Laser Communicator Extras

Most of all the folks who completed their Laser Communicators at the November meeting now need to set these up un a mechanically stable fashion for communicating. In addition, many will have 2 “left-over” parts, an LED and a 330Ω 1/4w resistor. This LED and resistor were to serve as a pilot indicator for the receiver audio amp, as a visual indicator of battery power on, and to remind you to turn it off when unused to preserve battery life. In order to install this simple modification, open the rear cover of the audio amp by unscrewing the single phillips screw. Locate the two points where switched DC voltage can be obtained: the positive from the side of the external DC input jack, and the negative from the small jumper visible on the upper right of the circuit board (see photo). Find a suitable drill bit that will make a hole in the casing for a simple force fit of the LED through the top of the case. Plan for enough clearance for the drill bit to avoid encountering any of the circuit board. Trial fit the LED in place, and if OK, place the resistor in position, and shape and trim the leads of the resistor and LED for soldering. Use some insulation to cover the bare leads. Make sure the LED polarity is correct.

Open rear view of the Audio amp

Next, a method of firm mounting for the transmitter and receiver needs to be devised. One of the things that everyone will need are some rubber bands to strap the laser pen to the end of the aiming rail, and also a band or two to link the rail to the short aluminum angle to provide some return resistance for the azimuth adjustment screw. Select fresh rubber to provide some modest tension over about 1 cm of travel. Coarser aiming will be done by adjusting the position of the entire assembly, preferably on a mount of a sturdy camera tripod. For those who used a 2X4 for mounting the aiming rail, this simply takes the determination of the center balance point, and drilling a pilot hole, so that the screw from the base of the mount can firmly be attached. For the receiver, it is best to have a separate mounting scheme, so it can be moved independently to capture the incoming signal without moving the transmitter beam. If you use the PVC cap with its velcro attachment to the audio amp without the 12” hood, it can generally stand alone on any surface. Others might want to fashion an adjustable stand, or use another tripod, as once the 12” hood is attached, it could use a strap or two circumferentially to hold it in place. Keeping the two units separately also allows for testing of your own unit.

K1JT, KA3MGB and WA3IUV work on their rigs with an unidentified assistant-

WA3RLT, W2SJ and W3ITT assemble their communicators

KB3BBR, WA3DRC and W2PED are happily at work