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GUIDE TO BUILD YOUR OWN MC-31

The biggest challenge in building the MC-31 is purchasing the 10 pin connector which connects to your camera. Some people built their own connector - as I did too - but believe me, the original connector is just so much better. Building the converter itself isn't hard, just follow the instructions below.

Step 1 - Modifying the MC-30

The MC-30 is the simplest and cheapest remote release cable available, so it's the obvious choice. We want to modify this MC-30 so that after the modification the cable can be used as a remote release, or detaching the cable from the switch, it can be used to connect our serial converter to the camera.

The RJ-45 connector (used in networking) is perfect for our requirements, as it has enough contacts, and will lock securely the cable into the MC-30 switch or the serial converter. Additionally, you can use standard CAT-5 network cables to extend your remote release.

After disassembling the MC-30 switch and removing the cable, I took a RJ-45 socket and planted it into the button with my Dremel tool. Afterwards, I clamped an RJ-45 to the cable, carefully, so that the focus and release pins are matching the modified MC-30. I used pins 1-3 on the RJ-45 for this purpose. Step 3 describes how to connect the rest of the pins.

Step 2 - Building the Converter

I have built the serial converter using two RJ-45 connectors, and mounting all the components in between:

I have uploaded the schematics and PCB layouts into the gIcon Connection Schematics folder. I used a MAX232A with 0.1uF capacitors. If you use a MAX232 you must use 1uF capacitors. Visit page 17 on the document above for more

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information.

An individual called Avi - I couldn't figure out his full name - suggests that pull up/down resistors are needed to achieve proper operation. If you visit page 17 on the datasheet above you will realize that the chip already contains them, so there is no need for additional external resistors. On the other hand Avi's pages are very good resources. Check them out: DIY Nikon Cables by Avi.

Step 3 - Making the Cables

We need to build two cables. One to connect the converter to the camera and an other one to connect your computer to the converter.

The following table describes the cable connecting your camera and converter. The camera connector pin layout, is **as seen on the cable**, rather than on the camera. The pin numbers on the converter side refer to the schematics.

Camera Side	Color	Description	Connverter Side
1	Red	Data Receive - RX	6
2	Brown	Battery Voltage	8
3	Gray	Regulated +5 Volt	
4	Purple	Shutter Release	1
5	Blue		
6	Green	Signal Ground	4
7	Yellow	Power Ground	3
8	Orange	Data Transmit - TX	7
9	White	Meter On	2
10	Black		

Table 1: Cable connecting the Camera and Converter

The second cable is simpler, it connects your computer to your converter. The following table describes the connections for DB9 and DB25 serial connectors:

Converter PC Side	Description	DB9	DB25
7	Data Receive - RX	2	3
6	Data Transmit - TX	3	2
3	GND	5	7
4	GND	5	7

Table 2: Cable connecting the Converter and Computer

Step 4 - Testing

To minimise the possibility of a camera damage, initially do not to use the power pins on the camera connector. Connect all grounds before connecting signal pins. After you have double checked all connections, power the unit from 4 AA batteries. Try to connect gIcon via your converter. If it doesn't work, check the RX TX connections, this being the most common error.

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