Pipe Pressure Testing
User Notes

RADCOM (Technologies)

World Leading Specialists in the field of Water Management Systems

This User Manual covers :-

- **Pipe Pressure Testing Radcom Dataloggers**

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RADCOM TECHNOLOGIES LTD

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AMENDMENT RECORD

Doc Issue	Date of issue	Reason for change	Amended by
A		Original Issue	MP
	12 Oct 2007	Up date to V44+	MM

RADCOM
TECHNOLOGIES LTD

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INTRODUCTION

These notes are designed to allow the user to carry out a pipe pressure test.

Radcom logger and Radwin have been used for screenshots.

The procedures can be applied to all Radcom Data Loggers.

For full information on the procedures involved in pipe pressure testing or the formula's and calculations involved refer to the Wrc Document "MDPE Pressure Testing".
(The ISBN code for this document is 0902156 53 5)

Radcom (Technologies) Ltd do not claim to be experts at MDPE testing and accept no liability for the outcome of any results obtained using our software or loggers.

INITIAL SITE WORKS

Prior to carrying out any pressure testing the main should be fully charged and all air vented from the main.

The section of main to be tested should be left filled for a minimum of 2 -3 hours to allow the main to settle, but the day before test is preferred

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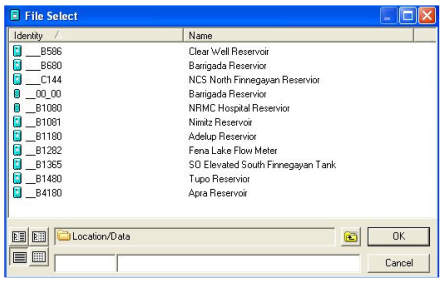
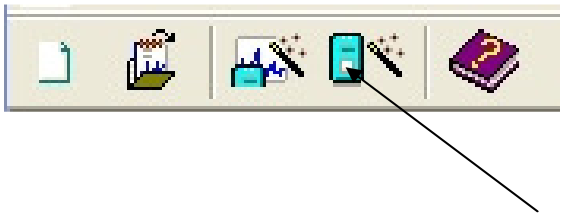
INTRODUCTION

In System Configuration of Radlog For Windows (See Setup Notes) it was set to use Single Identity,coms port ,required units and set logger default

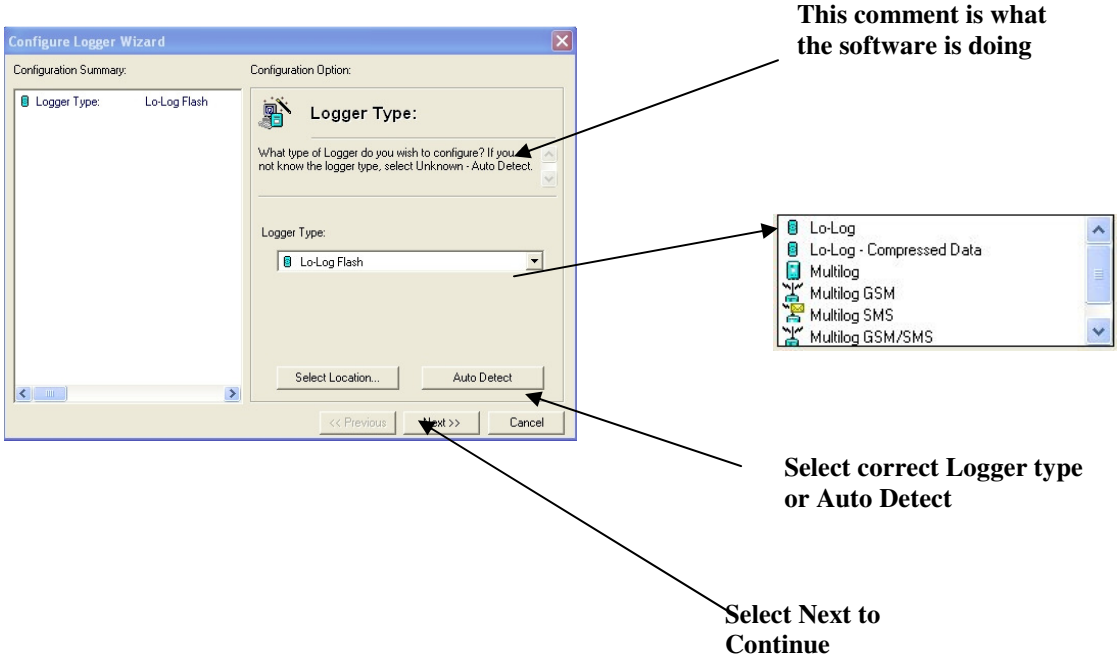
Single Identity



Setup a Logger in View Software



SELECT



This comment is what the software is doing

Select correct Logger type or Auto Detect

Select Next to Continue

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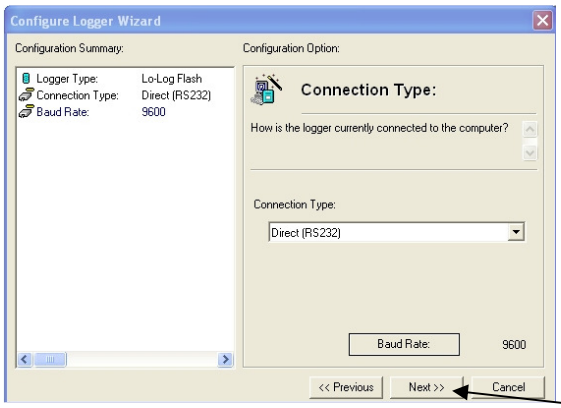
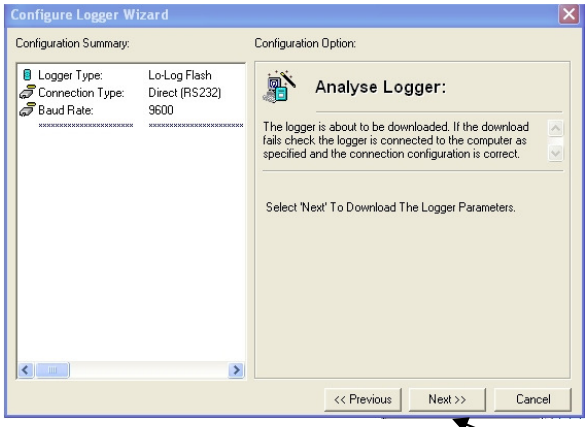
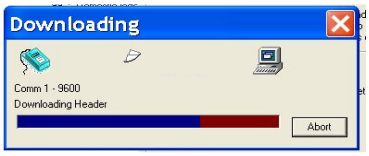


Check IR Head is on the Logger

Next





Next

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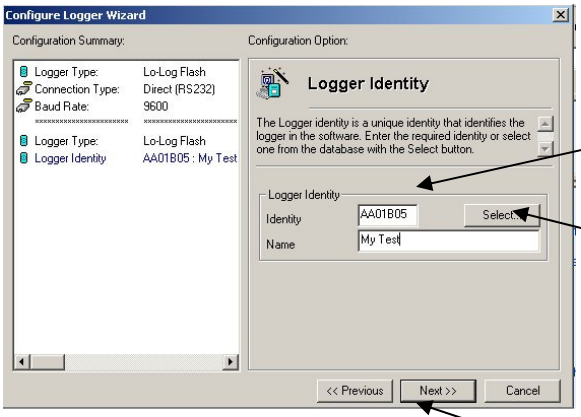
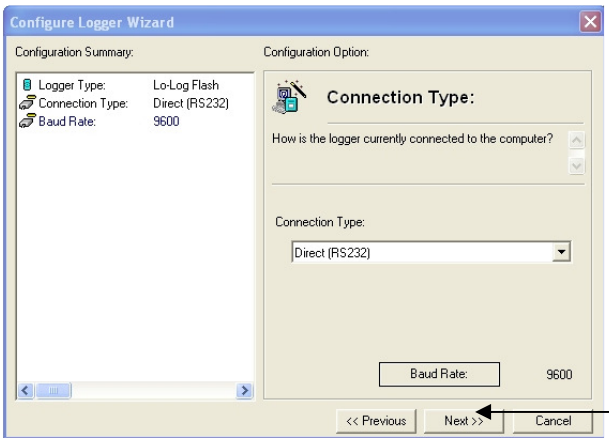
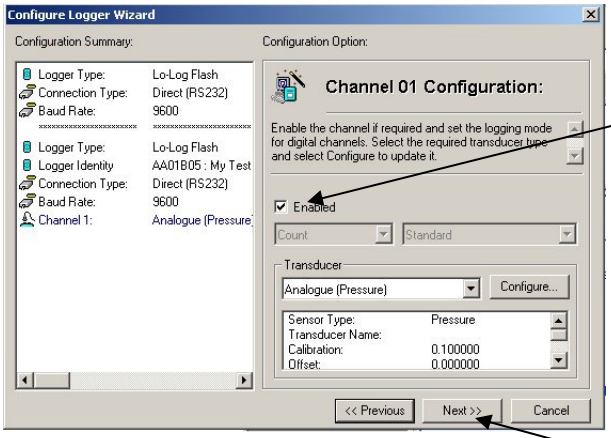


Enter an Identity code up to 7 characters long Then the name (of the test site)

If a site has been tested and you need to retest you can select the same ID to add a 2nd file



Direct is the only choice



This must be enabled

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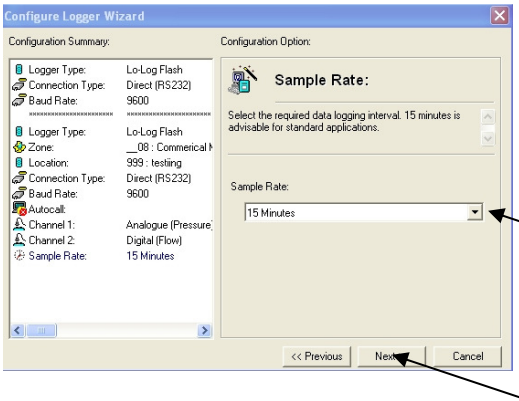
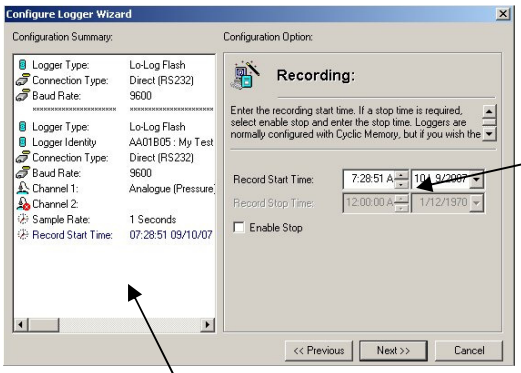
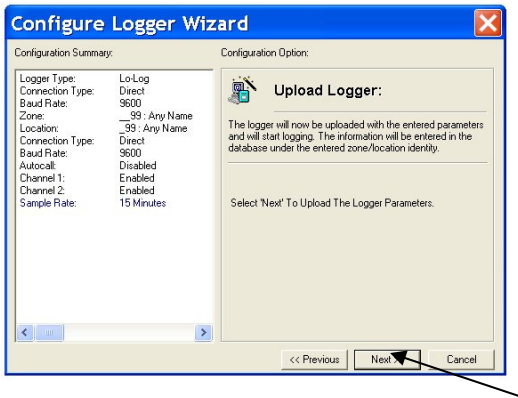


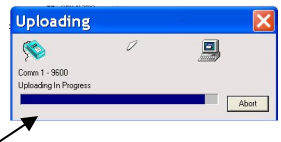
Sample Normal on short tests 1 minute used
On longer test 5 mis
Logger will record for 5.5 days on 1 mins
Logger will record for 55 days on 5 mins

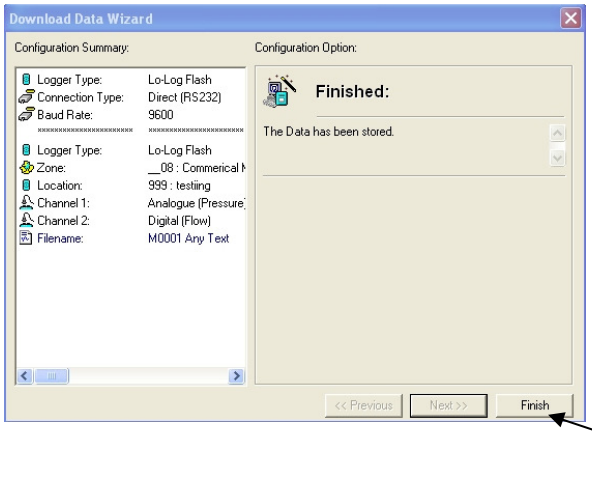


If you leave this on the logger will start on 5 minute of the clock ,if 15mins on the ¼ Hour

You can check your set-up by scrolling up & down the Configuration Summary then Next







When finished process is complete

The logger can now be installed onto the main to be pressure tested

INSTALLATION OF LOGGER and PIPE TESTING PROCEDURES

Before connecting the Logger the main to be tested should be de pressurised

The logger can now be connected and, the main can now be charged to the required test pressure. **RECORD THE TIME THAT MAINS PRESSURISATION STARTED** Once the required test pressure has been achieved **RECORD THE TIME REQUIRED TEST PRESSURE ACHIEVED**

The logger now needs to be left for the required test duration. The test duration is 15 times the Pressure Loading Time (time taken to pump the main up to the test pressure).

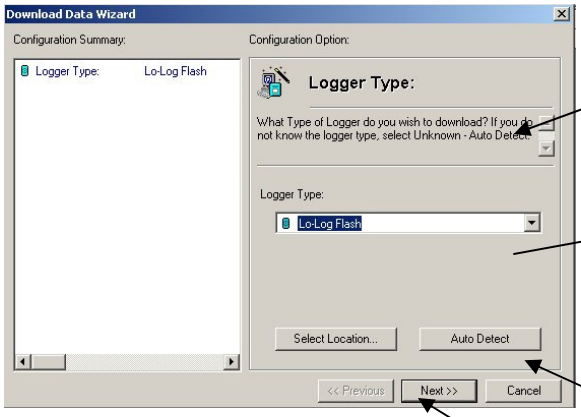
For example: If the main took 10 minutes to charge to the required test pressure the test time will be 15 x 10 minutes = 150 minutes or 2 hours 30 minutes.

After the test is completed the logger can be downloaded.

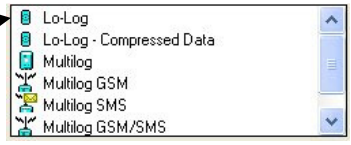
DOWNLOADING THE LOGGER

Download a Logger in View Software

SELECT

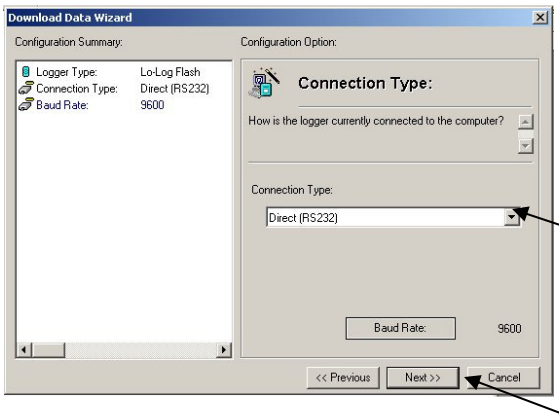


This comment is what the software is doing



Select correct Logger type or Auto Detect

Select Next to Continue



Direct is the only choice

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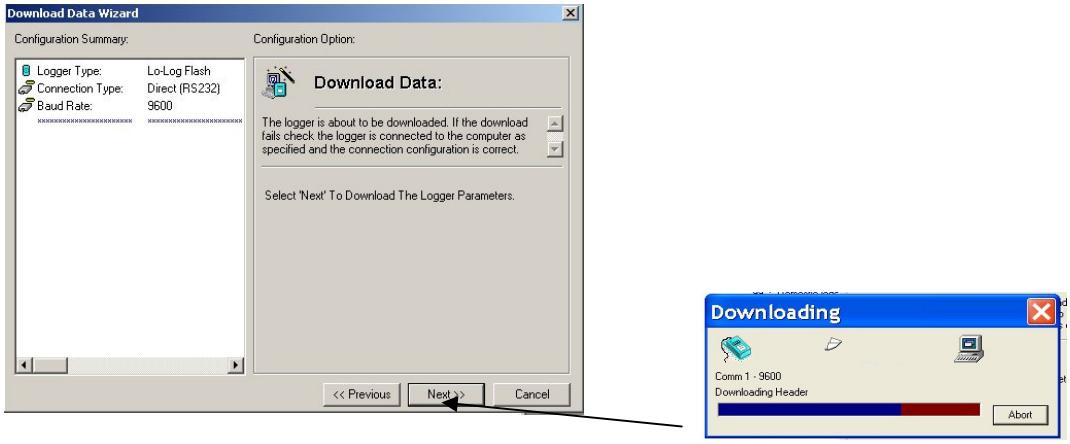
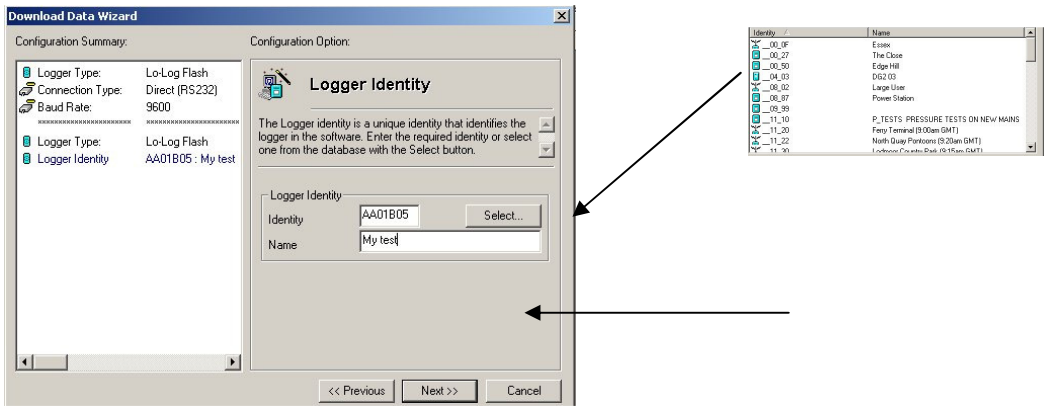
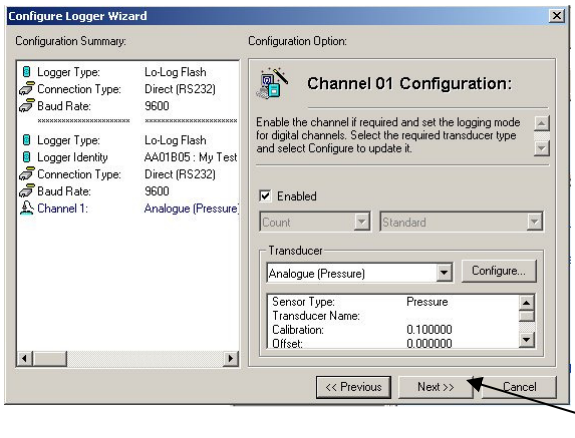


If the Name are correct just press NEXT
To use an existing name from the list
Select required name from the list





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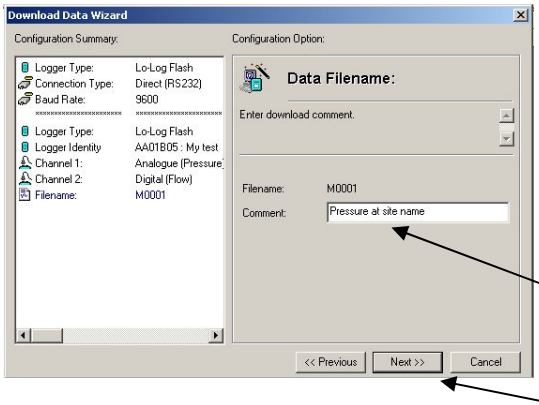
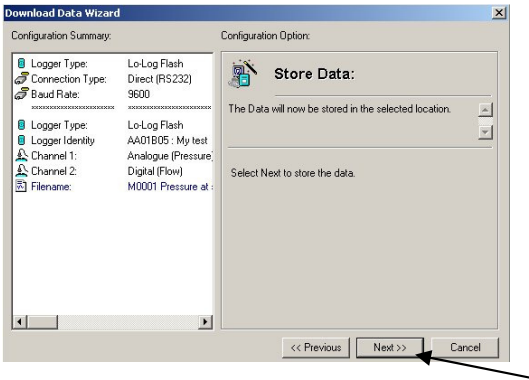
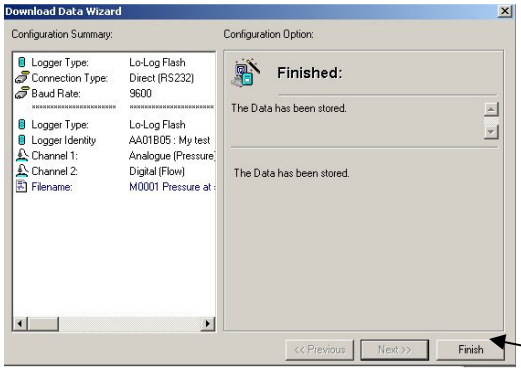


A comment can be entered up 40 Chars long





The graph will automatical be produced

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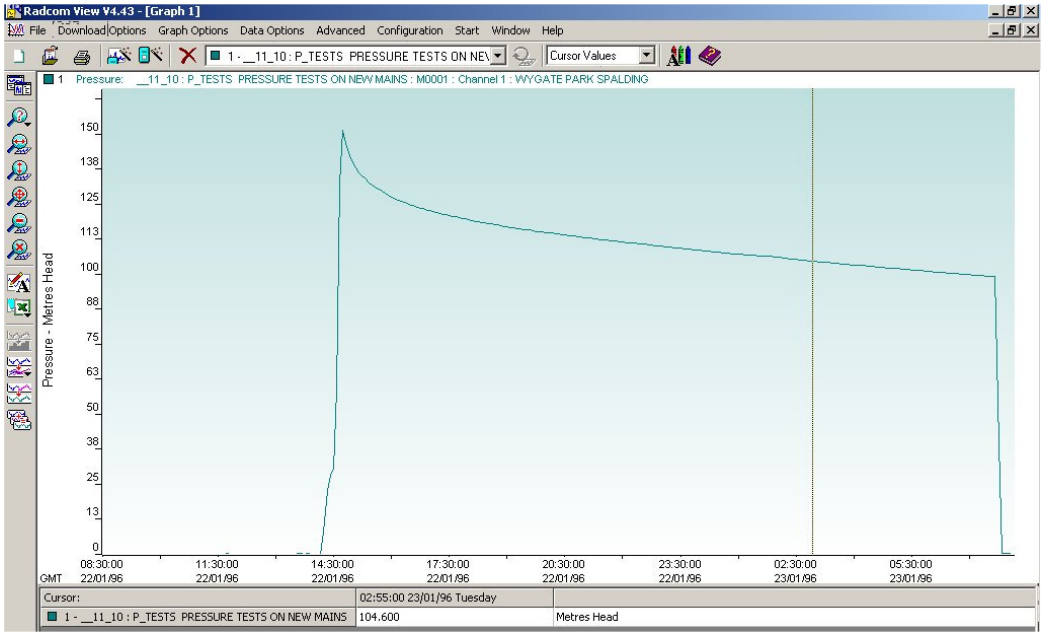
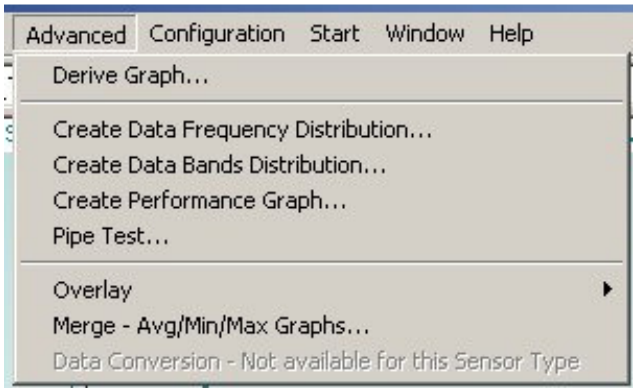
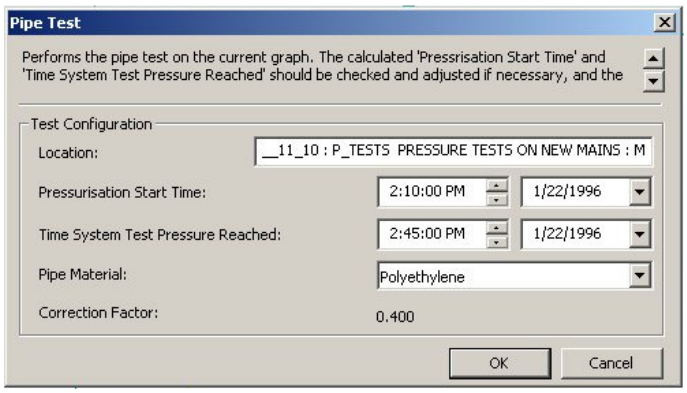
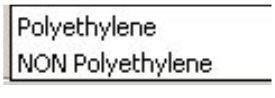


CARRYING OUT THE PIPE TEST REPORT

In the Radwin View Application (at the top of the graph select Advanced)







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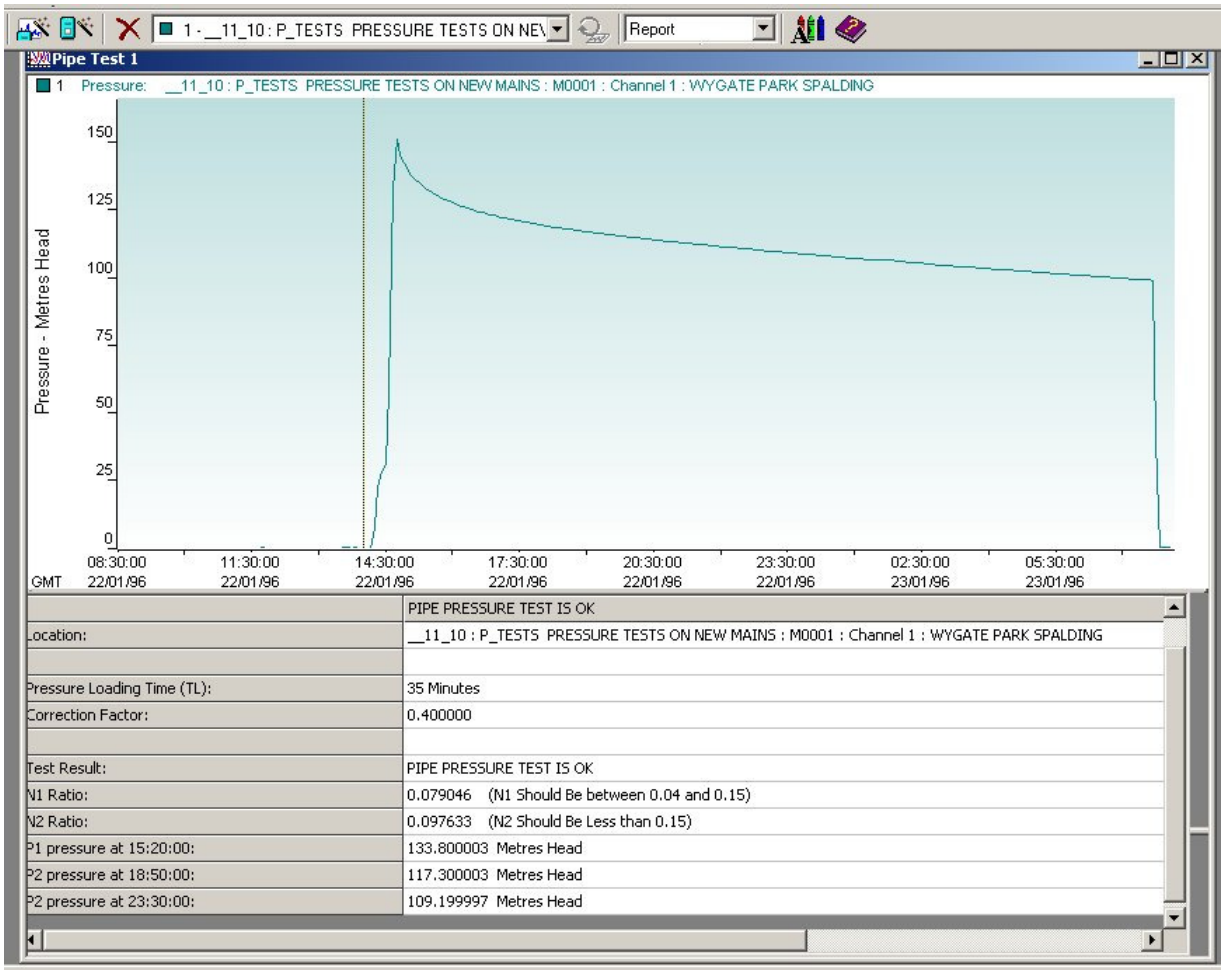

	PIPE PRESSURE TEST IS OK
Location:	__11_10 : P_TESTS PRESSURE TESTS ON NEW MAINS : M0001 : Channel 1 : WYGATE PARK SPALDING
Pressure Loading Time (TL):	35 Minutes
Correction Factor:	0.400000
Test Result:	PIPE PRESSURE TEST IS OK
N1 Ratio:	0.079046 (N1 Should Be between 0.04 and 0.15)
N2 Ratio:	0.097633 (N2 Should Be Less than 0.15)
P1 pressure at 15:20:00:	133.800003 Metres Head
P2 pressure at 18:50:00:	117.300003 Metres Head
P2 pressure at 23:30:00:	109.199997 Metres Head

Next page shows a copy of print out

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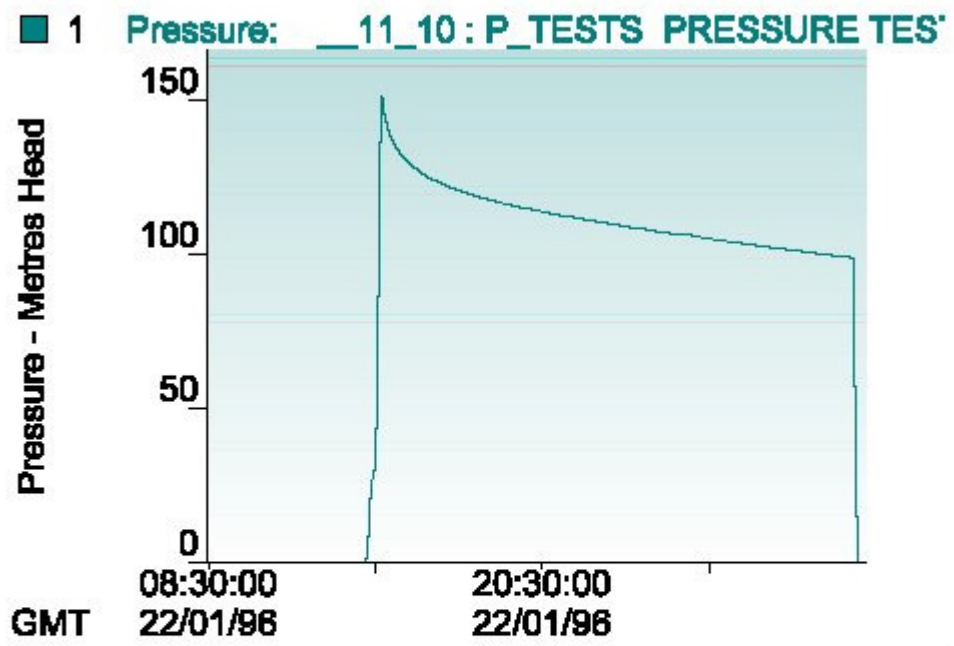
10/12/2007 1:46:14 PM

Pipe Test 1

Company Name: Radcom (Technologies) Ltd
Division:
Department:



[1] Pressure	__11_10 : P_TESTS PRESSURE TESTS ON NEW MAINS : M0001 : Channel 1 : WYGATE PARK SPALDI

	PIPE PRESSURE TEST IS OK
Test Date:	22/01/96
Logger Identity:	__11_10
Location:	__11_10 : P_TESTS PRESSURE TESTS ON NEW MAINS : M0001 : Channel 1 : WYGATE PARK SPA
Pressure Loading Time (TL):	35 Minutes
Correction Factor:	0.400000
Test Result:	PIPE PRESSURE TEST IS OK
N1 Ratio:	0.075046 (N1 Should Be between 0.04 and 0.15)
N2 Ratio:	0.097633 (N2 Should Be Less than 0.15)
P1 pressure at 15:20:00:	133.800003 Metres Head
P2 pressure at 18:50:00:	117.300003 Metres Head
P2 pressure at 23:30:00:	109.199997 Metres Head

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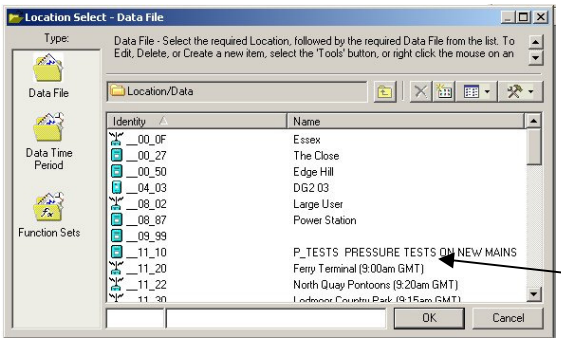
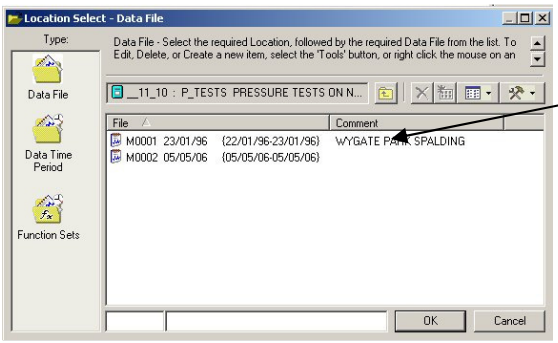
Finding Stored Files in View

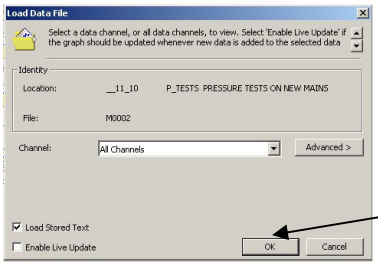
Start



Select required site



Select a File
(From list always in date order)



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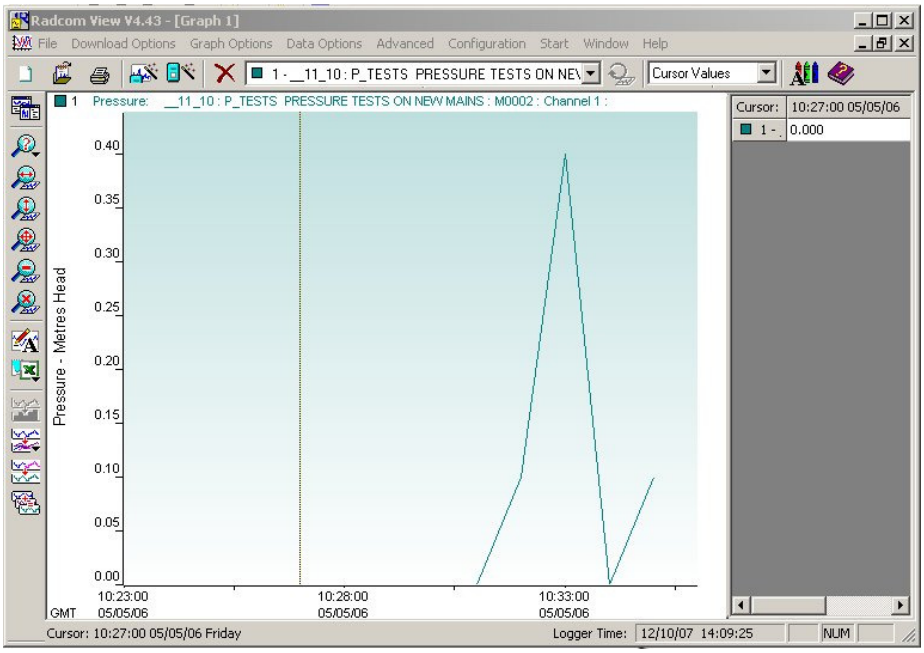
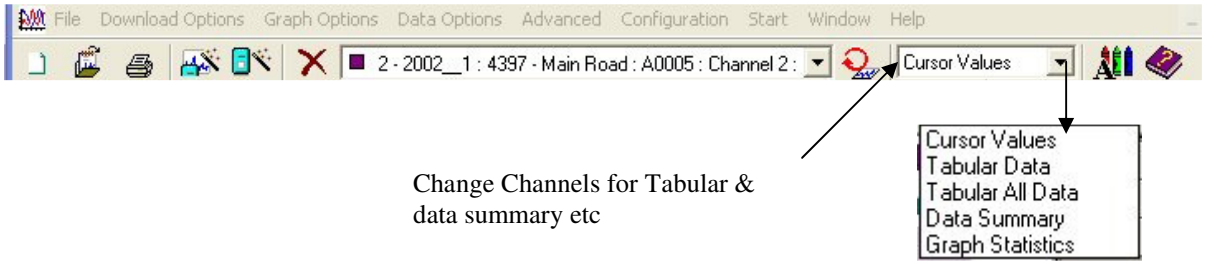




Change Channels for Tabular & data summary etc

Switch data from Right side of the screen to Base of the screen

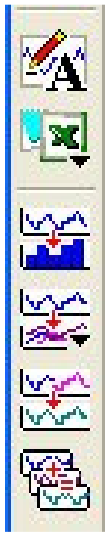
Zoom Time Period
Select Days Required
Zoom Time region,

Zoom Scale,

Zoom Time & Scale

Step-back One Zoom

Restore Full Graph



Add a Text to the Graph

Display Tabular Data
Export to a spreadsheet

Data Conversion
Flow to Volume

Overlay,

Merge Data

Derive a graph

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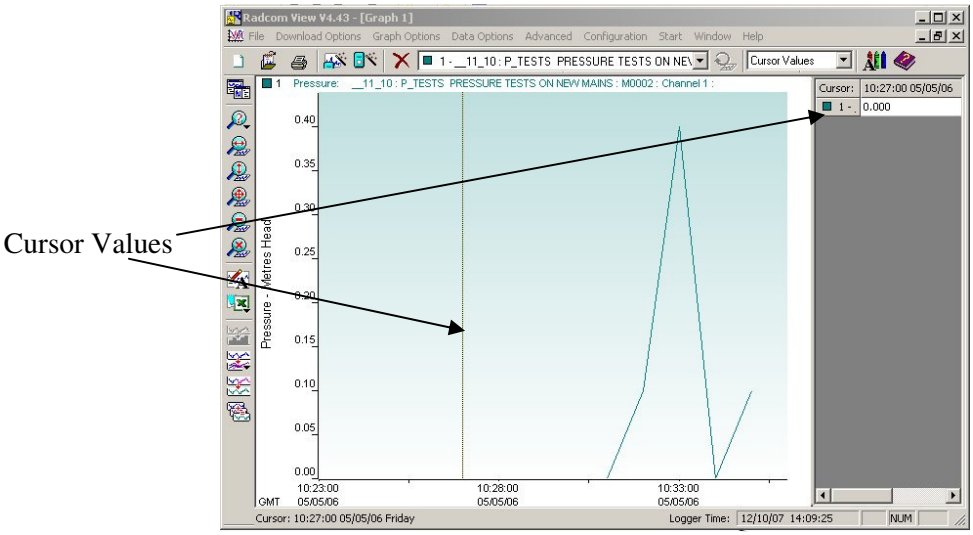

Tabular Data
Every reading

2 - Flow		+ 00:15:00	+ 00:30:00	+ 00:45:00	
07/05/04 13:15:00 (Fri)	14.506667	14.080000	13.653334	12.800000	Litres/Sec
07/05/04 14:15:00 (Fri)	12.800000	11.946667	10.666667	11.520000	Litres/Sec
07/05/04 15:15:00 (Fri)	10.666667	9.813334	9.813334	10.240000	Litres/Sec
07/05/04 16:15:00 (Fri)	10.453333	10.026667	10.026667	11.520000	Litres/Sec
07/05/04 17:15:00 (Fri)	12.160000	12.373333	14.080000	15.146667	Litres/Sec
07/05/04 18:15:00 (Fri)	15.786667	16.213333	16.000000	16.426666	Litres/Sec

Summary Data
Min ,Max ,Avg
Over 24hrs

2 - Flow	Min	Min Time	Max	Max Time	Avg	ML/D	Ltr/Prp/Hr	Ltr/Dy/Pop
*07/05/04 (Fri)	8.107	00:00:00	18.347	19:30:00	12.492	1.079	23.902	1079343.625
08/05/04 (Sat)	4.480	03:00:00	17.920	10:00:00	11.220	0.969	13.209	969408.000
09/05/04 (Sun)	4.693	05:00:00	18.347	10:00:00	11.502	0.994	13.838	993792.000
*10/05/04 (Mon)	4.267	03:15:00	16.640	06:45:00	10.432	0.901	12.580	901360.938

Graph Statistics

1 - Pressure					
Data Start Time:	10:24:00	05/05/06	Friday		
Data End Time:	10:35:00	05/05/06	Friday		
Sample Rate:	00:01:00				
Minimum:	0.000	Metres Head	10:24:00	05/05/06	Friday
Maximum:	0.400	Metres Head	10:33:00	05/05/06	Friday
Average:	0.045	Metres Head			

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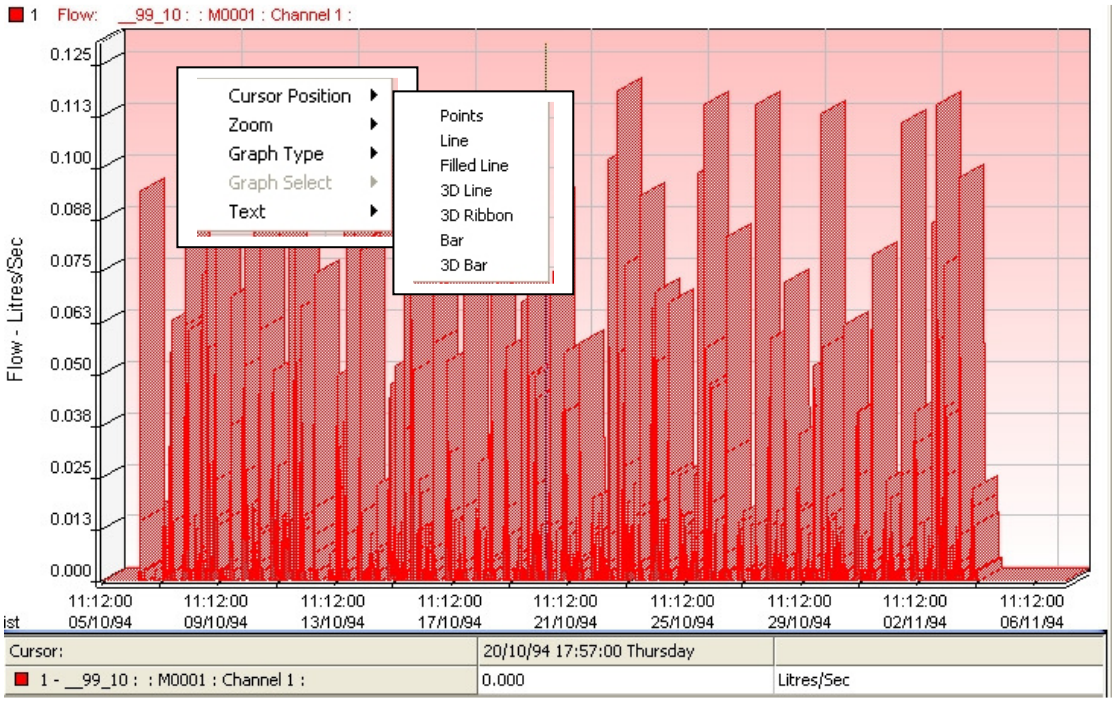
Type of displays



Right Click Mouse on the Graph & select graph type