

[NIKON MODIFICATION – for the Canon DSLR PC Serial Port Control Cable](#)

By: Joe Zeglinski – March, 2009

As a primary reference, I recommend reading the full original article by Paul Beskeen.

“Computerized Shutter Control of Canon DSLR’s”

http://www.beskeen.com/projects/dslr_serial/dslr_serial.shtml

also: For Nikon: http://www.schneordesign.com/Avi/F100/diy_02.htm

This document describes how to make a simple addition to the standard Canon DSLR (300D/10D, etc.) shutter release PC serial port cable, to work with both the Canon DSLR’s **as well as** the Nikons. All that is required is adding a tiny “pin diode” to the stereo plug, inside its housing. You don’t have to touch the interface circuit itself, or even change the 2-conductor cable, to make this a multi-camera-brand interface.

When I originally constructed the serial cable, as designed by Bill Drummond, using the Matthew Chang & Wade Calvert diagram, for their “Opto-Isolator” version, I soon discovered that it would not release a NIKON camera shutter. The problem is that Nikons require the metering circuit (Auto Focus) signal to be present when the shutter release signal fires.

My first mod to make it work with my KODAK DCS PRO SLR/n – which is based on a NIKON N80 DSLR body – was only partially successful. I added a short between the AF and Shutter release. The serial port interface did trigger the shutter, but it fired on ANY “half-press” of the shutter release on the camera, or a remote release. This was not a problem with use of programs like DSLR Focus, Images Plus, etc., since both the AF and shutter signal occurred simultaneously. However, it was annoying that I could not use AF to focus the camera lens, since focussing would fire the shutter.

The solution was to maintain the AF short for shutter release, but isolate that signal for the duration of the AF signal, until the very last moment when the shutter signal fires. I added a very small glass “pin diode” to the end of the cable, between the formerly unused centre band on the stereo plug, and the plug tip (shutter) tab.

Now, I can half-press the shutter release button on the camera to Auto Focus the lens, even with the interface connected to the PC. However, for astro photography, I found it safer to change the DSLR menu, moving auto focus to the camera’s AE button. This way, any half press on the shutter button or any Remote, won’t ruin a hard won focus. Pressing the reassigned AE button is then used to focus the lens, when needed.

As seen in the photos, rather than chopping off the Nikon 10-pin cable from a Nikon MC-30 Remote (similar to a Canon RS-80N3), I decided to modify the body by adding a stereo audio female receptacle inside, next to the Nikon cable exit. This was done by cutting out one of the four screw bosses in the case, and drilling a ~1/4” hole to insert the stereo socket. Since I also wanted the receptacle to be flush to the bottom, I turned down the stereo receptacle screw threads, on a lathe – otherwise, it can be left sticking out about 1/4” below the base. The stereo socket was glued to the case cover, terminals wired across to the cable circuit board inside, and finally the MC-30 was closed up using the remaining three screws.

The beauty of this arrangement, as shown, is that the modified Nikon MC-30 can be used as “Three Remotes”:

1. as the original standard remote, for normal photography
2. with the PC serial port interface control cable, using a variety of shutter release software
3. with a “300D modified” Canon TC-80N3 Timer Remote Controller, without a PC

Since the original unmodified Bill Drummond version didn’t require the optional stereo centre band (AF half-press) signal, this same modified serial port cable should remain compatible with your Canon DSLR cameras.

Top - ground
Left - shutter
Right - focus



Canon N3

Nikon 10-Pin



Simplest Approach:

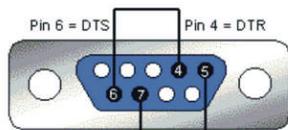
If you don't want to keep the MC-30, an easier approach would be to lop off the MC-30, and add the isolation pin diode inside a stereo in-line socket, to the end of the Nikon 10-pin cable. This modded cable can then be used with either the serial interface cable, or with the TC-80N3.

Also notice, my own Serial Interface Cable, has the Red/Green shutter status LED "squeezed between" the thin cable and the DB-9 covers, where I enlarged the cable entry throat slightly, using a "round file"



(DSLR Focus) Computer Serial Control Cable for DSLR Canon 300D/10D and NIKON

9 pin RS232 port female connector (rear view)

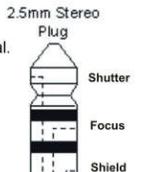


This cable is also useable with the Canon 10D if a suitable 1/8" stereo jack to Canon N3 connector adapter cable is also constructed. Canon cable containing the N3 plug is wired to 1/8" jack as follows:

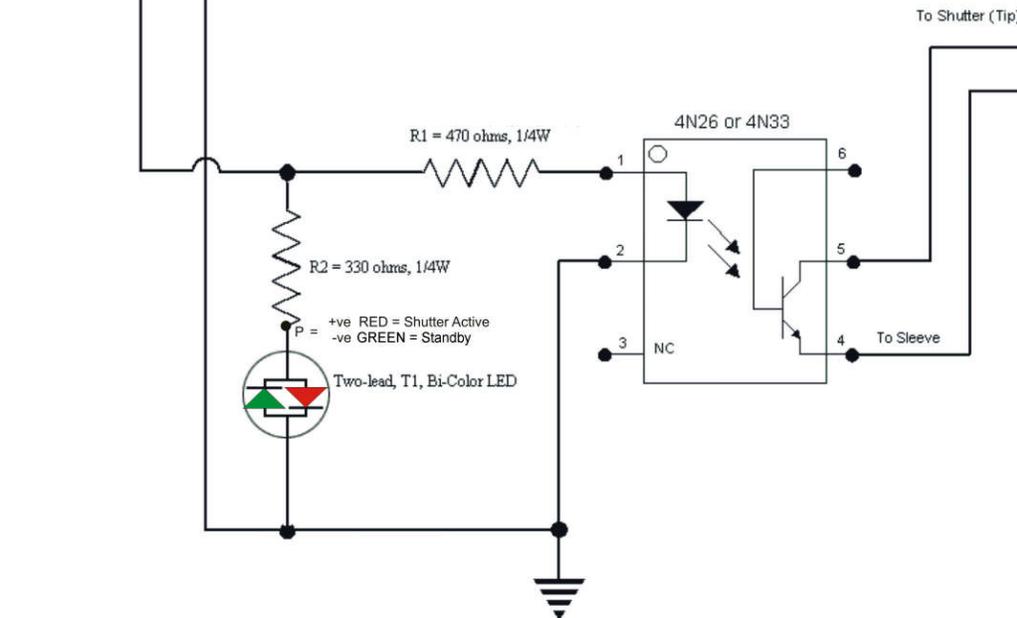
- Red(Shutter) = tip
- White(Half-Press) = not used
- Bare(Shield) = Body

Nikons require presence of Half-Press AF signal for shutter to be released. A small "Pin Diode" is added inside Stereo Plug housing, between AF Ring & Shutter Tip, to 2-core cable. The isolation diode allows manual AF on camera, or a Remote. AF & Shutter are activated together by the serial port RTS signal. A suitable stereo jack to Nikon 10-pin connector adapter cable should be wired for camera socket:

- Purple (shutter, pin 4) = tip
- White (Half-Press, pin 9) = Meter On
- Yellow (Shield, pin7) = Ground



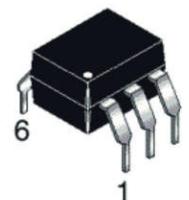
This Serial Control Cable can now be used with both cameras



Notes: 4N26 or 4N33 pinout

- Pin 1 = From RTS
- Pin 2 = To Ground
- Pin 3 = Not connected
- Pin 4 = To Sleeve (Body)
- Pin 5 = To Shutter
- Pin 6 = Not in use

Notes: 4N26 or 4N33 package



This diagram is provided as is, without any warranty, stated or implied. If you build it, it is at your own risk and responsibility.

Opto-circuit suggested by: Bill Drummond
Adapted & drawn by: Matthew Chang & Wade Calvert
NIKON mod added by: Joe Zeglinski