

FLASHCUT CNC

CONTROL MADE SIMPLE

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FlashCut CNC Newsletter - August 2016

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FlashCut CNC Celebrates Its 20th Birthday!



20 years ago, co-founders Ron Worth and Rick Pfaff combined what they had learned from years at IBM and Stanford University to create the world's first easy to use Windows CNC control software in conjunction with a plug and play real time controller. FlashCut shipped one of its first systems to Bill Ciabaszewski - an ace machinist from Connecticut. Soon after, Bill made FlashCut this plaque to show off the precision, contoured cutting he was able to do easily with FlashCut CNC.

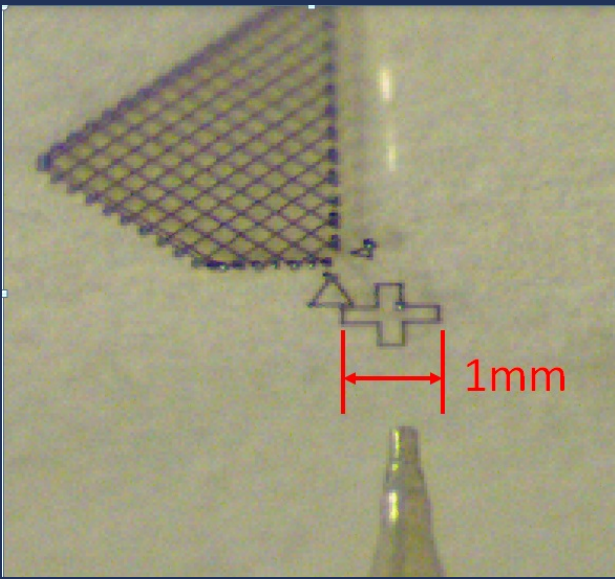
Twenty years later, The FlashCut team is indebted to Bill and the tens of thousands of other FlashCut customers worldwide. Feel free to share how FlashCut has helped your operation or creativity by sending project descriptions and photos to sales@flashcutcnc.com. We would love to hear from you.

Thanks for 20 great years and we look forward to the next 20!



Sandia® National Labs Chooses FlashCut to Control Metal Deposition and Multi-Material 3D Printing Applications

Sandia® National Labs teamed up with FlashCut CNC and Mycrojet to develop software and custom controls for their revolutionary metal deposition and multi-material 3D Printing application. Sandia® has been a leader in 3D printing technology for the past 30 years and is currently developing a system that will integrate two different materials in one 3D printed object.



This specific 3D printing process is Direct Write electronic printing of conductive traces. The printer consists of an aerosol-based flow cell that uses multiple aerodynamic lenses and a sheath gas flow to collimate and focus a stream of aerosol metallic droplets. The aerosol is created from an electronic ink, using an ultrasonic aerosolization process. The print head uses an internal pneumatic shutter to disrupt the continuous aerosol stream, so that discrete structures (lines, pads, bumps, etc.) can be printed on various substrates. Each line shown here is a consistent 60 microns thick of silver.

Common substrates are glass, silicon, polyimide, low-temperature plastic, and epoxy. Sandia chose the FlashCut Pro-Series Servo CNC Controller to control every part of this revolutionary process. Below is a screenshot of the CNC program and toolpath to create the pattern above. [Click here for a video](#) of this ground breaking process.

The screenshot displays the FlashCut CNC software interface. The main window shows a 3D model of the printed part on a substrate. Below it are two 2D plots: one showing the toolpath in the XY plane and another showing the Z-axis movement. The G-code program is visible in the bottom left, and the CNC control panel is on the right.

Program		Machine	
X	0.000	X	N/A
Y	0.000	Y	N/A
Z	0.000	Z	N/A

Relative		Dist To Go	
X	40.838	X	0.000
Y	35.038	Y	0.000
Z	7.638	Z	0.000

Tool: None | Length: ...
 Offset: X 0.000 Y 0.000 Z 0.000
 Comp: Positive (G43) | Diam: 0.000

Connected

```

1 NS (File Name - Irvine Cleaned and
2 N10 (Default Plasma Post)
3 N15 G90 G71
4 N18 G01 F600
5 N20 G0 Z0.0000
6 N25 G0 X0.3750 Y0.6250
7 ;N30 ;G28.1 (Probe for Stock)
8 ;N35 G0
9 G01 F600
10 N40 M201 G04 X1:(Shutter closed, Fl
11 G04 X1: WAIT
12
13 N50 G1 Y1.0000 F600
14 N55 X0.6250
  
```

SHUTTER (Off) | G.Code | Jog | Point | Home | MDI | Probe | Cycles

Jump To Line | Faster | Program Feedrate: 0.0
 Cancel | Go | Slower | 100 % Override: 0.0

Calc Run Time
 Total: 00:01:46
 To Go: 00:01:46

Reset | Step | Continuous
 Start | Rev | Feed Hold (Any Key)

Process and equipment specifics:

- Apparatus: IDS Mycrojet aerosol printer
- Ink: UTDots Ag 40 silver nanoparticle ink
- Substrate: PET (polyethylene terephthalate)
- Print Speed: 10 mm/s

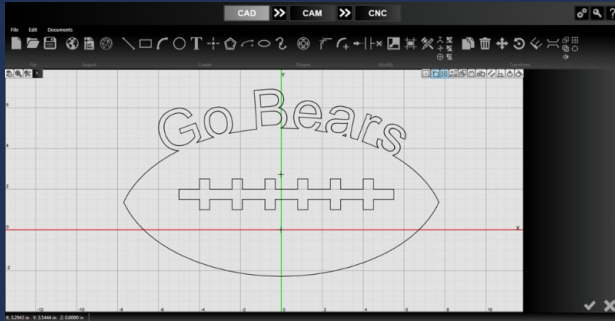
Stream thickness: 60 microns

Circuit: processor layer interconnect re-route

Sandia is also using FlashCut for multi material 3-D Printing. See the [video here](#) for a sneak preview of this exciting new technology powered by FlashCut CNC controls and software. To learn more in depth information about the technology visit the [Mycrojet website here](#).

[E-mail](#) or call us today for more information about the controls or if you have your own 3D process that needs top-notch controls.

FlashCut Version 6.0.6 Packs Even More Features



Our software engineers are continuously hard at work to give you great features in our intuitive graphical interface. Here are some of the latest:

- **Curved Text Tool**- Bends any font around any shape and allows you to adjust it to perfection.
- **Welding Tool** - Combines any series of intersecting shapes into one closed object. This along with the Curved Text Tool are extremely useful for artwork. [See this video](#) for an example of this and curved text.
- **Plate Alignment** - Don't have the muscle to align a 1/2" plate of steel on your table? Our plate alignment tool along with our laser pointer will align and rotate the part relative to the software in just a few clicks.

Call or [e-mail](#) us today for more information. Remember, FlashCut can easily upgrade many competitive plasma, water jet and oxy-fuel systems, including TorchMate®.

FlashCut Hits the Road! IWF® 2016, IMTS® 2016 and Fabtech® 2016

IWF®, this year's largest woodworking show, will be in Atlanta this August 24-27. We will be supporting some of our OEM's there and will be available to demonstrate the 3D version of our highly acclaimed CAD/CAM/CNC software. [E-mail us today](#) to set up a personal demo tailored to your needs.



August 24-27, 2016, Atlanta, GA
World Congress Center

IMTS®, this year's largest manufacturing show, will be in Chicago this September 12-17. Come to our booth (N6536) to see our latest version 6 features running on a plasma machine plus our new 3D CAD/CAM/CNC for milling and routing. We will also feature Mill, Router and Lathe retrofits. [E-mail us today](#) to set up a personal demo tailored to your needs.



September 12-17, 2016, Chicago, IL
McCormick Place, Chicago
Booth N6536
[Sign up at IMTS.com](#)

Fabtech®, North America's largest metal fabrication show will be in Las Vegas November 16-18. Come to our booth (N4136) to see our latest version 6 features running on a plasma machine plus our new 3D CAD/CAM/CNC for milling and routing. [E-mail us today](#) to set up a personal demo tailored to your needs or for free tickets.



November 16-18, 2016, Las Vegas, NV
Las Vegas Convention Center
Booth N4136
[Sign up at Fabtechexpo.com](http://Fabtechexpo.com)

9th Annual Bike To Work Day Raises Funds and Awareness for JDRF



FlashCut CNC is proud to announce our 9th annual Bike to Work Day which will take place on Thursday, August 4th 2016 starting at 7:00AM. This year all proceeds from the event will go to JDRF (Juvenile Diabetes Research Foundation) which is dedicated to funding research and advocacy for type 1 diabetes. Millions of people around the world live with type 1 diabetes (T1D), a life-threatening autoimmune disease that

strikes both children and adults. There is no way to prevent it, and at present, no cure. JDRF works every day to change this by amassing grassroots support, deep scientific knowledge and strong industry and academic partnerships to fund research. FlashCut CNC is proud to support JDRF in their tremendous endeavor.

You can read more about JDRF and donate to this year's event on our [special event page](#).

To sign up to ride in the event, donate without riding or sponsor one of our riders please fill out and electronically submit the [Donation / Rider Form](#). It's not too late and 100% of all donations will go to JDRF. Thanks for your support!

Please call or e-mail us today with any questions or comments about topics in this newsletter or anything else. We would love to hear from you.

Happy Cutting!
Your friends at Flashcut CNC

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