

# MityCAM CameraLink Control Panel Users Guide

The MityCAM Camera Link Control Panel User's Guide will guide you through the software installation process and the steps to configure a MityCAM camera through a Camera Link serial port interface using this application.

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# **1** Revision History

Revision	Date	Notes
Draft	10/8/2014	Draft Release
Rel. 1.0	10/14/2014	Initial 1.0 Release
Rel. 1.1	2/18/2015	Added MityCAM-B1910F support
60-00008-1	04/01/2015	Use assigned document number. Remove specific
		reference to B2521/B1910 as application supports
		other models as well.





#### **Application Overview** 2

The MityCAM Camera Link Control Panel application is a Microsoft Windows application designed for Windows XP and newer PC operating systems. The application allows for the configuration of several MityCAM cameras via the serial port of the Camera Link interface. A user can specify both their target camera and whether they would like to use preset configuration modes, send a custom text file or single commands to the camera.

The application requires that a Camera Link interface card be installed in the PC and that the proper drivers are installed. This application is expected to work with most Camera Link frame grabber cards as long as they conform to the Camera Link serial interface specification. Please contact your Critical Link representative for specific frame grabber support questions.

#### Setup CameraLink Connection from PC to MityCAM 3

For this application to be able to communicate with a MityCAM product the Camera Link 1 input on the camera needs to be connected via Camera Link to your PC's frame grabber card. For MityCAM-B2521F/B1910F cameras it is identifier #3 of Figure 1 below. If dual Camera Link interfaces are supported by your card it is advised that both be connected to the camera for later image acquisitions.



Figure 1: MityCAM-B2521F/B1910F



315.425.4048



# 4 Install MityCAM Camera Link Control Panel

The MityCAM Camera Link Control Panel is a Windows PC application which lets you setup and configure the MityCAM sensor for use with Camera Link frame grabber cards. Follow the steps below to install the application on your PC.

Installing the application on your computer will create shortcuts to start it under the standard menus  $(Start \rightarrow Programs \rightarrow Critical Link \rightarrow MityCAM on a Windows based computer).$ 

Select the application (CamlinkPanel\_X.X.X\_setup.exe) from the CD / DVD or download and then follow the prompts.







🕝 CamlinkPanel Software v1.0.0 Setup
License Agreement Please review the license terms before installing CamlinkPanel Software v1.0.0.
Press Page Down to see the rest of the agreement.
MityCAM CameraLink Panel Copyright 2014 Critical Link, LLC This is just a sample license for the MityCAM Cameralink Panel applicațion.
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install CamlinkPanel Software v1.0.0.
< <u>B</u> ack I <u>Ag</u> ree Cancel

Figure 2: Software License Information

🕝 CamlinkPanel Software v1.0	.0 Setup	
Choose Components Choose which features of Cam	linkPanel Software v1.0.0 you wa	ant to install.
Check the components you wa install. Click Next to continue.	nt to install and uncheck the comp	ponents you don't want to
Select components to install:	<ul> <li>✓ Main Application</li> <li>✓ VC Libraries</li> </ul>	Description Position your mouse over a component to see its description,
Space required: 44.3MB		
	< <u>B</u> ack	Next > Cancel

Figure 3: All components are selected by default





CamlinkPanel Software v1.0.0 Setup	- • ×
<b>Choose Install Location</b> Choose the folder in which to install CamlinkPanel Software v1.0.0.	
Setup will install CamlinkPanel Software v1.0.0 in the following folder. To inst folder, click Browse and select another folder. Click Next to continue.	all in a different
Destination Folder C:\Program Files (x86)\Critical Link\CamlinkPanel E	Browse
Space required: 44.3MB Space available: 11.6GB	
< <u>B</u> ack Next >	Cancel

Figure 4: Default installation location

😚 CamlinkPanel Software v1.0.0 Setup	
Choose Start Menu Folder	
Choose a Start Menu folder for the CamlinkPanel Software v1.0.0 shortcuts.	•
Select the Start Menu folder in which you would like to create the program's shortcut	s. You
can also enter a name to create a new folder.	
Critical Link/MityCAM	
7-Zip	
Accessories	
Acronis	=
Administrative Tools	
Adobe	
Alstom	
Altium Designer Summer 09 Viewer	
Amazon	
Amazon Music	
APC	
Asmedia Technology	
ASRock Utility	Ŧ
< <u>B</u> ack Install	Cancel





😚 CamlinkPanel Software v1.0.0 Setup
Installation Complete Setup was completed successfully.
Completed
Extract: vcredist_x86.exe 100% Installing VS 2010 runtimes Execute: "C: \Program Files (x86) \Critical Link \CamlinkPanel \bin \vcredist_x86.exe" "/q Output folder: C: \Program Files (x86) \Critical Link \CamlinkPanel Created uninstaller: C: \Program Files (x86) \Critical Link \CamlinkPanel Create folder: C: \Users \ablock \AppData \Roaming \Microsoft \Windows \Start Menu \Pr Create shortcut: C: \Users \ablock \AppData \Roaming \Microsoft \Windows \Start Menu \ Create shortcut: C: \Users \ablock \AppData \Roaming \Microsoft \Windows \Start Menu \ Create shortcut: C: \Users \ablock \AppData \Roaming \Microsoft \Windows \Start Menu \ Create shortcut: C: \Users \ablock \AppData \Roaming \Microsoft \Windows \Start Menu \ Create shortcut: C: \Users \ablock \AppData \Roaming \Microsoft \Windows \Start Menu \ Create shortcut: C: \Users \ablock \Desktop \CamlinkPanel.lnk Completed
< <u>B</u> ack Next > Cancel







# 5 Control Panel Usage

This section discusses the steps needed to open the CameraLink serial port to the camera, select the desired camera and send commands by each of the three available methods.

# 5.1 Launch the Control Panel

Launch the MityCAM CameraLink Control Panel software by going to the Windows Start menu and typing "Camlink" (Windows 7). The program will start and be shown. Alternatively you can also find the application in your start menu under Start—Programs—Critical Link—MityCAM.







## 5.2 Main Screen

When the application starts you will see a window similar to the following, Figure 5.

File     Help       Port     (0: EPIX, Inc. : PIXCI E8: Unit 0       Camera     MityCAM-B2S21       Preset     10-Tap, 8 Bpp, 2560x2160, 70 fps       Send     Send Custom	MityCAM C	Camera Link Control Panel	_ 0 <mark>_ X</mark>
Port     0 : EPIX, Inc. : PIXCIE 88: Unit 0     Open       Camera     MityCAM-82521     .       Preset     10-Tap, 8 8pp, 2560x2160, 70 fps     Send       Send     Send     Send	File Help		
Camera MtyCAM-82521  Preset 10-Tap, 8 Bpp, 2560x2160, 70 fps  Send Send Custom Send	Port	0 : EPIX, Inc. : PIXCI E8: Unit 0	▼ Open
Preset 10-Tap, 8 Bpp, 2560x2160, 70 fps  Send Send Custom Send	Camera	MityCAM-B2521	•
Send	Preset	10-Tap, 8 Bpp, 2560x2160, 70 fps 🔹 Send	Send Custom
			Send
Not Connected	Not Connecte	ed	

#### Figure 5: Main Screen

## 5.3 Serial Port Settings and Camera Selection

On the main screen you will find a "Port" section which includes a drop down menu and an Open/Close button, Figure 6.

MityCAM Can	nera Link Control Panel	- • ×
File Help		
Port	0 : EPIX, Inc. : PIXCI E8: Unit 0	▼ Open
Camera	MityCAM-B2521	•
Preset	10-Tap, 8 Bpp, 2560x2160, 70 fps ▼ Send S	end Custom
		Send
Not Connected		

**Figure 6: Port Section** 





### 5.3.1 Port Selection Drop Down

The drop down menu allows for the selection of available Camera Link serial port interfaces. Note that "standard" RS232 serial port interfaces will not be shown. In most cases there will be only a single option (Figure 7), however if no serial port interfaces are shown please ensure that your CameraLink frame grabber card is properly installed.

MityCAM Camera	Link Control Panel
File Help	
Port	: EPIX, Inc. : PIXCI E8: Unit 0
Camera 🖣	Thy GAN BEB21
Preset	10-Tap, 8 Bpp, 2560x2160, 70 fps 🔹 Send Send Custom
	Send
	Figure 7: Serial Port Selection

### 5.3.2 Camera Selection

The MityCAM Camera Link Control Panel supports a number of MityCAM products from Critical Link. Use the drop down menu (Figure 8), to select the camera that you will be interfacing with. This menu also configures the specific "Presets" that will be available to send to the camera.



Figure 8: Camera Selection





### 5.3.3 Open/Close Camera Serial Port Interface

Once a serial port interface and desired camera type have been selected the serial port to the camera must be "opened". Press the "Open" button. At this time a message should be flashed in the bottom left corner of the screen stating that the application is "Connected" to the camera and the open button will now show "Close". As well the Camera selection menu will now be grayed out.

MityCAM Camera Link Control Panel			
File Help			
Port	0 : EPIX, Inc. : PIXCI E8: Unit 0 Close		
Camera	MityCAM-B2521		
Preset	10-Tap, 8 Bpp, 2560x2160, 70 fps 🔻 Send Send Custom		
	Send		
		ľ	
		ľ	
Connected			
Connected		١.	

Figure 9: Connected to Camera

When you are done sending commands to the camera it is advised that you "Close" the connection through the use of the Close button in the Control Panel application. When used a "Not Connected" message should now be seen at the bottom left corner of the application.





## 5.4 Sending Commands to Configure a Camera

The MityCAM CameraLink Control Panel offers three different ways to send a command to the connected camera. Each method writes a command(s) to the camera through the Camera Link serial interface. You can find a list of available commands in the "Camera Link Interface Document" provided by Critical Link for each MityCAM product.

### 5.4.1 Presets

For each camera that can be selected from the "Camera" drop down there are a number of Preset modes that are provided with the Control Panel application. You can select the drop down menu in the Preset section of the application to see the different modes. For each mode (Figure 10), you are shown whether the connection is 10-tap or base, number of Bits per Pixel (bpp), the ROI resolution and expected frames per second that the camera can output.

MityCAM Carr	nera Link Control Panel
File Help	
Port	0 : EPIX, Inc. : PIXCI E8: Unit 0
Camera	MityCAM-B2521
Preset	10-Tap, 8 Bpp, 2560x2160, 70 fps  Send Send Custom
	IU-Tap, 18 tbp, 2560x2160, 70 fps         Send           IU-Tap, 16 bpp, 2560x2160, 78 fps         Base, 8 6 pp, 2560x2160, 78 fps         Send           Base, 16 8pp, 2560x2160, 14 fps         Base, 12 8pp x 2, 2560x2160, 28 fps         Send
	Figure 10: Preset Mode Selection

Note that even though a specific FPS is shown, your PC and/or frame grabber may not be able to display at that rate.

When a preset is selected you can then use the "Send" button to issue the commands to configure the camera for the specified preset. The commands issued to the camera will be shown in the dialog box (Figure 11). For each command that is sent an <ACK> should be received to indicate that the command was processed properly by the camera.

File Help					
Port	0 : EPIX, Inc. : PIXCI E8: Unit 0				
Camera	MityCAM-B25	21			
Preset		10-Tap, 8 Bpp, 2560x2160, 70 fps	Send	Send Custom	
				Send	
<stop><ack <sroi 0="" 256<br=""><somd 0=""><ac <sbpp 0=""><ac <sfit 0=""><ac< td=""><td>&gt; 0 2160&gt;<ack> CK&gt; K&gt; &lt;&gt;</ack></td><td></td><td></td><td></td></ac<></sfit></ac </sbpp></ac </somd></sroi></ack </stop>	> 0 2160> <ack> CK&gt; K&gt; &lt;&gt;</ack>				





## 5.4.2 Custom Command Files

Another method of sending commands to the MityCAM is through the use of a custom command file. The format of this file should be a .txt file using returns to separate each command like the example shown in Figure 12. To use your custom command file press the "Send Custom" button in the application and a Browse dialog will be shown. Select your file and then "open" from the dialog box and the commands will be issued to the camera and shown in the dialog box below. For each command that is sent an <ACK> should be received to indicate that the command was processed properly by the camera.

📕 test.txt - Notepad								
<u>F</u> ile	<u>E</u> dit	F <u>o</u> rmat	<u>V</u> iew	<u>H</u> elp				
<stc <sbf <stf< td=""><td>)P&gt; ?P 1&gt; ?T&gt;</td><td></td><td></td><td></td></stf<></sbf </stc 	)P> ?P 1> ?T>							
			-					

Figure 12: Sample Custom Command File

MityCAM Car	nera Link Control Panel	
File Help		
Port	0 : EPIX, Inc. : PIXCI E8: Unit 0	▼ Close
Camera	MityCAM-B2521	•
Preset	10-Tap, 8 Bpp, 2560x2160, 70 fps	Send Custom
		Send
	Figure 13: Send Custom	





## 5.4.3 Single Command Send

The final method for sending commands to the camera is through the text box in the Control Panel application. In here users can issue individual or strings (<CMD><CMD><CMD>) of commands to the camera. Simply enter the desired command in the text box and press the "Send" button. As shown in Figure 14, the command will be sent to the camera as displayed in the dialog box. For each command that is sent an <ACK> should be received to indicate that the command was processed properly by the camera.

MityCAM Camera Link Control Panel							
File Help							
Port	0 : EPIX, Inc. : PIXCI E8: Unit 0						
Camera	MityCAM-B2521						
Preset	10-Tap, 8 Bpp, 2560x2160, 70 fps 🔹 Send Send Custom						
<stop></stop>	Send						
<stop><ack></ack></stop>							
	-						
Connected							
		Ë.					

Figure 14: Single Command

