

# Basic Programming MPLT

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# OUTLINE

- I. Introduction
- II. Programming MPLT
- III. Bench Test MPLT
- IV. QAQC Bench Test Data



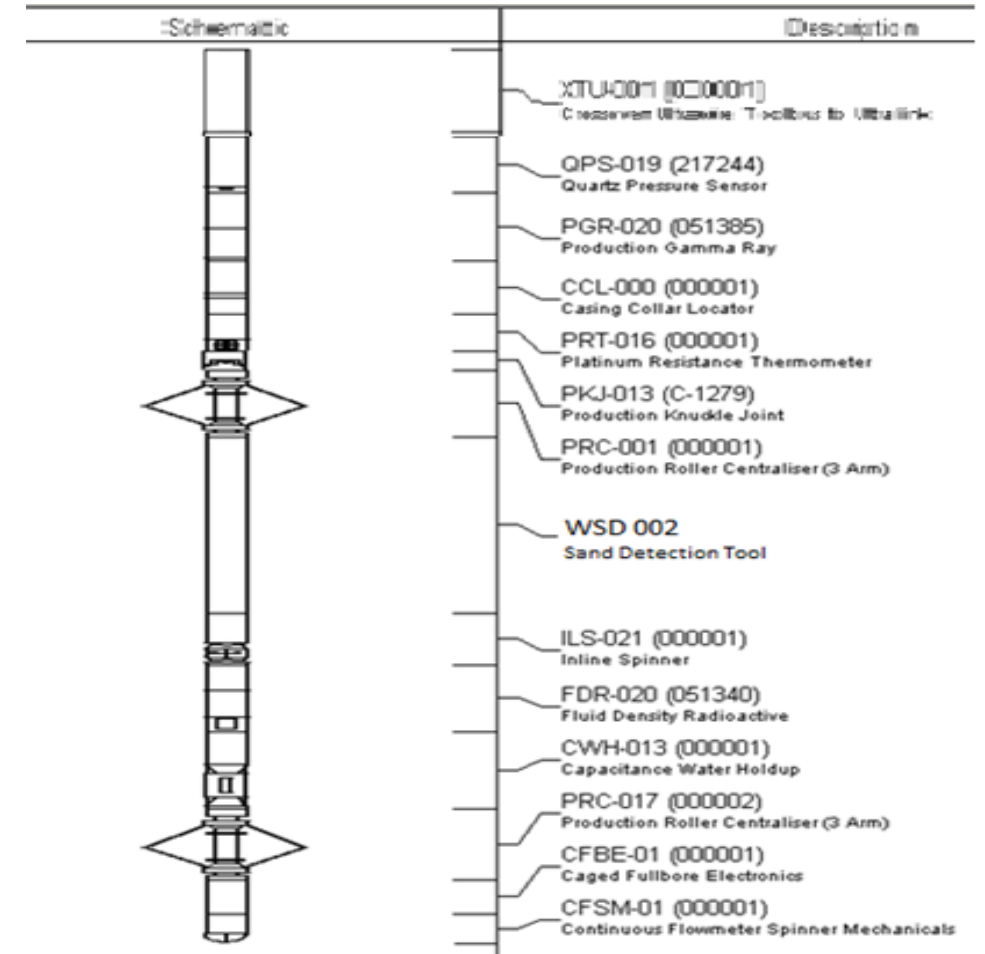
# INTRODUCTION

## ➤ Why MPLT?

To record one or more in-situ measurements that describe the nature and behaviour of fluids in or around the borehole during production or injection. The conditions are shut in and flowing.

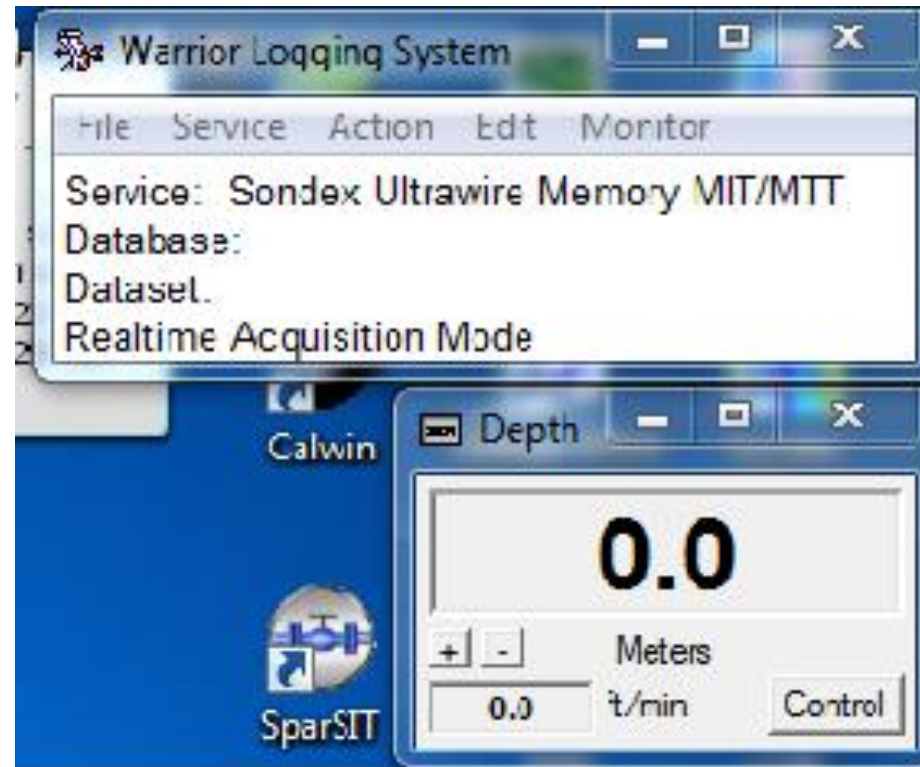
### Application:

- Water entry location
- Flow profile
- Gas influx location
- Oil influx location
- Non performing perforation
- Thief Zone
- Tubing/casing leak
- Cross flow
- Flow behind casing



# Programming MPLT

- 1) Plug the USB Warrior Key to the computer.
- 2) Open Sondex Warrior shortcuts folder.
- 3) Open Acquisition from Sondex Warrior Folder (this service must be opened at all times during operating Sondex Ultrawire Memlog).
- 4) Go to service – Select “ Sondex Ultrawire Memory ” from Warrior Logging System.



# Programming MPLT

5. Go to Edit – “Toolstring”. Edit toolstring configuration if required.

**Tool String Editor**

Sensor	Offset (m)	Schematic	Description	Len (m)	OD (in)	Wt (lb)	
			MBH-000 (000001) Memory Battery Housing	0.42	1.69	8.00	
			UMT-003 (051228) Ultrawire Memory Tool 128MB	0.65	1.69	10.60	
QTMP	4.85			QPS-019 (214086) Quartz Pressure Sensor (UW)	0.48	1.69	9.00
QP	4.85						
QTMP	4.85						
GR	4.34			PGR-000 (000001) Production Gamma Ray	0.59	1.69	9.50
				CCL-000 (211303) Casing Collar Locator	0.47	1.69	9.00
CCL	3.88						
				PRT-000 (051416) Platinum Resistance Thermometer	0.32	1.69	6.00
TEMP	3.44						
				PKJ-000 (040838) Production Knuckle Joint	0.17	1.69	3.50
				PRC-000 (040843) Production Roller Centraliser	0.59	1.69	10.00
				ILS-000 (212851) Inline Spinner	0.44	2.13	6.00
ILSRATE	2.32						
ILSDIR	2.32						
				CWH-000 (051370) Capacitance Water Holdup	0.66	1.69	10.00
CWH	1.76						
				PRC-000 (99398) Production Roller Centraliser	0.59	1.69	10.00
			FDR-000 (051340) Fluid Density Radioactive	0.59	1.69	10.00	
DENR	0.48						
FDR	0.48		CFBE-000 (050925) Caged Fullbore Electronics	0.29	1.69	2.50	
CFSRATE	0.04						
CFSDIR	0.04		CFSM-000 (051341) Continuous Flowmeter Spinner Mechanicals	0.09	2.13	0.40	

Sondex Ultrawire Memory: String Length: 6.33 m Weight: 104.50 lb Max OD: 2.13 in

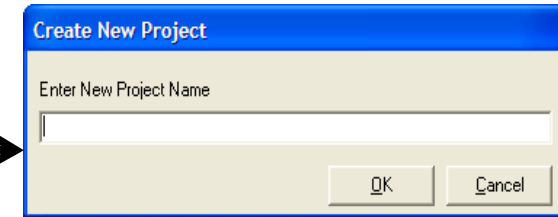
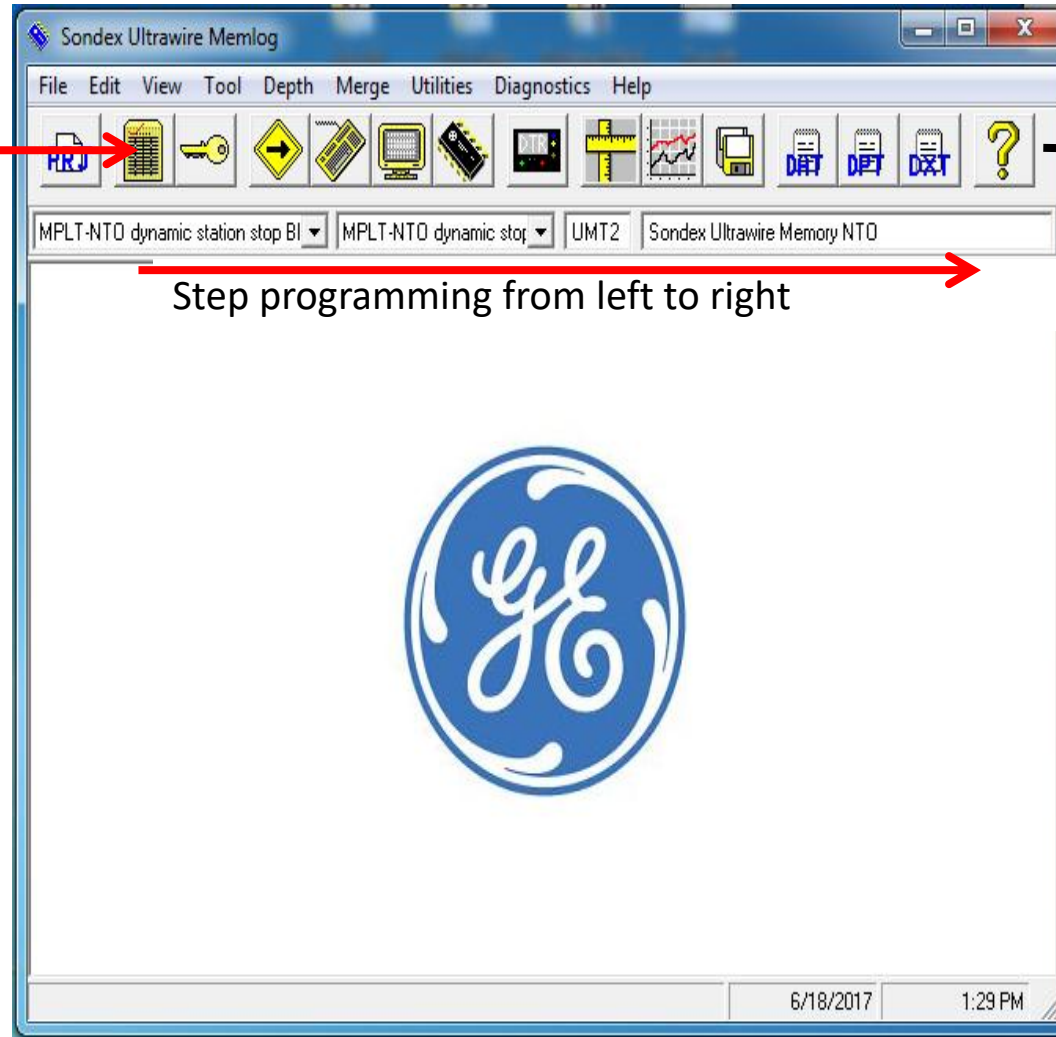
Tools  
Non-Serial Items

Options >> Add Remove  
Help Print Save Exit

# Programming MPLT

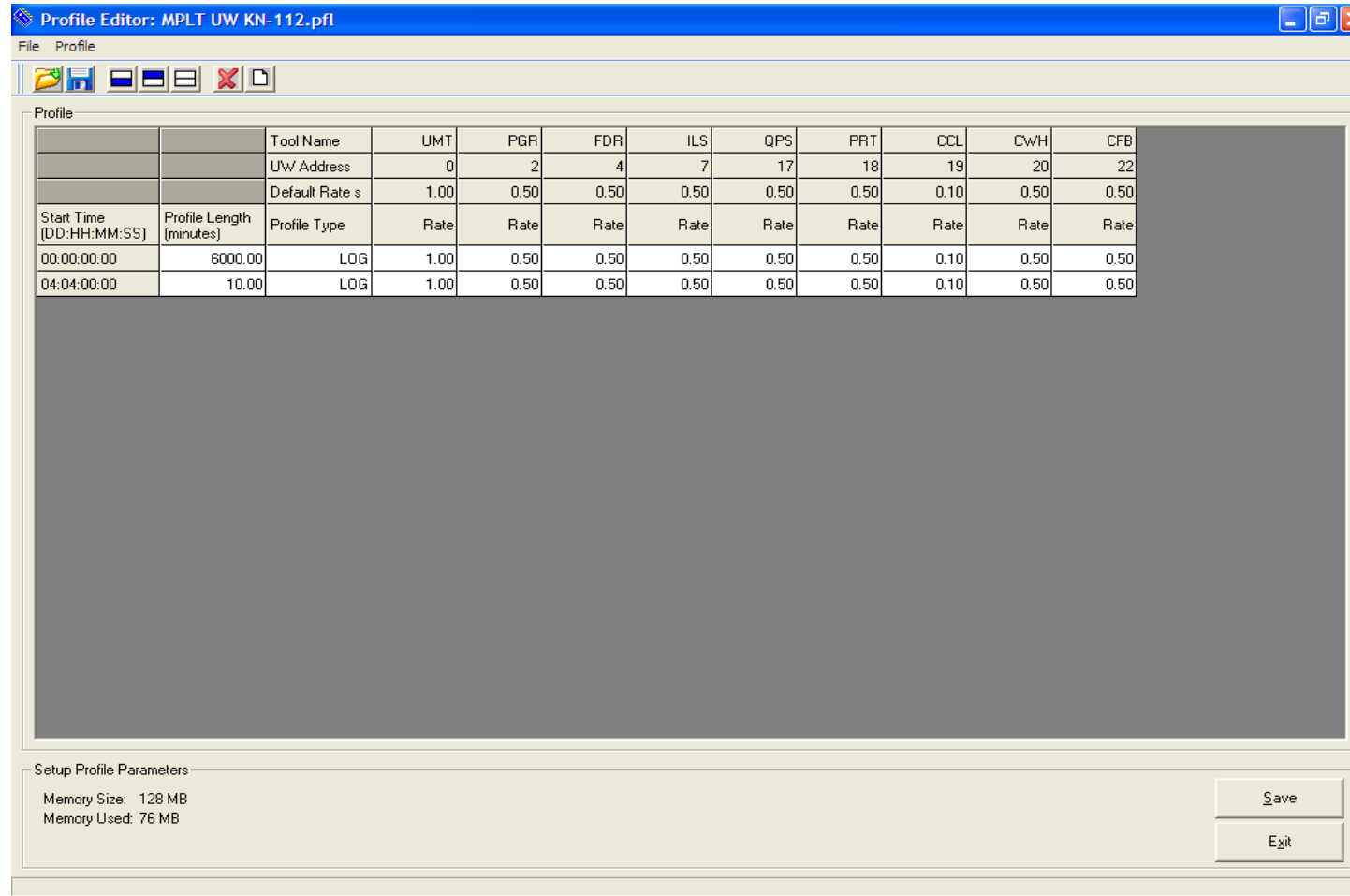
6. Open Sondex Ultrawire Memlog. Create new project.

Click if you've change the toolstring configuration after create project file



# Programming MPLT

7. Open Profile Editor and edit profile.
  - 1 Battery can log continuously for 30 hours



The screenshot shows the 'Profile Editor: MPLT UW KN-112.pfl' window. The main area contains a table with the following data:

		Tool Name	UMT	PGR	FDR	ILS	QPS	PRT	CCL	CwH	CFB
		UW Address	0	2	4	7	17	18	19	20	22
		Default Rate s	1.00	0.50	0.50	0.50	0.50	0.50	0.10	0.50	0.50
Start Time (DD:HH:MM:SS)	Profile Length (minutes)	Profile Type	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate
00:00:00:00	6000.00	LOG	1.00	0.50	0.50	0.50	0.50	0.50	0.10	0.50	0.50
04:04:00:00	10.00	LOG	1.00	0.50	0.50	0.50	0.50	0.50	0.10	0.50	0.50

At the bottom of the window, the 'Setup Profile Parameters' section displays:

Memory Size: 128 MB  
Memory Used: 76 MB

Buttons for 'Save' and 'Exit' are located in the bottom right corner.

# Programming MPLT

8. Click on Program Tool and Program the Tool. Once programming completed, disconnect UMT from the UMU and ready-to-go.



9. Record hook-up battery time on the tools.

10. For MPLT operation sequence, please refer to *DB MPLT SSP*.

## Bench Test MPLT

1. Programming will be the same like the actual.
2. Once program, hook up the battery and record the time.
3. Bench test is done by let the tool recording the data for at least 10 minutes. Hit the tools with mallet for shock test several times.
4. Let the FDR and CWH record the data for water and air.

# QAQC Bench Test Data

1. GR reading for background should be less than 100 GAPI. The further from the ground/soil, the smaller the value.
2. GR reading with Jig must be at least similar with the value at Jig post calibration.
3. Reading Density must be reasonable for Gas (~ 0 g/cc) and Water (~1 g/cc).
4. Reading for CWH must be reasonable for Gas ( 30k++ cps) and Water (25k++ cps).
5. QPS reading for atmosphere must be around 14.7 psi. Fast pressure increase when spray with cooling spray (CRC).
6. Temperature reading for PRT must be reasonable. Compare to another temp device (e.g., smartwatch). Fast cooling response when spray with cooling spray (CRC).
7. Spinner flow reading must +ve if blow from below and –ve if blow from the top.
8. Usual causes of incomparable readings:
  - No prejob calibration conducted.
  - No calfile found or calfile error (Warrior Config).
  - Incorrect tool channel (especially involving compact tools).
  - QPS hole for pressure entrance clogged.
  - Bearing/magnet issue at ILS/CFS.
  - Battery down/worn out (<15 vdc).

# Thank you !

Questions and Answering Session