

# Welch Allyn Q-Tel® RMS-Rehabilitation Management System

## Streamlined Workflow and EHR Integration to Support More Time with Patients

### Primary Benefits:

- **Connectivity** — Welch Allyn Q-Tel® RMS simply integrates all XML data to your EHR. In addition, ADT messages and orders can be downloaded using an HL7® protocol and session data uploaded as PDF reports by a UNC path to a PDF, encapsulated PDF or PDF export. The choice is yours.
- **Data Storage** — Q-Tel RMS offers the ability to store the database on a facility's network server.
- **Clarity** — Q-Tel RMS is known for its simple left-to-right icons that match the typical workflow for most programs and each module is accessible with just one click.
- **Reporting** — Q-Tel RMS provides all the reports you need, including Individual Treatment Plan (ITP), a Customizable Patient Query Report, Customized Patient Outcome Graphs and Administrative reports.
- **Reliability** — Q-Tel RMS is tested to the highest standards for diagnostic-quality cardiac equipment.
- **Support** — Welch Allyn provides convenient on-site service by our experienced field service engineers, eliminating the need to send your system in for repairs which can help reduce downtime. Service includes a 13-month on-site warranty, remote support and service contracts.



### Q-Tel RMS Seamlessly Captures and Manages Patient and Program Data

Cardiac and pulmonary rehab centers across the globe trust Q-Tel RMS to support the crucial work of patient recovery. The system captures, manages and reports essential patient data along with prevention program elements, while you focus on your patients.

- Q-Tel RMS captures and displays multi-lead, real-time ECG signals with diagnostic-quality telemetry ensuring the accuracy of ECG data being presented.
- With our five basic arrhythmia detection alarms, we take the fear out of missing life-threatening arrhythmias. Plus, our eight built-in advanced alarm settings allow you to spend less time watching monitors and more time tending to patients.
- The system complements enhanced workflow by enabling users to edit exercise prescriptions while monitoring patients and exchange patient folders between users during patient session management.
- All input data within Q-Tel RMS can be easily integrated into your EHR in XML format. In addition, data can be linked to hospital HIS and PACS using HL7 and PDF-based standards, supporting the download of patient demographics/orders and upload of session data. These rich connectivity solutions can reduce errors and save time by eliminating redundant data entry.

### Enhanced Workflow Reduces Unnecessary Steps So You Can Focus on Patient Care

Q-Tel RMS puts information right at your fingertips. You can generate reports on the progress of each patient—for an individual session or across multiple sessions.

- Q-Tel RMS lets you view and document changes without stopping the patient's exercise routine.
- The ITP simply captures and reports patient goals, interventions and progress towards meeting those goals in the key areas recommended by the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) for Program Certification.
- Patient data imported from Q-Tel RMS into the Registry tabs within the Q-Progress solution are easily exported to the AACVPR Outcomes Registry with the touch of a button.
- Highly customizable patient query reports make it easy to present accreditation data on attendance, enrollment, provider lists and more, all in support of individual facility requirements.
- Customer specific in-service and training support is offered at no charge.

## Q-Tel RMS-Rehabilitation Management System

Feature	Specification*								
<b>System</b>									
ECG Performance	<p><b>Applicable Standards</b> — AAMI EC-11-1991 for diagnostic ECG (The Q-Tel RMS System meets or exceeds the following performance requirements of AAMI EC-11: gain accuracy, frequency response, CMRR, system noise, dynamic range and input impedance. The system does not offer a calibration pulse and prints exclusively at 25 mm/s.)</p> <p><b>Display and Analysis Filter</b> — Muscle artifact, baseline wander and 50/60 Hz line. User can turn all filters on or off</p> <p><b>Bandwidth</b> — 0.05 - 150 Hz, compliant with AAMI EC11-1991 for diagnostic electrocardiographic devices</p>								
ECG Display	<p><b>Content</b> — 4, 8 and 12-channel ECG display and alphanumeric data I/O</p> <p><b>Display</b> — 3.5 - 8 seconds, depending upon number of channels</p> <p><b>Data</b> — ECG traces, heart rate, target heart rate, blood pressure, patient demographics and risk profiles, workload, METs, RPE, patient weight and other user selectable parameters</p> <p><b>Gain</b> — 2.5, 5, 10, 20, 40 mm/mV</p> <p><b>Lead Groups</b> — 4 and 5 wire lead sets, supporting the standard limb set, limb plus one chest lead, and the modified chest lead</p>								
ECG Analysis	<p><b>Heart Rate</b> — Moving median estimate based upon R-R intervals</p> <p><b>Alarms</b> — Includes 7 programmable technical alarms and up to 13 programmable arrhythmia alarms that include 8 advanced alarms, with automatic strip print or automatic strip record</p>								
Power Requirements	100-240 VAC 50/60 Hz 400 W (main/secondary tower)								
Environmental	<p><b>Operating Temperature</b> — 59°F to 90°F (15°C to 32°C)</p> <p><b>Operating Relative Humidity</b> — 30% to 80% non-condensing</p> <p><b>Storage Temperature</b> — 40°F to 113°F (-40°C to 45°C)</p> <p><b>Storage Relative Humidity</b> — 20% to 80% with condensation</p> <p><b>Ventilation Clearances</b> — Workstation: 6 in (min) behind; Laser printer: 3 in (min) on each side</p>								
<b>Hardware</b>									
	<table border="0"> <tr> <td><b>Main and Secondary Towers</b></td> <td><b>Turnkey Workstation</b></td> </tr> <tr> <td>CPU — Intel®-compatible PC platform, P4 3.2 GHz processor (min)</td> <td>CPU — Intel compatible PC platform, P4 1.5 GHz processor (min)</td> </tr> <tr> <td>RAM — 2 GB (min)</td> <td>RAM — 2 GB (min)</td> </tr> <tr> <td>Hard Drive — 500 GB SATA (min)</td> <td>Hard Drive — 20 GB SATA (min)</td> </tr> </table>	<b>Main and Secondary Towers</b>	<b>Turnkey Workstation</b>	CPU — Intel®-compatible PC platform, P4 3.2 GHz processor (min)	CPU — Intel compatible PC platform, P4 1.5 GHz processor (min)	RAM — 2 GB (min)	RAM — 2 GB (min)	Hard Drive — 500 GB SATA (min)	Hard Drive — 20 GB SATA (min)
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CPU — Intel®-compatible PC platform, P4 3.2 GHz processor (min)	CPU — Intel compatible PC platform, P4 1.5 GHz processor (min)								
RAM — 2 GB (min)	RAM — 2 GB (min)								
Hard Drive — 500 GB SATA (min)	Hard Drive — 20 GB SATA (min)								
Display	Color LCD, 1920 x 1200; 24 in (61 cm)								
Keyboard and Mouse	USB keyboard and optical mouse								
<b>X12+ Transmitter</b>									
Channel	Easily programmable to any 1 of 64 channels using the function keys								
Display	1.25 in x 0.62 in (3.2 cm x 1.6 cm) LCD display shows live ECG, lead fail, lead quality, power ON/OFF, low battery								
Leads Connector	Single-block, 4 or 5 lead								
Function Keys	Up/Right, Down and Enter keys for ON, menu navigation and CALL								
Frequency Range	WMTS 608 MHz (608.48 MHz to 613.52 MHz) or outside USA: 2400 MHz (2400.96 MHz to 2482.56 MHz)								
Defibrillation Protection	Protected against defibrillation in compliance with AAMI standards and IEC 60601-2-25								
Patient Call Button	Depression of any button while monitoring inserts the call signal into the transmitted data stream								
Radiated Power	Does not exceed 0.5 mW								
Dimensions (H X D X W)	3.5 in x .98 in x 2.5 in (9.1 cm x 2.5 cm x 6.4 cm)								
Weight	With battery: 4.8 oz (136 g); Without battery: 4.0 oz (114 g)								
Battery	<p><b>Type</b> — 1 AA alkaline</p> <p><b>Duration</b> — 24 hours (typical)</p>								
Data Stream Content	Encoded lead potentials, battery voltage, lead potency or impedance								
Sample Rate	500 samples/second/channel								
Pacemaker Spike Detection	10,000 samples/second/channel at the transmitter. Detected pacemaker spikes are transmitted as part of the encoded data stream and are displayed in all acquired leads								
Environmental	Classified according to IEC 60601-1 and IEC-60601-2-25 as ordinary equipment								

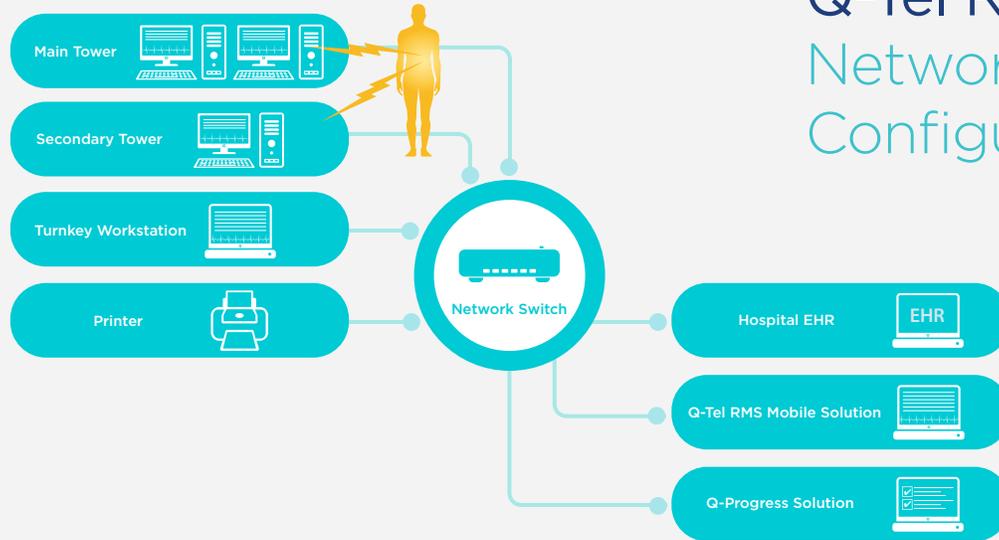
## Q-Tel RMS-Rehabilitation Management System

Feature	Specification*
<b>Receiver</b>	
Sensitivity	100 dBm
Antenna	Dual passive antenna system. Open field range: 100+ meters. Optional powered antenna system available to extend coverage
Channels	64 channels per receiver for 608 MHz and 2400 MHz systems
Receiver Board	Available as 4 or 8 independent receivers per receiver board. Up to 12 receivers per tower
Leads	4 or 5 leads of diagnostic ECG data per receiver
<b>Peripherals</b>	
Laser Printer	Resolution: 600 dpi (min) Paper Dimensions: 8.5 x 11 in (US letter) or 210 x 300 mm (A4); Monthly Duty Cycle - 3,000 to 12,000 pages Dimensions: 16.3 x 16.9 x 15.7 in (415 x 428 x 398 cm) at 52.1 lbs (23.7 kgs)
Network Switch	Type: 10/100TX; Ports: 8 RJ-45 ports; Dimensions: 1.4 x 9.8 x 4.6 in (3.6 x 24.9 x 11.6 cm) at 2.0 lbs (0.9 kgs)
External Hard Drive	Capacity: 500 GB (min); Type: USB 2.0
Power Supplies (for towers)	UPS: 1000VA/600W 120VAC (min); Isolation Transformer: 120 Volts, required in the patient vicinity
Chart Recorder (optional)	Recording Technique: High-resolution thermal dot array, temperature controlled thermal print head Printed Data: One and two-channel ECG waveform and alphanumeric printing; Speed: 25 mm/sec Paper: Blank or pre-gridded thermal, ECG grid, 5 cm (2 in) wide rolls; Feed: Continuous from roll
<b>Software</b>	
Reports	<b>Outcomes</b> – 11 standard outcomes reports covering individual session results, progress reports and full disclosure <b>Administrative</b> – 11 standard reports including daily billing, physician list, patient demographics and statistical summaries <b>ITP</b> – A standard AACVPR ITP that meets Program Certification requirements is included with optional customization capabilities to support specific program needs.
Third-Party Software	Windows® 7 Professional SP1, Microsoft® Excel 2010, Microsoft SQL Express 2008, Adobe® Acrobat® Reader 9. Welch Allyn does not recommend installing any other unqualified software on your Q-Tel RMS System. Microsoft Update Policy - Welch Allyn recommends that all Q-Tel RMS Systems be periodically updated with Microsoft critical and security updates to protect their system from malware attacks and to fix critical Microsoft software issues. Anti-virus (AV) Policy - Welch Allyn recommends the use of AV software on computers hosting the Q-Tel applications. Active scanning allowed if exclusions are applied.
Welch Allyn Software	Q-Tel RMS software, Q-Progress software, Purge/Archive utility, Backup/Restore utility
Networking	Q-Tel computers can be configured to be part of the facility network (domain). Q-Tel networking required for EHR interface, database backup, Q-Tel Software Workstation and network printing applications.
Communication Protocol/Format	TCP/IP; HL7 and PDF
Service	Welch Allyn field service engineer or qualified technician only
<b>Workstation Software</b>	
Minimum Specifications	Processor: equivalent to Intel Pentium 4, 1.5 GHz or faster System Memory: 2 GB; CD or DVD drive: 8X or faster Hard Drive: 20 GB Video: 1280 x 1024 resolution Operating System: Windows 7 Professional 32-bit with SP1 Network: 100Mbps NIC Card or 802.11G wireless card



With the industry's broadest range of diagnostic cardiology solutions, we help people get better care, inside and outside the hospital. Backed by **clinical excellence, connected solutions and continuous innovation**, Welch Allyn Cardiology is proud to be powered by Mortara.

## Q-Tel RMS Network Configuration



This diagram illustrates one possible network configuration set-up.

For more information, contact your local Welch Allyn representative or visit [www.welchallyn.com](http://www.welchallyn.com).

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