

# Q-Stress™

Cardiac Stress System

Stress

## See What You've Been Missing

*Quinton has been a leader in cardiac stress testing since the 1960s. Among the innovations Quinton brought to diagnostic cardiology are:*

- Integrated ECG monitor and treadmill
- Bruce Protocol
- Average Spatial Vector Velocity (ASVV) Technology
- Baseline Wander and Motion Artifact Filters
- Integrated Stress ECG-Echocardiography report
- Networked, data export in XML and PDF formats

With over forty years of technical and clinical leadership in the stress market, Quinton has learned that each user is unique. Q-Stress offers extensive customization to meet the needs of all types of users. Depending on your facility, practice, procedure and reporting needs, Q-Stress can be set up, configured, customized, and connected to meet your objectives.

Q-Stress, the eighth generation stress system from Quinton, takes cardiac exercise testing to a new level of performance. Built on a Microsoft Windows® XP Professional platform, Q-Stress provides the highest level of diagnostic tools available to the clinical user today. Every feature is designed to enhance the comprehensive



*Q-Stress provides outstanding clinical performance, exceptional procedure control, peripheral device and network connectivity, efficient and intuitive user controls, and unique study review capabilities.*

cardiac assessment. From in-test ECG review using Freeze Frame, to Risk Scoring patients, to post-procedure assessment tools like Re-Analysis and Full Disclosure, Q-Stress meets your clinical requirements.

## Features

- Freeze Frame
- Procedure Re-Analysis
- Risk Scoring
- Permanent Full Disclosure
- Superior ECG Trace Quality
- Fast, Accurate Reports
- Advanced Network and IS Connectivity Options
- Patient Demographics and History exported to EMR

QUINTON®

# Q-Stress™ Performance

## Clinical

### Superior ECG Trace Quality

The Quinton Q-Stress Cardiac Stress Monitor combines Quinton algorithms, unique baseline wander and muscle artifact filters, and 8000 samples per second to provide the highest ECG fidelity in the industry. Leads can be displayed in 3, 6, or 12-lead views.

### 1 Full Disclosure (option)

#### Clinical Confidence

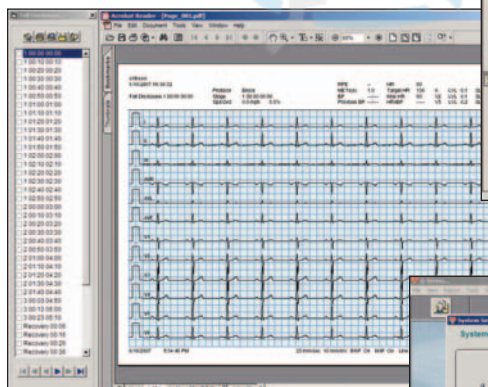
Capture and view every beat for absolute clinical confidence. Review Full Disclosure while editing the final report. Print, permanently archive, append significant data to the final report, or export the complete Full Disclosure to your Electronic Medical Record.

### Dynamic ST Monitor

Q-Stress constantly updates ST analysis, identifies and displays ST anomalies, and directs clinicians to significant ECG changes.

### Ectopic Capture and Display

Capture all ectopic activity and print sample, then selectively save or add the clinically significant portions to your final report.



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## Customization

### 2 Customizable Features

#### Control Panels

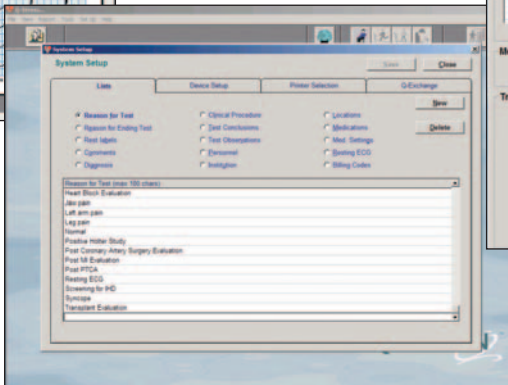
Tailor Q-Stress to fit your needs. Modify the control panel to display procedure controls, timers, test parameters, and measurements important to you.

#### Protocols

Standard protocols come preloaded for routine exercise testing. Easily add and customize protocols to meet specific testing needs such as Stress-Echo, Stress Adenosine and Persantine. Design and store protocols customized for each user in your facility.

#### In-Test Reports, Notifications, and Prompts

Select specific parameters for automatic in-test report generation. In addition, you can select and store data levels for clinical targets. Customize activity prompts in both staged and ramped protocols by parameter, phase, or time.



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### 3 Freeze Frame (option)

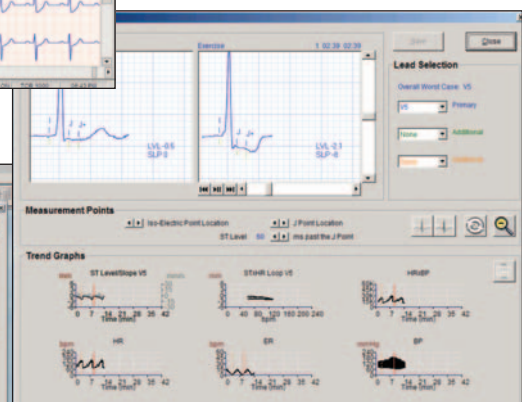
Users can “freeze” a 10 second strip of multi-lead ECG on screen below the “live” ECG. The viewable window can be moved forward and backward to display sections of the test from the beginning of the test to the current time. From this screen you can print reports from any time period of the test, while continuing to monitor the patient’s live ECG.

### 4 ECG Re-Analysis (option)

With Re-Analysis, users can review a complete test after the procedure has ended. The built-in analysis tools allow modification of the original iso-electric points, J point, and timing to adjust for new patient data or to compensate for physiologic changes during the test. The resting data remains constant for comparison. Individual and multiple leads can be reanalyzed using new iso-electric points for a “Holter-like” review.

For additional clinical review, users can also display trend graphs. Parameters such as BP X HR, BP/HR, and ST level and slope graphs, provide fast visual indicators of physiologic trends.

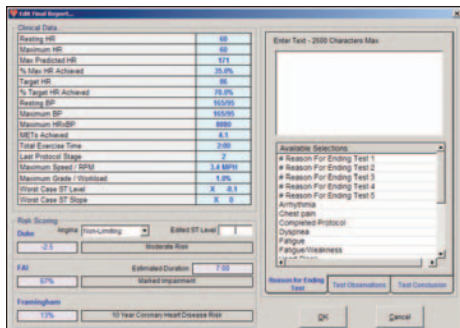
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# Q-Stress™ Connectivity

## Reporting



Point and click report annotation.

### Risk Scoring (option)

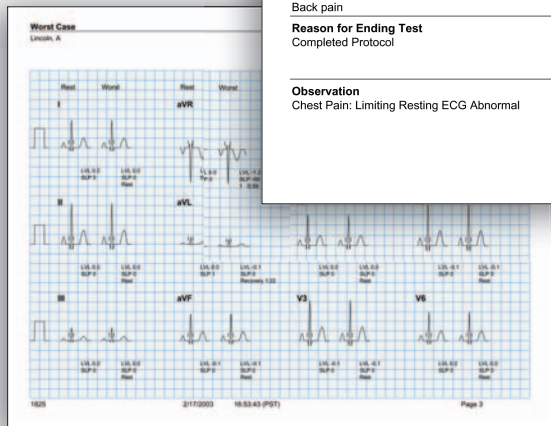
The feature includes automatic risk scores based on the Duke, Framingham, and Functional Aerobic Impairment (FAI) scoring indices, providing additional prognostic data to the clinician. Using demographic, lifestyle and cardiac exercise stress test data, Q-Stress calculates a patient's risk score using these indices. The scores are easily added to the final report.

### Report Formatting

You can view, print, save, and e-mail your final reports, including in-test reports to create a detailed, printed or electronic patient record. Comments, conclusions, and interpretations are quickly added from pre-formatted, customizable lists. Print complete, final reports, a single page summary, or selected segments.

### Fast Reports

Using words or prepared phrases from the QuickLists utility, clinicians can quickly annotate final reports. Procedure data and measurements are available for review in Recovery to compose the final report immediately after exercise. This unique capability improves workflow, patient control, and record management.



Diagnostic quality waveforms.

In the Recovery phase of the procedure, the system displays lists with "typical" or programmed statements to aid with the fast, efficient preparation of the final report.

Clinical parameters measured by the system are displayed in Recovery. A simple "double-click" on the data inserts it into the appropriate final report section.

### Database compatible XML fields.

```

xml version="1.0" encoding="UTF-16" ?
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<EVIDStudyAcqTime>16:53:43 (PST)</EVIDStudyAcqTime>
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<EVIDReasonForTest>Back pain</EVIDReasonForTest>
<EVIDReasonForEndingTest>Completed Protocol</EVIDReasonForEndingTest>
<EVIDTestObservation>Chest Pain: Limiting Resting ECG
Abnormal</EVIDTestObservation>
<EVIDTestConclusion>Functional Capacity: Marked Decrease: >40% Patient
reached target heart rate</EVIDTestConclusion>
<EVIDExerDevWkldLabel>TM Grade</EVIDExerDevWkldLabel>
<EVIDPatientDiagnosisEntry />
    
```

### Q-Stress Final Report

2/17/2003 16:53:43 (PST)

Attending  
Referring

Patient Lincoln, A  
MRN 1825  
DOB 2/16/1936 Age 67 Ht 77 in  
Sex MALE Wt 235 lb

#### Medication

Resting HR	60	Target HR	130	Max HR	142	Protocol	Bruce
Resting SBP	118	Max Predicted HR	153	Max SBP	145	HRxBP	18602
Resting DBP	65	% Max HR	93	Max DBP	105		
Worst-case ST Slope		0 aVF		Total Exercise Time	03:27		
Worst-case ST Level		-0.1 aVF		METS(a)	1.0		

#### Reason for Test

Back pain

#### Reason for Ending Test

Completed Protocol

#### Observation

Chest Pain: Limiting Resting ECG Abnormal

#### Conclusion

Functional Capacity: Marked Decrease: >40% Patient reached target heart rate

Clean, concise summary page.

## Connectivity

### Network Connectivity (option)

Addressing the needs of today's integrated cardiology suites, Q-Stress with networking shares final reports, accesses shared printers, and archives to servers or network storage systems. Reports can be e-mailed for review and consultation using a compact PDF format.

### Q-Exchange (option)

Combine stress data with other systems using non-proprietary formats to automatically exchange data with other clinically and patient information systems.

Q-Exchange exports XML and PDF database compatible formats over standard networks to EMRs and patient information systems. Q-Exchange also enables the import of patient demographics, billing and procedure codes into Q-Stress.

# Q-Stress™ Workflow

## User Controls

### Easy to Operate

Print 12-lead and rhythm strips with the click of the mouse or keyboard. The heart-rate graph tracks patient performance. Use QuickLists to enter comments quickly and efficiently. The large Start/Stop icons facilitate device control.

Intuitive procedure and system controls guide users logically through the examination. All user, system, and treadmill controls can be accessed using the mouse, an optional dedicated keypad, or the keyboard.

## Efficiency

### In-Test Comments

During procedures, the Q-Stress system provides simple tools to add rest labels and comments. Icons for in-test annotation are always on the toolbar and QuickLists' annotation feature enters your comments and returns to the exam in seconds. In-test entries are time-stamped and added to the final report.

### Electronic Test Record

Save your in-test reports and comments electronically to create a permanent record of the procedure. All saved procedure data, comments, timed reports, as well as the 12-lead and average beat waveforms can be stored electronically in PDF format as

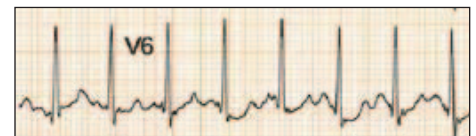
part of the final report. Keep final reports as an electronic patient record on the system hard-drive, diskettes, CDs, or your network. The final report can be e-mailed to referring physicians for a truly comprehensive electronic patient record.

### The Quik-Prep Electrode System

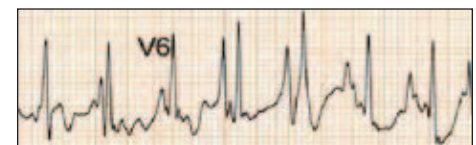
The Quinton Quik-Prep system, invented by Quinton and designed for stress testing, automates patient prep – eliminating unpredictability, reducing prep time, and ensuring optimal trace quality. Quik-Prep electrodes are specifically designed to hold up and hold on during heavy perspiration, excessive patient movement, and leadwire tugging. Because each site is electronically prepped to optimal impedance, prep is faster and more reliable and ECG traces are virtually free of dropout and baseline drift.

FEATURE	DESCRIPTION
Printers	Chart recorder, laser
Power Requirements	110/230 VAC, 50/60 Hz
Monitor	17 in. flat panel display, 15 in. CRT
Controller	Remote entry keypad
Exercise Devices Supported	<b>Treadmills:</b> TM 55/65, ST 55/65, Q-Series 90 <b>Ergometer:</b> Lode Rehcor <b>Supine Ergometer:</b> Medical Positioning, Inc. Stress Echo™ Bed
Interface to Metabolic, SpO2 and Ultrasound systems	QRS and 3 analog ECG ports
Channels	True 12-lead ECG
Input Devices	Automatic blood pressure monitor, CD-ROM, 3.5 in. floppy
Output Device	CD-RW
Hard Drives	2 x 80GB
Advanced Technical Service Interface*	Modem connection via standard phone line
Network Interface	Microsoft client/server
Export/Communication Protocol/Format	XML, PDF, TCP/IP

\*available only in the United States



Automatic Quik-Prep System



Manual prep using a popular foam electrode



Visit our website at [www.quinton.com](http://www.quinton.com)

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