



Dynamic Perception AT2 controller announced

Submitted by andre on Fri, 02/01/2013 - 20:40



[1]

Dynamic Perception had launched their [AT² Motion Controller](#) [2]. The controller is in stock at ElysiaVisuals and available as of now.

The AT² Motion Controller is designed to provide real-time control over two DC Motor Axes primarily for live video work, or for certain simple continuous motion time-lapse setups where an external intervalometer is used.

X/Y Joystick

The X/Y Joystick allows control over each of the X and Y axes. Moving the joystick along an axis causes that axis to move when Cruise is disabled for that axis. The speed of the axis is determined by the position of the joystick, where the position further from the center is the maximum speed, and centered is full stop.

Damping Adjustment

When Cruise is disabled for an axis, the knob for that axis controls damping. Damping is the amount of delay that applied to speed changes on that axis. The maximum damping configurable is 5 seconds. When damping, abrupt changes in speed in the joystick are smoothed out to make more



natural-looking moves. To adjust damping, rotate the knob clockwise to increase damping, or counter-clockwise to decrease damping. When the knob is fully to the left, there will be no damping, and fully to the right there will be 5 seconds of damping.

Cruise

For situations where it is not desired to hold the joystick at a certain speed and direction for an axis, Cruise may be used. To enable Cruise, depress the Cruise button for that axis. Once cruise is enabled, the Damping Adjustment / Cruise Control knob for that axis may be used to control the speed and direction of that axis in real-time. Like the joystick, in this mode, the Cruise Control knob sets the axis at full-stop when at vertical center, full-speed left when fully left, and full-speed right when fully right.

Always ensure that Cruise control button is raised so that Cruise is disabled before turning on the controller to prevent accidental movement when applying power.

Direction Inversion

There are times when one's perspective of direction is changed based on the relationship to the motion rig. This can cause confusion when attempting to drive an axis with the joystick. To aid in this, each axis has a direction inversion switch on the front panel of the AT2 controller. Flipping this switch causes the axis to move in opposite directions relative to the inputs. Do not adjust this switch while an axis is moving, let it come to a full stop before changing the inversion setting.

Locking DC Jacks

All DC jacks on the AT² are of a locking type. This locking type uses a simple winged plug, as is found on the Dynamic Perception EZ-Swap DC Motors. To lock the plug into the jack, align the plug so that the wings meet the cutouts in the jack, press the plug in fully, and then gently rotate in the clockwise direction 1/6 turn. Do not over tighten, the jack will be fully locked even if not fully turned.

To unlock the plug from the jack, rotate the plug counter-clockwise until easy movement ceases, and then pull the plug firmly from the jack. Do not attempt to over-turn the jack, or you will begin to unscrew the housing.

Movement and Torque Take-Up

The AT² is a truly analog motion controller, which uses analog circuitry to feed pulse-width modulation of the motor drivers with a maximum 500Hz timing period. This means that there is no special mode for operation at very low speeds, and some motor and load combinations may result in no movement at very low speeds. This is due to the fact that all DC motors are non-linear in their performance, and require a minimum PWM level to break over the static torque and start moving your payload. While no movement may occur at the lowest speeds, the static torque to begin moving remains consistent, and in these situations once the break-over torque is achieved, the motor will logarithmically accelerate as intended from a full stop to the desired speed. There will be no large jumps in speed.

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