

## MALLINCAM Video CCD Observational System

### INSTRUCTION EXAMPLES



This is the main MENU on all MallinCam Video CCD Observational System. Simply press the middle button to access this page. The ARROW next to a function indicates which SUBMENU to access. Simply press the middle button again to access the SUBMENU of the function indicated by the ARROW. Pressing the left or right button will activate the function ON or OFF.

< MENU >

TITLE	OFF
SENSE UP	→x2
ALC/ELC	ALC .
BLC	OFF
AGC	MANU .
W/B	MANU .
SYNC	INT
OPTION	SET .
ZOOM	OFF
Exit	SAVE

This function will activate the extended shutter or FRAME INTEGRATION. By pressing the right button, function of the SENS is adjusted to increase sensitivity by 2X, 4X, 6X, 8X, 12X, 16X, 24X, 32X, 48X, 64X, 96X, 128X. Example of SENSITIVITY are as followed: 16X= 1/4 sec. integration. 32X=1/2 sec. integration. 64X=1.1 seconds integration. 128x=2.2 seconds integration. These figures are ideal for DEEP SKY OBSERVING or imaging with a frame grabber or video adapter for computer.

## < MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	→ALC .
BLC	OFF
AGC	MANU .
W/B	MANU .
SYNC	INT
OPTION	SET .
ZOOM	OFF
Exit	SAVE

This function allows the user to choose between the ALC and the ELC function. By pressing the right or left button, the function will appear as indicated. ALC is for Automatic Level Control and ELC is for Electronic Level Control. In the ALC mode, by pressing the middle button, a SUBMENU will appear with a variety of fixed shutter speed. This mode is ideal for Planetary and Lunar viewing or imaging. In the ELC mode, the same SUBMENU is displayed with a variable level of the shutter adjustable to suit the individual preference.

<< ELC >>

LEVEL >-----■-----<  
Return

Example of the Variable shutter adjustment in the ELC mode. By adjusting this bar, the user choose which image brightness will suit the specific target to be viewed. In lunar or planetary observing and imaging, the bar would be adjusted toward the left to reduce image brightness. In Deep Sky observing, the level bar would be set to maximum right to open the shutter at maximum to allow more light to be captured by the ccd sensor increasing sensitivity.

<< ALC >>

SHUTTER 12000  
LEVEL >■-----<  
Return

Example of the ALC setting. A variety of fixed shutter speed can be setup to accomodate the best Lunar and Planetary observing and imaging. The LEVEL function in this mode does not work unless used with a special lens with a electric shutter built in the lens and connected to the side of the camera labeled AUTO IRIS.

## < MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	ALC .
BLC	OFF
AGC	→ON .
W/B	MANU .
SYNC	INT
OPTION	SET .
ZOOM	OFF
Exit	SAVE

*AGC.* This is one of the most important function to have a successful live observing or imaging run. In planetary and Lunar observation, this function should be set to OFF by pressing the right or left button until the OFF function is displayed. In DEEP SKY observing and imaging, this function should be set to MAN for Manual. Careful adjustment in MAN mode should be observed. This is the final output signal streigth and gain of the ccd sensor. Too high adjustment will result in a washout image which will be white. Too low of adjustment will result in a darker image. *AGC* stand for Automatic Gain Control.

<< AGC >>

FIX      MIN                      MAX  
LEVEL >-----■-----<  
Return

This is the AGC setting in the MAN position. Increasing the gain will make the image brighter. Decreasing the level will result in a darker image. In DEEP SKY observing, many favor the gain set to MAX to obtain the maximum power available from the ccd sensor. This setting is for live viewing only of faint object. Setting in the middle position will result in good imaging gain. This setting is dependent on aperture of telescope used.

## < MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	ALC .
BLC	OFF
AGC	MANU .
W/B	→ATW
SYNC	INT
OPTION	SET .
ZOOM	OFF
Exit	SAVE

This setting is not active with black and white MallinCam such as MallinCam PRO, MallinCam ULTRA and MallinCam Hyper. This setting is very important in the MallinCam II COLOR. W/B is White Balance. In the ATW (Auto Total White control) colors are adjusted automatically as seen with automatic adjustment of the white balance. This is ideal for average viewing live and some imaging.



< MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	ALC .
BLC	OFF
AGC	MANU .
W/B	→AWC
SYNC	INT
OPTION	SET .
ZOOM	OFF
Exit	SAVE

The AWC (Auto White Control) is a feature on the MallinCam II COLOR which allows the user to set the White Balance based on the image seen live on the screen. In this mode, press the middle button for a few seconds until the AWC flashes. Then, press the middle button again to "lock in" the best White level available for the specific object being viewed live. Once the AWC stop flashing, the white control has been balanced for the best color balance based on the object viewed.

## < MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	ALC .
BLC	OFF
AGC	MANU .
W/B	→MANU .
SYNC	INT
OPTION	SET .
ZOOM	OFF
Exit	SAVE

The MAN (manual) setting of the W/B is the most important in all MallinCam COLOR only. By pressing the middle button, a variety of SUB MENU becomes available.

<< W/B >>

PRESET 3200K

Return

In the W/B menu in MAN (manual) mode, by pressing the right or left button, this feature allows the user to view object in near infrared. This feature becomes clear in scientific work allowing the user to view and image in near infrared. It will see up to 80% more into infrared allowing a variety of object to be seen in various form and detail.

<< W/B >>

PRESET 5600K

Return

In this mode from the W/B in MAN sub menu, this allows the user to see more into visual range with some degree of infrared. This range setting can be useful in viewing live or imaging. Scientific work can be obtained in this mode. Nebulas and other gas object can have a different effect and detail in this mode. This feature is active in all MallinCam II COLOR model only.

<< W/B >>

PRESET OFF<USER>  
RED >---■-----<  
BLUE >-----·■-----<  
Return

In the W/B menu with the MAN submenu active, this feature allows the user to choose the amount of color to be reduced or augmented. In astrophotography, this is the best settings by the author for many object including planetary, lunar and deep sky. Green is fixed while the Red and Blue can be adjusted to the desired color blending of any given object. This mode will allow the user to reject light and sky pollution. Careful adjustment must be observed. Active in all MallinCam II COLOR only.

## < MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	ALC .
BLC	OFF
AGC	MANU .
W/B	MANU .
SYNC	→ INT
OPTION	SET .
ZOOM	OFF
Exit	SAVE

The SYNC is adjusted fixed in all MallinCam Video CCD cameras. It is adjusted at the factory to allow the proper viewing with NTSC system and , or PAL system monitor. Not adjustable.

## < MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	ALC .
BLC	OFF
AGC	MANU .
W/B	MANU .
SYNC	INT
OPTION	→SET .
ZOOM	OFF
Exit	SAVE

The OPTION menu has a lot to offer in all MallinCam Video CCD cameras. From MASKING features to Image MIRROR effect to POSITIVE/NEGATIVE effect and to Image PRIORITY sensitivity settings, many features can be used for a various situation with any given telescope. Press the Center button to enter the SUB MENU.

## < MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	ALC .
BLC	OFF
AGC	MANU .
W/B	MANU .
SYNC	INT
OPTION	SET .
ZOOM	→ON .
Exit	SAVE

The ZOOM feature can be very useful in planetary and lunar observing. It allows the user to electronically change the focal length of any given telescope. The zoom setting at maximum allows the user to change from F/10 to F/20 and any other settings between. Or just zooming on features of interest on any object observed. Press the right or left button to activate, then press the middle button to select the SUB MENU to select the amount of zooming required.



<< ZOOM >>

ZOOM >-----■-----<  
Return

Example of ZOOM settings in the SUB MENU. Setting to far left result in no ZOOM. Setting to the far right is 2X zooming effect.

## < MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	ALC .
BLC	OFF
AGC	MANU .
W/B	MANU .
SYNC	INT
OPTION	SET .
ZOOM	OFF
Exit	→SAVE

Saving all settings is done by pressing the *SAVE* menu with the center button. If the camera power is off, the settings remain in the memory permanently.

## < MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	ALC .
BLC	OFF
AGC	MANU .
W/B	MANU .
SYNC	INT
OPTION	SET .
ZOOM	OFF
Exit	→PRESET

If any mistake is done in settings, a reset can be done in the EXIT menu. Simply press the right or left button to access the PRESET function. Press the center button to initiate. All values and settings will return to factory default allowing the user to start over again.

## < MENU >

TITLE	OFF
SENSE UP	OFF
ALC/ELC	ALC .
BLC	→ON .
AGC	ON .
W/B	ATW
SYNC	INT
OPTION	SET .
ZOOM	OFF
Exit	SAVE

One feature which can be important to some is the BLC (Back Lite Compensation) This feature allow the user to predetermine an area on the ccd sensor in which to augment or reduce the gain. A total of 48 zone can be set on the ccd sensor. This feature can be used to reduce the AMP glow found on the MallinCam COLOR camera which is caused by internal amplifier on board the ccd sensor.

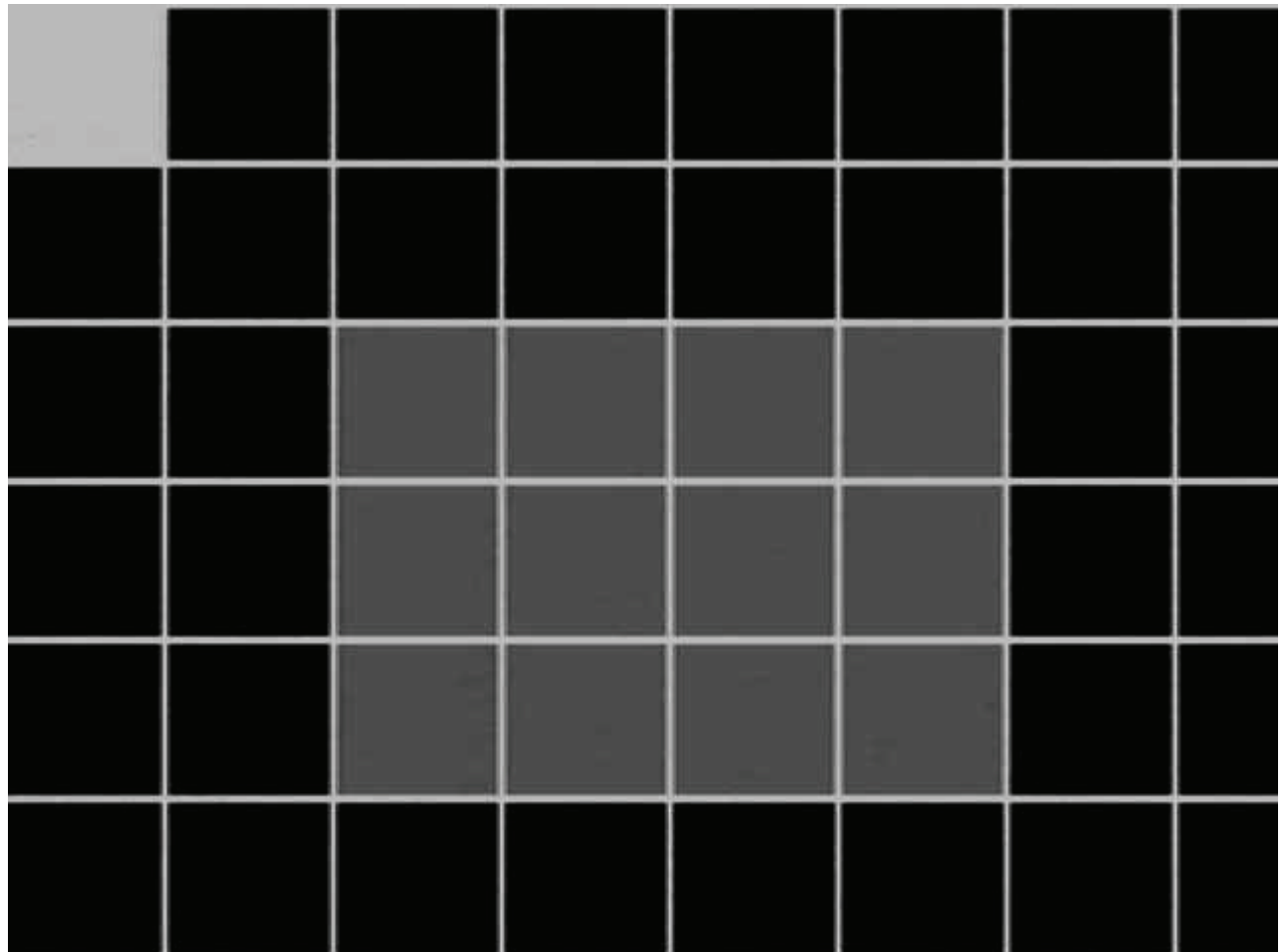
<< BLC >>

AREA SET .

PRESET OFF

Return

In the BLC Menu, press the center button to access the SUB MENU shown above. AREA SET is a setting done by the user to choose which area of the ccd sensor to be affected by this feature. The PRESET menu is a group of blocks centered in the middle of the ccd sensor in which can be used to augment the sensitivity in the center of the ccd sensor, reducing the background gain.



Example of the PRESET zoning. In this example, the background surrounding the middle blocks will be reduced in gain while the area of all blocks will be more visible.