

## **Monitor - ISSN 1472-0221**

The Newsletter for PC-Based Data Acquisition and Control  
Issue 216, August 2016

Welcome to Monitor, the data acquisition and control newsletter. Don't forget you can download our free measurement software, ComDebug, from <http://www.windmill.co.uk/jsarrpsrr.htm>

You can download Monitor as a pdf file from <http://www.windmill.co.uk/monitor/monitor216.pdf>.



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### **Measuring the Olympics: Now and Then**

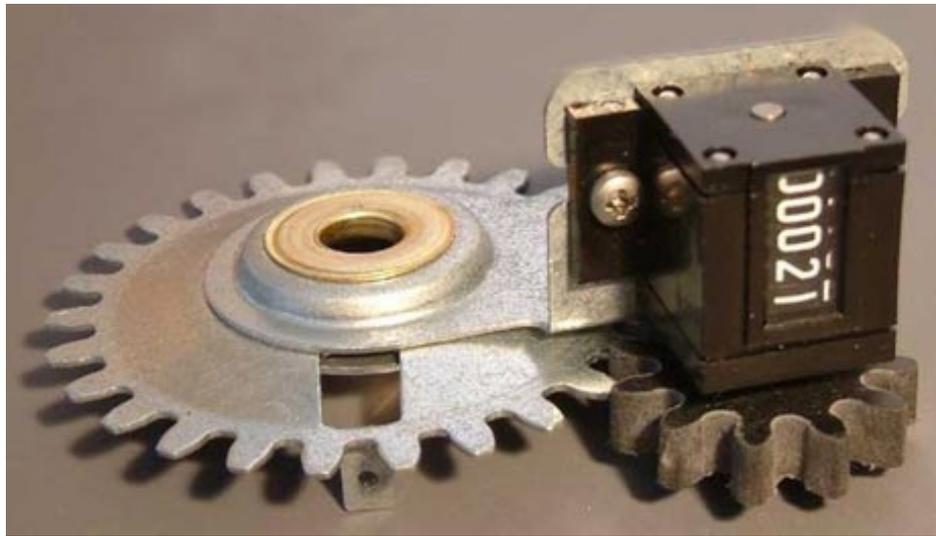
Weblink: <http://www.windmill.co.uk/olympic-measurement.html>

The Olympics have been fascinating the world for the last 2 weeks. The first Olympics were held in 776 BCE at the first full moon after the summer solstice. There was only one event - a running race over one length of the stadium track. The distance was called a stadion. In later games longer distances were run, up to 20 stadions.

A stadion is equivalent to 183 m (some sources say 192 m). A metre today is defined as the "length of the path travelled by light in vacuum during a time interval of 1/299 792 458 of a second". A definition which would be incomprehensible to the ancient Greeks running the stadion.

The marathon was not an event at any of the original Olympic Games. The race commemorates Pheidippides, who ran 149 miles from Marathon (just outside Athens) to Sparta with news of the Persian invasion in order to enlist aid for the battle. The current marathon length is taken from the 1908 London Games. It is, improbably, the distance between Windsor Castle and the old White City stadium, with 385 yards added on so the race could finish in front of King Edward VII's royal box.

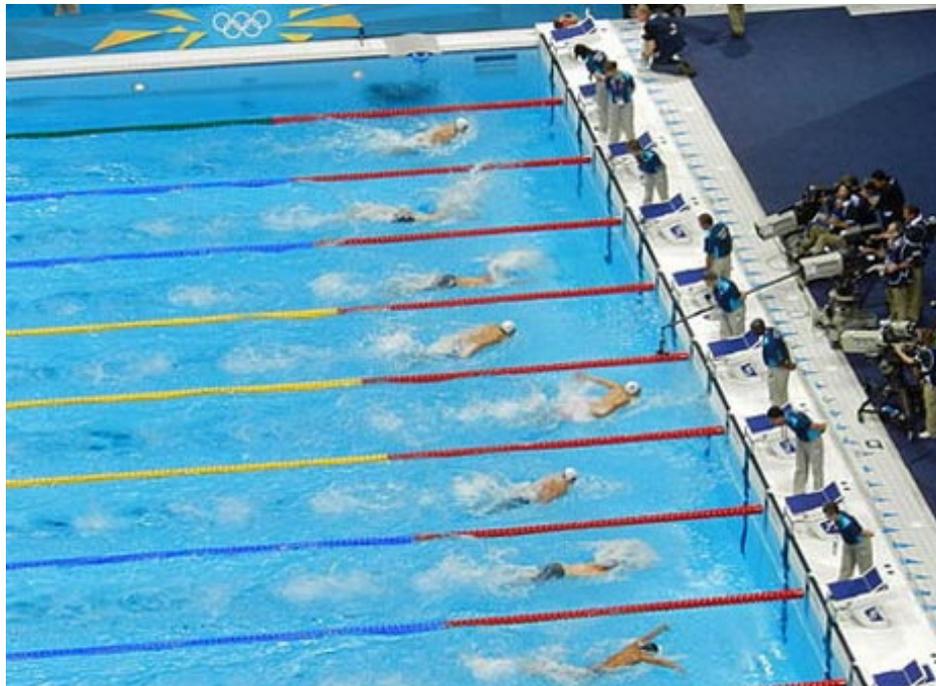
The marathon is measured out using a "Jones Counter" which counts the revolutions of a bicycle wheel.



*Jones Counter Mechanism, used to measure out the marathon*

"Olympic-sized swimming pool" is sometimes used as a unit of measurement to describe volume - Melbourne Cricket Ground is equal to 630 Olympic swimming pools. NIST (US National Institute of Standards and Technology) has an official definition as 1 million litres, less than the 50 m x 25 m x 2 m standard Olympic pools volume of 2.5 million litres.

Recently there have been several ties in the swimming races. Michael Phelps, Laszlo Cseh and Chad le Clos all gained a silver medal this year in the mens' 100 m butterfly. Although they could be separated by milliseconds, that's less than the tolerances of the pool construction. The swimming lanes can be up to 3 cm different in length. The Olympic record for the 100 m butterfly is held by Joseph Schooling of Singapore, with a time of 50.39 seconds. That works out at 15 milliseconds to cover the 3 cm. Which is why even though the timing technology can separate the swimmers, the tie is instead awarded.



*Photo credit: Madchester, CC-by-3.0*

Read more [measurement articles](#) at our web site.

## Your Questions Answered: Upgrading Data Acquisition Drivers to Windows 10

### Question

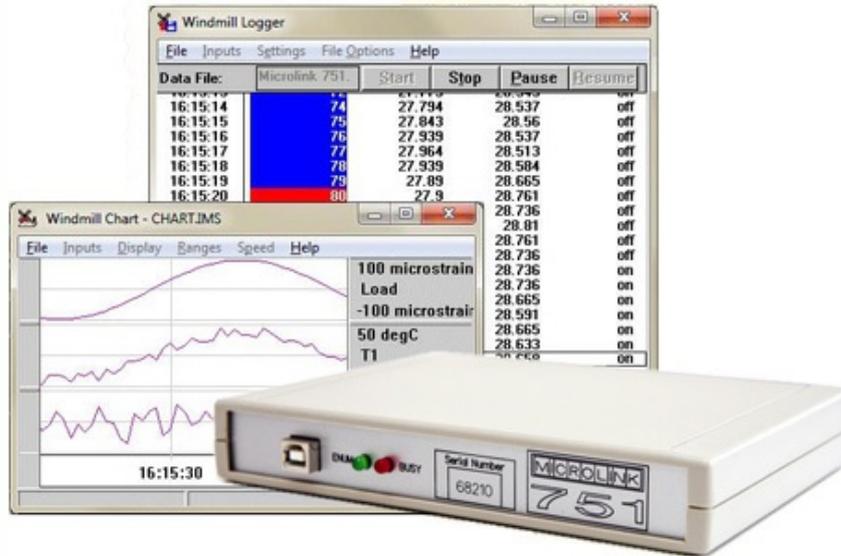
Weblink: <http://www.windmillsoft.com/>

Hello,

I want information about which Windmill software is available to use with a Microlink 751 on a new PC with Win 10-64bit

We have an old system running on XP, with windmill V5.

Are there updates available?

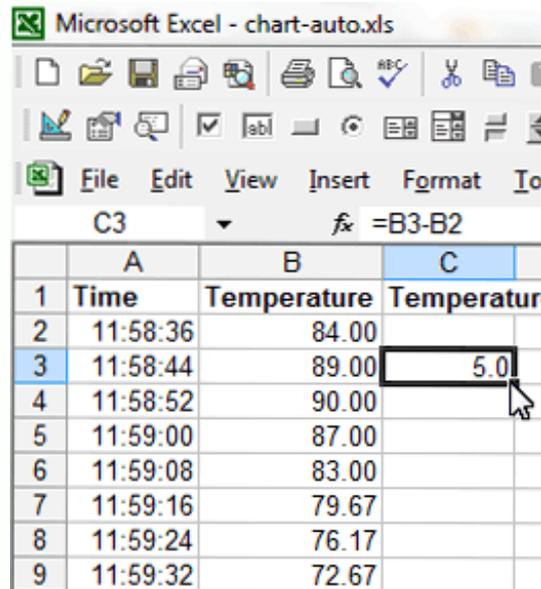


### Answer

You need the Windmill 7 software. This comes with new drivers for the Microlink 751 and runs under Windows 10. It costs just £50. More details email [sales@windmill.co.uk](mailto:sales@windmill.co.uk), ring +44 (0)161 833 2782 or visit <http://www.windmillsoft.com/>.

## Excel Corner: Instantaneously Copying Cells

Most of us are familiar with clicking a cell and dragging it down to copy its contents, but there is a quicker way. Simply double-click the corner of the cell. It will instantly be copied to the full length of the column to the left of it.



Microsoft Excel - chart-auto.xls

File Edit View Insert Format To

C3 fx =B3-B2

	A	B	C
1	Time	Temperature	Temperatur
2	11:58:36	84.00	
3	11:58:44	89.00	5.0
4	11:58:52	90.00	
5	11:59:00	87.00	
6	11:59:08	83.00	
7	11:59:16	79.67	
8	11:59:24	76.17	
9	11:59:32	72.67	

For more [timesaving tips](http://www.windmill.co.uk/excel/excel-tips.html) see <http://www.windmill.co.uk/excel/excel-tips.html>

## DAQ News Round-up

Welcome to our round-up of the data acquisition and control news. If you would like to receive more timely DAQ news updates then follow us on [Twitter](#) - [@DataAcquisition](#) - or grab our [rss feed](#).

### The bandwidth bottleneck that is throttling the Internet

Researchers are scrambling to repair and expand data pipes worldwide - and to keep the information revolution from grinding to a halt.

Source: Nature

<http://www.nature.com/>

### Are smart city transport systems vulnerable to hackers?

There are a lot of companies making new devices for the urban Internet of Things that have not made computers or written software before. They are having to re-learn a lot of the lessons that the rest of the information technology industry learned over the past 20 years

Source: BBC

<http://www.bbc.co.uk/>

### Libraries of plastic molecules could store huge amounts of data

Coding information across many short chains of plastic molecules could be a space-saving way to store the mountains of data we produce.

Source: New Scientist

<https://www.newscientist.com>

### **ISA launches SCADA Systems Standards Committee**

After a survey showed widespread support for the idea, ISA's Standards and Practices Board has approved a new committee to be designated ISA112, SCADA Systems.

Source: ISA

<https://www.isa.org/>

### **Data acquisition market to reach \$3 billion**

Growing at rate of 6 percent over 5 years.

Source: Mordor Intelligence

<http://www.mordorintelligence.com/>

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## **Measurement and Control Exhibitions**

The quarterly update of data acquisition and control exhibitions around the world.

### **Automation**

22-25 August 2016

Mumbai India

Focuses on manufacturers, system integrators, users and consultants.

[iedcommunications.com](http://iedcommunications.com)

### **Instrumentation Scotland and Offshore Systems**

31 August - 1 September 2016

Aberdeen UK

In addition to bringing together the many companies who supply products and services specific to the offshore sector, the event also focuses on test, measurement and control equipment.

[instrumentation.co.uk](http://instrumentation.co.uk)

### **Taipei International Industrial Automation Exhibition**

31 August - 3 September 2016

Taiwan

Covering testing and measuring equipment, software, automation and control.

[autotaiwan.com.tw/en/](http://autotaiwan.com.tw/en/)

### **Control-Tec**

20-22 September 2016

Targi Kielce Poland

Meet test equipment manufacturers involved in non-destructive measurement techniques.

[targikielce.pl](http://targikielce.pl)

### **Automotive Testing Expo China**

27-29 September 2016

Shanghai China

Features engine and emissions analysis, vibration testing, data acquisition, sensors, transducers and quality inspection.

[testing-expo.com/china/](http://testing-expo.com/china/)

### **Automation**

3-7 October 2016

Brno Czech Republic

Industrial automation is the main theme, covering measurement, control, automation and control equipment.

[bvvcz.cz](http://bvvcz.cz)

### **Automotive Testing Expo USA**

25-27 October 2016

MI USA

Latest technologies and services that are designed to ensure that the highest standards are met in terms of product quality, reliability, durability and safety.

[testing-expo.com/usa/](http://testing-expo.com/usa/)

### **Inventica and International Technical Fair**

12-15 October 2016

Bucharest Romania

Invention and innovation show running alongside both the technical and trade fair for renewable energy, conventional energy, equipment and technologies for the oil and natural gas industry.

[expoinventika.ro](http://expoinventika.ro)

### **Industry Automation and Control**

14-17 February 2017

Mumbai India

Brings together the leading players from industrial and process automation, instrumentation and industrial electronics sectors.

[chemtech-online.com](http://chemtech-online.com)

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\* For more articles see <http://www.windmill.co.uk/>

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For previous issues by subject see

<http://www.windmill.co.uk/monitorindex.html>

#### **DOWNLOAD DATA ACQUISITION SOFTWARE**

As a thank you for subscribing we offer you the ComDebug data logging and Com port trouble-shooting software. Log data over RS232, RS422, RS485 or Modbus. Also included is a month's trial of the Windmill 7 logging, charting and control programs. To download go to

<http://www.windmill.co.uk/jsarrpsrr.htm>

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