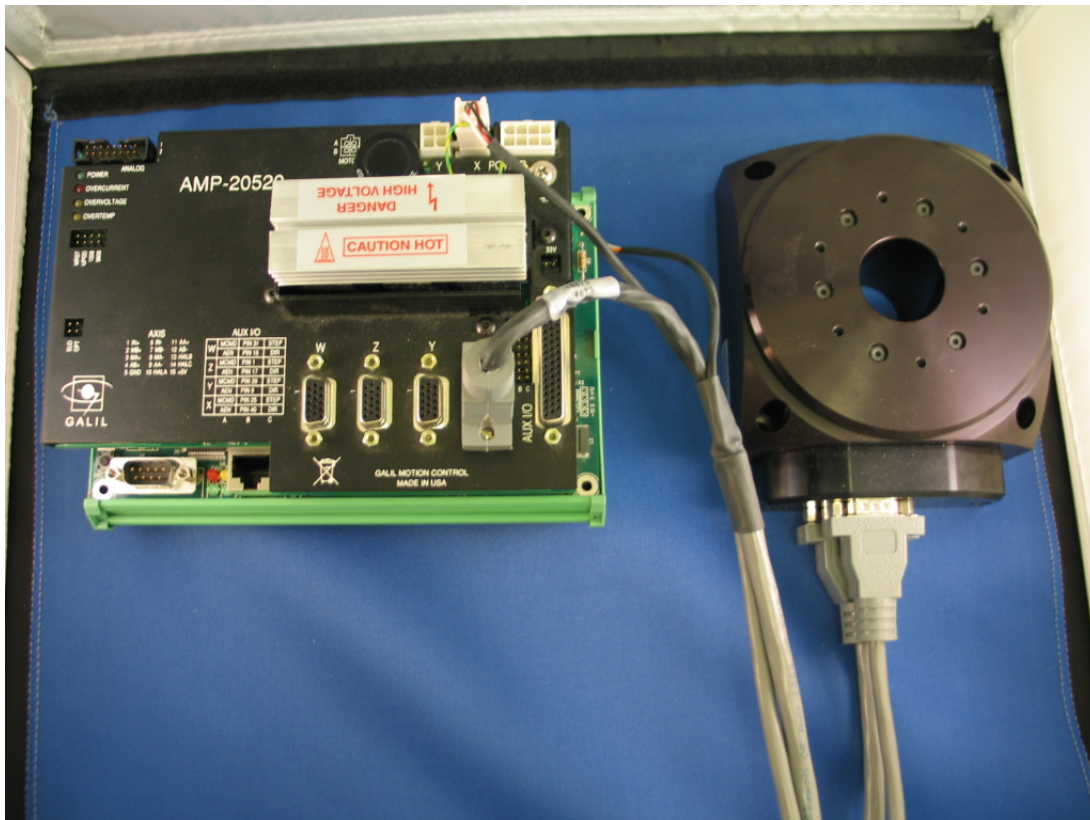


Application Note #5519

Using High Resolution Griffin Motion Stages with Galil Motion controllers

Pairing a Griffin Motion stage with a Galil Motion controller and amplifier is a quick and efficient way to have very precise motion. In our example we will connect a Griffin Motion RTS-DD-100 rotary stage with a DMC-2123-DC24-DIN single axis controller and integrated AMP-20520 amplifier however any Galil controller and amplifier combination would work as well.

Connection is quick and simple with cables provided by Griffin that mate with Galil connectors. We will provide the amplifier 24VDC which will be shared by the controller logic; however amplifier bus voltages up to 80VDC are possible.



Testing

In our testing we set up the stage with no load and created simple back and forth motion. The code, including tuning parameters, can be seen in Figure 2.

```
test_code.dmc
0 MO
1 AG0
2 KP10;KD50;KI 40
3 FA3
4 AC1000000
5 DC1000000
6 SP500000
7 SH
8 #LOOP
9 IP100000
10 AM
11 WT50
12 IP-100000
13 AM
14 WT50
15 JP#LOOP
```

In this system the stage has 819200 counts per revolution. We were able to get accuracy down to plus or minus 5-10 counts for the majority of the motion, with a brief spike to 20 counts during acceleration. Figure 3 shows the commanded position in red and the position error in orange. The position error scale is 20 counts/division.



Griffin Motion offers stages that provide high precision motion along with cables that make connecting to a Galil motion controller simple. For questions regarding the Griffin Motion stages, please visit <http://www.griffinmotion.com/>

For more information on Galil motion controllers, or to discuss your application in detail, please contact a Galil Application Engineer at 1-800-377-6329.