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Training Authority - Engineering
Surface Engineering Systems Centre - FFG DIVISION



FFG
COMBAT
SYSTEM
LEARNER'S GUIDE

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RAN FFG Combat System Learner's Guide

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Editorial Note:

This document has been prepared as a guide to students on the FFG Combat Systems Courses, and consists of mainly unclassified material. Because some information has been gathered from official sources and the effect of gathering all the unclassified material into one location, the document has been given a Dissemination Limiting Marker (DLM) of For Official Use Only (FOUO). It is not a controlled document, no record of recipients is kept, and updates or amendments will not be issued to previous recipients of the document. When no longer required, this document should be disposed of in any manner that prevents its reconstruction.

Although every effort is made to ensure the accuracy, currency and relevance of information contained in the notes, users should refer to the appropriate technical or operational publications for authoritative information on any system fitted to the RAN FFG.

Constructive feedback of this publication is welcomed. Please direct your comments to:

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FFG Combat System Learners Guide Structure

This Learners Guide has been developed to assist students on the FFG Combat Systems Course (200796), and the FFG Combat Systems Engineering Course (200797).

The Guide is organised by hardware capability in an order corresponding to the functions of the 'Fourteen Step Engagement Sequence' detailed in Section 1 Chapter 2. The relationship between hardware elements and the Engagement Sequence can be observed clearly in the Combat System Context Diagram in Section 1 Chapter 3. This structure is intended to provide context for the FFG Combat System so that rather than simply learning the characteristics of individual systems and equipment, the trainee can intuitively relate functions and characteristics back to higher level capabilities of the FFG.

The Sections are titled as follows:

Section 1: Overview

Section 2: Sensors

Section 3: Command and Decision Systems

Section 4: Fire Control Systems

Section 5: Effectors

Section 6: Support & Training Systems

Annex A: Glossary

Annex B: Primary References – Structural Breakdowns

Annex C: USN Compartment Numbering

Annex D: 'AN' Equipment Indicator System

Annex E: US Military Missile Designation System

Each Section has it's own table of contents. Within each section, Chapter and page numbering restarts at 1. A complete chapter listing is over the page to assist students in finding the correct section to refer to when looking for information on a specific system/equipment.

CHAPTER LISTING

Section 1: Overview

- Chapter 1: FFG Statement Of Operating Intent
- Chapter 2: Combat System Purpose & Functions
- Chapter 3: FFG Combat System Equipment Overview
- Chapter 4: Combat System Manning

Section 2: Sensors

- Chapter 1: Introduction
- Chapter 2: Practical Radar Theory
- Chapter 3: AN/SPS-49A(V)1 Long Range Air Search Radar
- Chapter 4: AN/SPS-55 Surface Search and Navigation Radar
- Chapter 5: Mk92 CAS Surface/Limited Range Air Search Radar
- Chapter 6: Radar Distribution System
- Chapter 7: AIMS Mk XII Interrogate Friend or Foe (IFF)
- Chapter 8: Electronic Support
- Chapter 9: Electro-Optical System
- Chapter 10: Under Water (Sonar) Sensors

Section 3: Command and Decision Systems

- Chapter 1: Introduction
- Chapter 2: Radar Integrated Automatic Detection and Tracking System (RIADT)
- Chapter 3: Advanced Display System (ADS)
- Chapter 4: Tactical Data Links
- Chapter 5: Beacon Video Processor

Section 4: Fire Control Systems

- Chapter 1: Mk92 Mod 12 Fire Control System
- Chapter 2: Weapon Control Program (WCP) and Associated Elements
- Chapter 3: Standard Missile Adjunct Processor (SMAP)
- Chapter 4: Harpoon Ship Command Launch Control System (HSCLCS)
- Chapter 5: Ship-borne Torpedo System

Section 5: Effectors

- Chapter 1: Mk 75 Mod 0 76mm Gun
- Chapter 2: Mk13 Guided Missile Launching System (GMLS)
- Chapter 3: Standard Missile 2 Block IIIA
- Chapter 4: Harpoon Missile Mk41
- Chapter 5: Vertical Launching System (VLS)

Chapter 6: Evolved Sea Sparrow Missile
Chapter 7: Close In Weapons System (CIWS)
Chapter 8: Active Missile Decoy (AMD) System (NULKA)
Chapter 9: Surface Vessel Torpedo Tubes and Torpedoes
Chapter 10: Soft Kill Weapon System (SKWS)
Chapter 11: NIXIE Acoustic Decoy

Section 6: Support & Training Systems

Chapter 1: Introduction
Chapter 2: Navigation Systems
Chapter 3: External Communications Systems
Chapter 4: Internal Communications Systems
Chapter 5: Combat System Switchboard (CSSB)
Chapter 6: On Board Training System (OBTS)
Chapter 7: Platform Systems
Chapter 8: Organic Craft
Chapter 9: Combat System Alignment

Annex A

Glossary

Annex B

Primary References Structures (ABR 6509 and ABR 6511)

Annex C

USN Compartment Numbering

Annex D

AN System Equipment Identification

Annex E

US Military Missile Designation System