



### *Computer Controlling Your MallinCam*

Adjusting your MallinCam just became easier! No longer do you have to utilize the five On Screen Display (OSD) Buttons on the rear of the camera to make changes to the settings. You can now modify all menu values using a computer. This is beneficial for those who have large fingers or lack the dexterity to push the small OSD buttons. Those who observe in colder climates will be able to change menu values by using a mouse without having to remove their gloves – thus saving their fingers from being subjected to the cold. And by not having to push the OSD buttons on the camera, vibration and the blurring of the monitor's image are reduced.

To be able to control your MallinCam from a computer, three things are needed:

1. A MallinCam with a Computer Interface
2. A MallinCam Control Cable
3. The MallinCam Control Software

### STEP ONE

Most MallinCam video observational systems sold in the last three to four years have a computer interface on the rear of the camera



MallinCams with a GREEN power LED have an RS485 computer interface. MallinCams with a RED power LED possess an RS232 computer interface. If your MallinCam possesses either interface, a computer can control it. Proceed to STEP TWO

### STEP TWO

The color of the power LED determines which MallinCam Control Cable is needed, and for ease of identification, they are known as either GREEN or RED MallinCam Control Cables. The cable can be fabricated using the appropriate wiring schematic found in the HELP file that is a part of the MallinCam Control Software (See STEP THREE below).

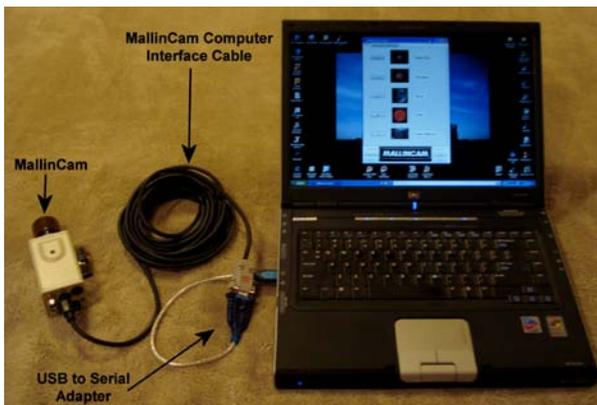
NOTE: The wiring diagram for the Red LED Control Cable contained in the HELP file is

incorrect. Here are the correct wiring pinouts:

- Pin 1 (TXD) on the MallinCam goes to pin 2 on the DB-9 RS232 connector
- Pin 2 (RXD) on the MallinCam goes to pin 3 on the DB-9 RS232 connector
- Pin 3 (GND) on the MallinCam goes to pin 5 on the DB-9 RS232 connector
- Pins 1, 4 and 6 on the DB-9 connector are connected together
- Pins 7 and 8 on the DB-9 connector are connected together

For those lacking either the skill or the patience needed to construct a control cable; pre-made cables in 25', 35' and 50' lengths are available from Alex Zarvis of Zengineering. Below is the link to Alex's webpage, at the bottom of which is information on the MallinCam Control Cables he manufactures:

<http://www.zengine.ho8.com/>



The above figure shows how the MallinCam is connected to the computer using the Control Cable. If your computer does not

have a Serial port, you can purchase a USB to Serial Adapter.

### STEP THREE

The MallinCam Control Software is the remaining item needed. Stephan Lalonde wrote the software for Rock Mallin, the creator of the MallinCam. The software is FREE and is available for downloading from the FILES section of the MallinCam Yahoo Group:

<http://tech.groups.yahoo.com/group/mallincam/>

First download and run **MallinCam\_Control.msi**. This will install Version 1.0 of the MallinCam Control Software and the MallinCam HELP File.



Next download the file entitled **MControl.exe** and place it into the folder where you installed the MallinCam Control Software. You will be asked if you want to overwrite the file by the same name. Click "YES". This will update the MallinCam Control Software to Version 1.5. This is the latest version of the FREEWARE package.

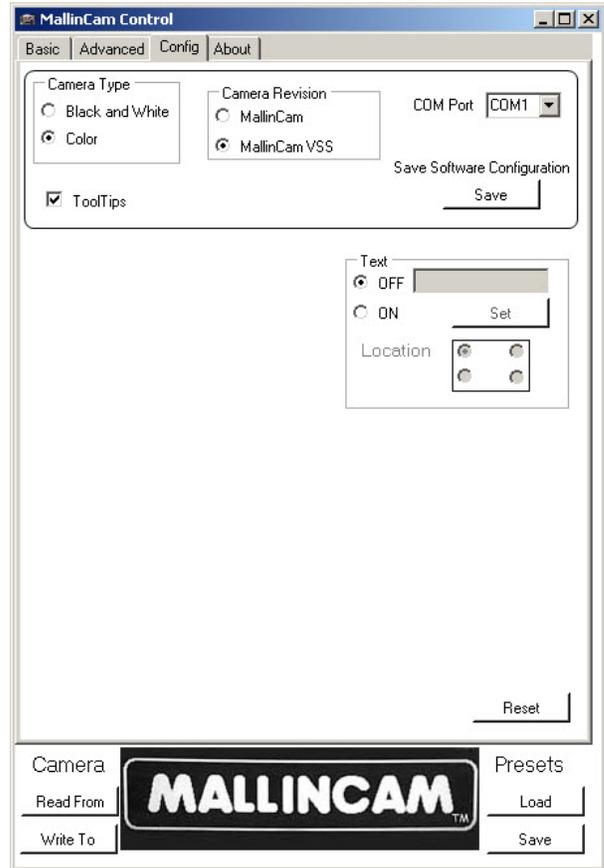
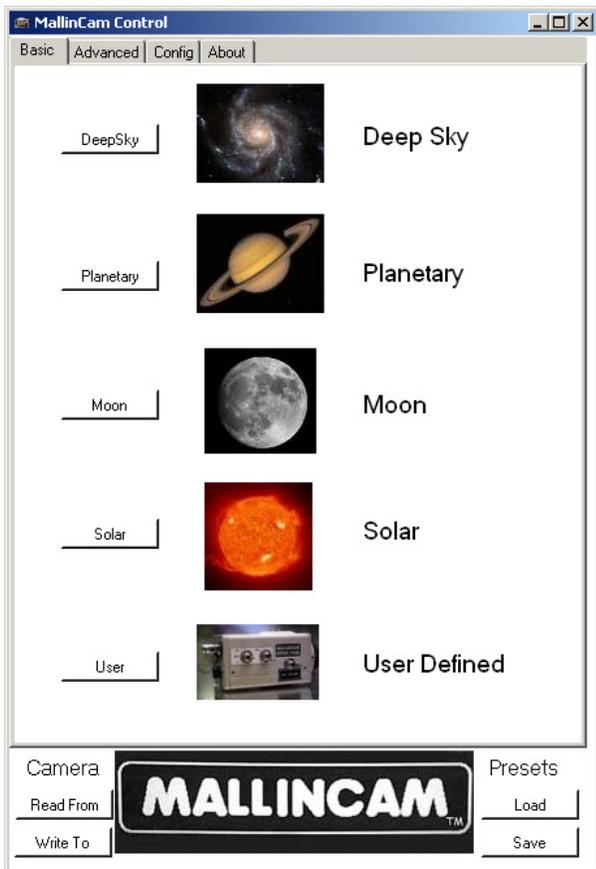
**CONTROLLING THE MALLINCAM**

If you have connected the power, video and computer control cables to your MallinCam, monitor and computer and installed the MallinCam Control Software; you are now ready to test the communication between the components.

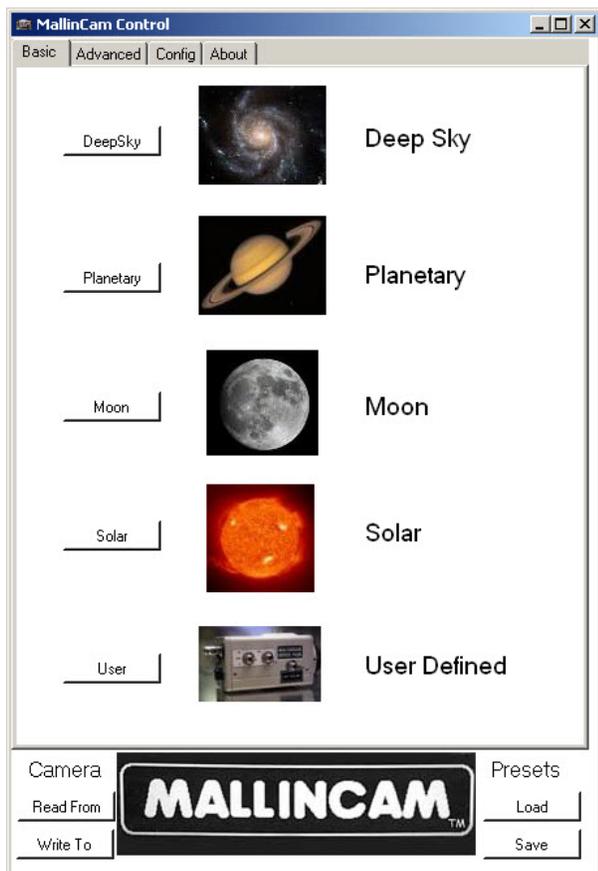
Start the control software, and if everything is properly configured, the MallinCam Control "Basic" Window will appear on your computer screen. However, the control software defaults to COM1, and your Serial device may actually be on a different Port. If so, the following ERROR Message will be seen when the control program is first started.



If the ERROR Message box appears, click the "Continue" box and select the "Config" TAB in the MallinCam Control Software.



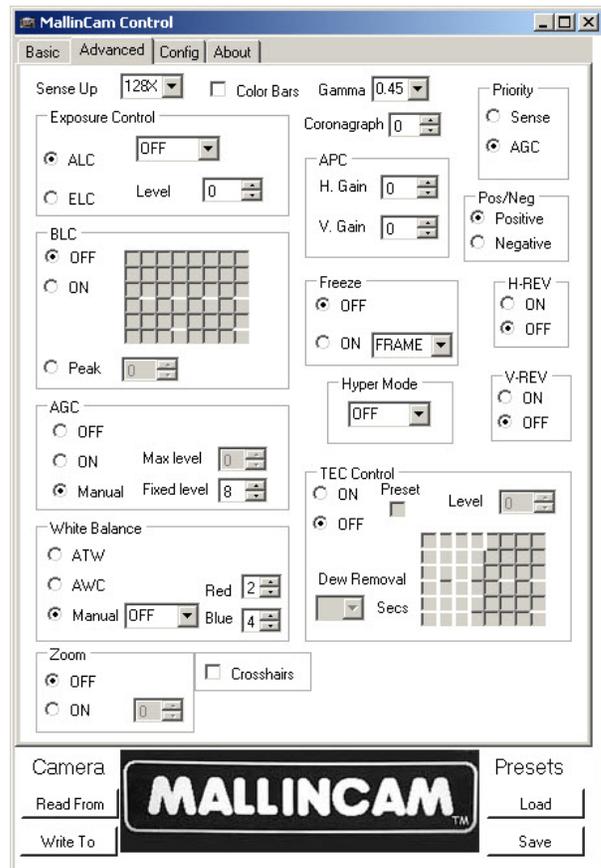
The window seen above will appear. Go to COM Port and select the one that your Serial device is on (COM1 through COM9). Also select the Camera Type (Black and White or Color) and the Camera Revision (MallinCam or MallinCam VSS). Then click the “Save” box and exit the program entirely. Restart MallinCam Control Software and it should open the “Basic” window shown below.



This screen contains five pre-programmed buttons for easily changing between DeepSky, Planetary, Moon, Solar, and User Defined modes. Whenever one of these buttons is depressed, the “Camera” label next to the “MALLINCAM” name at the bottom of the window will change to “Sending” and be highlighted in RED

indicating that the appropriate parameters are being uploaded to the camera.

Clicking the “Advanced” Tab brings up the window seen below.



This window contains a multitude of useful controls. Through the click of a mouse, you can:

- Bring up a set of Crosshairs (useful when aligning your mount)
- Bring up the Color Bar Generator to assist in initially adjusting the parameters on the monitor
- Change from Gamma 0.45 to Gamma 1.0

- FREEZE the image on the monitor
- Change the image from Positive to Negative (useful when looking a subtle detail in galaxies and comets)
- Adjust the Horizontal and Vertical orientation of the image on the monitor to match the direction buttons on your telescope hand controller
- Turn the ZOOM feature ON and vary the amount of ZOOM
- Adjust the White Balance
- Increase or Decrease the Gain (AGC)
- Adjust the Exposure Control from 1/100<sup>th</sup> second to 1/12,000<sup>th</sup> second for Lunar, Solar and Planetary Observations
- Vary the Coronagraph Setting when viewing prominences through the use of an Hydrogen-Alpha Filter
- Control the amount of internal Digital Signal Processing performed by the MallinCam's circuitry through the use of Advanced Pixel Control (APC) H Gain and V Gain Settings
- For the MallinCam VSS be able to turn the Hyper Mode OFF, ON or to Double It.
- For the MallinCam VSS, be able to control the Peltier Cooler by adjusting the TEC Control parameters

In addition, it is possible to "Save" your preferred setting for future use and then "Load" them into the camera. You can save how you had your camera set during an observing session and send the file to your friends so that they can load them into their MallinCam in an attempt to duplicate your results with their scope from their observing location.

For MallinCam owners wanting to observe from the comfort of their warm room or living room, I recommend either making or purchasing a MallinCam Control Cable and downloading and installing the MallinCam Control Software. If you do not have a MallinCam VSS, you will be able to control all MENU items remotely using your computer. You will not, however, be able to change the long exposure times (6 and 12 seconds in the MallinCam HYPER and 7, 14, 28 and 56 seconds in the MallinCam HYPER PLUS). Nor will you be able to turn the Peltier cooler ON or OFF. You will still have to use the switches on the side of the camera to make those adjustments. For owners of the MallinCam VSS, you will be able to control the MENU items and the Peltier cooler remotely and you will have the choice of two long exposure modes. If you have adjusted the Exposure Control Knob on the side of the VSS to 15 seconds, for example, then remotely you will have 2.1 seconds with HYPER OFF, 15 seconds with HYPER ON and 30 seconds with Hyper Times 2. For most individuals, this will provide sufficient flexibility for their remote controlling of their MallinCams.

For information of the MallinCam VSS, see:

<http://mallincam.tripod.com/id49.html>

For information on the current availability of the MallinCam, contact me at:

[mallincamusa@gmail.com](mailto:mallincamusa@gmail.com)

Jack Huerkamp