

Q-Tel RMS Workgroup and Networking FAQs

Can we place the Q-Tel RMS "Server" in the data closet for security purposes?

No, the Q-Tel RMS Master Tower is not a server and it does not have any "Server" components.

Do you support Active Directory or LDAP?

No. The Q-Tel RMS Master Tower is not a server, therefore we do not support Active Directory or LDAP.

Can I run my own backup and can it be automated?

The Q-Tel RMS system comes with a backup/restore utility. This utility must be launched manually. We have tested and verified this utility works correctly with our database and ECG data files. We cannot guarantee the performance of any other backup utilities.

What protocols do you support for remote access and diagnosis?

Q-Tel RMS remote support options include VPN, VNC, PC-Anywhere, Remote Desktop, Web-X, and dial-up modem. The customer must have the necessary hardware and/or software installed and the necessary network or internet connections established. The customer must provide Cardiac Science with authorization and temporary login credentials in order to access the system remotely.

What logon security protocols do you support?

The Q-Tel RMS application runs on the Windows™ operating system. The Q-Tel RMS is a dedicated-purpose system and consequently does not have specific access controls to the application itself. Access control to the PC is achieved through standard Windows™ logon security measures.



What wireless security protocols do you use with the PDA?

The wireless Pocket Assistants use standard WiFi access security and encryption including 24-bit WEP encryption, MAC address filtering at the Access Point, and suppression of the SSID broadcast.

Can we add the Q-Tel RMS Master Tower to our domain?

The Master Tower has the ability to "connect to" the domain through the second NIC card using a static IP address. It cannot be joined to the hospital domain as a member of the domain.

Can we perform Microsoft updates on the Q-Tel RMS system when available?

Cardiac Science recommends that all critical and security updates from Microsoft (for Windows OS, Internet Explorer, and Microsoft Office applications) be applied by the customer as they become available. Updates should not be applied during active patient monitoring. A backup of all critical data should be performed before applying any patch. The Microsoft operating system patches on the original Q-Tel RMS configuration are the only certified updates for the system. Until tested, Cardiac Science cannot guarantee the updates will not interfere with the Q-Tel RMS application. However, we believe the added security of applying the patches outweighs the possible risk of system malfunction due to a conflict with a security update.

Can we load antivirus software on the Q-Tel RMS system?

Cardiac Science recommends installing reputable commercially available anti-virus software (e.g., Norton or McAfee) on any Q-Tel RMS system, especially if the system is connected to the hospital network and/or the Internet. The anti-virus software should be configured to exclude the Q-Tel RMS data directory, and full system scans and virus definition updates should only be performed after hours. Due to the need for the real-time functions it could possibly slow down the application and possible clinical response to patient issues.

Can we connect the Q-Tel RMS Pocket Assistants over our wireless network?

No, we supply a secured wireless access point which connects directly to the Q-Tel RMS workgroup.

Is your system HIPPA compliant?

Site policies and procedures need to meet HIPPA regulations. We supply basic audit logs for log on/log off by users (V3.0 only). System does not provide logging information on each entry.

What peripherals can the customer purchase?

The Q-Tel RMS Towers and Turnkey Workstations are custom designed and built PCs, configured by Cardiac Science. They are classified as system components of a Class II medical device. Cardiac Science is obligated to provide a complete working system comprised only of components fully tested and verified by Cardiac Science in accordance with strict testing procedures. Certain commercially available IT components, such as PDAs, printers, and auxiliary monitors, can be purchased directly by the customer provided they are the same make and model as specified by Cardiac Science.

QUINTON® Q-Tel® RMS Networking Definitions

The Q-Tel RMS Rehab Management System includes telemetry monitoring stations, administrative workstations, wireless PDA devices, and printers connected to each other.

All of these components work together in a private workgroup and are connected to the hospital network.

This guide includes a configuration diagram and frequently asked questions to help explain common networking terms as they apply to the Q-Tel RMS system.



Network A group of two or more computer systems linked together. There are many types of computer networks, including:

- **Local-area networks (LANs)** The computers are geographically close together (that is, in the same building).
 1. **Workgroup** A workgroup is a network of local devices connected together for shared access to files, printers, and other information within the computers in the workgroup. It is separate from a Domain or Internet. Access is restricted to only those devices configured for the workgroup.
 2. **Domain** A domain is a network made up of a group of computers and devices on a network that are administered as a unit, with common rules and procedures. Within the Internet, domains are defined by the IP address. All devices sharing a common part of the IP address are said to be in the same domain.
- **Wide-area networks (WANs)** The computers are farther apart and are connected by high-speed telephone lines (T-1 lines), the Internet, or radio waves.

Q-Tel Network The Q-Tel RMS Network is a private workgroup network consisting of a Master Tower and at least one other Q-Tel RMS device. Other Q-Tel RMS devices include Slave Towers, Turnkey Workstations, Wireless Access Points (to connect Pocket Assistants), and printers.

Remote File Server In networks, remote refers to files, devices, and other resources that are not connected directly to your workstation. Resources at your workstation (e.g., a printer) are considered local. A remote file server is a device that has large hard drive capacity and serves as a central file-storage location for many other computers and devices on the network. In many cases, this is where a "network file directory" or "network file location" physically resides.

Server The Q-Tel RMS network does *not* use a server. This definition is provided here for clarification and completeness only. In networks, a server is a computer that is used to run a program that provides services to other computers and programs (and their users) on the network. The other computers accessing the server are referred to as "client" computers. A server is often kept in a special room in a rack of equipment and is not typically accessible by users. It often does not have a dedicated keyboard and mouse but is accessed by IT personnel via a special console for the purpose of set-up and maintenance.

Hospital Domain The hospital domain is the primary network used within the hospital or facility to connect all their computers and systems. The hospital domain typically allows access to email,

Cardiac Science Corporation • 3303 Monte Villa Parkway, Bothell, WA 98021 USA • 425.402.2000 • US toll-free 800.426.0337 • Fax: 425.402.2001 • info@cardiacscience.com

Orders and Customer Care (US and International) • 425.402.2000 • US toll-free 800.426.0337 • Fax: 425.402.2001 • care@cardiacscience.com

Technical Support • (US) Fax: 425.402.2022 • technicalsupport@cardiacscience.com • http://websupport.cardiacscience.com/webchat/ • (International) internationalservice@cardiacscience.com

Cardiac Science International A/S • Kirke Vaerloesevej 14, DK-3500 Vaerloese, Denmark • +45.4438.0500 • Fax: +45.4438.0501 • international@cardiacscience.com

United Kingdom • The Manse, 39 Northenden Road, Sale, Manchester, M33 2DH, United Kingdom • +44.161.926.0000 • uk@cardiacscience.com

France • Parc de la Duranne, 565, Rue René Descartes, F-13857 Aix-en-Provence Cedex 3, France • +33.4.88.19.92.92 • france@cardiacscience.com

Central Europe (D, A, CH) • Oskar-Schindler-Strasse 3, D-50769 Köln, Germany • +49.2132.93.5750 • centraleurope@cardiacscience.com

China • 6/F South Building, 829, Yi Shan Road, Shanghai 200233, China • +86.21.6495.9121 • china@cardiacscience.com

CE Cardiac Science, the Shielded Heart logo, Powerheart, Rescue Ready, RescueCoach, STAR, Intellisense, MDLink, and Rescuelink are trademarks of Cardiac Science Corporation. Copyright © 2008 Cardiac Science Corporation. All Rights Reserved. 70-00164-02 rB 0 0 8 6 Authorized EU representative • MDSS GmbH, Schiffgraben 41, D-30175 Hannover, Germany





the Internet, network file servers (for file sharing), shared printers, and enables communication between computers and systems. The Q-Tel RMS system is not designed to work on the hospital domain as the primary network connection between Q-Tel RMS computers and devices. Only two types of devices in a Q-Tel RMS network can connect to the hospital domain: the Master Tower, which connects to the domain via the secondary NIC card using a static IP address, and a Software Only Workstation, which is a customer-supplied computer running Q-Tel RMS software that is already part of the hospital domain and is connected to the domain using a Dynamic IP address assigned by the hospital domain's DNS server.

Static IP Address Every computer connected to the network is assigned a unique number known as an Internet Protocol (IP) address. A static IP address is an IP addresses whose value does not change. Q-Tel RMS Master Towers *must* use a Static IP address to connect to the hospital domain, or LAN.

Dynamic IP Address A Dynamic IP Address is an IP address that is automatically assigned by another computer on the network, known as a DNS server. The DNS server allocates and assigns IP addresses to various devices and computers on the network on a temporary basis. Devices that use a Dynamic IP address will have different numeric IP addresses assigned to them from time to time.

Coaxial cable connection A type of wire that consists of a center wire surrounded by insulation and then a grounded shield of braided wire. The shield minimizes electrical and radio frequency interference. Coaxial cabling is the primary type of cabling used by the cable television industry and is also widely used for computer networks, such as Ethernet.

Ethernet Cable Ethernet cables are special cables using pairs of wires twisted together enclosed in a protective sheath. These cables are used to connect network devices together and have ratings of "Cat-5" or "Cat-6" which denote the data transmission speed ratings for the cable and connectors.

Access Point A hardware device or a computer's software that acts as

a communication hub for users of a wireless device to connect to a wired Local Area Network. Access Points are important for providing heightened wireless security and for extending the physical range of service a wireless user has access to.

NIC Card Network Interface Card, often abbreviated as NIC. An expansion board you insert into a computer so the computer can be connected to a network. Most NICs are designed for a particular type of network, protocol, and media, although some can serve multiple networks. The Q-Tel RMS Master Tower has two NIC cards: one for connecting the Master Tower to the Q-Tel RMS private workgroup network, the other for connecting the Master Tower to the hospital domain network, or LAN.

Master Tower A custom designed and built computer provided by Cardiac Science. Every Q-Tel RMS network must have one, and only one, Master Tower. The Master Tower contains the Q-Tel RMS patient database and all ECG files. Although the Master Tower acts as a sort of central hub for the Q-Tel RMS network, it is not a server; it is simply one of several computers connected to the Q-Tel network. A Master Tower has one or two proprietary telemetry receiver board(s) installed inside. A patient can be admitted to an exercise session only on either a Master or Slave Tower machine. Master and Slave Towers have full functionality for all Q-Tel RMS functions.

Slave Tower A custom designed and built computer provided by Cardiac Science. A Q-Tel RMS network can have one or two Slave Towers in addition to a Master Tower. A Slave Tower has one or two proprietary telemetry receiver board(s) installed inside. A patient can be admitted to an exercise session only on either a Master or Slave Tower machine. Master and Slave Towers have full functionality for all Q-Tel RMS functions.

PDA Often referred to as a PDA, or "Personal Digital Assistant", the Q-Tel RMS "Pocket Assistant" is a handheld device used for wireless remote access to and control of several functions of the Q-Tel RMS system. Specifically, it operates as a sort of "remote control" for session management, allowing users to be out on the floor with patients while they advance patients through phases of their exercise prescription.

Software Only Workstation A Software Only Workstation is a

customer-supplied computer running Q-Tel RMS workstation software. It is intended for use as an administrative and session management workstation. As the name implies, only the application software will be supplied by Cardiac Science. A Software Only Workstation user cannot take session control but can view session parameters, view ECG waveforms for all patients admitted to an exercise session, and perform Patient Information data input and all charting and reporting functions.

Turnkey Workstation A Turnkey Workstation is a custom designed and built PC provided by Cardiac Science running Q-Tel RMS workstation software. It is intended for use as an administrative and session management workstation. All components (e.g., PC, software, and peripherals) needed to use the equipment is provided by Cardiac Science. With a Turnkey Workstation, a user can take session control,

manipulate session parameters, view ECG waveforms for all patients admitted to an exercise session, and perform Patient Information data input and all charting and reporting functions.

WMTS Wireless Medical Telemetry Service refers to a dedicated band of frequencies (roughly 608 -613MHz) specifically set aside by the FCC for use by wireless medical telemetry devices. In this frequency range, medical devices have priority over commercial, non-medical devices when it comes to interference. These frequencies were set aside by the FCC to promote interference-free operation of medical telemetry systems.

Typical Q-Tel Network The diagram on the below shows the various components in a Q-Tel RMS network and how they are connected.

Q-Tel Network Configuration

