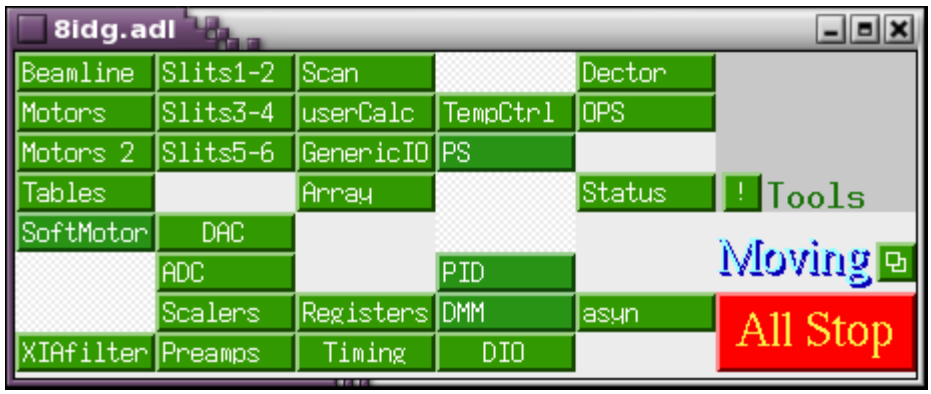
Micos Rotation Stage with Pollux Driver
2011.07.08 Joe Strzalka

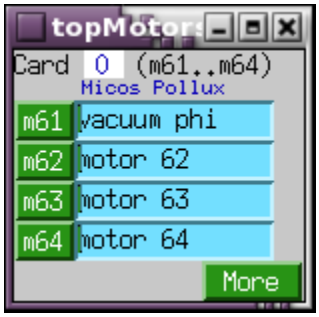
Hardware: Micos RS-40 in-vacuum rotation stage
Micos Pollux Controller: SMC Pollux
Adapter: Vaccum DB-9 to DB-9 for Pollux (could be eliminated in future with vacuum feedthru rewired)
Power supply for Pollux
RJ45-DB-9 cable

Software:
Joe developed a software driver to interface the Pollux driver with EPICS
Joe noticed that our medm startup script, ~/local_macros/start_epics_8idguser_current was not running the current version of epics. He changed it to start synApps_5_4_2 instead of synApps_5_2_1

EPICS:

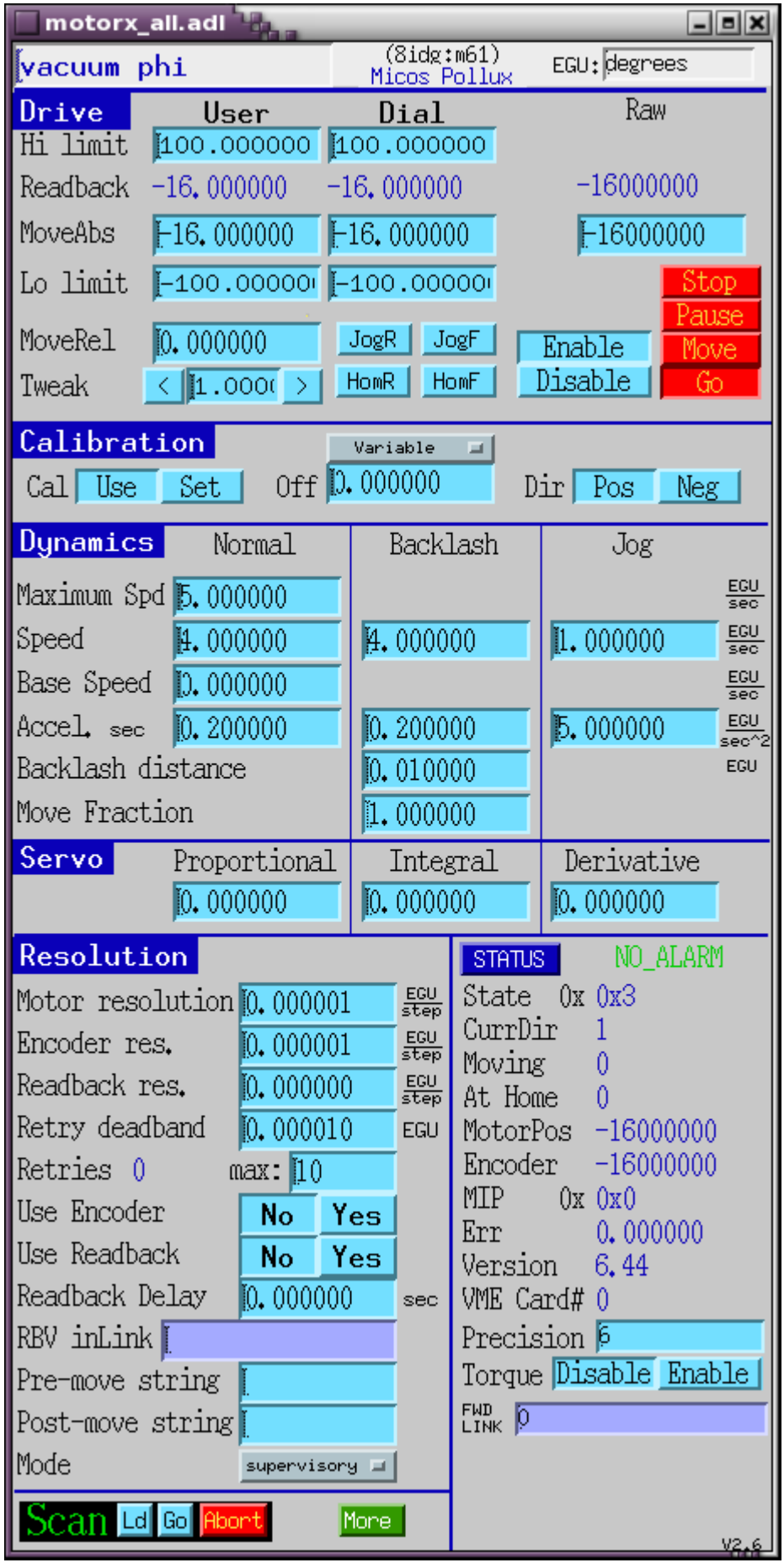


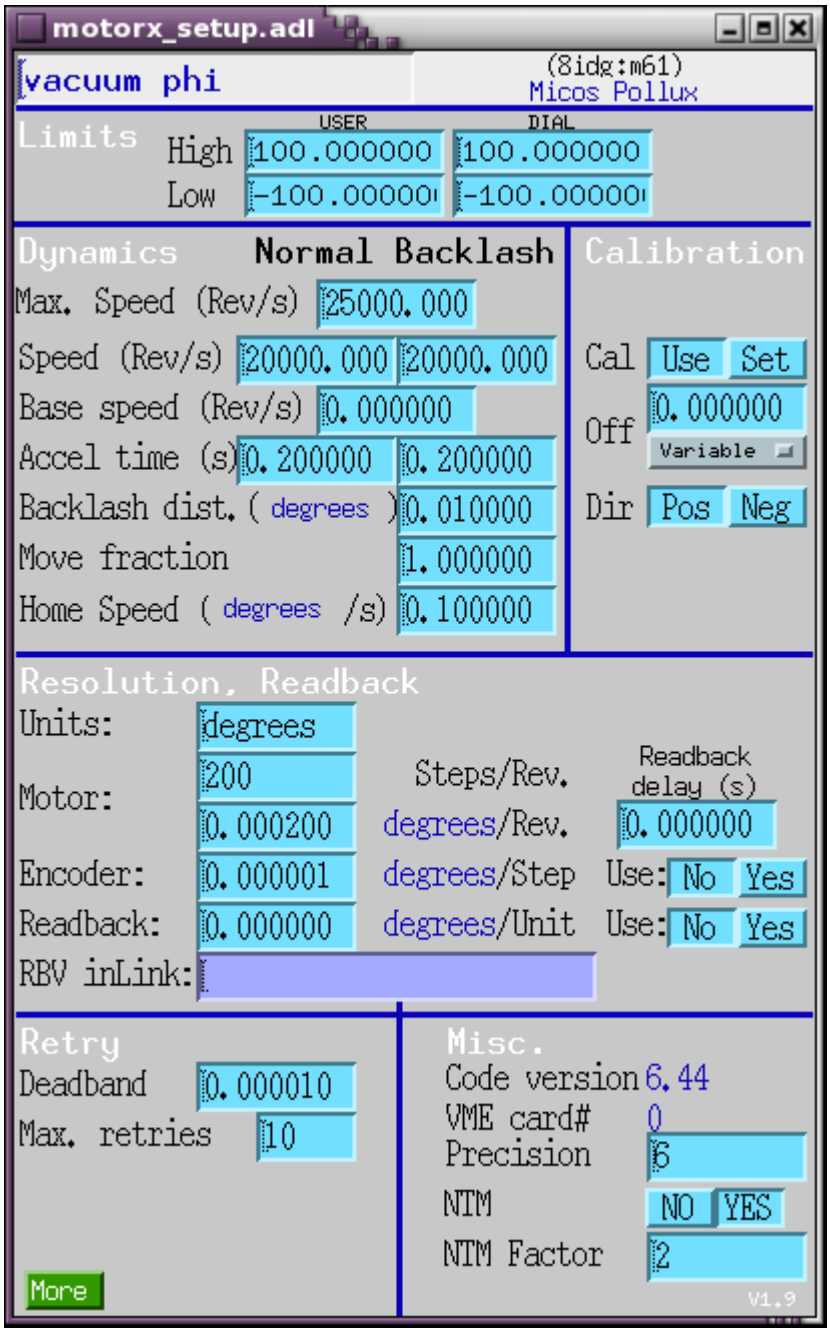
Click “Motors 2”



Currently using 8idg:m61, or slot 1-D on the upper SBS Technologies unit on back of the 8-ID-G rack.

These are the correct parameters for the motor:


motorx_all.adl
vacuum phi
(8idg:m61)
Micos Pollux
EGU: degrees
Drive
User
Dial
Raw
Hi limit
100.000000
100.000000
Readback
-16.000000
-16.000000
-16000000
MoveAbs
-16.000000
-16.000000
-16000000
Lo limit
-100.00000
-100.00000
Stop
Pause
MoveRel
0.000000
JogR
JogF
Enable
Move
Tweak
1.000
HomR
HomF
Disable
Go
Calibration
Variable
Cal
Use
Set
Off
0.000000
Dir
Pos
Neg
Dynamics
Normal
Backlash
Jog
Maximum Spd
5.000000
EGU/sec
Speed
4.000000
4.000000
1.000000
EGU/sec
Base Speed
0.000000
EGU/sec
Accel. sec
0.200000
0.200000
5.000000
EGU/sec^2
Backlash distance
0.010000
EGU
Move Fraction
1.000000
Servo
Proportional
Integral
Derivative
0.000000
0.000000
0.000000
Resolution
Motor resolution
0.000001
EGU/step
Encoder res.
0.000001
EGU/step
Readback res.
0.000000
EGU/step
Retry deadband
0.000010
EGU
Retries 0
max: 10
Use Encoder
No
Yes
Use Readback
No
Yes
Readback Delay
0.000000
sec
RBV inLink
Pre-move string
Post-move string
Mode
supervisory
Scan
Ld
Go
Abort
More
STATUS
NO_ALARM
State 0x 0x3
CurrDir 1
Moving 0
At Home 0
MotorPos -16000000
Encoder -16000000
MIP 0x 0x0
Err 0.000000
Version 6.44
VME Card# 0
Precision 6
Torque
Disable
Enable
FWD LINK
V2.6



NOTE:

1) This rotation stage has a home switch.
2) The Pollux driver treats the home position as a limit switch, so it is not possible to drive the motor past the home position.
3) Joe set up the EPICS driver in such a way that the user and dial positions can be zeroed, but they cannot be set to arbitrary values.
4) When the Pollux driver powers up, it calls the current position zero.

More details: http://www.micos-online.com/web2/en/1,2,060,smc_pollux.html
http://www.micos-online.com/web2/en/1,5,110,rs40.html