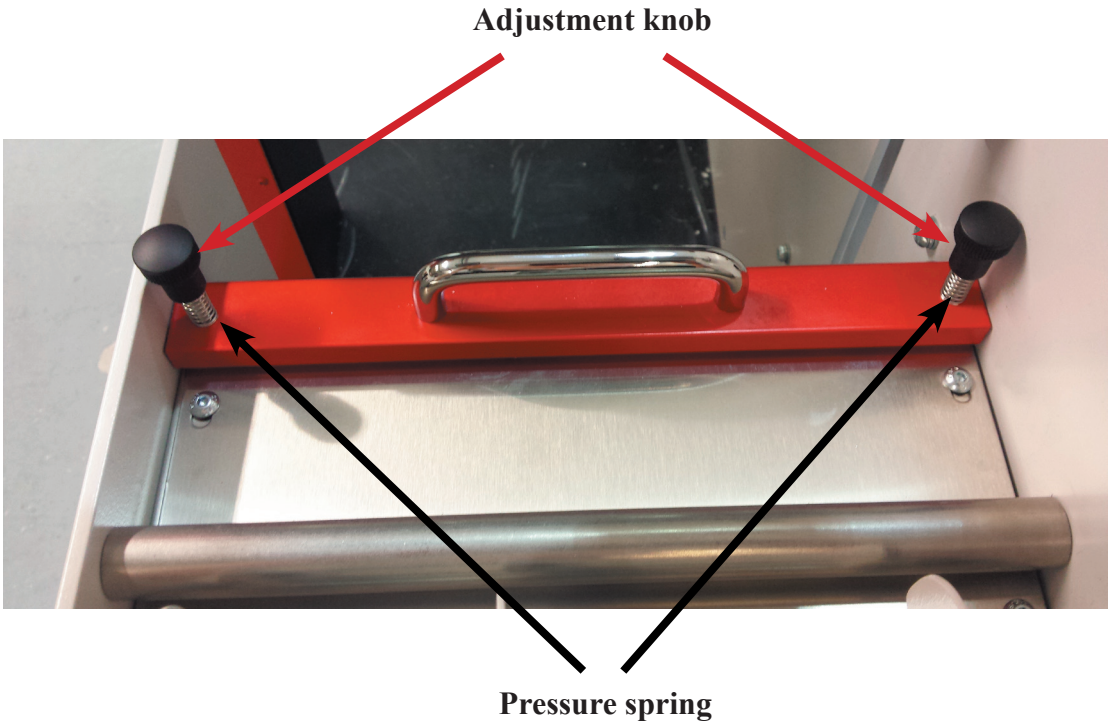
Adjusting the Brake Bar



To make adjustment to the brake bar to add more resistance to the rewinding media, turn both of the adjustment knobs clockwise with the same amount of turns. Every time an adjustment is made run the machine to test the tension



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Section 5

Getting Started

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• Loading media	35-39
• Pinch roller errors	40
• Changing origin	41
• Knife installation	42
• Pen installation	43
• Opos Automatic rise and fall	43
• Setting knife depth and pressure	44

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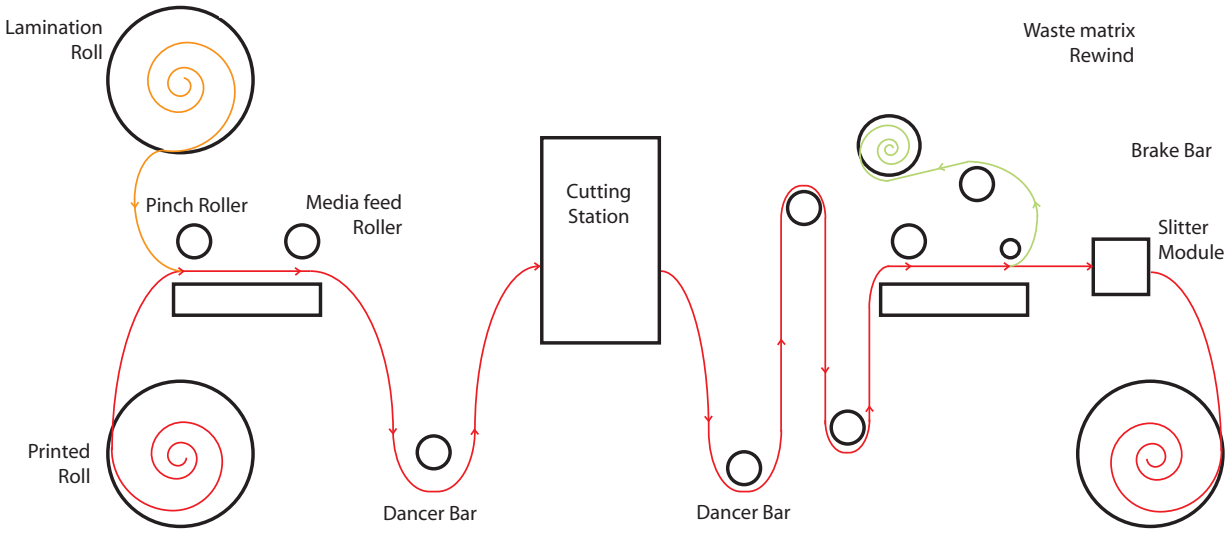
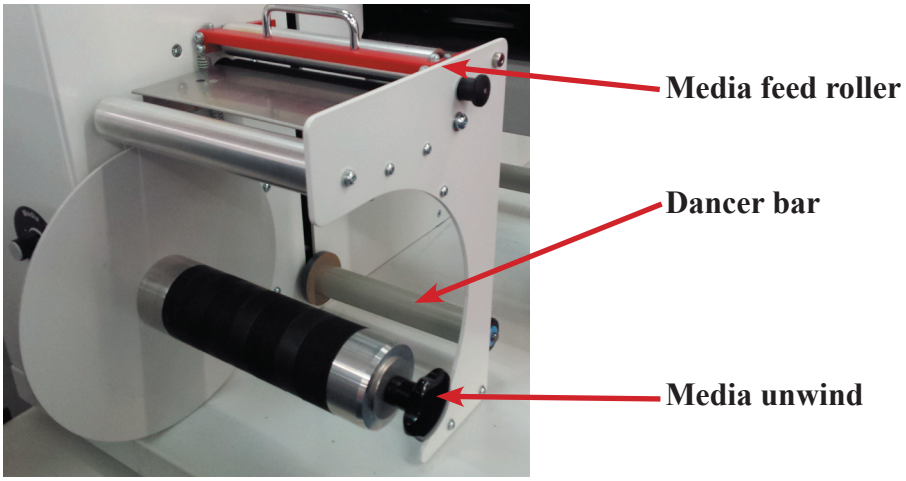
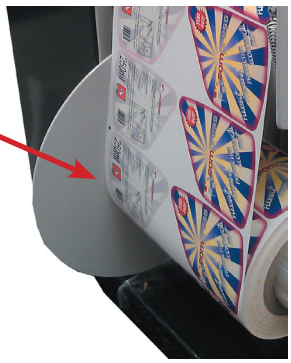


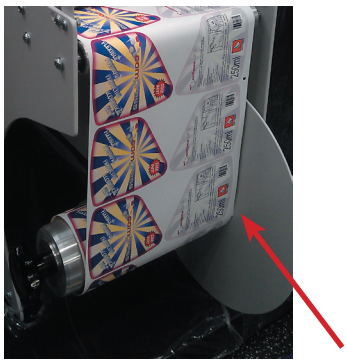
The paper path of the media being cut is shown in the diagram above, all unwind and rewind mandrels rotate in a clockwise direction, both the pinch roller and media feed roller rotate in an anti clockwise direction. The pinch roller and media feed roller can be lifted and latched so easy feeding of the media can be accomplished.



Care must be taken with the dancer rollers, these can be easily damaged if the media becomes loose and the bars drop to the base of the machine.

When setting the machine up, the media must be aligned with the back plate of the rollers, failure to align the machine correctly will result in incorrect alignment whilst cutting and slitting.

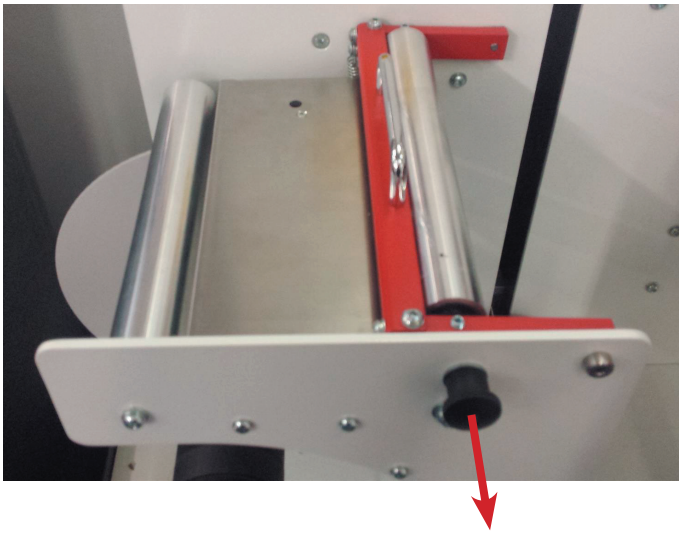




Loading Media Continued

When raising the pinch roller and media feed roller use the handle provided. When the roller has been raised to its furthest the latch will lock it in place.

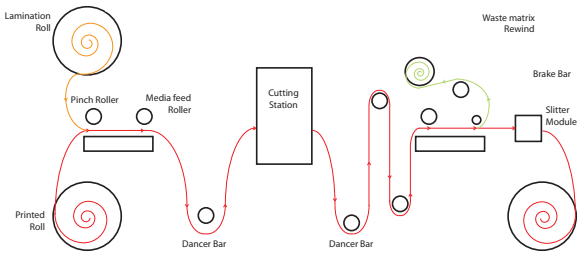
To release the roller, simply disengage the latch by gently lifting the handle and pulling the knob towards you,.



NOTE Always leave the lamination nip roller, media feed roller and cutter pinch roller latched up when not using the machine. If the rollers are left in the same place for any extended periods of time the rollers could develop a flat spot. If the machine is not being used for an extended period of time, release the spring tensions on the nip rollers and replace when ready to be used again.

NOTE

The machine will not function correctly if the media is not routed all the way through the machine from unwind to rewind mandrel. However the machine can function correctly without lamination and waste matrix stripping.



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Loading Media Continued

Cutter pinch roller positioning

Correct movement of the media will only occur if the media is driven by the pinch roller that is correctly lowered and located over the media, the media should also have been aligned against the dancer bars and mandrel back plates.

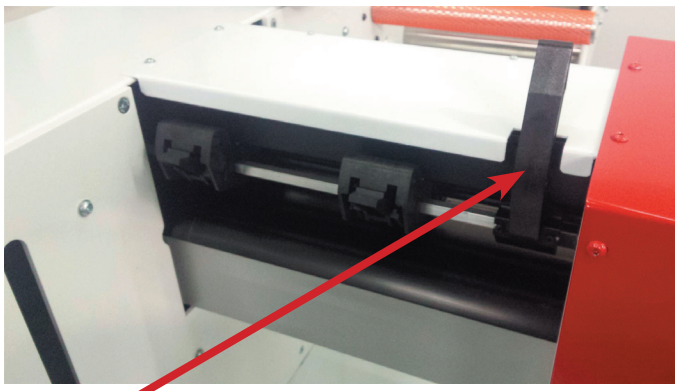
The pinch roller is lowered or raised by means of the pinch roller lever arm located on the left-hand side of the cutter. The pinch roller must be lifted to allow media loading, during which the media is fed from the left of the cutter to the right.

⚠ CAUTION The pinch roller MUST be positioned correctly and lowered onto the media, never run the machine without media, damage can occur to the pinch roller.

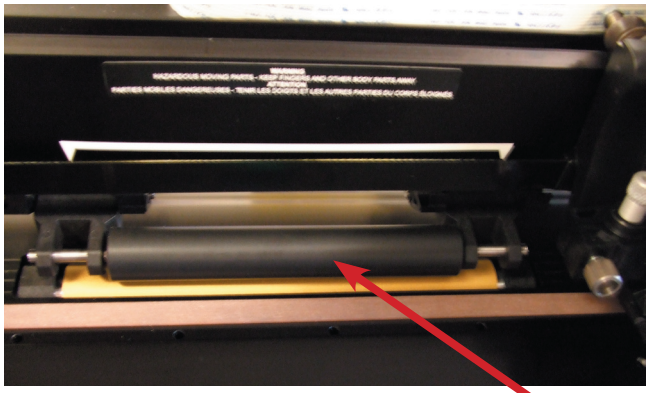
Position pinch roller

⚠ CAUTION Always leave the pinch rollers in the "up" position when the cutter is not in use. Leaving the pinch rollers in the "down" position for a long time will result in a flat spot in the pinch rollers, which will seriously [negatively] affect tracking performance and cutting quality.

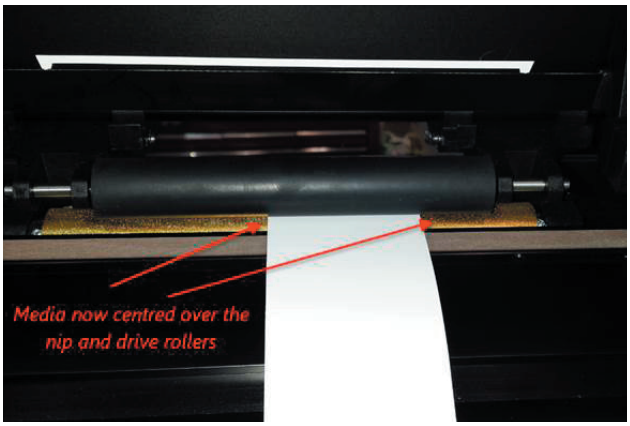
NOTE When the pinch rollers are raised during a job, then the cutter will immediately stop and after a second move the carriage to the right side and the job will be cancelled



Pinch Roller lever



Pinch Roller



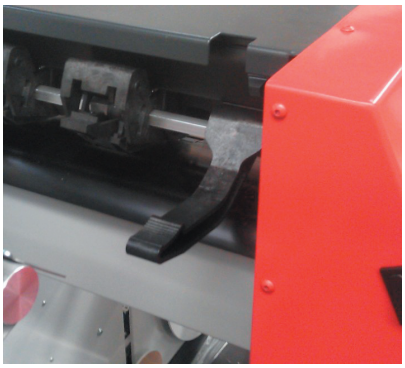
NOTE

When narrow width media is being used some tracking issues can occur, when this happens moving the media to the centre of the cutter could help. Always test any cut design and media width before commencing any production jobs.

If centering the media, use a ruler to correctly align the media throughout the machine, measuring from the chassis back plate.

Minimum media width is 100mm

Loading Media Continued



1. Raise the cutter pinch roller by means of the pinch roller lever arm, which is located on the left-hand side of the cutter, next to the control panel.

2. Start feeding the media from the left hand side of the machine. Pass the media underneath the pinch roller towards the right of the machine.

3. Align the media against the two dancer arm disc plates before lowering the pinch roller lever arm.

4. To allow for the media to move through the machine in the correct alignment, the media should be threaded through the machine from the unwind mandrel, aligned against the mandrel disc plates and attached to the rewind mandrel before starting to cut.

Media position

> **WARNING** KEEP FINGERS AND OTHER BODY PARTS AWAY FROM THE CUTTING AREA. THERE ARE HAZARDOUS MOVING PARTS.

5. Lower the pinch roller lever to press the media firmly against the drive sleeves. After one second the tool carriage automatically moves from the right to the left to sense the movement range of the mahine.

Pinch roller lever

> **NOTE** It is not recommended to unroll the media manually from the roll. The cutter will unroll the media automatically during the load sequence or when the mandrel jog buttons are pressed.

6. Please not that the machine is not designed to cut sheet material.

7. The cutter is now ready.

Media load procedure

CAUTION Do not place any objects in front of, or behind, the cutter that could interfere with cutter operation. Make sure the media is free to move forward and back. Keep hands, hair, clothing and jewelry away from moving parts.

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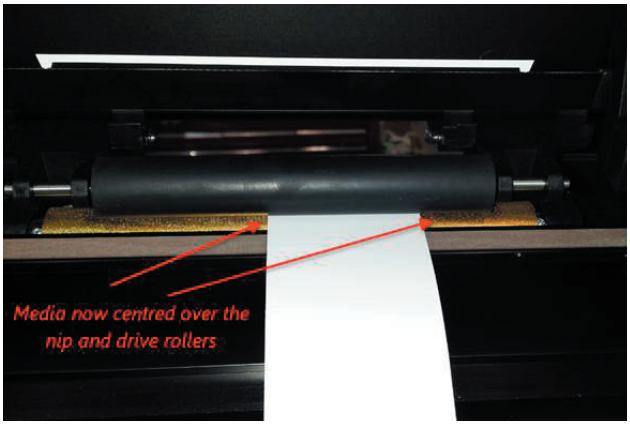
While the cutter is on, it will automatically start executing a minimal loading procedure as soon as the pinch rollers are lowered. The load procedure will also start when the cutter is switched on while media is already in the machine and the pinch rollers are in the “down” position (this is not recommended). Always keep the pinch rollers in the up position while the cutter is not being used. If the machine is not being used for an extended period of time, release the spring tensions on the nip rollers and replace when ready to be used again.

WARNING

Each keystroke can initiate an internal test or movement of head or media.
Keep fingers and other body parts away from the cutting area.
There are hazardous moving parts.



NOTE

When narrow width media is being used some tracking issues can occur, when this happens moving the media to the centre of the cutter could help. Always test any cut design and media width before commencing any production jobs.

If centering the media, use a ruler to correctly align the media throughout the machine, measuring from the chassis back plate.

Minimum media width is 100mm

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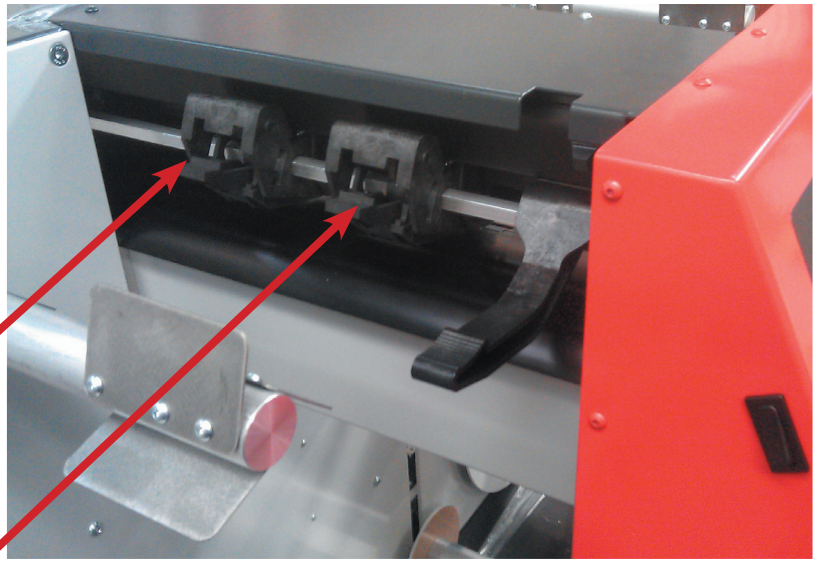
Pinch Roller Errors

“Right/Left Pinch Roller is not set properly above a sleeve”

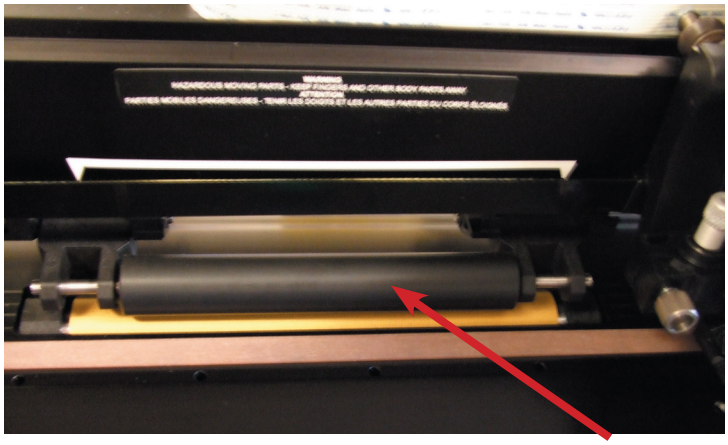
During transportation or movement of the machine one of the pinch rollers must have moved, this is easy to rectify by lifting the pinch roller handle and moving the roller until it fits in the groove and clicks into place, then restart the machine and it should read correctly and the error disappears.

Pinch Roller lever



Right Pinch Roller

Left Pinch Roller



Pinch Roller

If a pinch roller error occurs during the start up sequence that displays “Turn Power Off! Pinch Rollers Not Found” please contact your local dealer for advice.

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Changing Origin

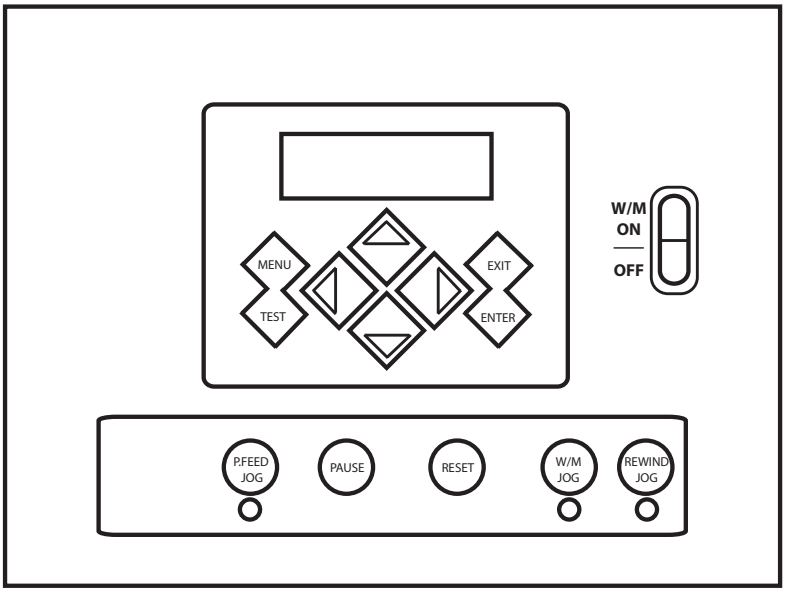
Changing the origin of the cutting head allows the user to position the cutting blade over the registration marks or perform head offsets as outlined later in this manual.

1. Press ◁ and ▷ to change the media origin.
   The media will move forward and back through the machine to the new origin, values will appear on the LCD. The X value is the distance from the original origin.

2. Press △ and ▽ to change the cutting head origin.
   The cutting head will move from side to side across the cutting plane of the machine, values will appear on the LCD. The Y value is the distance from the original origin.

3. Press ENTER if the desired origin is reached.
   The cutter comes online and is ready to receive data from the computer.

4. Or press EXIT to cancel.
   The cutter will move to its original origin and come online.



WARNING If the change of origin is not saved the machine will return the media to the original point of origin at a fast speed.

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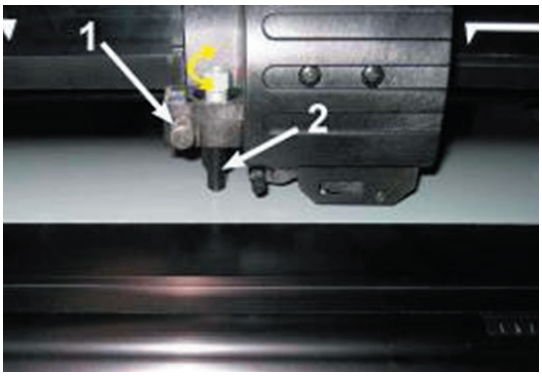
Knife installation

WARNING The Summa Cut cutters use razor-sharp knives. To avoid serious injury, use caution when installing, removing or otherwise handling the knife!

For safety reasons, the knife depth has been set to zero. Simply turn out the knife (see fig 1-22 yellow arrow clockwise) to start cutting. Below is the complete description of the knife removal and knife installation.

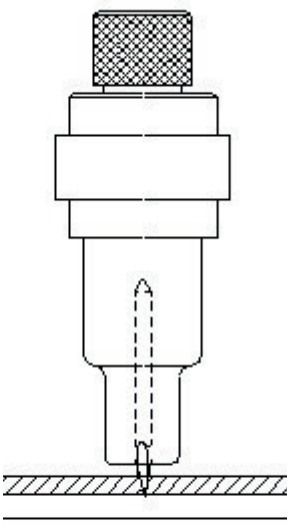
Removing the drag knife



1. Loosen the head clamp screw (1), remove the knife holder from the clamp (2).
2. Turn the knurled adjustment knob (3) clockwise to push the knife (4) out of the holder (5).
3. Carefully pull the knife from the holder.

Installing the drag knife

1. Remove the aluminum plunger from the plastic knife holder (5) by turning the knurled adjustment knob (3) counterclockwise until the plunger comes out of the holder.
2. Insert the conical, non-cutting end of the knife into the opening in the narrow end of the holder; gently push the knife all the way in.
3. Turn the holder upside down and tap it lightly on a solid surface to ensure that the knife is completely inserted.
4. Slowly turn the knurled knob clockwise until the tip of the blade extends the distance required for the desired cutting media as shown in diagram to the right.
5. Insert the knife holder into the head clamp and push it all the way down.
6. Tighten the clamp screw.



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Pen installation

The LF700+ cutters can also be operated with a plotter-type pen. After replacing the knife with a pen, the cutter can be used as a plotter to draw draft plots of new or existing designs on paper.

1. Loosen the head clamp screw, and then remove the tool from the clamp.
2. Install the pen in the clamp and tighten the clamp screw.
3. The change of tool can either be input on the control panel or with Summa Cutter Control (PC only), or with the cutting software. Selecting pen operation disables the knife offset correction, and changes the pressure to “pen pressure.”

NOTE The information on the LCD shows the tool currently selected by the cutter. Make sure the cutter’s tool setting matches the actual tool in use.

OPOS Automatic Rise and Fall

The OPOS registration system is designed to rise and lower automatically during the registration and cutting processes, this helps the user to keep the sensor clean to allow perfect registration and cutting throughout production.

NOTE The user will still need to check that the sensor is in its lower position to aid this operation.

This setting can be toggled on or off in case the user needs to maximise production speeds, as this function adds around 1 second to every re-registering process.

To turn on or off, select the MENU key and locate the OPOS Up and Down setting by pressing , select the required setting by pressing the ENTER key.

NOTE Some early model machines may not have this function enabled, please contact your local dealer for details.

Maintenance on the OPOS still needs to be carried out to maintain cut accuracy.

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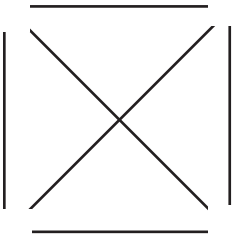
Setting knife depth and pressure

(Media must be loaded in the cutter before knife pressure can be tested).

WARNING Each keystroke can initiate an internal test or movement of head or media. Keep fingers and other body parts away from the cutting area. There are hazardous moving parts.

1. Press MENU three times. Knife Pressure will appear on the LCD.
2. Press ENTER. Current knife pressure will appear on the LCD.
3. Press ◁ or ▷ to change the knife pressure. The value will change
    1. Press TEST to perform the internal knife pressure test.
    2. Press ENTER to confirm the chosen knife pressure.
    3. Press EXIT to leave the pressure unchanged.

KNIFE PRESSURE TEST PATTERN



Once TEST is pressed, the current knife pressure value will be set automatically to the new value and the cutter will cut the knife pressure test pattern.

Peel out the rectangle and inspect the media backing.

The knife pressure is set correctly when the test pattern cuts through the substrate completely, the substrate is removed and the blade tip visibly scratched the front side of the media backing. The blade should never cut through the backing; just leaving a light impression of the cut pattern on the liner.

Because the knife pressure setting depends on the thickness and type of media to be cut, adjusting knife pressure will require a little practice. In general, the knife depth must be increased when using thicker types of self adhesive substrates and decreased when using thinner types of media.
Adding lamination to the material will also require an increase in knife pressure.

4. Press EXIT twice to leave the knife pressure menu.

CAUTION After setting the cutting depth and/or the knife pressure, perform a thorough visual check of the knife blade, which can be seen protruding from the knife holder, and test cutting results on a roll of scrap media.

WARNING Do not operate the cutter if the knife blade cuts through the media backing, as this will seriously damage the cutter's rubber cutting strip and the knife.

CAUTION To prevent damage to the cutter, check the depth of the knife blade tip and the quality of the cut each time you load a different type of media into the cutter.

NOTE As the knife ware increases then the knife pressure will have to be increased to maintain correct cutting

Section 6

Label Design and Cut lines

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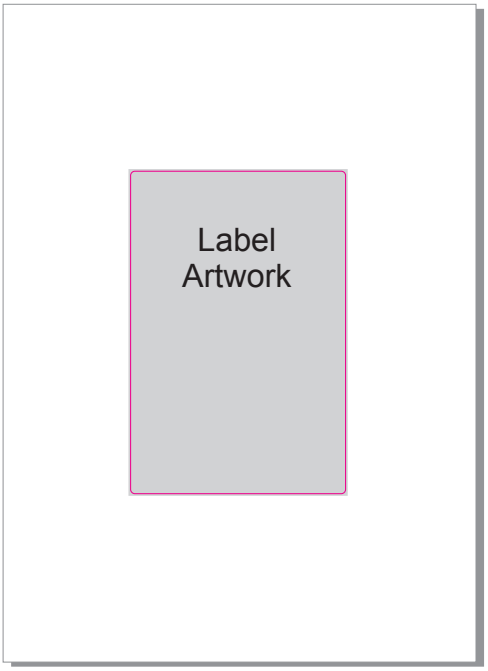
Creating a cut line graphic using Coral Draw

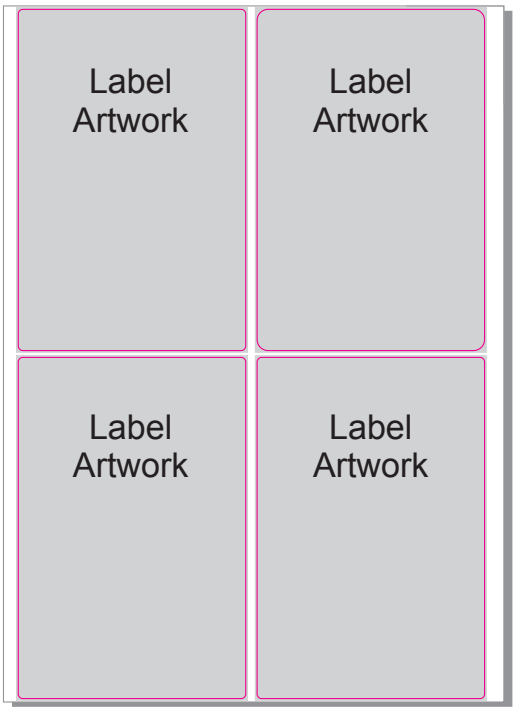
Create The Label

The following steps show the best procedure used to produce cut data with OPOS reg marks for your label artwork.

The first step is to create a document for your label artwork to be placed on to. The maximum label size you can cut is 205mm x 307.8mm, this is 12" (304.8) plus 3mm for the gap to the next label in height.

If you are using smaller labels then this, to be efficient it is best to fill the area with as many of your chosen size labels as possible. Bare in mind the orientation of the label whether it's narrow or wide edge leading.
In the figure below the label is a grey rectangle with black text and is narrow edge leading. It has be made with a 1mm bleed with a cut line in magenta measuring 100x150mm.



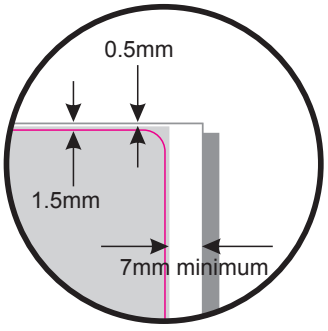


Position The Labels

Once you're happy with the label artwork and cut line it can be copied to make a matrix of labels for maximum use of your media. (see left) Remember that it is the space between the cut line data that makes the label pitch and not the space between the over bleed artwork.

The document height will need to be made to the sum of a vertical row of your labels, in this example the label height is 150mm, the label pitch is 3mm =153mm and because there are two labels we need to times it by two making 306mm in total. So it is: **label height + pitch x number of labels = document page size**.

Your labels will now need to be positioned no less then 8mm from the right hand edge of the document, this area of 8mm needs to be left clear of all cut and print data for the printed registration mark, (failure to keep this clear will cause misalignment of the cut / print data). The labels also need to be positioned with an equal space top and bottom, in our example it is 1.5mm from the cut line (half the label pitch) and 0.5mm from the 1mm print bleed.



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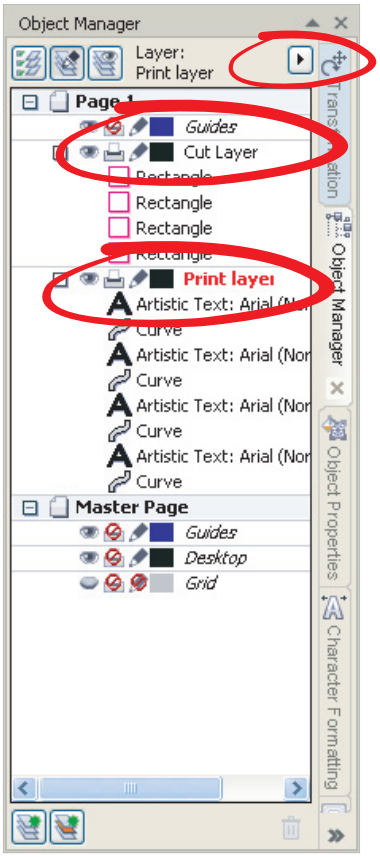
Creating Print and Cut layers

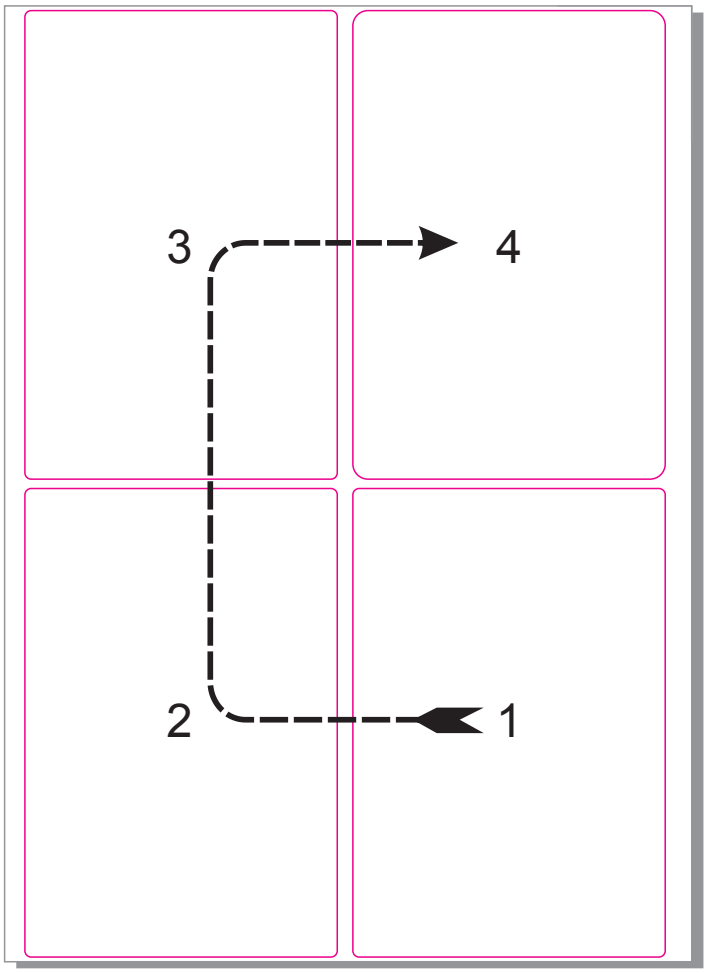
Now that the labels are arranged and positioned correctly we are ready to move the cut data onto a new layer, this is so that print and cut data can be sent to ether a printer or the LF700+ Label Cutter from this same file ensuring registration is maintained. In the fig opposite shows the 'Object Manager' with all the cut data in the 'Cut' layer and all the print data in the 'Print' layer. To create a new layer Click on the button in the top left corner of the 'Object Manager' and select 'New Layer'.



Clicking on this button enables you to create a new layer.

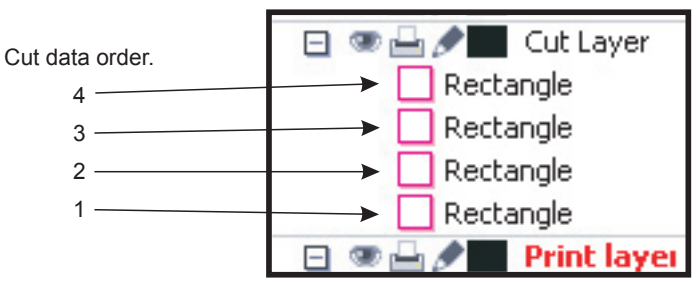
Cut Layer

Print Layer



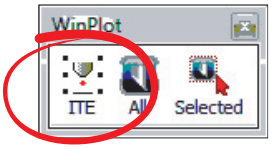
Label Cut Order

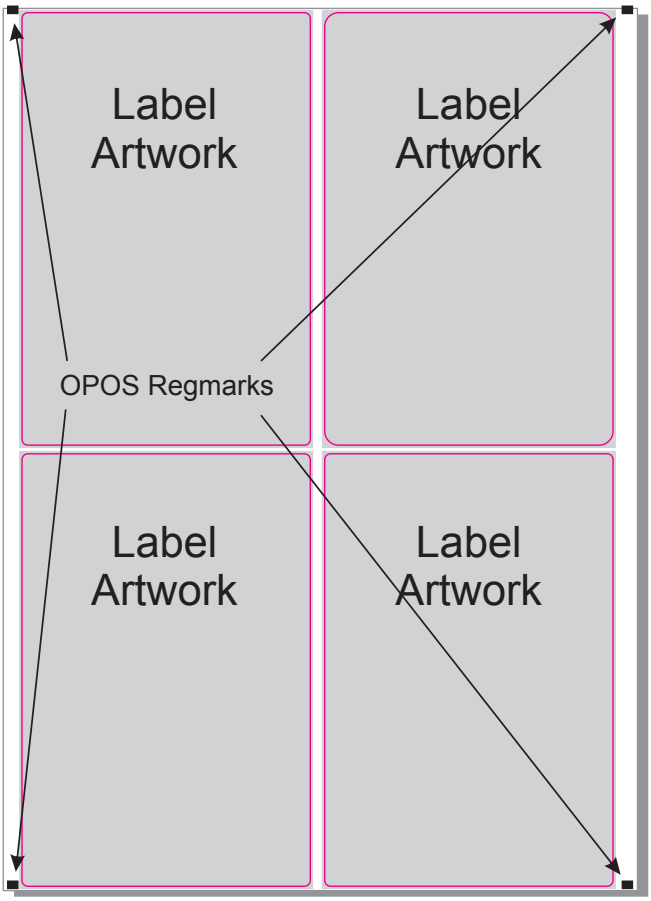
Setting the order of the cut profile is very important for the speed and efficiency of the LF700+. As the cutter starts its cutting from it's origin point in the bottom right hand corner of the document it makes logical sense to order the first cut outline closest to this location. In the figure on the left you will see the best order for cutting our example, always working across the web before moving up to the next row of labels then cutting in the opposite direction. If there are more rows of labels then in our example then continue zig zagging on the next row and so on. Reordering the cut profiles is done by dragging and dropping the objects in the 'Object Manager'.



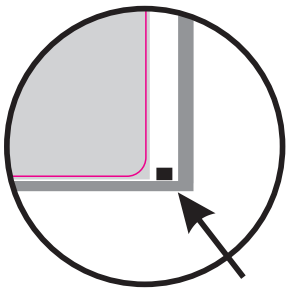
Adding OPOS Marks

Now that the labels are arranged and positioned and ordered correctly we are now ready to add the OPOS reg marks. These marks are added to each corner of the over all design and will be created on a new layer within the design called 'Reg mark' automatically when the' ITE' button on the WinPlot plug-in is clicked (see right).

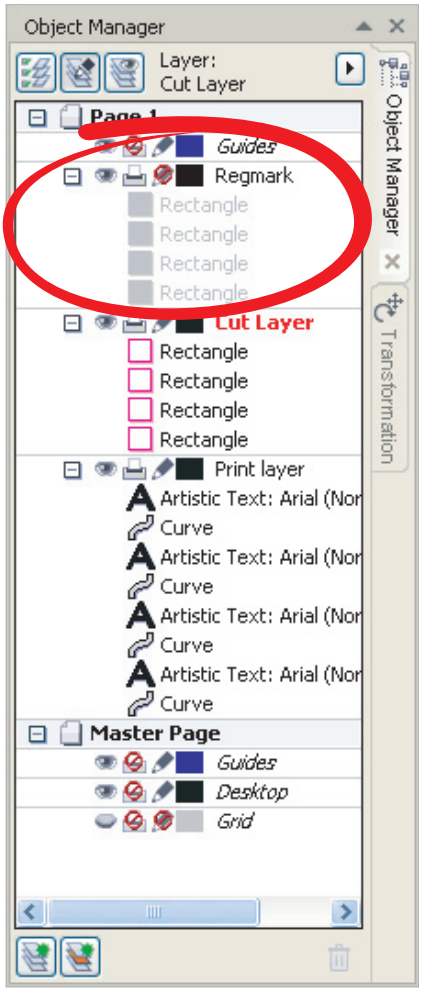




On the right the figure shows the OPOS marks at the corners of the labels, if you have set the labels in the correct location as described previously then the mark in the bottom right corner should sit within the 7mm minimum gutter and the bottom of the document. Any of the other OPOS marks may sit outside of the document area without affecting the cut process.



Correctly positioned bottom right OPOS mark.

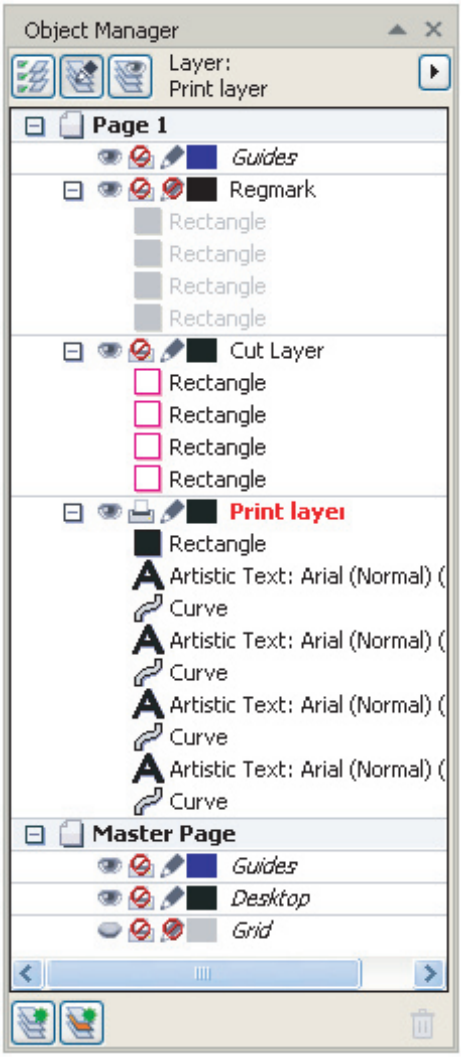


In the Fig. on the right, highlighted is the automatically created 'Reg mark' and 'Printed Reg mark' layer. Both of these marks share the same location exactly.

NOTE To make the cutting process easier, it is advised that the cut line data is created in a different colour to the rest of the label graphic.

Selecting the Layers for Printing.

Now that all the data is set correctly the relevant layers need to be selected to send to the printer. On the right you will see the layer that need to be 'Printable' and those that don't.



Printer Reg mark layer: Printable

Reg mark layer: None-printable.

Cut layer: None-printable.

Printable layers: Printable.

The design is ready to send to the printer.

Selecting the Layers for Sending to the LF700+.

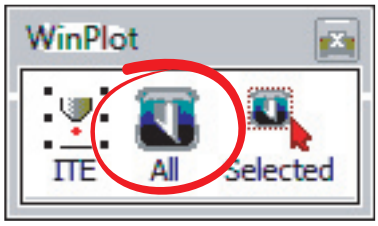
Now that all the data is set correctly the relevant layers need to be selected to send to the printer. On the right you will see the layer that need to be 'Printable' and those that don't.

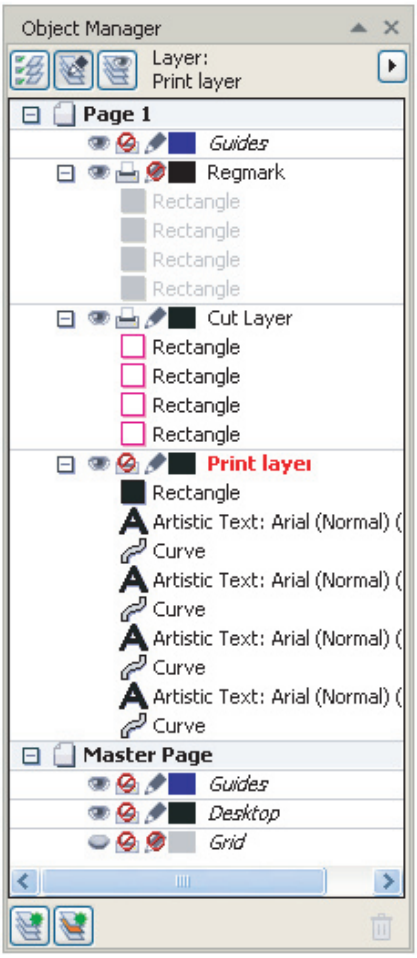
Reg mark layer: Printable.

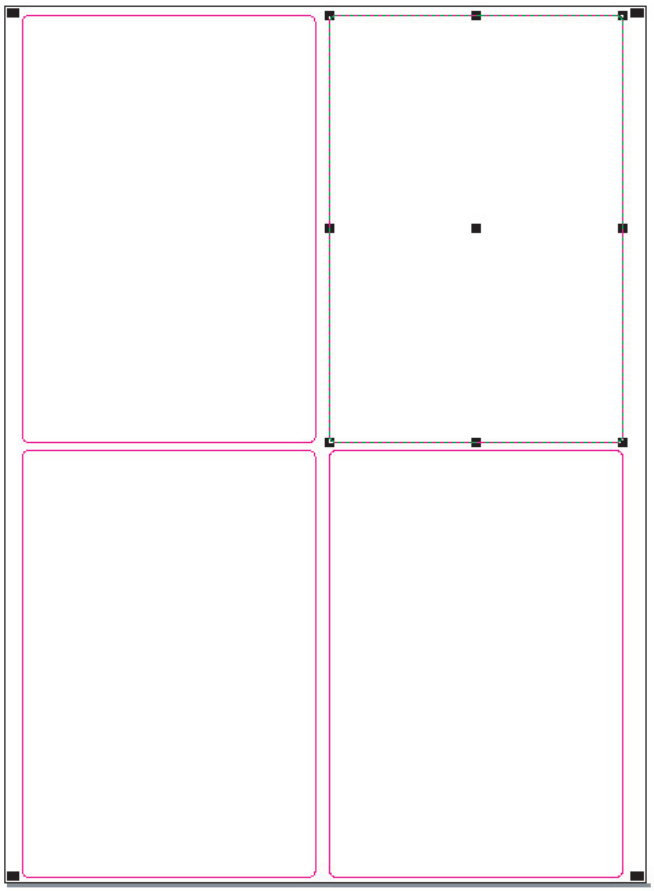
Cut layer: Printable.

Printable layers: None-printable.

The design is ready to send to WinPlot, do this by clicking on the 'All' icon on the WinPlot plug-in and WinPlot will automatically start.





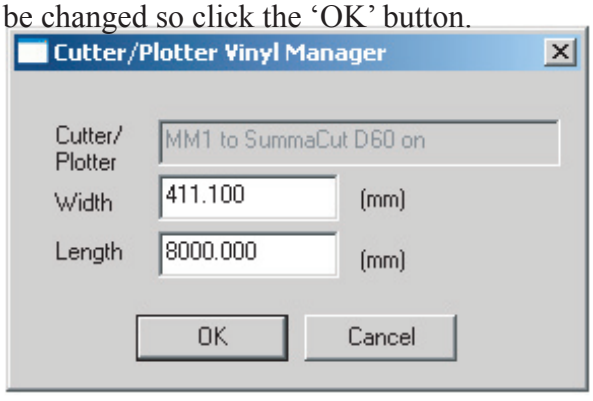


Sending Cut Data from WinPlot to the LF700+.

WinPlot will display the label cut profiles with the OPOS reg marks at the corner. To send just the cut profiles to the LF700+ they need to be a different colour to the OPOS marks, if you forget to do this at the design stage then simply select all the cut profiles and change them to different colour from colour palette on the top menu bar.

Select any one of your profiles, then click on the 'Send to OPOS Cutter' icon on the top menu bar.

The following box will appear, no settings need to be changed so click the 'OK' button.



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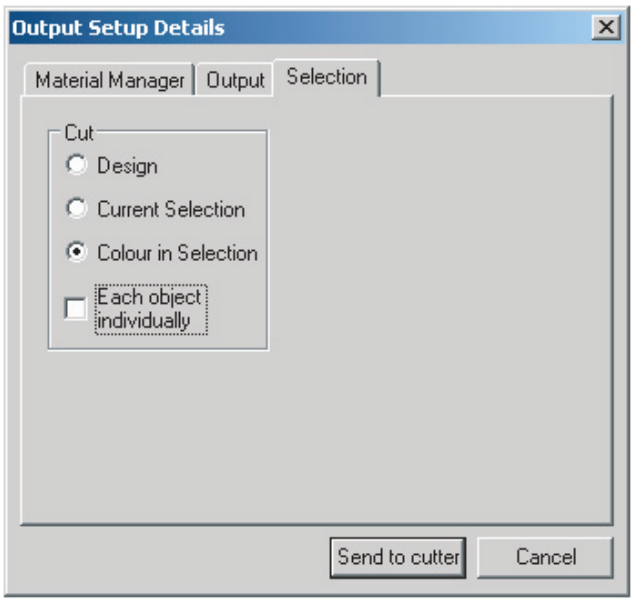
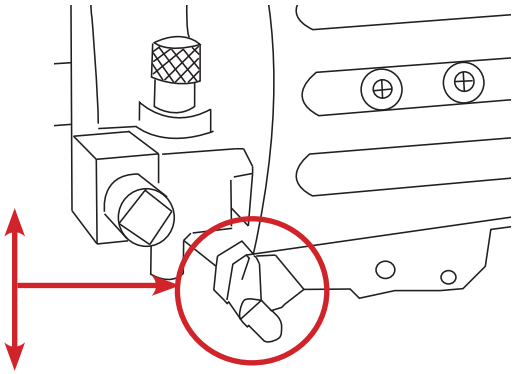
Next you will see the 'Output Setup Details' dialogue box, on the 'Selection' tab change to 'Colour in Selection' so that the cutter will cut out all the shapes that are the same colour as the one you selected earlier. Click on 'Send to Cutter' and the cut data will be sent to the LF700+.



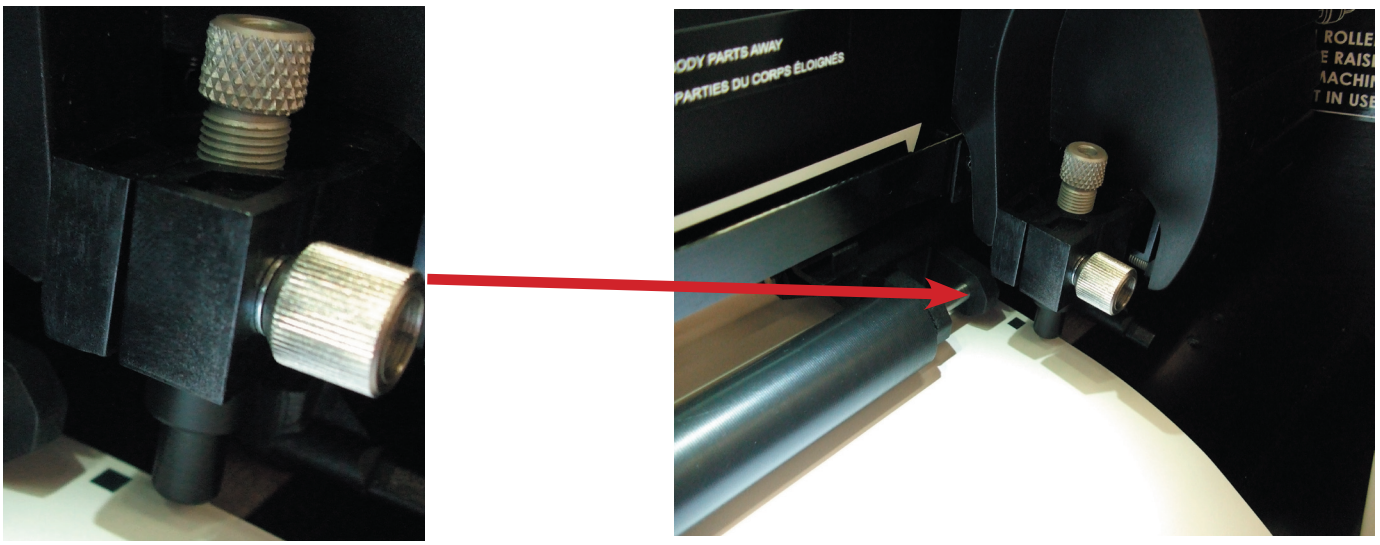
NOTE

Before cutting make sure you note the following:

It is important to note that the OPOS sensor has two positions, up and down. The machine will only cut correctly if the sensor is in the down position. To place the sensor in the down position simply push the sensor down with your finger until it sits just above the media or until the sensor can no longer move any lower. If OPOS automatic up and down is set to 'On' the sensor will move up and down automatically.



The machine will now prompt you to align the tool over the registration mark, at this stage use the directional buttons to align the knife over the registration mark, once this has been achieved it is important to retract the media approximately 10mm (1cm) behind the knife, this will allow the sensor to run onto the registration mark to begin cutting. Press the ENTER enter key to start cutting.



Always retract the media 10mm after aligning the knife to the registration mark before cutting begins.

Creating a cut line graphic using Illustrator

Create The Label

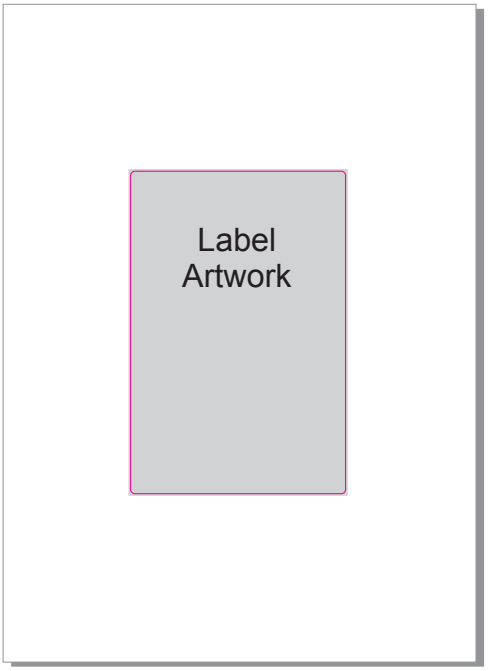
The following steps show the best procedure used to produce cut data with OPOS reg marks for your label artwork.

The first step is to create a document for your label artwork to be placed on to.

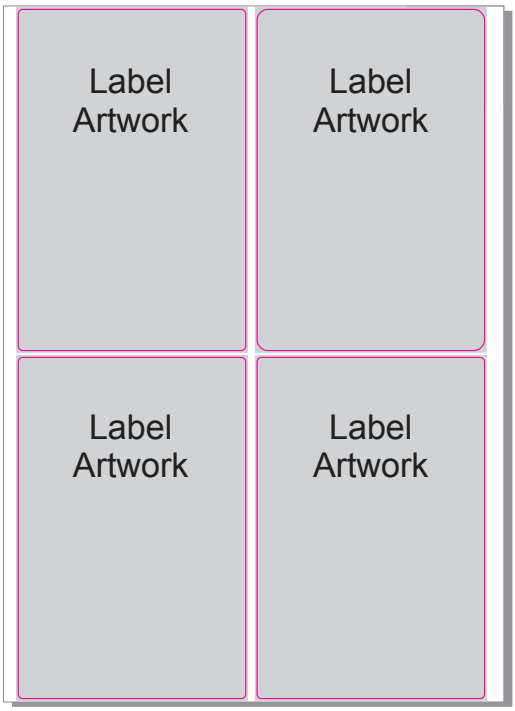
The maximum label size you can cut is 205mm x 307.8mm, this is 12" (304.8) plus 3mm for the gap to the next label in height.

If you are using smaller labels then this, to be efficient it is best to fill the area with as many of your chosen size labels as possible.

Bare in mind the orientation of the label whether it's narrow or wide edge leading. In the figure below the label is a grey rectangle with black text and is narrow edge leading. It has been made with a 1mm bleed with a cut line in magenta measuring 100x150mm.



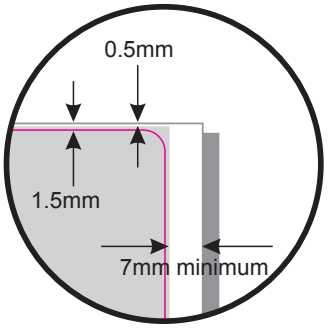
Position The Labels



Once you're happy with the label artwork and cut line it can be copied to make a matrix of labels for maximum use of your media. (see left) Remember that it is the space between the cut line data that makes the label pitch and not the space between the over bleed artwork.

The document height will need to be made to the sum of a vertical row of your labels, in this example the label height is 150mm, the label pitch is 3mm =153mm and because there are two labels we need to times it by two making 306mm in total. So it is: **label height + pitch x number of labels = document page size**.

Your labels will now need to be positioned no less then 7mm from the right hand edge of the document, this area of 7mm needs to be left clear of all cut and print data for the printed registration mark, (failure to keep this clear will cause misalignment of the cut / print data). The labels also need to be positioned with an equal space top and bottom, in our example it is 1.5mm from the cut line (half the label pitch) and 0.5mm from the 1mm print bleed.



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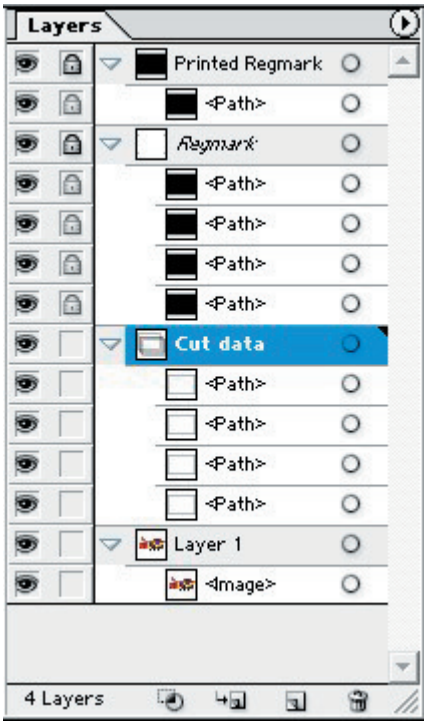
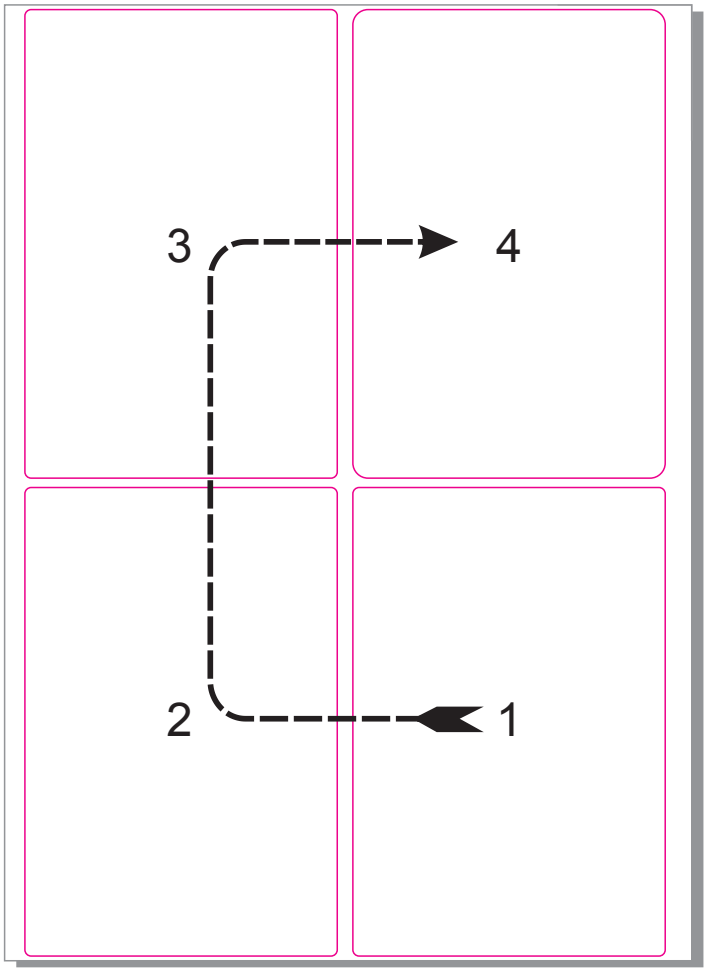
Creating Print and Cut layers

Now that the labels are arranged and positioned correctly we are ready to move the cut data onto a new layer, this is so that print and cut data can be sent to either a printer or the LF700+ Label Cutter from this same file ensuring registration is maintained.

The figure opposite shows the 'Layers tab' with all the cut data in the 'Cut' layer and all the print data in the 'Print' layer. To create a new layer Click on the button in the bottom right corner of the 'layers tab' and select 'New Layer'.

Now move the cut data to this layer and rename the layer



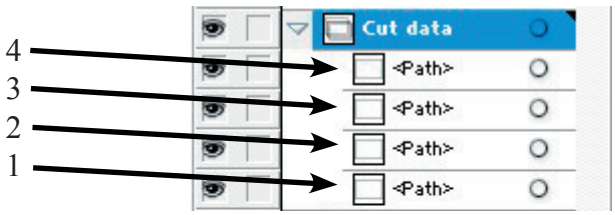


Label Cut Order

Setting the order of the cut profile is very important for the speed and efficiency of the LF700+. As the cutter starts its cutting from it's origin point in the bottom right hand corner of the document it makes logical sense to order the first cut outline closest to this location. In the fig. on the left you will see the best order for cutting our example, always working across the web before moving up to the next row of labels then cutting in the opposite direction. If there are more rows of labels then in our example then continue zig zagging on the next row and so on.

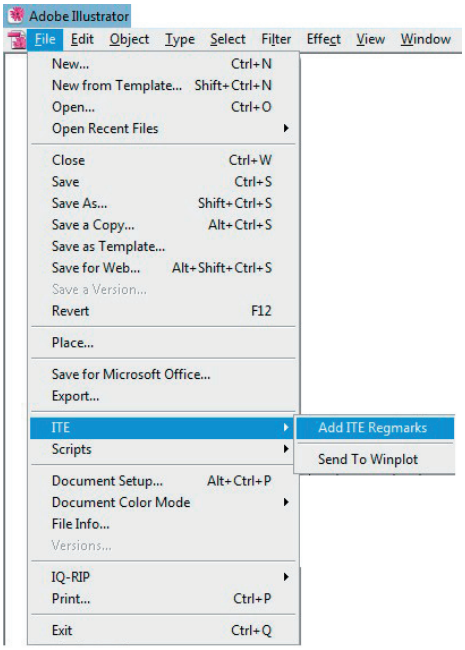
Reordering the cut profiles is done by dragging and dropping the objects in the 'layers tab'.

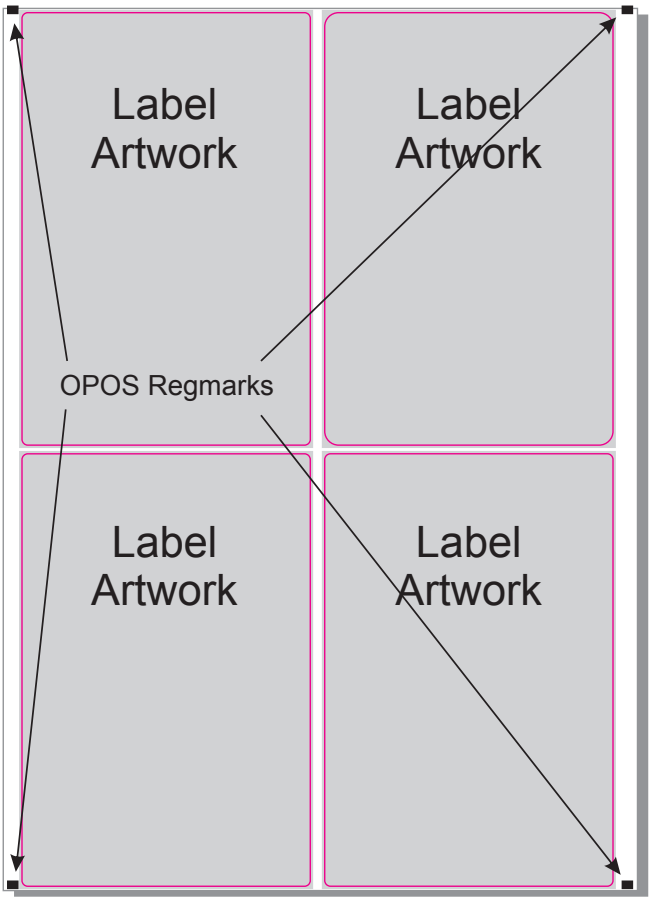
Cut data order



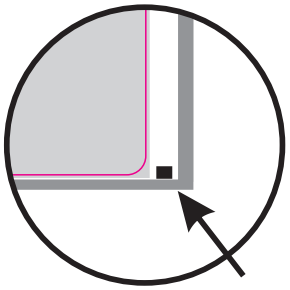
Adding OPOS Marks

Now that the labels are arranged and positioned and ordered correctly we are now ready to add the OPOS registration marks. These marks are added to each corner of the overall design and will be created on a new layer within the design called 'Reg mark' this happens automatically when the' Add ITE Registration marks'button on the Summa plug-in is clicked (see below).

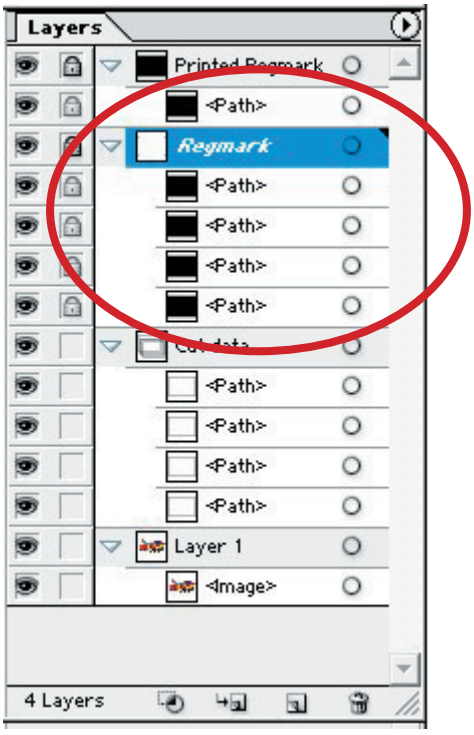




On the right the Fig. shows the OPOS marks at the corners of the labels, if you have set the labels in the correct location as described previously then the mark in the bottom right corner should sit within the 7mm minimum gutter at the bottom of the document. Any of the other OPOS marks may sit outside of the document area without affecting the cut process. The software should automatically place the marks in the correct position, if they fall outside of the page, you can manually move the reg marks to the correct position.



Correctly positioned bottom right OPOS mark.

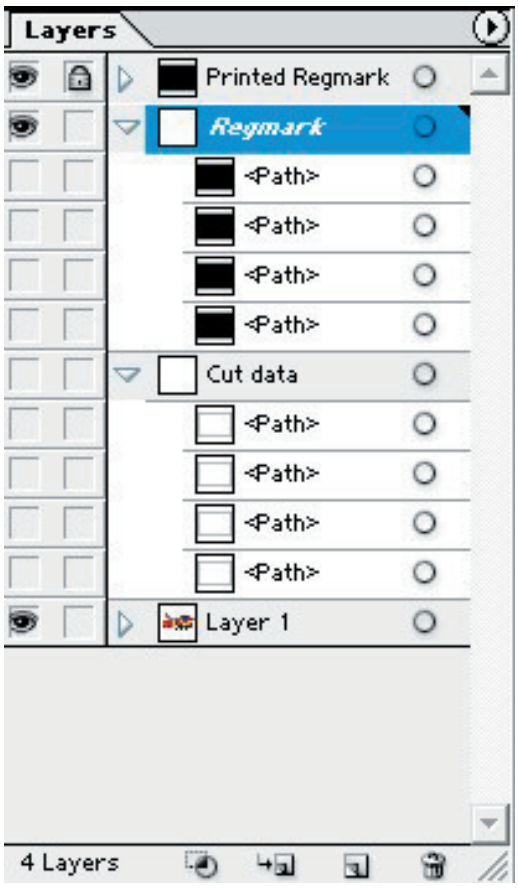


In the Fig. on the right, highlighted is the automatically created 'Reg mark' layer.

NOTE To make the cutting process easier, it is advised that the cut line data is created in a different colour to the rest of the label graphic.

Selecting the Layers for Printing.

Now that all the data is set correctly the relevant layers need to be selected to send to the printer. On the left you will see the layer that need to be ‘Printable’ and those that don’t.



Reg mark layer: None-printable.

Cut layer: None-printable.

Printable layers: Printable.

The design is ready to send to the printer.

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Selecting the Layers for Sending to the LF700+.

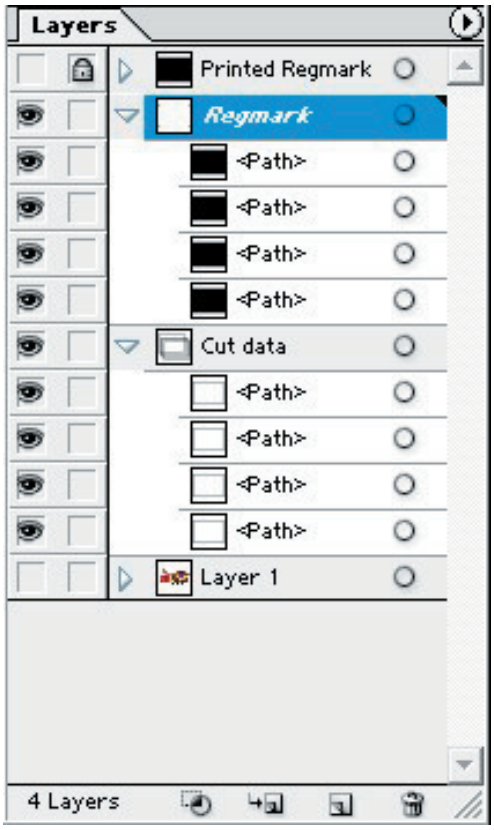
Now that all the data is set correctly the relevant layers need to be selected to send to the printer. On the right you will see the layer that need to be 'Printable' and those that don't.

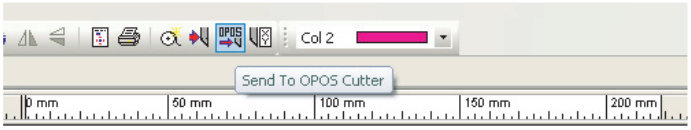
Reg mark layer: Printable.

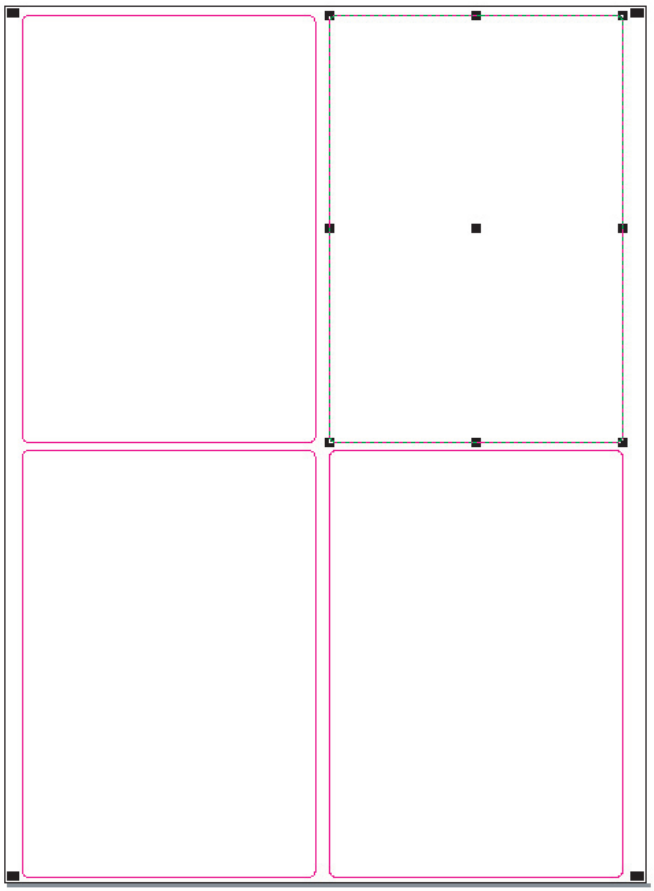
Cut layer: Printable.

Printable layers: None-printable.

The design is ready to send to WinPlot, do this by clicking on the ITE tab under the file bar and selecting 'Send to WinPlot'





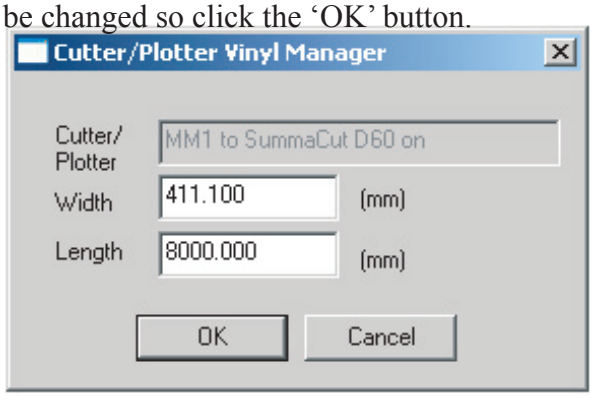


Sending Cut Data from WinPlot to the LF700+.

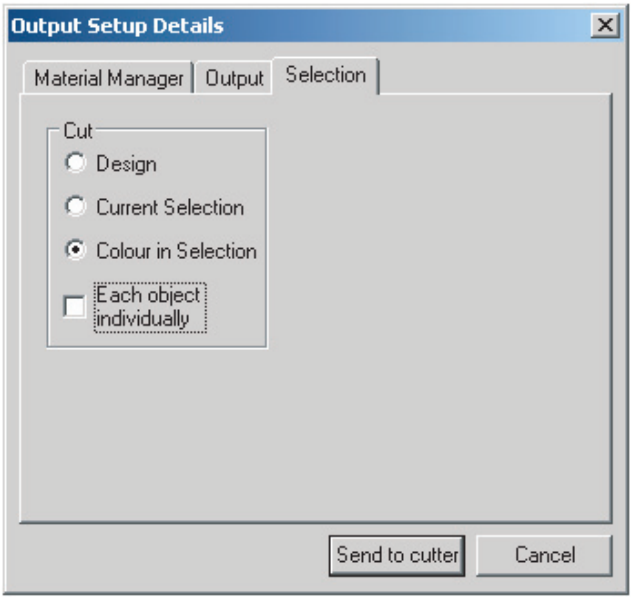
WinPlot will display the label cut profiles with the OPOS reg marks at the corner. To send just the cut profiles to the LF700+ they need to be a different colour to the OPOS marks, if you forget to do this at the design stage then simply select all the cut profiles and change them to different colour from colour palette on the top menu bar.

Select any one of your profiles, then click on the 'Send to OPOS Cutter' icon on the top menu bar.

The following box will appear, no settings need to be changed so click the 'OK' button.



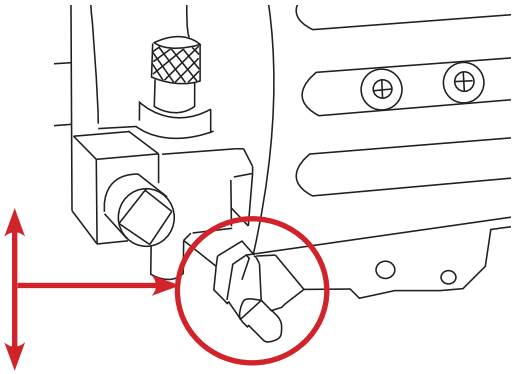
Next you will see the 'Output Setup Details' dialogue box, on the 'Selection' tab change to 'Colour in Selection' so that the cutter will cut out all the shapes that are the same colour as the one you selected earlier. Click on 'Send to Cutter' and the cut data will be sent to the LF700+.



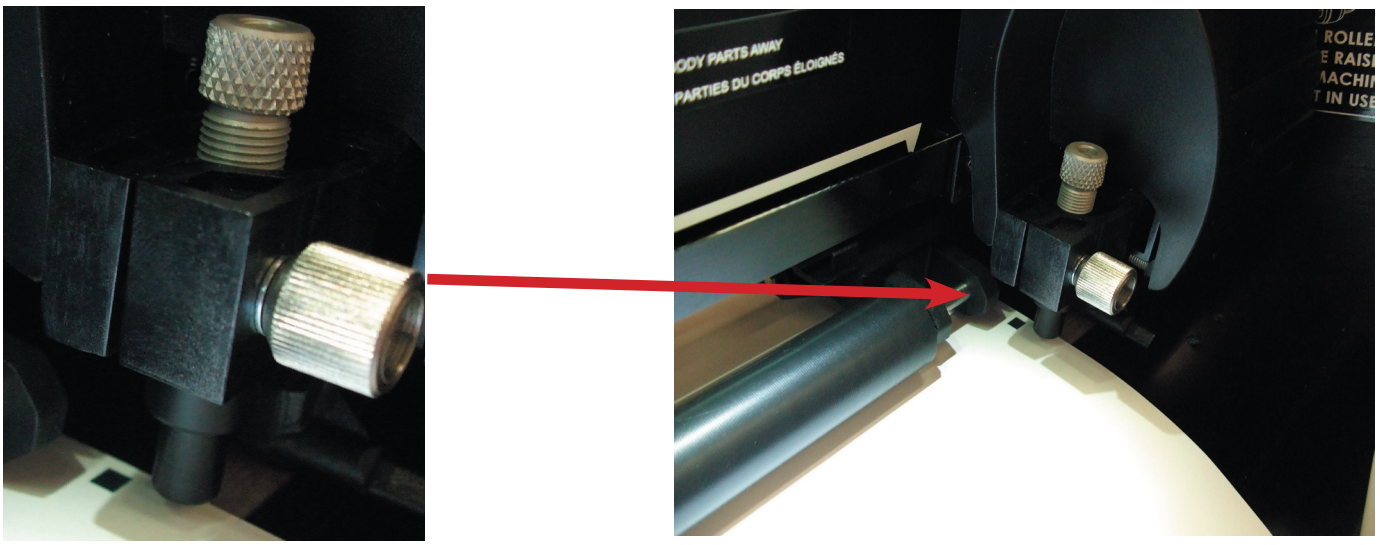
NOTE

Before cutting make sure you note the following:

It is important to note that the OPOS sensor has two positions, up and down. The machine will only cut correctly if the sensor is in the down position. To place the sensor in the down position simply push the sensor down with your finger until it sits just above the media or until the sensor can no longer move any lower. If OPOS automatic up and down is set to 'On' the sensor will move up and down automatically.



The machine will now prompt you to align the tool over the registration mark, at this stage use the directional buttons to align the knife over the registration mark, once this has been achieved it is important to retract the media approximately 10mm (1cm) behind the knife, this will allow the sensor to run onto the registration mark to begin cutting. Press the ENTER enter key to start cutting.



Always retract the media 10mm after aligning the knife to the registration mark before cutting begins.

Section 7

Job Settings

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• Cancelling a job	62
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Setting up a page counter

There is only one way to setup a page counter on the machine, setting a page count enables you to cut a set amount of label pages and no more.

Method:

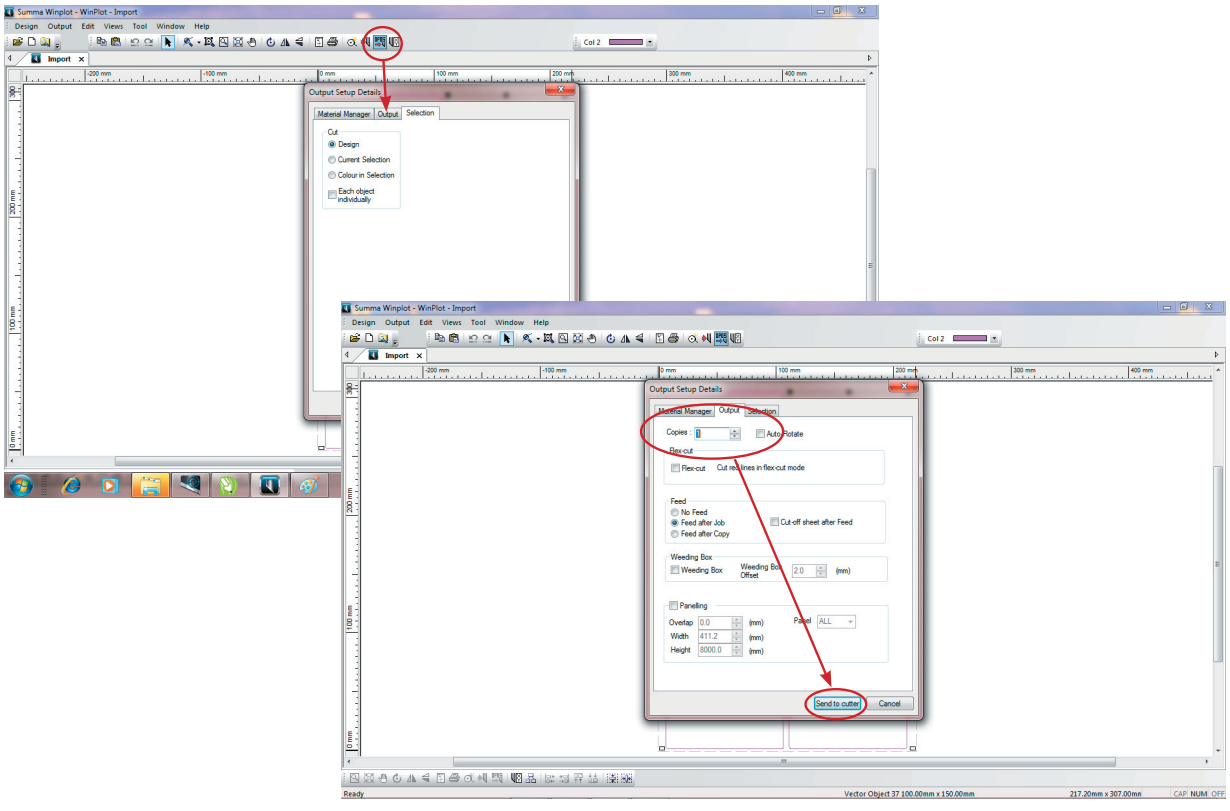
Before a job is sent to the cutter, the machine can be setup to cut a certain amount of pages by simply scrolling through the on screen menu system and setting the required number. By using this method you will be changing the default page counter, this will remain the same until changed again by the user or the machine is powered off.

Press the MENU key and using the up or down arrows scroll until 'Page Counter' appears on the screen, then set the amount of pages by pressing ENTER and using the up or down arrows to scroll to the desired setting, press ENTER to confirm.

NOTE Note that the page counter relates to an actual page not the amount of labels, a page is defined as the data in between the registration marks

NOTE

Whilst sending the cut data from WinPlot to the cutter, there is an option to change the page count, this method is not currently active, any selection of copies will be ignored by the cutter.
For correct page counting please use the method outlined above.



Changing drag knife offset

A very important parameter for a drag knife is the offset. The offset is the distance between the knife center and the knife tip.

Knife offset should be set each time the knife is changed and should be checked if the knife shows signs of wear.

Typical knife offset for LF700+ knives is between 0.41 and 0.45 for standard knives.

Changing knife offset:

1. Power on the cutter, load media, and mount tool (see section 1).

2. Press MENU 'Velocity' will appear on the LCD.

3. Use ◇ or ◇ to scroll through the menu until 'knife offset' is reached, press ENTER Current offset will appear on the LCD.

4. Press ◇ or ◇ to change the knife offset.

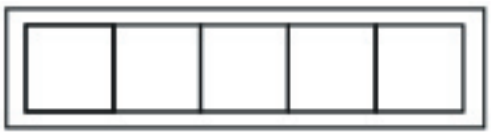
The value will change

1. Press TEST to perform the internal knife offset test.

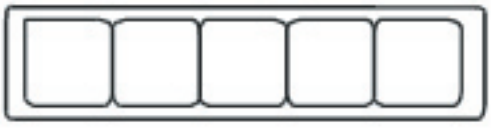
2. Press ENTER to confirm the chosen knife offset.

3. Press EXIT to leave the offset unchanged.

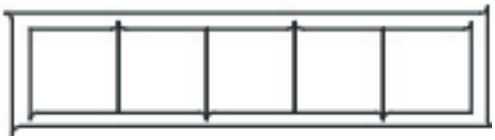
When the knife offset is set correctly, the test pattern looks like this:



When the knife offset is too low, the test pattern looks like this:



When the knife offset is too high, the test pattern looks like this:



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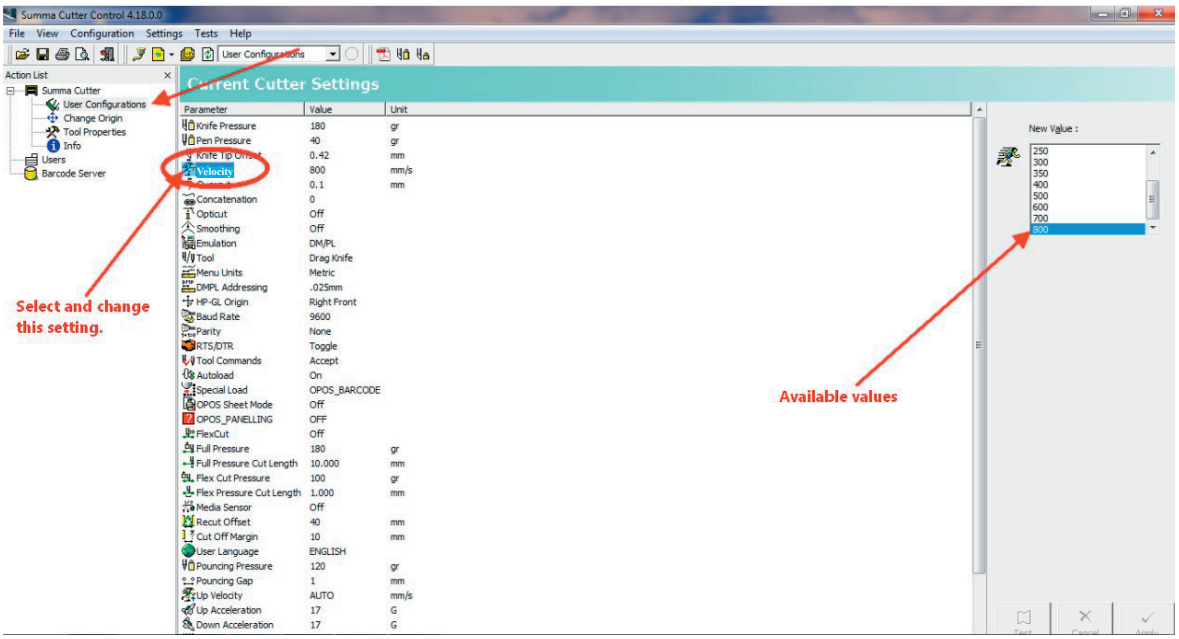
Cutting Speed

When using complex cut lines the machine may need to be slowed down to achieve perfect cutting and slitting. The following changes should be made and the design tested before any production jobs take place. Cutter control can only be accessed when no jobs are running or the machine is paused.

Velocity

Changing the velocity can be achieved using the method outlined below, any changes to this setting will kept as a default and the user will need to revert back to the original settings afterwards if required.

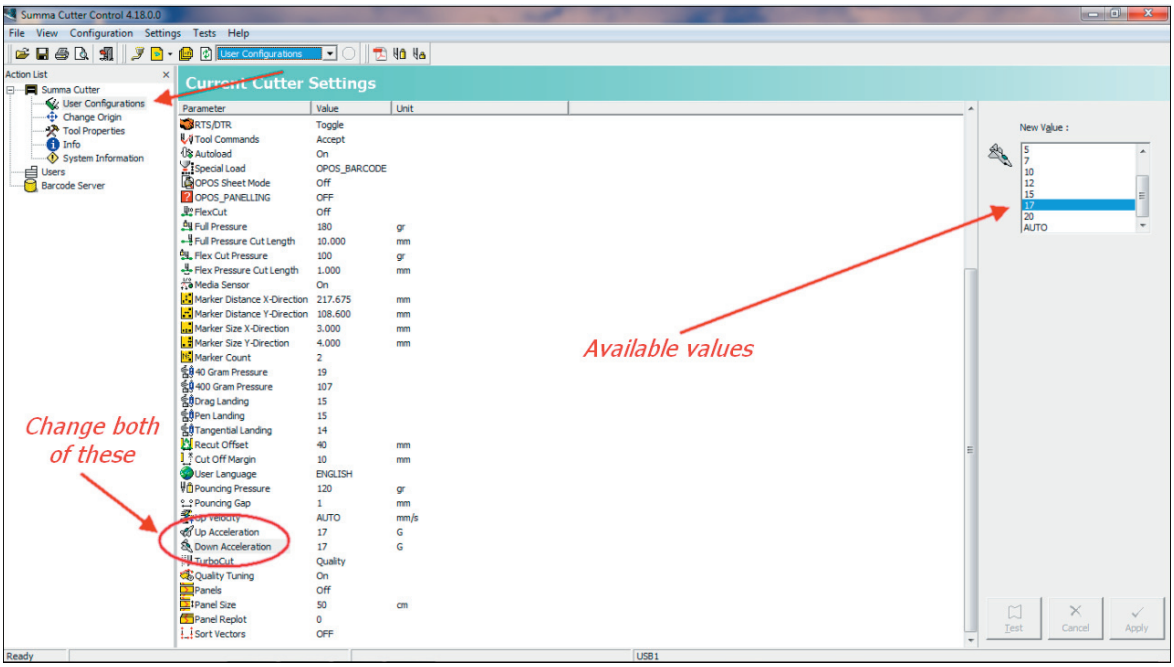


A typical value that allows for complex cutting accuracy and speed is 600 mm/s.

Acceleration

Changing the acceleration can be achieved using the method outlined below, any changes to this setting will kept as a default and the user will need to revert back to the original settings afterwards if required.

In cutter control select the user configuration and navigate to the acceleration settings, once selected the changeable values are available on the right of the screen. Both of these acceleration settings need to be set to the same value. The default setting is ‘15’ as set by the manufactures.



A typical value that allows for complex cutting accuracy and speed is 15 G.

Cancelling a job

To cancel a running job simply press the exit

button twice, this will return the cutting head to the home position and remove the job from the spooler.

When this procedure has been undertaken and a new job or current job is sent to the cutter, the alignment of the OPOS sensor will need to be done to register the design.

OPOS Automatic Rise and Fall

The OPOS registration system is designed to rise and lower automatically during the registration and cutting processes, this helps the user to keep the sensor clean to allow perfect registration and cutting throughout production.

NOTE The user will still need to check that the sensor is in its lower position to aid this operation.

This setting can be toggled on or off in case the user needs to maximise production speeds, as this function adds around 1 second to every re-registering process.

To turn on or off, select the

key and locate the OPOS Up and Down setting by pressing , select the required setting by pressing the

key.

NOTE Some early model machines may not have this function enabled, please contact your local dealer for details.

Hints and Tips

• Change the waste matrix core at the same time as the rewound finished media, this will allow for correct waste removal. Always ensure that the cores are same thickness and diameter.

• Give your self around 1.5 metres of leader and tail on the ends of your printed job to allow for threading your machine and job completion.

• Your waste matrix should have a minimum of a 4mm of border to allow for successful removal of the waste, any smaller and the matrix is liable to snap.

• Always print and cut more labels than your job requires.

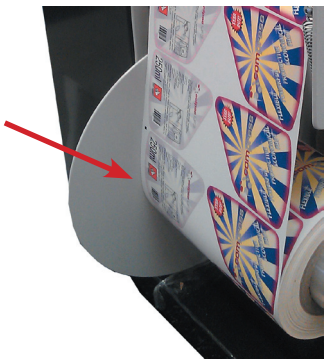
• Your media should always run parallel through the machine, use the mandrel discs as you zero position.

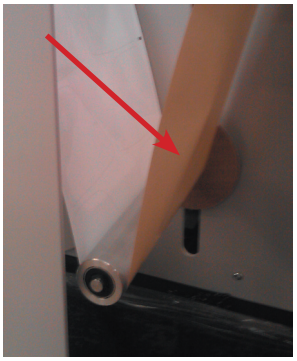
• Always leave the lamination nip roller, media feed roller latched up and cutter pinch roller when not using the machine. If the rollers are left in the same place for any extended periods of time the rollers could become flat.

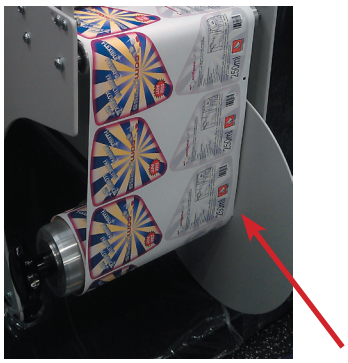
• The use of dimensionally stable media is an essential pre-requisite to obtaining high cut quality. Additionally, media expansion or contraction may occur as a result of temperature variations. To improve the dimensional stability of media, let it stabilize to the current environmental conditions before usage for a minimum period of 24 hours

• Care must be taken with the dancer rollers, these can be easily damaged if the media becomes loose and the bars drop to the base of the machine.

• When setting the machine up, the media must be aligned with the back plate of the dancer bar and mandrels, failure to align the machine correctly will result in incorrect alignment whilst cutting and slitting.







• Before cutting any new design, make sure the OPOS sensor on the cutting head is in its down position, failure to do this may cause miss registration. Unless OPOS up/down is set to ‘On’

• The machine must be levelled using an accurate levelling device, the machine has been designed to have adjustable feet.

• Place the machine close to the computer that will operate the machine, only a 2 metre or less USB cable can be used to connect to the machine.

• Always test the ‘Knife Pressure’ setting on the same media before starting a job, this will help prevent any wasted labels.

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Section 8

Care and Maintenance

This section explains all of the details and requirements of the machine before you unbox it, from preparing the space to computer specifications.

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• Greasing the mandrel	66
• Cleaning the drive system	67
• Cleaning the media sensor	68
• Cleaning the Y guide rails	68

Care and Maintenance

The LF700+ Digital cutter range has a number of sliding surfaces made of smooth metals and plastics. They are virtually friction-free and require no lubrication. They will, however, collect dust and lint that may affect the cutter's performance. Keep the cutter as clean as possible by using a dust cover.

When necessary, clean the unit with a soft cloth dampened with isopropyl alcohol or mild detergent. Do not use abrasives. Vacuum paper dust from the machine every day if the machine is being used in constant production.

Cleaning the drive system.

Over time, the sleeves of the drive drum may become clogged with accumulated residue from the media liner. This may cause the media to slip between the pinch rollers and the drive sleeves, decreasing traction.

Cleaning the drive system:

1. Make sure there is no media loaded in the cutter.
2. Switch cutter off and disconnect the cutter from the mains. Raise the pinch rollers.
3. Using a soft brushed hoover, remove all of the paper dust located in and around the cutter.
3. Clean the media sensor by wiping them out with dry cotton swabs.

Paper Dust

Some label materials especially glossy coated stocks, generate an excessive amount of paper and ink or toner dust whilst travelling through the UniNet LF700+ Digital cutter, this can accumulate around the cutting head and especially inside the OPOS sensor. We strongly recommend that the machine be cleaned on a regular basis, especially after a long production run of label cutting. The best tool to remove the paper dust from the machines chassis is a hoover with a brush end and compressed air for the OPOS sensor and cutting area, gently tapping the sensor up and down can also help dislodge any paper dust. If a large build up of paper dust occurs this can have an effect on the registration and cut accuracy of the machine, in extreme instances the OPOS sensor becomes unable to register the difference between white paper and black registration marks.

Adhesive Build up

Keep the machine clear of all adhesive build up, adhesive will not only get into the key components of the machine but will also affect tracking and alignment of the media throughout the machine.

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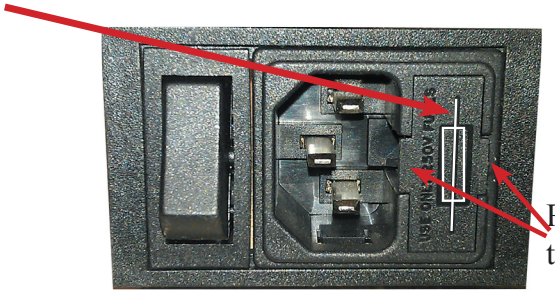
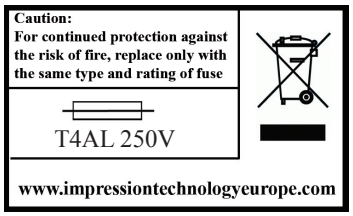
Changing the fuse

WARNING Before changing the fuse, make sure that the cutter is completely disconnected from its power source.

WARNING For continued protection against risk of fire, replace only with the same type and rating of fuse: T4AL 250V.

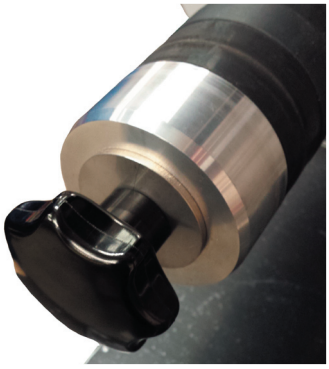
1. To remove the fuse lightly pry the fuse holder release clip in the direction opposite the power switch. The fuse holder will pop free.
2. Remove the fuse holder.
3. Pull the fuse from the holder.
4. Put new fuse in the holder and clip the holder back into place.





Greasing the mandrel thread

As part of the routine maintenance of the machine, greasing the mandrels threaded shafts is very important and will keep the mandrels in working order.



Remove the shaft by supporting the mandrel and turning the knob in an anti clockwise rotation.

Remove the mandrel knob and washer from the end of the mandrel.

Add grease to the threaded shaft of the mandrel knob, and return back to the mandrel.

The greasing of the mandrel should be carried out periodically dependant on use.

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Cleaning the drive system

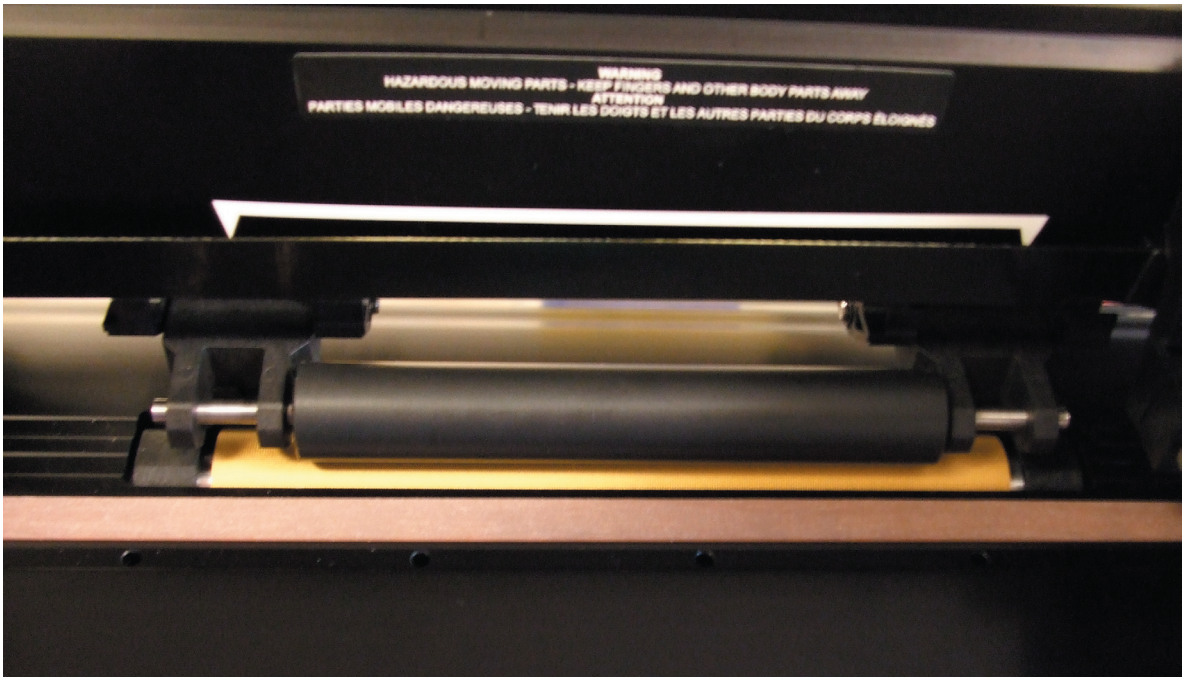
The UniNet LF700+ cutter range has a number of sliding surfaces made of smooth metals and plastics. They are virtually friction-free and require no lubrication. They will, however, collect dust and lint that may affect the cutter's performance. Keep the cutter as clean as possible by using a dust cover. When necessary, clean the unit with a soft cloth dampened with isopropyl alcohol or mild detergent. Do not use abrasives.

Cleaning the drive system

Over time, the sleeves of the drive drum may become clogged with accumulated residue from the media land ink or toner dust. This may cause the media to slip between the pinch rollers and the drive sleeves, decreasing traction.
Cleaning the drive system:

WARNING KEEP FINGERS AND OTHER BODY PARTS AWAY FROM THE CUTTING AREA. THERE ARE HAZARDOUS MOVING PARTS.

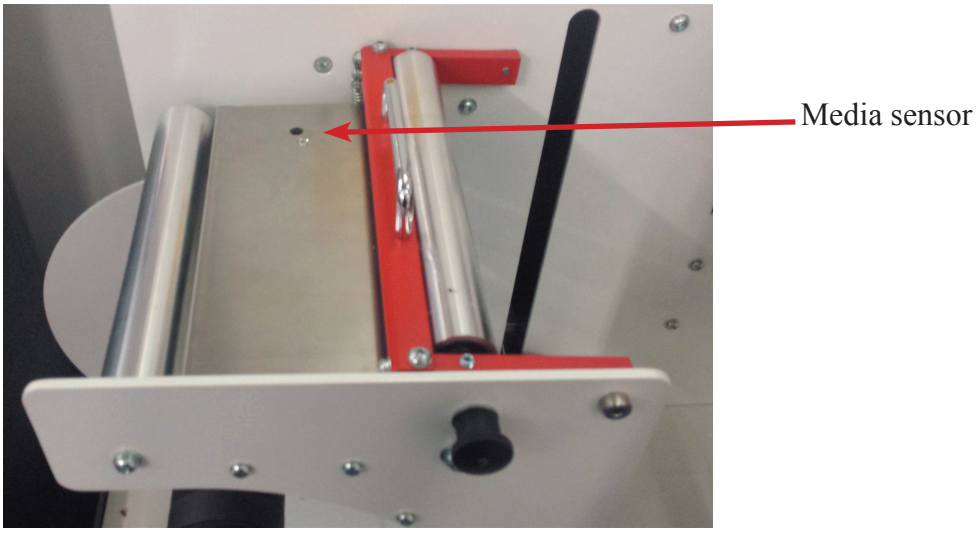
1. Make sure there is no media loaded in the cutter.
2. Switch cutter off and disconnect the cutter from the mains. Raise the pinch rollers.
3. Put a pinch roller above the sleeve that needs to be cleaned. Make sure it is the outer left or the outer right pinch roller (otherwise there is not enough pressure).
4. Remove the backing from a piece of vinyl. Place the piece of vinyl between a pinch roller and drive sleeve with the tacky side down. Lower pinch roller.
5. Turn on another yellow drive sleeve by hand so that the piece of vinyl is winding on the sleeve for at least one turn.
6. Then pull the piece of vinyl from underneath the pinch roller.
7. Repeat several times until all residue is removed from the drive sleeve.



Cleaning the media sensor

Over time, the media sensor may become dirty with accumulated residue from the media. This may cause the cutter to malfunction.

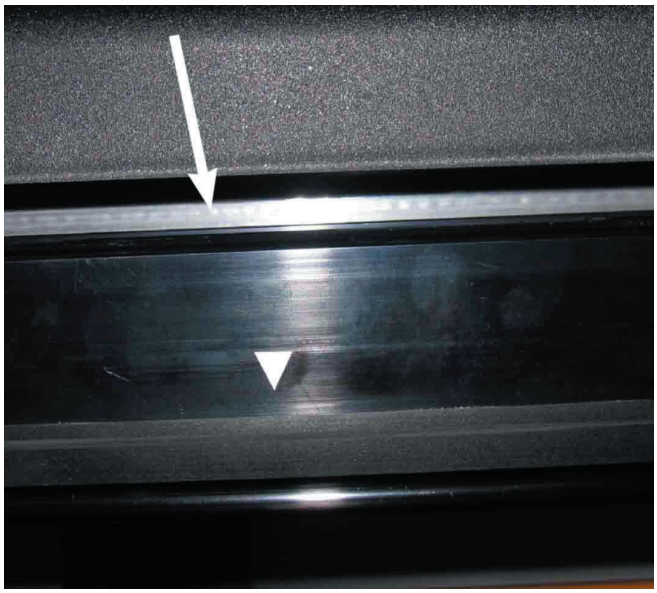
Clean the media sensor by wiping them out with cotton swabs.



Cleaning the Y guide rails

There are 2 V-shaped areas on the Y-guide rail on which the tools carriage slides from left to right. The areas are on top and on the bottom of the front of the Y guiding.

Even though the shape of the Y-guide rail may differ from model to model, the areas are located in the same place at the top and bottom of the guiding. The figure below shows the top of the Y guiding.



Over time, there may be some accumulated residue on these sliding surfaces and on the rollers of the tool carriage.

Cleaning the sliding surfaces of the Y-Guide rail:

1. Switch machine off.
2. Take a soft cloth dampened with isopropyl alcohol or mild detergent.
3. Clean surfaces; when the tool carriage is in the way, push it gently to the left or right.

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Section 10

Troubleshooting

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• Pinch roller errors	70
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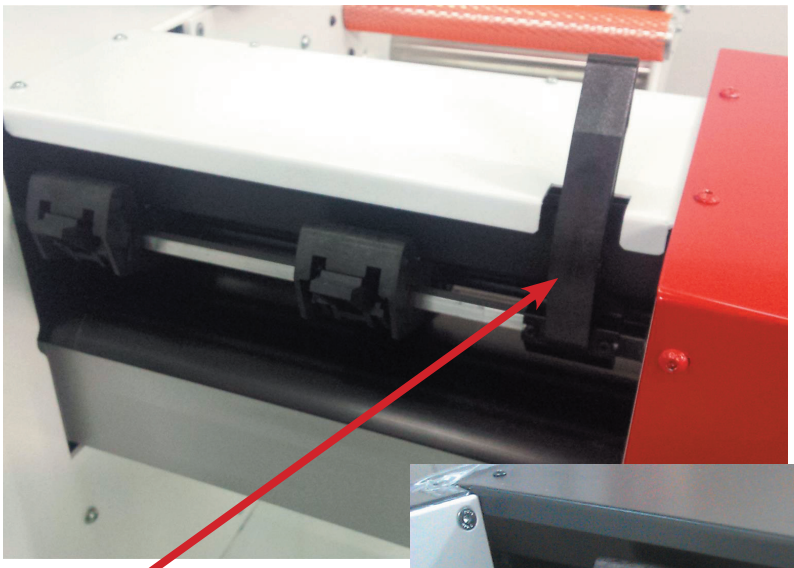
• Troubleshooting	78-79

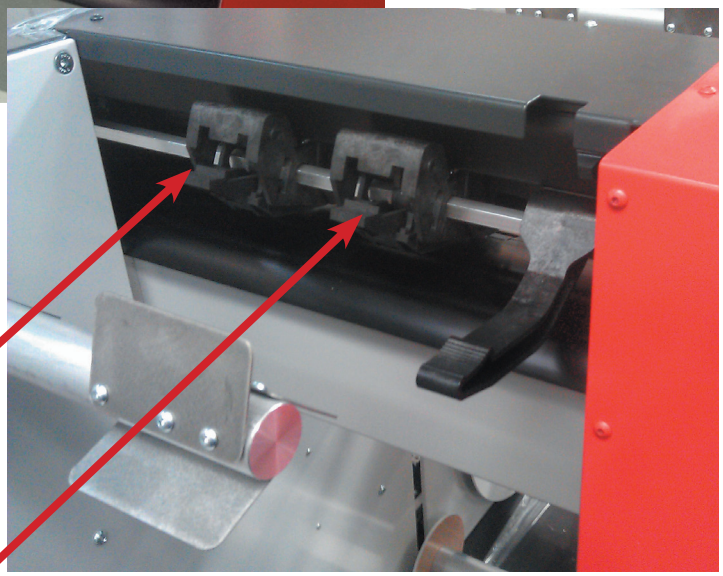
Pinch Roller Errors

Pinch roller error during start up sequence “Pinch roller not properly set above a sleeve”

During transportation or movement of the machine one of the pinch rollers must have moved, this is easy to rectify by lifting the pinch roller handle and moving the roller until it fits in the grove and clicks into place, then restart the machine and it should read correctly and the error disappears.

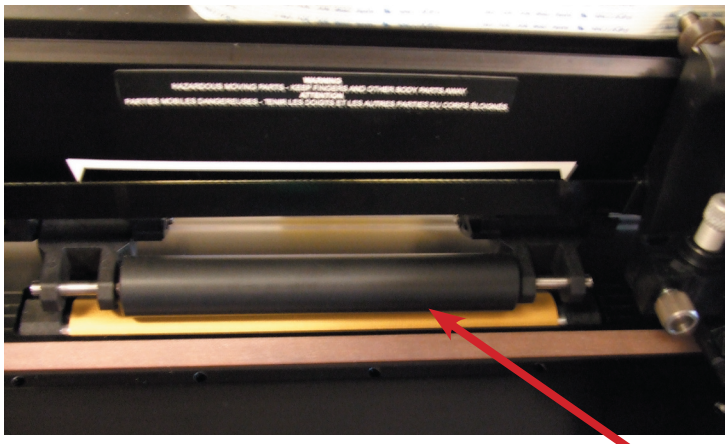


Pinch Roller lever



Left Pinch Roller

Right Pinch Roller



Pinch Roller

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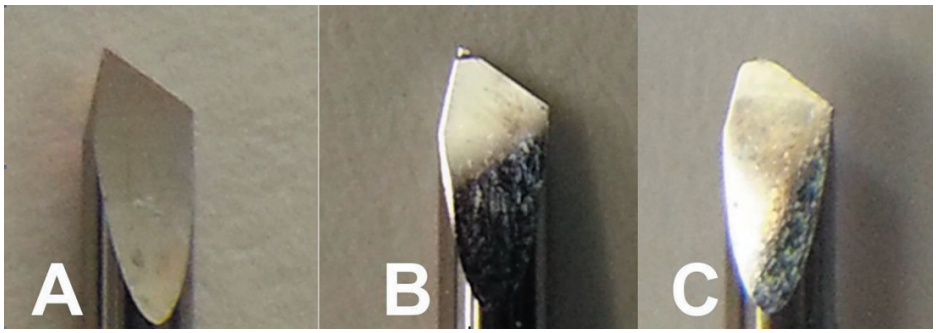
Frequently Asked Question's

LF700+ Cutting blade.

The Knife supplied with the LF700+ is a D-Knife 30° Code 391-360
Lifespan will depend on the material being cut, synthetics are quite gentile on the knife, uncoated papers have a higher ware rate but the media with the highest ware rate is ink jet receptive gloss.



Images of D-knives.

A. New Knife.
B. Used knife showing high ware, the ink jet gloss coating is more abrasive then the paper underneath. Eventually the tip will snap off.
C. Worn knife, this has no tip left on this knife and will produce a very poor cut.

Waste Matrix Snaps.

Matrix rewind is threaded correctly, but sometimes the waste matrix is very thin and it snaps.
The LF700+ waste matrix removal only works correctly when certain conditions are met. Both the waste matrix and the label rewind rotate at the same speed, it is therefore very important that when starting a new cut job the new cores have the same wall thickness for both the rewinding of the waste and labels. This helps to maintain the same pull off rate.

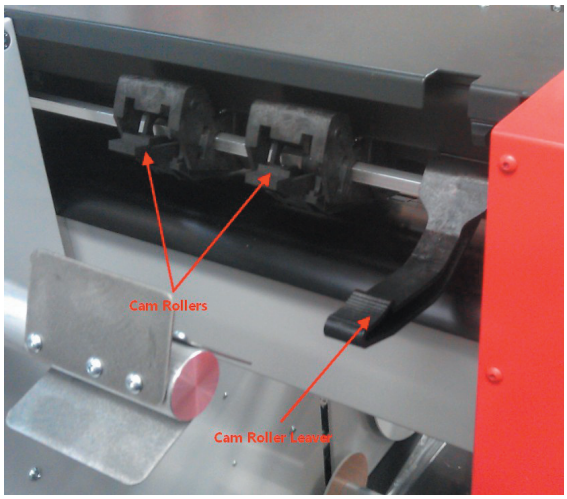
Waste thickness is important as with any waste removal system, the LF700+ is designed and tested to work with a standard 6mm gutter (X-axis) and 3mm label gap (Y-axis) minimums on standard media.

Keeping to these parameters will ensure you are using the machine as intended and has been proven to work reliability.

Poorly cut labels will also affect the way the waste is is taken away, if the cut pressure is incorrcetly set the the stress on the waste may be too great, this will cause the waste to snap or labels to be peeled up with the waste.

Pinch Roller Not Set.

The cam rollers should be moved so they click into position in line with the indicators on the rail the cutter head runs on. The machine may need restarting once the rollers have been repositioned.



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X Axis Error no Lamination.

If you are running the LF700+ without lamination then the lamination nip roller should be placed in the up position.

The X axis error is usually caused by a sudden jerk on the media, this generally happens during start up or when a reg mark is being read. The media path must be checked first to determine if the media is running correctly and aligned through the machine

The follow steps describe the parameters to change to achieve smooth media movement.

1. With the LF700+ powered on and displaying the speed and cut pressure. Start the program called 'Summa Cutter Control'.

2. Select 'User Configurations' from the list on the left.

3. Scroll down the list of settings until you find 'Up Acceleration' click on it to highlight it.

4. Change the value in the top right hand corner to the next lower value in the list and click the 'Apply' button in the bottom right corner.

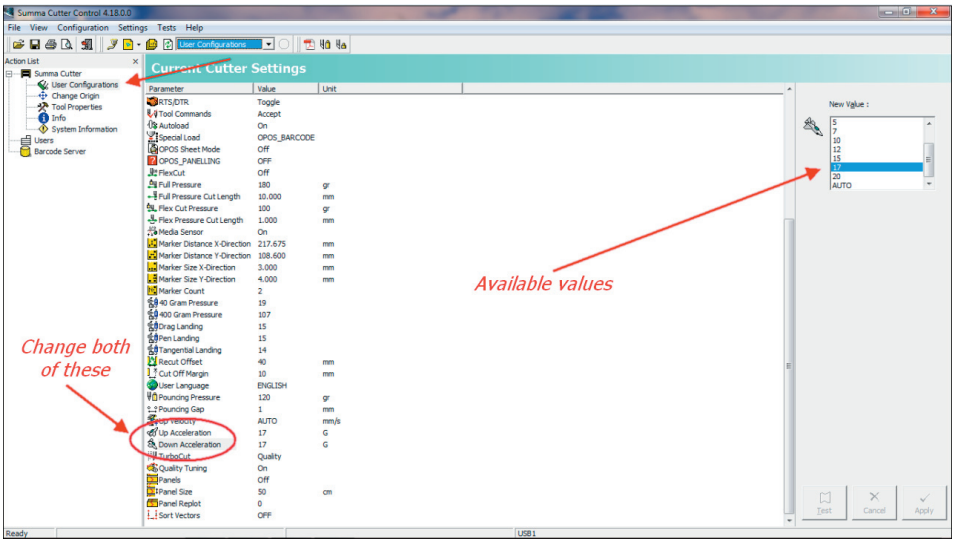
5. Repeat this same procedure for the 'Down Acceleration' value.

6. Reboot the LF700+ and run the cut profile again.

The 'Up Acceleration' and 'Down Acceleration' default values are set to 15 on both, if not change these settings and click 'Apply'.

Setting the machine to this setting will be more forgiving on the media and should solve any X axis errors.

If you are still experiencing errors check the dancer bars, and media feed rollers for resistance and that the gold drive roller is clean and free from debris.



X Axis Error using Lamination.

When using lamination on the machine, the mandrel brake needs to be adjusted, when there is too much brake on the media the motor or grip is not strong enough to pull them both through the machine.
This causes the rubber roller on the media feed motor to slip and not feed the required amount of media to the unwind side dancer bar before the next page is cut, giving an error.

There are other factors that can contribute to this, the first being the diameter of both the uncut media and the laminate rolls, the smaller the rolls the more force is required to pull media off the rolls.

Media width is also a factor as the narrower the roll the less grip the media feed roller has but the brake on the rollers and laminate will remain unchanged.

To rectify these issues the brake will need to be adjusted, this is a very simple procedure.

The Key steps are:

1. Identify the brake straps on the unwind

2. Adjust until the resistance is eased off a little and test by turning the disks on the mandrills by hand. Too little resistance will cause the media and laminate to not track straight, so it is important that you test it until you are happy.

3. Test the feed and tracking of both the media and the lamination with media.

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LF700+ Does Not Read Reg marks Correctly.

It is important to find out what your machines sensor reads as a Black reg mark and the white label.

To do this,

1. Press the menu button when on the main screen (shows the speed and knife pressure).

2. Press the up button to show 'SYSTEM SETUP' it shows 'DIN A4 TEST'

3. Press the Up button to show 'OPOS SENSOR' this option enables you to manually move the cutter head over the reg mark with the OPOS lowered to the media, this will give you the read value of your sensor.

It is a good idea to try this on several reg marks to find an average value for both the black and while areas.

Be aware that media will play its part in the values read.

The OPOS sensor should be reading the white media on average around <500 and the black >1700, anything higher then the sensor tolerances should be changed.

LF700+ registration sensor operation

When the sensor reads the media it is looking to find a white reading first, the sensor continues to read the media as it moves over the reg mark, at this point the read value shoots up until a preset value is reached. This trigger point is determined by the 'CAL MEDIA' setting, this is set to 100 on all LF700+'s as default.

The CAL media value is multiplied by 80 to give what is the trigger point when reading the black mark,

If the white media read value is around 500 and the 'Media CAL' value is set to 100 (800 points) then the trigger point is 1300 and is inside of the black reg mark read value of say 1900.

When the 'Media CAL' value is too low then he cutter can pick up on 'phantom' reg marks, this is where the sensor reading rises and falls when reading the white media and reaches the trigger point signalling to the LF700+ that it has found the reg mark. The cut will then be off register.

If the 'Media CAL' value is too high then the trigger point will never be reached and results in 'Mark not found' message.

Changing the 'Media CAL' value will require the OPOS to be re-calibrated.

If problems persist try reducing the cAL media to 50 or 60, If this works you will have to re-calibrate the OPOS sensor.

The LF700+ reg mark sensor is also affected by dust and debris from the environment and cutting process, the sensor should be cleaned daily or after any production run. The sensor should be gently cleaned using a compressed air canister and lens cloth.

How To Use The LF700+ To Cut Different Coloured Media.

Each LF700+ machine is setup to read black printed registration marks on white label stock, each OPOS sensor can also read slightly differently but is checked that it reads within an allowed tolerance.

If you require the sensor to read anything other than the black reg mark on a white media then some setup changes will have to be made.

Please follow the steps below:

1 Check the OPOS reading values. Do this by loading the coloured media into the LF700+ and position the reg mark directly under the OPOS sensor. Press the 'Menu' button and go to 'System Setup' then 'OPOS Sensor. The screen will give you a OPOS reading, ensure that the sensor is lowered, then move the cutter head on the Y axis by hand over both the printed reg mark and the un-printed media. Record the values.

2 Restart the LF700+. Press 'Menu' 'System Setup' then 'CAL Media' select 'Set' and record the value.

The CAL Media value is the is the point at which the cutter will recognize the OPOS sensor read value as a reg mark, as the sensor passes over the reg mark the read value will increase. The CAL Media value is the trigger point. The value set as default is 100, this is multiplied by 8 to give the trigger point value of 800. e.g.. if your sensor is reading the plain media at 270 and the reg mark at 1984 then the trigger point will be 270+800=1070 this value is easily inside the reg mark read value of 1984. This will give you a successful reg mark read.

If the plain media read value is much higher e.g.. 1256 then 1256+800=2056 this will be greater then the reg mark read of 1984 so the trigger point will not be reached.

Changing the 'CAL Media' setting will improve reading the reg mark on none white media, but will require you to re-calibrate the OPOS.

Problems In Reading Registration Marks.

If the OPOS sensor has been misreading and is reading the mark printed sporadically.

If you have cleaned the sensor using compressed air and window cleaner on a clean room cloth, but it hasn't had any effect.

This following procedure should be performed to get an accurate reading of what the machine believes is the difference between a black mark and white media.

1. Press the menu button when on the main screen (shows the speed and knife pressure).
Press the up button to show 'SYSTEM SETUP' it shows 'DIN A4 TEST'
Up button to show 'OPOS SENSOR' this option enables you to manually move the cutter head over the reg mark with the OPOS lowered to the media, this will give you the read value of your sensor.

It is a good idea to try this on several reg marks to find an average value for both the black and while areas.

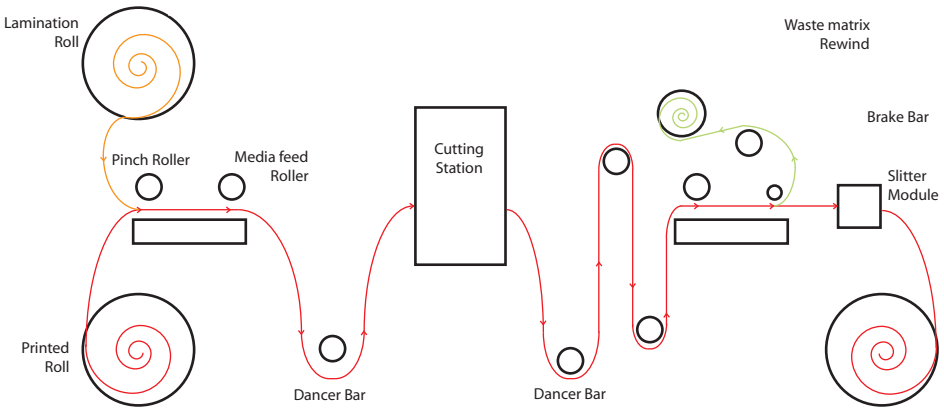
Be aware that media will play its part in the values being read.

The Labels Being Cut Appear To Be Skewed.

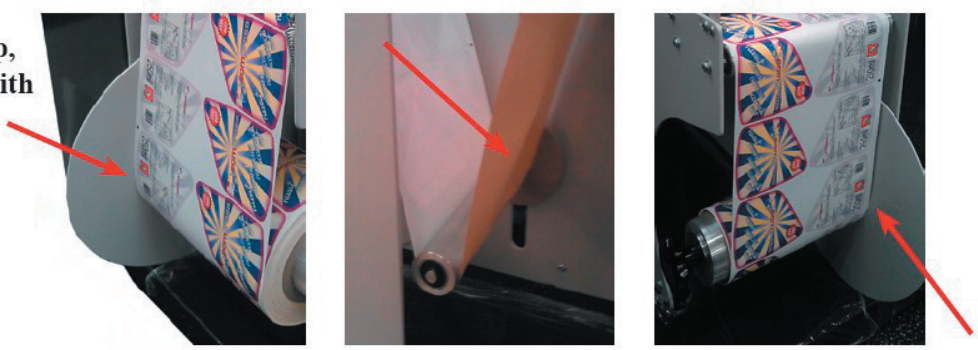
The cause of twisted or skewed media is generally to do with media alignment at setup, if its not straight to start with the media with track out of line when the machine is running.

Remove all media from the LF700+ and re-feed the machine paying attention to the position of the media from the back plate, any bagginess of media over the cutting bed or ether side of the dancer bars on both the machine and operator side of the web.
Check the gold micro-sprocket drive roller is clean and free from labels and glue, this must be kept very clean at all times. Any build up on this roller will affect the drive of the media this also applies to any part of the machine that media runs over, under and through.
Check both dancer bars are free running and that there isn't excessive play in the slides.
Check that the face of all disk are 20mm from the back plate of the machine.

Try printing a 200mm squire and measure it precisely on both the X,Y axis and also across the diagonal. If the two diagonal values are different then there is skew in the print.

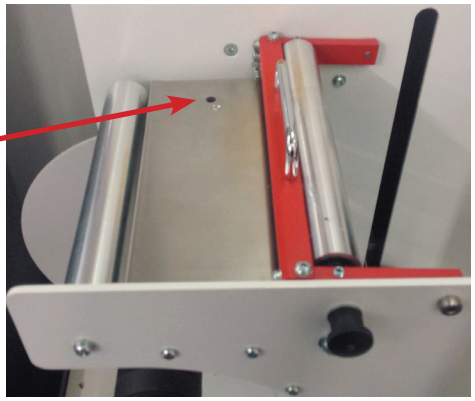


When setting the machine up, the media must be aligned with the back plate of the rollers, failure to align the machine correctly will result in incorrect alignment whilst cutting and slitting.



"Media not loaded"

When the machine first powers on, part of the start up sequence is to check for media, the LF700+ has a media sensor set between the
Lamination and Media feed rollers, if no media is detected then a "Media not loaded" will be reported. Media must always be loaded into the machinr prior to powering up.



The Registration Of The Cut Labels Is Out.

The registration at the bottom of the page is good but gets worse towards the top. This will more noticeable on the smaller labels.

This could be print scale issue, if the amount of shift is the same from page to page then run the 'Feed Scale Calibration Print' on the printer.
Check that the OPOS sensor is mounted correctly and that only up and down movement can be made.
Clearly printed reg marks are vital.
'Media CAL' value. If this is to low then the OPOS sensor may be triggering slightly inconsistently. Change the Media CAL value. Recalibrate the OPOS

Try printing a 200mm squire and measure it precisely on both the X,Y axis and also across the diagonal. If the two diagonal values are different then there is skew in the print.

A Contaminated or faulty OPOS sensor could also to be to blame. , clean the sensor first and re-test.

Using the LF700+ to Cut Blank Labels.

It is important to note that LF700+ machines have only had the ability to cut blanks from November 2013, your machine might not have this function included.

The first step is to produce the cut profile in ether Illustrator or Corel Draw, this is done in the same way as for printed media but without the need of any print data or the printed reg mark.

1. Just create your cut profiles, add the OPOS marks using the plug-in and output to WinPlot.

2. Load the LF700+ with plain media.

3. Press the 'Menu' button, scroll through until you find the new option 'Page Size' enter the total height of the labels in the x-axis plus the label gaps. e.g.. if you label is 95mm high with a 3mm label gap and there are 3 up the page then the value to be entered is 294mm.

4. Place the cutter tool inside the edge of the media (this is approximately the same place as the printed reg mark would be).

5. From WinPlot highlight one of the cut profiles and click on the button to the left of the 'Send to OPOS' button called 'Send design to Cutter'.

6. From the dialogue box select ' Colour in Selection'.

The LF700+ will then cut the selected profiles and use the 'page size' value you entered to repeat the cut.
It is important that is you want to cut a set number of repeats then this quantity must be sent in page count before the job is started.

Troubleshooting

- **Cutter does not power on.**
  - Panel lights off, cutter head does not initialise:
    1, Check that the machine is plugged in and powered on.
    2, Turn the machine off then on again.
    3, Check fuse replace with a new one, see page 60 for details.
    4, E-Stop button pressed.
- **Poor waste removal.**
  - Is your knife blade sharp?
    1, Adjust the knife depth, Partially screw the black cap until just enough knife blade is exposed to cut through the media but not the backer.
    2, Insufficient backer weight.
    3, Increase / decrease knife pressure, see page 39 for details.
    4, Increase / decrease knife offset, see page 39 for details.
    5, Decrease acceleration or speed see page 56 for details.
    6, Not tracking, media is not correctly aligned through the machine, see page 30 for details.
    7, Change your cutter knife, see page 37 for details.
    8, Label rewind and waste rewind must be the same diameter.
    9, Waste matrix is passed around the waste roller.
- **Images are not the correct size.**
    1, See page 40 for page alignment details.
    2, Check that the design files and printed files match in size.
- **Contour cuts are wrong size.**
    1, Check that your cutter scaling is correct, measure the cut lines to see if they match the cut data.
    2, Check that the design files and printed files match in size.
    3, Media is not correctly aligned through the machine, see page 30 for details.
- **Labels or contour cuts are cutting in the wrong spot.**
    1, Verify you created job correctly.
    2, Verify printer properties are correct.
    3, Rotation of the printed image is set correctly.
    4, Check that the printed opos marks are in the correct location and alignment.
    5, Verify that the sensor is reading the marks correctly.
    6, Clean OPOS sensor.
- **No action when you send data to cutter.**
    1, Reboot computer and power cycle the cutter.
    2, Cancel all jobs and try send job again.
    3, Verify that the cutter selected is correct.
    4, Check USB cable, change if necessary.
    5, Try different USB cable or different computer.
    6, Cutter is in a pause state.
    7, Opos sensor has not registered to the tick mark.
    8, Ensure cutter is on the home screen and not in the menu screen.
- **Material does not track straight.**
    1, Check media alignment against the mandrel guide plates.
    2, Ensure cutter is loaded straight.
    3, Check that the mandrels are the same distance from back wall of the machine chassis.
    4, Check that the machine is level.
    5, Check that the media is not baggy or has a twist.
    6, Check that the lamination is running correctly in line to the printed media.

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- **Lamination not Tracking.**

  1, Check the machine is level.
  2, Check that the lamination pinch roller is lowered and unlatched.
  3, Laminate must be narrower than the printed stock, otherwise the adhesive back will stick to the machine.
  4, Mandrels are not perpendicular to the back plate see page 26 for details.

- **Screen error messages.**

  1, *Y axis error*, The cutting head has encountered an error whist moving across the width of the media during start up, shut down or cutting cycles. Turn the machine off and check that the cutting head is not trapped or has an resistance whist moving from side to side.
  2, *X axis error*. The cutting machine has encountered an error whist traversing the media through the machine during start up or cutting cycles. Turn the machine off and check that the media is not stuck and can be moved freely through the machine.

- **The blade is cutting through the backing.**

  1, This is down to a combination of both the height setting of the blade in the holder and the knife pressure. First of all try decreasing the height of the blade by 1/8th of a turn anti-clock wise until you can't see more then just the tip of the blade, alternatively try decreasing the knife pressure 5g's at a time until the problem starts to lessen.

- **The blade is not cutting through the media correctly.**

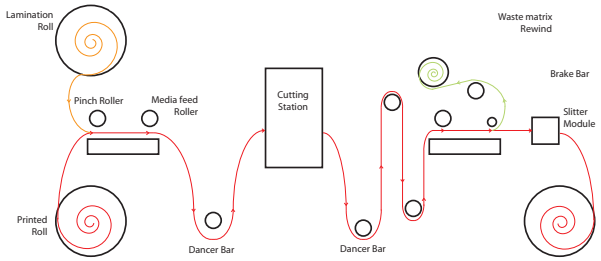
  1, This is down to a combination of both the height setting of the blade in the holder and the knife pressure. First of all try increasing the height of the blade by 1/8th of a turn clockwise until you can't see more then just the tip of the blade, alternatively try increasing the knife pressure 1g at a time until the problem starts to lessen.

- **Cutter fails to find the registration mark.**

  1, The cutting tool is not set in advance of the registration mark, allowing the cutter to move onto the reg mark.
  2, Paper dust is blocking the sensor, see page 57 for care and maintenance.
  2, Contact your local dealer for advice on calibrating the registration mark to the sensor.

NOTE

The machine will not function correctly if the media is not routed all the way through the machine from unwind to rewind mandrel. However the machine can function correctly without lamination and waste matrix stripping.



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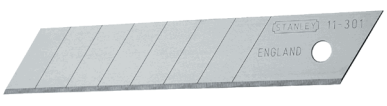
Section 10

Parts Lists & Consumables

Page

• Parts and Consumables 80-82

Parts Lists and Consumables

Part description	Part Number	Picture
User CD, including manual, driver and software.		
Standard drag knife holder	RP-391-332	
Drag knife	RP-391360	
Power cable (UK)	SP-UK.Plug	
Power cable (Euro)	SP-Euro.Plug	
USB cable	SP-USB2-102	
Cutting strip	RP-391-386	
Slitter knife	RP-2-11-301	
Slitter knife holder	RP-SKH	

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Part description	Part Number	Picture
Media and lamination unwind brake band	SP-LF700+BRAKEBAND	

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