EXTENSION ALARM SYSTEM (EAS)

Extension Alarm System (EAS)

References

- Kongsberg K-Chief 700 Integrated Control System Product Description, 304844/B

- Kongsberg Extension Alarm System Operator Manual, 383636/A

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Content

- Extension Alarm System (EAS)
- System design and functionality
- EAS HMI presented on the OS
- EAS Philosophy
- Panel layout / functionality with Touch screen
- Operator Fitness Alarm System

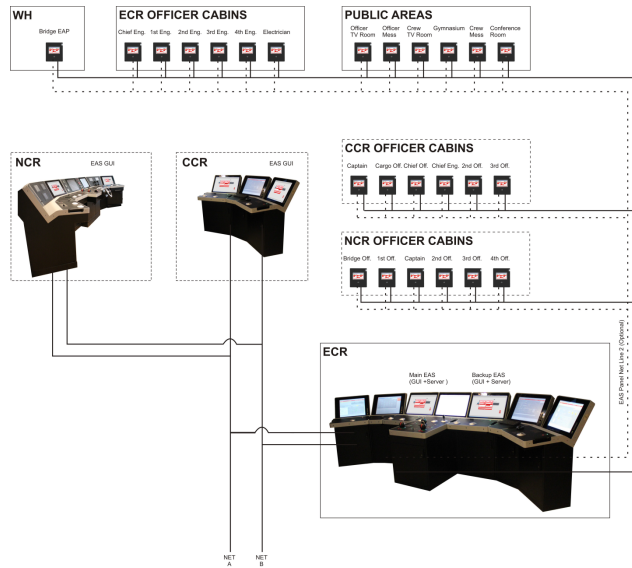Monitors the vessel during Unmanned Machinery Space/Engine 0 (UMS/E0).
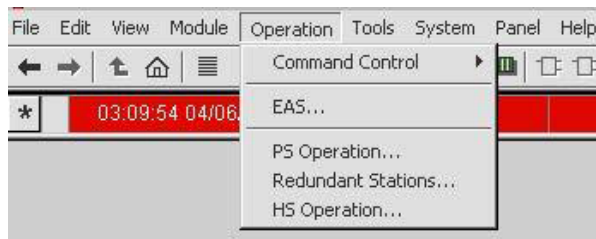
Two main functions:
- Alarm extension
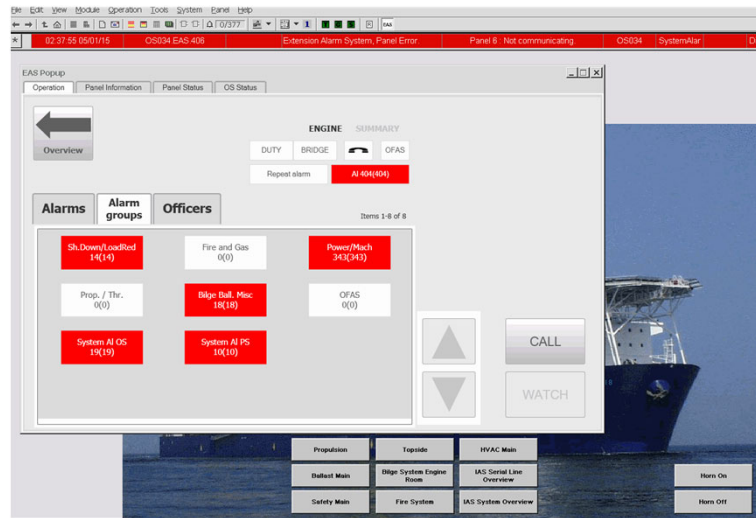- Officer call

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EAS Topology

EAS HMI on OS

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EAS HMI on OS

Alarms
Alarm Groups
Officers

Bridge Watch transfer

- Make sure all alarms in ECR are acknowledged

- Prepare the Bridge for transfer (call or other procedures)

- After transfer, verify (SW alarm button) that the alarms is coming also to Bridge

- Assign Engineer on Duty

- Watch transfer to Bridge

- Verify acceptance

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Bridge Watch transfer

Open Officers tab and assign one engineer on duty.
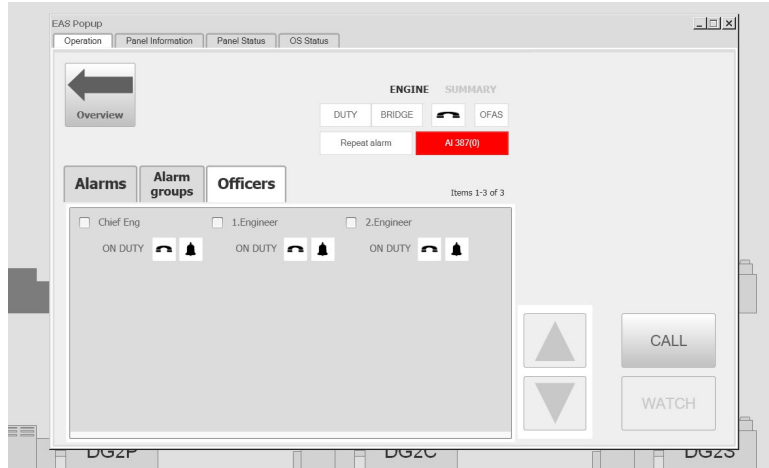
Bridge Watch transfer

- Press Watch button, and To Bridge
- Bridge needs to accept on their Extended Alarm Panel (EAP)
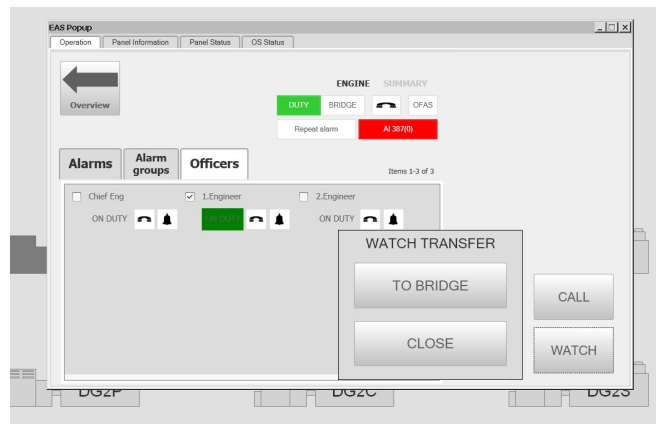- The EAS is now activated

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During Bridge Watch

- On HMI in ECR, the assigned engineer is highlighted green

- On all EAPs, the assigned engineer is highlighted green

- The OFAS is automatically in standby

- In case of ECR alarm: You have to acknowledge the alarm in ECR and turn off OFAS

EAS Repeat alarm philosophy

- One engineer set on duty and transferred to Bridge Control

- One new active alarm from ECR will sound on panels (EAP's) for: Bridge, Engineers on duty and Public

- Local Silence on EAP's will only stop the local buzzer

- If an alarm is not acknowledged in ECR within 3 minutes, repeat 1 is announced on EAP's

- If repeat 1 is not acknowledged within 3 new minutes, repeat 2 is announced on all EAP's

- The alarm must be acknowledged from OS in ECR
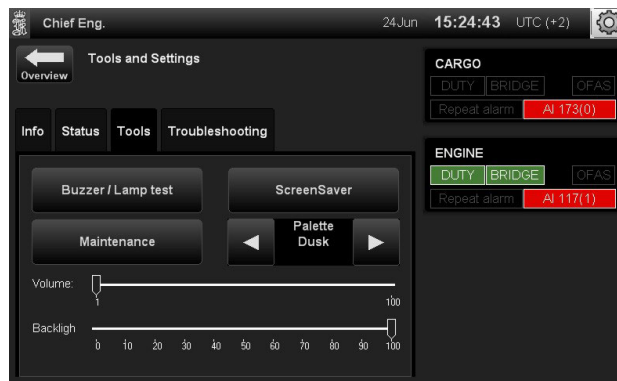
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Extended Alarm Panel (EAP)

Silence button

EAP Touch Panel Operation

- Palette
- Test
- Backlight
- Volume

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EAP functionality / Alarm view

EAS HMI, EAP information

The panel information provides a detailed overview of all EAP's installed, roles, ID numbers, SW versions and network addresses.

Role	Location	ID	Address	WinCE Version	Net Framework Version	EAS Software Version	Panel Software Version
Bridge	Wheelhouse	1	172.30.101.1	CE 6.0.0	3.5.10010.0	1.2.1.18	1.2.1.15
Chief Eng	Chief Engineer	3	172.30.101.3	CE 6.0.0	3.5.10010.0	1.2.1.18	1.2.1.15
1.Engineer		4	172.30.101.4	CE 6.0.0	3.5.10010.0	1.2.1.18	1.2.1.15
Messroom	Mess	5	172.30.101.5	CE 6.0.0	3.5.10010.0	1.2.1.18	1.2.1.15
2.Engineer		6					

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EAS Officers Call / Paging Possibilities

- When operating without EAS active, the system can also be used as a paging system

- This is activated by using: Call Duty Officer Engine. The selected Engineers local panel and all public panels will then sound (call from engine)

- It is possible to activate ALL Engineers panels and public panels by pressing Call All Officers Engine

- This functionality can also be used from the EAP on bridge

Operator Fitness Alarm System (OFAS)

- The Operator Fitness Alarm System
- Also called the Engineer's safety system / Dead man alarm system / Patrol Man
- This system is automatically activated when activating EAS

Start panel   Reset panel

| On/Test | Off | Warning Alarm | | Reset/Test | Warning Alarm |

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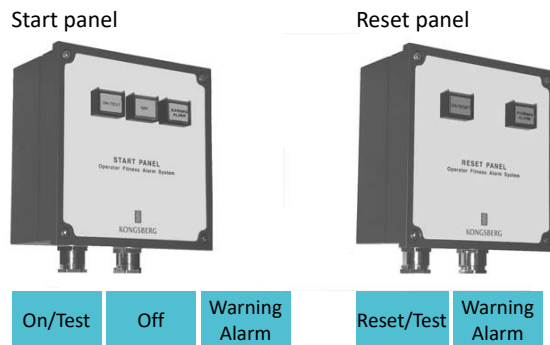
Operator Fitness Alarm System

- One start panel is located on each entry to Engine room space

- If one engineer is going to Engine room space in E0 (without active alarms), he needs to press the "On/Test" button to activate the OFAS

Operator Fitness Alarm System

- The timer has now started (timer is set to be between 5 and 25 minutes), and the engineer need to press reset within the timer timeout
- If this is not done, a pre warning signal is activated
- This pre warning time is 5 minutes, and if not reset within the limit, the OFAS alarm will be activated on all panels (EAP)
- It is important to press the "Off" button when leaving the Engine room space, to stop the OFAS

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Operator Fitness Alarm System

- Lamp test on both panels is performed by pressing the "On/Test" or "Reset/Test" button for 20 seconds

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Operator Fitness Alarm System HMI on OS
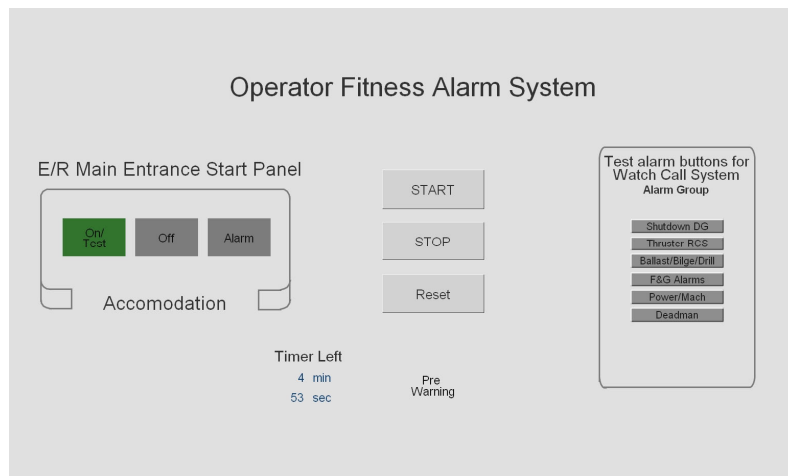
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Light Column for OFAS
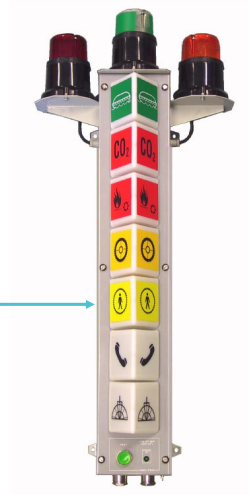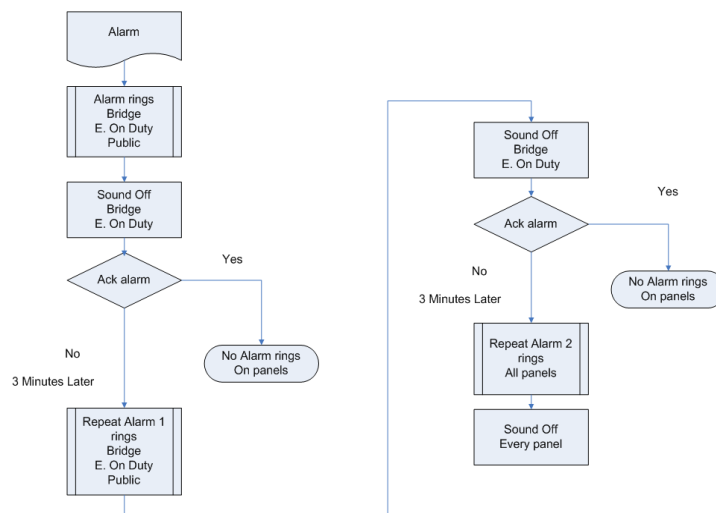

Dead Man Alarm ⟶

EAS Alarm Scenario

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Exercises:

- EAS

Learning Objectives

- Describe the purpose of the Extension Alarm System (EAS)
- Identify a physical Extension Alarm Panel (EAP) unit
- Explain the bridge watch functionality (Used for E0 (unmanned machinery))
- Explain the repeat alarm philosophy of the Extension Alarm System
- Describe the different functionality in EAP unit's
- Identify and explain the EAS HMI
- Assign engineers on duty and transfer to Bridge Watch Control
- Identify a physical Operator Fitness Alarm System Unit
- Explain the functionality in Operator Fitness Alarm System

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End of the presentation

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