

# APDTEST USER GUIDE

(COMMAND LINE TEST INTERFACE FOR  
APDCAM AND APDCAM-10G)

VERSION: 1.1

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## 1. Introduction

This document describes details about how to use APDTest software. This software is capable to run under Windows and Linux as well.(Only Linux support for APDCAM-10G for now). APDTest was tested under the following operating systems:

- Windows 7, 64bit
- CentOS 6, 64bit
- Ubuntu 16.04 LTS, 64bit

## 2. Requirements

- APDCAM or APDCAM-10G connected to a computer which is used to control one of the cameas.
- Network settings necessary to communicate with APDCAM
- Visual C++2013 Redistributables installed to be able to run the software (for windows only)

## 3. Using the software

The software can be controlled by a script file which can contain command from the following table.

Function	APDTest call	Parameters						
Comment	Rem							
Message to the output	Message							
Wait for pressing enter	Pause							
Saving measurement data	Save							
APDCAM_Allocate()	Allocate	int sampleCount	int bits	int channelMask_	int channelMask_	int channelMask_	int channelMask_	int primaryBufferSiz
APDCAM_Arm()	Arm	int measurementMod	int sampleCount	int calibrationMo	int signalFrequen			
APDCAM_Calibrate()	Calibrate							
APDCAM_Close()	Close							
APDCAM_DataMode()	Datamode	int mode						
APDCAM_Filter()	Filter	int[6] coeffs						
APDCAM_Open()	Open/ForceOpen	string ip_address	unsigned char					
APDCAM_ReadPDI()	Read	int address	int subAddress	int numBytes				
APDCAM_Sampling()	Sampling	int sampleDiv	int sampleSrc					
	Save							
APDCAM_SetTiming()	Settiming	int basicPLLmul	int basicPLLdiv_0	int basicPLLdiv_1	int clkSrc	int extDCMmul	int extDCMdiv	
APDCAM_Start()	Start							
APDCAM_Stop()	Stop							
APDCAM_GetSWOptions()	SWOptions							
APDCAM_Trigger()	Trigger	int triggerSource	int triggerMode	int triggerEdge	int delay	ADT_TRIGGERINFO[] trigger	int preTriggerSam	
APDCAM_Wait()	Wait							
APDCAM_WritePDI()	Write	int address	int subAddress	int numBytes	int data			

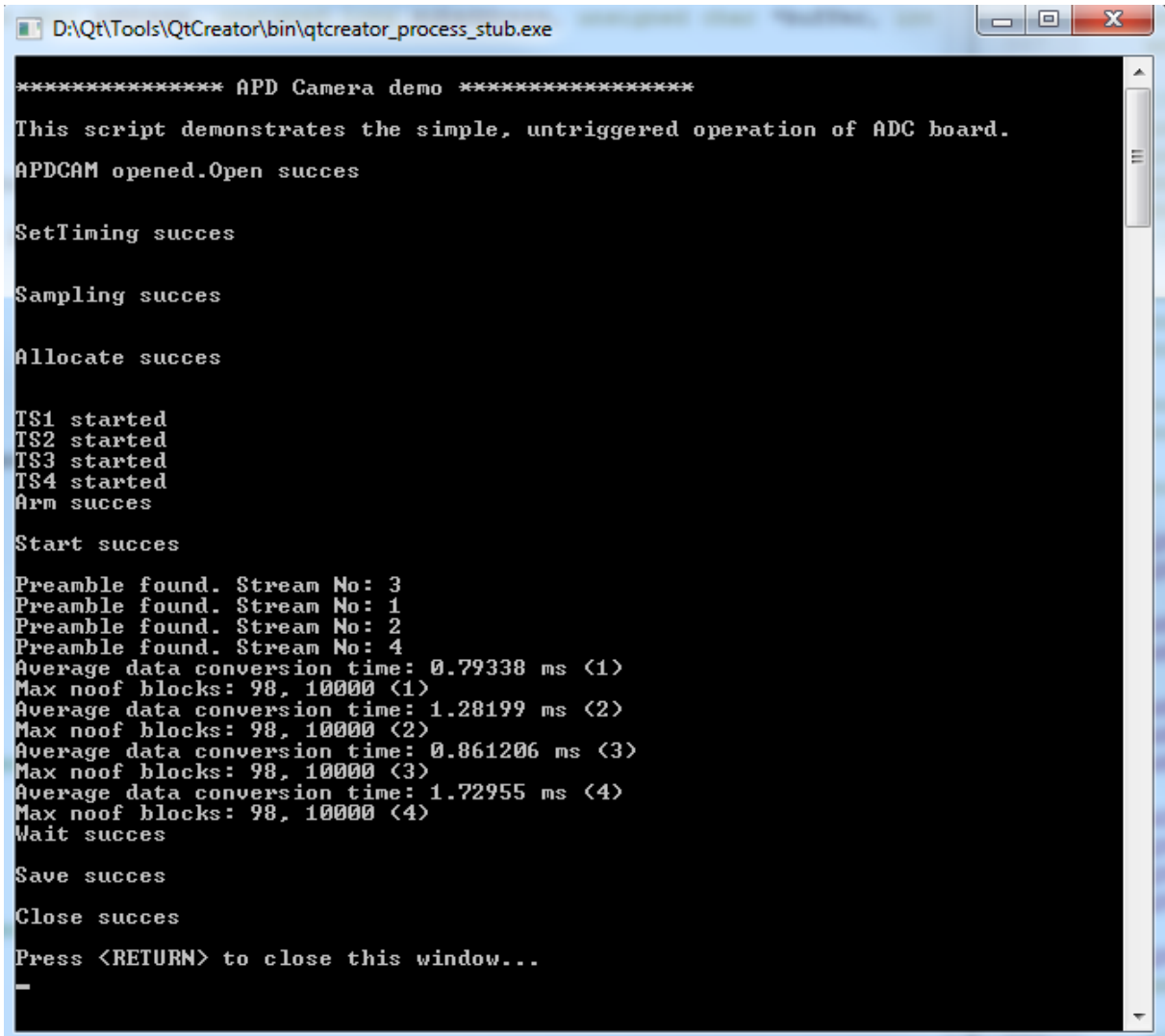
1 APDTest commands

The following example contains commands with parameters for a usual measurement with APDCAM.

```
Message ***** APD Camera demo *****
Message This script demonstrates the simple, untriggered operation of ADC
board.
Open 10.123.13.101
Rem SetTiming: p1=adc mult, p2=adc div, p3=stream mult, p4=stream div

SetTiming 20 40 30 10
Rem Sampling: p1=sampleDiv, p2=sampleSrc 0:internal, 1:external
Sampling 20 1
Rem Allocate: p1=sample num, p2=bit num, p3=channel_1 mask, p4=channel_2
mask, p5=channel_3 mask, p6=channel_4 mask,
Allocate 1000000 14 255 255 255 255
Rem Arm: p1=measurement mode (0:one shot 1:cyclic) p2=sample num,
p3=calibration mode (0:calibrated 1:non-calibrated)
Arm 0 1000000 0
Start
Wait 5000
Save
Pause
Close
```

The software has only one parameter which is the script file name (and path if it is not in the same directory as the software). If APDTest is called without any parameter, the default config file name will be „APDMain.txt” and the software will tries to open it in the same directory as it is running from. On the following screenshot you cab see the tipical output of the software.



```
D:\Qt\Tools\QtCreator\bin\qtcreator_process_stub.exe

***** APD Camera demo *****

This script demonstrates the simple, untriggered operation of ADC board.
APDCAM opened.Open succes

SetTiming succes

Sampling succes

Allocate succes

TS1 started
TS2 started
TS3 started
TS4 started
Arm succes

Start succes

Preamble found. Stream No: 3
Preamble found. Stream No: 1
Preamble found. Stream No: 2
Preamble found. Stream No: 4
Average data conversion time: 0.79338 ms <1>
Max noof blocks: 98, 10000 <1>
Average data conversion time: 1.28199 ms <2>
Max noof blocks: 98, 10000 <2>
Average data conversion time: 0.861206 ms <3>
Max noof blocks: 98, 10000 <3>
Average data conversion time: 1.72955 ms <4>
Max noof blocks: 98, 10000 <4>
Wait succes

Save succes

Close succes

Press <RETURN> to close this window...
-
```

2 APDTest output

#### 4. Support

If you have any further questions or want to report a bug please contact us by email:

[support@fusioninstruments.com](mailto:support@fusioninstruments.com)