

Publications and Training Solutions

Course Syllabus: 523-0808184

COURSE TITLE: UG III (RT-2200 with LongArm)
Level I Operation and Organizational Maintenance

PREREQUISITES: Students should have completed a two (2) year Technical Electronics School or equivalent and be familiar with HF Communications fundamentals. Students will be able to speak, read, and write effectively in English.

PURPOSE: This course includes theoretical lessons and practical exercises designed to train personnel to troubleshoot/fault isolate the UG III HF Communication System to the Line Replaceable Unit (LRU) level. The Course will include 30 to 50 percent practical demonstration and hands-on training.

The UG III system consists of the line replaceable units (LRUs) identified in the section titled EQUIPMENT TYPE by nomenclature and part number, including associated peripheral equipment identified as deliverable hardware.

OBJECTIVES: Upon completing this course, the student will be able to:

1. List the modules (LRUs) that comprise the URG-III HF communication System. Describe the Equipment Functions, Operational Characteristics and Interfaces of each module.
2. Using the CCS-2200 (Software) Operate the RT-2200 to Make Simple Calls and perform Diagnostics (Built-In Tests). *
3. Describe all equipment Fault Monitoring Indications, Controls and Meter Readings.
4. Describe all BIT Sequences and the associated Normal/Abnormal Indications and/or Readings.
5. Perform Fault Isolation/Troubleshooting to the Line Replaceable Unit (LRU) level.
6. Observe all personnel and equipment related Warnings and Cautions described in the Technical Manual.

* Note: This Course is designed for Radio Operators/Maintenance Technicians.

It is **not** designed for *System Administrators* or *Net Controllers*, as defined in the CCS-2200 (LongArm® Remote Control Solution) Documentation.

The CCS-2200 Software is used for demonstration purposes only, as representative of remote control software, and may or may not be the actual software used by the customer.

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COURSE LENGTH: 3 Days

TRAINING DEVICES:

1. Equipment (Line Replaceable Unit(s):
 - a. RT-2200 Receiver-Exciter
 - b. PA-2224 Power Amplifier
 - c. Audio Panel
2. Special Test Equipment:
 - a. IBM Computer with CCS-2200 Basic Control Software
 - b. RT-2200 Radio Application Software

TRAINING MATERIALS:

1. PowerPoint Presentation with LCD/Box Light projector
2. Student Guide – Flash drive (pdf) – Training Presentation
Information Sheets
3. Technical Manuals
4. Instructor Guides
5. Student Exams
6. Student/Course Evaluations

REFERENCES:

1. RT-2200 Radio Receiver-Transmitter (Intermediate Maintenance) IB 523-0777920
2. 1kW Amplifier System Maintenance Manual P/N: 270-2695-260
3. Guide to Controlling the RT-2200 R/T P/N: 30015009-001 Rev C

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COURSE OUTLINE

0. Welcome & Introductions

- A. Course Overview
 - i. Welcome
 - ii. Student Registration

1. HF Communications Overview

- A. Fundamentals of HF Propagation
- B. Factors Effecting HF Propagation

2. General Systems Description

- A. Purpose of the System
- B. Equipment Supplied
- C. Features of Equipment Subsystems
- D. Radio Set URG III General Description

3. RT-2200 Receiver-Transmitter System Interface Description

- A. Power
- B. Control
- C. RF Interface
- D. Audio In/Out
- E. Other Inputs/Outputs
- F. HF Cabinet Interface

4. System Operation (Using CCS-2200 Software)

- A. RT-2200 Controls and Indicators
- B. Local and Remote Control
- C. Performing Diagnostics (Built-In Tests)

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5. URG III Equipment Controls and Indicators

- A. RT-2200
- B. Power Supply Module (PS-2224)
- C. System Controller Module (SC-2224)
- D. PA Modules (PA-2220A)
- E. Combiner Module (CM-2224)
- F. Audio Control Panel

6. RT-2200 Radio Application

- A. RT-2200 Datafill Page
- B. RT-2200 Detail Page
- C. Performing Diagnostics

7. Troubleshooting and System Maintenance

- A. System Interlocks
- B. System Controller Fault Indications
- C. Power Amplifier (PA-2220A) Fault Indications
- D. Preventive Maintenance
- E. Safety Review
- F. Other Troubleshooting References
- G. Performing Diagnostics

8. Summary – Review - Critique

- A. Test
- B. Critiques

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EQUIPMENT TYPE:

EQUIPMENT	NOMENCLATURE	PART NUMBER
Receiver-Exciter	RT-2200	822-0906-003
1kW Power Amp System:	PA-2224	270-2695-010
PA-2220A Power Amplifier	PA-2220A	270-2695-020
Power Supply	PS-2220A	270-2695-030
Cabinet (Top Level, Pre-Wired)	Cabinet (Top Level, Pre-Wired)	270-2090-001
Audio Panel	Audio Panel	270-27722-030
Basic Control for RT-2200	CCS-2200	752-9803-002