

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

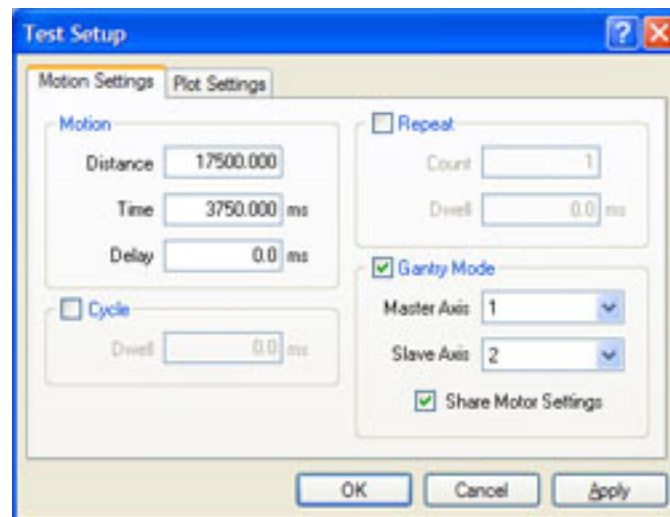
Within the motion control industry a Gantry system is typically defined as two closed loop servo driven linear stages that are mechanically coupled together by a 'cross member' upon which the load / loads are mounted.

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.