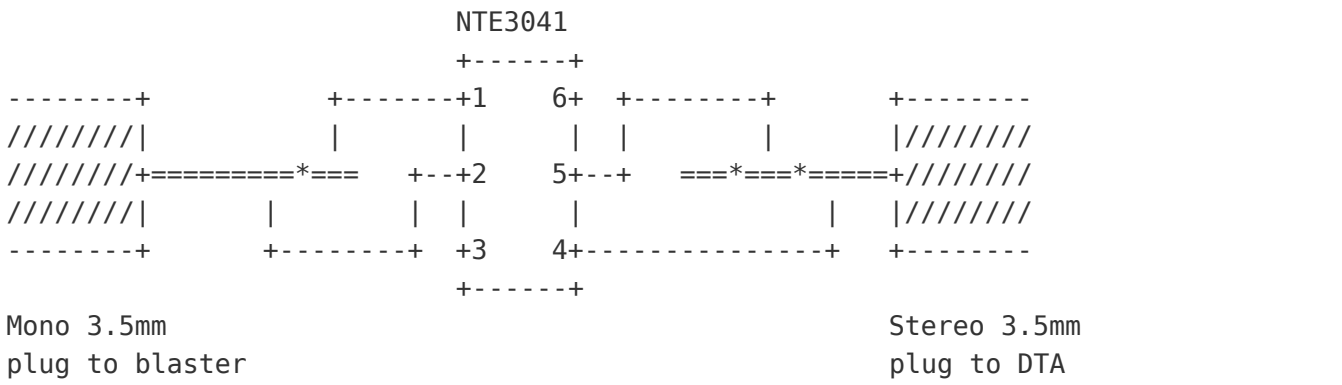
IR Blaster to Comcast DTA direct connect cable using an opto-isolator.

ASCII art schematic follows. Fixed font required for viewing.



Parts list:

NTE3401 opto-isolator
“mono” (tip and sleeve) 3.5mm plug
“stereo” (tip, ring, and sleeve) 3.5mm plug
various heat shrink tubing
appropriate length two conductor wire (shielded audio cable works well, and in my case, I used a 6' stereo extension cable, 3.5mm to 3.5mm, and cut the cable in half, resulting in two 3' usable wires, of which I only need the ring and sleeve wires to be used.)

Assembly:

Highly recommended to breadboard the design to insure it works with your IR blaster and your target device (not all use the same pin-outs on their IR in). Decide where you want the “bump in the cable” opto-isolator (center, near one end or the other), and cut the cables appropriately. Considering where you will need to have the heat shrink tubing, and solder in the opto-isolator, and the plugs, and use heat shrink tubing on the opto-isolator (and the plugs, as appropriate).

Use:

Plug mono plug into the IR blaster, plug the stereo plug in the DTA. Test that the IR blaster can change the channel on the DTA. In the case of the Comcast DTA, after the direct connect cable is attached, it is a good idea to use electrical tape over the front of the DTA to avoid spurious IR signals.