

# **Application Note**

# Saving Images in internal Memory at allPIXA, allPIXA pro and allPIXA wave cameras

# Applicable Camera Versions

allPIXA camera series	CP000383-xxx
allPIXA pro camera series	CP000476-xxx
allPIXA wave camera series	CP000498-xxx











## Image Storage Memory

The hardware in Chromasens allPIXA camera has an image flash memory, so each of these cameras has a data storage function. The maximum data is 64kB.



The images in this document show the allPIXA camera. Please check the manual of your specific camera for the exact position of the connectors.

## How to save an image to camera memory

To use this function please follow the instruction below:

1. Connect the camera to 24V power supply, and the computer with the camera via RS232 interface.





2. Check in the hardware manager, which com ports are available for communication to the camera

📮 🖬 🗙
Datei Aktion Ansicht ?
Anschlüsse (COM & LPT)     Anschlüsse (COM & LPT)     USB Serial Port (COM5)     Gamecontroller     USB Serial Port (COM5)     Computer     DVD/CD-ROM-Laufwerke     D

2a. alternatively you can also use the serial interface on the CameraLink Interface. Therefore connect the Camera via CameraLink cables to the framegrabber of your PC. Depending on the type of your framegrabber you may find in the hardware manager the number of the assigned Com port.

4.1	Anschlüsse (COM & LPT)	
	Enhanced Communication Port (COM6)	
	🐙 Enhanced Communication Port (COM7)	
	Kommunikationsanschluss (COM1)	
	MATRIX VISION GmbH Serial Port (COM17)	Assigned comports by
	MATRIX VISION GmbH Serial Port (COM18)	framegrabher
	· · · · · · · · ·	namegrabbei

3. Open the Chromasens CST software and select the correct com port

Interface selection	
USB Serial Port (COM5)	▼ vse max Baudrate
Baud rate	Suppress RESET
38400	▼ (K3232)

For the allPXA wave the Baud rate has to be set to 115200.



4. Check the firmware

era-Settings Camera parameter	Camera serial number	Setting description	
- Integration time - Gain settings	10000 117	Pixe7296 IntSetting1 CL-Med V1.30 Free Run (Line+Image)	
- White reference mark	Camera atate	FirstVakPost 0 Vales 24548	
- Write control - Reference usage		Tet == 47us	
- Brightness and contrast	Front shale		
- Camera arrangement	[montal]		
nøge parameter	[ and here ]	Mark setting as used	
- Image sizes	HSI level	🕐 Used	
Synchronization	(0x010A)		
Cutred fromat	Line and	FPGA description	
oecial functions	Firmware version of the camera 1 + 76 + 1	8549y_Rex038385	
- Test pattern			
Tracing	Program description	Sensor D	
- Register edit	Kalmain 76 17.12.2015	23	
and the second se			
- Camera information	Xilinx revision	Description of the used occursement	
	8	BRAON_#ENH_CCD_A35.DE((1830-03)	
		Set Product ID	
	Hardware configuration	No BodurtD defined	
	Type/Version of Board Version Pow/Lattice	The second decision	
	0x0701 0x0005		
	Verify Setting	Verify Packet	
	Setting D	Packet D	
	0.00	1.0 che	ect the firmware version
	Description land	Description-Next	
	No Package defined	Photo: Second Seco	
	Ofference of the signatures	Diminence of the agrietance	
	0x0000	0x0300	
0:46:965 Connected to	camera		
	63.30 Mar 6		

#### 4a. allPIXA:

Firmware must be version 1.49 or higher

### 4b. <u>allPIXA pro:</u>

Firmware must be version 2.22 or higher

#### 4c. <u>allPIXA wave:</u>

Firmware must be version 1.66 or higher

- 5. Close the CST program
- 6. Chromasens allPIXA cameras can store the images via "HTerm" software. Open the "HTerm" software
- 7. Select the RS232 port (same as above) and press connect button

	Abec 1x 9 Rebet Louit 0 . 9 Rebet None • 2 person
Cear received	zo Trez Coc Em Save output • Clear at 0 % Interview 0 % 2 Autocold Show errors water aparts South 0 % CTS 008 81 000
Sequence Overview	Received Data
	1 5 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10
	Sector () Text cares Fact stars Fact stars
	Sector () Ten career De anterne De anterne () (Sector (
	Sector(s) Red verse Pod spine (der swenden)   (Zete : The : Dec : The : Sector are : res (to : The

Note: for the allPXA wave the Baud rate has to be set to 115200



8. Select an image and send it to the camera

HTerm 0.8.1beta					<b>— —</b> X
ile Options View Help					
Disconnect Port COM	15 <b>•</b> R Ba	ud 115200 - Data	a 8 🔹 Stop 1	▼ Parity None ▼	CTS Flow control
Rx 0 Re	set Tx 0 R	eset Count 0 🜩	0 Rese	et 🕴 Newline at None	▼ Show chara
Clear received	Hex Dec Bin Save	e output	at 0 Newline eve	ery 0 🐳 🗹 Autos	croll Show errors Re
equence Overview	Received Data	) 25 30 35	40 45 50	0 55 60 65	70
	1 5 10 15 20	/ 20 30 33	40 40 50	3 33 60 63	/0
	Selection (-)				
li	Input control				×
	Input options	Hey Dec Bin	Send on enter None	Send file	R
	T. (100				
					Asend
	1 5 10 15 20	25 30 35	40 45 50	55 60 65	70 75
		History -/0/10	Connect to COM5	(b:115200 d:8 s:1 p:None)	đ
Select file to send					×
🔆 💮 – 📕 🕨 Compu	iter 🕨 Daten (D:) 🕨 allPIXA Do	ku ▶ allPIXa_test ▶ ir	nage_test	▼ ★ image_test d	urchsuchen 🔎
Organisieren 👻 Neu	ier Ordner				8≡ - □ @
🙀 Favoriten	Name	Datum	Тур	Größe M	arkierungen
E Desktop	🗧 🧾 test_5.bmp	15.01.2016 16:26	Bitmap-Bild	37 KB	
Zuletzt besucht					
J Musik					
Stopbox					
詞 Bibliotheken					
4 💷 Computer					
🟭 Lokaler Datenträg					
Daten (D:)					
PROGRAMME (\)					
T_DATEN (\\CRS					
W Root_Diskstation	•				
Dat	einame: test_5.bmp			All files	•
				Offnen	Abbrechen
	Autosend				
	Source	test 5 bm			
	Source	test_5.bin			
	Repetitions (0=inf)		1		
	Delay (0=none)		0 🊔 x0.1s		
	Repetition 0 of 1		Nex	xt in 0.0s	
	0 of 36920 byte		Sendtime	00:00:0	
			Speed 0,	000 KiB/s	
		Start	Stop Ca	ancel	

The storage of the image into camera may take several seconds. Please wait some time after the process is finished.



9. After sending please verify the correct image size

💤 HTerm 0.8.1beta	
File Options View Help	p
Disconnect Port CO	M5 • R Baud 115200 • Data 8 • Stop 1 • Parity None • CTS Flow control
Rx 0 Re	eset 🛛 Tx 36920 Reset Count 0 📮 0 Reset None 👻 Show
Clear received	ii 🛛 Hex 🗋 Dec 🔤 Bin 🚦 Save output 💌 🕴 🖸 Clear at 🛛 0 🗮 🕴 Newline every 🔍 0 🗮 🛊 🗸 Autoscroll 🔄 Show errors 🕴 New
Sequence Overview X	Received Data
	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70
	Selection (-)
	Input control X
	- Input options
	Clear transmitted Ascii Hex Dec Bin Send on enter None  Send file DTR RTS
	Type ASC
	Transmitted data ×
	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
	History -/0/10 Connect to COMS (b:115200 d:8 s:1 p:None)



## How to load an image from camera memory to PC

- 1. Connect the HTerm program to the camera like described above. For allPIXA and allPIXA pro you may use 19200 Baud as connection speed. For the allPIXA wave the connection speed has to be set to 115200.
- 2. Check the image in camera Write "bm" code in the command, and then press the "ASend" button

🔁 HTerm 0.8.1beta	
File Options View He	lp
Disconnect Port CO	2M5 • R Baud 115200 • Data 8 • Stop 1 • Parity None • CTS Flow control
Rx 0 R	eset Tx 36920 Reset Count 0 🔶 0 Reset Newline at None 👻 Show
Clear received	ci Hex Dec Bin Save output 🔍 🕴 Clear at 0 🐳 Save Newline every 0 🐳 🕅 Autoscroll Show errors Sine
Sequence Overview X	Received Data
	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70
	Selection (-)
	Input control X
	Type ASC (bm) ASend
	Transmitted data ×
	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
	History -/0/10 Connect to COM5 (h:115200 d:8 s:1 p:None)

Autosend	
Source	[Inputline]
Repetitions (0=inf)	1
Delay (0=none)	0 💌 x0.1s
Repetition 0 of 1	Next in 0.0s
0 of 2 byte	Sendtime 00:00:0 Speed 12,305 KiB/s
Start	stop Cancel



3. The program shows the size of the available data as follows

🚰 HTerm 0.8.1beta
File Options View Help
Disconnect Deut COM5 V R Baud 115200 V Data 8 V Stop 1 V Parity None V CTS Flow control
Rx 36920 Reset J 36922 Reset Count 0 🖈 120 Reset Newline at None 🗸 🖓 characters
Clear received : V Asci Hex Dec Bin Save output V Clear at 0 🗰 Newline every 0 🗮 V Autoscrol Show errors Newline after receive pause (br
Sequence Overview X Received Data
Input control X
Input options       Clear transmitted       Image: Clear transmitter       Image: Clear transmitter   <
Type ASC   KASend
Transmitted data ×
1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80
History -/0/10 Connect to COM5 (b:115200 d:8 s:1 p:None)

4. Save the image to computer

Chi Harm 0.8.1beta       Image: Control of the control o
File       Options       View       Help         Deconnect       Port       COMS
Deconnect         Port         COM5         R         Baud         11520         Data         Porty         Porty         Hene         CTS Flow control           Image: Come of the come of th
Rx         36920         Reset         Tx         36922         Reset         Newline at: None         Y Store newline of diversion           Cear received         X Asd         Hex         Dec         Issue output         Cear at 0 issue output         Newline at: 0 issue output <t< th=""></t<>
Cear received         I Acd         Hex         Dec.         B         Serve output         Cear at 0         Werden avery output         O         I Autoscol         Newlea affar exerve pack           Sequence Overview         X         Received Data         I         5         10         15         20         25         30         35         40         45         55         60         65         70         75         80         Autoscol at a an a
Sequence Overview         X         Received Data           1         5         10         15         20         25         30         35         40         45         50         55         60         65         70         75         80         10           0 </th
Selection (-)       -         Input control       -         Input control       -         Type ASC       DB         Send file       DTR         RTS       -         Transmitted data       -         1       5       10       15       20       25       30       35       40       45       55       60       65       70       75       80
History -/0/10 Connect to COM5 (b:115200 d/8 s1 p:None)



5. Enter correct filename with \*.bmp ending

nganisieren + Neuer Ordher					8== •	Ø
🔆 Favoriten	Â	Name	Datum	Тур	Größe	Markier
🧮 Desktop		🛃 test_5.bmp	15.01.2016 16:26	Bitmap-Bild	37 KB	
😺 Downloads						
🖳 Zuletzt besucht						
🎝 Musik	=					
😌 Dropbox						
🖥 Bibliotheken						
🖳 Computer						
Lokaler Datenträger (C:)						
Daten (D:)						
Elements (L:)						
PROGRAMME (\\CRSERV2) (P:)	-	•	III			
Detaile free test 5 from com		-				
	cruito	inp				
Dateityp: All files						

6. Check the two images

						×
🕒 🕢 - 🕌 🕨 Computer 🕨 Daten (D:) 🕨	aliPIXA Doku 🔸 aliPIXa_test 🔸	mage_test			*• andge_test durchsuchen	8
Organisieren 👻 In Bibliothek aufnehmei	n 🔹 Freigeben für 👻 Dias	how Brennen N	leuer Ordner		· 1	
A 🚖 Favoriten	Name	Datum	Тур	Größe Markierungen		
E Desktop	🙇 test_5 from camera	20.01.2016 12:19	Bitmap-Bild	37 KB		
🐞 Downloads	💒 test_5.bmp	15.01.2016 16:26	Bitmap-Bild	37 KB		
🔢 Zuletzt besucht						
J Musik	E			$\mathbf{\nabla}$		
💱 Dropbox						
; Bibliotheken						
····						

Orignal image: test\_5.bmp



Image from the camera: test\_5 from camera.bmp