



MallinCam MICRO-EX Menu



There are 9 icons that make up the menu system for the MallinCam Micro-EX:

1. EXPO
2. RGB
3. D/N
4. Effect
5. MOT
6. PRI
7. SYS
8. SET
9. EXIT

MENU 1 - EXPO (EXPOSURE)

When the EXPO icon is selected, up to six parameters appear:

EXPOSURE

SENSE UP

AGC

LENS

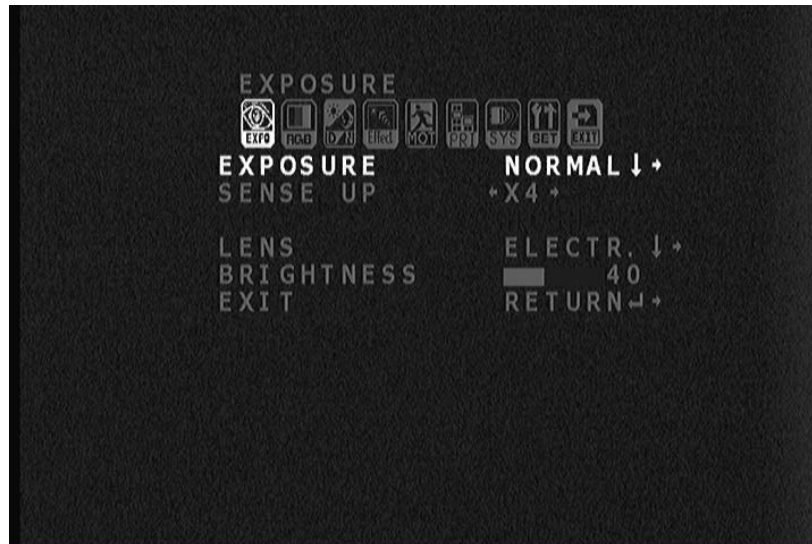
BRIGHTNESS

EXIT

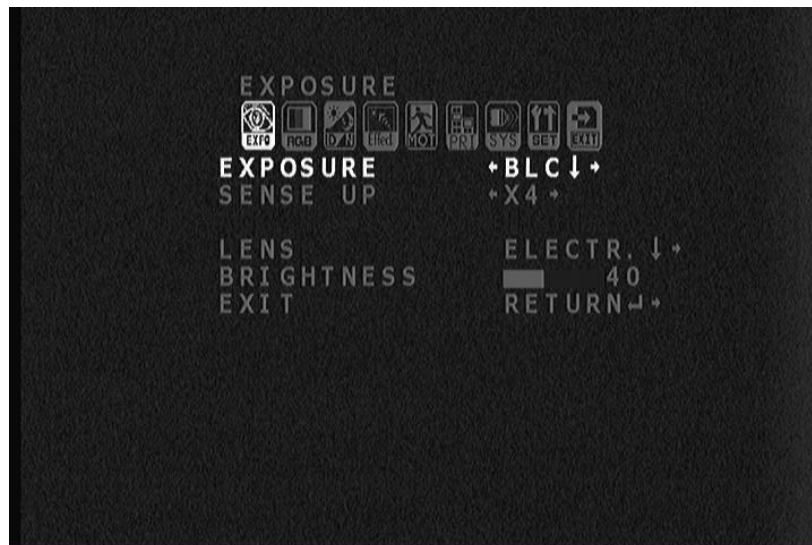
EXPOSURE

There are four EXPOSURE modes – NORMAL, BLC, WDR, and HLI.

NORMAL – This mode is used for most observing situations. The exceptions are when observing the Sun or Moon – see WDR and HLI below. When this option is selected, there are no sub-menu selections that are available.

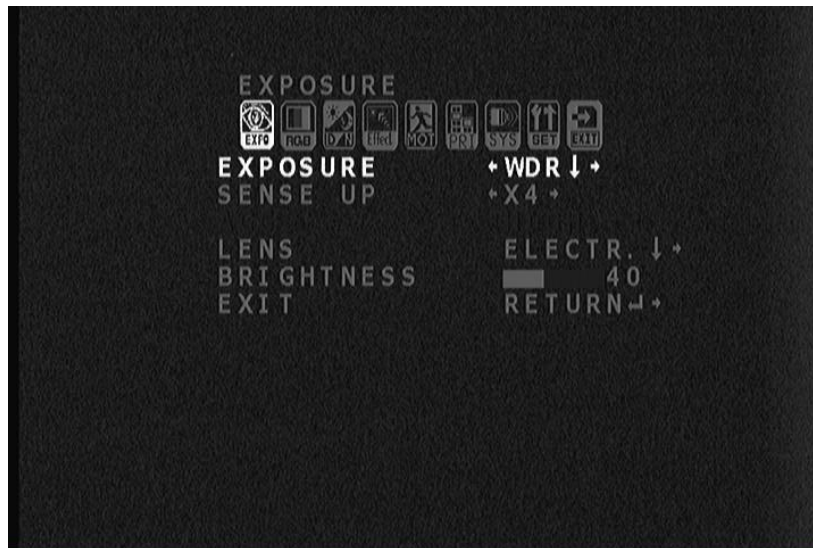


BLC (Back Light Compensation) – This mode is generally never used when observing celestial objects. There are three BLC Modes that can be selected.

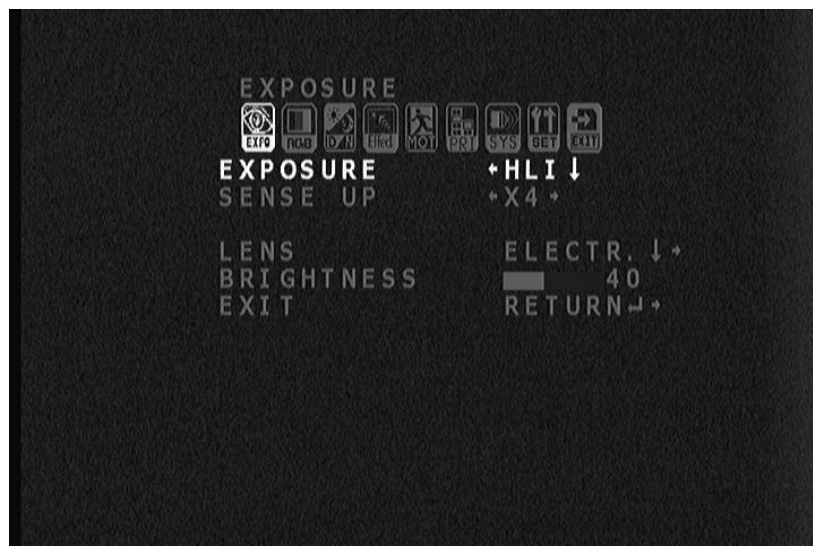


WDR (Wide Dynamic Range) – This mode is used when viewing the Moon due to this target's high dynamic range. There are two options available when this

mode is selected – AUTO and ON. When AUTO is selected, one can pick the dynamic level value. When ON is selected, the value is fixed.



HLI (Highlight) – This mode is used when viewing the Sun to create an electronic chronograph to obscure the solar disk and enhance prominences. The range of adjustment is from 0 to 40.



SENSE UP

SENSE UP sets the camera exposure time from OFF to X1024 (17 seconds) with 9 steps in between. However, the camera sets the AGC (Gain) to maximum when SENSE UP is not set to OFF.

SET SENSE UP TO OFF!

To change the exposure time, use the LENS feature mentioned below.

SET LENS = X1024 (17 SECONDS) AND WITH SENSE UP = OFF, NEAR ZERO AMP GLOW WILL RESULT.

In addition to selecting an exposure time, it is important to properly select the AGC or GAIN. Too long of an exposure combined with too high a gain can result in a washed out image.

AGC

There are four settings possible for AGC:

OFF

LOW

MEDIUM

HIGH

For normal observing, AGC is set to OFF. If 3D Noise Reduction is going to be used to stack up to 5 successive image frames, AGC is set to LOW.

NOTE: 3D Noise Reduction is discussed later under MENU 7 – SYS.

LENS

There are two options under LENS:

ELECTRIC

DC IRIS

DC IRIS is not used as the Auto Iris port on the rear of the MallinCam MICRO-EX has been converted to an RS-485 port for future computer control. Thus, the only LENS option available is ELECTRIC. In this sub-menu, exposure times between 1/100,000th second and 17 seconds (X1024) are possible.

BRIGHTNESS

The brightness of the image can be adjusted using this menu item. The range of adjustment is from 0 to 99 with the default set at 40.

EXIT

There are three options when exiting all of the first eight MICRO-EX Menus – RETURN, EXIT AND EXIT & SAVE.

Selecting RETURN returns one to the main camera menu page.

Selecting EXIT closes out the menu without saving any changes.

Selecting EXIT & SAVE saves the changes and closes out the menu.

MENU 2 - RGB (COLOR)

There are four options available under RGB (COLOR):

AWC - Automatic White Compensation



ATW - Automatic Trace Whitebalance



MANUAL – Manually adjust the RED and BLUE levels to achieve the best image.



PUSH – Depress and hold to measure the sky's color balance.

The **MANUAL** mode is a good place to start adjusting the color balance. It is the only mode in which you can see the results of the changes made to the RED and BLUE color values. In addition, when **MANUAL** mode is selected for making color changes and the values saved when the camera is powered OFF and then back ON, the color settings are maintained.

MENU 3 - D/N (Day and Night)

There are five options under D/N:

BURST

AUTO

DAY

NIGHT

SMART LED

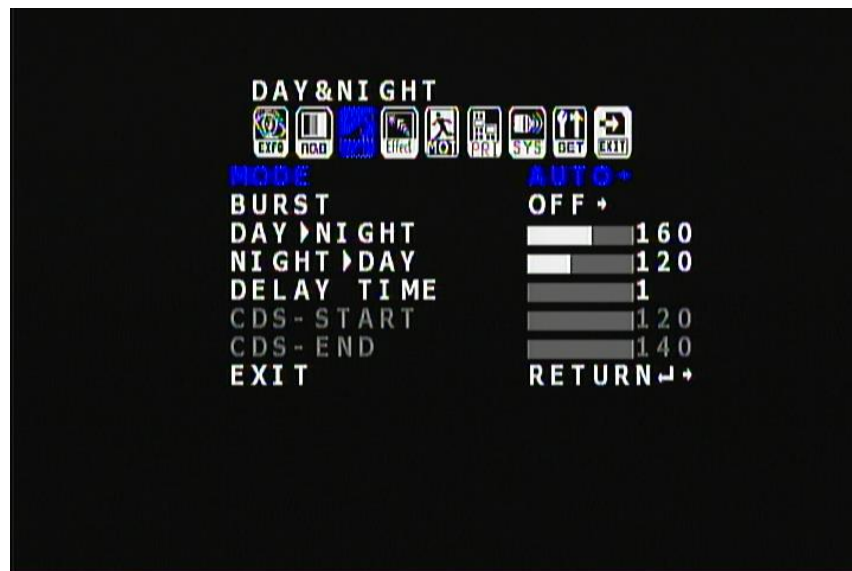
To observe in COLOR, always select DAY. All Sub-Menu items are fixed.



To observe in B&W, select **NIGHT**. All Sub-Menu items are fixed.



If AUTO is selected, the image seen on the monitor can be either in color or in B&W depending on the brightness of the target. Dimmer targets will result in the camera producing a B&W image.

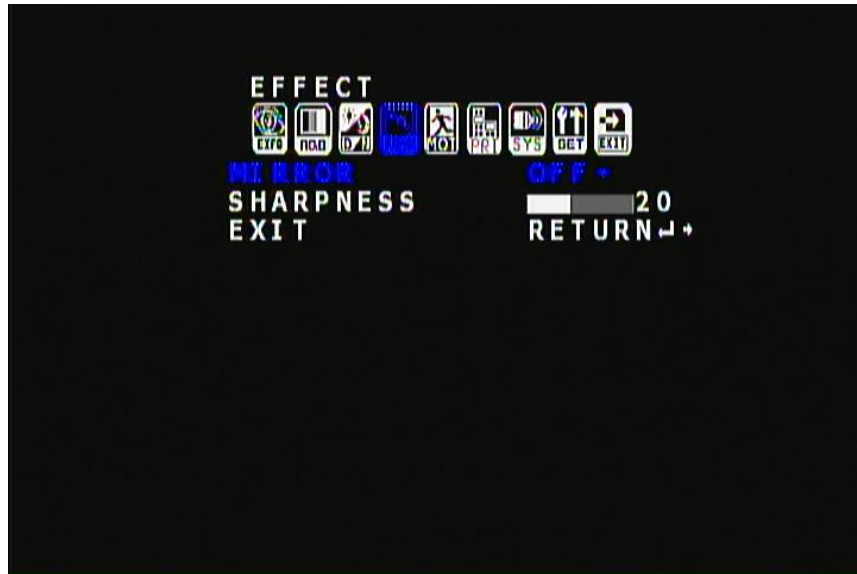


MENU 4 - EFFECT

There are two options available in the EFFECT menu:

MIRROR

SHARPNESS



The MIRROR function can either be OFF, which leaves the image on the monitor unaffected or it can be set to HOR, VERT, or ROTATE. These last three MIRROR options allow alteration to how the image appears on the monitor.

SHARPNESS can be varied from 0 to 49. Lower values of SHARPNESS provide a softer image with less detail. Higher values of SHARPNESS provide more detail but also an increase in noise and dark artifacts or halos around bright stars. Choose the SHARPNESS value that provides the highest level of detail with the least objectionable artifacts. **A good starting point for SHARPNESS is a value of 5 to 10.**

MENU 5 - MOT (MOTION DETECT)

This menu option is not used for astronomical observations with the MallinCam MICRO-EX.

MENU 6 - PRI (PRIVACY)

This menu option deals with the creation of masks. However, unlike other MallinCam Video Observational System Cameras where the MASKS can be utilized to create crosshairs and crossboxes, the MASKS in the MICRO-EX cannot be adjusted to create horizontal or vertical line segments.

MENU 7 - SYS (ENHANCE)

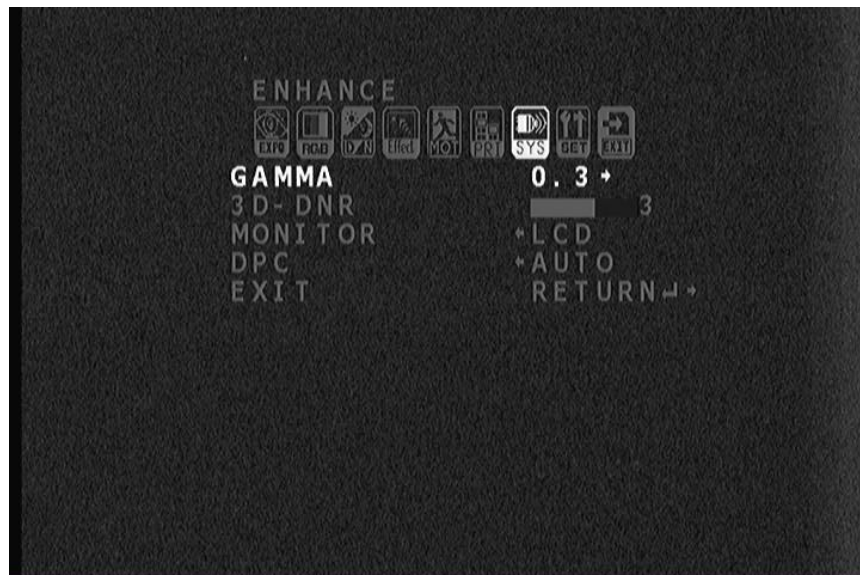
There are four options in the SYS menu:

GAMMA

3D-DNR

MONITOR

DPC



There are four GAMMA settings – 0.3, 0.45, 0.6 and 1.0. GAMMA 0.3 will provide the brightest image on the monitor and GAMMA 1.0 will provide the darkest image. Select the GAMMA value that provides the most pleasing image on the monitor.

3D-DNR is used for stacking up to 5 frames. **NOTE:** Stacking of frames will only work with a properly aligned and tracking equatorial mount. The camera simply stacks frames – it does not align and register stars on the images. **NOTE: To enable 3D-DNR, AGC in the EXP menu must not be set to OFF. AGC set to OFF disables 3D-DNR. When using 3D-DNR, set AGC to LOW.**

MONITOR has two settings – LCD and CRT. When using a CRT monitor, set MONITOR to CRT. When using an LCD monitor, set MONITOR to LCD.

DPC is either AUTO or OFF. When DPC is set to AUTO, the camera will eliminate or reduce the hot pixels seen on the monitor.

MENU 8 - SET (SYSTEM)

There are six options in this menu:

COMM. ID

RS-485

BAUDRATE

TITLE

LANGUAGE

SYNC



COMM. ID, RS-485 and BAUDRATE will come into play once the software has been developed and the communication cable prepared. **For now, leave the COMM ID to 1 and the BAUDRATE to 9600.**

TITLE can be used to add Text to the image.

LAUNGUAGE is set to ENGLISH. Other languages are available. If you reset the camera to factory setting, all current setting will be lost and the LANGUAGE will default to Chinese.

SYNC is always set to INTER (Internal).

MENU 9 - EXIT

When exiting the MENU, several options are provided:

EXIT

SAVE/EXIT

INITIALIZE

RETURN

Selecting EXIT closes the menu without saving any changes.

Selecting SAVE/EXIT closes the menu after changes have been saved.

Selecting INITIALIZE allows resetting the camera to factory defaults. This will change the language to Chinese which will make maneuvering back to English very difficult. Generally this option is never utilized.

RETURN is selected to return to the menu system.