

SINGER

The Singer Company Board of Directors Meeting



October 7, 1987

Librascope Division

The Singer Company Board of Directors Meeting

October 7, 1987

**Hosted By
Librascope Division
Glendale, California**

The Singer Company

Board of Directors and Executive Staff

Board of Directors:

Randolph W. Bromery
Lt. Gen. Kelly H. Burke
Francis E. Ferguson
Joseph B. Flavin
Arthur H. Fredston
Robert P. Jensen
Lloyd L. Kelly
Archibald E. MacKay
Donald E. Meads
Arthur J. Santry, Jr.
William F. Schmied
Delbert C. Staley

Executive Staff:

F. Gordon Bitter
Terry W. Heil
Jeremiah A. Keating
Phillip A. Watson
Adrienne D. Whitehead

Board of Directors Meeting

AGENDA

October 7, 1987 — Wednesday

- 11:45 Arrive at Librascope Division, Glendale, CA Facility
- 12:00 Lunch
- 1:00 Board of Directors Meeting, Executive Conference Room
- 2:15 Break
- 2:30 Presentation by Walter J. Picker, President Librascope Division
- 2:50 Break
- 3:00 Conduct Tour
- 4:45 Conclude Tour
- 5:00 Return to Executive Conference Room
- 5:15 Depart Librascope for The Registry Hotel
- 5:30 Arrive at The Registry Hotel
- 6:30 Reception in "Plaza Suite"
- 7:00 Dinner

TOUR AGENDA OVERVIEW

- A. Executive Conference Room
- B. Naval Combat Systems Laboratory: Research and Development
CCS Mk 2/Mk 3 Consoles and System Combat Display Console
- C. Army Tactical Command, Control and Communications (C³)
- D. Fire Control System Mark 113 Mod 9
(SSBN Poseidon Combat Control System)
- E. Fire Control System Mark 1
(Australian, Canadian and Indian Navies System)
- F. Submarine Combat Control System Mark 2 Mod I
(Israeli Navy System)
- G. Militarized Memory Systems — Disk and Bubble Memories
- H. Test and Checkout Facility
(Navy Fire Control System Mk 118 and Army Maneuver Control
System Production Units)

Tour Group A

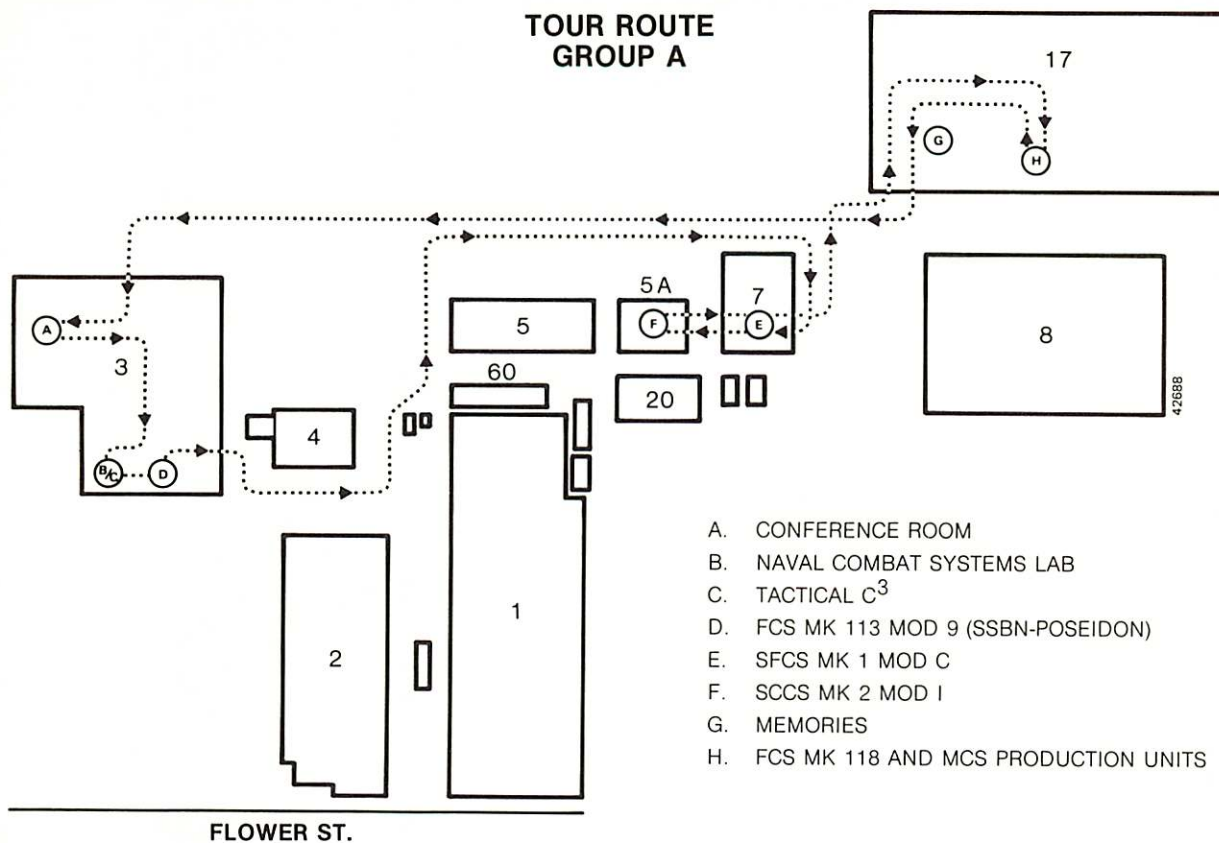
Randolph W. Bromery
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Donald E. Meads
Delbert C. Staley
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Phillip A. Watson

Tour Group B

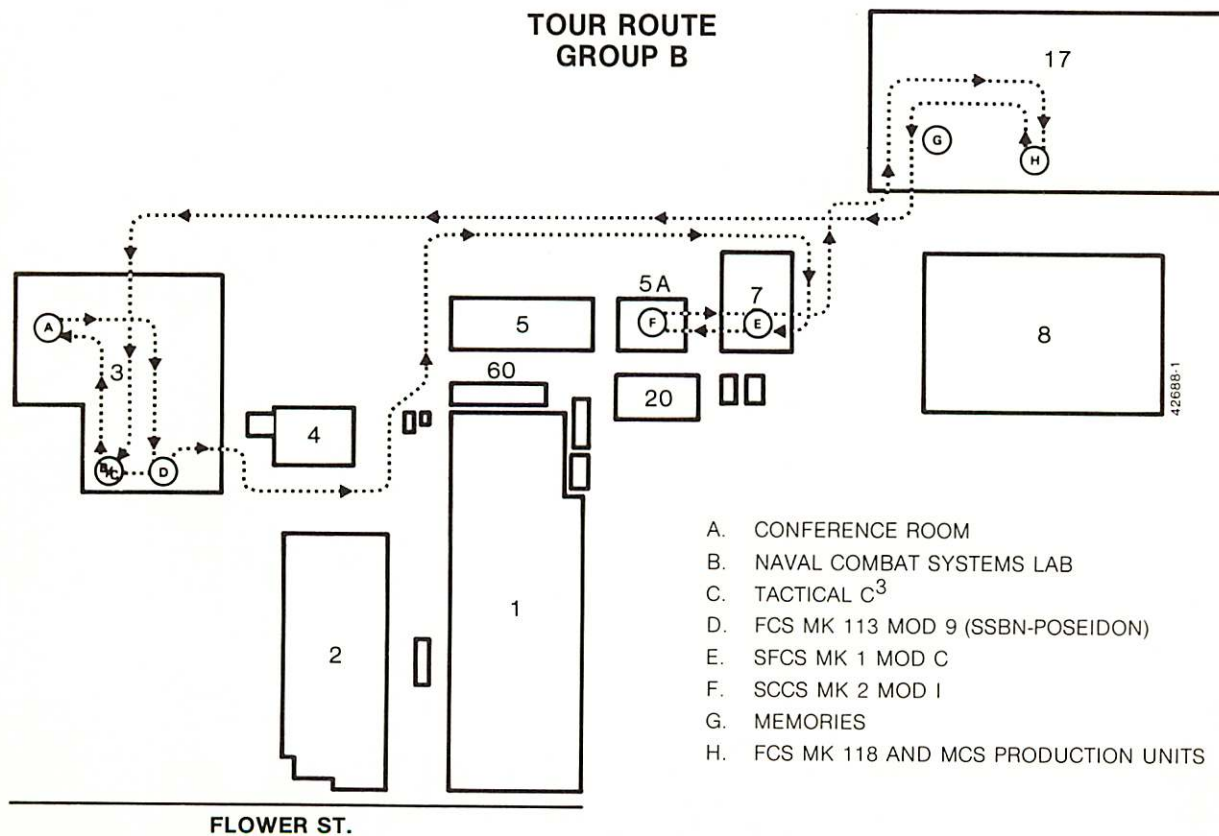
Lt. Gen. Kelly H. Burke
Arthur H. Fredston
Robert P. Jensen
Lloyd L. Kelly
William F. Schmied
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Terry W. Heil
Adrienne D. Whitehead

TOUR ROUTE — GROUPS A AND B

TOUR ROUTE GROUP A



TOUR ROUTE GROUP B



ADVANCED COMBAT SYSTEMS LABORATORY



The Advanced Combat Systems Laboratory is used for current Naval Combat Systems Research and Development projects for software development, testing and demonstrations.

The Laboratory contains a display subsystem consisting of three commercial grade Mk 2/Mk 3 Combat Control Consoles and an advanced prototype Combat System Display Console which will be used to develop the next generation Combat Display Consoles for:

- SSN-21 Seawolf Class Submarine (AN/BSY-2)
- Royal Australian Navy New Construction Submarine Program
- International Navy Surface/Subsurface Multi-Function Combat Control Console

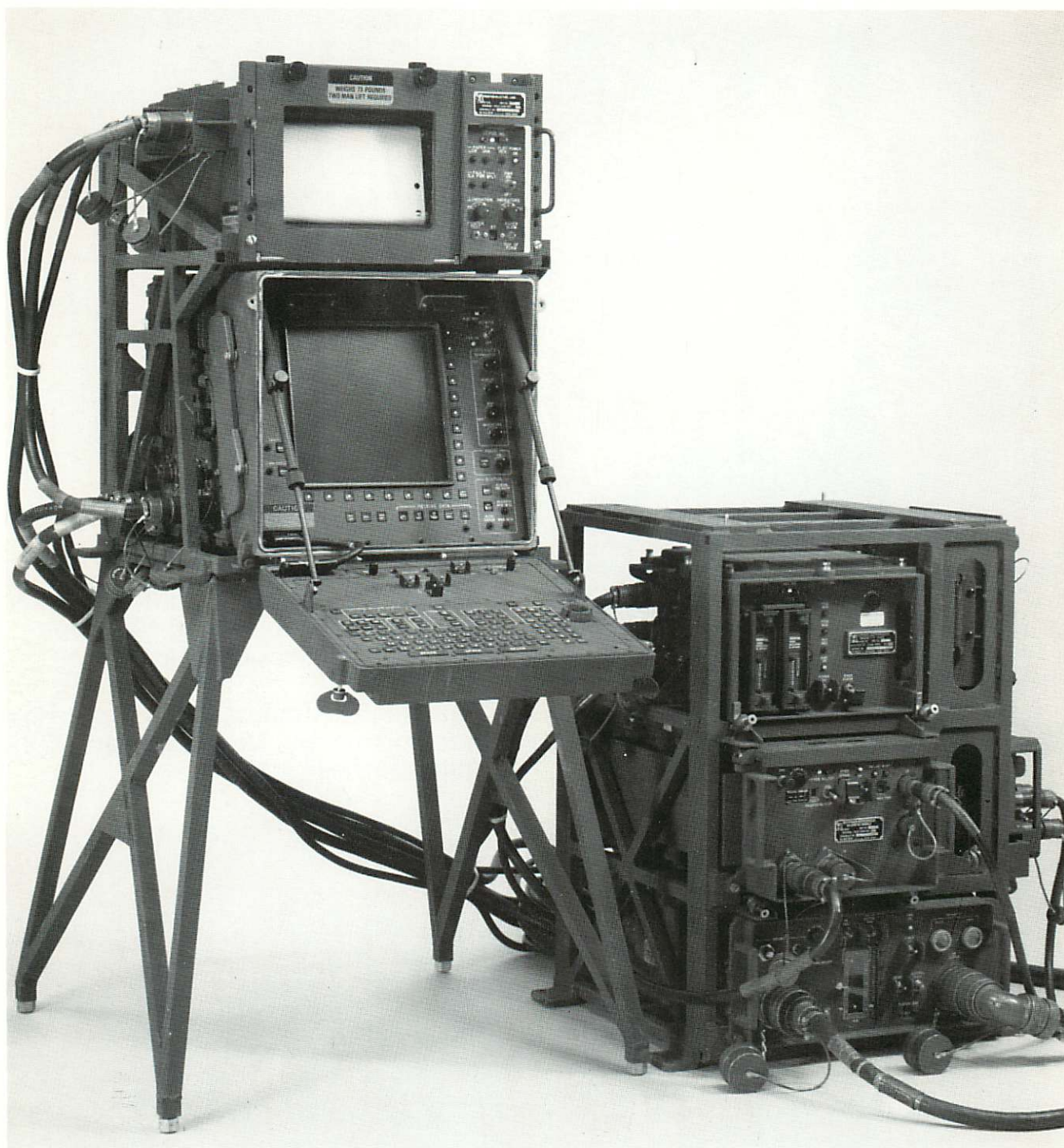


Application: Combat Control Systems
for U. S. Navy and Allied Navy Sub-
marines and Surface Ships.

Potential Customers: U. S. Navy, Royal
Australian Navy, Canadian Navy, Other
Allied Navies

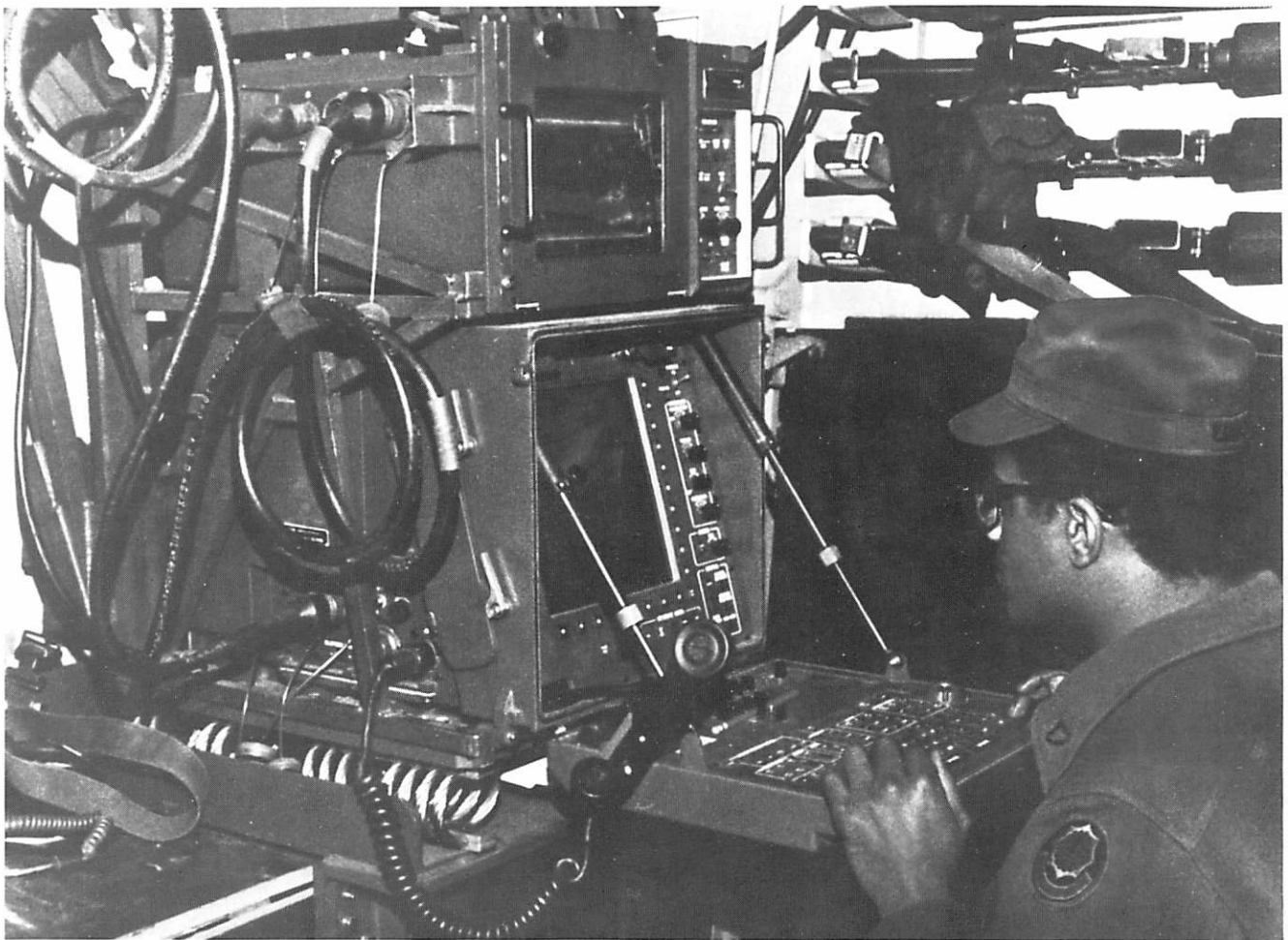


COMMAND, CONTROL AND COMMUNICATIONS (C3)



Tactical command, control, communications and display equipment for military applications including Army field use at all echelons.

- Tactical Computer Terminal AN/UYQ-30
- Programmable Communications Interface Unit
- Tactical Display Terminal (17" x 17" Plasma Panel)



Application: Tactical Command, Control and Communications
(C³) systems/equipment for U. S. Army's Maneuver Control
System (MCS)

Customer: Communications Electronics Command (CECOM)
Ft. Monmouth, NJ

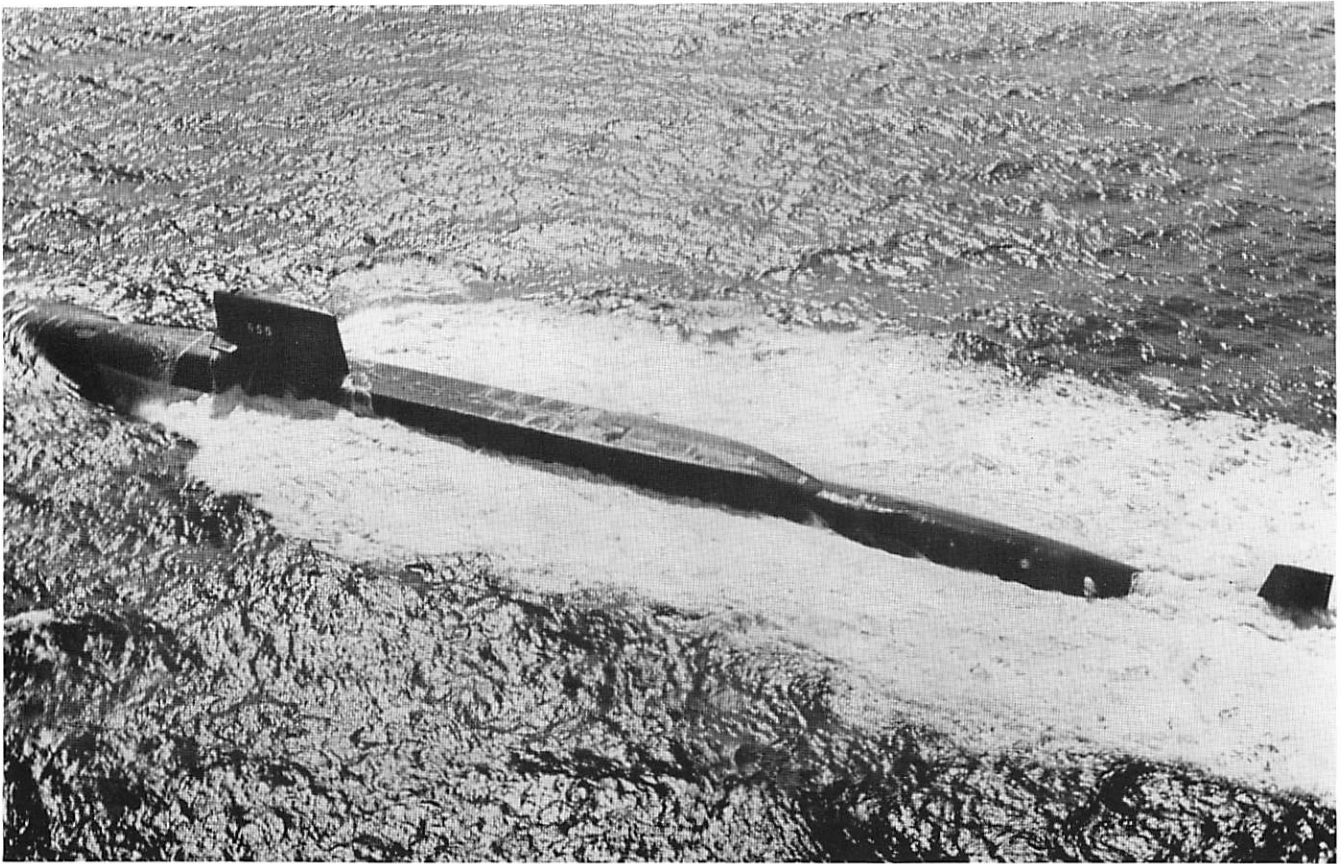
User: U.S. Army

SUBMARINE FIRE CONTROL SYSTEM MK 113 MOD 9



The Fire Control System Mk 113 Mod 9 is the heart of the defensive weapon system of the older "Lafayette" (SSBN 616) and "Benjamin Franklin" (SSBN 640) classes of Fleet Ballistic Missile (FBM) submarines. The system controls preparation, status, launch, and guidance of the Mk 48 heavyweight torpedo, the primary defensive ASW weapon aboard the FBM submarine.

Librascope's current system refurbishment contract makes provisions for an embedded AN/UYK-44 computer and a new state-of-the-art CRT electronics section for the Analyzer Console Mk 78. These modifications will extend the useful life of the Mk 113 Mod 9 system into the 1990's.



Application: Fire Control System Mk 113 Mod 9 is a defensive weapon control system installed on Fleet Ballistic Missile (FBM) submarines. The system controls launch, preset, status and post firing guidance of U. S. heavyweight Torpedo Mk 48.

Customer: Naval Sea Systems Command, Naval Underwater
Systems Center, Newport, R.I.

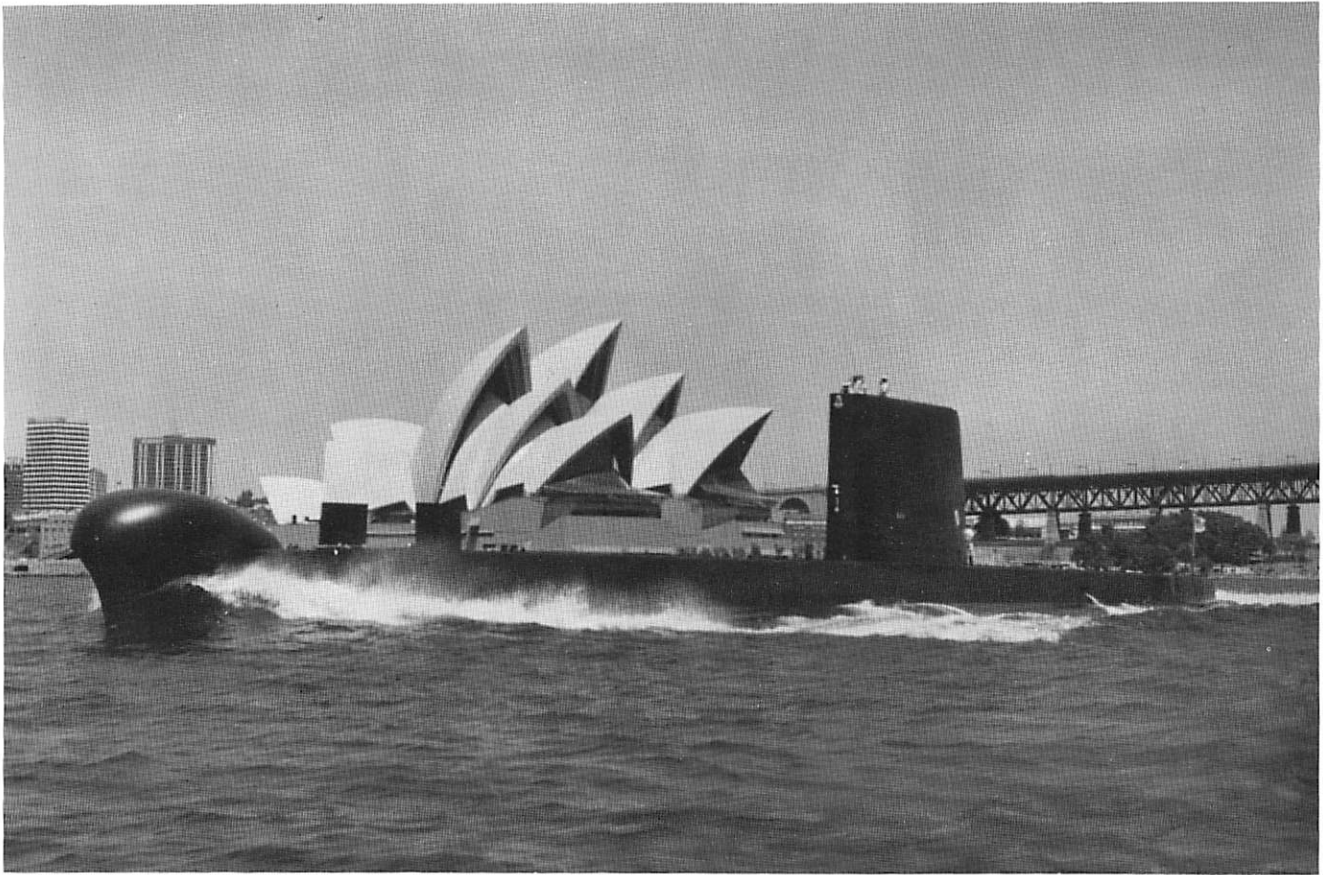
User: U. S. Navy

SUBMARINE FIRE CONTROL SYSTEM MK 1



Librascope's Submarine Fire Control System Mk 1 — the first production all-digital weapon control system to be installed in a submarine (Royal Australian Navy's Oberon submarines).

Librascope's current Submarine Fire Control System Mk 1 Mod C upgrade program will provide the Canadian Oberon submarines with the capability to launch and control the submarines Mk 48 Torpedo.



Application: Submarine Fire Control System Mk 1 is a highly automated underwater combat system that provides the capability for tactical analysis and weapon control of torpedoes and the Harpoon missile.

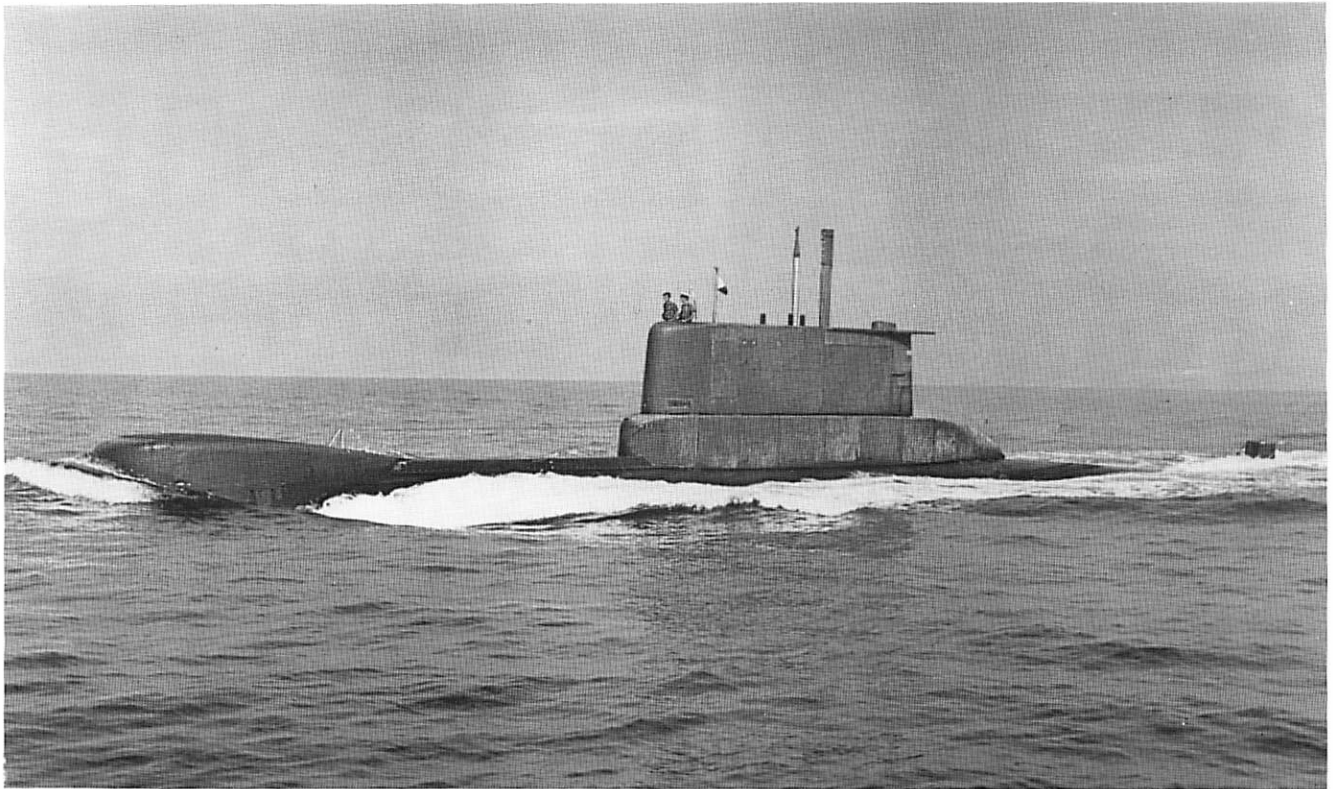
Customer: Australia, Canada and India

User: Royal Australian Navy, Canadian Forces, and Indian Navy

SUBMARINE COMBAT CONTROL SYSTEM MK 2 MOD I



Submarine Combat Control System Mk 2 is an advanced next generation production naval combat system which further enhances the operational capabilities of submarines. The Mk 2 is an all-digital combat control system employing advanced technologies, such as color raster displays, distributed processing, and data busses.



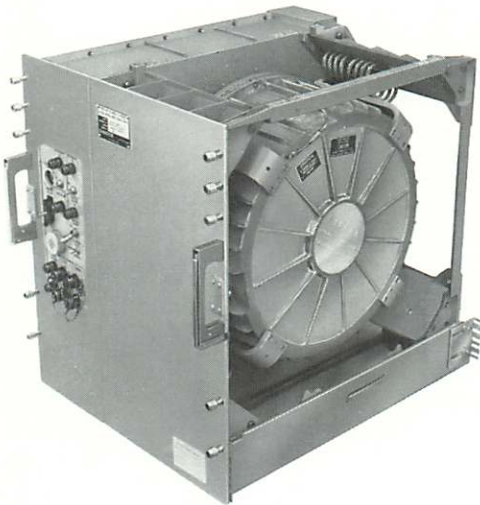
Application: The advanced Submarine Combat Control System Mk 2 provides for surveillance, navigation, tactical analysis, and weapon control for "GAL" class diesel submarines of the Israeli Navy.

Customer: Government/Navy of Israel

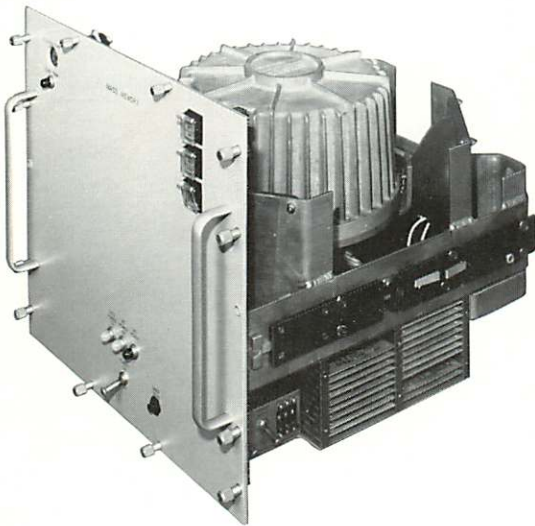
User: Israeli Navy

MILITARIZED MEMORY SYSTEMS

ROTATING DISK MEMORIES

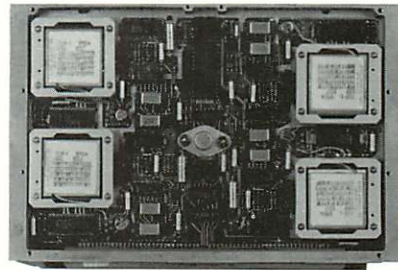


RD-433 Mass Memory
(2 megabyte)



CL-107 Mass Memory
(1 megabyte)

BUBBLE MEMORIES



Bubble Memory
Circuit Board

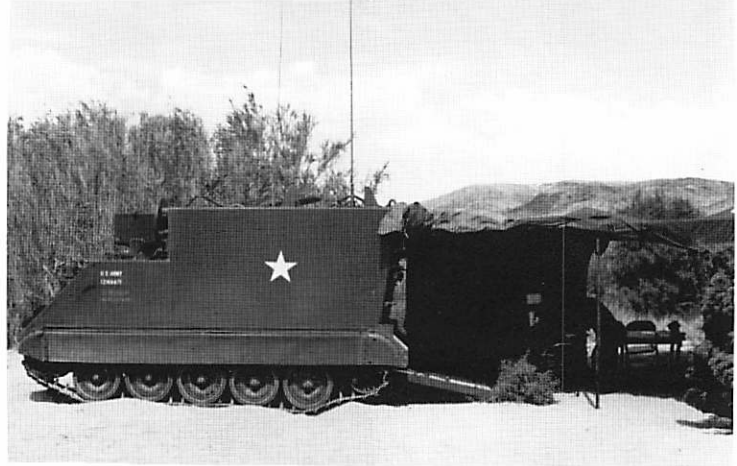


Mass Storage Device/Loader
(2 megabytes)



Magnetic
Bubble Recorder
Reproducer
RD-509G (8 megabytes)

Librascope's militarized Mass Storage Memory Systems include rotating disk memories and bubble memory systems with memory storage capacities from 250K bytes (removable bubble memory cartridges) to 8 megabytes.

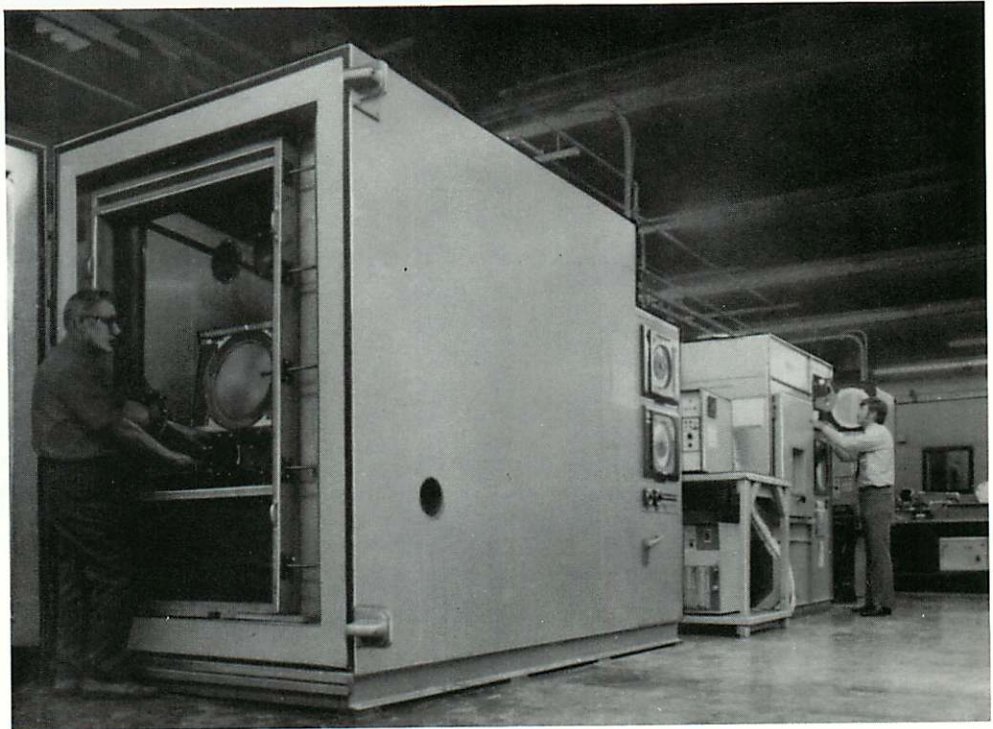
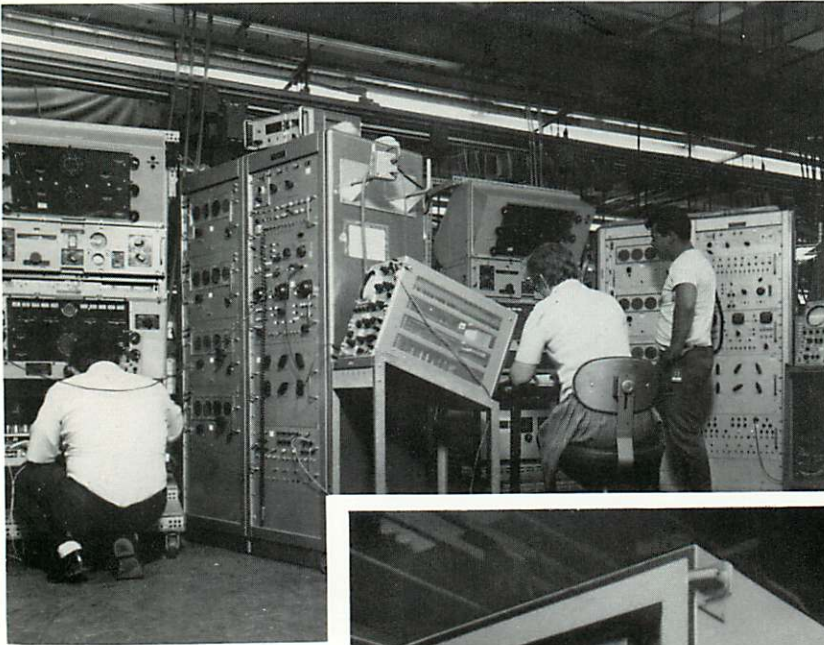


Application: Militarized rotating disk and bubble memory systems for land, sea and air applications.

Customer: NAVSEA, SPAWAR, RAN, Canadian Forces, Indian Navy, CECOM, GTE, RCA.

User: U.S. Navy (TACINTEL, NAVMACS(V) and TRIDENT IR² Programs)
U.S. Coast Guard
International Navies (SFCS Mk 1)
U.S. Army (Maneuver Control System)
Air Force (GTE Peacekeeper Program)

FINAL TEST AND CHECKOUT FACILITY

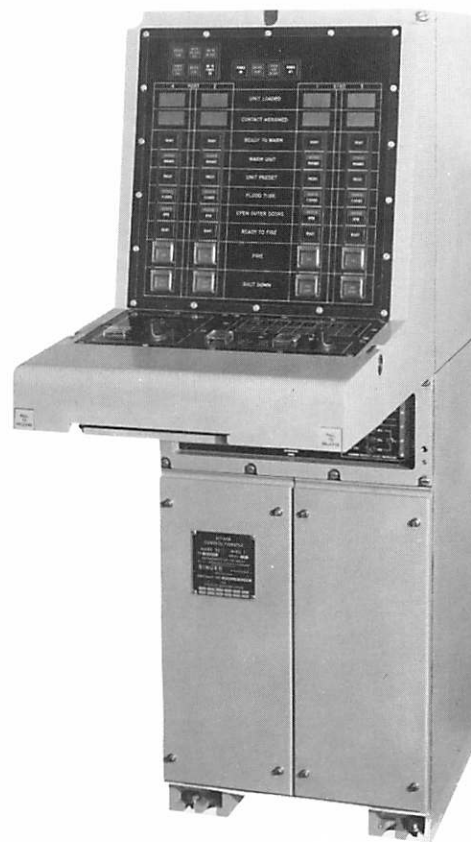


Final Testing and Checkout of Production assemblies. Testing includes functional, performance and environmental testing and government and quality control final buyoff.

NAVY FIRE CONTROL SYSTEM MK 118 PRODUCTION UNITS



Weapon Launch Console Mk 96

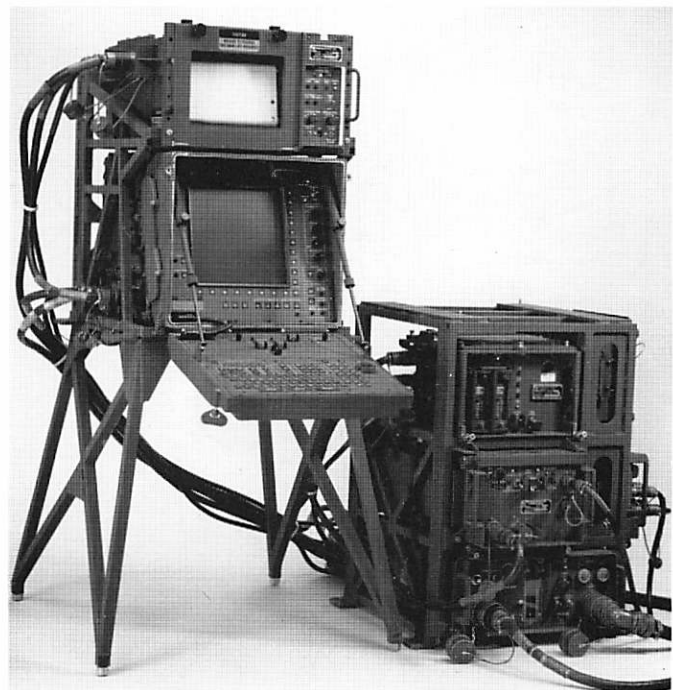


Attack Control Console Mk 92

ARMY MANEUVER CONTROL SYSTEM PRODUCTION UNITS



Programmable Communications
Interface Unit



Tactical Computer Terminal

COMMENTS

SINGER

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