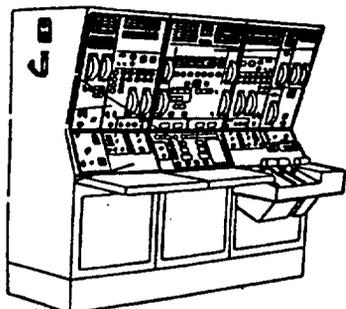


SUMMARY OF
DD-963 ENGINEERING CONTROL AND SURVEILLANCE SYSTEM (ECSS)
OPERATOR TRAINER

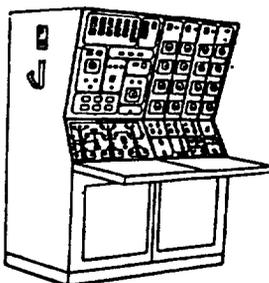
August 1988

NAVAL TRAINING SYSTEMS CENTER

Device 20H5A
ORLANDO, FLORIDA

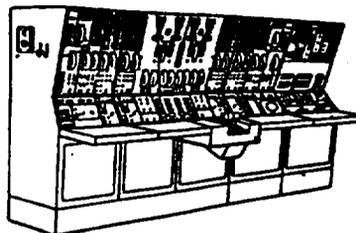


Propulsion Local Control Console (PLCC)



Electric Plant Control Console (EPCC)

Propulsion Auxiliary Control Console (PACC)



Program Operator Console (POC)

TRAINING CATEGORY:

PROPULSION OPERATION CONTROL

ORIGINATING AGENCY:

NAVSEASYSKOM

SECURITY CLASSIFICATION OF DEVICE:

Device 20H5A is unclassified.

PURPOSE OF DEVICE:

To provide normal and casualty conditions training for line officers and "watch standing" personnel of the engineering spaces in the DD-963 SPRUANCE Class Destroyer.

INTENDED USE:

Device 20H5A is a self-contained training system installed within a trailer which will be transported to and from Fleet Training Center Propulsion Engineering Schools, and DD-963 Ports for pier-side training. Home base is FTC San Diego, CA.

FUNCTIONAL DESCRIPTION:

Device 20H5A is used to qualify operator personnel on the Engineering Control System Station Consoles, Displays and Alarms; to develop and exercise procedural skills and knowledge of operator personnel; to develop and exercise casualty analysis skills of personnel; and to develop and exercise coordination skills and procedures of operator personnel.

The major components of Device 20H5A are:

- a. Simulated operational equipment consoles which consist of one Propulsion and Auxiliary Control Console (PACC), one Propulsion Local Control Console (PLCC), and one Electric Plant Control Console (EPCC).
- b. Digital computation systems with appropriate interface.
- c. Program Operator Console (POC) provided for the Instructor/Operator. Consists of vertical or inclined panels containing controls, displays, instruments, lights, and other equipment necessary to set-up, control, and monitor the training mission.

d. Audio communication system has a minimum of two channels that is capable of multiparty (conference type) communications.

The trainer will simulate, in real time, applicable normal and emergency ship operation with respect to both transient and steady-state engine performance, ship systems operations, and environmental effects. Such simulation will be reflected by trainer instrument and signal indications and control reactions responding to trainee and instructor control inputs.

The training environment is controlled and trainee responses are evaluated from the POC in view of all trainee stations. Control functions normally located at the ship's bridge are located at the instructor station. The capabilities of the instructor/operator include engine control transfer, initial problem selection through choice of operating parameters (initial conditions), and insertion of casualties. Trainer operation can be frozen, reset to the beginning of the exercise, or turned to a chosen point in time (snapshot).

Training problems can begin at any of ten initial conditions elected by the instructor. Machinery casualties can be inserted at will to train for proper procedures. The reset feature allows repetition of problems with minimal training delay. The freeze control permits immediate problem stop to discuss important training situations.

PHYSICAL INFORMATION:

Device 20H5A consists of 11 major systems:

Trailer System 48'L x 13.5'H x 8.5'W
Power Distribution System
Computer System
Data Logger
Three Trainee Stations
(PACC, PLCC, EPCC)
Instructor Station (POC)
Intercommunication System
Sound Generation System

Trailer Weight (Loaded): 34,965 lbs.

EQUIPMENT REQUIRED:

None.

POWER REQUIREMENTS:

The following power requirements are needed to operate Device 20H5A:

Device 20H5A has dual power capability. Shore-208Y/120VAC, 60Hz, 3 phase, 4 wire, 45KVA, or Pier-480Delta/277VAC 60Hz, 3 phase, 3 wire, 45KVA

PUBLICATIONS FURNISHED:

NTSC P-5632, Operation and Maintenance Instructions with Parts Catalog; P-5634, Commercial Documentation Set; P-5635, Instructor's Utilization Handbook; P-5636, OJT Handbook. All technical manuals are unclassified.

PERSONNEL:

INSTRUCTOR: One roving instructor
OPERATOR: One POC operator

OPERATOR:

Qualified Instructor/Operator

TRAINEES:

3 Hands-on and 3 over-the-shoulder

MAINTENANCE:

Contractor Operation and Maintenance of Simulators (COMS) (5 min Daily Operational Readiness Test (DORT) and 30 min/day Preventive Maintenance).

CONTRACT IDENTIFICATION:

Device 20H5A is manufactured by DynaLantic Corp., Deer Park, NY under NAVTRASYSCEN Contract No. N61339-86-C-0131.

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