

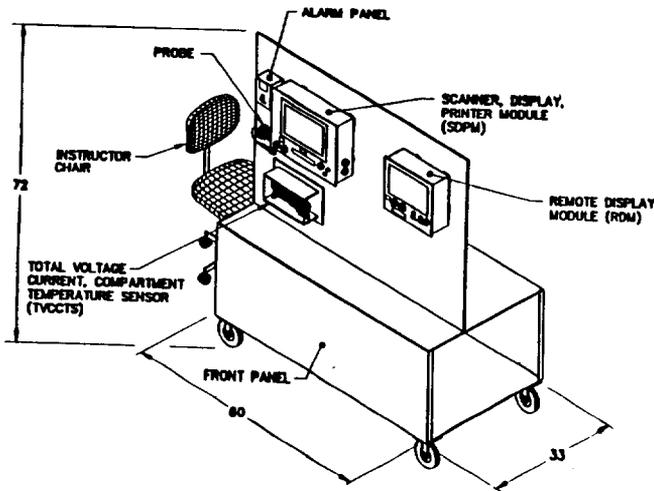
**SUMMARY OF
AUTOMATIC BATTERY MONITORING SYSTEM TRAINER**

JANUARY 1994

DEVICE 21H18

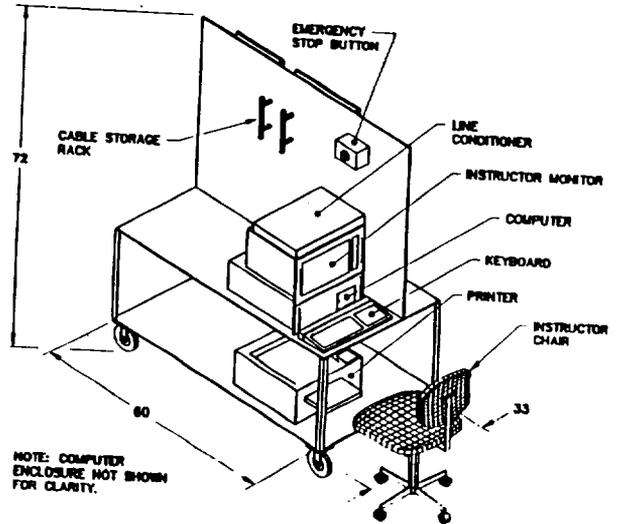
**NAVAL AIR WARFARE CENTER
TRAINING SYSTEMS DIVISION**

ORLANDO, FLORIDA



FRONT VIEW

SHIPBOARD EQUIPMENT



BACK VIEW

INSTRUCTOR OPERATING STATION

DEVICE 21H18 LAYOUT

TRAINING CATEGORY:
SUBSURFACE

ORIGINATING AGENCY:
NAVSEA

SECURITY CLASSIFICATION OF DEVICE:

Device 21H18 is Unclassified.

PURPOSE OF DEVICE:

Provide familiarization and develop proficiency in the operation and maintenance of the SSN-21 SEAWOLF Class and other submarine class ABMS systems.

INTENDED USE:

The ABMS Trainer will support a laboratory-based course of instruction which will provide Electrician's Mates (EM) with the knowledge and skills necessary to operate and maintain the actual shipboard ABMS equipment, recognize and interpret front-panel displays and to perform preventive and corrective maintenance. The trainer also allows demonstration of all normal and abnormal submarine main storage battery operating conditions.

FUNCTIONAL DESCRIPTION:

The Device 21H18 ABMS Trainer is a completely portable, self-contained, roll-around unit. The ABMS Trainer consists of one (1) Instructor Station and one (1) Trainee Workstation.

The Instructor Station consists of a Simulation Computer that simulates all battery transponder probes and allows the instructor to select various training scenarios and battery operating conditions. Training scenario replay and simulation freeze emphasize a particular situation during training. In addition, the instructor can change battery cell parameters, introduce battery and ABMS faults, initiate alarms and edit training scenario software.

The Trainee Workstation includes a functional Scanner Display/Printer Module (SDPM) and Remote Display Module (RDM). Display screens on both units are fully operational and display simulated transponder probe parameters for each of 126 battery cells, including a variety of out-of-tolerance readings and alarms. A static Total Voltage/Current/Compartment Temperature Sensor (TVCCTS) and Cell Transponder Probe are provided as instructional aids.

PHYSICAL INFORMATION:

Trainer Type: Roll-Around Cart.

Trainer Dimensions: 60 inches long x
33 inches wide x 72 inches high.

EQUIPMENT REQUIRED (Not Supplied):
None.

POWER REQUIREMENTS:

120 VAC, 1 ϕ , 60 Hz

Maximum Peak Power = 0.6 KVA

Maximum Starting Power = 1.0 KVA and 8
Amps/Phase

INSTALLATION REQUIREMENTS:

Floor Loading: 20 Lbs/Sq Ft

Heat Load: 2,000 BTU/Hour

Minimum Floor Space (Operational use):

10 feet long x 10 feet wide.

Minimum Floor Space (Storage):

7 feet long x 3 feet wide.

Environmental Limits:

Operating: 0 to 50°C (32 to 122°F),
95% Relative Humidity.

Storage: 0 to 60°C (32 to 140°F),
95% Relative Humidity.

Vibration (excluding ABMS equipment):

Operating: .25 G, 5-100 Hz

Storage: 5 G, 5-100 Hz
Shock (excluding ABMS equipment):
Operating: 10 G
Storage: 40 G

PUBLICATIONS FURNISHED:

Operation and Maintenance Manual,

ABMS Device 21H18,
NAWCTSD P-7117, (U)

Planned Maintenance System

Documentation, ABMS Device 21H18,
NAWCTSD P-7118, (U)

Commercial-Off-The-Shelf Documentation,
ABMS Device 21H18,
NAWCTSD P-7119, (U)

Training System Utilization Handbook,
ABMS Device 21H18,
NAWCTSD P-7120, (U)

Trainer Test Procedures and Results Report,
ABMS Device 21H18,
NAWCTSD P-7121, (U)

PERSONNEL:

Instructor - One EM Instructor qualified on
ABMS equipment and as
required by NAVSUBSCOL.

Trainees - Four to ten EM, Job Code 33XX.
Maintenance Personnel - One COMS civilian
technician.

CONTRACT IDENTIFICATION:

Manufactured by Systems Engineering
Associates Company, Moorestown, New Jersey,
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