

- 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™* 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



- 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 ₂) -65° C to 85° C (LN ₂)

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SYSTEM CONFIGURATION

- S&A 4350 Option 1 Temperature Test Chamber (LCO₂ or LN₂)
- 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: example run 0 to 90 degree
 Run Start: 02-Mar-2003 9:40 pm
 Run From: 02-Mar-2003 7:30 pm
 S&A W2000 Rev: 07014 Report: 1700

Post: All Operator
 Ref: F @ 25.00°C (Std)

Setup: C:\Program Files\Saunders & Associates\QSD0 at4MHz.exe
 Reference Fr: 40,880,000 Hz Vco: 5.000 V Vco: 5.000 V Trigger: CMOS Level: 1.300 V
 Group S Default

Setup: C:\Program Files\Saunders & Associates\QSD0 at4MHz.exe
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 Group S Default

AS01 AS02 AS03 AS04 AS05 AS06

Oscillator Run File

Run Name: 0 to 90 degree
 Author:
 Method:
 Operator:
 Configuration:
 Wheel Name: 00 Wheel Position: 104 Wheel

Group: AS01 - AS06 Setup File: 4MHzHz
 Reference Fr: 40,880,000 Hz Vco: 5.000
 Group: AS06 - AS10 Setup File: 6MHz
 Reference Fr: 8,192,000 Hz Vco: 5.000

Temperature Table			
Set Temp:	0.00 °C	Step:	20.00 mK Max
Step Temp:	90.00 °C	Step:	5.00 °C

Run Date: 17-Dec-2002 8:10 pm
 Description: CMOS 0.90 µf Load
 Reference Fr: 40,880,283 Hz
 Post: All

STATES	DB	DB
0	Pass	-10.0 40,880,289
0	Pass	-10.0 40,880,278
0	Pass	-10.0 40,880,289
0	Pass	-10.0 40,880,289

Oscillator Temperature Test
 Ref: F @ 25.00°C (Std)
 Run Start: 22-Mar-2003 6:23 pm
 Run From: 22-Mar-2003 12:25 pm
 S&A W2000 Rev: 2201

Oscillator Tabular

Run Name: example run 0 to 90 degree
 Run Start: 02-Mar-2003 9:40 pm
 Run From: 02-Mar-2003 7:30 pm
 S&A W2000 Rev: 07014 Report: 1700

Post: All Operator
 Ref: F @ 25.00°C (Std)

AS01 Setup-4MHzHz Ref F: 40,880,000 Hz % Fr ppm	AS02 Setup-4MHzHz Ref F: 40,887,750 Hz % Fr ppm	AS03 Setup-4MHzHz Ref F: 40,887,738 Hz % Fr ppm	AS04 Setup-4MHzHz Ref F: 40,889,101 Hz % Fr ppm	AS05 Setup-4MHzHz Ref F: 40,888,188 Hz % Fr ppm
0.00 14.36	0.01 -0.37	0.00 -0.78	0.00 -0.23	0.00 -0.04
5.01 5.06	0.01 0.70	0.01 -0.88	0.01 -1.93	0.00 0.12
10.00 077.8	10.00 0.71	0.00 -0.95	0.00 -1.25	0.00 0.21
15.02 25.08	15.02 1.54	15.01 -0.78	15.00 -0.74	14.99 0.26
19.98 -0.05	19.98 0.20	19.98 -0.51	19.98 -0.21	19.98 0.24
25.01 0.00	25.01 0.00	25.01 0.00	25.00 0.00	24.99 0.00
29.97 0.58	29.97 -1.49	29.97 0.98	29.97 0.01	29.98 0.48
35.00 1.10	35.00 -1.80	35.00 1.63	35.00 1.21	34.99 0.38
40.01 1.98	40.01 -0.91	40.00 18.67	39.99 0.67	39.99 0.52
44.98 3.88	44.98 -4.84	44.98 383.5	44.98 3.04	45.00 61.95
50.00 4.04	49.99 -6.20	49.99 126.5	49.98 4.36	49.99 244.8
55.02 6.88	55.02 6.39	55.02 48.61	55.01 6.06	55.01 17.87
60.01 9.23	60.01 -4.85	60.02 172.5	60.01 9.52	60.00 883.7
65.03 12.41	65.03 -3.16	65.02 84.10	65.01 11.27	64.99 18.71
70.01 18.62	70.00 -1.29	70.01 26.15	70.01 14.84	70.01 18.40
75.02 21.21	75.01 1.46	75.01 14.13	75.01 19.21	75.00 14.20
79.99 26.45	79.99 5.82	79.99 18.99	80.00 34.82	80.00 19.10

Setup: Test Device C

Run Date: 17-Dec-2002 8:48 pm
 Description: CMOS 0.90 µf
 Reference Fr: 40,880,283 Hz
 Post: All

Vco: 5.000 Volts Vco: 2.000 Volts
 Trigger: TTL Level: 1.300 Volts
 S&A 200A Rev: 1.00 Report: 1.00

STATES	DB	DB
0	Pass	-10.0 40,880,289
0	Pass	-10.0 40,880,278
0	Pass	-10.0 40,880,289
0	Pass	-10.0 40,880,289

TCSD Crystal calibration test

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