



OPERATOR'S

i-TECH CUTTER MANUAL

Manual Date August 2018 for Graphic A07 or later

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Limited Warranty Agreement

ALLEN DATAGRAPH i-TECH cutters are warranted to be free of defects in both materials and workmanship. Should any part of this equipment be defective, it will be repaired or replaced, at the option of the manufacturer, at no charge for parts or factory labor for a period of two (2) years from the date of installation. All warranty services are performed at the Allen Datagraph factory. Replacement parts not installed at the factory will be billed to the customer at regular prices and credit will be issued when the defective parts are returned. The customer is responsible for freight on warranty parts and repairs.

This warranty is void if:

1. The equipment has been damaged by negligence, accident or mishandling, or has not been operated in accordance with the procedures described in the operating instructions;

or:

2. The equipment has been altered or repaired by other than an approved service station or factory service center, or adaptations or accessories have been attached to the equipment that shall have adversely affected the performance, safety, or reliability of the equipment.

NO OTHER WARRANTY, EXPRESSED OR IMPLIED, APPLIES to the equipment. Allen Datagraph does not assume any responsibility for consequential damages occasioned by the equipment, or inconvenience or interruption in operation.

In case of unsatisfactory operation, Allen Datagraph or its Dealer should be notified immediately.

Service Policy

Please refer to the service policy on our website at the link below:
<http://allendatagraph.com/techsupport/ServicePolicy.pdf>

Technical Support

Up to 4 hours of call in technical support is available at no charge during the warranty period. Technical support is available during business hours based on Eastern Time Monday thru Friday. Technical support outside the limits stated will be billed at current rates.

For Technical support submit a support ticket at <http://allendatagraph.com/tech-support/>

There are many online documents available to help you to use the Cutter at our technical support page at <http://www.allendatagraph.com>. Mouse over the tech support link and select download drivers and documents.

Installation

SET-UP

Some Allen Datagraph products require specialized installation in order for the limited warranty to remain in effect, ask your dealer or contact technical support at Allen Datagraph for details.

Unpack all accessories and the unit.

Power Connection

Important Note: Use of a HIGH QUALITY surge protector or uninterruptible power supply is REQUIRED by Allen Datagraph Systems. Failure to do so could affect your warranty coverage if a problem arises due to improper power connection.

CAUTION: The power cord is a three-conductor cable that incorporates a safety (earth) ground connection. For the machine to operate safely and correctly, the power cord *must* be plugged into

an outlet that has an earth ground contact. *Never* plug the power cord into a two-prong outlet by using a 3=2 cord adapter.

CAUTION: *Never* allow roll or sheet goods to rub on the power cord because the material can cut the cord causing an electrical fire hazard!

Allen Products except hot tip can be configured to operate from any power source capable of handling 100-240 VAC / 47-63 Hz @ 250 Watts. The Allen Hot Tip requires a power source capable of handling either 100-132 VAC or 180-240 VAC / 47-63 Hz @ 300 Watts.

i-TECH Cutter Stand

The i-TECH CUTTER comes equipped with a deluxe stand. Assembly instructions for the stand are packaged inside the stand box that arrived with your cutter.

Note: The material rollers and associated brackets are packaged inside the cutter box, under the packaging foam. It is necessary to remove the foam in order to remove the parts.

Computer Connection

System Interfacing

All Allen Datagraph products utilize either USB (universal serial bus) interface or Ethernet connection. If you want to read about using the Ethernet port for the cutter see the document below [Website Copy](#) / [CD Copy](#).

The Cutter comes with a software installation CD that walks you through the installation of the software on the computer you are using. Do not connect any cables or power cords until asked to do so by the installation CD.

NOTE : If you plug in the USB before the driver is installed the USB driver may not be installed correctly. See "USB driver repair" if you did this before you read the instructions. <http://allendatagraph.com/techsupport/i-TECH/AdsDriverInstallation.pdf> / [CD Copy](#).

If you do not have the CD you may download the cutter driver and install it from this page. Choose latest version. <http://allendatagraph.com/tech-support/online-documents/tech-support-library/software-support/>. Then download and install the remote panel program from this page: <http://allendatagraph.com/techsupport/graphiclink.html>.

If you are using AllenCAD you may download latest version from: <http://allendatagraph.com/tech-support/online-documents/tech-support-library/software-support/>. To download other Technical support bulletins go to <http://allendatagraph.com/> Mouse over the tech support link and select download drivers and documents. Once you have registered with the web site it will send you the password for thee DOWNLOAD our CURRENT LIBRARY of ONLINE DOCUMENTS and DRIVERS link.

Loading Allen i-TECH Software

The Firmware Utility CD installs:

1. The Remote Panel Utility program for managing machine settings.
2. A current revision of firmware.

"Firmware" is software that controls the machine functions. ***The firmware on this disk is provided for update purposes only and should not be installed on new machines.***

3. Manual and sample jobs.
4. Cutter driver for Windows 10, 8.1, 8, 7, or Vista.

Windows 10, 8.1, 8, 7, or Vista DirectCUT Driver

This printer driver has been tested with CorelDRAW (version 10-x8), Adobe Illustrator (version 10-cc 2017), Flexisign, Inkscape, and DraftSite. It should work with any program that sends vectors rather than bitmaps to the printer. Allows cutting directly from windows graphics programs without requiring additional software purchases. **Note:** Driver requires ownership of Allen Datagraph Equipment to use. Requires: Windows 10, 8.1, 8, 7 or Vista.

Software Updates

Software updates after the product ships will be available on the tech support section of the <http://alldatagraph.com/techsupport/graphiclink.html> web site. If you are updating firmware it is recommended that you do this when you have a lull in production, as any issues during installation may cause delayed production.

To update to a later version of software when recommended to do so by the tech support department, go to the web site. Click on tech support, then online documents.

Select your cutter type, AllenCAD or Cutter driver from list of selections.

Find the software update and click on it to download the setup program from the web site.

Installation instructions for the software are on the same page as the software.

Using Your Cutter

Install knife Blade in Holder

- 1) Remove the knife blade from the packaging
- 2) Remove the plastic cap on the knife blade
- 3) Drop the blade **point out** into the hole in the black plastic of the blade holder.



Install Blade Holder in Machine

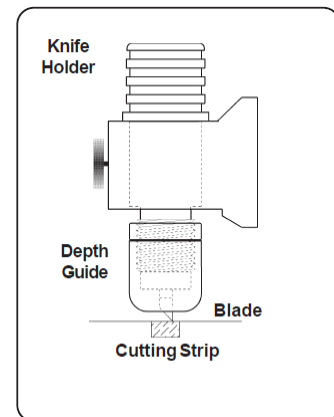
Place the blade holder into the housing on the left side of the carriage, with the blade pointing downwards. Ensure the blade holder is fully seated in the housing. Tighten the thumb screw.

Load Media

Load media using procedures described in Appendix C.

Setting Force / Velocity

The cutter is shipped with the default power up setting suitable for the type of material that is expected to be used based on the model of the machine. You should reduce speeds/accelerations for heavier materials. Start with force = 20 (use force up/down buttons) and speed = 66% (use speed up/down buttons). Press the test cut button on the home/controls screen. This draws the test cut. Use analog joystick or the joy stick arrows on the controls screen to move the carriage away from the cut area. If you cut through the media backer, reduce the force. If you cannot weed the media, increase the force. If the material slips between the grit roller and the pinch wheels, use slower accelerations. Spring pressure can also be changed by using alternate springs shipped in the accessory kit.



Sending Job

Summary

1. Ensure the cut strip is in for cutting and removed for pouncing.
2. Install knife blade in blade holder.

3. Ensure the blade is exposed beyond the blade depth guide (black plastic cap on the blade holder).
4. Load material (Appendix C Loading).
5. Install knife assembly.
6. Set machine to CUT MODE.
7. Perform test cut.
8. Adjust force, offset and blade depth guide.
9. Joy stick to where you want the lower right corner of the job to be on the media.

CAUTION: To avoid personal injury, keep hands, hair, clothing and jewelry away from the cutter's moving parts at all times.

Illustrator / CorelDraw

Select on layer in layer menu or object manager that contains information you want to cut.

From Illustrator or CorelDraw click on File -> Allen DirectCut.

Select cutter driver in drop down between Properties and Cut button.

Click on Cut.

AllenCAD

Click Tile and print. Select objects and press enter key.

Click ok on options page

Select cutter driver in drop down between Properties and Cut button.

Click on Cut.

Omega Composer / Signlab / Flexisign

See <http://allendatagraph.com/tech-support/online-documents/tech-support-library/cad-software-release-notes/>

Operation of the i-TECH SmartMark System

Optional SmartMark™ Sensor

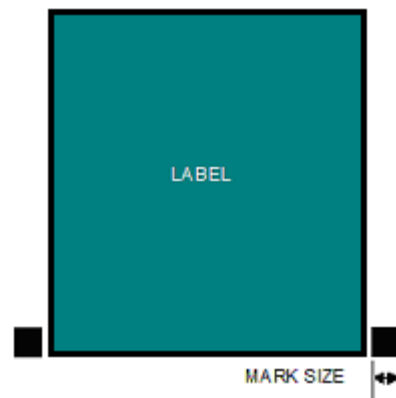
The SmartMark™ option that is available for Allen i-TECH cutters is an optical registration system that allows cutting of pre-printed graphics. The SmartMark system has the capability of recognizing up to three registration marks, and adjusting for scale and skew discrepancies that may occur.

The SmartMark™ option consists of an eye sensor that is mounted to the cutting head.

The SmartMark™ sensor recognizes changes in contrast from the background media to the printed mark. The “sensitivity” of the sensor must be set in order for the system to recognize the contrast reliably and be able to cut accurately.

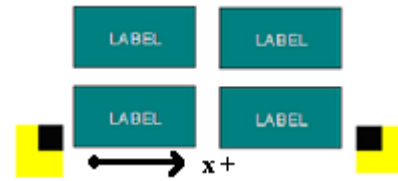
Setting Up Your Label Job

The target should be a black rectangle on white media or a contrasting color to background. See colors in [Web Site Copy](#) or [CD Copy](#). The recommended Mark Size is 0.5 inch (12 mm). When using the Smartmark™ on a cutter you normally need at least two marks as it is difficult to get media loaded straight and printers to print the correct size in the x axis (length-wise) of the printer. The sensor relies on reading the change in intensity of the reflection of the red LED pointer, or the contrast between the mark and media background. When printing process colors on white media the best color for a target is usually black. Certain spot colors are difficult. For exam-



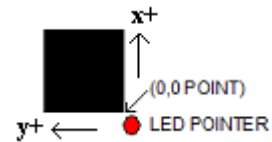
ple silver spot on white, while to the eye there is contrast the reflectivity of the two is sometimes nearly the same. If there is trouble detecting the target you can print the target in a yellow or white field. The size of the yellow field should be larger than the scan length. (**Note:** in order to get an accurate scan no other printed marks may appear in the yellow scan area. The printer color alignment marks can appear on the inside edge of the target or the other side of the media.)

The mark should be placed at least 0.5 inches (12 mm) from the edge of the media and the spacing between frames should be at least 0.5 inch (12 mm). (Advanced usage: You can place the target closer to the edge of the material if you use inside out scanning. Change scan directions to inside out using front panel buttons Settings → SmartMark Settings → Scan Direc-



Explanation of SmartMark

SmartMark_ is a cutting edge system designed by Allen Datagraph systems to be used in the label cutting industry. It is specifically made to ensure incredible levels of both accuracy and compensation for printing errors. This system allows an Allen Datagraph cutter to perform with excellence where other machines may fall short as a result of an error in printing or less-than-perfect machine tracking setup by the operator.

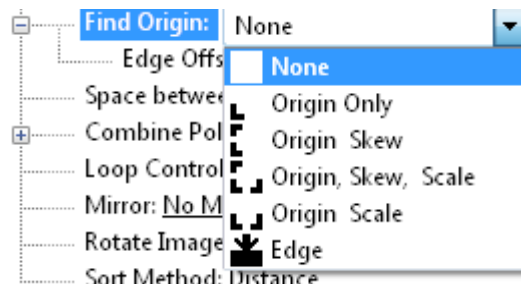


The SmartMark_ system relies on the contrast between the media background and the SmartMark_ mark. With these marks, it is able to establish an origin position for the cut file, and, when using multiple marks, can also find the skew or size error of a frame and automatically make the adjustments necessary to ensure smooth operation.

Starting a job on a SmartMark_ equipped machine is as easy as positioning the red LED at the origin (top right) mark of the frame, and sending the cut file to the machine.

Types of SmartMark Scanning

There are five types of SmartMark™ scanning available. They are shown in the image to the right. The scan type is selected in the printer driver preferences.



Origin Skew, Origin Skew Scale, and Origin Scale are the only types normally used on the cutter.

Origin Skew is used if the media is not necessarily loaded straight. This scans the origin and the skew mark and rotates the cut image to match the cut location at the two scanned locations. No scaling of the cut image is performed with Origin Skew scanning. If you cuts do not match in size from the print you either have to calibrate to printer or use a different find origin type.

Origin Skew Scale does alignment at the origin, rotation and scaling in both x and y axes are performed. This scan type requires that the sensor size parameter be correct so that cut image is same size as printed image.

Origin Scale does alignment at the origin, rotation and x-axis only scaling at the scale point. It assumes that the scaling in the y-axis is correct. If the printer you are using has a x axis scaling error you can normally correct this either in the printer or you can use calibrate to printer to get the cutter to cut the same size as the printer.

Origin Only is not normally used on cutter because its is hard to load media straight. Origin only does a alignment with the visual sensor at the origin only.

Edge is not normally used on cutters. By selecting EDGE in the driver's printing preferences menu, the SmartMark sensor will detect the edge of the media instead of a registration mark, then offset into the media by that amount and cut your blank labels.

Designing Labels

Planning Label



This tutorial will design a large contour cut of a photo of a duck 26 x 10 inches (66 x 25 cm) label for a printer and an i-TECH cutter with SmartMark™ with CorelDraw and Illustrator.

Now that we have work space planned choose program to design your artwork. The image I used was found on the internet at <http://twilightearth.com/environment-archive-2/there-is-this-duck-that-i-have-lunch-with/>. Right click on the image and save it.

Using Adobe Suite Tools

Open photoshop and crop, magic wand and trim using laso tool to erase water near duck. No need to be real accurate as we will create a cut line that trims the duck the way we want it to appear.

save image as duck no water.jpg

Use image -> size change height of image to 10. This makes the width about 22 inches.

save image as duck bigger image.jpg

Open Illustrator and create a new document.

Change units to inches

Change width to 28 and height to 11

Click ok

Click on view -> rulers if rulers missing

Click on window -> layers if layer menu missing

Click on window -> color if color menu missing

Now create two layers. One called "dielines" and one called "print". This is done from the layer window. Click on new layer button. Then rename the layers as dielines and print by double clicking on layer name, changing name and clicking on ok.

Next create the die lines. Click on the dielines layer on the layer window.

Create the die line for the target

Select dielines layer

Click on file place. select duck bigger image.

Click on drop down arrow next to live trace button. select tracing options,

Select threshold of 254 and blur of 2 px, click on ok. Wait for trace to complete. then click on expand to move outline to dielines layer.

Click on object, path, simplify. Set curve precision to 10 and angle threshold to 10

Next click on the print layer

Click on file -> place and select duck bigger image.

From the ruler drag a guide line for left, right and bottom and place the guide line close to the printed image.

Set fill to black and outline to null.

Note: if you have a stroke on the edge of the printed target the print and cut will not line up.

Select rectangle tool

Click near lower left intersection of the guide lines.

Select size 0.5, 0.5 for size, click ok

Zoom in to target only

Move target so that left and bottom of target are touching guide lines.

Repeat for lower right intersection placing target so that right and bottom of target are touching guide lines.

Lock the print layer so you don't accidentally move it during editing of path.

Clean up the path using path edit tools.

Add 1/2 inch rectangles for origin and scale on the dielines layer. The targets must be in same place on print and dielines layers. These rectangles should have strokes and not filled.

This completed label file is at this link [Web Site Copy](#) / [CD Copy](#).

Use File -> save to save the file on your hard drive as big duck.ai. Using a color printer print image..

To send dielines to cutter, click on dielines layer to select it and then click on

File -> Allen DirectCut.

Using Corel Suite Tools

Open Corel photo paint and crop and trim using magic wand, freehand mask tool to erase water near duck. No need to be real accurate as we will create a cut line that trims the duck the way we want it to appear.

Save image as duck no water corel.jpg

Use image -> size change height of image to 10. This makes the width about 22 inches.

Save image as duck bigger image corel.jpg

Open Corel Trace

Open duck bigger image corel.jpg

Select advanced trace

Select max colors = 2, node type = smooth, minimum object size = 100, click on do trace

Save as duck bigger image corel.cmx

Open coreldraw and create a new document.

Open CorelDraw, Select -> tools -> options -> work space. Place a checkbox in front of Allen Datagraph.

Next turn on 2 dockers: Select Window -> Dockers -> Properties

and

Window -> Dockers -> Object Manager

Verify snap to guide lines is checked from the view menu.

This adds two control windows on the right side of the program



Change units to inches

Change width to 28 and height to 11

Click ok

Now create two layers. One called “dielines” and one called “print”. This is done from the layer window. Click on new layer button. Then rename the layers as dielines and print by double clicking on layer name, changing name and clicking on ok.

Next create the die lines. Click on the dielines layer on the layer window.

Create the die line for the target

Select dielines layer

Click on file import. select duck bigger image.cmx.

Next click on the print layer

Click on file -> import and select duck bigger image.jpg

From the ruler drag a guide line for left, right and bottom and place the guide line close to the printed image.

Set Paint bucket = solid fill black and pen nib outline to none.

Note: if not have a pen nib outline on the edge of the printed target the print and cut will not line up.

Select rectangle tool

Draw small rectangle of any size near where you want it.

Change size of rectangle to 0.5, 0.5 while rectangle is selected.

Zoom in to target only

Move target so that left and bottom of target are touching guide lines.

Repeat for lower right intersection placing target so that right and bottom of target are touching guide lines.

Lock the print layer so you don't accidentally move it during editing of path.

Set Paint bucket = no fill and outline to hairline and color black.

Add 1/2 rectangles for origin and scale on the dielines layer. They must be in same place on print and dielines layers.

Clean up the path using path edit tools.

This completed label file is at this link [Web Site Copy](#) / [CD Copy](#).

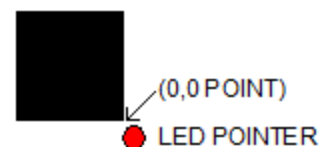
Use File -> save to save the file on your hard drive as duck coutour.cdr.

To send dielines to cutter, click on dielines layer to select it and then click on

File -> Allen DirectCut.

Lining up SmartMark™

Use the buttons around the select key to move the carriage left, right, forward, backward until the led pointer is within 1/8 inch (3 mm) of right front of the target.

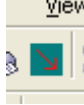


Sending file with Illustrator

Load the file you want to cut with Adobe Illustrator. If the layer window is not visible you can make it visible by clicking on Window -> Layers. Select the dielines layer on the layer menu. Click on File -> Allen DirectCut to open the DirectCut for Illustrator.

Sending file with CorelDraw

Load the file you want to cut with CorelDraw. If the object manager is not visible you can make it visible by clicking on Window -> Dockers -> Object Manger. Select the dielines layer on the ob-



ject manager tab. If the Allen DirectCut tools does not appear near the view button, select Tools -> Options -> WorkSpace. Then check Allen Datagraph. Click on the Allen DirectCut button to open the DirectCut for CorelDraw preview window.

Find Origin Type

Verify the cutter you want to send the die lines to appears in the drop down box between the Cut and Properties button. Click on the properties button and select find origin type you want to use. Select origin scale, or origin skew scale for Find Origin type.

Rotation

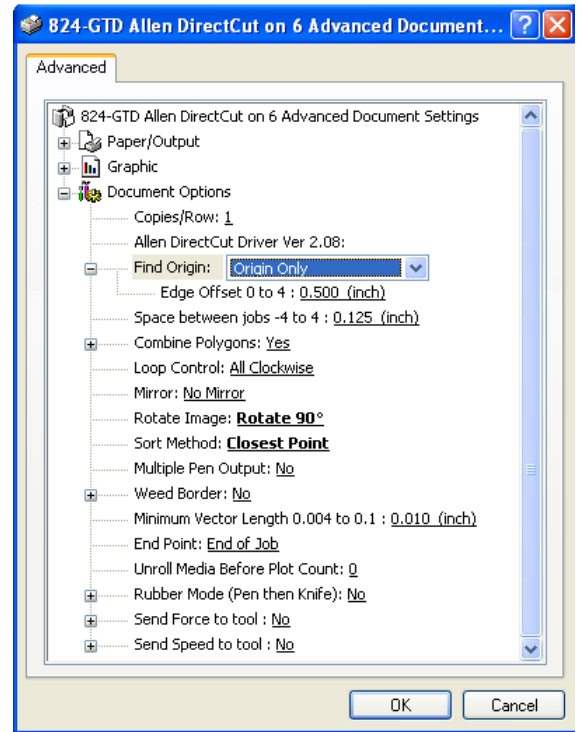
In the preview window select Cutter origin. This moves the origin to the lower right on the screen. This matches the view you see when you look at the front of the cutter. Use the rotate selection in the properties until the origin of the preview is in the upper right. Select rotation from (none, 90°, 180°, or 270°).

Cutting Label

After you have set the properties click OK to close property window. Then click on the Cut button to send the job to the cutter.

Smart Mark Setup

See calibration procedure at [Web Site Copy](#) / [CD Copy](#) available on the technical support page of the Allen Datagraph web site at <http://www.allendatagraph.com> -> mouse over tech support -> download drivers and documents -Download our Current Library of Online Document - sign making -> smart mark cutter -> smart mark cutter technical support bulletins -> SmartMark Sensor Page.



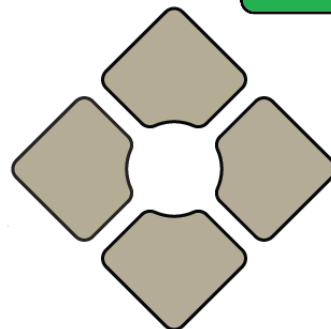
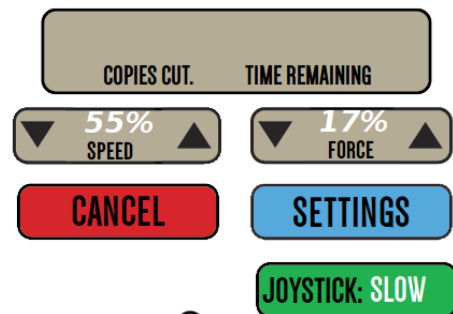
Control Panel

Home Page

The front control panel is the primary user interface for the i-TECH cutter. It is used for input of speed and force as well as several other functions.

LOAD

The load key is used to initialize the system and to load the media. If the load key is red and displays LOAD you have to press the load key. Once the material is fed thru the media path and the nip rollers are engaged (see Appendix C Loading), press the load. If the media height sensor is off, the load button will be green and show READY to indicate the system is ready to operate. If the media height sensor is turned on, the system will scan the cutter station pinch rollers to determine the media width.



PAUSE

The pause key will halt the operation of the system at any point. It is used to pause the system for inspection, media jams or to pause the machine for any other reason. Press the pause key to resume the system. The system can be jogged while paused and will remember where it was and resume from where it was stopped regardless of where it was jogged. This is very helpful for inspecting the cut. You can pause the system and joystick the media or cut head away from its position to inspect the cutting or registration. After inspecting the media, simply press the pause key again and the i-TECH will return to the point where it was paused and resume cutting. The pause light will flash while the system is paused. You can also use the pause button to enter the unload state (press Pause followed by Load).

COPY

The copy key is used to input the quantity of copies the i-TECH will cut. It is used after the first copy of the job is cut. Once the first copy is cut and you are happy with the results, press the copy key. Enter the number of copies you would like or ∞ for the number of copies desired. The number represents the total number of copies to make.

SPEED

The speed keys are used for controlling the cut speed (the speed the knife travels around the periphery of the items being cut). Increase the speed by pressing the up arrow key. Decrease the speed by pressing the down arrow key. Press on the number itself to enter any speed with the keypad.

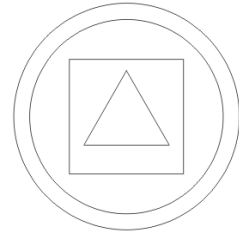
FORCE

The force key is used in conjunction with the test cut key to set the depth of cut. The factory default for cutting is set by the value saved in setting #1.

The force is set by test cutting the media to be cut using the test cut function. Using the joystick, position the knife in an unused portion of the media and press the

TEST CUT

key. The system will cut a test cut pattern similar to the diagram to the right. With a sharp knife or tweezers you should be able to individually remove each part of the test cut pattern working from the ring to the triangle without affecting the remaining parts. A properly set force will leave a very slight scratch or mark on the liner.



The force may need to be adjusted due to blade wear during use if problems with weeding occur. Simply increase the force setting by one until satisfactory weeding occurs. If the knife blade is changed, revert back to the original setting or perform the test cut procedure again. The blade may need to be replaced if the force is increased by more than 20 percent from when the blade was new.

Cancel

Select RESTART CUTTER to restart the cutter

Select CONTINUE to resume cutting

Select CANCEL JOB to stop the current job from running without a restart.

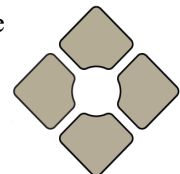
CONTINUE

CANCEL JOB

RESTART CUTTER

JOYSTICK

The joystick is used for positioning the knife and media in the cutting station and for several other functions. You can also use the joystick on the left pod of the cutter.



The four **ARROW KEYS** are used to jog the material or cutter carriage that holds the knife blade and the SmartMark_ sensor. Use the **Joystick Speed** button to set the joystick speed. Press and hold the arrow keys to move the carriage.



Red exclamation point Icon. This will displayed if a error occurs. This notification is set once and saved through power cycle and must be reset to clear the red exclamation point icon. To display the error, touch the red icon and read messages in the about box on the last error message. To clear the error flag, touch the red exclamation point, touch menus, enter 2, 5, enter. Then touch clear error message button.

SETTINGS

Displays the settings pages. Some buttons will not show up unless your are in advanced menu mode or have the SmartMark Settings set to on, on the user parameters menu. To turn on the missing buttons click → About → User Settings → Menu Settings → 25 → enter.

SMARTMARK SETTINGS

CUTTING PARAMETERS

CALIBRATION SETTINGS

ABOUT THIS MACHINE

MACHINE DIAGNOSTICS

Settings

Cutting Parameters

Cut Speed -

displays and sets the velocity of the knife when it is actually drawing or cutting. The draw speed is the speed the knife travels around the periphery of the items being cut

7.5 %
CUT SPEED

8 %
MOVE SPEED

Move Speed

Move Speed displays and sets the velocity of the knife when it is moving and not touching the media.

30 %
FORCE

CUT
MODE

Force

Force controls the blade pressure 1% is about 10 grams of force and 100% is about 550 grams of force

0.25 G
ACCELERATION

16
CURVE QUALITY

Mode

Mode sets the operation. Select cutting, pen plotting/drawing or pouncing. The i-TECH will normally default with the cut function.

STENCIL SETTINGS

0.00006 IN
VINYL ANTICIPATION

LOAD PREVIOUS SETUP

Acceleration

This allows setting the acceleration in 0.25 G increments. Acceleration is the rate of increase/decrease of speed of the motors along a vector. Higher G values increase throughput however higher G values also increase the likelihood of experiencing repeatability problems. Recommended values are (1-2) for standard media. Use lower values for heavy media (0.25-1). As the graphics get larger the effect of higher acceleration diminishes. Higher acceleration can degrade cut quality.

ADVANCED SETTINGS

Curve Quality

This parameter is more important in small graphics than in large labels or text. Use a setting of 1 for fastest speed and least quality. Use 16 for best quality and least speed. This parameter does affect throughput speed on graphics with short vectors.

Vinyl Anticipation

This a parameter that adjusts the backlash compensation in the cutter. This parameter used when not in tangential emulation mode. Heavier materials require more backlash

compensation. These numbers are individually set at the factory and should not require adjustment except when cutting heavy materials. If you are experiencing thick and thin lines or misshaped letters, adjust the anticipation parameter to obtain satisfactory results.

Load Previous Setup

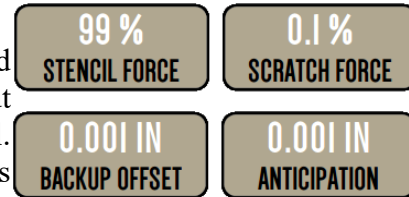
Loads or saves a custom set-up or power up default. Enter setup # to save. Setting #1 is loaded when the machine is powered up.

Stencil Settings

Displays the stencil settings menu

Stencil Force

This is the force separation between drag knife mode and tangential emulation cut mode. Tangential emulation cut mode is normally used for rubber or very heavy material. If the set force is above the stencil force stencil mode is used else drag mode is used. (Default 20 for 3536 and 99 for other cutters)



Scratch Force

This displays and sets the down force used during tangential emulation. This is primarily used when cutting thick materials such as sandblast rubber. Tangential emulation simulates a tangential or servo controlled rotating knife by moving to a position short of the vector to be cut and putting the knife blade down with a very light force while moving toward the direction of cut to align the knife before applying the full cutting force. This improves the cut quality in thick materials. (default 0.1%).

Backup Offset

Increasing this value increases the amount of dragging the knife does while scratching the surface of the rubber to align the knife.

Anticipation

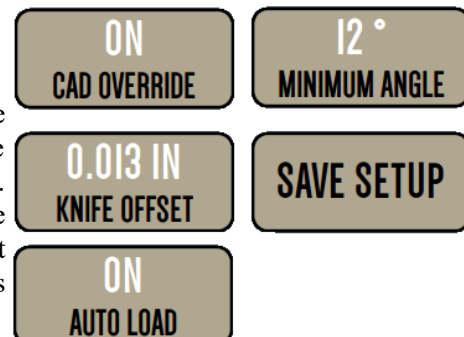
This a parameter that adjusts the backlash compensation in the cutter. This parameter used when the cutter is in tangential emulation mode Heavier materials require more backlash compensation. These numbers are individually set at the factory and should not require adjustment except when cutting heavy materials. If you are experiencing thick and thin lines or misshaped letters, adjust the anticipation parameter to obtain satisfactory results.

Advanced Parameters – Cutting

Advanced parameters require you to select the Settings → About → User Settings → Menu Settings → 25 → enter.

Cad Override

This menu function enables or disables the CAD override function. With the function On the cutter will ignore some HPGL control commands sent from the cutting software. With the function Off the CAD software can control these HPGL commands. Note: sending a job from the DirectCut cutter driver will turn cad override off until cutter is restarted.



The commands affected by Cad override are:

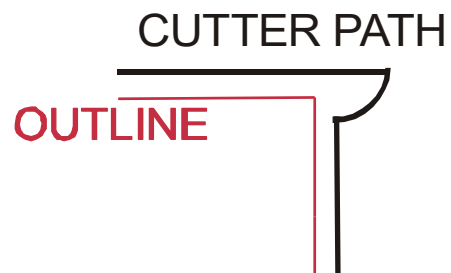
AS	set acceleration
FS	set force
KA	set minimum angle
KN	set knife offset
IP	input P1/P2
RO	rotate
SC	set scale
SP	select pen
ST	select tool
UV	up velocity (move speed)
VS	down velocity (cut speed)

Minimum Angle

The cutter must stop and then accelerate whenever it makes a sharp turn. At shallow angles the cutter can continue at the cut velocity without decelerating then accelerating. This parameter sets the angle where below which the cutter can continue without stopping. High values increase throughput and lower value increase quality. Good quality can be obtained at reasonable speed at the default value of 12°.

Knife Offset

Knife Offset is the distance between the center of the knife blade and the knife tip. Standard blades have a 0.013 inch (.033 cm) offset. If you have objects that do not close correctly, you might have to adjust the knife offset to correct the problem. If the corners of the test pattern (or lettering) have misshaped corners when knife cutting, adjust the knife offset



If the blade offset is too high, the corners will be extended and the circles will have bumps. In that case, reduce the knife offset. For example, if the original offset is 0.012 and the output shows signs of too much offset, try an offset of 0.010 (or less).

If the blade offset is too low, the corners will be rounded and the circles will have nicks. In that case, try an offset of 0.014 (or more).

If a good test pattern cannot be achieved in this manner, inspect the knife blade and replace as necessary.

H20-017 30° Allen Datagraph cutting blade. Ideal for label stock. Angle of blade at 30 degrees to have exact control on depth of cut. This blade has a 0.012 inch (0.0305 cm) offset. It can be identified by its blue plastic cap.

H20-007 45° cutting blade. Ideal for general purpose cutting of vinyl and other thin materials. Angle of blade at 45 degrees to balance depth of cutting and pivot angle. This blade has a 0.012 inch (0.0305 cm) offset. It can be identified by its red plastic cap.

H20-008 60° cutting blade. Ideal for cutting thick materials. Angle of blade at 60 degrees to optimize cut angle. This blade has a 0.012 inch (0.0305 cm) offset. It can be identified by its green plastic cap.

Auto Load

This parameter turns on/off the media height sensor. If the sensor is off the cutter can plot in the entire area of the carriage movement. If on, the cutter comes up unloaded. After positioning the

pinch wheels, You press load to make the cutter ready to receive jobs. The cutter will measure the distance between the pinch wheels and only allow cutting between the pinch wheels. This option is normally set to On.

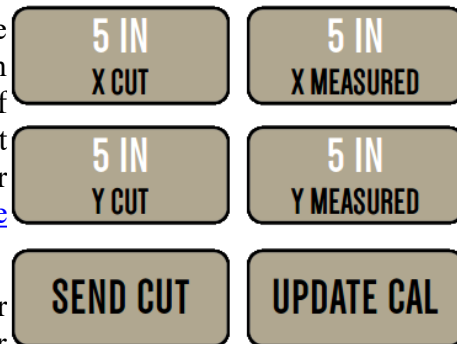
Save Setup -

Adjust force, speed, acceleration as needed. Then touch Save Setup and enter the setup number to save the settings

Calibration

Cutter calibration for SmartMark₂ is beyond the scope of this document. Please read calibration procedure available on the technical support page of the Allen Datagraph web site at <http://www.allendatagraph.com>. Standard cutter calibration is described in Appendix I or [Website Copy / CD Copy](#)

The defined size of a plotter unit is 1/1016 inches or 1/40 mm. This function allows adjusting the number of encoder counts per inch in the X axis and Y axis.



Cut / Measured

X Cut – Size to cut or that was cut

X Measured – After cutting enter the size you measured

Y Cut – Size to cut or that was cut

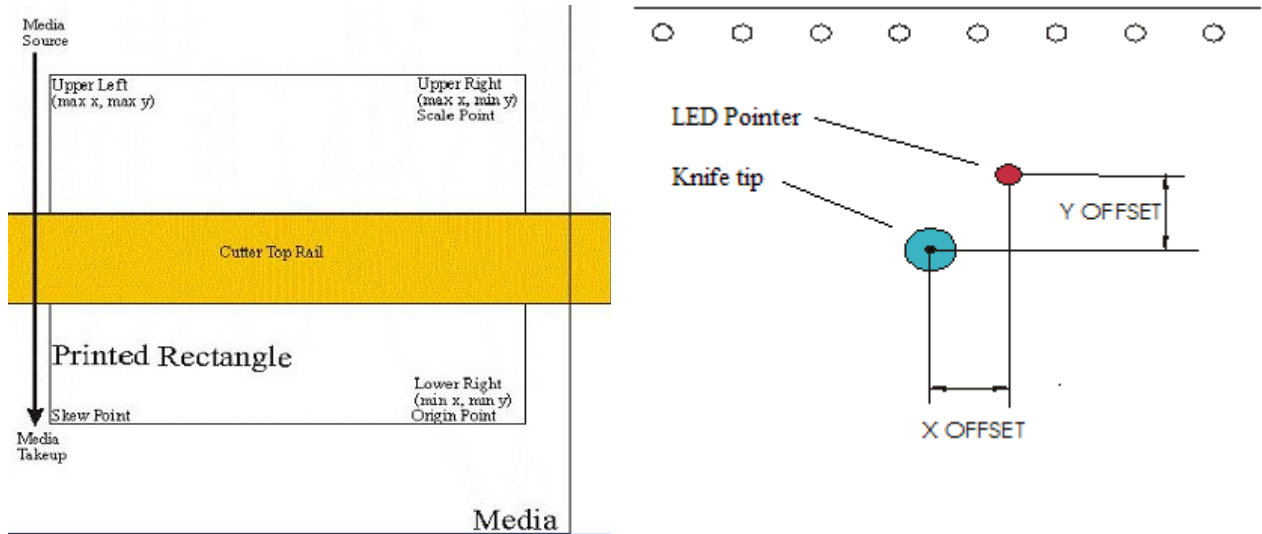
Y Measured – After cutting enter the size you measured

Send Cut

Press this after entering x Cut and Y cut sizes.

Update Cal

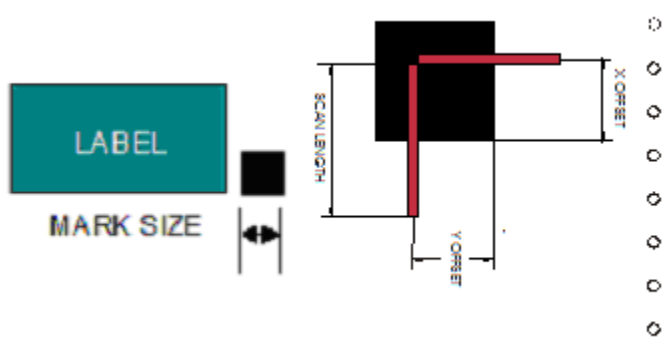
Press this after entering measured sizes.



Smartmark Settings

X Registration, Y Registration

- The SmartMark_ sensor is offset from the center of the knife. The sensor offset distance is preset at the factory or during installation, but may need to be adjusted on occasion. See drawing for definition of sensor offsets. Title: Calibration [Website Copy](#) / [CD Copy](#).



Job Spacing

This is the distance after the farthest excursion of the x-axis during a frame that the i-TECH should advance to find the target in the next frame of labels. This item is duplicated in the DirectCut printer driver as the space between jobs. These two parameters are added together so if the printer driver is normally used. Set this parameter to 0 To control from cutter driver. Set cutter driver to 0 to control from here. If you have sent the wrong space between jobs you can adjust the about +/- 4 inches to correct the error.

0.77 IN X REGISTRATION	-0.119 IN Y REGISTRATION
0 IN JOB SPACING	NORMAL SCAN DIRECTION
2 SCAN SPEED	

Scan Direction

This sets the direction of the scanning operation. For single mark origin scanning the NORMAL target scan direction is +X, +Y. There may be circumstances where it might be desirable to reverse the scan direction. For instance, the mark might be printed to close to the trailing edge of the preceding labels limiting the distance available for scanning. In this instance, it might be desirable to select INVERSE for the scan direction in this axis. Changing the direction might require adjustment of the X/Y Registration parameters. See also [Website Copy](#) / [CD Copy](#).

Scan Speed

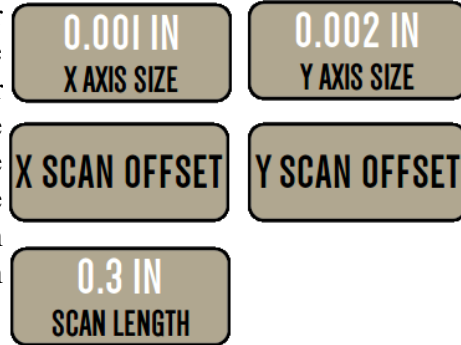
This sets the speed of the scanning. Depending on the media and registration mark contrast, this parameter may need to be adjusted. The better the contrast in reflectivity the faster the scan velocity can be set. If you are experiencing missed registration marks, you may need to reduce the scan velocity.

Advance Settings – Smartmark

Advanced parameters require you to select the Settings → About → User Settings → Menu Settings → 25 → enter.

X Axis Size / Y Axis Size

These parameters are the offset from the exact center of the red dot of the SmartMark_ sensor to the sense radius and may change based on sensor sensitivity or media reflectivity. This parameter is best set using the procedure in the above TSB. The Sensor Size parameter is only useful in origin scale and three target scanning. If you are not, these methods you can set the size to 0.02 and the sensor size is included in the sensor-offset parameter.



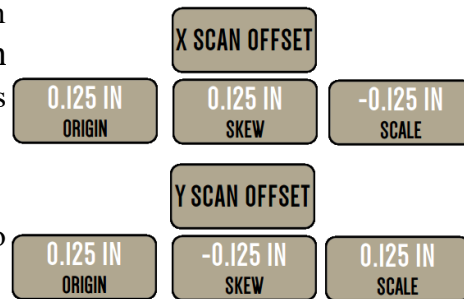
Scan Length

The ideal scan length should be about the dimension of the target mark. When looking for a target the machine backs up ½ the scan length before performing a scan

Scan Offsets

The i-TECH SmartMark_ system has adjustable scanning parameters to allow for different size and style of registration marks. The primary parameters are the scan offset and length. **The ideal X and Y offsets are one-half the mark size and the ideal scan length is the mark size.**

To set the parameters type in the desired numbers in the X Scan Offset, Y Scan Offset and Scan Length. When you have entered the desired values click on OK. (see also Explanation of SmartMark)



X Scan Offset

Origin - amount / direction to move in x axis to preform the y axis scan

Skew - amount / direction to move in x axis to preform the y axis scan

Scale - amount / direction to move in x axis to preform the y axis scan

Y Scan Offset

Origin - amount / direction to move in y axis to preform the x axis scan

Skew - amount / direction to move in y axis to preform the x axis scan

Scale - amount / direction to move in y axis to preform the x axis scan

About This Machine

This display a screen showing the software version and other information about the status of the cutter.

User Settings Button

The user settings button will allow changing parameters that customize the settings for the cutter for the menu type, smart mark settings enable, baud rate, units of measure and the display language

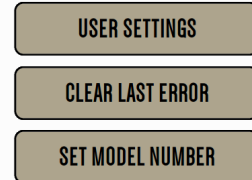
```
Graphics Software Version: 1.06 8/1/2018
Machine Serial Number:
Machine Model: 2830
Machine Software Version: ADSI MODEL 2830-Graphic
PL-05-03-610 Rev A07. dsp23
Last Error:
TMC Port: 0 Error: 0
PC Port: 0 Error: 0
Analog Joystick: ON
BAUD: 460800
```

Clear Last Error

The last error is saved forever. Clearing this error will allow the determination if the error displayed is new or old.

Set Model Number

Allows setting the model number of the cutter.



User Settings

Menu Settings

This option allows changing from BASIC to ADVANCED. To change to advance menus press button, press 2, 5, enter to change to advanced mode.

Smart Mark Settings

Most cutter do not have a Smart Mark Sensor. The SmartMark Settings button allows turning the settings for the Smartmark sensor on so they can be adjusted.

Baud Rate

Some older versions of software do not support the 460800 baud rate. If you are using such a program select Baud button to change to 9600.

Units

Most measurement setting buttons can be selected to be in either inches or millimeters. In the US you probably will want inches. The rest of the world will want mm.

Display Language

The display language for the graphic panel can be in English, German, Spanish, of French. Press the button for desired display language.

Machine Diagnostic

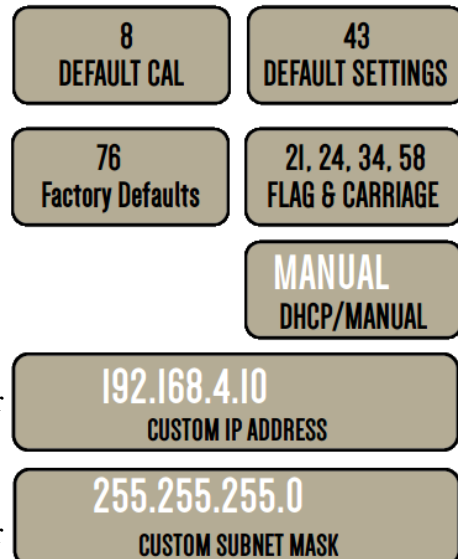
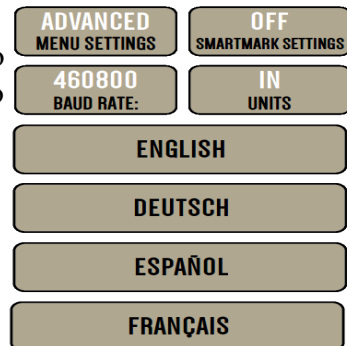
Machine Diagnostics require you to select the Settings → About → User Settings → Menu Settings → 25 → enter.

8 Default Cal

This resets the x/y movement calibration to their default values

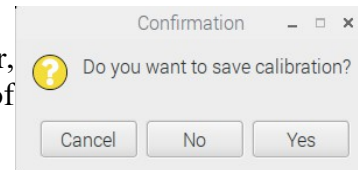
43 Default Settings

resets the cutting parameters and the 6 settings to their default values



76 Factory Defaults

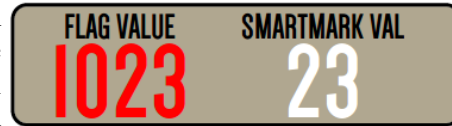
Resets all the parameters that are stored in the cutter, calibration, settings, carriage, etc. You will have the option of saving the calibration parameters.



21, 24, 34, 58 Flag & Carriage

Diag 34 flag value

This diagnostic is used to verify the correct flag position on the cutting head. It displays the knife height on the display. The flag is a small, flat, angled piece of metal which moves up and down between a pair of circuit board mounted sensors. The flag is held on to the knife holder by 2 Allen screws, which are loosened slightly if adjustment is necessary. There are 3 locations the knife holder can be in. They are:



REMOVE KNIFE
AND PRESS

REPLACE KNIFE
AND PRESS

Bottom (remove the knife from the holder and press the holder down to the bottom) The display should read between 000 and 006.



Down (press the knife down with a knife in the holder) The display should read 020 to 030 pressing down with a knife in the holder (no media present). Adjust flag position if necessary.

TRAIN SMARTMARK
BACKGROUND

TRAIN SMARTMARK
TARGET

Top (hold the knife up) The display should read 0100 or more.

The display should change immediately as you move the knife up or down away from top or bottom positions.

Slightly move the flag to obtain the above reading at each of the three locations.

Check that the flag screws are tight and recheck Bottom and Down.

SmartMark Line Sensor 21

Continuously displays the result of the SmartMark_Line sensor. When you place a white piece of material under sensor a number > 100 should be displayed. When you place a printer black target under sensor the reading should be < 20.

Diag 58 – Setup up carriage top and bottom

It is necessary to adjust the flag mechanical position before running diagnostic 58. This diagnostic configures the carriage to the cutter. It measures the up, down, and bottom position of the knife so that it can properly raise and lower the knife without punching a hole in the media.

Before starting the diagnostic, joystick to center of travel in the y (left/right) axis.

To run this diagnostic remove the knife holder from the carriage and touch the “Remove Knife and Press” button.

Next, Replace the knife holder in the carriage and touch the “Replace Knife and Press” button. Cutter will restart to complete diagnostic.

Reed Switch 24

This diagnostic continuously displays the result of the media height sensor. As the reed switch passes in front of a pinch wheel with a magnet installed, the output will change from Off to On. Reed switch is used only if media height sensor is turned on.

Train Background

If you are having problems scanning targets, it could be that the sensor needs to be trained. To train the sensor, place a white/background in front of the SmartMark sensor and press Train Background.

Train Target

Place the mark in front of the sensor and press, Train Target.

DHCP / Manual

DHCP – select to use [Dynamic Host Configuration Protocol](#) to automatically assign the IP address. Your network must have a DHCP server running to use this option.

Manual – select to use static IP assignment

Custom IP Address – The IP address of the cutter. Default address is 192.168.4.10

Custom Subnet Mask – The subnet mask of the cutter. Default subnet mask is 255.255.255.0. Note to communicate via Ethernet the subnet mask should be same for cutter and network and the cutter and the computer must be on the same sub net.

Installing Knife Blades

Installing replacement blades

The knife blade should be replaced when the force has been increased by more than 20 percent or the cut quality has degraded. The first sign of blade degradation usually occurs in the corners of the cut and may lead to poor weeding.

New blades slide into the holder to a preset height and are held in magnetically. No tools or adjustments are required. To replace the blade, first remove the blade holder from the tool holder by loosening the brass thumbscrew and pulling up on the silver knife holder. Remove the black plastic cap. To remove the used blade, grasp it with a pair of tweezers and pull it out of the knife holder (discard the blade safely). Remove the new blade from the plastic case and remove the protective cap. Insert the blade into the holder and let the magnet pull it into the preset position. Put black cap back on knife holder. Reinsert the knife holder into the tool holder and tighten the brass thumbscrew.

Replacement blades are available from Allen Datagraph Systems, LLC. They can be purchased online @ <http://www.allendatagraph.com/> and clicking on the Online Store button, or by calling 603-216-6344.

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Tool Holder Block

The knife blade holder is installed in the tool holder block with a thumbscrew. The tool holder block is held to the cutting head by two hex drive screws.

Knife Blade Holder Assembly

The blade holder is designed for use with Allen Datagraph's 30°, 45° and 60° blades. Solvents and lubricants should **not** be used, as they will diminish cutting accuracy.

Knife Blades

Knives blades for the Allen Datagraph i-TECH Unit are made with tungsten carbide and are designed specifically for digital die cutting. The tip is offset from the center of the shaft so that the blade has a caster action when pulled. Blades are available in 30, 45 and 60-degree tip angles. The 60-degree is intended only for thick materials such as sandblast mask or thick over-laminates. For best cutting results, protect the knife tip from damage when not in use.

Knife Blades Depth Guide

Allen Datagraph's controlled depth knife holder has a depth guide that is adjustable to control the depth of cut the cutter makes. Correct adjustments allow the blade to cut the material and lightly mark the backer (carrier) material. Too much cut depth can cause cut through and premature blade wear. Not enough cut depth will make "weeding" of media difficult.

Use the cut test, force and depth adjustment to establish good cutting (see setting cut force – cut depth section)

Use the cut test and force to establish good cutting (see setting cut force – cut depth section)

Cut Strip

Clean any debris from the groove before installing a new cut strip. The strip simply snaps into and out of place with no special tools required. **It is important that the cut strip be installed fully and evenly, otherwise material cut through may occur in some sections across the cutter.** *The cut strip should be installed for knives and pen plotting, but **must** be removed for Pouncing.* Replacement cut strips are available at online store <http://allendatagraph.com/>. Select Online Store and cutter supplies to see available cut strips.

Maintenance

Cleaning

The regularity with which the cutter needs to be cleaned is dependent on the usage, as well as the climate and contaminants in the cutter's environment. It is recommended that the following cleaning steps be done at least as often as indicated for each procedure:

1. **Biweekly.** Clean the three grit wheel surfaces with a stiff bristled e.g. tooth (not wire) brush to remove any media particles that may have built up during cutting. Brush the surface of the grit wheel while turning the grit wheel by hand so the entire surface of the grit wheel is cleaned. CAUTION: Be sure to disconnect the cutter from the power source while cleaning the unit. Keeping the grit wheel clean is important so the cutter will hold the media accurately.
2. **Biweekly.** Wipe media-related dust from the set of polyurethane pinch wheels by using a soft cloth.
3. **Monthly.** The outer surfaces should also be kept clean. If necessary, a mild cleaning solution on a damp cloth can be used to gently wipe the surfaces clean. It is suggested that a mild soap and water be used with a soft cloth. This solution works well on all painted surfaces. CAUTION: Do not use any abrasive cleaners, as they will cause the paint to blister.
4. **Yearly.** Inspect the internal circuit board assemblies and clean accumulated dust as necessary. Be certain that the cutter power is off. Observe static discharge safety procedures that may damage sensitive electronic components. Wear a grounding strap

connected to earth ground. Wear safety glasses to protect eyes. Remove front and side covers and use compressed air to remove dust and debris. Replace cover to original location and make certain that any connectors are well seated.

Pinch Wheel Maintenance

Pinch wheels are critical to the i-TECH unit's material handling performance. They should be inspected for wear regularly and cleaned as needed. To clean adhesive off the pinch wheels, simply use a soft cloth and denatured alcohol.

In normal use, the pinch wheels will need to be replaced in time. Also, trying to move them when they are in the down position can damage them. If material does not track well and guide alignment has been verified, the pinch wheels may need to be replaced. For best tracking results, replacement pinch wheels should be replaced as a SET.

To check condition of pinch wheels:

- 1) **Inspect condition of rubber** The rubber wheel should not have any cracks and should be securely adhered to the aluminum hub of the wheel. The transition from the flat surface of the wheel to the "sidewall" edges of the wheel should be sharp and not rounded.
- 2) **Inspect integrity of pinch wheel bearing** This is done by having the pinch wheels in the up position. Spin wheel with finger and observe whether the bearing has a dry sound or not. If it appears to be dry, the wheels should be replaced.

Mechanical Adjustments

Belt Tension

The i-TECH servomotors use timing belts to control the material (X axis) and tool (Y axis) positions. The belt tension and wear should be inspected if cut quality deteriorates. To inspect the belts, remove the pods at either end of the i-TECH. This can be done by removing about 16 screws along the edge of the pod covers. You can operate the cutter with pods installed in the extended position by reinstalling the pods using two screws. (see also TSB: Mechanical Adjustments to Restore Cut Quality [Website Copy](#) / [CD Copy](#))

Y-Axis

The Y-axis short belt runs between the Y-axis servomotor and a gear assembly under the left hand pod. To adjust the tension of this belt, it is necessary to reposition the motor bracket.

1. Loosen the three Phillips head motor bracket screws and apply hand pressure to tighten the belt so that the belt will deflect 0.050 inches at the center when 23 ounces are applied. (1.3 mm when 660 grams are applied).
2. When the belt is tight and the motor shaft is **parallel** to the bearing shaft, tighten the three Phillips head motor bracket screws. *Premature belt failure will occur if these two shafts are not parallel.*
3. Verify tension.

The long belt is adjusted using a lead screw located behind the control panel. To set the long belt's tension:

1. Position the carriage to about 24 inches from one end.
2. Remove the control panel housing as follows
 - a. Install the right pod at extended position as described above.
 - b. Remove the top rail cover over the carriage by removing the two screws at each end of the cover.

3. Loosen locking nut. Adjust the lead screw so that the 24" of belt when plucked like a guitar string vibrates at a low base note. It should not flop around and stop oscillating immediately.
4. Set the lead screw lock nut.
5. Verify belt path and tension.
6. Replace the control panel housing, top rail cover and rear cover.

X-Axis

The belt inside the rear cover drives the grit wheel (X axis). To adjust the tension of this belt, it is necessary to reposition the motor.

1. Loosen the two motor bracket screws and apply hand pressure to tighten the belt so that the belt will deflect 1/16 inch at the center when 23 ounces are applied. (2 mm when 660 grams are applied). (Replace belt if damaged or worn).
2. When the belt is correctly tensioned, tighten the two motor bracket screws.
3. Verify belt path and tension. Check that the large gear turns freely.

Trouble Shooting

Problem	Solutions
Cutter does nothing	<ul style="list-style-type: none"> • Panel lights off, no fan noise : plugged in, power on, cycle power • On Hot tip units check fuse in power entry module. Replace with one 5A fuse for 115 vac or two 2.5A fuses for 220 vac.
Cut through/poor weeding	<ul style="list-style-type: none"> • Is your knife blade sharp? You can check condition of blade by examining the blade tip under a 30x microscope. The blade tip must be present. • For very thin (less than 0.002 inch, (0.05 mm)) or liner less than 20 lb. media you might need to use the controlled depth adjustment on the end of the knife holder. Partially unscrew the black cap until just enough knife blade is exposed to cut through the media but not the backer. Test by drawing knife across media by hand. You can then use a higher force with no cut through. • It is important that the groove filler be installed fully and evenly, otherwise material cut through may occur in some sections across the cutter. • Insufficient backer weight. • Check mechanical adjustments Website Copy / CD Copy • Increase / Decrease force. Increase decrease knife offset. • Check cut strip condition. Replace or reverse if damaged. • Decrease acceleration or speed. • Increase resolution in printer driver.

	<ul style="list-style-type: none"> • Do not allow cutter motors to pull media off of roll. • Using wrong angle of blade for material.
Images are incorrect size	<ul style="list-style-type: none"> • If error is small (< 1/2 inch (12 mm)) make sure grit wheel is clean. Dirt build up in grit will change the size of the grit wheel making it cut the wrong size. Run diagnostic 07 to calibrate the cutter to a ruler. • If error is large (10% or more) then you probably have wrong model number in cutter or mismatched AllenCad and printer driver versions. Model numbers for template maker and Magnetic sign cutters are in the 2000 range. GT cutters do not have 2000 added to model number. Check the model number displayed on the remote panel setup -> main menu. • Template cuts off by small amounts or different amounts each time. Website Copy / CD Copy
Contour cuts are wrong size.	<ul style="list-style-type: none"> • If you are using origin only or origin skew no scaling is done to image received. In this case you must calibrate the cutter to your printer rather than a ruler. You do this by printing a large rectangle on your printer. Then cut the same size rectangle. For x and y drawn use printed size rather than a ruler as drawn or desired size. • If you are using origin scale, or origin skew scale then the size of the cut is change by the x or y sensor size parameter in the line sensor menu. See Smart Mark Setup section.
Labels or contour cuts are cutting in the wrong spot	<ul style="list-style-type: none"> • Verify you created job correctly. • Origin target is at minimum x and maximum y of drawing. • The scan area contains only target and background with no stray marks that could be seen as targets. • Verify printer properties are correct • Rotation is set correctly. Target cut should be in same corner on preview as selected origin corner. • Find origin property is set to Origin only or other advanced option. • Verify sensor settings have not been lost in the remote panel select setup -> line sensor menu. • Verify x sensor offset is about 0.75 inch and y sensor offset is about -0.1 inch • If your job is off by only a little bit (less than 1/8 inch (3mm)) and is same for every frame you can measure this error and correct your x and y sensor offset by the amount of the error you measure. • Verify scan length is the same as the length of the side of the target • Verify the scan offsets = 1/2 of the length of the side of the target • Verify the Scan Velocity is either 1 or 2.

	<ul style="list-style-type: none"> • Verify the space between jobs in the line sensor menu is zero. • Verify Skew target is at minimum x, maximum y of artwork. • Verify Scale target is at maximum x, minimum y of artwork.
Target errors tar1, tar2, tar3, tar4	<ul style="list-style-type: none"> • These errors indicate that the target scanner did not find the target. • If Target Error Origin on first frame: <ul style="list-style-type: none"> ○ Verify that you positioned red led pointer to right rear corner of target ○ Verify red led is lit. ○ Check that distance led is from media is 3.4 to 4.6 mm. ○ Run line sensor diagnostic (21) to verify operation of sensor. • If Target Error on subsequent frame <ul style="list-style-type: none"> ○ Verify space between jobs in printer driver is set correctly. If it is set correctly after cutting first frame the knife blade should be on the right rear corner of target of next frame. • Target Error Skew, Scale, Rotate. <ul style="list-style-type: none"> ○ Verify job you are sending matches job you printed ○ Verify rotation is correct in printer driver ○ Verify job is built correctly in that scale and skew target print is in same location is die lines for scale and skew target. ○ Verify scale and skew targets are at extents of image. Skew should be a minimum x and maximum y. Scale target should be at maximum x and minimum y.
Composer spools out lots of material before cutting image	<ul style="list-style-type: none"> • When using direct cut driver and sending from Gerber software, if the cutter spools out lots of material instead of cutting where it is, go to file, print, select Allen device, click options tab, uncheck HEADER box, click preferences button.
No action when you send data to cutter	<ul style="list-style-type: none"> • Allen Spooler: If plot is sent from computer and cutter doesn't cut, check for Allen spooler in the task bar (Lower right of monitor, green box with red arrow, near time). If it is not there, go to start button, programs (all programs), startup, allen spooler and click on allen spooler. If you get message saying allen spooler starting with one job left in queue, cancel it and send job again after checking to see that cutter is ready. • Click on red arrow in green field icon in service icon area. If you are getting unable to open port displayed • See if remote panel still has port open. It should auto close the port after 5 seconds. • Reboot computer and cutter. • Verify port selected is correct. You can find the correct port

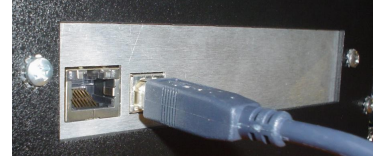
	<p>from the device manager.</p> <ul style="list-style-type: none"> • Plug usb cable into same usb port as you normally do. Different usb holes are normally configured as different com ports. • Rerun enable printer driver to find cutter. Start > All Programs > Allen Datagraph > Cutter Driver > Enable printer driver • Try different usb cable or different computer. • From spooler cancel all jobs, turn cutter off/on and resend job. • No usb driver installed for equipment Website Copy / CD Copy • Cutter in pause state.
Job does not complete	<ul style="list-style-type: none"> • Verify minimum cutter driver level of 3.0. New software can be downloaded from Web Site Copy • If you have less the firmware revision 12 as usb version in your cutter turn off polyline encoded output in printer properties, device settings. Web Site Copy / CD Copy • Try a different cable or computer
When I turn my cutter on, the head reaches the side plate and makes a loud noise	<ul style="list-style-type: none"> • Loose long Y belt if carriage is getting to the right side and making a ratcheting noise, it's could be the long y axis belt, or the y axis motor belt located under the left control panel. To determine which belt it is, turn the machine on while holding out on the long belt that attaches to the cutting head. What this does is put more tension on the belt. If the head gets to the side and they don't hear the noise, proceed to below: Remove the control panel and locate the belt tensioner. This is a wedge-shaped device with a long Phillips head screw protruding toward the rear of the machine. Loosen the 3/8" locking nut holding the tensioner screw in place. Turn the phillips screw a couple turns clockwise, then turn the cutter on before attaching the control panel. If the cutter initializes, there is no need to look further. If this does not solve the problem, proceed to the next step: Open rear cover, turn cutter on and observe the belt attached to the motor. If the motor pulley continues to turn, then the short motor belt is most likely either loose or worn out. Carefully inspect the teeth on the belt for wear with the machine off. The pulley can be rotated to allow inspection of teeth. • If the teeth are not worn or stripped off the belt, loosen the three mounting screws holding the motor bracket to the sideplate. Apply tension to the motor bracket BY HAND, and tighten the screws. The belt should have less than 1/8" of free play when properly tightened.
Media sensors can't see black EC film or vinyl with clear backer.	<ul style="list-style-type: none"> • Turn off paper sensors using setup -> options in remote panel. • Cover 1/2 the sensor hole with masking tape.
Router keeps changing	<ul style="list-style-type: none"> • Some routers do not keep a table of mac addresses so that the

my ip address	same computer will be assigned same ip address each time you power up. In this case Set advanced menu mode, home parameters – Machine diagnostics. Set DHCP/Manual to Manual and assign a static ip address to the cutter. See also Website Copy / CD Copy
Material Does not track straight	<ul style="list-style-type: none"> • Tracking video Website Copy / CD Copy • Instructions for adjusting donuts on tracking guides Website Copy / CD Copy • Move pinch wheels out of punched area. • Do not allow cutter to pull media off of roll. • Inspect pinch wheels • Clean grit wheel and pinch wheels. • Reduce acceleration and / or velocity. • Change springs Web Site Copy or CD Copy.

Error Codes

If the internal microprocessor detects an error condition, the letter E0 and a 2 digit code will be displayed on the control panel. Any key pressed after the error is displayed will place the machine in the diagnostic mode, indicated by a flashing "D" on the control panel. Recommended diagnostic procedures (D##) are listed in the error description.

The mmc software error codes are in the following linked document. [Web Site Copy](#) / [CD Copy](#). You can recognize the mmc machines by looking at the communication port. If your port looks like this use this link to error codes.



Appendix A Installation And Assembly Instructions

[Website Copy](#) / [CD Copy](#)

Appendix B SmartMark Setup

[Website Copy](#)

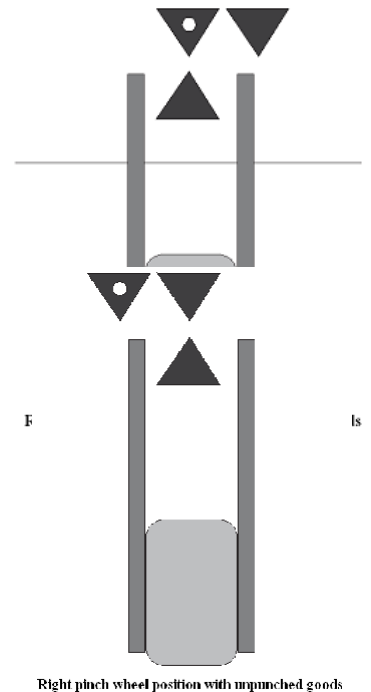
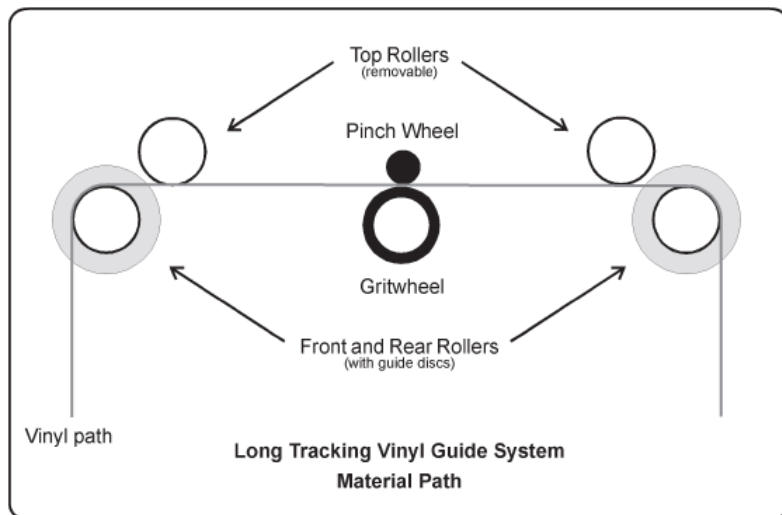
Appendix C Loading

Model 536

[Website Copy](#) / [CD Copy](#)

Model 830, 836, 848, 860

[Website Copy](#) / [CD Copy](#)



Appendix D Cart Assembly Instructions

[Website Copy](#) / [CD Copy](#)

Appendix E Radio and Television Interference

NOTE: This equipment has been tested and found 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.

In order to maintain compliance with FCC regulations shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio & television reception.

This device complies with part 15 of FCC Rules. Operation is subject to the following two conditions; (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Appendix F Model i-536 Addendum

[Website Copy](#) / [CD Copy](#)

Appendix G Model i-536 Adjustable Parameters

[Website Copy](#) / [CD Copy](#)

Appendix H Hot Tip Instructions

[Website Copy](#) / [CD Copy](#)

Appendix I Template Maker Supplement

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