

Title: Gantry System Basics
Products(s): MultiFlex, DCX-PCI300
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Summary

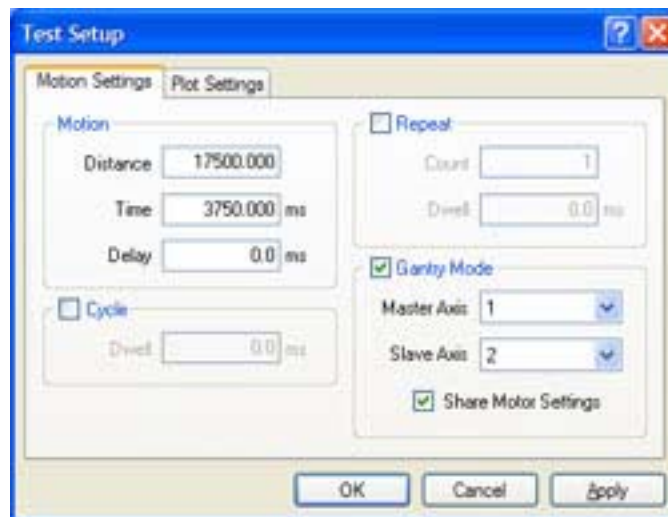
Within the motion control industry a Gantry system is typically defined as two closed loop servo driven linear stages that are mechanically coupled together by a 'cross member' upon which the load / loads are mounted.

More Information

The primary obstacles to successfully integrating a gantry are:

- Mechanical alignment of the 'cross member' - must be as close to 90° as possible
- The two linear stages must perform similarly
- Tuning (defining PID parameters for) the two servo axes

PMC's Servo Tuning Utility includes a Gantry Mode Option (Setup Menu | Test Setup). With Gantry Mode enabled you can define the Master axis (gantry primary axis) and the Slave axis (gantry secondary axis). You can also select to have both axes **Share Motor Settings** (Master axis parameters are also used by the slave axis). Once Gantry Mode is enabled, the axes are 'tuned' as if it was a single servo axis.



Gantry System Operation

To position the gantry, enable master slave mode with the MCEnableGearing() library function. All moves issued to the master will also be issued to the slave. If either of the axes encounter a following error or 'tripped limit sensor' both axes will stop. For information on 'homing' gantries please refer to TechNOTE 1061 - Homing a Gantry.