HADDINGTON DYNAMICS

7705 Commercial Way, Ste125
Henderson, NV 89011

JUNE 2017

Haddington Dynamics is the creator of *Dexter*, a high-precision, high-performance 3D-printed haptic robot powered by an FPGA supercomputer. Dexter is designed as an open source global resource that radically bends cost curves, and empowers society to redefine how humans use and interact with robots. Dexter has a 670mm reach, 1kg payload and 50µm repeatability.

Very Busy May. Sorry no Newsletter

Makecations and Maker Faires, Oh Boy

We started and ended May with Makecations and in the middle of the month we had a fabulous time in the Bay Area at the Bay Area Maker Faire. We were not able to get a Newsletter out.

Robert Toppel, CEO of Axiom Electronics came to Vegas to build a Dexter and get to know the gang at Haddington. Robert runs a world class contract manufacturing company in Beaverton Oregon. We spent the days building and the evenings talking. Robert's knowledge of documentation was a big help in the Assembly Manual.

We ended the month (and part of June) with William Ha of SteaMakers in Hong Kong. William took the long flight over and we spent some extra days with him to build a Dexter and fight jet lag. William was great to have here and wants to bring Dexters to schools in Hong Kong.

The team at Haddington Dynamics is making some wonderful new friends and business connections.

Dexter is Now a Laser Cutter!!!

Having fun with lasers and no one has been hurt…yet

We picked up an 8 watt laser at Maker Faire. When we got home we started to immediately play with it. Lasers are just plain cool. James Wigglesworth designed the mount for the laser and has been testing it out.

We will bring this to the North County Maker Faire this weekend (June 17-18). We just ordered shielding that will arrive just in time.

Software Update

v 1.19

Highlights: New simulate architecture that more closely models Dexter hardware. New Job param: when_stopped. New instructions: Dexter.move_all_joints_relative and 4 new Dexter "mode" instructions. New dexter0.prop("prop_name"

Updates found at http://hdrobotic.com/software/

North County Mini Maker Faire®

North County Maker Faire
AGSEM, Vista CA
June 17-18, 2017

Electronics Axiom

Presentation of Dexter to the Robot Operating System (ROS) Development Group
Hosted by Robert Toppel of Axiom Electronics
Beaverton OR
June 19, 2017

Forum is Live!!

http://hdrobotic.com/dexter-community/

EVERYTHING IS OPEN SOURCE

Onshape has all the CAD files
GitHub has all the source code
Thingiverse has all the STL files
There are links to all of these at www.hdrobotic.com

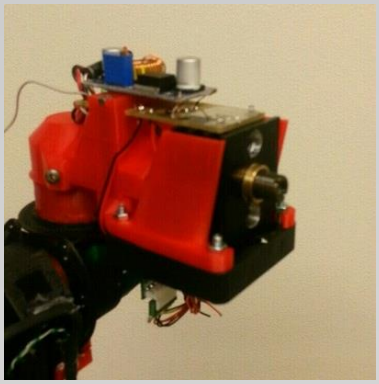
Dexter is the 'factory' for everyone else.

BAY AREA MAKER FAIRE

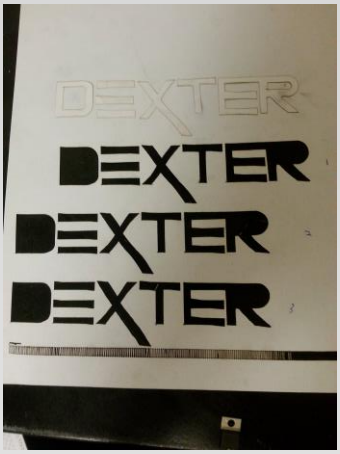
The Bay Area Maker Faire was awesome. The Haddington Team was in San Mateo for four days with each day getting better than the last. The trip started off with a Kickstarter party at Barebottle Brewing Company where admission was only for those with a successfully funded Kickstarter campaigns and the drinks were paid for. We met all sorts of groups from Circuit Scribe to Strawbees with interesting projects (Check them out: www.circuitscribe.com and www.strawbees.com). The next morning it was off to the Maker Faire. We setup shop in the startup section called, Redwood Pavilion. This Maker Faire brought in the coolest people. Many makers that stopped by our booth were either the CEO of their startup company, worked for some big-name company like Google, Apple, or NASA, or was a famous venture capitalist that we should have heard of. It seemed like every connection we made was a huge step forward for us as a company. We met a vendor who could manufacture our 3D printed parts for a third of the price and at a higher quality. We found a contact at NASA who was interested in sending our arms to Mars. We met a couple of people who wanted to use our arms for haptic feedback in Virtual Reality, who also happened to be our second Kickstarter backer. No event in the world could compare to the technical knowledge density that was present at this event. Ultimately it was not the shows, booths, or food but the people we met that made this trip one of greatest in my life.

-Narrative from James Wigglesworth

Dexter Laser Cutting Complex Patterns



To laser cut complex patterns you could pass in a list of code generated points or simply a file of format DXF.



The laser cutter tool head was only developed last week but will soon be available to purchase as an add-on.

This laser cutting capability allows us to really fine tune our Cartesian motion. The laser spot is about 100 microns in diameter with potential to go even smaller. This has allowed us to verify our incredible precision as we are able to trace over previously cut patterns with almost no additional burning. In addition to precision we now have a tool to measure path accuracy when accuracy errors are less than 1mm. We were unable to measure this properly until now and with this tool we have a feedback loop. The work we are doing with this laser will be fundamental for any tool from a pen to a 3d printer.