



KONGSBERG

Content

- System naming and abbreviations
- System main functions
- System main components
- Correlation between system components
- Correlation between K-systems
- System Status image
- Station Explorer view
- Online User Guide



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K-Chief 700 / SVC-400 / ICS / SAS system

The control system is used in a wide range of applications:

- Power management system
- Machinery
- Propulsion
- Ballast and Cargo

The system can integrate with:

- Fire and Gas system
- Emergency Shutdown system
- Dynamic Positioning system
- Thruster Control system
- Custody Transfer system
- Extended alarm system



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Main functions of the system

- Collect data
- Present values on the monitor
- Handle alarms
- Manual control
- Automatic control
- Logging of data
- Reporting
- Simulation
- System configuration



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K-Chief 700

K-Chief 700 characteristics:

- Distributed system
- Communication via dual network

Stations with specific tasks: e.g. monitoring, control, storage.

AIM-2000

Advanced Integrated Multifunction system

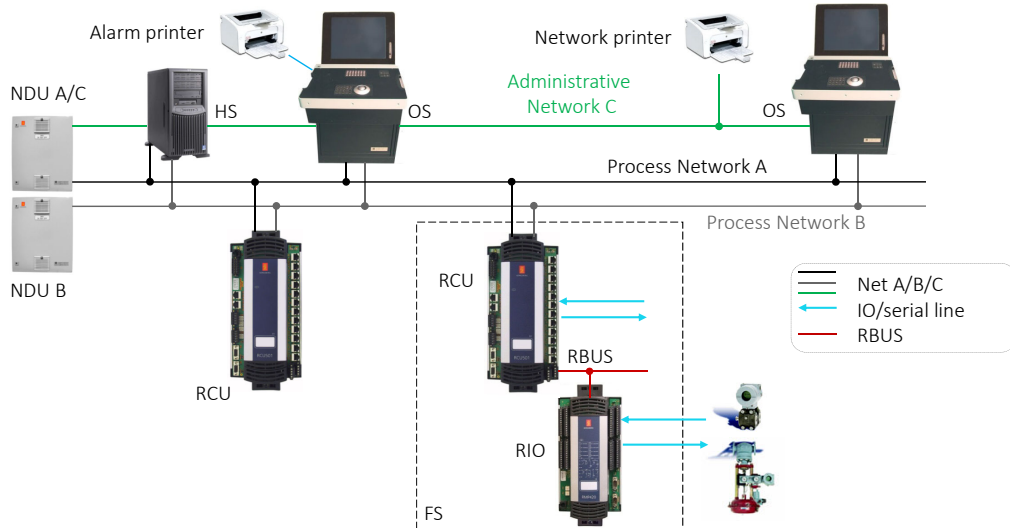
- The name of the Software running on the operator station





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K-Chief 700 hardware components



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Operator station



Main interface between the operator and the process

Monitor

- The operator's "eye" into the process

Panels

- Specific panels for simplified operator communication
- MP8200/MP8300 computer

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OS units



BU-AUT Panel



ALC Panel



Input Panel



MP8200/MP8300 Computer



Keyboard

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Field Station

Interface between the control system and the field equipment

- RCU – Process Station
- RIO units – IO interface



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FS units



Remote Controller Unit (RCU) is a real-time single board computer and remote IO bus driver

- Using PowerPC Host Processor MPC 8245 running at 400MHz
- RCU501: 64 Mbyte RAM, 16 Mbyte Flash memory
- RCU502: 64 Mbyte RAM, 32 Mbyte Flash memory

Remote In/Out Unit (RIO) can interface 32 IO signals



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History Station

History Station is a computer/server with databases for collecting Alarms/Events and Time series from AIM

- Events/Alarms uses a SQL database
- Time series uses a Rapid or PI database

Different models (500/3000/5000 Time series/tags)



HP ProLiant DL 385



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Net Distribution Unit, NDU

- Distribute the nets using switches or routers
- Separate NDUs for net A and B
- Star shaped topology



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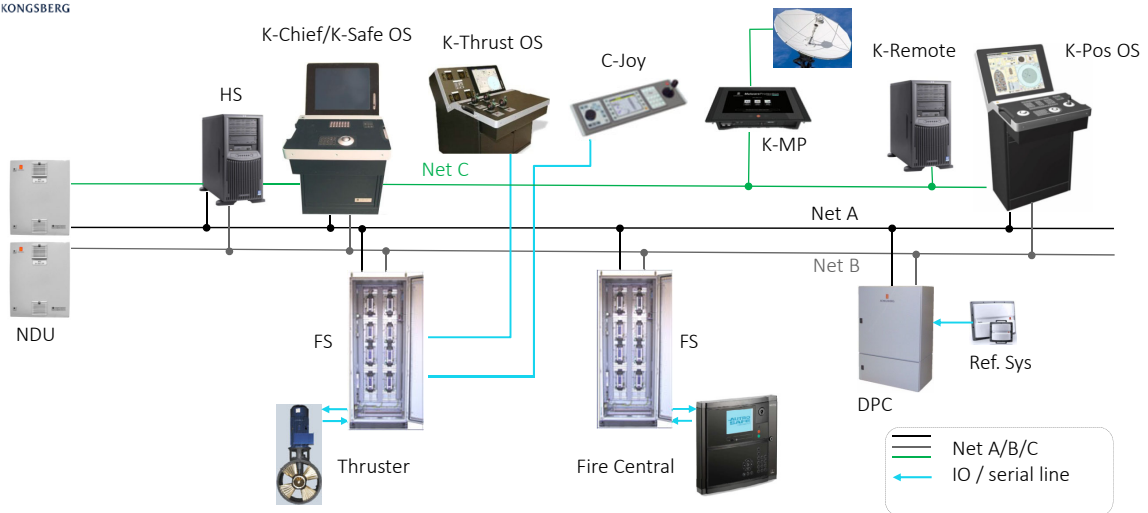
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K-System correlation



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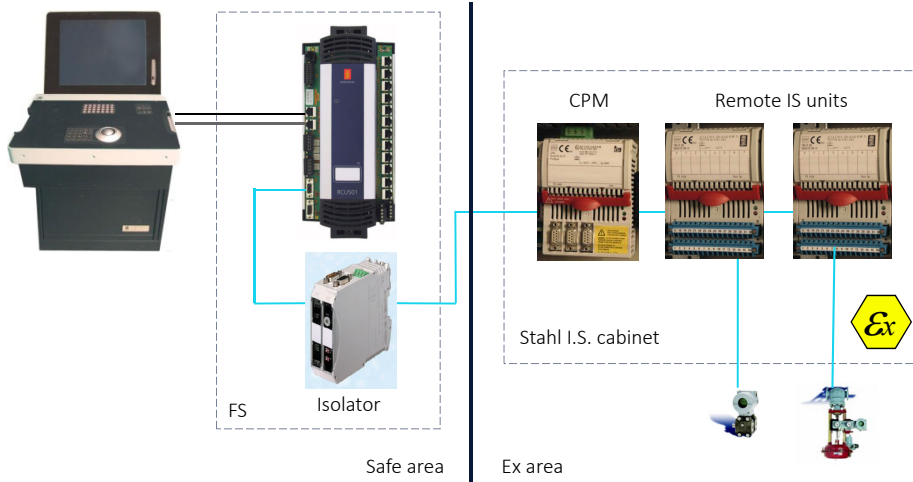
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Hazardous / Ex area solution



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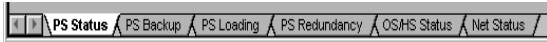


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System Status image



02:27:30 18/03/14		IP-5T3										Event limit exceeded			FS053 PS
Station	Status	Error	Exceptional Modes	Spare Time	Free Memory	Net State	I/O Errors	Serial Errors	Other Errors	Resulting System Alarm	Uptime	Started	Last Reported		
PS046	Operational		NONE	0	0	OK	0			None	1.25 d	18/02/14 10:11:00	08/03/14 11:45:26		
PS047	Operational		NONE	0	0	OK	0			None	1.25 d	18/02/14 10:11:03	08/03/14 11:45:24		
PS048	Operational		NONE	0	0	OK	0			None	1.25 d	18/02/14 10:11:06	08/03/14 11:45:32		
PS049	Operational		NONE	0	0	OK	0			None	1.25 d	18/02/14 10:11:08	08/03/14 11:45:26		
PS050	Operational		NONE	0	0	OK	0			None	1.25 d	18/02/14 10:11:12	08/03/14 11:45:23		
PS051	Operational		NONE	0	0	OK	0			None	1.24 d	18/02/14 10:11:15	08/03/14 11:45:23		
PS052	Operational		NONE	0	0	OK	0			None	1.24 d	18/02/14 10:11:18	08/03/14 11:45:31		
PS053	Operational		NONE	0	0	OK	0			None	1.24 d	18/02/14 10:11:23	08/03/14 11:45:31		
PS054	Operational		NONE	0	0	OK	0			None	1.25 d	18/02/14 10:11:25	08/03/14 11:45:26		
PS055	Operational		NONE	0	0	OK	0			None	1.24 d	18/02/14 10:11:29	08/03/14 11:45:28		
PS071	Not Reported														
PS072	Not Reported														
PS073	Not Reported														
PS081	Not Reported														
PS143	Operational		NONE	0	0	OK	0			None	1.24 d	18/02/14 10:11:33	08/03/14 11:45:25		
PS145	Operational		NONE	0	0	OK	0			None	1.24 d	18/02/14 10:11:35	08/03/14 11:45:26		
PS146	Not Reported														



Additional pages can be chosen by tabs.

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Receiving Station	Sending Station	IpAddress	Msg pr. 100 sec	Lost Msg Net A	Lost Msg Net B
OS031	OS031	172.23.101.31	6	0	0
OS033	OS033	172.23.101.33	56	0	0
OS034	OS034	172.23.101.34	5	0	0
PS041	PS041	172.23.1.41	105	5	0
PS042	PS042	172.23.1.42	5	0	0
PS051	PS051	172.23.1.51	5	0	0
PS052	PS052	172.23.1.52	5	0	0
PS141	PS141	172.23.1.141	105	0	0
PS142	PS142	172.23.1.142	5	0	0
PS151	PS151	172.23.1.151	5	0	0
PS152	PS152	172.23.1.152	5	0	0
PS201	PS201	172.23.1.201	105	0	0
PS202	PS202	172.23.1.202	109	0	0
PS203	PS203	172.23.1.203	0	0	0
PS204	PS204	172.23.1.204	105	0	0
PS205	PS205	172.23.1.205	154	0	0

Receiving Station	Sending Station	IpAddress	Msg pr. 100 sec	Lost Msg Net A	Lost Msg Net B
OS031	OS031	172.23.101.31	6	5	0
OS033	OS033	172.23.101.33	56	5	0
OS034	OS034	172.23.101.34	11	0	0
PS041	PS041	172.23.1.41	0	0	0
PS042	PS042	172.23.1.42	2102	1420	0
PS051	PS051	172.23.1.51	32	17	0
PS052	PS052	172.23.1.52	27	15	0
PS141	PS141	172.23.1.141	2097	1418	0
PS142	PS142	172.23.1.142	2101	1420	0
PS151	PS151	172.23.1.151	9	6	0
PS152	PS152	172.23.1.152	9	6	0
PS201	PS201	172.23.1.201	105	70	0
PS202	PS202	172.23.1.202	108	72	0
PS203	PS203	172.23.1.203	109	73	0
PS204	PS204	172.23.1.204	105	70	0
PS205	PS205	172.23.1.205	155	104	0

Net Status image

PS203 has no problems communicating to all PS/OS except PS41 on Net A

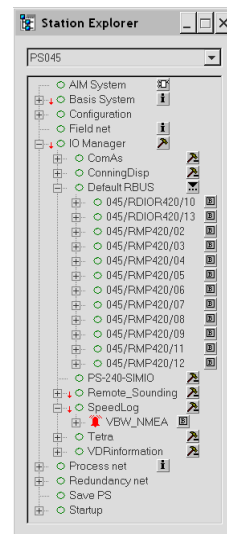
Loss of Net A of PS41 affects all OS/PS

Station Explorer

To open:

- Tools -> Station Explorer
- Right-click in the System Status image on selected PS

- Properties view:**
software and hardware status of the selected PS
- IO Terminal Block view:**
information on a selected IO block and its IO points
- Module context menus:**
information of the selected module
- IO Manager view:**
status of IO drivers, IO objects and IO blocks for selected station
- Driver Properties view:**
configuration of the IO drivers of the system





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Station Explorer

- No alarms on any level
- Alarm in a lower level
- Unacknowledged alarms
- Unacknowledged alarms, not active
- Acknowledged alarms

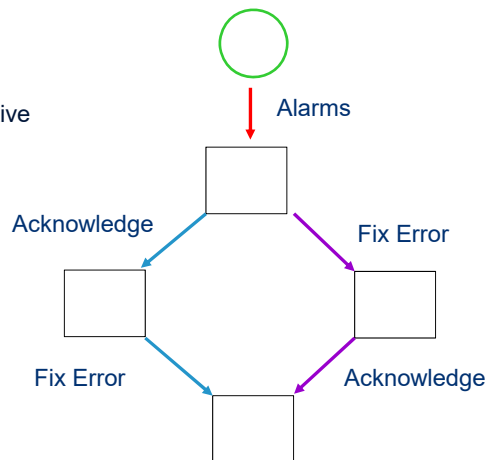
Icon	Indication
	Error condition in the equipment node, the alarm is not acknowledged. When acknowledged, a red circle is displayed (see below).
	Error condition in the equipment subnode, the alarm is not acknowledged. When acknowledged, a red circle is displayed (see below).
	Error condition is no longer present, the alarm is not acknowledged. When acknowledged, a green circle is displayed (see below).
	Error condition is no longer present in subnodes, the alarm is not acknowledged. When acknowledged, a green circle is displayed (see below).
	Alarm is acknowledged. Error condition is still present.
	Indication on sub equipment node(s), either: - Error on some sub equipment node(s) - Not acknowledged alarm on sub equipment node(s).
	Node and all sub equipment nodes are OK.



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Station Explorer

- No alarms on any level
- Alarm in lower level
- Unacknowledged alarms, active
- Unacknowledged alarms, not active
- Acknowledged alarms

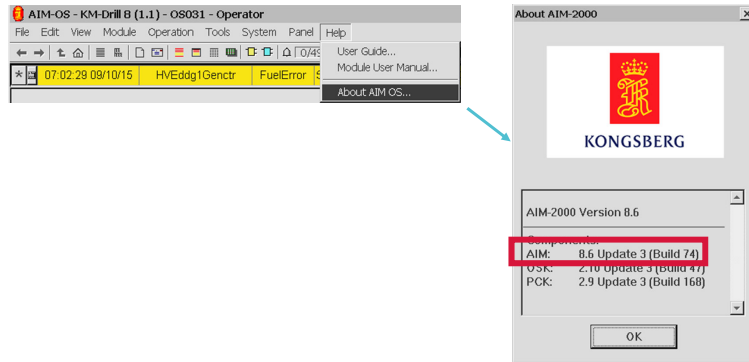




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Version of AIM

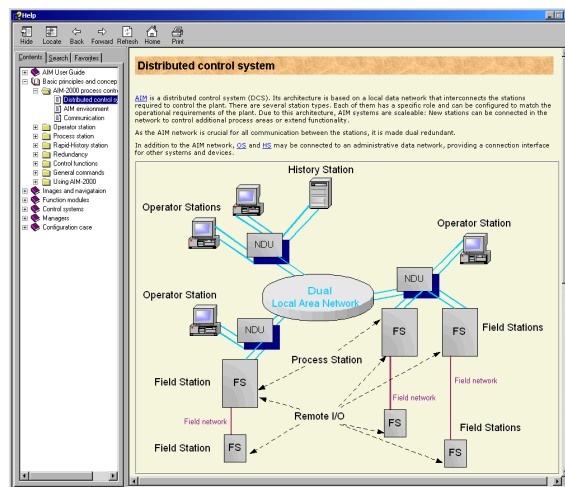
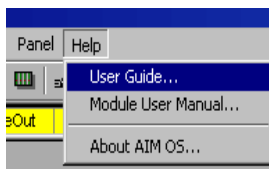
AIM Version: 8.6 u3



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User Guide (Help)

- On-line reference on standard HTML Help viewer



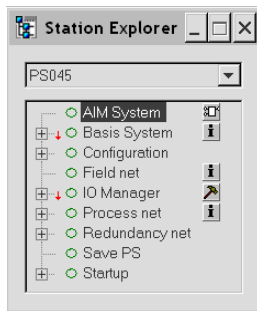


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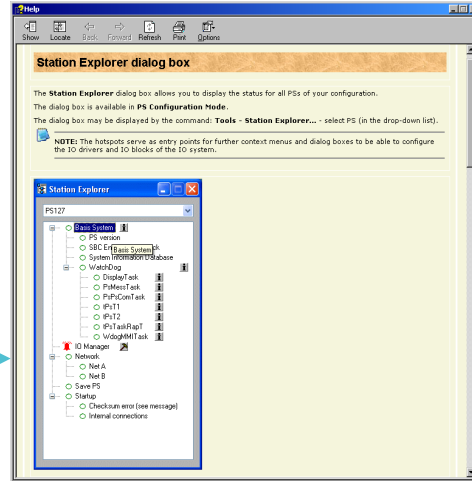
User Guide (Help)

- Mark the window
- Press F1 button

A view with reference information is displayed

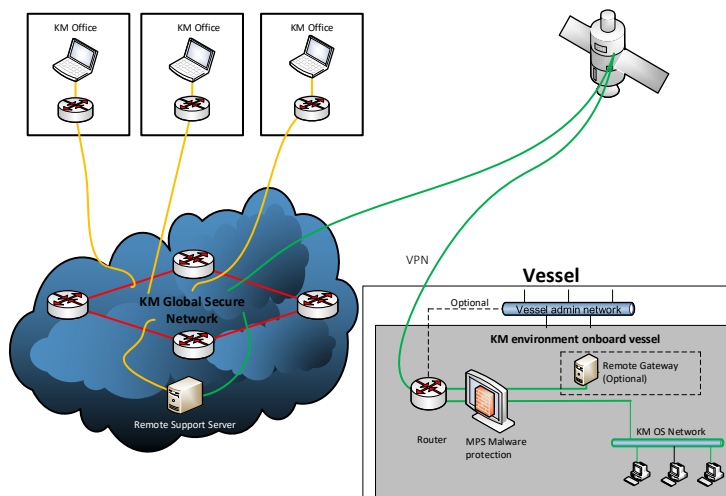


F1



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Remote Service





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Remote Services is accessed either from a hotspot on the home image or from the Tools menu



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Exercises:

- System Knowledge
- System Status
- Station Explorer
- User Guide



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Learning Objectives

- Be familiar with the naming and abbreviations in the K-Chief 700 system
- Get an overview of the main functions of a K-Chief 700 system
- Identify the main components in a K-Chief 700 system
- Explain the correlation between the main units in the K-Chief 700 system
- Explain the correlation between the K-Chief 700 and other K-Systems
- Identify and explain the System Status image
- Identify and explain the Station Explorer view
- Indicate the function of K-Remote and K-MP
- Identify and explain the User Guide



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**End of the
presentation**