

- Automated software based quartz crystal temperature test system
- Measures over 75 different parameters
- Parameter and curve fit characteristics are checked against easy to define QC limits
- Crystals of different frequencies can be tested in a single temperature run
- All data published in a *Microsoft Access*™ data base and can be exported to *Microsoft Excel*™ for custom data analysis
- Crystal part number can be used to set complete measurement parameters, QC limits, temperature test points, and data printouts
- Printouts are generated using *Crystal Reports*®



- Accommodates two dual row test wheels with extended life test head contacts
- Easily loaded S&A proprietary sockets accept HC-45, HC-49, HC-43, HC-49US, HC-18, SMD and tubular type packages
- Typically holds 1016 devices per run

SPECIFICATIONS

250B-1 Frequency Range:
250C Frequency Range:

15 KHz to 220 MHz
15 KHz to 500 MHz

Frequency Correlation:

± 1 ppm* at series (typical)

Crystal Power:

1 nW to 1000 uW (1 MHz to 50 MHz)
1 nW to 500 uW (>50 MHz to 200 MHz)

Temperature Stability:

± 0.1°

* Proprietary measurement and calibration algorithms provide correlation to industry standard crystal measurement equipment.

Roditi International Corp. Ltd,

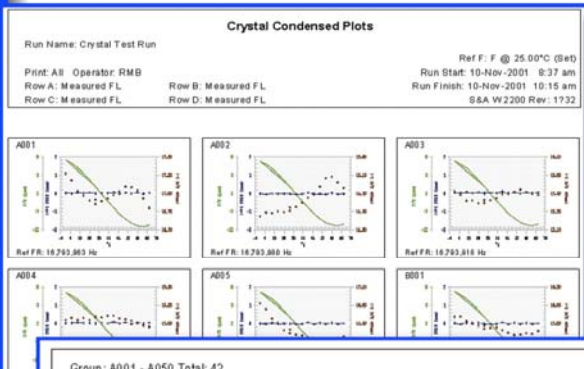
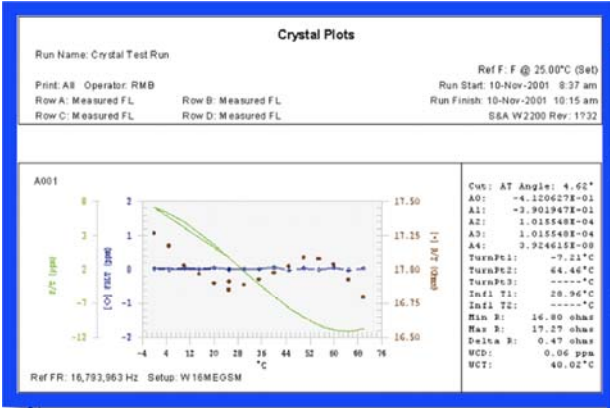
Machiavelli House, 102 Stewarts Road, London. SW8 4UG. Tel: +44 (0) 20 7819 8080
FAX: +44 (0) 20 7720 5261 E-Mail saunders@roditi.com - World Wide Web <http://www.roditi.com>

SYSTEM CONFIGURATION

- S&A 250B-1 or 250C Network Analyzer
- Two S&A 2451 Switch Controllers
- Two S&A 4220 Temperature Test Chambers (LCO₂, LN₂, or Mechanical Refrigeration Cooling)
- Two IEC-444 Pi-Network Test Heads

- **Windows[®]** based System Software
- **Printer (Optional)**
- **Computer Requirements:**
Minimum 500 MHz Pentium III
One full PCI slot with +3.3V & 5V power,
Windows 98[®]

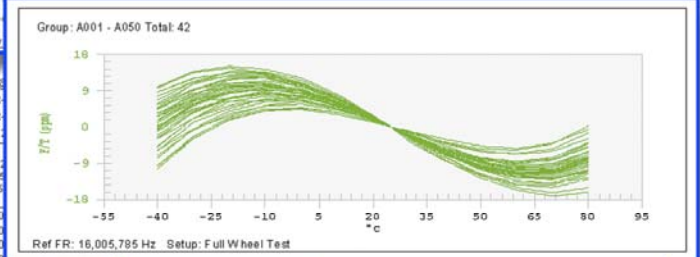
SAMPLE REPORTS



Crystal Tabular

Run Name: Example Run	Ref F: F @ 25.00°C (Set)
Print: All Operator: RMB	Run Start: 10-Nov-2001 8:37 am
Row A: Measured FL	Row B: Measured FL
Row C: Measured FL	Row D: Measured FL
S&A W2200 Rev: 1732	

A001 <2a001>	A002 <2a002>	A003 <2a003>	A004 <2a004>	A005 <2a005>								
Setup: 12megw2	Setup: 12megw2	Setup: 12megw2	Setup: 12megw2	Setup: 5								
Ref F: 12,795,174 Hz	Ref F: 12,795,955 Hz	Ref F: 12,795,917 Hz	Ref F: 12,795,942 Hz	Ref F: 5								
°C	FR ppm	R	°C	FR ppm	R	°C	FR ppm	R	°C	FR ppm	R	
25.01	0.00	4.92	25.03	0.00	18.71	25.02	0.00	12.39	25.01	0.00	11.97	25.00
0.01	0.01	5.13	0.01	0.00	21.44	0.00	3.28	12.96	-0.01	3.74	12.49	0.00
5.02	0.33	4.90	5.00	6.79	20.77	4.98	3.16	12.82	4.99	3.52	12.38	5.00
9.98	0.44	5.03	10.00	5.24	20.39	10.00	2.68	12.83	10.00	2.94	12.39	9.98
15.02	0.50	5.03	15.01	3.60	10.81	15.00	3.07	13.68	14.99	3.33	13.33	14.99
20.00	0.36	5.02	20.00									
25.00	0.09	5.05	25.01	-0								
30.02	-0.12	5.04	30.01	-2								
34.99	-0.39	5.03	35.00	-3								
40.02	-0.55	5.04	40.02	-5								
45.03	-0.52	5.06	45.02	-7								
49.99	-0.20	5.00	49.99	-8								
54.99	0.33	4.98	55.00	-9								
59.99	1.33	5.05	59.99	-9								



Crystal Curvfit Summary

Run Name: Example Run	Ref F: F @ 25.00°C (Set)
Print: All Operator: RMB	Run Start: 26-Oct-2001 4:51 pm
Row A: Measured FL	Row B: Measured FL
Row C: Measured FL	Row D: Measured FL
S&A W2200 Rev: 1725	

Crystal Curvfit Tabular

Run Name: Example Run	Ref F: F @ 25.00°C (Set)
Print: All Operator: RMB	Run Start: 26-Oct-2001 4:51 pm
Row A: Measured FL	Row B: Measured FL
Row C: Measured FL	Row D: Measured FL
S&A W2200 Rev: 1725	

Crystal Setup File Parameters

Run Name: Example Run	Ref F: F @ 25.00°C (Set)
Print: All Operator: RMB	Run Start: 26-Oct-2001 4:51 pm
Row A: Measured FL	Row B: Measured FL
Row C: Measured FL	Row D: Measured FL
S&A W2200 Rev: 1725	

Reference F: 12,795,900 Hz	CL: 0.00 pF	Power: 100.00 uW	into 12.00 Ohms	Measure: FR/T					
STATUS	FR	CO	DR	Q	CL	L	PWR	TEMP	F/T
	ppm	pF	Ohms	k	FF	nW	nW	°C	ppm
10.0	3.0	25.0		13.0	13.00				
-10.0	2.8			12.0	11.00				
Delta	WCD	K/F	CUT	ANG					
Ohms	ppm	Ohms	*						
		25.0							

A001 <2a001>	Pass	FR	CO	DR	Q	CL	L	PWR	TEMP	F/T
A001	Pass	4.3	2.7	16.7	54	12.3	12.55	134	25.03	-4
A002	Pass	3.5	0.2	21.4	AT	4.47				
A003	Pass	1.3	2.6	12.4	02	12.2	12.65	122	25.02	-4
A004	Pass	3.3	2.7	12.0	05	12.1	12.73	121	25.01	-5
A005	Pass	1.6	-0.2	11.0	AT	2.66				

Crystal Failures Only

Run Name: Example Run	Ref F: F @ 25.00°C (Set)
Print: All Operator: RMB	Run Start: 26-Oct-2001 4:51 pm
Row A: Measured FL	Row B: Measured FL
Row C: Measured FL	Row D: Measured FL
S&A W2200 Rev: 1725	

Crystal #	Serial #	Setup File Parameters	Crystal Data	Curvfit Parameter
A001	<2a001>	Full FR Low		

The Roditi International Corporation Ltd is the exclusive European representative of Saunders & Associates, LLC