MAKE YOUR OWN POGO PIN ADAPTER Tommy N. Tyler 23 December 2012

Occasionally you may run across a remote control that does not have a 6-pin header for connecting an interface cable, but instead has just a pattern of six pads somewhere on the main PCB. The pads might have empty holes where a 6-pin header can be soldered, or they might be just plain round pads without holes. They might even be located where it is impossible to add a header because batteries are in the way. It's always preferable to solder a header in place if that is possible, so you have a firm, positive connection for your interface. But if this is just not practical because you lack the technical skills to do it, or don't want to risk damaging the remote, there is another alternative, which is to use a 6-pin probe attached to your interface to make temporary contact with the pads in the PCB.

It is sometimes suggested that you plug a 6-pin header into the interface connector and use its pins for the probe contacts. This is extremely difficult because you have to hold the connector just right for all six pins to make contact at the same time. The slightest movement during upload or download can cause intermittent contact that prevents satisfactory programming. In addition, if the header pins vary slightly in length it may be impossible to find a position where all six pins are making contact.

Years ago you could buy a gadget called a "Pogo Pin Adapter", which could be plugged into your interface connector to convert it into a 6-pin probe The pogo pins were gold plated, with spring-loaded tips that would retract slightly when pressed against a contact surface, making it much easier to make contact with all six pads simultaneously. Nobody sells these anymore, but if you think you need one they are easy to make. This article tells you how.

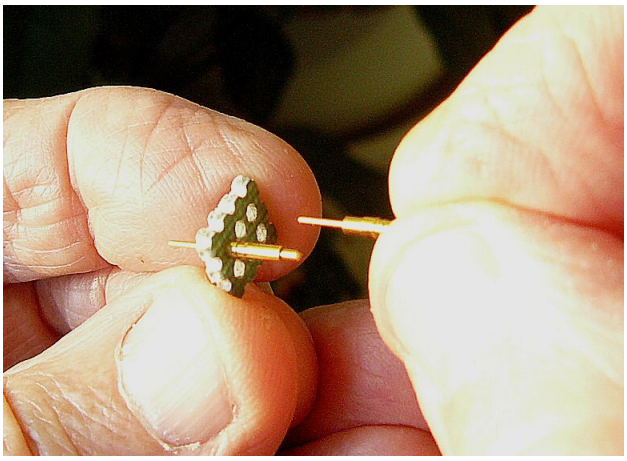
The parts needed are few: a half-dozen pogo pins and a ***very*** small piece of perforated project board. If you are not familiar with the latter, it is a 1/16" thick plastic board, either phenolic or glass epoxy, with rows and rows of .042" diameter holes punched every 0.10" in both directions. You may have a scrap in your junk box, or maybe know a friend with electronic hobbies who will give you a piece. You need only enough to cut a small rectangle four holes wide (0.40") x three holes high (0.30"), leaving six holes in the center that line up perfectly with the pads in the remote as well as the contacts in your interface connector.

Order at least six pogo pins from DigiKey.
http://www.digikey.com/product-search/en?lang=en&site=us&KeyWords=ED8186-ND
Part Number ED8186-ND, Connector Pin, Spring Loaded. For lowest shipping cost, select First Class US Mail. The cost is $1.08 per pin in small quantities, or $.84 per pin for ten or more. My recommendation is that you buy ten pins so you'll have spares in case you lose or damage one.

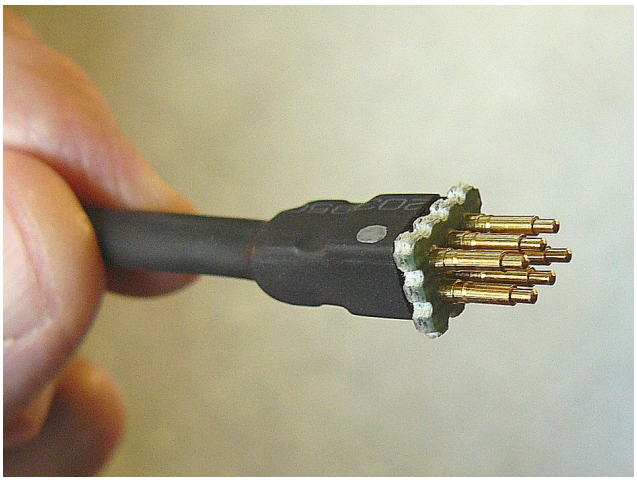
The pogo pin, shown here, is less than 3/4" long , with a spring-loaded plunger at the lower end and a .025" diameter pin at the upper end that is a perfect fit in your interface connector.

Start by enlarging the six holes in your perf board with a 1/16" drill bit.

Insert six pogo pins into the enlarged holes.



Plug all six pins into the connector of your interface.



You can go ahead and use the adapter in this condition if you're in a hurry, but it will fall apart when you unplug it, and you may lose some pins. A more elegant construction is to put some epoxy around the base of the pins to make a permanent assembly. The pins are slightly loose in the connector, so straighten them all parallel before the epoxy sets. You can also drill another piece of perf board and slip it on the end to hold the pins in alignment while the epoxy sets.