



# DESKTOP & CLOUD MH-60R HELICOPTER TRAINING SIMULATOR, DESIGNED FOR RAPID MODIFICATION FOR DIFFERENT NATIONS

2023 NATO MODELLING & SIMULATION GROUP (NMSG)  
SYMPOSIUM

Rob Richards, PhD  
Stottler Henke Associates, Inc.





# MH-60R COMMON COCKPIT



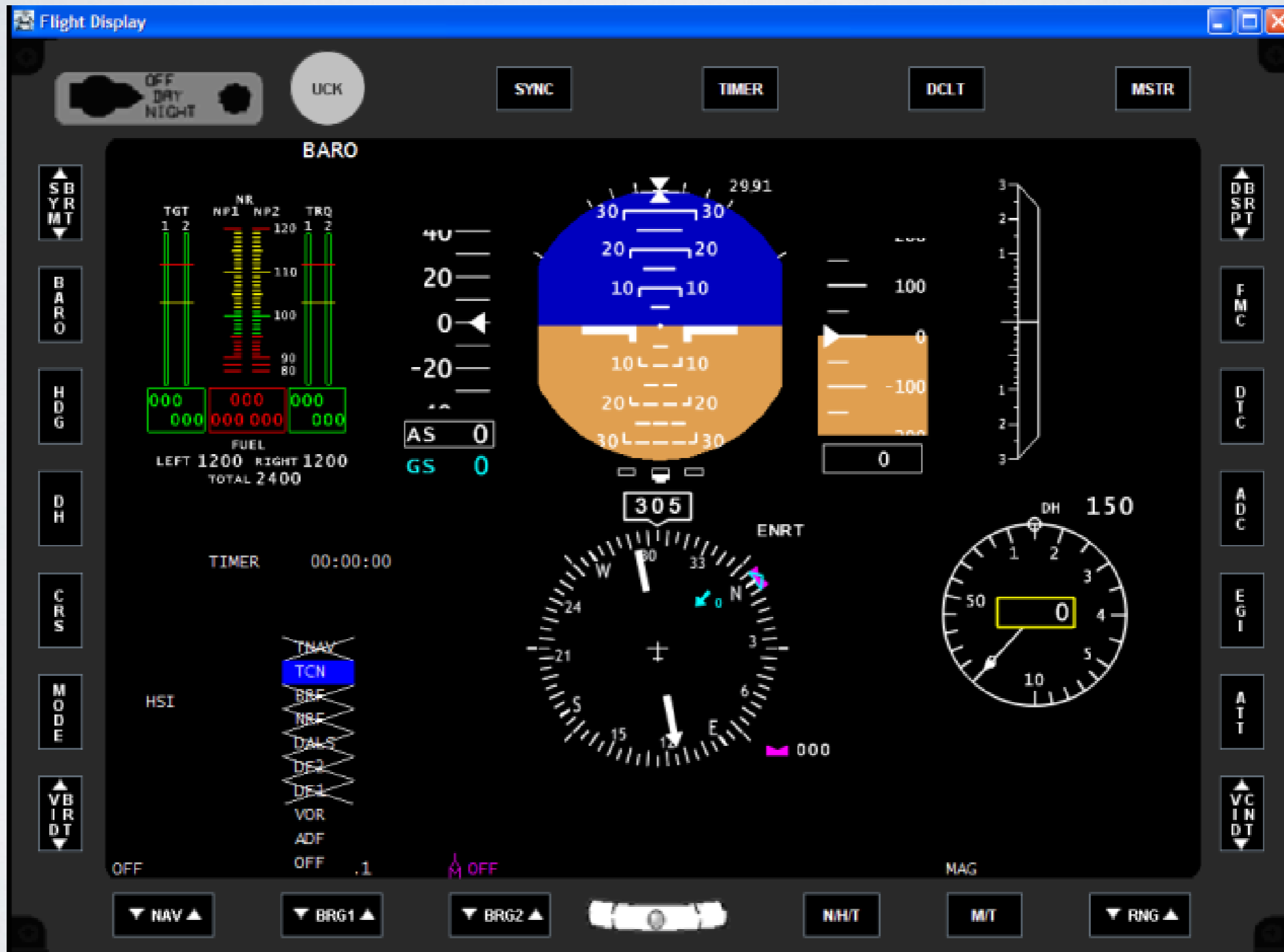
# MH-60R VIDEO



# OMIA EMULATES MH-60R HELICOPTERS



# OMIA FLIGHT DISPLAY



# OMIA MISSION DISPLAY

The screenshot displays the OMIA Mission Display interface. At the top, a window title bar reads "Mission Display" with standard window controls. Below the title bar is a "DAY/NIGHT" selector set to "OFF". The main display area is divided into several sections:

- Top Left:** A vertical stack of controls including "SB YR MT", "L 1", "L 2", "L 3", "RPT O", "OVLY", and "VB IR DT".
- Top Right:** A vertical stack of controls including "DB SR PT", "HSET LBO", "ZOOM", "PG", "PG", "ACK", and "VC IN DT".
- Center:** A large map area showing a green helicopter icon and a green outline of a mission path. The text "HELO USW" and "12:18:20" is visible at the top of this area.
- Left Panel:** A data table with the following content:

HNAV	HNAV
WOW	
GUID N/A	CRS N/A
HELO	WGE
LT 32	45.55 N
LG 117	24.6 W
GT/GS	0° / OKT
W C/S	0° / OKT
RAD ALT	0
	GROUND STAB
R/I/E/A	1
INTG	3 C
SHOW	
0 R	00:00:00
- Bottom Panel:** A row of status indicators: "00 314.400 INIT", "00 314.400 INIT", "M3 1200 STBY", "PLAN LOAD\_CTRL", and "32".
- Bottom Bar:** A row of function buttons: TACT, B2, RDR, INTG, ESM, ACST, FLIR, MAP, B9, PLAN, DIAG, WCA.

# MISSION DISPLAY WITH MENU DISPLAYED

The screenshot shows a Mission Display window with a blue title bar and standard window controls. The main display area is black with green text and graphics. A menu is overlaid on the bottom half of the display, showing options for REF PNT TYPE and LOCATION. The menu items are:

REF PNT TYPE	LOCATION
1. M NORMAL	1. HOOK
2. NAV	2. LT 32 45.51 N
3. SAR	3. LG 117 24.02 W
4. BASE	3. NO UPDATE
5. DATUM	4. SYMBOL
6. ISAR	5. AT AOU
	6. DAFIF PT

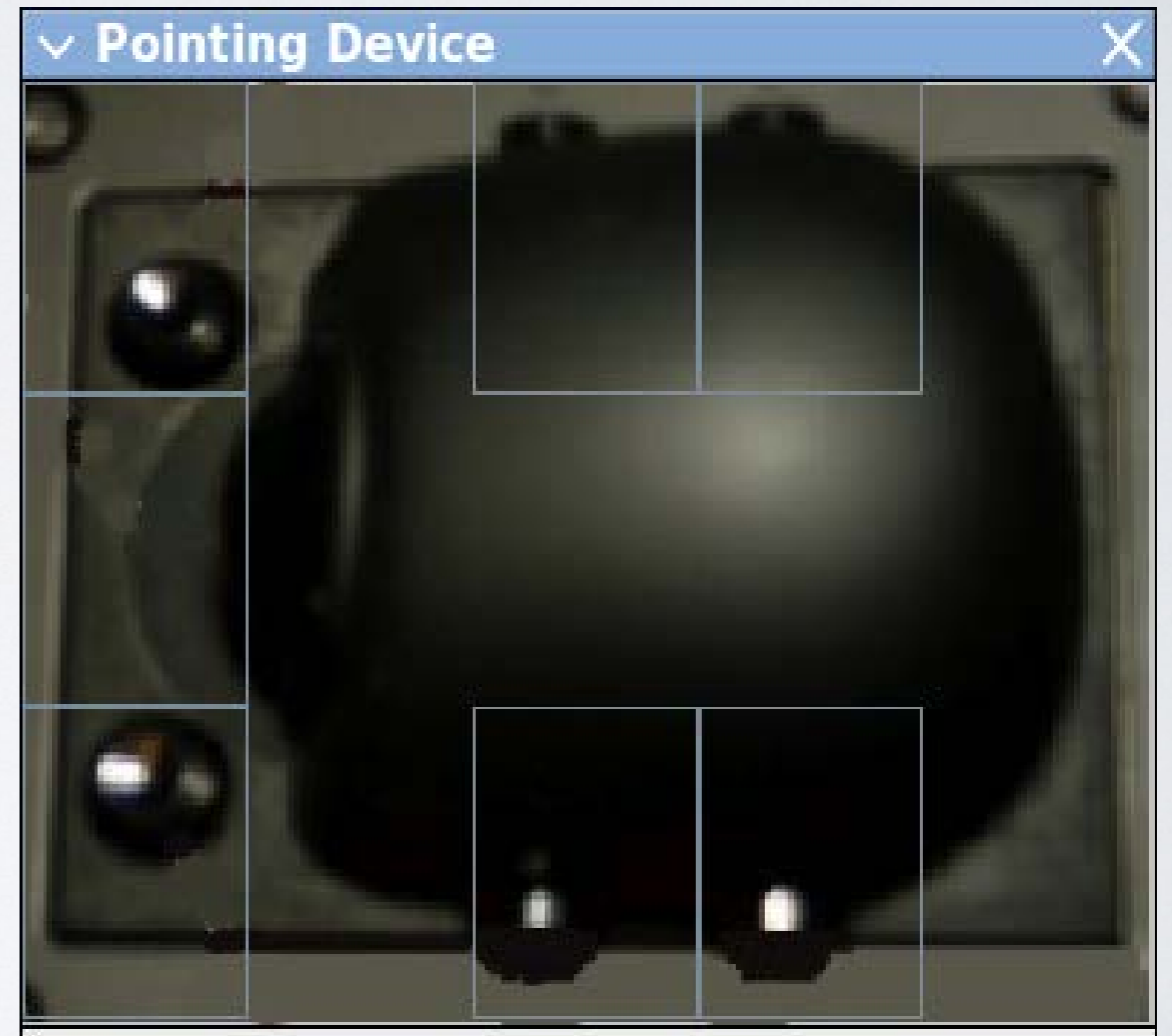
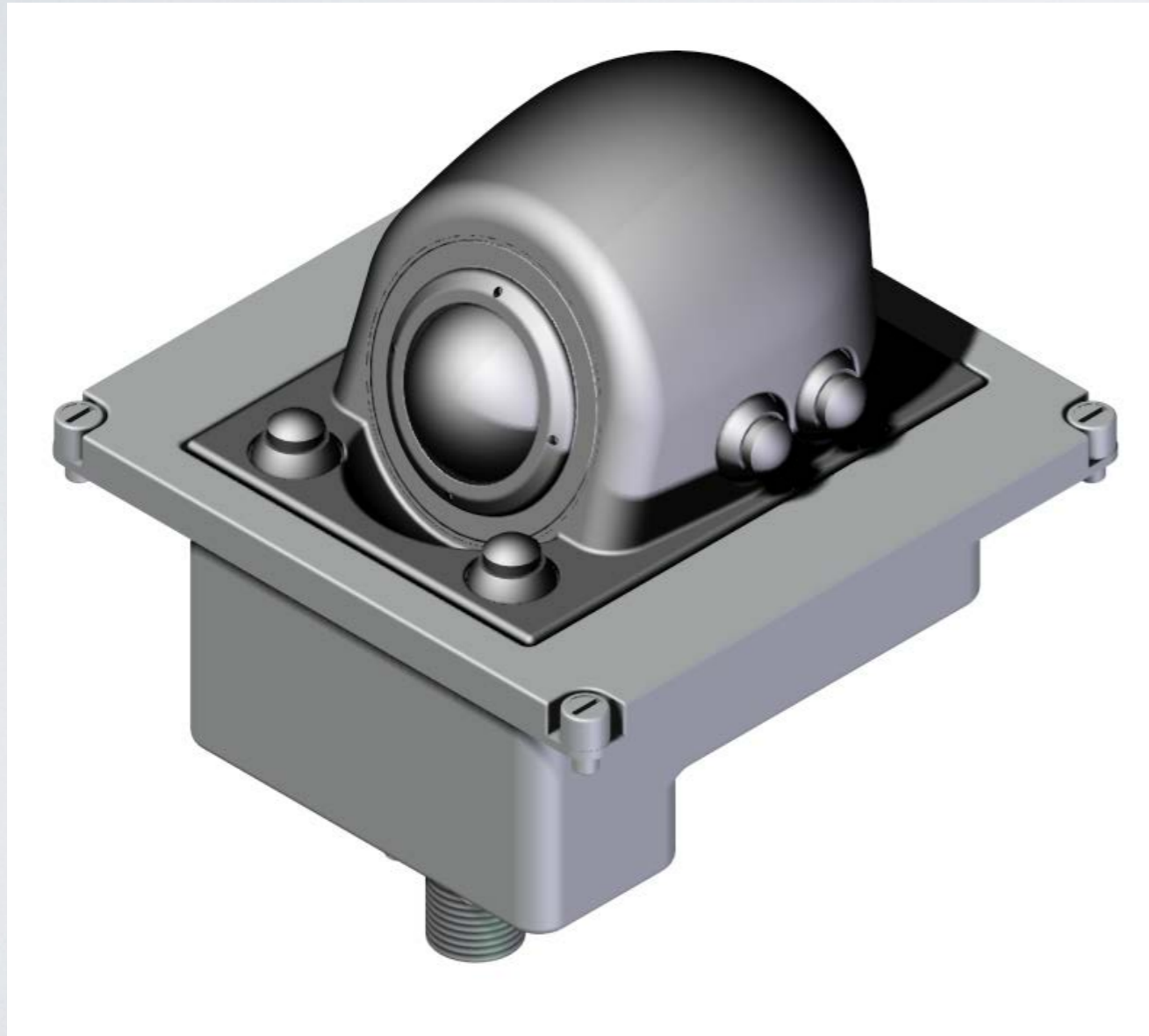
Other visible elements include a 'REF POINT' label, a 'NOTE (0-12 CHARS)' field, and a 'START TIME HH:MM:SS' field showing 15:48:19. The main display area shows a flight path with waypoints labeled 15 MRMAR, 16 MTGRY, and 17 GLSPE. The time 03:48:33 is displayed in the top right corner. The interface is surrounded by various control buttons such as SB YR MT, L 1, L 2, L 3, RPT O, O V L Y, V B I R D T, DB SR PT, H S E T L B O, Z O O M, P G, P G, A C K, and V C I N D T. At the bottom, there is a row of buttons: TACT, B2, RDR, INTG, ESM, ACST, FLIR, MAP, B9, PLAN, DIAG, and WCA.



# CONTROL DISPLAY UNIT (CDU)



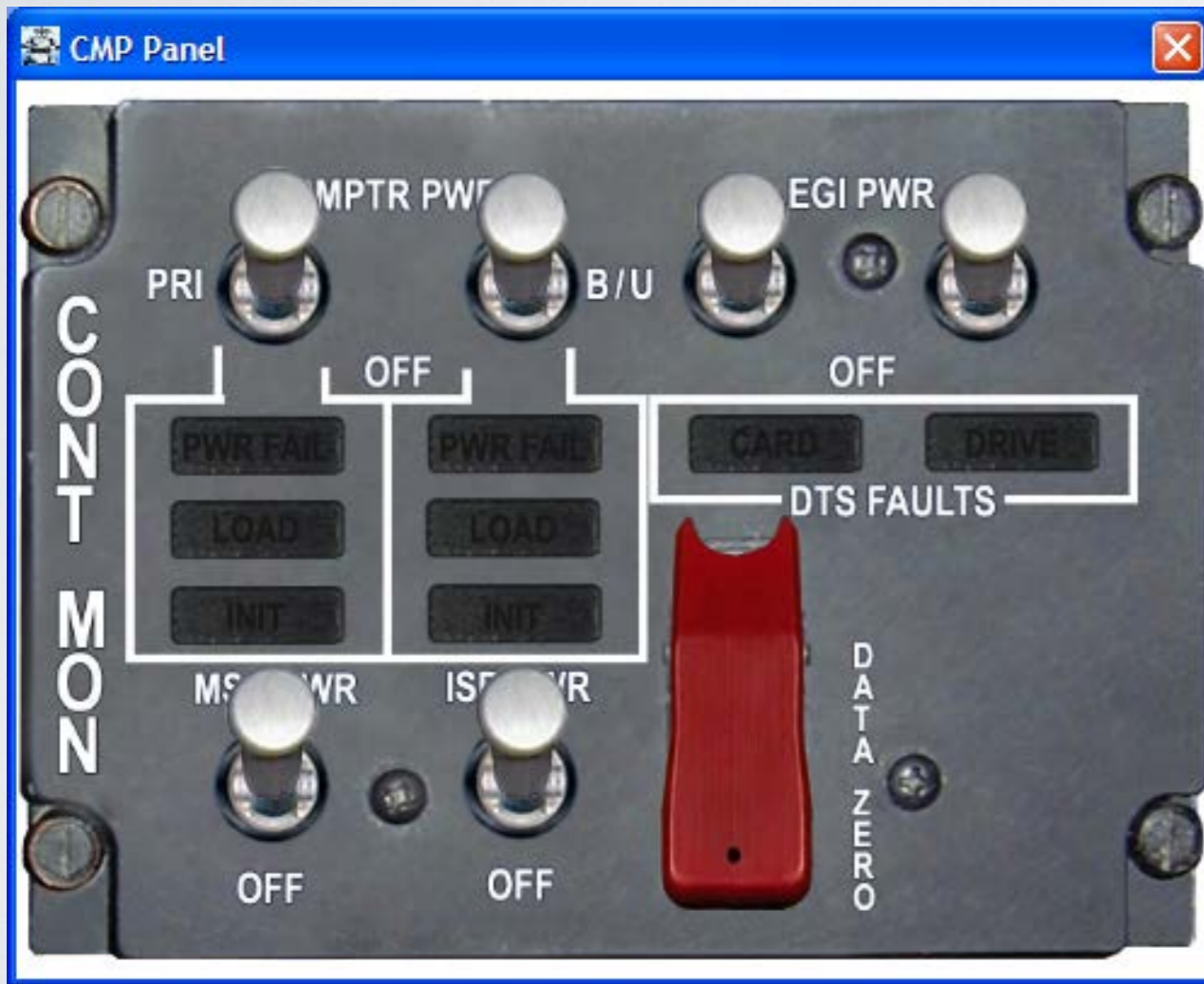
# TRACKBALL POINTING DEVICE (PD)



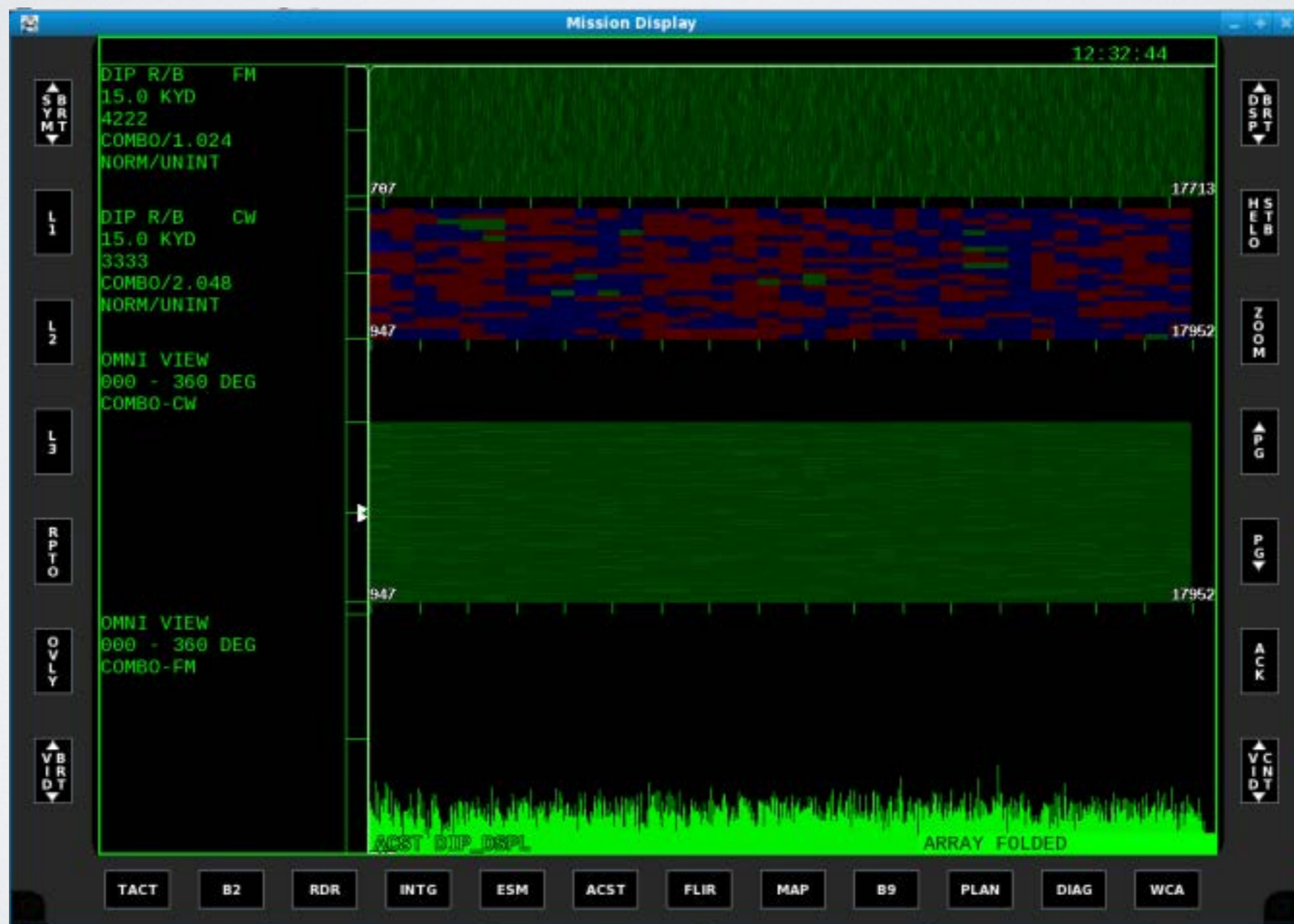
# MH-60R COMMON COCKPIT



# OMIA EMULATES MH-60R PANELS (E.G., CMP & RCU)



# SENSOR OPERATOR (SO) STATION MH-60R



# OMIA VIDEO



# S U C C E S S E S

- Reduced overall training costs
  - Reduced need for Simulator & Helicopter time
  - Significant reduction in training costs
- Increased overall effectiveness
  - Anytime / anywhere training on land or at S E A
  - Leverage via laptop, or cloud, touchscreens, VR, attachable hardware, ...

# WHERE OMIA FITS

- Classroom
- Computer Based Training (CBT)
- **OMIA**
- Simulators
- Helicopter



# OMIA USER VERSIONS

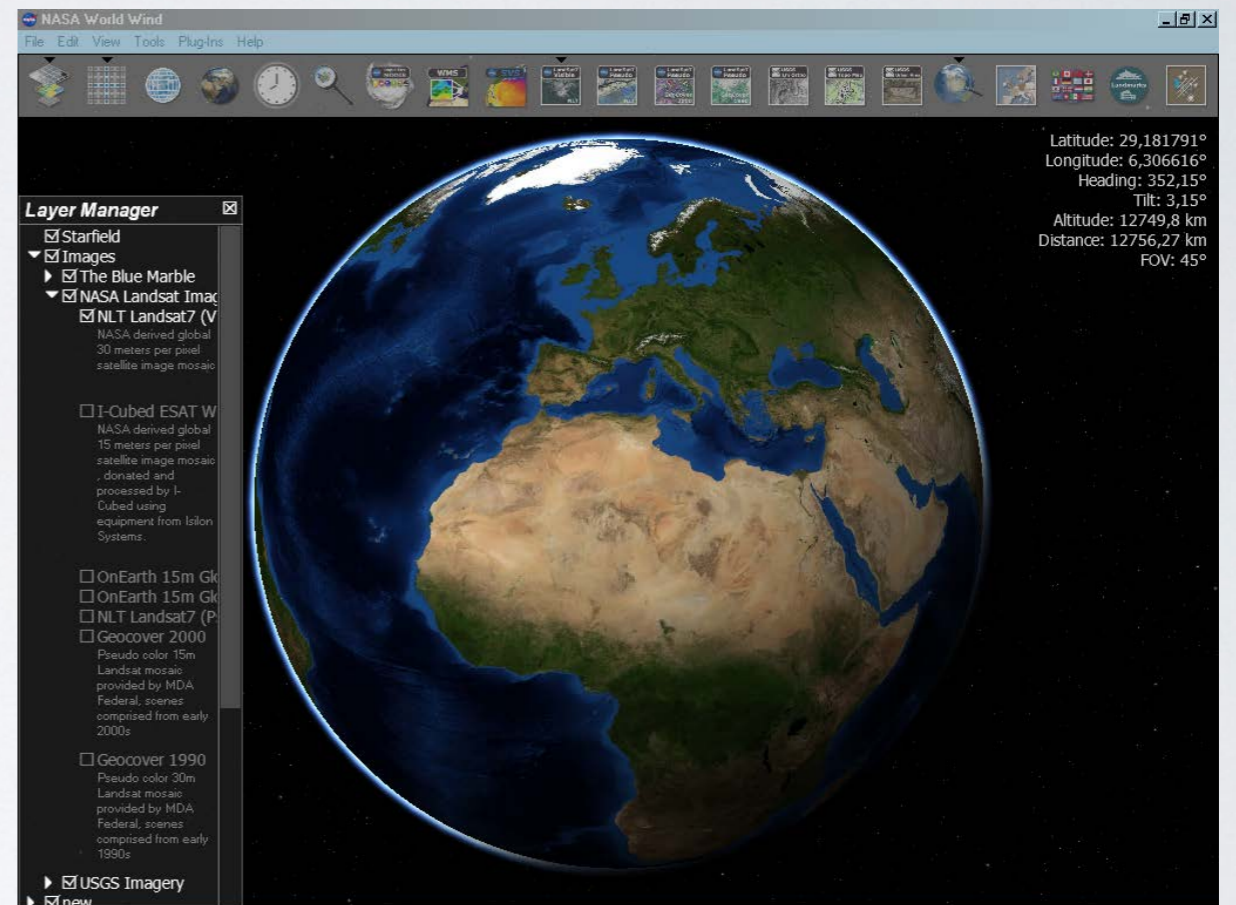
- Romeo Pilot / Co-Pilot
- Romeo Sensor Operator
- Crew trainer – train Pilot / Co-Pilot & Sensor Operator in same scenario

# FLEXIBLE DEPLOYMENT

- Microsoft Windows
- Linux
- Cloud based
- Mac

# INTEGRATIONS

- US B hardware
- Touch screens / VR headset
- Acoustics
- Flight Simulators
- NASA WorldWind for FLIR & Moving Map



# FLIR



# FLIR HAND CONTROL UNIT



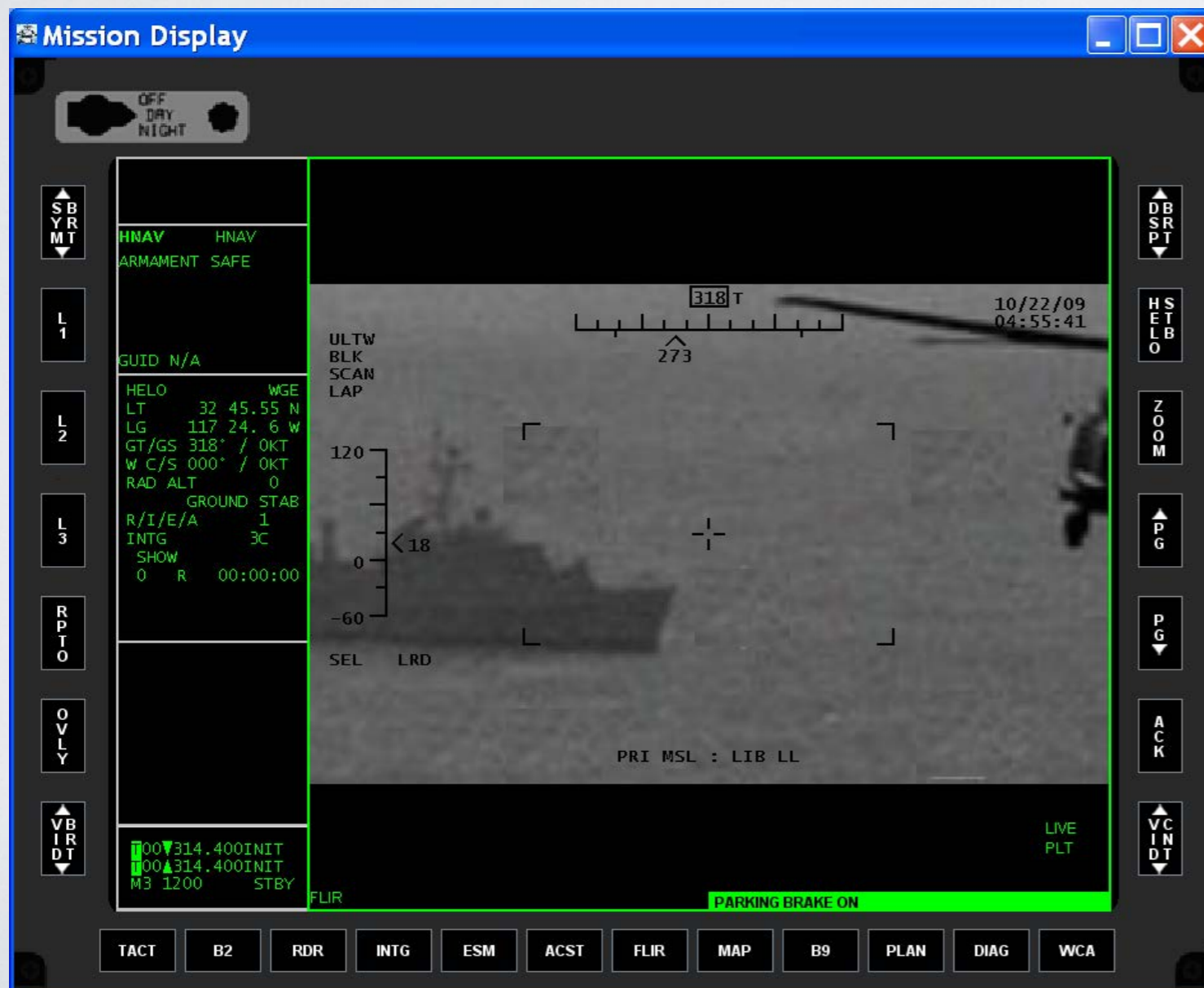
# FLIR HCU SOFTWARE EMULATION

- Always available, so hardware HCU is not mandatory



# FLIR & USB HCU

- Desktop HCU connects via USB



# OMIA-ATS / ACOUSTICS

- OMIA was enhanced to include Buoy & Airborne Low Frequency (ALFS) Sensor Modeling and Simulation Training.
- Allows for pinging and viewing realistic acoustic returns
- Enhancement is part of a complete hardware/software solution, including fully configured laptops with touch screen and OMIA-ATS pre-installed.
- Leveraged for use on land and while deployed at sea.

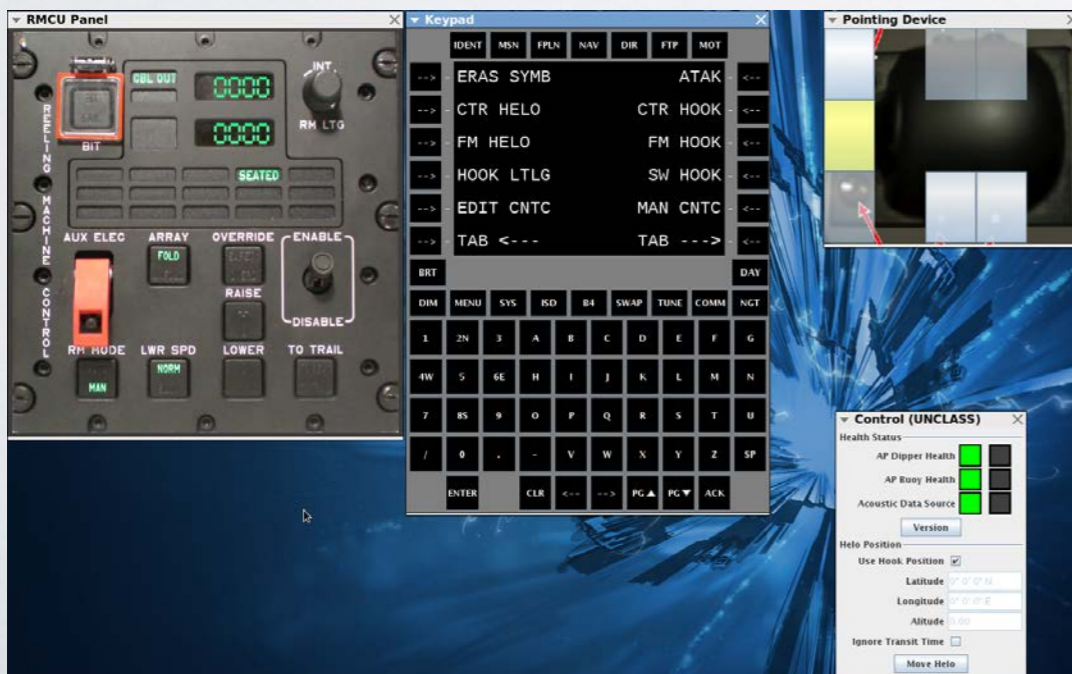
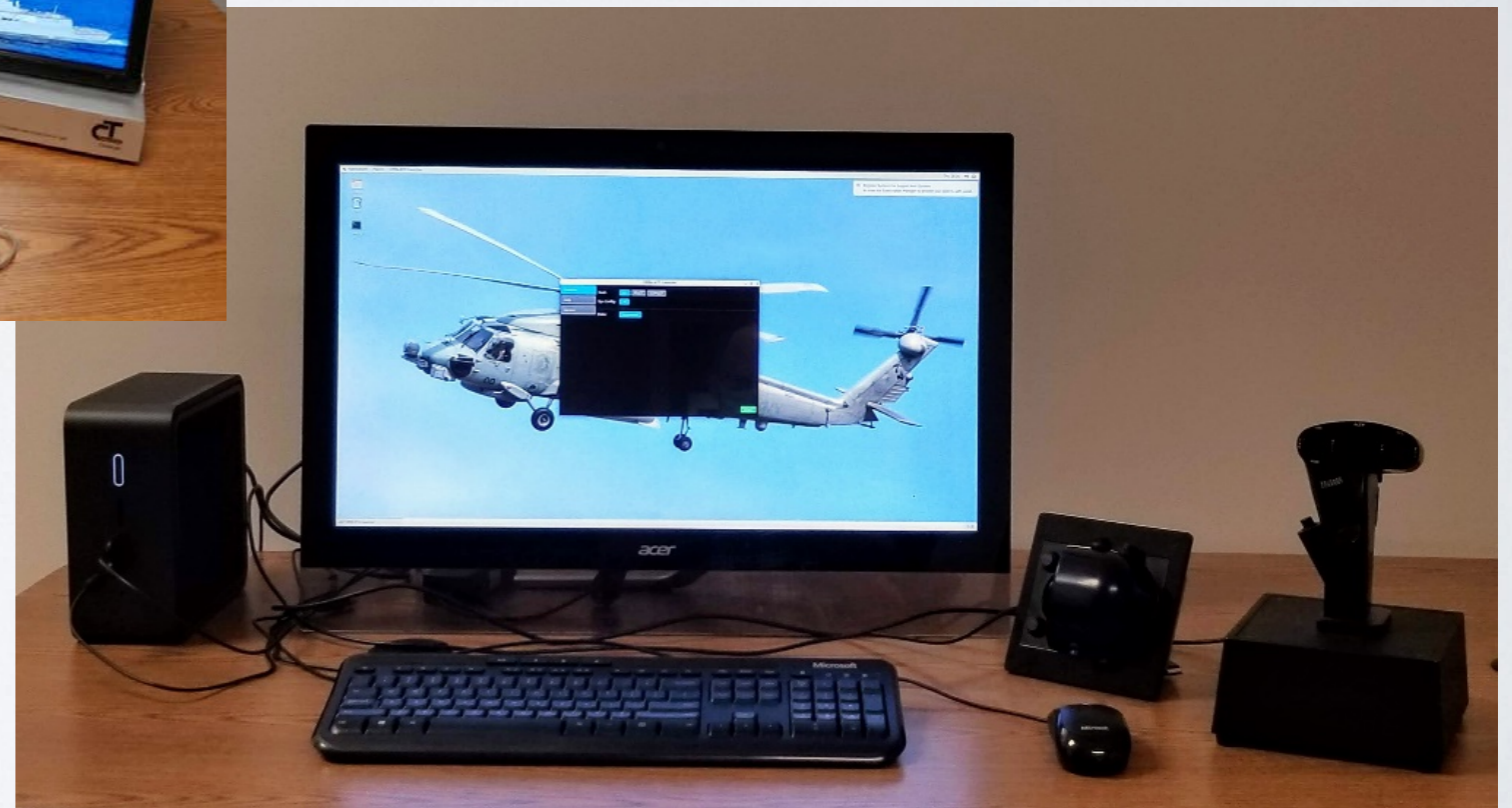


# SENSOR OPERATOR STATION: MH-60R



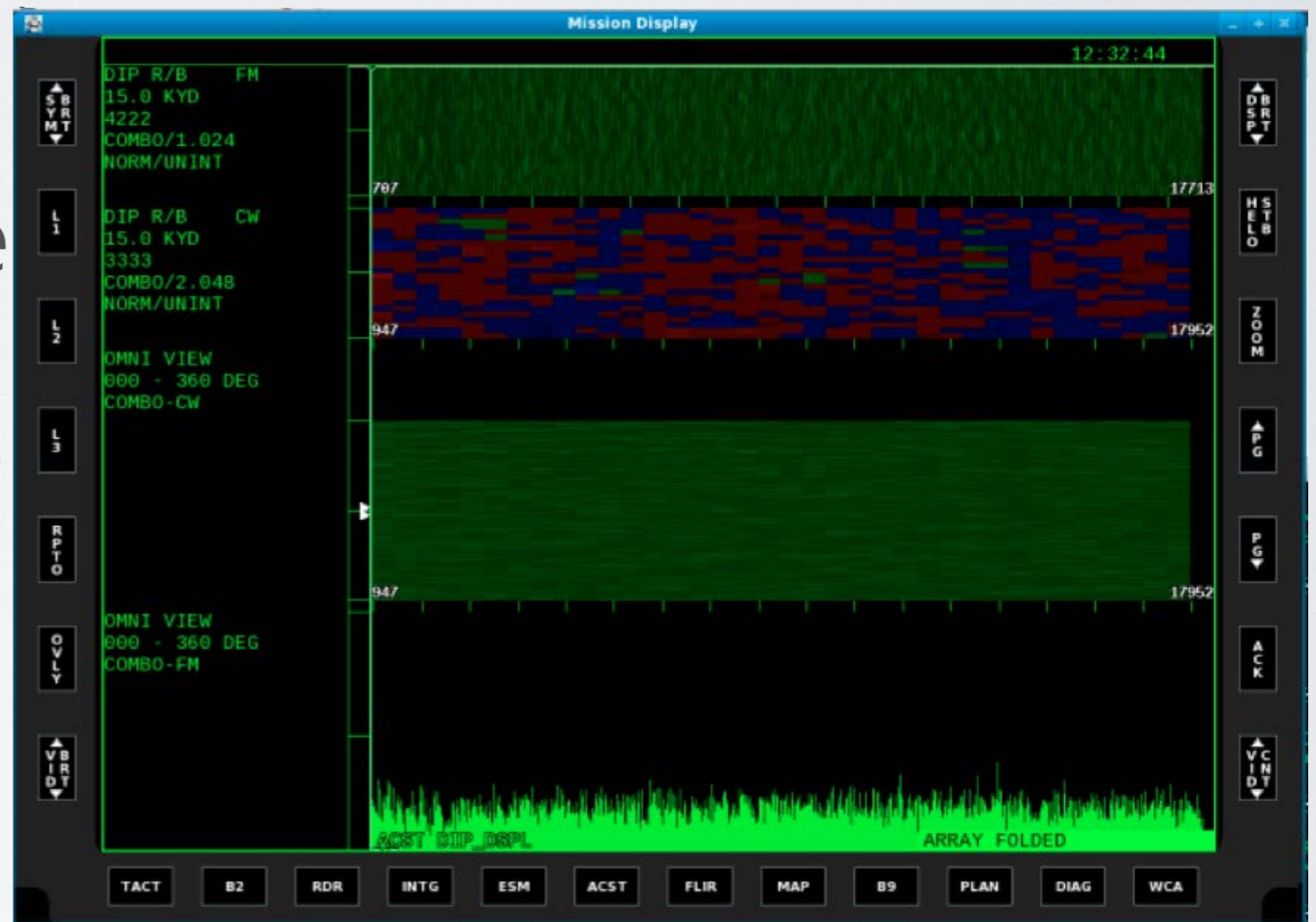


# OMIA-ATS: SO STATION



# OMIA-ATS: SO STATION

- 4 Modes of OMIA-ATS
- Simulated Noise Mode
- Create Scenario Mode
- Play Scenario Mode
- Analyze Data Mode



# BENEFITS OF OMIA-ATS

- Prepare operator to take full advantage of TOFT training sessions
- Provide a platform for acoustic return recognition training
- Support independent skills review for deployed squadron personnel
- Support independent skills review in a Training facility environment

# OMIA / OMIA-ATS SUMMARY

- Powerful inexpensive anywhere / anytime training
- Capabilities maximized based on available hardware
- Cost savings vs simulator/flight time
- Training Benefits of Re-configurable Part-Task Trainer (PTT)
  - OS agnostic
- More information on OMIA is available at [www.StottlerHenke.com/OMIA](http://www.StottlerHenke.com/OMIA)

# QUESTIONS ?

