

Hacking the 16-Pin Universal Cable

This hack is good for all the newer handhelds with a universal 16-pin connector, which includes the M500 series, M125, M130, i705.

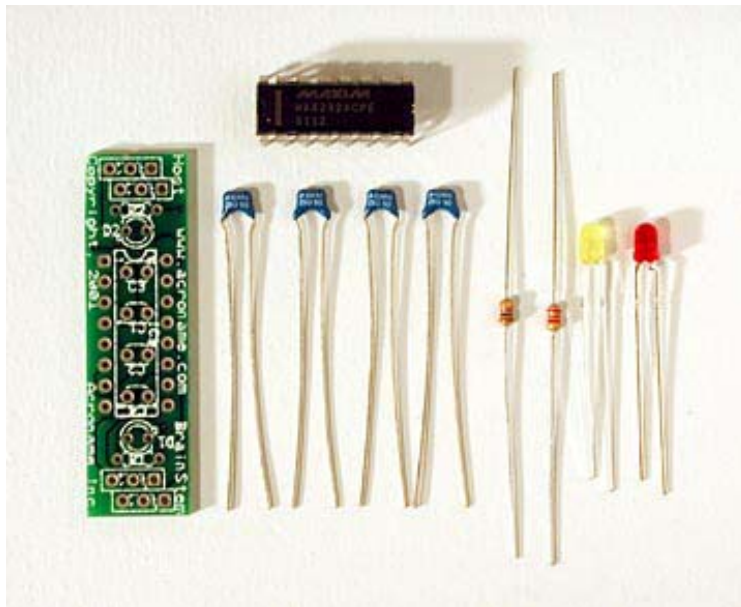
(1). First, purchase a Palm Serial Sync Cable from OfficeMax with the following description:

Belkin Palm Serial Sync Cable
Item # 20078577 , Style # F3X1082-03



Courtesy of OfficeMax

(2). Purchase an RS-232 Level Shifter Kit from [Acroname Inc.](http://www.acroname.com) The part# for the kit is: R115-INT-BRD-KIT



Courtesy of Acroname Inc.

(3). Now you are going to have to decide where on the cable you want to place the Level Shifter. Once you have decided this proceed to cut your cable so that you are left with one cable that has the 16-Pin connector and one that has the DB-9 end. I cut my cable so that I had 9” of cable measured from the tail end of the connector. Cut back some of the black insulator so that the 16-wires are exposed enough for you to work with them. We will only need three of the 16-wires. These three wires will connect to the host end of the Level Shifter. The three wires of interest to us are the blue, yellow, and the brown. Below is a listing of the three wires and their individual functions.

Blue wire --- Signal Ground --- Pin 12
Yellow wire --- Receive (Rx) --- Pin 10
Brown wire --- Transmit (Tx) --- Pin 11

(4). Once you have found these three wires you can open up the 16-Pin connector by unscrewing the two Phillips screws in the bottom of the connector and unsnapping the two snaps on the side of the connector. Now you can proceed to cut any of the other wires that are not one of the needed three, blue, yellow, or brown. Your connector should look like the one below except for the lack of the black shielding, which I removed from my cable.



(5). Now that any unnecessary wires have been removed we should only be left with the needed three wires. Proceed to strip back the shielding on each of the three wires so that they may be soldered to the host end of your Level Shifter. I will not cover the assembly of the Level Shifter Kit, I assume you have already assembled your kit.

(6). The blue wire needs to be soldered to GND on the host end of the Level Shifter. The Yellow wire needs to be soldered to HRX on the host end of the Level Shifter. The brown wire needs to be soldered to HTX on the host end of the Level Shifter.

(7). Next you need to cut four wires that will be soldered to the BrainStem side of the Level Shifter. Cut to whatever length you need. I cut my three wires at 5”. I picked a red wire for Vcc, a black wire for GND, yellow wire for SRX, and brown wire for STX, but you may pick any wire colors that you want.

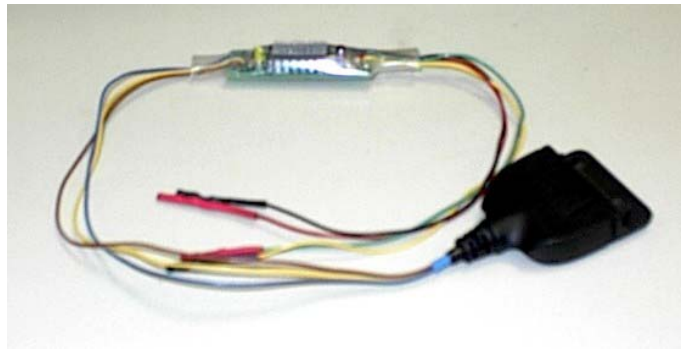
(8). Solder the previously described wires to their proper place on the BrainStem side of the Level Shifter.

(9). The last step is to solder female crimp pins to the end of the four wires coming from the BrainStem side of the Level Shifter Kit. A picture of a female crimp pin is shown below. Be sure to cover the crimp pins with 3/32" heat shrink tubing. I also added 1/2" heat shrink tube to cover the Level Shifter Kit.



Courtesy of Lynxmotion Inc.

Below is a finished Cable!



This completes the cable hacking process.