



Magellan™ 9800i USB Bridge



Quick Reference Guide

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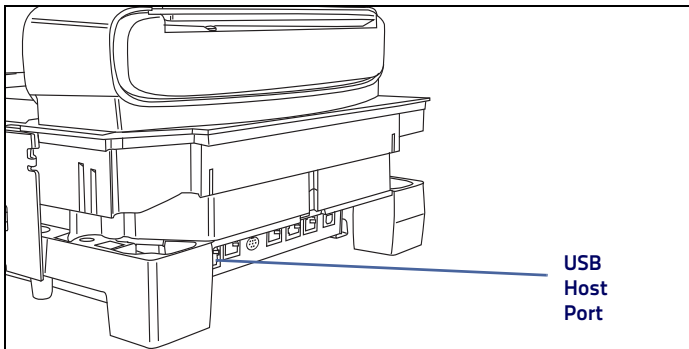
NOTES



Magellan™ 9800i USB Bridge

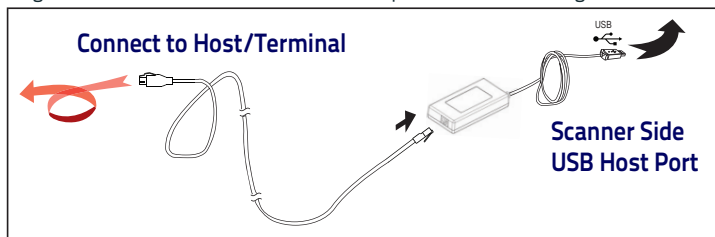
Overview

The Magellan™ 9800i USB Bridge is an accessory that facilitates the streaming of data from Magellan scanners to a host computer. The USB Bridge connects a Magellan 9800i USB host port to a PC's USB port, allowing it to function as a USB camera device.



Installation

Plug the cable from the Scanner USB host port to the USB Bridge.



Compatible Operating Systems and Software

To view data from the Scanner, you must have video viewing software installed on your host system. The USB Bridge is compatible with the following operating systems and video application software.

Linux

Following are examples of tested compatible software for Linux using the v4l2 (Video for Linux 2) Driver. Tested on distributions: Ubuntu 12.04 and Fedora 16:

- VLC (for Linux)

VLC media player 2.0.8

* Example Invocation, Graphical:

1. Open VLC, Click the Play Button,

-
2. Select the "Capture Device" Tab,
 3. Ensure the Capture mode is set to: "Video for Linux 2",
 4. Under Device Selection set the Video device name to your video device: (/dev/video0 if Video Bridge is the only USB camera device connected),
 5. Click the "Play" Button.

* Example Invocations, [Command Line](#):

```
% vlc v4l2:///dev/video0  
% cvlc v4l2:///dev/video0 # (no interface)
```

- Gstreamer

gst-launch-1.0, gstreamer-properties

* Example Invocation, [Command Line](#):

```
% gst-launch v4l2src device=/dev/video0 ! xvimagesink
```

- Cheese

Cheese Webcam Booth 3.4.1 (uses gstreamer)

Microsoft Windows® OS

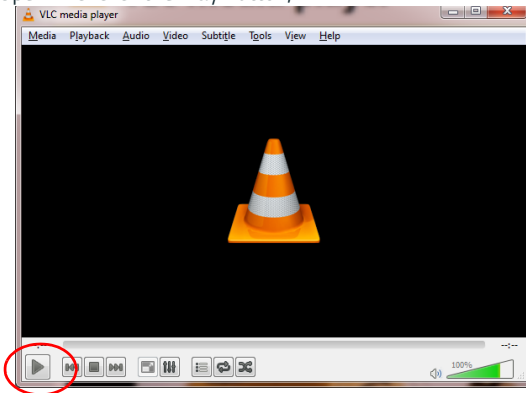
If using Windows (Windows Vista/XP, Windows or Windows 8), Microsoft provides the USB Video Class (UVC) driver. It is an AVStream minidriver that provides driver support for USB Video Class devices. The device works automatically with the system-supplied driver. Windows uses the (USB) Video Class driver, Usbvideo.sys.

For Windows 7 or 8, you must download and install a video software program. Many are available free, following are some recommended video software programs:

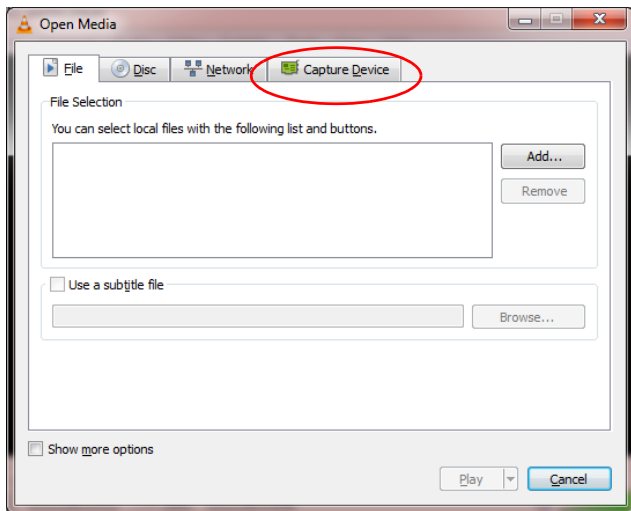
- VLC (for Windows)

VLC media player 2.2.1

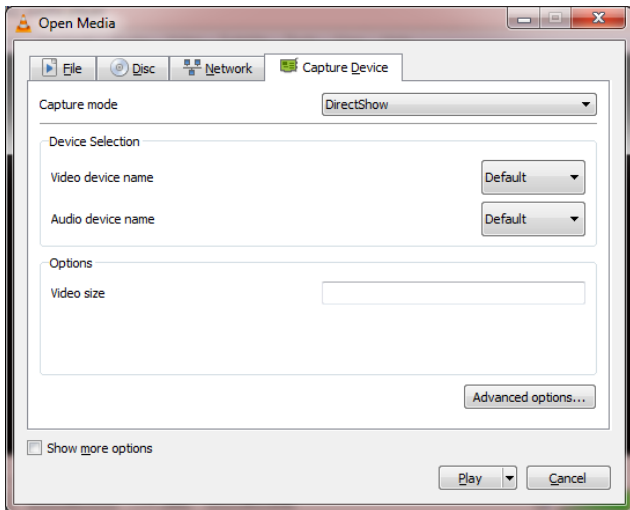
1. Open VLC. Click the Play Button,



2. The Open Media dialog will open. Select "Capture Device",



3. Ensure the Capture mode is set to "DirectShow",



4. Under Device Selection set the Video device name to "UVC Camera",

5. Click "Play".

Figure 1. Microsoft's Device Manager showing USB Bridge

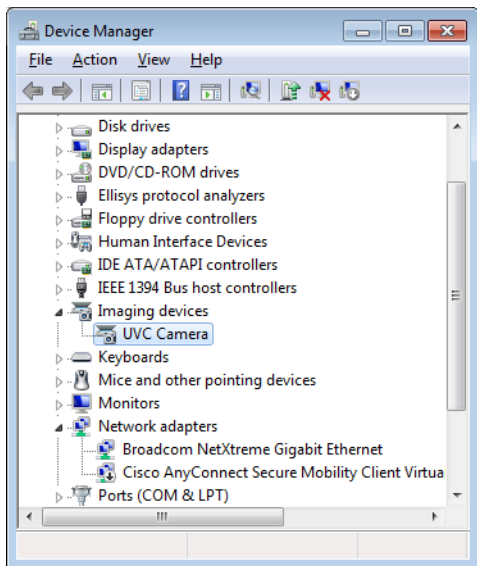
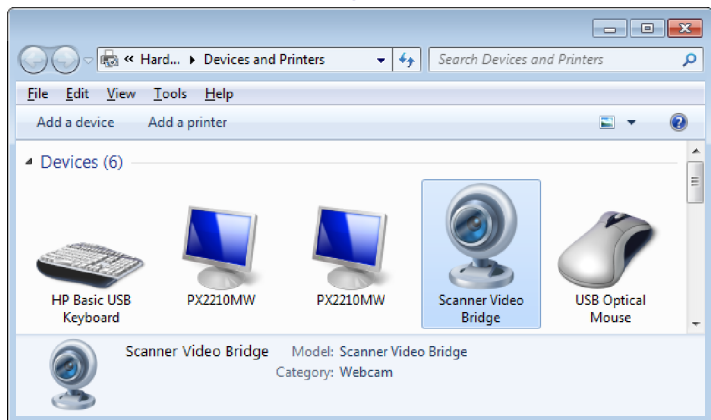


Figure 2. Devices and Printers (in Windows 7 Control Panel) with USB Bridge attached



- WebcamViewer

V1.0, Select "UVC Camera", Click the "Connect" Button

Other Windows Resources

Machine Learning and Computer Vision Libraries:

OpenCV.org

EmguCV

AForge.Net

Troubleshooting

If the USB Bridge is not operating properly, the following checks should be performed:

1. If the scanner uses an external power supply and the external power supply has failed, the scanner will not operate. Exchange the power supply with a known good power supply and retest operation.
2. Verify the USB Bridge cable is securely attached to the host. Consult your technical support personnel or refer to your host system manual to verify the proper connection for the scanner.
3. Verify that the cable is securely attached to the scanner.

If the USB Bridge still does not function properly, contact your local supplier or Datalogic Customer Support Services.

Warranty

Datalogic warrants to Customer that this product will be free from defects in materials and workmanship for a period of 3 years from product shipment.

Datalogic ADC Limited Factory Warranty

Warranty Coverage

Datalogic ADC ("Datalogic") hardware products are warranted against defects in material and workmanship under normal and proper use. The liability of Datalogic under this warranty is limited to furnishing the labor and parts necessary to remedy any defect covered by this warranty and restore the product to its normal operating condition. Repair or replacement of product during the warranty does not extend the original warranty term. Products are sold on the basis of specifications applicable at the time of manufacture and Datalogic has no obligation to modify or update products once sold.

If Datalogic determines that a product has defects in material or workmanship, Datalogic shall, at its sole option repair or replace the product without additional charge for parts and labor, or credit or refund the defective products duly returned to Datalogic. To perform repairs, Datalogic may use new or reconditioned parts, components, subassemblies or products that have been tested as meeting applicable specifications for equivalent new material and products. Customer will allow Datalogic to scrap all parts removed from the repaired product. The warranty period shall extend from the date of shipment from Datalogic for the duration published by Datalogic for the product at the time of purchase (Warranty period). Datalogic warrants repaired hardware devices against defects in workmanship and materials on the repaired assembly for a 90 day period starting from the date of shipment of the repaired product from Datalogic or until the expiration of the original warranty period, whichever is

longer. Datalogic does not guarantee, and it is not responsible for, the maintenance of, damage to, or loss of configurations, data, and applications on the repaired units and at its sole discretion can return the units in the ‘factory default’ configuration or with any software or firmware update available at the time of the repair (other than the firmware or software installed during the manufacture of the product). Customer accepts responsibility to maintain a back up copy of its software and data.

Warranty Claims Process

In order to obtain service under the Factory Warranty, Customer must notify Datalogic of the claimed defect before the expiration of the applicable Warranty period and obtain from Datalogic a return authorization number (RMA) for return of the product to a designated Datalogic service center. If Datalogic determines Customer’s claim is valid, Datalogic will repair or replace product without additional charge for parts and labor. Customer shall be responsible for packaging and shipping the product to the designated Datalogic service center, with shipping charges prepaid. Datalogic shall pay for the return of the product to Customer if the shipment is to a location within the country in which the Datalogic service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations. Failure to follow the applicable RMA policy, may result in a processing fee. Customer shall be responsible for return shipment expenses for products which Datalogic, at its sole discretion, determines are not defective or eligible for warranty repair.

Warranty Exclusions

The Datalogic Factory Warranty shall not apply to:

- (i) any product which has been damaged, modified, altered, repaired or upgraded by other than Datalogic service personnel or its authorized representatives;
- (ii) any claimed defect, failure or damage which Datalogic determines was caused by faulty operations, improper use, abuse, misuse, wear and tear, negligence, improper storage or use of parts or accessories not approved or supplied by Datalogic;
- (iii) any claimed defect or damage caused by the use of product with any other instrument, equipment or apparatus;
- (iv) any claimed defect or damage caused by the failure to provide proper maintenance, including but not limited to cleaning the upper window in accordance with product manual;
- (v) any defect or damage caused by natural or man-made disaster such as but not limited to fire, water damage, floods, other natural disasters, vandalism or abusive events that would cause internal and external component damage or destruction of the whole unit, consumable items;
- (vi) any damage or malfunctioning caused by non-restoring action as for example firmware or software upgrades, software or hardware reconfigurations etc.;
- (vii) the replacement of upper window/cartridge due to scratching, stains or other degradation and/or
- (viii) any consumable or equivalent (e.g., cables, power supply, batteries, keypads, touch screen, triggers etc.).

No Assignment

Customer may not assign or otherwise transfer its rights or obligations under this warranty except to a purchaser or transferee of product. No attempted assignment or transfer in violation of this provision shall be valid or binding upon Datalogic.

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NOTES



Appendix

Output of lsusb program for the USB Bridge device on Linux:

```
% sudo lsusb -v -  
d05f9:0511
```

```
Bus 001 Device 063: ID 05f9:0511 PSC Scanning, Inc.
```

```
Device Descriptor:
```

```
bLength                18  
bDescriptorType        1  
bcdUSB                 2.00  
bDeviceClass           239  Miscellaneous Device  
bDeviceSubClass        2    ?  
bDeviceProtocol        1    Interface Association  
bMaxPacketSize0       64  
idVendor               0x05f9  PSC Scanning, Inc.  
idProduct              0x0511  
bcdDevice              3.14  
iManufacturer          1    Datalogic ADC, Inc.  
iProduct               2    Scanner Video Bridge  
iSerial                0  
bNumConfigurations    1  
Configuration Descriptor:  
bLength                9  
bDescriptorType        2  
wTotalLength          200
```

bNumInterfaces	2	
bConfigurationValue	1	
iConfiguration	4	Video
bmAttributes	0x80	(Bus Powered)
MaxPower	250mA	
Interface Association:		
bLength	8	
bDescriptorType	11	
bFirstInterface	0	
bInterfaceCount	2	
bFunctionClass	14	Video
bFunctionSubClass	3	Video Interface Collection
bFunctionProtocol	0	
iFunction	5	UVC Camera
Interface Descriptor:		
bLength	9	
bDescriptorType	4	
bInterfaceNumber	0	
bAlternateSetting	0	
bNumEndpoints	1	
bInterfaceClass	14	Video
bInterfaceSubClass	1	Video Control
bInterfaceProtocol	0	
iInterface	5	UVC Camera
VideoControl Interface Descriptor:		
bLength	13	
bDescriptorType	36	
bDescriptorSubtype	1	(HEADER)
bcdUVC	1.00	
wTotalLength	51	
dwClockFrequency	48	.000000MHz
bInCollection	1	
baInterfaceNr(0)	1	

VideoControl Interface Descriptor:

```

bLength                18
bDescriptorType        36
bDescriptorSubtype     2   (INPUT_TERMINAL)
bTerminalID           1
wTerminalType          0x0201   Camera Sensor
bAssocTerminal         0
iTerminal              0
wObjectiveFocalLengthMin  0
wObjectiveFocalLengthMax  0
wOcularFocalLength     0
bControlSize          3
bmControls              0x00000002
    Auto-Exposure Mode
VideoControl Interface Descriptor:
bLength                11
bDescriptorType        36
bDescriptorSubtype     5   (PROCESSING_UNIT)
Warning: Descriptor too short
bUnitID                2
bSourceID              1
wMaxMultiplier         16384
bControlSize          2
bmControls              0x00000001
    Brightness
iProcessing             0
bmVideoStandards       0x 9
    None
    SECAM - 625/50
VideoControl Interface Descriptor:
bLength                9
bDescriptorType        36
bDescriptorSubtype     3   (OUTPUT_TERMINAL)
bTerminalID           3
wTerminalType          0x0101   USB Streaming
bAssocTerminal         0
bSourceID              2

```

iTerminal	0	
Endpoint Descriptor:		
bLength	7	
bDescriptorType	5	
bEndpointAddress	0x81	EP 1 IN
bmAttributes	3	
Transfer Type		Interrupt
Synch Type		None
Usage Type		Data
wMaxPacketSize	0x0010	1 x 16 bytes
bInterval	8	
Interface Descriptor:		
bLength	9	
bDescriptorType	4	
bInterfaceNumber	1	
bAlternateSetting	0	
bNumEndpoints	0	
bInterfaceClass	14	Video
bInterfaceSubClass	2	Video Streaming
bInterfaceProtocol	0	
iInterface	6	Video Streaming
VideoStreaming Interface Descriptor:		
bLength	15	
bDescriptorType	36	
bDescriptorSubtype	1	(INPUT_HEADER)
bNumFormats	2	
wTotalLength	86	
bEndPointAddress	141	
bmInfo	0	
bTerminalLink	3	
bStillCaptureMethod	0	
bTriggerSupport	0	
bTriggerUsage	0	
bControlSize	1	

bmaControls(0)	27	
bmaControls(1)	27	

VideoStreaming Interface Descriptor:

bLength	27	
bDescriptorType	36	
bDescriptorSubtype	4	(FORMAT_UNCOMPRESSED)
bFormatIndex	1	
bNumFrameDescriptors	1	
guidFormat	{59555932-0000-1000-8000-00aa00389b71}	
bBitsPerPixel	16	
bDefaultFrameIndex	1	
bAspectRatioX	0	
bAspectRatioY	0	
bmInterlaceFlags	0x00	
Interlaced stream or variable: No		
Fields per frame: 2 fields		
Field 1 first: No		
Field pattern: Field 1 only		
bCopyProtect	0	

VideoStreaming Interface Descriptor:

bLength	38	
bDescriptorType	36	
bDescriptorSubtype	5	(FRAME_UNCOMPRESSED)
bFrameIndex	1	
bmCapabilities	0x00	Still image unsupported
wWidth	640	
wHeight	480	
dwMinBitRate	18432000	
dwMaxBitRate	55296000	
dwMaxVideoFrameBufferSize	61440	
dwDefaultFrameInterval	400000	
bFrameIntervalType	3	
dwFrameInterval(0)	400000	
dwFrameInterval(1)	1000000	

dwFrameInterval(2)	5000000
---------------------	---------

VideoStreaming Interface Descriptor:

bLength	6	
bDescriptorType	36	
bDescriptorSubtype	13	(COLORFORMAT)
bColorPrimaries	1	(BT.709,sRGB)
bTransferCharacteristics	1	(BT.709)
bMatrixCoefficients	4	(SMPTE 170M (BT.601))

Interface Descriptor:

bLength	9	
bDescriptorType	4	
bInterfaceNumber	1	
bAlternateSetting	1	
bNumEndpoints	1	
bInterfaceClass	14	Video
bInterfaceSubClass	2	Video Streaming
bInterfaceProtocol	0	
iInterface	6	Video Streaming

Endpoint Descriptor:

bLength	7	
bDescriptorType	5	
bEndpointAddress	0x8d	EP 13 IN
bmAttributes	5	
Transfer Type		Isochronous
Synch Type		Asynchronous
Usage Type		Data
wMaxPacketSize	0x0400	1x 1024 bytes
bInterval	1	

Device Qualifier (for other device speed):

bLength	10
bDescriptorType	6
bcdUSB	2.00

bDeviceClass	239	Miscellaneous Device
bDeviceSubClass	2	?
bDeviceProtocol	1	Interface Association
bMaxPacketSize0	64	
bNumConfigurations	1	

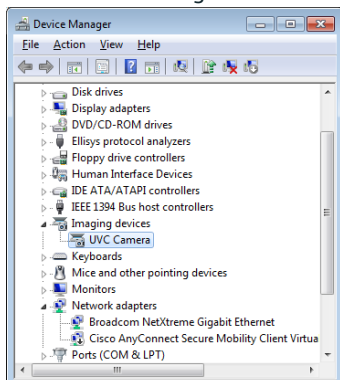
Device Status: 0x0000 (Bus Powered)

Output from Microsoft's USB Device Viewer, (USB Device descriptors):

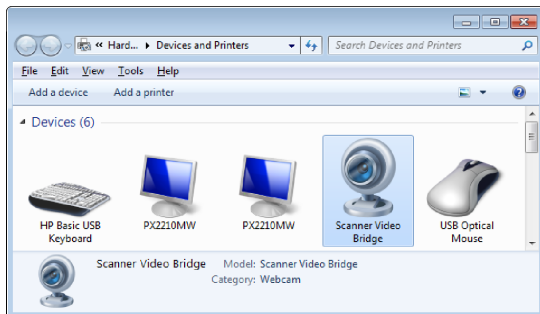
Device Descriptor:

bcdUSB:	0x0200
bDeviceClass:	0xEF
bDeviceSubClass:	0x02
bDeviceProtocol:	0x01
bMaxPacketSize0:	0x40 (64)
idVendor:	0x05F9 (PSC Scanning, Inc.)
idProduct:	0x0511
bcdDevice:	0x0314
iManufacturer:	0x01
0x0409: "Datalogic ADC"	
iProduct:	0x02
0x0409: "Scanner Video gadget"	
iSerialNumber:	0x00
bNumConfigurations:	0x01

Microsoft's Device Manager with Video Bridge attached:



Microsoft's Devices and Printers (in Control Panel), with the Video Bridge attached (Windows 7):





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