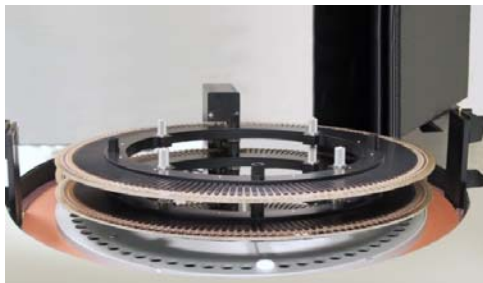


- Automated, software based quartz crystal temperature test system
- Up to 2 disc pallets can be stacked
- Standard SMD sizes available include:

SMD TYPE	DISC CAPACITY	TOTAL CAPACITY/ PER CHAMBER
5 x 7mm	140	280
4.5 x 8mm	140	280
3.5 x 6mm	160	320
3.2 x 5mm	160	320
2.5 x 4mm	160	320
2.5 x 3.2mm	160	320
2.0 x 2.5mm	160	320
HC-49USMD	100	200
Leaded	100	200

- Custom SMD Sizes available
- Disc pallet platform can be easily integrated into dedicated machine for automatic loading / unloading SMD devices
- Measures over 75 different tests



- 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 is published in a *Microsoft Access*™ data base and can be exported to *Microsoft Excel*™ for custom data analysis
- Printouts are generated using *Crystal Reports*®
- Dual chamber configuration available

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° C

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

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SYSTEM CONFIGURATION

- S&A 250B-1 or 250C Network Analyzer
- **Windows®** based System Software
- S&A 2451 Switch Controller
(only required in dual chamber configuration)
- Printer (Optional)
- S&A 4220 Temperature Test Chamber
(LCO₂, LN₂, or Mechanical Refrigeration Cooling)
- Computer Requirements:
Minimum 500 MHz Pentium III
One full PCI slot with +3.3V & 5V power,
Windows 98®
- IEC-444 Pi-Network Test Head

SAMPLE REPORTS

Run Name	Ref F	Setup	FR ppm	R	WCD
A001 <2a001>	12,795,174 Hz	12megw2	25.01	0.00	4.92
A002 <2a002>	12,795,955 Hz	12megw2	25.03	0.00	18.71
A003 <2a003>	12,795,917 Hz	12megw2	25.02	0.00	12.39
A004 <2a004>	12,795,942 Hz	12megw2	25.01	0.00	11.97
A005 <2a005>	12,795,955 Hz	12megw2	25.00	0.01	5.13

Run Name	Ref F	Setup	Angle	A0	A1	A2	A3	A4
Example Run	25.00°C	12megw2	4.62°	-4.1206278e-01	-3.9039478e-02	1.0155408e-04	1.0155408e-04	3.9246158e-09

Run Name	Ref F	Setup	FR ppm	R	WCD	Delta
A001 <2a001>	12,795,917 Hz	12megw2	25.01	0.00	4.92	17.50
A002 <2a002>	12,795,955 Hz	12megw2	25.03	0.00	18.71	17.25
A003 <2a003>	12,795,917 Hz	12megw2	25.02	0.00	12.39	17.00
A004 <2a004>	12,795,942 Hz	12megw2	25.01	0.00	11.97	16.50

Parameter	Value
Reference F	12,795,900 Hz
Cl	0.00 pF
Power	100.00 nW
Int	12.00 Ohms
Measure	FR/T
STATUS	FR CO DR Q C1 L PWR TEMP F/T
FR	25.01
CO	0.00
DR	0.00
Q	25.0
C1	13.0
L	13.00
PWR	12.0
TEMP	11.00
F/T	11.00
Delta	17.50
WCD	4.92
R/F	18.71
CUT	AT
ANG	4.62
Ohms	12.39
ppm	11.97
Ohms	5.13
AT	4.62

Run Name	Status	FR	CO	DR	Q	C1	L	PWR	TEMP	F/T
A001 <2a001>	Pass	25.01	0.00	0.00	25.0	13.0	13.00	12.0	11.00	11.00
A002 <2a002>	Pass	25.03	0.00	0.00	25.0	13.0	13.00	12.0	11.00	11.00
A003 <2a003>	Pass	25.02	0.00	0.00	25.0	13.0	13.00	12.0	11.00	11.00
A004 <2a004>	Pass	25.01	0.00	0.00	25.0	13.0	13.00	12.0	11.00	11.00

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