

Machine Control Adapter

For Prinz Albert™ Automatic Control Systems



Description:

The machine control adapter model PAA1 allows a BULLSEYE receiver to be used with a Trimble™ Prinz Albert™ automatic control system. It is designed to be an economical replacement for the Prinz Albert (PA) receiver without replacing additional system components. The adapter is configured from the factory to simulate the PA receiver performance. Adjustments to the system can be made with the adapter if desired.

The adapter can be used with the BULLSEYE models 5, 5MC, or 6. The models 5 and 6 can be used as automatic or stand alone display receivers. The model 5MC is for automatic only.

Installation:

The adapter is inserted between the existing control box and the electric mast/receiver components. The adapter's 10-pin pigtail connector is coupled to the 10-socket interface of the control box. The mast/receiver 10-pin connector is coupled to the 10-socket connector on the adapter.

The BULLSEYE can be mounted directly onto a rigid mast. If the existing system contains an electric mast, the receiver is mounted on a mast extension tube (MET1). The receiver/mast cable's 7-socket connector is coupled to the 7-pin connector on the bottom of the Bullseye.

Operation:

The adapter will operate with 12V or 24V systems.

When power is applied, the Bullseye and the adapter will perform a short power-up sequence. The LED's will flash and communication will be established. Follow normal operating and safety procedures.

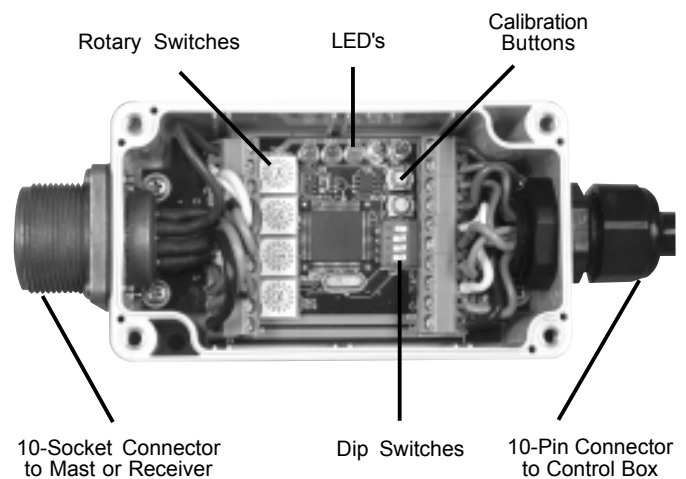
Adjustments:

The factory-set configuration for the adapter has the same deadband and correction zones as the PA receiver. When initially used with a BULLSEYE, no differences in system performance should be noticed. If system changes are desired, settings are adjustable for the on-grade deadband, fine correction zone, and medium correction zone via internal rotary switches. Adjustments are also available for the receiver LED display brightness and laser beam averaging via internal dip switches.

The switches are accessed by removing 4 screws on the adapter housing and removing the lid. A small flat head screwdriver is used to change the switch positions.



PAA1 Machine Control Adapter
Part Number ATI-991355-02



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Rotary Switches:

Adjustments to the on-grade deadband, fine correction zone, and medium correction zone are made with rotary switches. Each of these three switches have 16 positions and each position represents 0.10 inch for a total range of 0.0 to 1.5 inches. The coarse correction zone is the remainder of reception range available.

The Time rotary switch is used for hydraulic calibration. Each position represents 1 second of valve actuation.

Dip Switches:

LED display brightness and beam strike averaging (a rolling 2 strike average of beam position) are selectable with dip switches. Switch 4 selects the LED display brightness. Switch 3 selects the laser beam averaging function. Switch 1 and 2 are used for hydraulic calibration and both must be in the OFF position for normal operation.

All switches are clearly marked on the board and each adapter includes operating and adjustment instructions.

LED's:

A 5 light LED array inside the adapter is used for diagnostics and also displays grade readings. If there is a communication failure, the high and low LED's will flash rapidly in unison.

Hydraulic Calibration:

In addition to the normal operation and adjustments, the adapter has a hydraulic calibration mode. This feature is useful for measuring correction speeds of the hydraulic valves on the machine. The Time rotary switch, 2 calibration buttons, and dip switches 1 and 2 are used in the hydraulic calibration mode.

Mast Extension Tube:

The BULLSEYE clamps to poles 1-1/4 inch to 2 inches in outside diameter. A top and a bottom clamp support the receiver on the mast. A mast extension tube is used to adapt the receiver to an electric mast. The mast extension tube allows both clamps of the receiver to be tightened, ensuring a tight, secure grip.

PAA1 Specifications:

- Housing Size, L x W x D: 4.5 x 2.5 x 2.2 in. (11.4 x 6.5 x 5.6 cm)
- Cable Length: 18 in. (46 cm)
- Weight: 1 lb. (0.45 kg)
- Electrical Input: 12 or 24 volts
- Electrical Connection: Standard military type (Mil spec C-5015)
- Operating Temperature: -22° F to 140° F (-30° C to +60° C)



BULLSEYE 5MC
Automatic Control
Mini LED display



BULLSEYE 5
Automatic or Display
Plumb indication built in



BULLSEYE 6
Automatic or Display
Angle Compensation for Excavators -
ACE



MET1
Mast Extension Tube
Part Number ATI-991354

