

# QUICK START GUIDE

## USE OF METAMORPH WITH THE NANOSCAN SP RANGE OF SAMPLE SCANNERS AND THE NANOSCAN OP OBJECTIVE POSITIONER



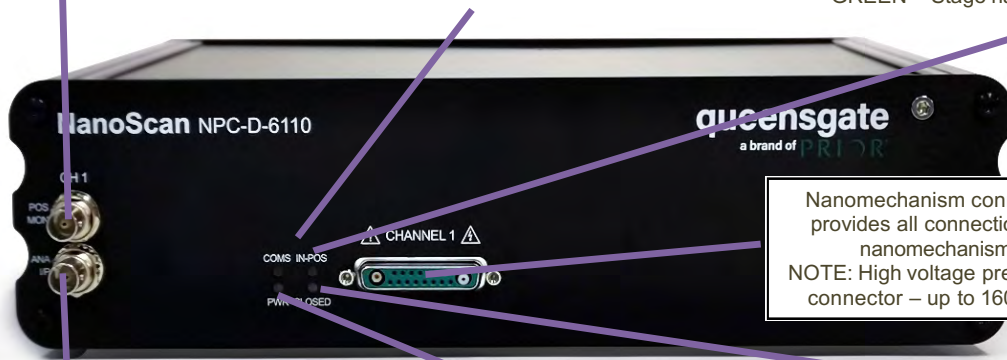
The NanoScan SP series sample scanners and the NanoScan OP400 objective positioner have basic control within Metamorph using the NanoScan Z functionality.

### CONNECTING YOUR SYSTEM - FRONT OF UNIT

POS MON connector analogue position monitor output BNC connector(s)  
Single ended output(s)

COMS indicator LED indicates status of communications with connected computer  
Not lit = No communications taking place  
GREEN lit or flashing = Communications active

IN POS indicator LED indicates status of stage position in CLOSED loop mode  
OFF = Stage has not reached desired position  
ORANGE = Stage settings being loaded on connection  
GREEN = Stage has reached desired position



Nanomechanism connector provides all connections to nanomechanism  
NOTE: High voltage present on connector – up to 160V DC



ANA I/P connector  
Signal used to control the stage position analogue command input  
BNC connector(s)  
Single ended output(s)

PWR indicator LED  
Indicates power status and controller ready  
RED steady = Controller configuring/not ready (can take up to 30 seconds)  
GREEN steady = Controller powered and ready for operation

CLOSED indicator LED  
Indicates status of control loop  
OFF = Stage not connected  
ORANGE = Stage settings being loaded on connection  
RED = Controller operating in OPEN loop mode  
GREEN = Controller operating in CLOSED loop mode  
YELLOW = Controller servo output frozen

### CONNECTING YOUR SYSTEM – REAR OF UNIT

On/off switch

Earth stud – M4 threaded provides additional ground connection to reduce interference of background electrical noise  
Do not raise above 0V ground potential



ETHERNET connector used to communicate with controlling computer dual connector for pass-through connection

USB type B connector used to communicate with controlling computer



PWR connector  
Provides power to controller electronics  
4 pin mini-DIN with screen input  
+24V DC  $\pm$ 0.75V @ 5A  
Only connect an approved power supply

SYNC IN/OUT connector  
Provides RS-232 connection with connected computer using supplied gender changer adaptor  
Also used to synchronise multiple 6000 controllers  
9-pin D-type socket

DIGITAL I/O connector  
Provides digital inputs and outputs for interfacing controller to external equipment  
TRIG inputs and outputs  
IN POS outputs  
Stepped inputs and outputs  
25-pin D-type socket, 5V TTL inputs/outputs  
**MUST use shielded cable**

V2

## CONNECTING THE CONTROLLER TO THE COMPUTER

Connect the NPC-D-6110 controller to the computer using an RS232C cable from the serial port on the computer to the SYNC IN/OUT port on the NPC-D-6110. A gender changer adapter is required to connect the RS232C cable to the sync port. The adapter required is a 9-pin male to male adapter as shown.

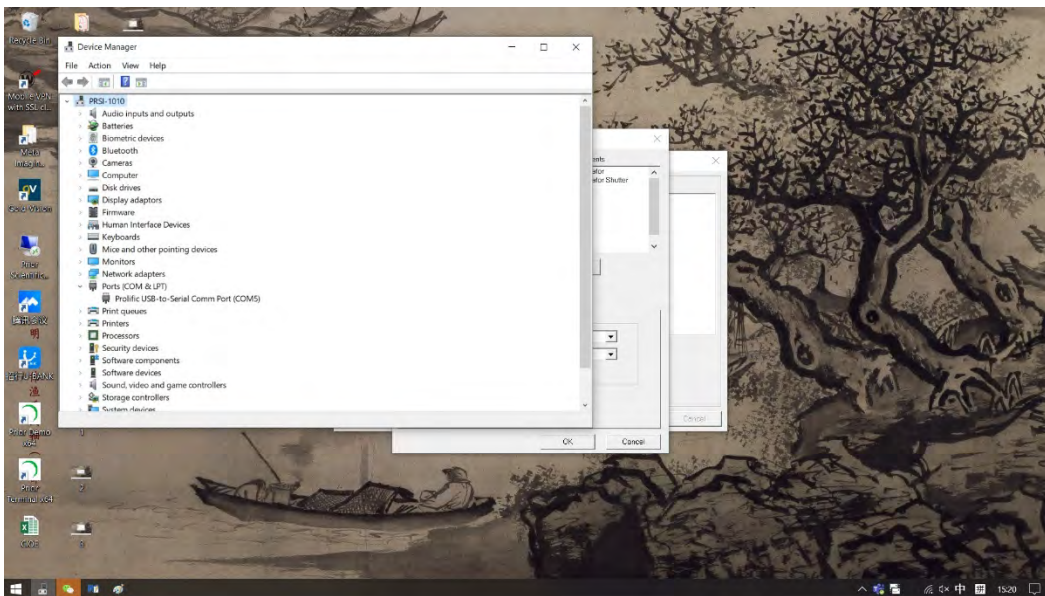


9 pin male to male adaptor

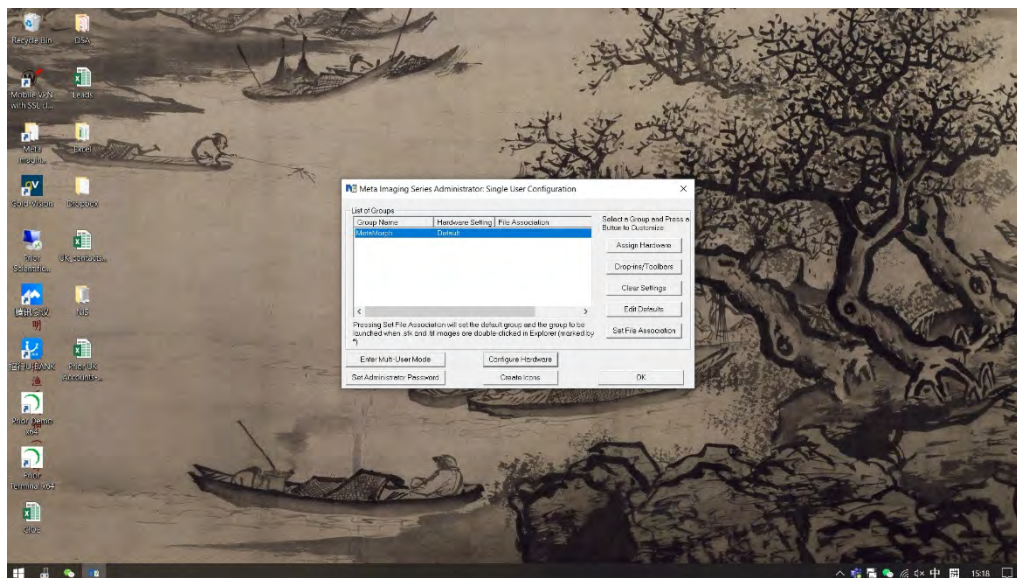
On 'power up', the controller will always move the stage across its range to carry out auto-calibration. **It is important to ensure that there is sufficient clearance between the lens, sample and illumination to allow this to take place.** If the temperature or load changes significantly the stage can 'clip' at one end of the travel. Should this happen restart your system to allow auto-calibration.

## DEVICE MANAGER

Once installed navigate to Device Manager and select the USB to Serial Port COM setting. Make a note of the COM port used.

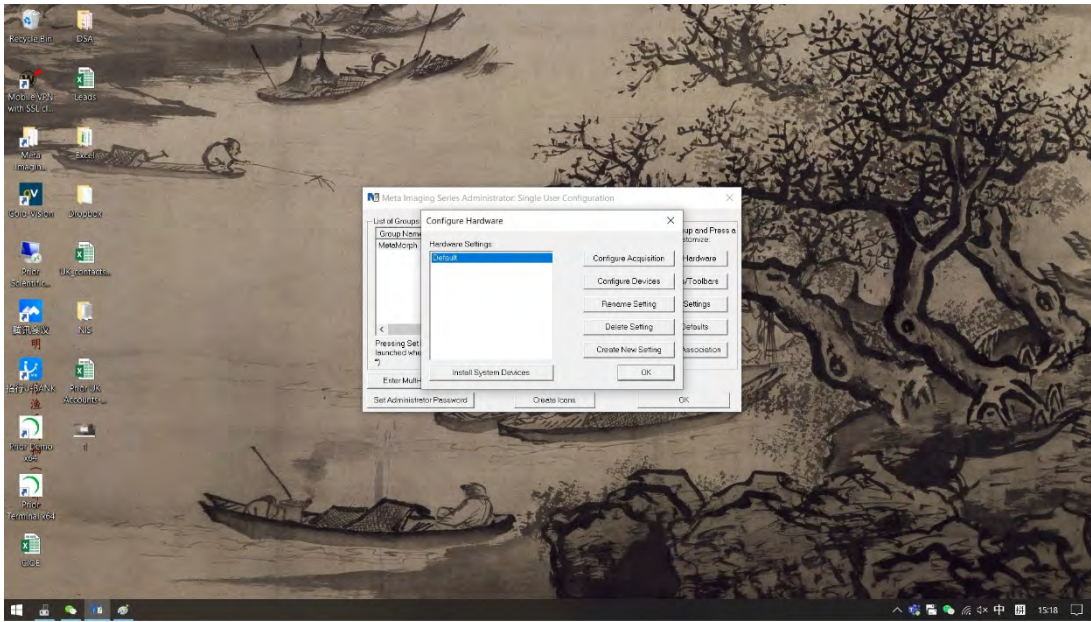


Open MetaMorph and navigate to the Meta Imaging Series Administrator: Single User Configuration.

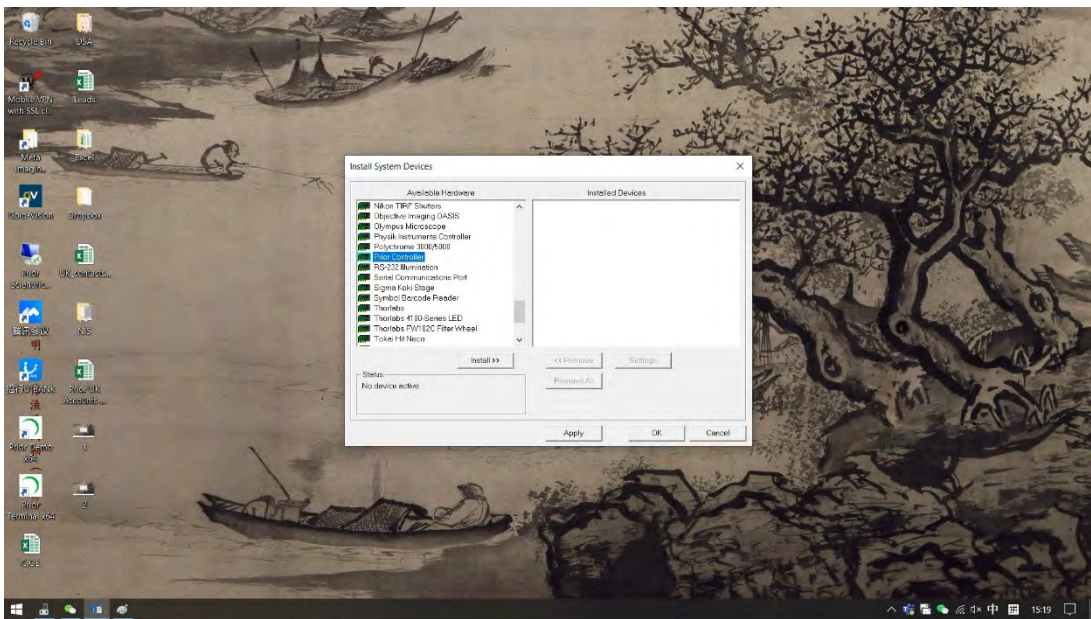


# DEVICE MANAGER

Navigate to Configure hardware and select Install System Devices:

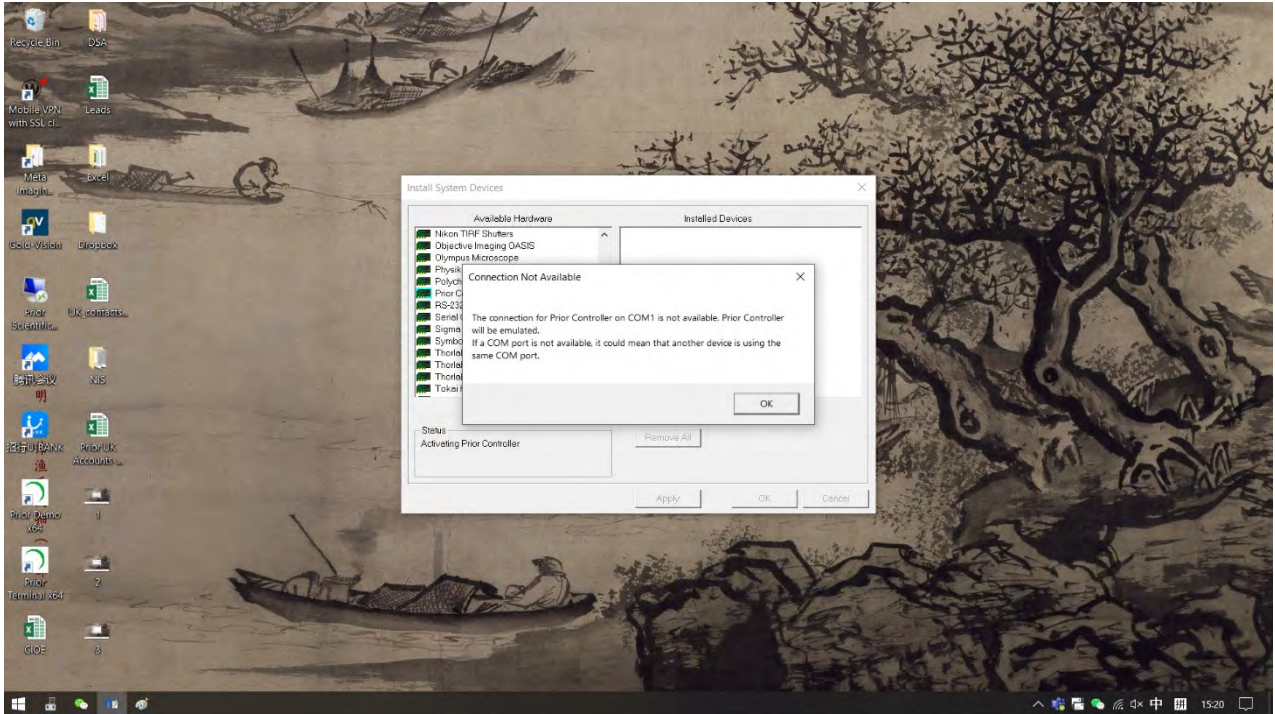


Under Install System Devices select Prior Controller:

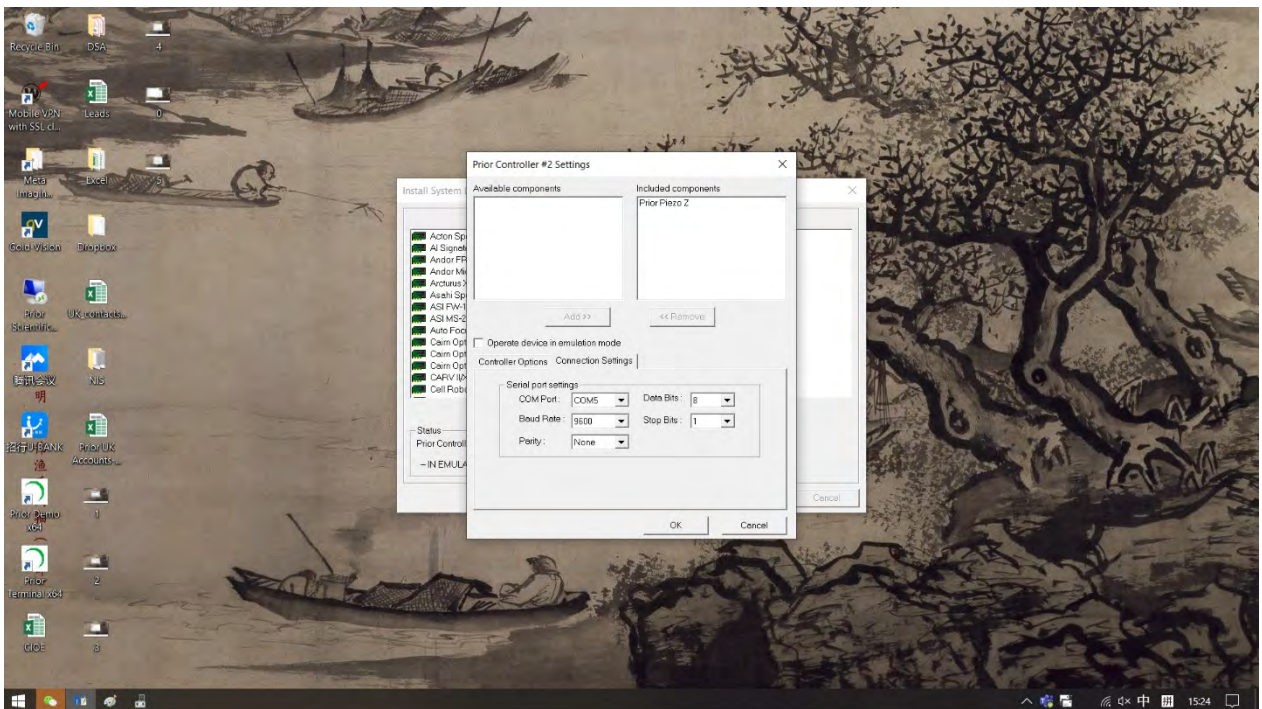


# DEVICE MANAGER

The message below may be displayed - select OK.

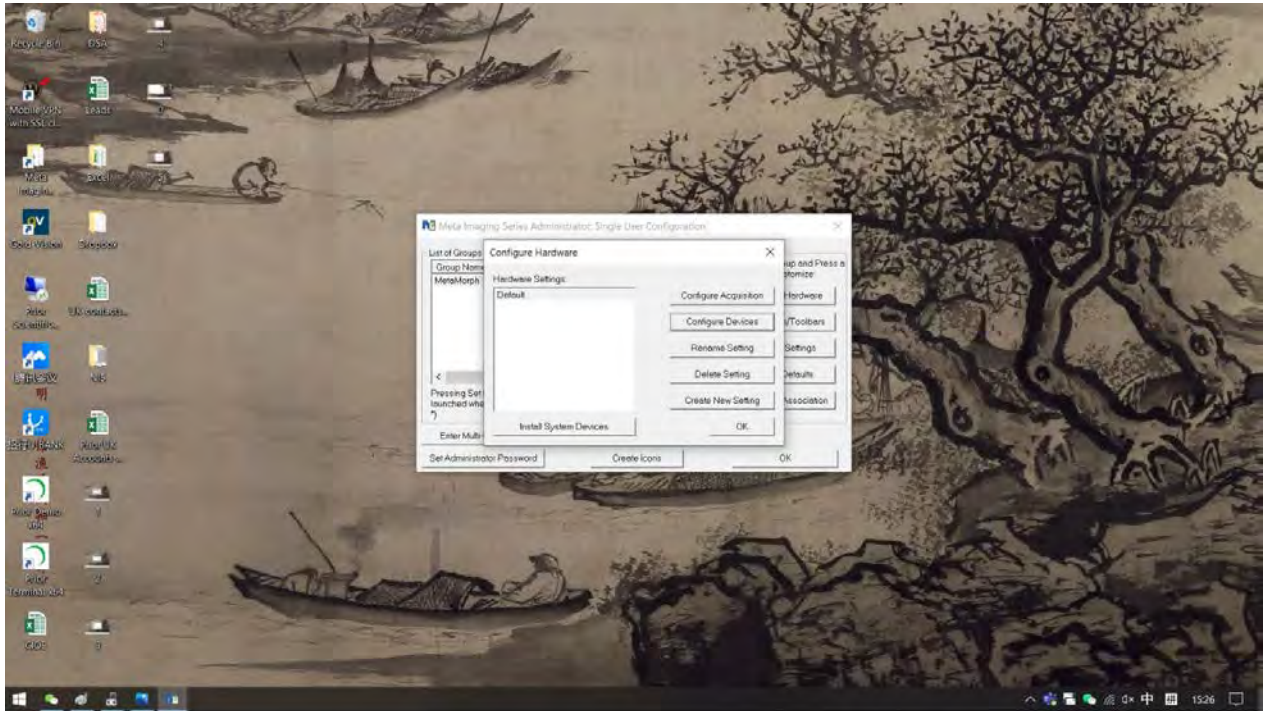


Under Prior Controller # 2 Settings enter the connection settings:

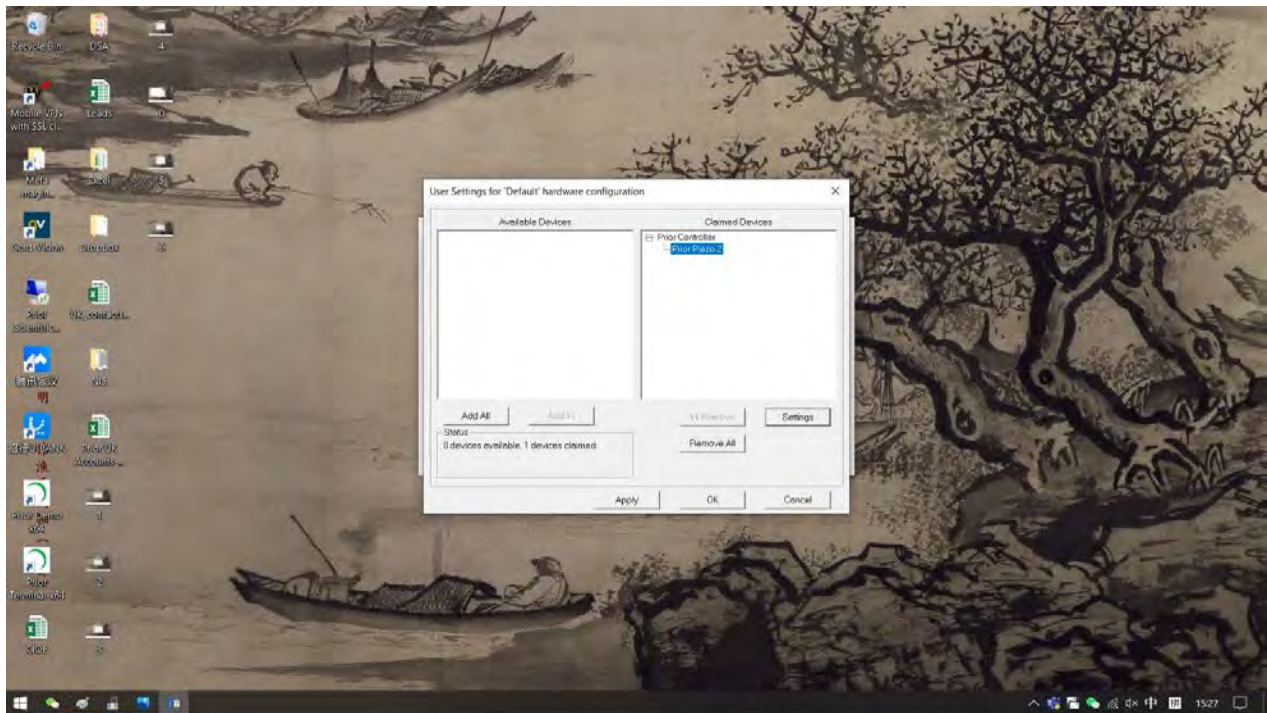


# DEVICE MANAGER

Return to 'Configure Hardware' and select 'Configure Devices':



Under Settings for 'Default Hardware Configuration' under Prior Controller select Prior ProScan Z.



# DEVICE MANAGER

This will give control of the SP and OP range of piezo devices control from MetaMorph.

