



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 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

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 ₂) -65° C to 85° C (LN ₂)

SAUNDERS & ASSOCIATES, LLC

2520 E. Rose Garden Lane - Phoenix, Arizona 85050 USA (602) 971-9977 FAX (602) 971-5522
E-Mail sales@saunders-assoc.com - World Wide Web <http://www.saunders-assoc.com>

SYSTEM CONFIGURATION

- S&A 4350 Option 1 Temperature Test Chamber (LCO₂ or LN₂)
- Computer
- Eight position card cage and backplane PCB
- S&A MFC-100 Card
- Frequency Counter
- National GPIB Card
- DUT Power Supply
- Windows[®] based System Software

SAMPLE REPORTS

Oscillator Group Summary

Run Name: example100 Run Start: 02-May-2003 5:40 pm
 Ref F: 25.000 MHz Run Freq: 02-May-2003 7:30 pm
 Ref T: F @ 25.000 MHz S&A W2000 Rev: 0701 Report: 1100

Setup: C:\Program Files\S&A\4350\bin & Accessories\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\S&A\4350\bin & Accessories\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 Start: 17-Dec-2002 0:18 pm

Author: Run Date: 17-Dec-2002 0:18 pm
 Model: You: 0,000 Vdc, Vco: 2,000 Vdc
 Operator: Reference F: 40,000,000 Hz
 S&A 3004 Rev: 1,80 Report: 1,00

Configuration

Model Name: SB Wheel Position: 100 W/4

Group: A01 - A05 Setup File: 00MFC
 Reference F: 40,000,000 Hz, Vco: 5,000 V

Group: A00 - A070 Setup File: 00MFC
 Reference F: 5,102,000.0 Hz, Vco: 5,000 V

Technical Data Table

Set Temp: 0.00 °C Step: 20.00 °C Step

Step Temp: 80.00 °C Step: 8.00 °C Step

Oscillator Tabular

Run Name: example100 Run Start: 02-May-2003 5:40 pm
 Ref F: 25.000 MHz Run Freq: 02-May-2003 7:30 pm
 Ref T: F @ 25.000 MHz S&A W2000 Rev: 0701 Report: 1100

MODE	4000	4000	4000	4000	4000
Setup: 00MFC	Setup: 00MFC	Setup: 00MFC	Setup: 00MFC	Setup: 00MFC	Setup: 00MFC
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
°C	°C	°C	°C	°C	°C
F (ppm)	F (ppm)	F (ppm)	F (ppm)	F (ppm)	F (ppm)
8.00	18.90	0.01	-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
18.00	28.98	18.00	1.28	18.01	-0.78
18.98	8.88	18.98	1.28	18.98	-0.61
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
48.00	0.00	48.00	-0.04	48.00	18.15
58.00	8.88	49.98	-3.20	49.98	12.85
58.00	8.88	58.00	-0.30	58.00	48.81
58.01	8.25	58.00	1.88	58.00	17.06
68.00	12.81	65.03	-0.16	65.02	64.10
78.01	18.82	78.00	-1.25	78.01	28.15
78.00	20.31	78.00	1.88	78.01	14.10
78.98	28.45	78.98	5.02	78.98	18.90

Oscillator Test Results

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 Operator: Reference F: 40,000,000 Hz
 S&A 3004 Rev: 1,80 Report: 1,00

STATES	PH	PH
	°C	Hz
1	Pass	-8.5, 40, 849, 349
2	Pass	-8.5, 40, 849, 379
3	Pass	-8.5, 40, 849, 375
4	Pass	-8.5, 40, 849, 349
5	Pass	-8.5, 40, 849, 349

Oscillator Test Results

Run Name: Run Start: 17-Dec-2002 2:44 pm

Author: Run Date: 17-Dec-2002 2:44 pm
 Model: You: 0,000 Vdc, Vco: 2,000 Vdc
 Operator: Reference F: 40,000,000 Hz
 S&A 3004 Rev: 1,80 Report: 1,00

Setup: Test Setup C

Description: CMOS 50 of

Reference F: 40,000,000 Hz
 Point: A8

STATES	PH	PH
	°C	Hz
1	Pass	-1.8
2	Pass	-1.8
3	Pass	-1.8
4	Pass	-1.8
5	Pass	-1.8

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