



W-2810 OSCILLATOR PERTURBATION TEST SYSTEM

- Automated, software-based oscillator, VCXO and TCXO temperature test system
- Measures frequency over temperature
- 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™* data base
- Data can be exported to *Microsoft Excel™* for custom data analysis
- Oscillator part number can be used to set complete measurement parameters, QC limits, temperature test points and data printouts



- Electronic switching
- High speed frequency measurement
- Complete frequency perturbation testing of 512 parts in about 1.5 hours
- Chamber holds eight 64-position measurement boards for a total of 512 parts
- Socket PCB's 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
- Available with Sub PPB Measurement Option

SPECIFICATIONS

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

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SYSTEM CONFIGURATION

- **S&A 4350 Temperature Test Chamber** (LCO₂ or LN₂)
- **S&A 250B-1 Network Analyzer**
- **Eight position card cage and backplane PCB**
- **DUT Power Supply**
- **Computer** (minimum Pentium III, 2 PCI slots, 1 full size PCI slot)
- **S&A MFC-100 Card** (requires full size PCI slot)
- **National GPIB Card**
- **Windows® based System Software**
- **Sub PPB Option :**
Frequency Synthesizer Counter

SAMPLE REPORTS

Oscillator Group Summary

Run Name: example run 0 to 80 degrees
 Run Start: 02-May-2003 5:40 pm
 Print As: Operator Run End: 02-May-2003 7:30 pm
 Ref F: F @ 25.00°C (Std) S&A W200 Rev: 0701 Report: 1100

Setup: C:\Program Files\Saunders & Associates\OSD\startMHz.exe
 Reference F: 40,000,000 Hz Vcc: 5.000 V Vcc: 5.000 V Trigger: CMOS Level: 1.300 V
 Group: D Default

Setup: C:\Program Files\Saunders & Associates\OSD\startMHz.exe
 Reference F: 9,102,000,000 Hz Vcc: 5.000 V Vcc: 5.000 V Trigger: CMOS Level: 1.300 V
 Group: D Default
 A00: A002 A101 A014 A017 A018

Oscillator Run Plot

Run Name: 0 to 80 degrees
 Author: 0 to 80 degrees
 Modifier: 0 to 80 degrees
 Operator: 0 to 80 degrees

Setup: test
 Description: CMOS 00 of Load
 Reference F: 40,000,000 Hz
 Print As:

Run Date: 17-Dec-2002 9:18 pm
 Vcc: 5.000 V Vcc: 5.000 V Vcc: 5.000 V
 Trigger: TTL Level: 1.300 V Vcc: 5.000 V
 S&A W200 Rev: 1100 Report: 1100

STATUS	PS	TS
Pass	9.9	99.999
Pass	9.9	99.999
Pass	9.9	99.999
Pass	9.9	99.999
Pass	9.9	99.999

Oscillator Temperature Table

Ref F: F @ 25.00°C (Actual)
 Run Date: 23-May-2002 5:53 pm
 S&A W200 Rev: 1100 Report: 1100

Oscillator Tabular

Run Name: example run 0 to 80 degrees
 Print As: Operator Run Start: 02-May-2003 5:40 pm
 Ref F: F @ 25.00°C (Std) Run End: 02-May-2003 7:30 pm
 S&A W200 Rev: 0701 Report: 1100

A001	A002	A003	A004	A005					
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					
°C	°C	°C	°C	°C					
5.00	18.00	5.00	-1.00	8.00	-0.78	0.00	-2.28	10.00	-0.64
5.01	5.06	5.01	1.78	5.01	-0.55	5.01	-1.83	5.00	0.12
18.00	57.70	19.00	0.11	8.99	-0.35	9.98	-1.25	9.98	0.21
18.00	28.88	19.00	1.09	18.01	-0.78	18.00	-0.74	18.00	0.28
18.00	8.88	18.00	1.28	18.00	-0.61	18.00	-0.31	18.00	0.24
25.01	8.00	25.01	0.08	25.01	8.00	25.00	0.09	24.98	0.00
28.01	8.00	28.01	-1.46	28.01	0.96	28.01	0.01	28.00	0.48
38.00	5.00	38.00	-2.80	38.00	1.82	38.00	1.31	38.00	0.38
48.01	5.00	48.01	-1.91	48.00	19.81	48.00	1.87	48.00	0.52
48.00	8.00	48.00	-0.94	48.00	18.25	48.00	3.04	48.00	0.25
58.00	8.88	48.98	-0.20	48.98	12.85	48.98	4.38	48.98	244.9
58.00	8.88	58.00	-0.30	58.00	48.81	58.01	8.08	58.01	17.97
58.01	8.25	58.00	1.88	58.02	17.00	58.01	8.52	58.00	862.7
68.00	12.41	65.03	-0.16	65.02	64.10	65.01	11.21	64.98	19.71
78.01	18.82	78.00	-1.25	78.01	29.16	78.01	16.84	78.01	16.49
78.00	20.31	78.00	1.88	78.01	14.52	78.01	18.21	78.00	14.29
78.00	28.45	78.00	5.02	78.00	18.90	78.00	24.51	80.00	10.18

TCXO Crystal Frequency Plot

Run Date: 17-Dec-2002 9:18 pm
 Vcc: 5.000 V Vcc: 5.000 V Vcc: 5.000 V
 Trigger: TTL Level: 1.300 V Vcc: 5.000 V
 S&A W200 Rev: 1100 Report: 1100

Test Device C

Setup: Test Device C
 Description: CMOS 00 of
 Reference F: 40,000,000 Hz
 Print As:

Run Date: 17-Dec-2002 9:18 pm
 Vcc: 5.000 V Vcc: 5.000 V Vcc: 5.000 V
 Trigger: TTL Level: 1.300 V Vcc: 5.000 V
 S&A W200 Rev: 1100 Report: 1100

STATUS	PS	TS
Pass	9.9	99.999
Pass	9.9	99.999
Pass	9.9	99.999
Pass	9.9	99.999
Pass	9.9	99.999

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