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Title:	Interfacing Gocator 4.x firmware to Common Vision Blox
Revision:	1.0

### **Table of Contents**

1 Overview	. 2
2 Verifying the Connection Between the Gocator and CVB	. 3
3 Verifying the Connection Between Sherlock and CVB	. 6
4 Profile Mode Operation	. 8

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### **1** Overview

Common Vision Blox (CVB) is an open architecture, hardware independent toolkit for 3D image processing. Gocator includes a GenTL driver that can be used to stream 3D height map and intensity images into CVB in real-time.

Sherlock is an advanced machine vision software interface that can be applied to a wide variety of automated inspection applications. Sherlock can communicate to the Gocator via the Sherlock CVB driver.

This document assumes that CVB is already installed. If Sherlock is used, the document assumes that the Sherlock CVB driver and Sherlock are installed.

Refer to the *GenTL* chapter in the Gocator's User Manual on how to install and setup the Gocator GenTL driver. This document describes how to verify that CVB and Sherlock are properly connected to the Gocator. Users are assumed to be already familiar with the operation of the Gocator Whole Part mode.

Require Gocator 2 or 3 series, Gocator firmware 4.0.9.136 or later, Common Vision Blox 2011 or later. If interfacing to Sherlock, require Sherlock 7 or later and Sherlock CVB driver.



# 2 Verifying the Connection Between the Gocator and CVB

Follow the steps below to setup CVB with Gocator for the first time:

- 1. Connect a Gocator to the PC running CVB.
- 2. Power up the Gocator and put the Gocator into Surface scan mode and enable Acquire Intensity if intensity data is required.

			0	
			Contra-	
	Video	Profile	Surface	
Option				

3. Configure sensors to produce the desired surface data and enable the Ethernet output.

Deputy dep								
	Ethernet Protocol and data selections	Protocol:	Gocator	\$				
10	Digital 1	Information			Data			
- 01	Trigger condition and pulse width	The Gocator Protocol uses TCP messages to command the				Name	Id	
10	Digital 2	sensor and to transm	sensor and to transmit data and measurement results to a			Surfaces		
	Trigger condition and pulse width	client computer. The user selects which measurements and what type of scan data to send (Video, 3D, Intensity). 3D data can be in the form of Ranges, Profiles or Surfaces depending				Тор		
$\Lambda$	Analog				Surface Intensities			
<ul> <li>Trigger condition and current scaling</li> </ul>	on Gocator series.	on Gocator series.			Тор			
	Serial Protocol and data selections	All of the tasks that web interface can I sending and receiving	can be accomplished via the operation of accomplished programmatic Gocator Protocol control comm	Gocator's tically by nands.				

4. Start the CVB Management Console.



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5. Click GenICam at the bottom right corner.





6. Select Device Configurator.

Detected Gocators will be listed in the Configured Device table. The Gocator must be running and connected to the PC for this step to be successful.

If no device is detected, select Advanced Config, select the LMI sensor from the list in the left and click ">>" to assign a Gocator to the CVB camera port.

GenICam Device Tree	Branch Info			CVB CamPort Assingment
Factory SITL Simulator Interface : GenTL Interface : GenTL Interface : GenTL SIGEV TL	Cevice Info Vendor: Model:	LMI Gocator	V >>> << < ^	0 : LMI 192.168.1.10 @ XX::GenTL ( C:\SOFTWARE_Go2_Tools\GenTL\x86\Go
Discovery Ignore Subnet 200 Discover Timeout in ms	Open Mode C ReadOnly C Control	Multicast		To configure CVB:
Discover Assign IP	© Exclusive	224 . 64 . 16 .	1	Save Configuration

When a Gocator is detected, the device shows up in the Configured Device list.

📅 Common Vision Blox Management	Console	A COLUMN THE OWNER		B		
File Tasklist Help						
Tasks	Preview		🎨 Advanced Config	Properties		📑 Options 🕶
1 - Settings and Information				Device Information		
2 - Licensing				Image Format     Acquisition and Trigge	<b>,</b>	
3 - GenlCam 🔺						
Cip Device Configurator						
A Bindings Editor						
<b>N N</b>						
	848x1680 (847,1205) V=(0,0,0)					
	Grab Snap	Upda	te Image Save Image			
	Configured Devices	Discover 💦 Options + 👌 🗧	b 🦗 🔚 🚿	)		
	CamPort Vendor Model	UserName	S	erialnumber	IP-Address	MAC-Address
	🥔 0 LMI Gocato					×
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- 7. Check Grab box to start data capturing.
- 8. Trigger the Gocator to output a part object. The method to trigger the Gocator depends on the Gocator setup.

The output will be displayed in the Preview Window.

📅 Common Vision Blox Managemer	t Console		and the second second		
File Tasklist Help					
Tasks	Preview	🧐 Advanced Config	Properties	Options 👻	
1 - Settings and Information			Device Information		
2 - Licensing	and a second sec		Image Format     Acquisition and Trigger		
3 - GenlCam 🔺			- requirecon and rigger		
Cip Device Configurator		6. 6. 6.			
C Bindings Editor					
	400x400 (399,399) V=(0,0,0) [3] Displaying @ 0.0 fps		Device Information (Std::DeviceInformation)		
	Grab Snap	Update Image Save Image	Device Information provides descriptions of the Gocator	3D data source.	
	Configured Devices	🔊 Options 🛛 👌 🐣 🐗 🔚 🚿			
	CamPort Vendor Model	UserName Se	ialnumber IP-Address	MAC-Address	
	🥌 0 LMI Gocator			se e e e e e e e e e e e e e e e e e e	
	9 : Acquisition timeout (is the device wating for a trigger or the 8 : Acquisition timeout (is the device wating for a trigger or the	data transferrate too high ?) data transferrate too high ?)			
•	7 : Acquisition timeout (Is the device waiting for a trigger or the 6 : Acquisition timeout (Is the device waiting for a trigger or the	data transfer rate too high?) data transfer rate too high?)			

An acquisition timeout error might display periodically if the Gocator is put into encoder trigger mode and there is no parts scanned for a period of time.

User can configure the acquisition timeout under Settings and Information->General Settings.

## **3 Verifying the Connection Between Sherlock and CVB**

- 1. Shut down CVB Management Console.
- 2. The camera port in the file CVBDriv.ini (normally under C:\Program Files\ipd\Sherlock\Drivers) should point to GenICam.vin, as shown below.

```
[Camera0]
Driver = %CVB%\Drivers\GenICam.vin
CameraPort = 0
```

3. Start Sherlock.

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It is normal to see an Acquisition Failed error in the Monitor window.

- 4. Select Image Window -> Options
- 5. Check the box "On acquisition timeout: Skip execution of this "image window" and continue executing program without a timeout error". Close the dialog box.

Options	×
jimgA 🔽 Toolbar	
Image source   Image logging   Calibration   Alignment   Display	
Camera 0	
C Camera Tile Horizontal 2 Vertical 1	
🔲 External Camera Trigger	
Non-triggered acquisition timeout (-1=infinity) [ms]: 1000	
Triggered acquisition timeout (-1=infinity) [ms]; -1	
On acquisition timeout: Skip execution of this "mage window" and continue executing program without a timeout error.	
C Img window Share buffer	
▼ 10 ▼ Used bpp	

This setting prevents Sherlock from executing the program when an acquisition is timed out. Acquisition timeout is normal when no parts are detected.

6. Press the Run Continuously button to begin acquisition.





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7. Trigger the Gocator to generate a part height map. The height map should be displayed in the image window.



### **4 Profile Mode Operation**

Gocator 4.x GenTL driver does not yet support scanning with profile mode. The support will be added in future release.