

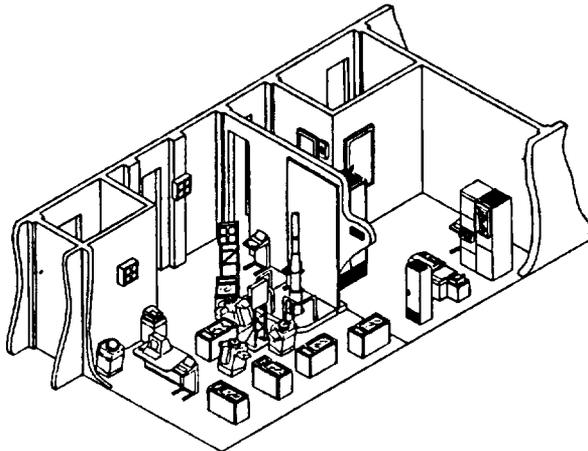
# SUMMARY OF TRIDENT SUBMARINE PLOTTING NAVIGATIONAL TRNR

October 1990

Device 15F12C

NAVAL AIR WARFARE CENTER TRAINING SYSTEMS DIVISION

ORLANDO, FLORIDA



## TRAINING CATEGORY:

RADAR (CIC/AEW/NAVIGATION)

## ORIGINATING AGENCY:

NAVSEA

## SECURITY CLASSIFICATION OF DEVICE:

Device 15F12C is unclassified

## PURPOSE OF DEVICE:

To provide dynamic real-time practical team training in at-sea electronic navigation and in restricted waters piloting procedures and techniques; to provide practical team training in fire control plotting techniques and procedures; and to provide progressive training in navigation and piloting techniques and procedures for sonar target plotting techniques. In addition, it provides realistic training in the operation and use of a TRIDENT Type 8L MOD(t) Periscope Set.

## INTENDED USE:

Classroom training for officers and enlisted personnel with varying degrees of proficiency in the operation and use of a TRIDENT 8L MOD(t) Periscope Set, Fire control plotting and navigation.

## FUNCTIONAL DESCRIPTION:

Device 15F12C is made up of a Periscope Station, A Novoview SP-2 Visual System, together called the Periscope Visual Scene Generator (PVSG), and a digital landmass and target simulator. Provisions are provided for the instructor/operator to initiate, control, monitor, and record training exercises.

The Periscope Station simulates the optical and optical control functions of the TRIDENT Type 8L MOD(T) Periscope Set.

The Novoview SP-2 Visual System provides a computer controlled scene upon a monitor screen. This scene is viewed by the instructor and the trainee and made to change in accordance with the focusing, elevation, bearing mark, magnification and relative bearing controls on the Periscope Station or directions from the instructor's console.

The digital landmass and target simulator produces video signals representing radar echoes from surface targets and land features for display on operational azimuth-range indicator units (AN-SPA-25). The trainer also generates ownship motion signals to activate a Mark 19 MOD 12 Plotters and ancillary digital displays and indicators. Tactical environment databases include 5 navigable harbor and coastal areas.

**PHYSICAL INFORMATION:**

**Radar Landmass System (RLMS):**

**Number of Pieces: 28**                      **Sizes: (H" x W" x D")**

**Unit 1, Radar Display Generator 77.5 x 56.13 x 32.5**

**Unit 2, Computer Station                      71 x 48 x 33**

- 2A1, SEL 32/55 Computer (CPU) 71 x 48 x 33
- 2A2, Peripheral Cabinet                      71 x 25 x 33
- 2A3, Moving Head Disc                      34 x 19 x 35
- 2A4, Line Printer                              44.5 x 33 x 26
- 2A5, Card Reader                             16.25 x 23.06 x 18
- 2A6, Teleprinter                              38.5 x 20 x 24

**Unit 3, Instructor Station -**

- 3A1, Instructor Console                      56.5 x 68.19 x 47.5
- 3A2, Teleprinter                              38.5 x 20 x 24
- 3A3, Printer/Plotter                          38 x 28 x 18
- 3A4, Plan Position Indicator(PPI)                      41 x 20 x 35

**Units 4, 5, 6 and 7, Plotting Stations -**

- A1, Display Assembly                          19 x 22 x 7.37
- A2, Digital Dead Reckoning Tracer                      15.68 x 52.25 x 39

**Unit 8, Radar Operator Station 58.5 x 20 x 48**

**Unit 9, Radar Operator Station 37 x 44 x 33**

**Unit 10, Navigation**

**Operator Station                              38.5 x 20 x 24**

**Unit 11, Periscope**

**Operator Station                              12.5 x 18.5 x 22**

**Unit 12, Fathometer Station 5 x 8 x 6.06**

**Unit 13, Remote Station**

- 13A1, Radar Control Unit                      8 x 8.25 x 8
- 13A2, Antenna Control Unit                      8 x 8.25 x 8
- 13A4, Fathometer                              34.75 x 23.5 x 9.25
- 13A5, Plan Position Indicator 30 x 20 x 30

**Periscope Visual Scene Generator (PVSG)**

**Number of Pieces: 8**                      **Sizes: (H" x W" x D")**

- Unit 1    75 X 7.5 diameter**
- Unit 2    60 X 22 diameter**
- Unit 3    15 X 19 X 10**
- Unit 4    25 X 21 X10**
- Unit 5    70 X 80 X 32**
- Terminals:                                      27 X 9 X 22**
- CMS Remote Control Unit                      11 X 2 X 19**

**POWER REQUIREMENTS:**

- RLMS:    120/208 VAC,60Hz,3Phase**  
**4 wire 25KVA**
- PVSG:    115VAC,400HZ,10 at 15 amps,**  
**240 VAC,60Hz, 10 at 100 amps**

**OPERATIONAL EQUIPMENT:**

Digital Dead Reckoning Tracer,  
Mark 6, Mod 4 , Plan Position, Indicator, AN/SPA-25 (M) and OT326/IP-1181

**PUBLICATIONS FURNISHED:**

- Operation and Maintenance Manuals
- P-5440 (U), P-5437 (U), P-5515 (U), P-5733 (U), P-6313 (U)
- Instructor Utilization Handbooks
- P-8313 (U), P-5518 (U), P-5737 (U)
- On the Job Training Manual
- P-5519 (U)
- Commercial Documents
- P-5516 (U), P-5442 (U)
- Preventive Maintenance Support Manuals
- SO-472/002 (U), SO-464/TBD

**PERSONNEL:**

- Instructor: One (1) E7 or 03 Per Shift**
- Operator: Instructor Operated**
- Trainees: Five per Class**

**MAINTENANCE: One OM or ET**

**CONTRACT IDENTIFICATION:**

**Radar Landmass System**  
AAI Corporation, Cockeysville, MD, under Contract N61339-78-C-0005

**Periscope Station**  
Kollmorgen Corporation, Electro-Optical Div, Northampton, MA under Contract N61339-86-C-0025

**Novoview SP-2 Visual System**  
Evans & Sutherland, Salt Lake City, UT under Contract N61339-86-C-0024

**LOCAL STOCK NUMBER: 6940-LL-C00-5116**

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