

How to access XRK files data without AiM software

We've had requests in the recent past to open xrz/xrk files in order to access the data recorded by our devices using external software. Most of the requests received till now were for MatLab([™]) or custom developed software.

We developed a DLL that lets users accomplish this task in a very easy way. You can download two complete examples to understand how to use the DLL.

Downloadable examples:

- 1. Visual Studio 2010
- 2. MatLab (™)

3. ...please don't forget to let us know about how you use the DLL! (write to software@aim-sportline.com)

Visual Studio 2010

Download a zipped file with full source code here:

http://www.aim-sportline.com/aim-software-betas/DLL/TestMatLabXRK 20170302.zip

Unzip the file content on your hard disk, then identify the "**TestMatLabXRK.sin**" file and open it with Visual Studio 2010. Compile it and run it, you should see what in the following window:

🔏 TestMatLabXR	ĸ		×
Open File	Close File		DLL Version
Logged Channels			
Ch. Count	Ch. Names	Ch. Data	Lap Data
GPS Channels			
Ch. Count	Ch. Names	Ch. Data	Lap Data
GPS Raw Channe	ls		
Ch. Count	Ch. Names	Ch. Data	Lap Data
Lap Count Vehicle	Lap Times	Random stre	ss test
Track		Ri	un Test
Racer			
Championship			

It's a simple dialog window that lets you test all DLL functions.

All functions are documented directly in the "**MatLabXRK.h**" file supplied. Few quick hints are given in the following lines. "DLL Version" has to be used to verify the DLL build time and date.





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"Lap Times" are, as well as all other timing information, given in seconds.

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	Laps 11: Lap [0] - start 0.011000 (s) - duration 82.248000 (s) Lap [1] - start 82.259000 (s) - duration 53.058000 (s) Lap [2] - start 187.534000 (s) - duration 52.217000 (s) Lap [3] - start 187.534000 (s) - duration 50.973000 (s) Lap [4] - start 238.507000 (s) - duration 49.802000 (s) Lap [5] - start 238.309000 (s) - duration 50.742000 (s) Lap [6] - start 339.051000 (s) - duration 50.618000 (s) Lap [8] - start 439.535000 (s) - duration 49.765000 (s) Lap [8] - start 439.330000 (s) - duration 50.316000 (s) Lap [9] - start 439.3616000 (s) - duration 58.817000 (s) Lap [10] - start 539.616000 (s) - duration 58.817000 (s)	
	ОК	

"Vehicle", "Racer", "Championship" and "Venue Type" refer to data set by users into AiM loggers before the on track session, "Track" is automatically identified by the AiM loggers among all the tracks previously sent to them using RS3, "Date & Time" refers to start acquisition and is managed by the loggers themselves.

Channels data values are available on a session timing base, or a lap timing base.

Logged channels are 'according to device configuration'.

GPS channels are computed by the DLL upon GPS raw channels: GPS_Speed", "GPS_Nsat", GPS_LatAcc", GPS_LonAcc", GPS_Slope", GPS_Heading", GPS_Gyro", GPS_Altitude", GPS_PosAccuracy", GPS_SpdAccuracy", GPS_FreqAccuracy", GPS_East", GPS_North".



MatLab (™)

Download a zipped file with full source code here:

http://www.aim-sportline.com/aim-software-betas/DLL/TestMatLabXRK m 20170303.zip

This example has been developed by: Michael Metzner, metzner software engineering http://www.metzner-se.com

Unzip the file content on your hard disk, then load/run the "XrkAccessExample.m" file to see an example of how the dll works.

When calling the example script without any filename you'll be asked to select a XRK/XRZ file. Two sample files are supplied.

After loading the file you'll have to select a lap, like in the following window:

1 2 3	^
4 5	
o 7 8	
9 10	
11	

After lap selection you'll have to select a data channel and the corresponding data are plotted, like in the following two windows:



Ver. 1.00

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Afterwards you'll be asked to select a GPS channel and the corresponding data are plotted, see the two following windows:

Finally you'll be prompted to select a GPS raw data channel and the corresponding data are plotted.





The Matlab command windows, after running the example script, will look like the following figure.

Command Window
>> XrkAccessExample
ans =
Feb 17 2017
ans =
17:20:26
valiale none-
track name: Adria Kart
racer name: A.GIARDELLI championship:
venue type:
Cinescamp. 2010-01-28 12.05.04
iLapCount =
11
ichannelcount -
11
alanTimes =
0.0110 82.2480 82.2590 53.0580
135.3170 52.2170
187.5340 50.9730
238.5070 49.8020
288.3090 50.7420
339.0510 49.8660
388,9170 50.6180
143-3430 11,7500 486 2000 50 2160
539.6160 58.8170
iGpsChannelCount =
13
iGpsRawChannelCount =
7
cGpsRawChannelNames =
Columns 1 through 6
'ECEF position_X' 'ECEF position_Y' 'ECEF position_Z' 'ECEF velocity_X' 'ECEF velocity_Y' 'ECEF velocity_Z'
Column 7
'N Satellites'
cGpsRawUnits =
'm' 'm' 'm' 'm/s' 'm/s' '#'
ans =
1
$f_{\chi} >>$

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