Logic Beam Setup Guide

Each Logic Beam consists of an emitter-receiver pair. Emitters are labeled with the part number 81116 and have the letters *D C B A* printed on the back of the sensor body:

Receivers are labeled 81117 and have *D C B A 4 3 2 1* printed on them:

Both the emitter and the receiver have a green *Power On* light on the top of the sensor body; this indicator is on whenever the sensors are supplied with 24vdc power. The receiver also has a yellow *Beam Detected* light next to the Power On light. This light is on when the beam is unblocked, and turns off when the beam is blocked.

The letters *A B C D* that appear on the sensors indicate which channel or frequency the sensors operate on. All sensors operate on channel A, and these indicators may be disregarded.

The indicators *4 3 2 1* on the receiver are are used as a signal strength meter, where a *4* represents a full-strength beam, while a *1* represents no beam.

Note the line drawn between *2* and *1* - whenever the signal strength is *2 or higher*, the sensor considers the beam unblocked, the Beam Detected light is on, and the sensor transmits a signal to the control panel.

When the signal strength drops to *1*, the sensor considers the beam blocked, the Beam Detected light turns off, and no signal is transmitted.

A typical installation has an emitter-receiver pair mounted on opposite sides of the lower portion of a slide tube, mounted to brackets with universal swivel adjustment. By adjusting the orientation of the swivel bracket, the sensors are aligned by referring to the signal strength meter for feedback. Signal strength will be maximized when the sensor bodies are pointed directly at each other (the emitter and receiver will not be perpendicular to the lenses they are mounted to). As the sensor bodies are moved gradually off this ideal axis, the signal strength will get progressively lower.

The signal should be set to the highest number that reliably breaks the beam when a person passes, but does not break the beam when water splashes over the lenses. For example:

When the slide is on and water is running, the signal strength reads *4*. But sometimes the beam does not break when a rider passes it; the receiver is adjusted off-axis until the signal strength reads *2*. This effectively lowers the 'beam broken' threshold and makes it easier for a rider to be detected. However, with a signal strength of *2*, the beam is broken randomly when riders are not in the slide tube. To avoid these false detections, the receiver is adjusted back toward its original position until the signal strength is a steady *3*.

In some extreme cases, it may be necessary to move the emitter off axis as well to reduce the signal strength enough to break reliably when a rider passes by.

NOTES:

In addition to signal strength adjustment by moving the sensors, the control system also implements 'filter timers' that are designed to ignore the signal from the Logic Beam unless the beam is broken for a predetermined amount of time, usually 0.10 seconds or thereabouts. This prevents false detections that may occur with very brief beam blockage that may arise from splashing water in the slide tube. In some cases, these values need to be adjusted as well. A longer filter timer setting reduces the overall Logic Beam sensitivity, while a shorter filter timer increases the overall Logic Beam sensitivity. Refer to the Slide Dispatch System User Manual for instructions on adjusting filter timers.

For further assistance during an installation, contact Kevin at Launch Logic between 8am and 5pm PST at: (562) 400-0205