

# S&A

## W-2810 TCXO PROGRAMMING SYSTEM

- Fully automated TCXO programming system
- Measures frequency over temperature using user specified TCXO parameter sets
- OLE interface provides proprietary programming control
- Parameter and curve fit characteristics are checked against easy to define QC limits
- Oscillators of different frequencies can be tested in a single temperature run
- All data is published in a *Microsoft Access*<sup>™</sup> data base
- Data can be exported to *Microsoft Excel*<sup>™</sup> for custom data analysis
- Oscillator part number can be used to set complete measurement parameters, QC limits, temperature test points and data printouts



- Chamber holds eight 64-position measurement boards for a total of 512 parts
- Socket PCBs available include 2.0x2.5, 2.5x3.2, 3.2x5, 3.5x6, 5x7, 5x7.5, 9x14, DIP (full & half)
- Measurement boards available for LVDS, PECL, ECL, CMOS, and TTL devices
- Sub PPB measurement
- Electronic switching
- High speed frequency measurement

### SPECIFICATIONS

Oscillator Frequency Range:	10 KHz to 1 GHz
Temperature Stability:	± 0.1° C
Temperature Uniformity:	± 0.6° C
Temperature Range:	-55° C to 85° C (LCO <sub>2</sub> ) -65° C to 85° C (LN <sub>2</sub> )

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# SYSTEM CONFIGURATION

- S&A 4350 Option 1 Temperature Test Chamber (LCO<sub>2</sub> or LN<sub>2</sub>)
- Eight position card cage and backplane PCB
- Frequency Counter
- DUT Power Supply
- DMM
- Computer
- S&A MFC-100 Card
- National GPIB Card
- *Windows*® based System Software

# SAMPLE REPORTS

### Oscillator Group Summary

Run Name: example100      Run Start: 02 May 2003 5:40 pm  
 Run Stop: 02 May 2003 7:30 pm  
 S&A Work No: 0701 Report: 1100

Setup: C:\Program Files\Gwinco & Associates\QRC\startMFC.exe  
 Reference F: 40,000,000 Hz, Vco: 5,000 V, Trigger: S.MISC, Level: 1,300 V  
 Group O Default

Setup: C:\Program Files\Gwinco & Associates\QRC\startMFC.exe  
 Reference F: 5,102,000.0 Hz, Vco: 5,000 V, Trigger: CMOS, Level: 1,800 V  
 Group O Default

4000, 4000, 4000, 4000, 4000

### Oscillator Test File

Run Name:      Run No: 4000

Author:      Run Date: 17 Dec 2002 0:18 pm

Model:      Description: CMOS 50 pt Load  
 Operator:      Reference F: 40,000,000 Hz  
 Point: A8

You: 5,000 Vdc, Vco: 2,000 Vdc  
 Trigger TTL, Level: 1,300 Vdc  
 S&A Work No: 1180 Report: 1100

START	TH	PH
Hz	Hz	deg
0	40,000,000	-0.0
1	40,000,000	-0.0
2	40,000,000	-0.0
3	40,000,000	-0.0
4	40,000,000	-0.0
5	40,000,000	-0.0

### Oscillator Tabular

Run Name: example100      Run No: 4000

Group: All Oscillator      Run Date: 02 May 2003 5:40 pm  
 Ref F: 40,000,000 Hz      Run From: 02 May 2003 5:30 pm  
 Ref T: 25.00°C (Set)      S&A Work No: 0701 Report: 1100

4001	4002	4003	4004	4005	4006
Setup: CMOS	Setup: CMOS	Setup: CMOS	Setup: CMOS	Setup: CMOS	Setup: CMOS
Ref F: 40,000,000 Hz	Ref F: 40,000,000 Hz	Ref F: 40,000,000 Hz	Ref F: 40,000,000 Hz	Ref F: 40,000,000 Hz	Ref F: 40,000,000 Hz
Hz	Hz	Hz	Hz	Hz	Hz
5.00	18.30	3.00	-0.03	8.00	-0.78
5.01	5.90	5.01	1.78	5.01	-8.55
18.00	577.0	18.00	0.11	8.90	-8.35
18.02	25.98	18.02	1.28	18.01	-8.78
18.08	8.88	18.08	1.28	18.08	-8.61
25.01	8.00	25.01	0.08	25.01	8.00
28.00	8.00	28.00	-1.66	28.00	0.96
38.00	1.92	38.00	-2.80	38.00	1.83
48.01	5.88	48.01	-0.81	48.00	18.87
48.08	8.00	48.08	-0.84	48.08	18.15
58.00	8.88	49.98	-3.20	49.98	12.85
68.02	8.88	68.02	-3.20	68.02	48.81
68.04	8.25	68.04	-4.88	68.02	17.06
85.00	12.41	85.03	-2.16	85.02	84.10
78.01	18.82	78.01	-1.25	78.01	28.15
78.02	25.31	78.01	1.88	78.01	14.12
78.08	28.45	78.08	5.02	78.00	18.90

### Oscillator Temperature Test

Run Date: 17 Dec 2002 0:18 pm

You: 5,000 Vdc, Vco: 2,000 Vdc  
 Trigger TTL, Level: 1,300 Vdc  
 S&A Work No: 1180 Report: 1100

### Oscillator Test Results

Run Date: 17 Dec 2002 0:18 pm

You: 5,000 Vdc, Vco: 2,000 Vdc  
 Trigger TTL, Level: 1,300 Vdc  
 S&A Work No: 1180 Report: 1100

### Oscillator Test Results

Run Date: 17 Dec 2002 2:48 pm

You: 5,000 Vdc, Vco: 2,000 Vdc  
 Trigger TTL, Level: 1,300 Vdc  
 S&A Work No: 1180 Report: 1100

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