RTR-4

RTR-4 Portable Digital X-Ray Imaging System
Operator's Manual Supplement
Wireless Option

Document 306847
Revision A

An Employee-Owned Company

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FCC Compliance Statement

FEDERAL COMMUNICATIONS COMMISSION RADIO AND TELEVISION INTERFERENCE STATEMENT FOR A CLASS 'B' DEVICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and then on, the user is encouraged to try to correct the interference by one of more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver
- Connect the equipment into a different outlet so that the equipment and receiver are on different branch circuits.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15, of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Changes or modifications not expressly approved by Science Applications International Corporation could void the user's authority to operate the equipment.

FCC RF Exposure Statement

This device complies with FCC radiation exposure limits as set forth for an uncontrolled environment.

This device should be installed and operated with a minimum separation distance of 20 cm between the radiator and your body.

Revision History

Version	Release Date	Notes
--	2001 Sept. 21	Original release
A	2002 July 12	FCC statements

1 Introduction

About This Manual

The RTR-4 Wireless Operator's Manual is comprised of the following chapters:

- Chapter 1 - Introduction
- Chapter 2 - Safety Summary
- Chapter 3 - Wireless Option Description
- Chapter 4 - Wireless Option Setup
- Chapter 5 - Wireless Option Operation
- Chapter 6 - Wireless Option Maintenance & Troubleshooting

Purpose and Scope

This manual describes and provides instructions for the setup, operation and troubleshooting of RTR-4 Wireless Option in conjunction only with the RTR-4 Portable Digital X-Ray Imaging System and the Golden Engineering XR200 X-Ray Source. It is to be used only by technicians and operators authorized to operate the RTR-4 Portable Digital X-Ray Imaging System.

The RTR-4 Wireless Option is **not** supplied as standard equipment with the RTR-4 Portable Digital X-Ray Imaging System and must be ordered separately.

RTR-4 Technical Support

On-call RTR-4 technical support at SAIC is available from 7:30 AM to 4:00 PM, (0730-1600) Monday through Friday, Pacific Time. Support can be reached by the following means:

- Call (800) 962-1632 (North America only).
- Call (858) 826-9831 (outside of North America)

RTR-4 technical support questions can also be submitted at any time by the following means:

- Fax: (858) 826-9009
- E-mail: SecurityProducts@saic.com

Document Revisions

This manual supplements the RTR-4 Operator's Manual (SAIC Document 120300, Rev C.) When changes to this or the main operator's manual are required, new manuals incorporating the changes are released as appropriate.

Acronyms and Abbreviations

The table below lists and defines some of the acroynms and abbreviations used in this manual.

Table 1-1: Acronyms and Abbreviations

Term	Definition
CU-4	Control Unit 4 (the original controller.)
ESD	Electrostatic discharge
GHz	Gigahertz
HF	High Frequency
LED	Light Emitting Diode
MB	Megabyte
NCU	Notebook Control Unit
NIC	Network Interface Card
PCMCIA	Personal Computer Memory Card International Association
SAIC™	Science Applications International Corporation
RF	Radio Frequency

2 Safety Summary

Introduction

Observe the following safety precautions when installing, assembling/disassembling, transporting, storing, operating, testing or servicing the RTR-4 Wireless Option.

Warnings and Instructions

Follow all warnings and instructions marked on the equipment and included in this manual supplement, the RTR-4 Operator's Manual (SAIC Doc. 120300 and the Golden Engineering XR200 Operator's Manual.

Symbols

The following symbols precede the procedural steps to which they apply.

The **Warning** symbol above precedes a procedure, or process which, if not followed, could lead to personnel injury.

Other warning symbols that may be used as appropriate are shown above, left to right--**Crushing Hazard**, **Flammable, Electrical** or **High Voltage** hazard, **Laser Beam** hazard, and **Radiation** hazard.

The **Caution** symbol above precedes a procedure or process, which if not followed could lead to equipment damage.

Warnings and cautions must be read and followed by all personnel. Failure to follow them may result in injury or death to personnel or damage to equipment or facilities.

The **Note** symbol above indicates where additional or clarifying information, commentary, sidelights or points of interest have been added to a procedure.

General Safety Procedures

Dangerous Voltages and Currents

Because dangerous voltages and current may be present even after power is disconnected, always allow sufficient time for components to discharge before touching.

Never insert objects of any kind through openings in the equipment. Conductive foreign objects could produce a short circuit that could cause death, fire, electrical shock, or damage to the equipment.

Before performing maintenance, remove rings, watches, and other metallic objects that may cause electrical shock or burn hazards.

Do Not Service or Adjust Alone

Do not attempt internal service or adjustment of equipment unless authorized and/or qualified and in the presence of another person who is capable of rendering first aid, including cardiopulmonary resuscitation (CPR).

3 Wireless Option Description

Introduction

The RTR-4 Wireless Option is a convenient and cost-effective alternative to the customary RTR-4 cable array that connects the controller, the X-Ray Imager and the XR200 X-Ray Source. This simplifies system setup and use by eliminating the signal cables, especially in operating environments where space is at a premium, accessibility is constrained, or greater controller-target distances are desired.

RTR-4 Wireless Option Description

The core components of the RTR-4 system, the controllers, the imagers, and the x-ray sources, are described in the RTR-4 Operator's Manual and in the respective x-ray source manuals from Golden Engineering.

A typical RTR-4 Wireless Option consists of the following hardware items identified in Figure 3-1 in accordance with the numbered list below.

1. Carrying case with removable foam lining.
2. Optional medium-range antenna unit.
3. X-ray Receiver unit and Receiver-to-Source cable
4. Power/Transceiver unit
5. Adapter cable for optional medium-range antenna unit
6. Tall screw-on transceiver antenna
7. Short screw-on transmitter antenna
8. Two Power/Transceiver-to-Imager cables
9. Orinoco WiFi NIC PCMCIA card

Power /Transceiver

The Power/Transceiver is shown in Figure 3-2.