

DFS





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www.GCCworld.com



Release Note

Version	Release Date	Change		
1.0	Nov, 2017	First version		
2.0	Dec, 2017	Add 5.2.2 convert file from AutoCAD		
3.0	Feb. 2021	Add 5.5 vector engraving function operating & AI/CoreIDRAW Plug in		
		Add Stack Light		



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Unpacking

Unloading & Unpacking



1.1 Unloading and Unpacking

The GCC LaserPro DFS is shipped in one crate that contains machine, software, and all of the necessary accessories. The following section shows detailed step-by-step instructions for unpacking and assembly the accessory to workstation.

More than one person may be needed when loading and unloading the shipping crate in order to avoid body injury or damage to the machine.
NOTE
Please keep and store the original shipping crate in case it is needed for future transportation or product servicing.

- 1) Move the shipping crate to the proximity of the designated work area.
- 2) Remove the bolt.





3) Loosen the door lock





4) Loosen the screws fixed crate top and side panels, and remove all the panels.



5) Unbuckle and remove the two safety harnesses that hold the machine in place.





6) Take out the sliding board, and the fixing screws with red circle marked below located in the rear side of the shipping crate.



7) Fix the sliding board to the crate with the fixing screws shown in step 6 to create a ramp for machine to slide down.







Mechanical Overview

Front View Right View Left View Rear View









Ethernet port & CCD Port

2.3 Left View











Software Setup

Recommended Computer Configuration SmartCONTROL[™] DFS Installation SmartCONTROL[™] DFS Uninstallation



3.1 Recommended Computer Configuration

SmartCONTROL[™] DFS software was designed to work best using a Windows based system with the following minimum requirements.

Computer Configuration

CPU	Intel Pentium, 1GHz or above
DRAM	1GB RAM or above
CDROM	One CD-ROM disk drive
HDD	1 GB of free hard drive space
SVGA	Super VGA display (1204 x 768 min. resolution)
Interface	PC or Laptop, USB 3.0 x 2
Operating System	Windows Vista /Win 7 /Win 8 /Win 10

3.2 SmartCONTROL[™] DFS Installation

Please perform the following steps:

- 1) Take out the installation disk and insert to the CD-ROM drive of computer. Wait few seconds for the CD Manager to begin the Setup automatically.
- 2) Click on "Install SmartCONTROL[™] DFS from the menu of the installation disk.





3) Click "Next"



4) The installation would be finished in few seconds

	GCC	×
Installing		Ø
Current File		
Copying file: C:\Program Files (x86)\SmartCONTROL\AT	Grid.ocx	
- All Files		
Wise Installation WizardR	< Back Next	Cancel



5) When installation is complete, SmartCONTROL[™] DFS will create a "SmartCONTROL DFS" folder on windows desktop, open the folder and double click SmartCONTRL DFS.exe to run the program.



3.3 SmartCONTROL[™] DFS Uninstallation

 Open the SmartCONTROL DFS folder from windows desktop and double click "SmartCONTROL_Uninstall.exe"





2) SmartCONTROL[™] DFS uninstallation window will pop up. Click "Next" to continue.



3) The uninstallation would be finished in few seconds.

CC GCC			\times
Installing			Ø
- Current File	A		
Copying file: C:\WINDOWS\system32\spool\GCC_Uninst	all.exe		
All Files			
Time Remaining 0 minutes 0 seconds			
Wise Installation WizardR			
	< Back	Next >	Cancel



4) Uninstall Driver Package window will pop up and ask you "All devices using this driver will be removed. Do you wish to continue?" Click "Yes" to complete uninstallation.

Uninstall Driver Package	\times
All devices using this driver will be removed. Do you wish to continue?	
Yes No	





Connection Setup

Connect to GCC LaserPro DFS via Ethernet Connect to GCC LaserPro DFS via Wireless



4.1 Connect to GCC LaserPro DFS via Ethernet

Follow procedures to connect Laptop / PC and GCC LaserPro DFS.

Connect to GCC LaserPro DFS via Ethernet

1. Launch "Control Panel" and select "Network and Sharing Center"



2. Click "Change adapter Setting" to launch "Network Connections" window





 Right click the "Ethernet", and then select "Properties" to launch "Ethernet Properties" window

	Properties		
	👎 Rename		
	💎 Delete	I.	
	Create Shortcut	L	
	Bridge Connections	L	
	Diagnose	L	
	Status	I.	
×	🗧 💎 Disable		
	Ethernet		

4. Click "Internet Protocol Version 4 (TCP/IPv4)", and then click "Properties" to launch "Internet Protocol Version (TCP/IPv4) Properties" window

etworking	Sharing			
Connect (using:			
🚅 Re	altek PCIe (GBE Family Controller		
			Configure	
This conr	ection uses	the following items:	5. C	
V 🕎	Client for Mid	crosoft Networks	eren er	^
	File and Prin	ter Sharing for Microsof	it Networks	
1 3	Trend Micro	NDIS 6.0 Filter Driver		
¥ .	nternet Prot	tocol Version 4 (TCP/IP	v4)	
01	VICTOSOTE INC	etwork Adapter Multiple	xor Protocol	
	Microsoft LL	DP Protocol Driver		~
<		<u>ç</u>	2	>
Ins	tall	Uninstall	Properties	5
Descrip	tion			
-	inging Cant	nal Dents and /Internet Den	stood The defaul	4



5. Select "Use the following IP address", and then, input the IP address "192.168.1.11"

and Subnet mask "255.255.255.0"

Internet Protocol Version 4 (TCP/IPv4) Properties					
General					
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.					
IP address:	192.168.1.11				
Subnet mask: 255 . 255 . 255 . 0					
Default gateway:					

6. Click "OK" to close "Internet Protocol Version (TCP/IPv4) Properties" and "Ethernet Properties" window

Install	Uninstall	Properties
Description Allows your compu	ter to access resources	on a Microsoft
network.		
		OK Cancel

7. Turn on the master power of the GCC LaserPro DFS



8. Click the "Start" button and find the "Windows System" folder from the list of apps and click it, and then click "Command Prompt" to launch the "Command Prompt" window



9. Typing "Ping 192.168.1.10" and hit the "Enter" key on your keyboard.





10. If the ping command has worked the command prompt should begin responding and

you should see the reply in the command prompt window.

Command Prompt

C:\>ping 192.168.1.10

```
Pinging 192.168.1.10 with 32 bytes of data:
Reply from 192.168.1.10: bytes=32 time<1ms TTL=255
Ping statistics for 192.168.1.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = Oms, Maximum = Oms, Average = Oms
```

```
::\>_
```

NOTE

If the ping command has failed you will be advise that the "Request has timed out".

Command Prompt - ping 192.168.1.10

C:\>ping 192.168.1.10

```
Pinging 192.168.1.10 with 32 bytes of data:
Request timed out.
```

Please repeat step 1 ~ Step 6 to make sure all the internet setting is correct.



11. Take out the Ethernet cable and two USB cable from accessory box, and then connect to the GCC LaserPro DFS and laptop / PC

NOTE

Please make sure both the USB port are 3.0, connect to USB 2.0 will cause the CCD fail to work.



12. Launch SmartCONTROL[™] DFS software program and click "New File" or "Open File" to open history file.



13. If you click "New File", please select format for your file





14. Go to "Output" in the Menu Bar and select "Communication Configure..." to launch "Com port Setup" window

SC SmartCONTROL - [SmartCONTROL1]							
SC File	Output	Edit	Draw	Image	Color	Vision	Vi
D 🛎	🗅 🖨 Processed Condition Setup						
	Out	put Pr	eview				ł
Output Ctrl+					Ctrl+J		
T- Arial	Cor	nmuni	ication (Configur	e		T
i Anai							and the second second

15. Click "NetIP AutoScan" to launch "Net IP AutoScan" window

Com port Setup			×
	Com port use NetlP AutoScan	TCPIP	OK Cancel

16. Select machine from the list and click OK button

Net IP AutoScan			×
يهر آميا	DovNomo	DovID	Meetida
192.168.100.158	Prototype-I	DevID-066911	90-1E-DD-06-69-11
2	_		
ОК		Cancel	



17. Go to "Version" in the Menu Bar and select "SmartCONTROL DFS" to launch "SmartCONTROL DFS" window

SC File Output Edit Draw Image Color	Vision View Window Help
🗅 😅 🖬 🔰 🎇 X 🖻 🖻	SmartCONTROL DFS
□x 0.000 • ▶ □ 380.000 • ▶ □ □y 0.000 • ▶ □ 500.000 • ▶ □ *x • ▶ • ▶ • ▶ • ▶ • ▶ *y • ↓ ▶ ∓ • ▶ • ↓ ▶	Mark1 Definition Mark2 Definition
 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	Mark3 Definition 50 Mark4 Definition
	Mark5 Definition Mark6 Definition
	Clear Mark Def

18. Make sure connection status indicator shows **green** for "Net Status", "CCD 1 Status" and "CCD 2 Status".





NOTE

If the connection status indicator shows red, please reconnect the two USB cable or check network setting and make sure "Net Status" green light is on and the "CCD 1 status" and "CCD 2 status" green light is blinking.



Incorrect connection may cause the GCC LaserPro DCP fail to work.



4.2 Connect to GCC LaserPro DFS via Wireless

- 1. Connect GCC LaserPro DFS to a router or gateway.
- 2. Connect laptop / PC to the same wi-fi or router



For the correct connection, please make sure GCC LaserPro DCP and laptop / PC are connected to the same local network.

3. Take out the two USB cable from accessory box, and then connect to the GCC LaserPro DFS and laptop / PC.

NOTE

Please make sure both the USB port are 3.0, connect to USB 2.0 will cause the CCD fail to work.







USB 3.0



 Launch SmartCONTROL[™] DFS software program and click "New File" or "Open File" to open history file.



5. If you click "Open File", please select format for your file



6. Go to "Output" in the Menu Bar and select "Communication Configure..." to launch"Com port Setup" window





7. Click "NetIP AutoScan" to launch "Net IP AutoScan" window

Com port Setup			2	×
	Com port use NetIP AutoScan	TCPIP	OK Cancel	

8. Select machine from the list and click OK button

Net IP AutoScan			×
يوليو	DovName	BevilD	Mechddr
192.168.100.158	Prototype-I	DevID-066911	90-1E-DD-06-69-11
С		Cancel	

9. Click OK button to close the Com port setup window



10. Go to "Vision" in the Menu Bar and select "SmartCONTROL DFS".



11. Make sure connection status indicator shows **green** for "Net Status", "CCD 1 Status" and "CCD 2 Status".





NOTE

If the connection status indicator shows red, please reconnect the two USB cable or check network setting and make sure "Net Status" green light is on and the "CCD 1 status" and "CCD 2 status" green light is blinking.







Operating the GCC LaserPro DFS

Stack Light Installation Running the SmartCONTROLTM DFS Convert and Import File GCC LaserPro DFS Registration Marks Generator SmartCONTROL DFS Operating – Single Mode SmartCONTROL DFS Operating – Production Mode Vector Engraving function



5.1 Stack Light Installation



1. Plug the stack light to this port which is located on the top right side of machine.





2. Put the warning light on top of DFS machine, it will help to show the current state of the machine without standing beside DFS.



Red light: stands for error messages Yellow light: when machine is working Green light: while machine is stand-by for laser engraving/cutting * Buzzer Module will make sound while red light is on.

5.2 Running the SmartCONTROL[™] DFS

3. Launch SmartCONTROL[™] DFS software program and click "New File" or "Open File" to open history file.




4. If you click "New File", please select a format according to your file.



5. Go to "Vision" in the Menu Bar and select "SmartCONTROL DFS".

SmartCONTROL - [auto feeder 320x460.ezd]	
SC File Output Edit Draw Image Colo	r Vision View Window Help
🗅 🖨 🖬 🍃 🇞 🕺 🛍 🛍	SmartCONTROL DFS
□x 0.000 ▲ ▶ □ 380.000 ▲ ▶ □mm □x 0.000 ▲ ▶ □ 500.000 ▲ ▶ □mm □x 0.000 ▲ ▶ □ 500.000 ▲ ▶ □	Mark1 Definition Mark2 Definition
<u>↓ <u>↓</u> <u>₹</u> <u>↓</u> ₹ <u>↓</u></u>	실 Mark3 Definition 50
	Mark4 Definition
Q X	Mark5 Definition
	Mark6 Definition
	Clear Mark Def

6. Make sure connection status indicator shows **green** for "Net Status", "CCD 1 Status" and "CCD 2 Status" and then live window.





5.3 Convert and Import File

For the best output quality, we recommend you convert the graphic file to PRN or PLT format via SmartCONTROL[™] print driver from the graphics software (e.g. CorelDRAW / AutoCAD). SmartCONTROL[™] print driver will install to your computer automatically when you installed SmartCONTROL[™] software.

5.2.1 Convert file from CoreIDRAW

Before converting the graphic file, please make sure Color Management is disabled and the Page Size fits to SmartVISIONTM Pro CCD under graphic software.

CoreIDRAW Example (Color Management)

The following is an example of how to properly disable Color Management in the graphics software. CoreIDRAW is the designated graphics software used for this example. For other graphics software, you will need to access the corresponding Color Management page.

 From the primary menu, click Tools → Color Management → Default Settings... and CoreIDRAW's Default Color Management Settings will appear.



2) Under the Present pull down menu, select Simulate Color Management

Off.

Default C	olor Management Se	ttings		
Presets:	Japan General Purpo	se 🗸 🗸		0
Default Color p RGB:	Europe General Purp Europe Prepress Europe Web	ose	~	- Colo Oper RGB:
CMYK: Graysca	Japan Prepress Japan Web Minimal Color Man North America Gen	Choose the "Simu Off" from graphics color managemen	late C softw t.	conv color Management vare to disable the
Render	North America Prepress			Imp:
Color e	C Simulate Color Management Off			CMY

3) Click OK to complete the color management adjustments.



From your graphic software's Page Setup page: CorelDRAW Example (Page Setup and Orientation)

The following is an example of how to set the Page Setup and Orientation in the graphics software. CoreIDRAW is the designated graphics software used for this example. For other graphics software, you will need to access the corresponding Page Setup page.

- 1) From the primary menu, click Layout \rightarrow Page Setup.
- 2) From the navigation bar on the left, click Document \rightarrow Page \rightarrow Size.
- 3) Ensure that LANDSCAPE is selected.
- Input the size of Width and Height dimensions to match the LaserPro DFS work area dimensions.

Page Size	Click here first
Size and orientatio	on
Size:	Custom 👻 🖾 🛅
Width:	500.0 📮 millimeters 🕶
Height:	320.0
	Apply size to current page only Show page border
Set pa area f	age size to fit SmarCONTROL [™] DFS working from graphics software.

5) Click OK to end the paper size adjustment.



Here we use CorelDraw as illustration of how to convert a file.

 Select all the designed objects and set the outline to hairline from tool bar in the graphics software.

****	******	
≬	Outline Pen	F12
♣	Outline Color	Shift+F12
×	No Outline	
X	Hairline Outline	2
—	0.1 mm	
—	0.2 mm	
—	0.25 mm	
	0.5	

NOTE

• SmartCONTROL[™] DFS will automatically define all the mark. Make sure all the registration marks are the same type and filled before converting the graphic file to prn format.



 From the primary menu in graphics software, click File → Print... and the Print window will appear.



3) From the drop-down menu of Printer, select "SmartCONTROL"

rint							
General	Color	Composite	Layout	Prepress	E	No Issues	
Desti	nation						
Printe	er:	SmartContro	pl				 <u>P</u>reference
Page Statu Locat Com	: is: tion: ment:	Device Indep \\gpprinter2 Fax Microsoft Pr Microsoft XI Send To On SmartContro SmartContro Smart13	oendent P ∖\4F_客服 rint to PDf PS Docum eNote 20	iostScript Fi _共用_Shar ent Writer 16	le p AR	t-P350 PCL 6	□ Us <u>e</u> PPD ✓ Print to file
Print	range	VenusII-4.04	-03				
• Cu	u <u>r</u> rent doo	ument 🔾	<u>D</u> ocumen	ts		Number of copies:	1
0 c i	urrent pag	je O	Selection			<u> </u>	
ОРа	ages:	1				1 2 3 3	Collate
		Even _Odd		~			
						Drint as hitman:	200

4) Click "Color" tab and then select "RGB" from the drop-down menu of Output colors as:".

Print						
Genera	al Color	Composite	Layout	Prepress	🖹 No Issu	es
				e C	Print <u>c</u> ompo Print <u>s</u> epara	osite tions
				e C	Use <u>d</u> ocume Use color <u>p</u> i	ent color settings roof settings
Co	lor conversio	ons performed	by:	С	orelDRAW	
Ou	tput colors a	is:		R	GB Convert spo	► ot colors to RGB
Co	rrect colors u	using color pro	ofile:	([)ocument) cR	2GR IEC61066-2 1



5) Click "OK" and Print To File window will appear

⊖ Pages:	1				conste	
	Even & Odd	~	Print as bitmap:		300 🔹	
^v rint style:	CoreIDRAW Defaults			~	Save As	
Print Previ	ew	[OK Cancel		Apply H	

6) Select the save folder and define file name, then click "Save" to convert

2	Print To File	×
€ ⋺ - ↑]	► SmartCONTROL ► C Search SmartCONTRO	OL 🔎
Organize 👻 Ne	ew folder	!≡ ▼ 🔞
 ★ Favorites ■ Desktop ↓ Downloads ↓ Dropbox ○ Dropbox ○ Recent places ○ iCloud Drive ③ iCloud 照片 ↓ Google Drive ⑧ iCloud Photo 	Name Date modified No items match your search.	Туре
輚 Homegroup	~ <	>
File name: Save as type:	SmartCONTROL.prn Print File (*.prn)	~
Alide Folders	Save	Cancel:

 Close the graphics software (here is Corel Draw) and open the SmartCONTROL[™] Software.



8) Click "File" \rightarrow "Import"



 Select the converted file and click "Open" to import the saved file to SmartCONTROL[™]

SC	sc Import					
Look in: 🚺	SmartCONTROL	•	← 🗈 💣 📰 -			
Name	^		Date modified	Туре		
SmartCO	ONTROL.prn		2/17/2016 10:55 AM	PRN File		
<						,
File name:	SmatCONTROL				0.000	- -
rile name.	Jomancolivi Rol	pm			Open	-
Files of type:	All Available File			-	Cancel	
🗖 Raster PSI						



10)File import is completed.



5.2.2 Convert file from AutoCAD

 Click AutoCAD icon → Open → Drawing from the top-left corner to open the file.





2) Select all the design objects and set the lineweights to 0.00mm from the properties tool in AutoCAD.

, 📃 🔒	•
Match	0.00 mm 🗸 🗸
Properties 🗮	ByLayer
	ByBlock
	Default
	0.00 mm
	0.05 mm
	0.09 mm
	0.13 mm
	0.15 mm
	0.12 mm

NOTE

- Please make sure all the lineweights have been set as 0.00mm, incorrect lineweights may cause the fail to import.
- Click AutoCAD icon → Print → Plot from the top-left corner, and the plot window will appear.





4) From the drop-down menu of Printer, select "SmartCONTROL"

🛕 Plot - Mod	el
Page setup	
Name:	<none> ~</none>
Printer/plotter	
Name:	🕒 None 🗸 🗸
Plotter:	SmartControl
Where:	G venusii-4.04-03 Spagit 13
Description:	Send To OneNote 2016
Plot to file	Microsoft XPS Document Writer Microsoft Print to PDF Eav
Paper size	留 AutoCAD PDF (General Documentation).pc3
Letter (8.50	置 AutoCAD PDF (High Quality Pint).pC3
Plot area	質 AutoCAD PDF (Web and Mobile).pc3 Default Windows System Printer.pc3
What to plot:	回 DWFx ePlot (XPS Compatible).pc3
Display	實 DWG To PDF.pc3 聲 PublishToWeb JPG.pc3
Plot offset (ori)型(PublishToWeb PNG.pc3 gin set to printable area) 1



5) From the drop-down menu of Paper Size, select Custom Size

Letter Transverse	~	1
Custom Size	^	
ANSID II X 17 III		L
ANSI A 8.5 x 11 in		L
PRC Envelope #10 Rotated		ba
PRC Envelope #9 Rotated		r
PRC Envelope #8 Rotated		
PRC Envelope #7 Rotated		s
PRC Envelope #6 Rotated		H
PRC Envelope #5 Rotated		L
PRC Envelope #4 Rotated		Ŀ
PRC Envelope #3 Rotated		4.
PRC Envelope #2 Rotated		Ŀ
PRC Envelope #1 Rotated		
PRC 32K(Big) Rotated		Ρ
PRC 32K Rotated		
PRC 16K Rotated		H
RDDC Equalance #10		Δ

 Unckeck the box of "Fit to paper" and select the 1:1 from the drop-down menu of Scale



7) Set the Drawing orientation to Landscape



8) Click "OK" and the Browse for Polt File window will appear

			Plot upside-do	wn	
Preview	Apply to Layout	ОК	Cancel	Help 🔇	



A Browse for Plot Fil	le	×
Save in:	Paper Box - To	o <u>l</u> s 🔻
3	Name Date modified Type This folder is empty.	
A360		
History		
Documents		
Favorites		
FTP		
	<	>
Desktop	File name: 1 paper box_1 Sa	ve
	Files of type: Plot File (*.plt) V Can	cel

9) Select the save folder and define file name, then click "Save" to convert

- 10)Close the AutoCAD program and open the SmartCONTROL[™] Software.
- 11)Click "File" → "Import"





12)Select HPGL(*.plt) format from the drop-down menu of Files of type, and then select the file to import.

SC Import		×
Look in: Paper Box	← 🗈 💣 📰▼	
Name 2	Date modified	Ту
paper box_1	12/19/2017 6:13 PM	A
٢		>
File name:paper box_1	Open	
Files of type: HPGL (*.plt)	Cancel	
🗖 Raster PSI		

13)File import is completed.





5.4 GCC LaserPro DFS Registration Marks Generator

DFS Marks Generator is a script (plug-in) for Adobe Illistrator and CoreIDRAW that allows users to create the registration marks directly. The script will be installed on your computer when you installed the SmartCONTOL DFS.

Following take CorelDRAW as an example:

- 1) Open Corel DRAW and open/import the file that you are going to add registration marks.
- 2) Go to Tools > Marcos > Run Marco



3) Select "GlobalMarcos (DFSMark.gms)"

		1
Macro name		Run
		Cancel
		Step Into
		Edit
		Create
		Delete
facros in:	VBAProject (\$290LS-50JFL_202012) ~	
escription:	<all projects="" standard=""> GlobalMacros (DFSMark.gms) GlobalMacros (GlobalMacros.gms)</all>	



4) Run "Module.DFS_AAS_Plug_In" accordingly

Macro name Module DR Module DR	e S AAS Plug In S AAS Plug In	Run Cancel
WOU (III-II-I	N_AAN_F10g_111	Step Into
		Edit
		Create
		Delete
Macros in:	GlobalMacros (DFSMark.gms)	~
Description:		

5) DFS Marks Generator user interfaces:





You can also add a Hot Icon for DFS Marks Generator

Select "Tools \rightarrow Options \rightarrow Workspace \rightarrow Customization \rightarrow Commands \rightarrow Macros \rightarrow Madual.DFS_AAS_Plug_In" and Click OK.



<u>F</u> ile	Edit	<u>V</u> iew	<u>L</u> ayout	Object	Effects	<u>B</u> itmaps	Text	Table	T <u>ool</u> s	Window	<u>H</u> elp						
C	•	8	1 P.		÷ گ	Ċ	× 1		PDF H	33%	• 🔳		Θ	Snap <u>T</u> o 🔻	0	F	Q2
Custo	om		•	210.0 m	m ▼ + m ▼ +		- Pa	0.0	Units: m	n <mark>illi</mark> meters	•	0.1 mm	•	ዊ _x 5.0 mm ዊ _r 5.0 mm	* . * .	Π.	\oplus

Unit

Set the imperial units or metric systems as your preference. Inches Millimeters

	Single Mode Feeder Mode
Margin :	Margin :
Horizontal (0.39~1.97 in): 0.39 inch	Horizontal (10~50 mm): 10
Vertical (0.39~1.97 in): 0.39 inch	Vertical (10~50 mm): 10
Band :	Band :
Band 1 (0.79~11 in): 11.02 inch	Band 1 (20~280 mm); 280
Band 2 (0.79~11 in): 8,27 inch	Band 2 (20~280 mm): 210



Single Mode/Feeder Mode

Set Single-mode or Feeder mode according to your demand. Single mode will appear two registration marks on the right side of the object. Feeder mode will appear six registration marks to cover whole object.



Single mode: The plugin will insert two registration marks automatically.





Margin

You are free to adjust horizontal/vertical margin start from the paper edge. (Available range: 10~50mm) Default value of DFS Marks Generator is 10mm as below pictures.



Note:

- 1. DO NOT move all registration marks on the CoreIDRAW or Illustrator. It will cause the CCD cannot read all registration marks.
- 2. Please enter a new value of the margin if you want to modify the position of the registration marks.
- 3. Please make sure that your graphic is located inside the field of registration marks. The pattern outside the registration marks will not be cut or engraved.



Feeder mode: The plugin will insert six registration marks automatically.



Band

Available to adjust band distance for band 1 and band 2, range is 20mm~280mm. Default value of DFS Marks Generator is 280mm (band 1) and 210mm (band 2) as shown below:





You might tell from the above picture, there is a banding issue if we use the default setting.



6) So we will need to go back to "DFS Marks Generator" to adjust the band distance as 240mm as shown below.

C Single Mode Feed	er Mode
Margin :	
Horizontal (10~50 mm):	10 mm
Vertical (10~50 mm):	10 mm
Band :	±1041
Band 1 (20~280 mm):	240 mm
Band 2 (20~280 mm):	240 mm

7) After adjustment, there is no banding issue.





5.5 SmartCONTROL DFS Operating - Single Mode

Single mode allows user to manually load and unload a single blank or printed media sheet, GCC LaserPro DFS will cutting directly or read the registration mark and cutting precisely.

For blank media sheet

- 1) Place the blank media sheet on the working table.
- 2) Turn the focus light on from right side of the DFS, and then the focus light and two CCD light will show on.



3) Please make sure the focus light is alignment center on the media sheet.





4) Open the file or import prn file



5) Click "Output" on the menu bar and select "Processed Condition Setup..."





6) Set the processing parameter in "Pen Parameter" tab

Pen Parameters	
Pen Color Speed Power pp	
1 100 10 1524	
2 100 10 1524	
3 100 10 1524	
4 100 10 1524	
5 100 10 1524	
6 100 10 1524	
7 100 10 1524	
8 100 10 1524	
9 100 10 1524	
Speed 1 100 %	
Power 4 10 %	
PPI • 1524	
More Pen Settings	
OK Cancel	

7) Click "Output" on the menu bar and select "Output..." to launch the output window





 Deselect checkbox of the "Use CCD" and Click "More Settings" and then the "Output Settings" window will pop up.

Output	×
Status	
Machine: DCP Comm. port: TCP/IP	
Cut Count : 0 Total Time: 00:00:00	
Machine Start Button Ready	
Output Progress:	
Output Selected Objects Only Use CCD	
1 Page Repeat Eject Page	
Preview 2 More Settings	
Execute Stop	

9) Deselect checkbox of the "Auto load" and "Auto Eject", and then click "OK" to close the "Output Setting" window

Output Se	ttings	×
DCP M 300	achine Settings toLoad BandWidth Auto Eject nonCCD LMargin	
5	Speed(1-6)	
User A User S	djstment Scale: 0/1000	
	OK Cancel	



10)Click "Preview" to make sure output size is fit media sheet

Output	\times
Status	
Machine : DCP Comm. port : TCP/IP	
Cut Count : 0 Total Time: 00:00:00	
Machine Start Button Ready	
Output Progress:	
✓ Output Selected Objects Only	
1 Page Repeat Eject Page	
Preview More Settings	
Execute Stop	

11)Click "Execute" to start laser processing.

Output	\times
Status	
Machine : DCP Comm. port : TCP/IP	
Cut Count : 0 Total Time: 00:00:00	
Machine Start Button Ready	
Output Progress:	
✓ Output Selected Objects Only Use CCD	
1 Page Repeat Eject Page	
Preview More Settings	
Execute Stop	



For printed media sheet

- 1) Place the printed media sheet on the working table.
- 2) Turn on the focus light from right side of the DFS, and then the focus light and two CCD light will show on.



3) Move the media sheet and make sure two CCD light are align to two registration mark.



4) Open the file or import prn file





5) Click "Vision" on the menu bar and check the mark 1 and Mark 2 are definition automatically.





 Click "Vision" on the menu bar and select "SmartCONTROL DFS" to launch the SmartCONTROL DFS window

SC S	mart	CONTROL - [auto feeder 320x460.ezd]		
SC	File	Output Edit Draw Image Color	Vision View Window Help	-
D	B	🖬 🎽 🎭 🐰 🖻 💼	SmartCONTROL DFS	
	0.00		Mark1 Definition	3 = 🖄
↓			Mark3 Definition	50
€	k	. <u>โนสสนัปนิสสสน์ได้สสสน์ได้สสนับได้ส</u> ส –	Mark4 Definition	<u>dadilihada</u>
Q	×		Mark5 Definition	
Q	~		Mark6 Definition	
Q	0	200	Clear Mark Def]
Q	0			
	-	0_		

7) Use the mouse to move the learn ROI-1 and ROI-2 frame until the frame at the center of registration mark.





8) Click "Start Learning" button and the Learned Mark Window will show the learned pattern.



9) Click "Output" on the menu bar and select "Processed Condition Setup..."





10)Set the processing parameter in "Pen Parameter" tab

Sys	tem Par	rameters					\times
	Machine Pen Par	e Mode : ameters	DFS		•	Save to Default	
	Pen	Color	Speed	d Pow	er ppi		_
	1		100	10	1524		
	2		100	10	1524		
	3		100	10	1524		
	4		100	10	1524		
	5		100	10	1524		11
	6		100	10	1524		
	7		100	10	1524		
	8		100	10	1524		
	9		100	10	1524	~	
	Spe	eed 🔳				▶ 100 %	
	Po	wer 🔳				10 %	
		PPI	_			▶ 1524	Ш
	More Pen Settings						
OK Cancel							

11)Click "Output" on the menu bar and select "Output..." to launch the output window





Output	×			
Status				
Machine : DCP Comm. port : TCP/IP				
Cut Count : 0 Total Time: 00:00:00				
Machine Start Button Ready				
Output Progress:				
✓ Output Selected Objects Only ✓ Use CCD				
1 Page Repeat Eject Page				
Preview More Settings				
Execute Stop				

12)Click "More Settings" to launch the "Output Settings" window.

13)Deselect checkbox of the "Auto load" and "Auto Eject", and then click "OK" to close the "Output Setting" window

Output Set	tings	Х			
DCP M Au 300	oLoad BandWidth Auto Eject nonCCD LMargin				
5	Speed(1-6)				
User Adjstment User Scale: 0/1000					
	OK Cancel				



14)Click "Use CCD" and "Execute" to start laser processing.

Output	×			
Status				
Machine: DCP Comm. port: TCP/IP				
Cut Count : 0 Total Time: 00:00:00				
Machine Start Button Ready				
Output Progress:				
Output Selected Objects Only Use CCD				
1 Page Repeat Eject Page				
Preview More Settings				
Execute Stop				



5.6 SmartCONTROL DFS Operating - Production Mode

Production mode allows user to automatically load and unload blank or printed media sheets by conveyor, DFS will cutting directly or read the registration mark and cutting precisely.

For blank media sheets

1) Place the blank media sheet on the feeder from right side of the DFS





2) Open the file or import prn file



3) Click "Output" on the menu bar and select "Processed Condition Setup..."





4) Set the processing parameter in "Pen Parameter" tab

System Parameters					×	
Machine Mode : Pen Parameters	DFS		•	Save to Default	1	
Pen Color	Speed	Powe	(ppi			
1	100	10	1524	<u>^</u>		
2	100	10	1524			
3	100	10	1524			
4	100	10	1524			
5	100	10	1524			
6	100	10	1524			
7	100	10	1524			
8	100	10	1524			
9	100	10	1524	~		
Speed 4				▶ 100 %		
Power 4				▶ 10 %		
PPI 🔳				▶ 1524		
More Pen Settings						
ОК	(Cancel		

5) Click "Output" on the menu bar and select "Output..." to launch the output window




6) Deselect checkbox of "Use CCD" and Input repeat value at "Page repeat", and then click "More Settings" to launch "Output Settings" window

Output	\times
_ Status	
Machine : DCP Comm. port : TCP/IP	
Cut Count: 0 Total Time: 00:00:00	
Machine Start Button Ready	
Output Progress:	
2 Output Selected Objects Only	
100 Page Repeat Eject Page	
Preview 3 More Settings	
Execute Stop	

 Select checkbox of the "Auto load" and "Auto Eject", and then input value of the "BandWidth" and "nonCCD LMargin"

Out	tput Setti	ngs		×
	DCP Mac	hine Settings		
	🗹 Autol	_oad		
	100	BandWidth 🔽	Auto Eject	
	40	nonCCD LMargin		
	5	Speed(1-6)		
	User Adjs	tment		
	User Sca	le: 0/1000		
	4			
		ок	Cancel	



 BandWidth – it allows user to setting the processing size, the value depend on your graphic size.

200 BandWidth	200mm		200mm
100 BandWidth	100mm	100mm	100mm

• NonCCD LMargin – It allows user to setting the offset of graphic

20	nonCCD LMargin	20mm
40	nonCCD LMargin	40mm



8) Click "Execute" to start laser processing.

Output	×
_ Status	
Machine : DCP Comm. port : TCP/IP	
Cut Count : 0 Total Time: 00:00:00	
Machine Start Button Ready	
Output Progress:	
✓ Output Selected Objects Only Use CCD	
100 Page Repeat Eject Page	
Preview More Settings	
Execute Stop	

For printed media sheets

1) Measure the distance from paper edge to center of the first registration mark







2) Place the printed media sheets on the feeder from right side of the DFS

3) Open the file or import prn file





4) Click "Vision" on the menu bar and check all the marks are definition automatically.



5) Click "Vision" on the menu bar and select "SmartCONTROL DFS"

SC S	mart	CONTROL - [auto feeder 320x460.ezd]		
SC	File	Output Edit Draw Image Color	Vision View Window Help	
	B	🖬 🎽 🎇 X 🖻 🖻	SmartCONTROL DFS	
a _x a _y	0.00	00 ↔ 1 🛱 380.000 ↔ mm 💌	Mark1 Definition	1
*× *>		· <u>지카베 · 지카</u> 바 · <u>지카</u> · 지키포 · 지키모 · 지키		45
€	k	500 450 400 350	Mark3 Definition Mark4 Definition	50 dddddddddd
Q	×		Mark5 Definition	
Q	1		Markb Definition	
Q			Clear Mark Def	
Q	0			
	_	0-1		



6) Go to "Operation" tab and input the distance value at "Edge to 1st Mark Distance" and click "Apply", and then click "Move to Mark Learn". Conveyor will load media sheet automatically to work area for CCD learning.

Calibration	Operati	on 🛛	Advanced
Mark Le	arning- Number		
All M	arks	-	Start Learning
Mark Dia	meter / L	engtł	ן ו
5.00	r	nm	Apply
Load	Marks	Sa	ve Marks
E je to 1	st Mark D	Distar	ice
8	mm	ו	Apply
	2	N Ma	Nove to ark Learn

7) Use the mouse to move the learn ROI-1 and ROI-2 frame until the frame at the center of registration mark.





8) Click "Start Learning" button and the Learned Mark Window will show the learned pattern.



9) Mark learning is complete, remove the media sheet from work area and place the printed media sheets on the feeder from right side of the DFS again





10)Click "Output" on the menu bar and select "Processed Condition Setup..."

SC Smar	tCONTRO)L - [Sr	martCO	NTROL2]			
SC File	Output	Edit	Draw	Image	Color	Vision	Vi
🗅 🖻	Pro	cessec	l Condi	tion Setu	р		
	Out	tput Pr	eview				
	Out	tput				Ctrl+J	
-T- Arial	Cor	nmuni	cation	Configur	e		
			1	-	-		-

11)Set the processing parameter in "Pen Parameter" tab

Curt	D							\sim
Syste	em Para	imeters						~
N	Machine en Para	Mode : meters	DFS		•	Save to De	fault	
	Pen	Color	Speed	Pow	er ppi			
	1		100	10	1524		^	
	2		100	10	1524			
	3		100	10	1524			
	4		100	10	1524			
	5		100	10	1524			
	6		100	10	1524			
	7		100	10	1524			
	8		100	10	1524			
	9		100	10	1524		×	
	Spe	ed 🔳				▶ 1	00 %	
	Pow	er 🔳				•	10 %	
	Р	PI 🔳				•	1524	
			Mor	e Pen	Settings			
		OK	(Cancel		

12)Click "Output" on the menu bar and select "Output..." to launch the output

window





13)Click "More Settings" to launch the "Output Settings" window.

Cut Count : 0 1 Machine Start Button Ready	otal Time: 00:00	00
Output Progress		
Output Selected Objects O	nly 🔽 Use CCD	
Preview	Eject Page	9
	More Seangs	

14)Select checkbox of the "Auto load" and "Auto Eject", and then click "OK" to close the "Output Setting" window

0 nonCCD L Margin
- noneer Emargin
5 Speed(1-6)



15)Click "Use CCD" and input repeat value at "Page repeat", and then click

"Execute" to start laser processing.

0	
Machine : DFS	Comm. port: TCP/IP
Cut Count : 0	Total Time: 00:00:00
Machine Start Button Read	y 🖲
Output Progress:	1
2 Output Selected Objects Page Repe	at EiectPage
Preview	More Settings



5.7 Vector Engraving Function Operating

Vector engraving function allows user to choose the fill / frame to process the objects of vector.



The following is an instruction of how to use the vector engraving function in the SmartCONTROL DCP.

5.5.1 Engraving by Frame operating

1) Right-click on the object and then select "Property Table" from the menu to launch the property table window.





 Click "Frame" tab and select the "Vector Pen", and then click "Apply All" button to make sure the setting.

Pronerty Table	×
Frame Till Rectangle Output Parameter	1
By Color By Layer	
Pen width : 0.000 mm	
Color : 2 Vector Pen	
R:0 C None Pen	
G:0 C Graph Pen	
B:0	
End Caps	
Joint Style	
Set As Default Apply	
Apply All	

 Click "Output" on the menu bar and select "Processed Condition Setup..." to launch System Parameter window





4) Set the processing parameter in "Pen Parameter" tab, and then click "OK" button to make sure the settings.

Syste	em Par	ameters					\times
N P	Machine en Para	e Mode : ameters	DFS		•	Save to Default	1
	Pen	Color	Speed	Pow	er ppi		
	1		100	10	1524	^	
	2		100	10	1524		
	3		100	10	1524		
	4		100	10	1524		
	5		100	10	1524		
	6		100	10	1524		
	7		100	10	1524		
	8		100	10	1524		
	9		100	10	1524	~	
	Spe	ed 🔳				▶ 100 %	
	Po	wer 4				▶ 10 %	
		PPI 🔳				▶ 1524	
More Pen Settings							
	OK Cancel						

5) Click "Output" on the menu bar and select "Output..." to launch the output window





6) Depend on your design to setting the Output parameter in Output window. For more detail please refer to chapter 5.3 or 5.4

Output	×				
Status					
Machine: DFS Com	nm. port : TCP/IP				
Cut Count : 0 Tota	al Time: 00:00:00				
Start Button Ready 🛛 🛑	🔽 Keep Door Closec				
Output Progress:					
Output Selected Objects Or	nlı 🔽 Use CCD				
1 Page Repeat	Material Eject				
Preview More Settings					
Execute	Stop				

 After the settings of output parameter, click "Execute" to start laser processing.





5.5.2 Engraving by Fill operating

1) Right-click on the object and then select "Property Table" from the menu to launch the property table window.



2) Click "Fill" \rightarrow "fill by line" to show the setting page.

After the settings, click "Apply" button to make sure the settings.

Property Table	×
Fram Fill Red	ctangle Output Parameter
	-2
Color :	
Border :	0.100 <u>*</u> mm
Pitch :	0.100 • mm
Times :	1 -
Angle start :	0.000 • deg.
Angle step :	0.000 • deg.
Set As Default	Apply

Border:

Use Border to frame the unwanted bulging edge of marking image.



Pitch:

It is the numbers of lined images that you wish to be marked.

For instance, a lined image is set with parameters of angle start: 0, and angle step: 90, at time: 2, the lined image will be marked as below:



Times:

Setting the number of times to repeat the process of the object

Angle Start:

A lined image can be rotated by Angle start.

Angle Step:

This is how much angle of a lined image you would like to rotate at second time.

3) Click "Output" on the menu bar and select "Processed Condition Setup..."





4) Set the processing parameter in "Pen Parameter" tab

System Parameters				×	
Machine Mode : Pen Parameters	DFS		•	Save to Default	
Pen Color	Speed	Power	. bbi		
1	100	10	1524	<u>^</u>	
2	100	10	1524		
3	100	10	1524		
4	100	10	1524		
5	100	10	1524		
6	100	10	1524		
7	100	10	1524		
8	100	10	1524		
9 💳	100	10	1524	~	
Speed 1				▶ 100 %	
Power 4				▶ 10 %	
PPI 🔳				▶ 1524	
More Pen Settings					
OK					

5) Click "Output" on the menu bar and select "Output..." to launch the output window





6) Depend on your design to setting the Output parameter in Output window. For more detail please refer to chapter 5.3 or 5.4

Output	×
Status	
Machine : DFS	Comm. port : TCP/IP
Cut Count : 0	Total Time: 00:00:00
Start Button Ready 🧧	🔽 Keep Door Closec
Output Progress:	
🔽 Output Selected Object	cts Only 🔽 Use CCD
1 Page Repe	at Material Eject
Preview	More Settings
Execute	Stop

7) After the settings of output parameter, click "Execute" to start laser processing.

Output	×
Status	
Machine : DFS Comm.	port: TCP/IP
Cut Count: 0 Total Time:	00:00:00
Machine Start Button Ready	
Output Progress:	
5 Output Selected Objects Only	Jse CCD
100 Page Repeat	Eject Page
Preview More Setti	ings
3 Execute Stop	1





Appendix

GCC LaserPro DFS Specification Sheet



6.1 GCC LaserPro DFS Specification Sheet

Specification	DFS30-80GT	DFS30-100GT	DFS30-150SR	DFS30-200SR	
Field Size of Galvo	320 x 320 mm (12.6 x 12.6")				
Max. Line Speed	11m/sec (depending on cut lengths)				
Material Thickness	0.15 mm ~ 0.3 mm (0.006"~0.012")				
Lacor Sourco	CO2 laser, 10.57-10.63µm wavelength CO2 laser, 10.57-10.63µm				
	(0	CW)	wavelength (CW/Pause)		
Laser Wattage	80W	80W 100W 150W		200W	
Cooling	Air-c	cooled	Water-cooled		
Media Size	Max. Media size 353 x 500 mm (13.9" x 19.69")			69")	
Working Area	320X320 mm / 320 x 500 mm (12.6" x 12.6" / 12.6" x 19.69") with convey				
Machine Dimension	L1607 x W1403 x H1730 mm (63.27" x 55.24" x 68.11")				
Conveyor		Stand	lard		
Conveyor Drive		Servo M	Notor		
Conveyor Loading	Max. 2 kg				
CCD Recognition	CCD x 2				
Compatiable	Mindows 10 (22.9 G4Dit)				
Operating Systems	Windows 10 (32 & 64Bit)				
Computer Interface	USB 3.0 port x 2 (only support USB 3.0), Ethernet				
Display Panel	Button Base				
Safety	Class 4 Laser Product Compliant with EN60825-1:2007				
Electricity	200-240V AC				
Power Consumption	4500W (Include:	Laser and conveyor	6100W (Include: Laser and conveyo		
	system) system)				
Air Exhaust System	External exhaust system with minimum flow rate 1350 m3/hr (795 cfm) is				
	re	quired, one 6" conne	ection on the machi	ne	
Auto Sheet Feeder (O	ptional Item)				
Max. Speed	34M(111ft) / min				
Max. Paper Width	13.9"X19.7"(353mmX500mm)				
Paper Weight	120gsm~500gsm				
Min. Paper Size	8 1/2" (216mm)				
Power Requirement	220V, 50/60HZ, 4.6A/2.3A Fuse Rating 6A TimeDelay				
Dimension	32.4" x 30.8" x 47.1" (823 x 782 x 1196mm)				
Weight	305lbs (120Kgs)				