



Publications and Training Solutions Course Syllabus: 523-0806696

COURSE TITLE: ARC-220(V)3/VRC-100(V)4
Level I Operation and Organizational Maintenance

EQUIPMENT TYPE:

EQUIPMENT	NOMENCLATURE	PART NUMBER
HF Radio Set	VRC-100(V)4	822-0793-002
VRC-100 Case Assembly contains the following SRU's:		
Radio Set Control (RSC)	C-12436/URC	822-0786-001
HF Receiver-Transmitter	RT-1749A/URC (AN/ARC-220)	822-0788-002/003
RF Power Amplifier/Coupler	AM-7531/URC	822-0787-001

PREREQUISITES: Students should have a basic knowledge of aircraft avionics systems and HF Communications.

PURPOSE: This course provides personnel with the training necessary to perform operation and organizational maintenance on the VRC-100 system. .

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

1. Operate the VRC-100 HF Communication System in each of its modes and functions, including Normal and Emergency, as outlined in the Technical Manual.
2. Describe the purpose of the Controls, Indicators, and Connectors associated with the AN/VRC-100.
3. Briefly describe normal and fault indications associated with Built-In-Test (BIT) capabilities.
4. Observe all personnel and equipment related Warnings and Cautions described in the Technical Manual.

COURSE LENGTH: 3 Days

TRAINING DEVICES:

- Handset H-250/U (or equivalent)
- VRC-100

TRAINING MATERIALS:

1. PowerPoint Presentation with LCD projector
2. Information sheets
3. Course Notebook



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REFERENCES:

1. AN/ARC-220 (V)3/4 High Frequency Communication System IB 5230780607

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ARC-220/VRC-100 COURSE OUTLINE

I. Welcome

- A. Training Overview
 - 1. Welcome
 - 2. Student Registration
 - 3. Student Policies and Procedures

II. VRC-100 General Description

- A. Purpose
- B. Capabilities and Characteristics
- C. Units Comprising the AN/VRC-100
 - 1. VRC-100 Case Assembly
 - 2. C-12436/URC Radio Set Control (RSC)
 - 3. RT-1749/URC Receiver-Transmitter
 - 4. AM-7531/URC Power Amplifier/Coupler

III. Principles of Operation

- A. Power Distribution
- B. HF Communication
- C. Datafill/Keyfill Operation
- D. Automatic Link Establishment (ALE) Operation
- E. Electronic Counter Countermeasure (ECCM) Operation
- F. Built-In Test (BIT)
 - 1. Power-up BIT (P-BIT)
 - 2. Continuous BIT (C-BIT)
 - 3. Initiated BIT (I-BIT)

IV. Controls, Indicators, and Connectors

- A. C-12436/URC Controls, Indicators, and Connectors
- B. RT-1749/URC Connectors
- C. AM-7531/URC Controls, Indicators, and Connectors

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VI. System Operation (LAB)

- A. Operation under Usual Conditions
 - 1. Initial adjustments, checks, and self-test
 - 2. Fill Options
- B. Manual Mode
 - 1. Configuration Editing
 - 2. Transmit Position Report
 - 3. Manual Radio Operation
- C. ALE Operation
 - 1. Normal ALE Communication
 - 2. Position Reporting
 - 3. ALE Link Hold Operation
 - 4. Editing ALE configuration
- D. ECCM Mode Operation
 - 1. Mode Not Available
- E. Data Messages
 - 1. Recalling Received Data Messages
 - 2. Programming/Editing Data Messages
- F. Shutdown Procedures
- G. Operation under Unusual Conditions
 - 1. Jamming and ECCM Procedures
 - 2. Emergency Procedures
 - a. Emergency Communication
 - b. Emergency Shutdown Procedures

VII. Troubleshooting (LAB)

VIII. External Interface

- A. 100 to 100 cable
- B. PLGR or DAGR
- C. Computer (Datafill)
- D. KY-100 or other security devices

IX. Antenna Set-up

X. Critique/Graduation