

ZEQ25GT with Go2Nova[®] 8408 Hand Controller Firmware Upgrade

The firmware of a ZEQ25GT, including Go2Nova[®] 8408 hand controller, R.A. and DEC motor drive boards, can be upgraded by a customer. Please check iOptron's website, <u>www.iOptron.com</u>, under Support Directory, for the most up to date firmware.

To upgrade the firmware, you need some or all of the following software/hardware, depends on the upgrading you are performing:

- iOptron Upgrade Utility Program
- 8408 hand controller firmware
- R.A. motor drive firmware
- DEC motor drive firmware
- RJ9 serial port to RS232 cable
- USB to RS232 converter and driver. If your computer does not equip a RS232 port (9-pin D-shape connector) except the USB port, you need to buy a USB to RS232 converter, form a computer hardware store or on-line.

1. Prepare the hardware

In order to perform the firmware upgrade, as well as to use planetarium software to control the mount via a 8408 hand controller, the communication between the PC and hand controller has to be established.

RJ9 to RS232 cable

The firmware upgrade and computer controller is through a RJ9 serial port on a Go2Nova[®] 8408 hand controller. You need a cable to connect this port to the serial port of a computer. Here is a sample of a RJ9 to RS232 serial cable.



If you are making your own cable, here is the wiring instruction:



USB to RS232 converter

If you are using a computer only has USB ports, like most laptops do, you need a USB to COM converter to convert one USB port to a COM (RS232) port. Here are two examples of USB2COM converters.



2. Find the serial port (COM port) number from your computer:

The first step is to find the COM port number. If your computer has a serial port (9-pin D-shape male connector on the back, next to the 25 pin printer connector), the default assigned number is COM1.

If you are using a USB to COM converter to convert one USB port to a COM port, you can find the computer assigned COM port number.

After install the USB2COM driver that comes with the device, click on **Start** located on the left bottom corner of your compute screen (Windows XP as an example). Move the mouse to **My Computer** and right click on it. Move the mouse down and click on **Properties.**



Click on Hardware and select Device Manager.

Syster	n Restore	Automa	tic Updates	Remote
ieneral	Comp	outer Name	Hardware	Advanced
evice	Manager			
R	The Device I on your comp properties of	fan ager lists all uter. Use the D any device.	the hardware device evice Manager to ch	is installed hange the
			Device Ma	mager
vivers				
Driver Sign compatible how Windo		g lets you make ith Windows. W s connects to W	sure that installed dri indows Update lets y /indows Update for o	ivers are vou set up trivers.
	Driver	Signing	Windows U	pdate
	e Profiles			
ardwar	Hardware pro	files provide a v	way for you to set up	and store
lardwar	different hard	ware comiguian	ons.	

Double click on **Ports (COM & LPT)**, find out the COM number and write it down (in the following figure, the USB2COM converter uses a Prolific chipset and the assigned port number is COM1)

🚇 Device Manager 🗧	
File Action View Help	
🗄 👰 Display adapters	^
⊕ - Solution = Sol	
⊕ 🖾 Human Interface Devices	
E - B IDE ATA/ATAPI controllers	
⊕ 🥪 IEEE 1394 Bus host controllers	-
∃ get lmaging devices	
∃ ≥ Keyboards	
⊕ _ O Mice and other pointing devices	
E Modems	
I Wonitors	
E I I I I I I I I I I I I I I I I I I I	
E PCMCIA adapters	
IFI⊡ IIII PCMCIA and Flash memory devices	=
E-y Ports (COM & LPT)	
Prolific USBto-Serial Comm Port (COM1)	
E Second	
E 🧈 🥭 Secure Digital host controllers	
Description: Sound, video and game controllers	
🗄 🐲 Storage volumes	
E System devices	
🕀 🍸 Toshiba Tbios Device	20
🕀 🛱 I Iniversal Serial Rus controllers	

3. Download software and firmware from iOptron wbesite:

Go to iOptron website, <u>www.iOptron.com</u>, click on **Download** tab. Locate **ZEQ Mounts** under **Software/Firmware Upgrades** catalog on the left part of the screen, and click on it.

Download and save Upgrade Utility program, Go2Nova 8408 Hand Controller firmware, ZEQ25GT R.A. motor control firmware and ZEQ25GT DEC motor control firmware under ZEQ25GT firmware.

4. Upgrade 8408 hand controller firmware:

- Connect 8408 hand controller to the HBX port of a ZEQ25GT mount. Make sure the mount power is OFF;
- (2) Connect RJ9 plug into the serial port of a 8408 hand controller and the 9-pin RS232 connector to your computer's RS232 port (or RS232 port of the USB2COM converter);
- (3) Locate download software and click on Upgrade Utility.exe:

i Ø ptron	Upgrade Utility.exe Application iOptron 8407/8408 Upgrade Ut	HANDLE_8408_EQ_EN_1304 BIN File 187 KB	MOTOR_DEC_EQ25_130312 BIN File 14 KB
	MOTOR_RA_EQ25_130312.bin BIN File 14 KB		

(4) An iOptron Upgrade Utility window will display. Click on Browse:

iOptron 840	7/8408 Upgrad	e Utility 1.1			0(
File Name			_	Browse	
COM port	•	FileType/Address			
		File Version			
Status					
		Upgrade			

(5) Select 8408 hand controller firmware HANDLE_8408_EQ_EN_YYMMDD and click **Open**



(6) The **FileType** and **Version** will be verified and displayed. Click on pull down menu of the COM port and select the COM port number. Here is **COM1**.

ore iOptron 8407	/8408 Upgra	ade Utility 1.1	
File Name	C:\HANDLE_8	3408_EQ_EN_130401.bin	Browse
COM port	•	FileType/Address	Hand Controller
Status File verified	COM1 COM2 COM3 COM4 COM5 COM6 COM7 COM8 COM9	File Version	130401
		Upgrade	

- (7) Hold **ENTER** button of the hand controller while switch the ON/OFF button to turn the mount power on.
- (8) Click on Upgrade button to start the process;

^e iOptron 840	7/8408 U	ograde Ut	ility 1.1		- 🛛
File Name	C:\HANDL	E_8408_EC	2_EN_130401.bin	Browse	
COM port	COM1	•	FileType/Address	Hand Controller	
			File Version	130401	
Status				,	
Connecting Connected Upgrading] I. 				
		L	Ipgrading		

(9) After the firmware upgraded successfully, exit the Upgrade Utility program by click on X.

Øan j	Optron 840	7/8408 U	lpgrade Uti	lity 1.1		E	
	File Name	C:\HAND	LE_8408_EQ	_EN_130401.bin	1	Browse	
	COM port	COM1	•	FileType/Address	Hand	Controller	-
				File Version	1304	01	-
	Status						
	Connecting Connected. Upgrading. Upgrade su	 ccessful!					
			U	pgrade			

5. Upgrade ZEQ25GT R.A. or DEC motor control board firmware:

- Connect 8408 hand controller to the HBX port of a ZEQ25GT mount. Make sure the mount power is OFF;
- (2) Connect RJ9 plug into the serial port of an 8408 hand controller and the 9-pin RS232 connector to your computer's RS232 port (or RS232 port of the USB2COM converter);
- (3) Switch the ON/OFF button to turn the mount power on.
- (4) Locate download software and click on Upgrade Utility.exe;

i€ptron	Upgrade Utility.exe Application iOptron 8407/8408 Upgrade Ut	HANDLE_8408_EQ_EN_1304 BIN File 187 KB	MOTOR_DEC_EQ25_130312 BIN File 14 KB
	MOTOR_RA_EQ25_130312.bin BIN File 14 KB		

- (5) From your hand controller, press MENU button, select Set Up Controller → Upgrade RA & DEC, enter password (9999), then select Upgrade R. A. Board or Upgrade DEC Board;
- (6) Click on **Browse** in iOptron Upgrade Utility window. Select R.A. board firmware, MOTOR_RA_EQ25_YYMMDD and click **Open**;
- (7) Click on pull down menu of the COM port and select the COM port number. Here is COM1. Click on Upgrade button. The upgrading process will begin.

••• iOptron 840	7/8408 Upgrade (Utility 1.1		
File Name	C: MOTOR_RA_EC	025_130312.bir	Browse	
COM port	COM1 -	FileType/Address	RA Board	
		File Version	130312	
Status			,	
File verified	li –			
,				
		Upgrade		

(8) After the firmware upgrade finished, "Upgrade successful!" will be displayed.

∞ iO	ptron 840	7/8408 Upgrade Util	ity 1.1				
	-1						
· ·	File Name	C: MOTOR_RA_E	1303 12.bir	Brow	vse		
	COM port	COM1 🔻	FileType/Address	RA Board			
			File Version	130312			
5	Status			<i>.</i>			
	Connecting Connected Upgrading. Upgrade su) uccessful!					
1							
Upgrade							

- (9) Press **BACK** button of the 8408 hand controller, select *Upgrade DEC Board*. Follow steps (6) to (8) to finish DEC motor board firmware upgrade.
- (10) Power cycling the hand controller and exit the Upgrade Utility program.

If the upgrade process was disrupted, wrong firmware is loaded, or the firmware does not upgrade successfully, just start over it again. Make sure a correct COM port is selected.