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Your Navigation Partner

HANSIN will keep in touch with you and do our best to provide the high quality of products and service for you.



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&
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GREETING

Your navigation partner!

Hanshin Electronics Co., Ltd. was established in 1988 manufacturing Intercom system, servicing Radio communications systems and Air traffic control systems industries.

We will continue to utmost quality products and services to the trusted customers such as Shipbuilding companies, Shipping companies, Korea government, Korea Coast Guard and Military for Intercom system, Radio communication and Navigation system solutions. We have registered as a supplier to most of not only domestic shipyards but also overseas shipyards.

We acquired the quality management systems conformed to ISO 9001 in 2003.

With dedicated and passionate professional engineers who trained at JRC, JOTRON as agent and other manufacturers of combined valuable experiences, HANSHIN is ready to serve your needs at anytime and anywhere.

HANSHIN will keep in touch with you and do our best to provide the high quality of products and service for you.

Your sincerely
Hanshin Electronics Co., Ltd.

Approved

ISO 9001:2007 by KR

ISO 14001

Radio service and survey approved by KR, NK, ABS, LR, GL, DNV & BV

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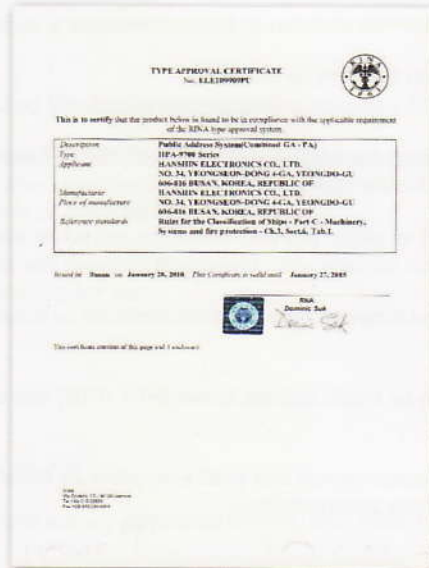


- 2013 07
Type approval by RINA for HPA-9800 PA/GA and HX-480 VoIP telephone system
- 2013 01
Awarded Excellent company of ISO by KR
- 2012 12
Awarded 5 Million export company by KOTRA
- 2012 09
Type approval by DNV for public address system(HPA-9700) and Telephone system.
- 2011 06, 12
Type approval by CCS for sound powered telephone and public address system(HPA-9700)
- 2011 07
Developed BNWAS and Acquired Type Approval certificate by Korea Maritime Affairs and Port Office
- 2010 01, 11
Type approval by RINA for Public address system(HPA-9700) and telephone system
- 2008 11
Selected as export bluechip medium and small enterprises by Busan & Ulsan regional- SMBA (Small & medium business administration)
- 2008 01
Established of special business department(Air traffic control system)
- 2006 04
Developed digital marine clock
- 2006 03
Registered in a patent for Ex type speaker(Reg.No.10-0562475)
- 2003 12
Acquired I.S telephone certificate from KIMM(Korea institute of machinery & materials)
- 2003 10
Registered in a patent for uninterrupted dual public address system(Reg.No.0402958)
- 2003 01
Acquired ISO 9001-2000 certificate from KR(Korean register of shipping)
- 2000 10
Established attached technology research institute
- 1997 06
Made a contract for technical service agent with JRC(Japan Radio Co., Ltd.)
- 1994 06
Changed company name to Hanshin Electronics Co., Ltd.
- 1991 10
Developed marine auto telephone exchange system
- 1989 05
Developed marine public addresser, omni directional TV antenna and communal aerial system
- 1988 12
Established Hanshin Electronics Industry

CERTIFICATE



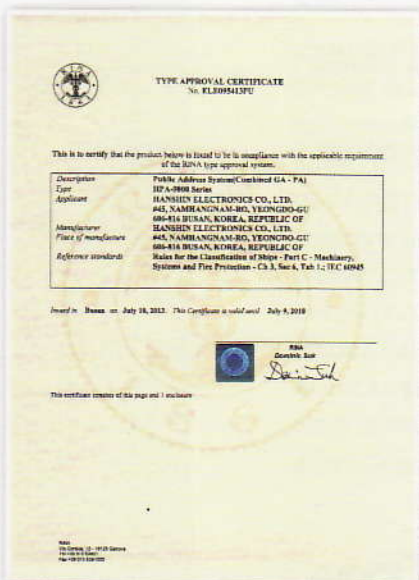
DNV Type Approval HPA-9700 PA



RINA Type Approval HPA-9700 PA



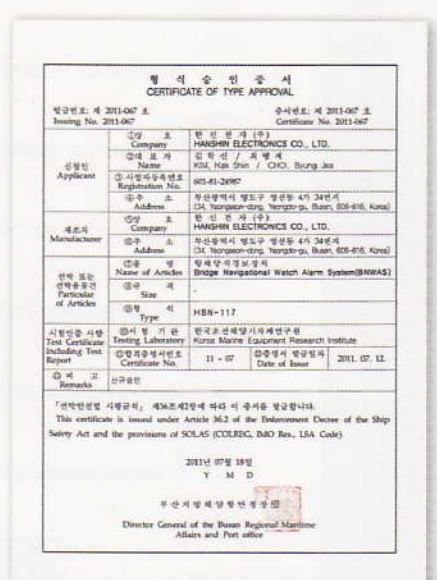
CCS Type Approval HPA-9700 PA



RINA Type Approval HPA-9800 PA



RINA Type Approval HX-480 VoIP



BNWAS Type Approval HBN-117



Quality Management System (ISO:9001)



Quality Management System (ISO:14001)



DNV TA HX-72 TEL



DNV TA C.B.T



DNV TA S.P.T



RINA TA HX-72 TEL



RINA TA HX-120 TEL



DNV CE HPA-7300 PA



CCS TA S.P.T



RINA TA S.P.T



DNV CE HCA-124C CAS



DNV CE MARINE CLOCK

PUBLIC ADDRESS SYSTEM

HPA-9800 series

Public Address General Emergency Alarm System is designed for general announcing with advanced technology and complies with IMO regulation III/6.5 & Res. MSC.47(66)/Circ.808 performance standards.

This system is also specially made to keep good performance under the harsh environment of vessel at sea and especially off shore marine plant.

For this system, paging function through auto telephone exchanger and combined talk back function are available.

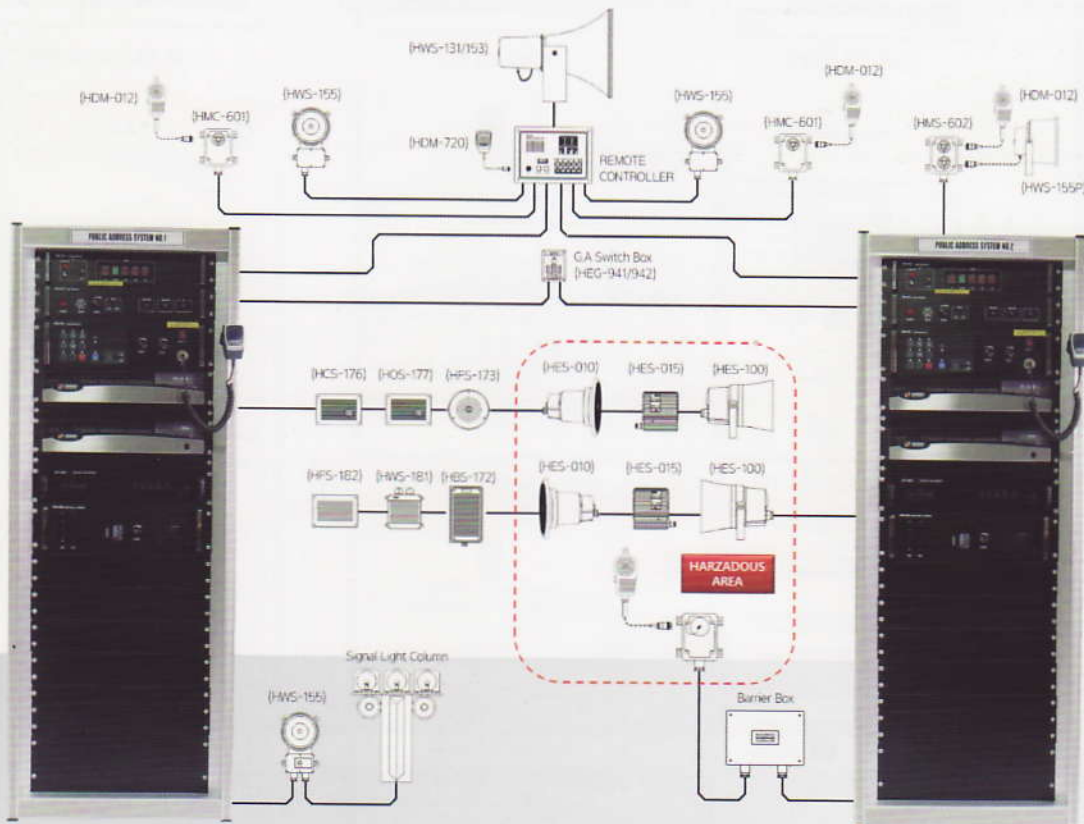
Interfacing with external general emergency alarm, fire alarm, signal column light, air horn, VDR and fail alarm monitoring system are also available.

Type Approval by RINA for HPA-9800 PAGA

System Feature

- Perfect duplication system (A-B System)
- Flexible choice of output power and installation space
- Reliable and durable performance
- Simple installation and easy maintenance
- Convenient control with microprocessor and diode matrix
- Automatic main/em'cy power changeover

System Diagram



System Specification

HPA-9800 Main Unit

- Dual type (A-B) system
- Output : 1,500W~9,000W
- Remote controller : Standard 6 ea (Extension : 15 ea)
- Line checker
- Alarm generator
 - General emergency alarm
 - Fire alarm
 - CO₂ smoke alarm
 - Gas alarm
 - etc.
- GA muting
- Announcing priority : 18 class
- Auto-telephone paging call (all, group-1, group-2)
- Automatic main/em'cy power changeover
- Fault detector (system check)
- Operating temperature & humidity : -5°C~+60°C, 95%
- Frequency characteristic : 50Hz~15kHz
- Distortion : less than 0.5%
- S/N Ratio : more than 70dB
- Power source : AC110/220V 50/60Hz
- Dimension(W x D x H) : 600 x 750 x 1565mm



HBC-210 Remote Controller

- Call signal : 800Hz
- Microphone with volume
- Speaker selector : 9 group
- Dimmer : Speaker selector lamp brightness
- Monitor speaker with volume
- Flush or Wall mounting type
- Dimension(W x H x D) : 275 x 200 x 110mm
- * Under developing Ex type remote controller

PUBLIC ADDRESS SYSTEM

HPA-9700 series

Public Address with Talkback System is designed for general announcing with advanced technology and complies with IMO regulation 111/6.5 & Res. MSC.47(66) performance standards.

This system is also specially made to keep good performance under the harsh environment of vessel at sea. For this system, paging function through auto telephone exchanger and talk-back function are available. Interfacing with external general emergency alarm, fire alarm, air horn and signal light column are also available.

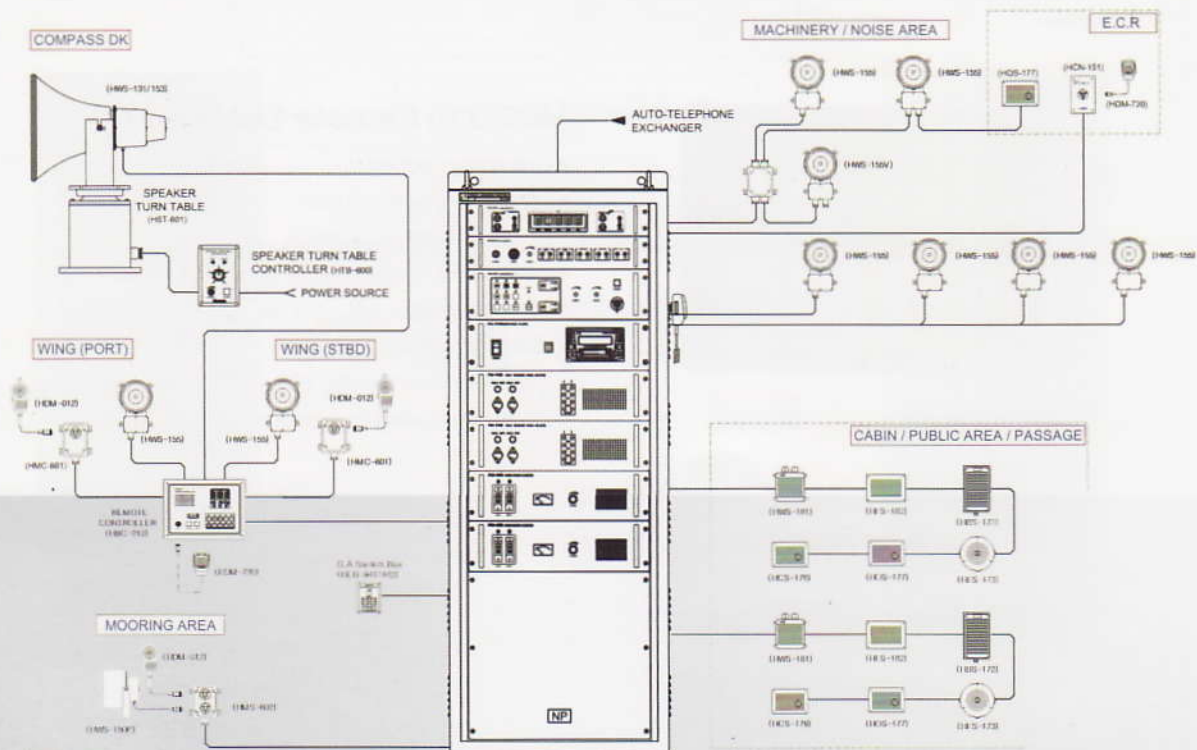
Registered in a patent for uninterrupted dual public address system by Korean Intellectual property office on 2003.

Type Approval by DNV, RINA and CCS

System Feature

- Flexible choice of output power and installation space
- Reliable and durable performance
- Simple installation and easy maintenance
- Convenient control with microprocessor and diode matrix
- Automatic main/em'cy power changeover
- Automatic main/sub amplifier changeover in dual system

System Diagram



System Specification

HPA-9700 Main Unit

- Single/Dual system
- Single/Dual rack type
- Output : 200W~2,000W
- Remote controller : Standard 6 ea (Extension : 36 ea)
- Master & Slave changeover/Two amp. run type
- Alarm generator : option
 - General emergency alarm
 - Fire alarm
 - CO2 smoke alarm
 - Gas alarm
 - etc.
- GA muting
- Announcing priority : 12 class
- Auto-telephone paging call (all, group1, group2)
- Automatic main/em'cy power changeover
- Fault detector (system check)
- Operating temperature & humidity : -5°C~+55°C , 95%
- Frequency characteristic : 120~12000Hz within±6dB
- Distortion : less than 0.5%
- S/N Ratio : more than 55dB
- Power source : AC110/220V 50/60Hz & DC24V
- Dimension(W x D x H) : 585 x 450 x 1500mm
(single rack/800W dual system)



HBC-210 Remote Controller

- Call signal : 800Hz
- Microphone with volume
- Speaker selector : 9 group
- Dimmer : Speaker selector lamp brightness
- Monitor speaker with volume
- Flush or Wall mounting type
- Dimension(W x H x D) : 275 x 200 x 110mm



PUBLIC ADDRESS SYSTEM

HPA-7300 series

Public Address with Talkback System is designed for general announcing with advanced technology and complies with the IMO regulation 111 /6.5 & Res. MSC.47(66) performance standards. This system is also specially made to keep good performance under the harsh environment of vessel at sea.

For this system, paging function through auto telephone exchanger and combined talk back function are available.

CE mark(EMC) by DNV

System Feature

- Reliable and durable performance
- Simple installation and easy maintenance
- Convenient control with microprocessor and diode matrix
- Automatic main/em'cy power changeover



HPA-7300 Main Unit

- Single type system
- Output : 200W, 400W
- Remote controller : option(max. 2 ea)
- Announcing priority : 9 class
- Automatic main/em'cy power changeover
- Operating temperature & humidity : -5°C- +55°C , 95%
- Power source: AC 110/220V 50/60Hz & DC24V
- Dimension(W x H x D) : 430 x 450 x 300mm



HBC-310 Remote Controller

- Call signal : 800 Hz
- Microphone with volume
- Speaker selector : 9 group
- Dimmer : Speaker selector lamp brightness
- Monitor speaker with volume
- Dimension(W x H x D) : 275 x 200 x 110mm

HPA-6100

HPA-6100 Series Public Addressor miniaturized to fit a small craft with latest technology. It was made in order to keep its performance under the harsh environment of the vessel at sea. It is useable for general broadcasting and talk-back.



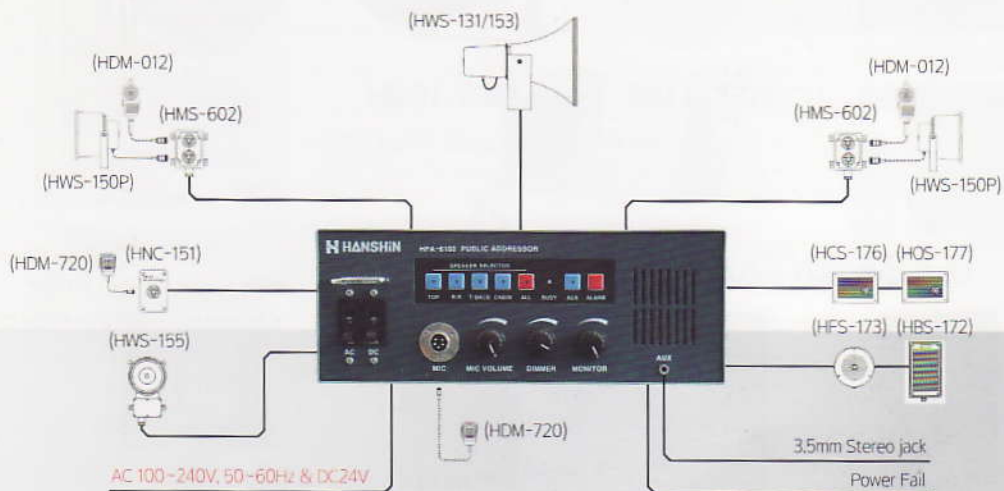
System Feature

- Miniaturization
- Self-protection circuit of Power amplifier unit
- Easy installation and Easy maintenance
- Aux. input for AM/FM radio CD&MP3 player

System Specification

- Desk / Flush type
- Output : 100W
- Automatic main/em'cy power changeover
- Announcing priority : 5 class
- Talkback : 2 lines
- Operating temperature & humidity : -5°C~55°C, 95%
- Power source : AC100~240V, 50~60Hz & DC24V
- Dimension(W x H x D) : 364 x 170 x 343mm (Desk)
360 x 160 x 342mm (Flush)
- Weight : 12kg

System Diagram



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PUBLIC ADDRESS SYSTEM ACCESSORIES

Watertight Speaker



HWS-131/153

- Output:
131 : 30/50W
153 : 75/100/200/300W



HWS-155

- Output:
5/10/15/20W



HWS-155V

- Output:
5/10/15/20W
- V.C Type



HWS-150P

- Output:
5/10/15/20W
- Portable Type



HWS-181

- Output : 1/2/5W
- Wall Type

Accommodation Speaker



HFS-182

- Output : 1/2/5W
- Flush Type
- W.T Type



HFS-173

- Output : 1/2/5W
- Ceiling Type



HCS-176

- Output : 1/2/5W
- Ceiling(Flush) Type



HOS-177

- Output : 1/2/5W
- Oneside Wall Type



HBS-172

- Output : 2/5W
- Bothside Type

Ex Type Speaker



HES-015B

- Output : max.6W
- Ex de IIB+H2 T6
IP54



HES-010F

- Output : max.6W
- Ex de IIB+H2 T6
IP54



HES-100H

- Output : max.50W
- Ex de IIC+H2 T6
IP67



HDM-012

- W.T Type



HDM-720

- N.W.T Type

G.A Switch Box



HEG-941D

- Auto/Manual
- Dimmer



HEG-941F

- Auto/Manual



HEG-942

- Auto



HEG-942W

- Auto
- W.T Type

LOCAL AREA NETWORK SYSTEM



Network Consulting

Carrying out customized Network Consulting services to guarantee stability, availability, expandability, and security, with vast experience and expertise in the field of integrated network establishment. Hanshin performs customer-oriented network consulting services from planning and designing network infrastructure, to making development directions and master plan.

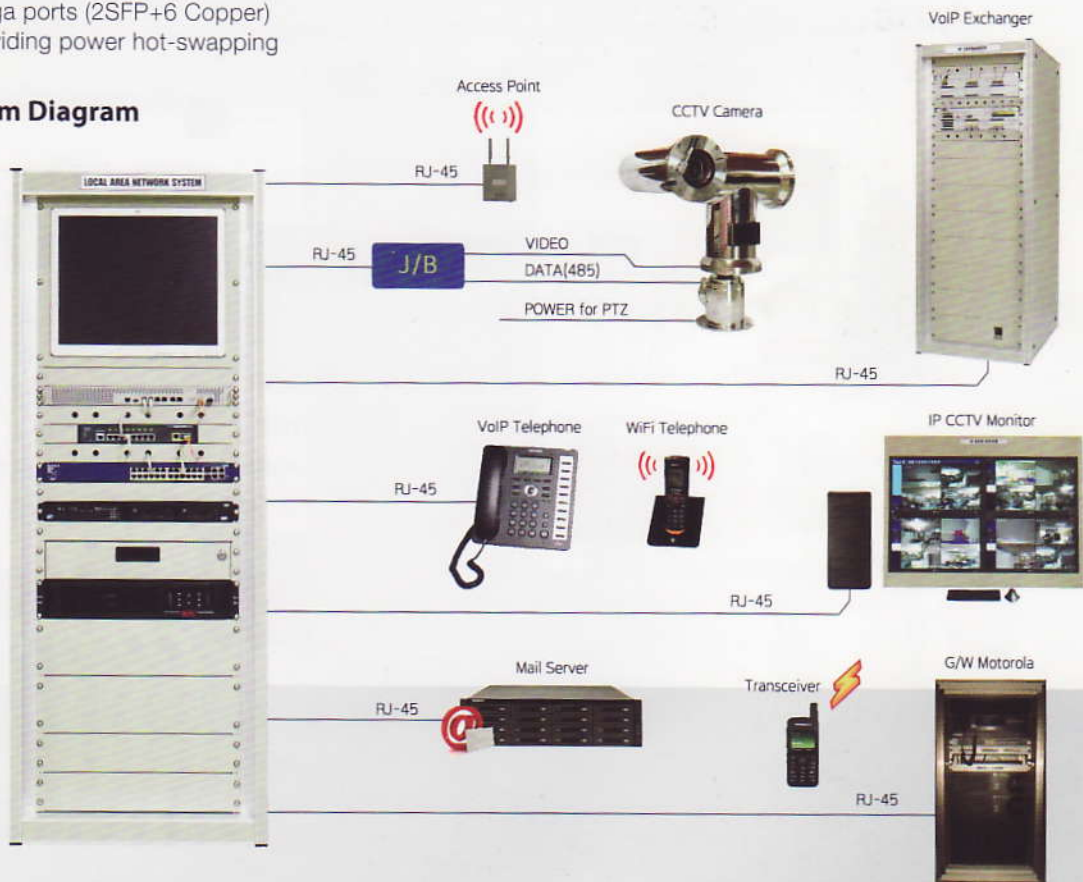
Network Establishment

Provide various products and solutions to establish integrated network infrastructure for shipbuilding yard, and enterprises. Hanshin has been performing a variety of network building business with its differentiated technical skills, in wire-wireless broadband network, network separation and related solution, and electronic conference and voting.

System Feature

- Providing network solutions to meet the requirements of shipboard communications (IP PBX, IP CCTV, IP TV, WiFi Mobile, Mail Server, etc)
- Gigabit switch as a core equipments
- Providing load balancing and load sharing
- Easy to install and design
- Max. 4Gbps throughput
- 215K L4 CPS / 135K L7 CPS
- Support 12,000 simultaneous sessions
- 8Giga ports (2SFP+6 Copper)
- Providing power hot-swapping

System Diagram



MARINE TELEPHONE SYSTEM

VoIP Exchanger

HX-480 VoIP Auto Exchange System is designed with high reliable technology and providing the voice communication of existing analog exchanger and digital exchanger, VoIP, data communication, internet and voice via wireless LAN in an one IP platform.

The system is also specially made to keep a good performance under the harsh environment of vessel at sea and especially off shore marine plant.

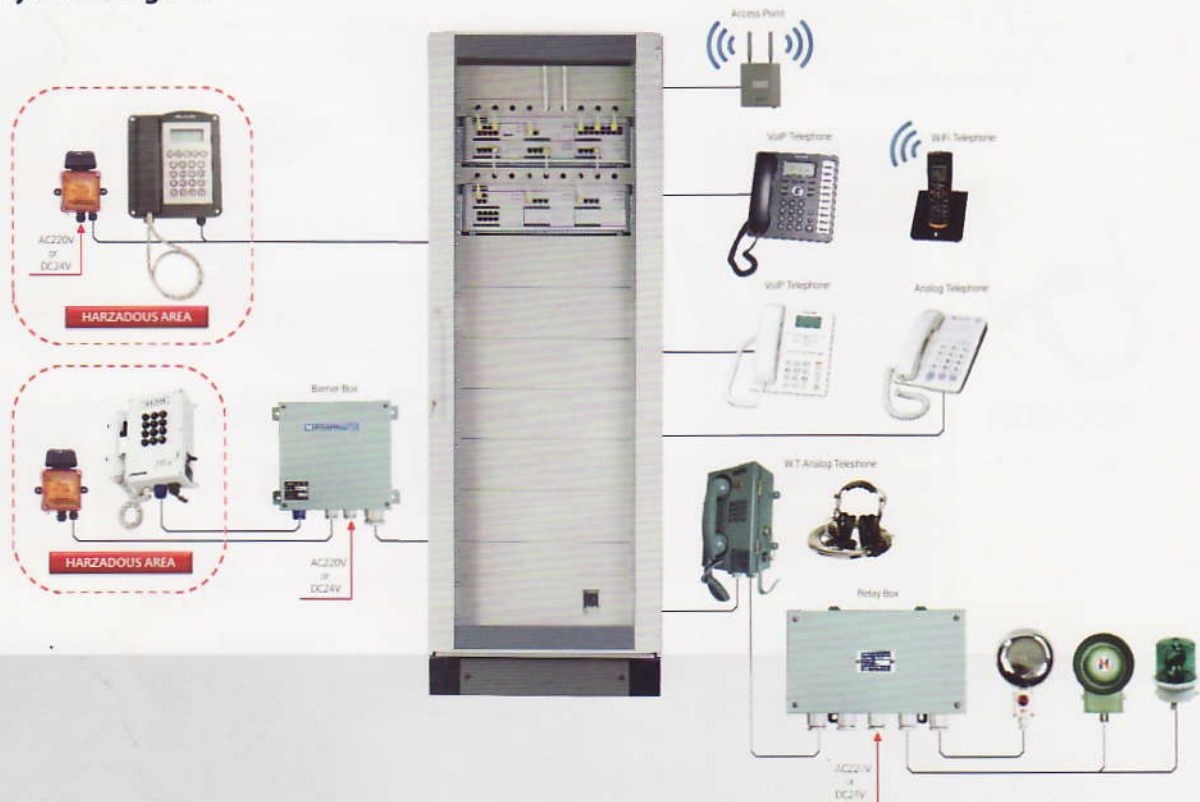
Type Approval by RINA for HX-480 VoIP telephone system

System Feature

- Flexible choice of line capacity
- IP Telephony, Providing wireless solutions and various application
- Supports various telephone (Analog type, Digital type, IP type, WLAN type and Ex type)
- Simple installation and easy maintenance
- Automatic main/em'cy power changeover



System Diagram



MARINE TELEPHONE SYSTEM VoIP Exchanger

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System Function & Specification

DESCRIPTION		HX-480
System Capacity	○	Extension : max. 512 lines IP Extension : 480 lines Trunk : 256 lines
Major Function		
Inter - communication	○	
Automatic Call-back	○	
Call Transfer(Camp-on)	○	
External Call & Trunk	○	
Add-on Conference	○	
Priority Call	○	
Call Split	○	
Wake-up Call(Morning Call)	○	
Simultaneous Call	○	Standard : 16 lines (Expansions : 16 lines)
Self Ring Test	○	
Paging Call	○	
Group Call	○	
Control Unit	○	
Alarm for Handset Off-hook	○	
Pulse / Tone Conversion	○	
Automatic Main / Em'cy Power Changeover	○	
Redial, Hold & Speak-phone	○	Desk Type, Wall Type(N.W.T)
Hands Free	○	IP Telephone
Operating Temperature & Humidity		-5°C~55°C, 95%
Power Supply		AC110/220V, 50/60Hz DC24V
Rack Size (W x H x D mm)		600 x 750 x 1,565



Desk Type



**VoIP
Flush Type**



**VoIP
Desk Type**



WiFi Type



Wall Type



Flush Type



Portable Type



W.T/ Ex Type



MARINE TELEPHONE SYSTEM

Auto Telephone Exchanger

HX-120 HX-72 HX-26

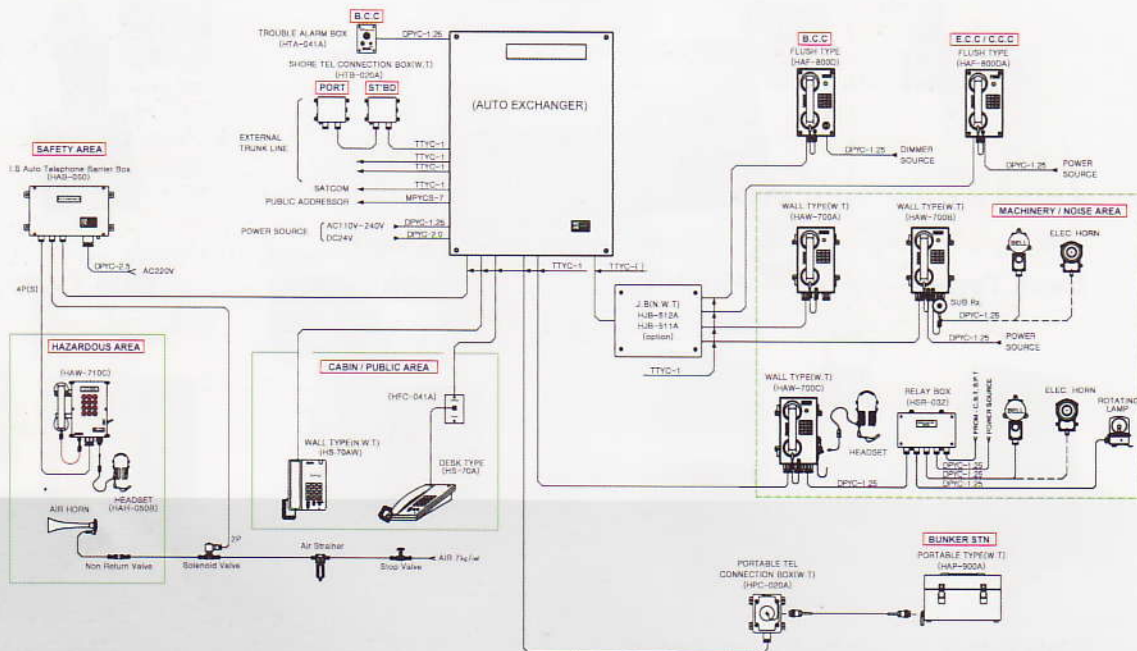
Automatic Telephone Exchange System is designed with high reliable technology and mounted with IAPX8088 microprocessor CPU, stored program for system control, space division matrix for system control, space division matrix for switch control, dial tone multi frequency system, protecting function from lightning and call quality stabilizing circuit. The system is also specially made to keep a good performance under the harsh environment of vessel at sea.

Type Approval by DNV for HX-72
Type Approval by RINA for HX-120 and HX-72
CE mark(EMC) by DNV for HX-26

System Feature

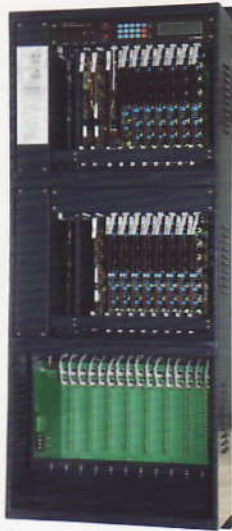
- Flexible choice of line capacity
- High reliability microprocessor control
- Simple installation and easy maintenance
- Conversion of pulse/tone
- Automatic main/em'cy power changeover
- Add on VoIP Gateway (max. 60 lines) : option

System Diagram



MARINE TELEPHONE SYSTEM

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HX-120



HX-72



HX-26

System Function & Specification

DESCRIPTION	HX-120 / HX-72		HX-26
System Capacity	<input type="checkbox"/>	Extension : max. 118 line(HX-120), 70 lines(HX-72) External : 4 lines(option : max. 40 lines)	<input type="checkbox"/> Extension : max. 26 lines External : 2 lines(option : max. 12 lines)
Major Function			
Inter - communication	<input type="checkbox"/>		<input type="checkbox"/>
Automatic Call-back	<input type="checkbox"/>		<input type="checkbox"/>
Call Transfer(Camp-on)	<input type="checkbox"/>		<input type="checkbox"/>
External Call & Trunk	<input type="checkbox"/>	4 lines(shore line, satcom & etc)	<input type="checkbox"/> 2 line(shore line & satcom)
Add-on Conference	<input type="checkbox"/>	all lines	<input type="checkbox"/> all lines
Priority Call	<input type="checkbox"/>		<input type="checkbox"/>
Call Split	<input type="checkbox"/>		<input type="checkbox"/>
Wake-up Call(Morning Call)	<input type="checkbox"/>		<input checked="" type="checkbox"/>
Simultaneous Call	<input type="checkbox"/>	max. 15 lines	<input type="checkbox"/> max. 4 lines
Self Ring Test	<input type="checkbox"/>		<input type="checkbox"/>
Paging Call	<input type="checkbox"/>	3 lines(all, group-A, group-B)	<input type="checkbox"/> 1 line(all)
Group Call	<input type="checkbox"/>	option(max. 6 groups)	<input checked="" type="checkbox"/>
Hot Line	<input type="checkbox"/>	option	<input checked="" type="checkbox"/>
Remote Display Unit	<input type="checkbox"/>	option	<input checked="" type="checkbox"/>
Alarm and Display for System Failure	<input type="checkbox"/>		<input checked="" type="checkbox"/>
Alarm for Handset Off-hook	<input type="checkbox"/>		<input type="checkbox"/>
Display for Handset Off hook	<input type="checkbox"/>	max. 8 lines	<input checked="" type="checkbox"/>
Pulse / Tone conversion	<input type="checkbox"/>		<input type="checkbox"/>
Automatic Main / Em'cy Power changeover	<input type="checkbox"/>		<input type="checkbox"/>
Redial, Hold & Speak-phone	<input type="checkbox"/>	Desk type, Wall type(N.W.T)	<input type="checkbox"/> Desk type, Wall type(N.W.T)
Operating Temperature	-5~55°C		
Operating Humidity	95%		
Power Supply	AC110V ±10%, 0.86A, 50/60Hz AC220V ±10% 0.43A, 50/60Hz DC24V ±10%, 2.2A	AC110V ±10%, 0.36A, 50/60Hz AC220V ±10% 0.18A, 50/60Hz DC24V ±10%, 1.67A	AC110V ±10%, 0.57A, 50/60Hz AC220V ±10% 0.28A, 50/60Hz DC24V ±10%, 2.65A
Power Consumption	System : 80W Internal tel. : 0.85W	System : 40W Internal tel. : 0.85W	System : 60W Internal tel. : 0.85W
Rack Size (W x H x D mm)	540 x 1340 x 240	630 x 730 x 250	440 x 570 x 166



Desk/Wall Type(N.W.T)
(HS-70A/70AW)



Flush Type
(HAF-800)



Wall Type(W.T)
(HAW-700)



Portable Type(W.T)
(HAP-900A)

MARINE TELEPHONE SYSTEM

Common Battery Telephone

Common Battery Telephone System(HCT-5D, HCT-12S, HCT-20S) is very useful communication system under the emergency situation. Also I.S type telephone can be combined with HCT-12S or HCT-20S.

It is specially designed in consideration of harsh environment at sea.

Type Approval by DNV and RINA

System Feature

- Easy operation
- Simple installation and easy maintenance
- Three types of system are available
 - Direct calling
 - Master & Slave calling (1:4)
 - Mutual selective calling (12 lines, 20 lines)

Operating Specification

- Operating condition
 - Temperature : -5°C-+55°C
 - Humidity : 95%
- Operating voltage : DC24V



Desk Type



Flush Type



Portable Type



Wall Type



**Wall Type
(Sub Receiver Type)**



**Wall Type
(Headset Type)**

Sound Powered Telephone

Sound Powered Telephone System(HST-5D, HST-12S, HST-20S) is very useful communication system under the emergency situation because it keeps normal operating condition with built-in generator even though the main AC power and emergency DC power source are not supplied. It is specially designed in consideration of harsh environment at sea.

Type Approval by DNV / RINA / CCS

System Feature

- Easy operation
- Simple installation and easy maintenance
- Communication is available for 10-15 min with one-time charging
- Enable to recharge while system is operating
- Three types of system are available
 - Direct calling
 - Master & Slave calling (1:4)
 - Mutual selective calling (12 lines, 20 lines)

Operating Specification

- Operating condition
 - Temperature : -5°C~+55°C
 - Humidity : 95%
- Generator : DC24V



Desk Type



Flush Type



Portable Type



Wall Type



**Wall Type
(Sub Receiver Type)**



**Wall Type
(Headset Type)**

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INTRINSICALLY SAFE TELEPHONE SYSTEM

I.S Auto Telephone System is for inter-communication where installed in hazardous or flammable area in consideration of the special environment of vessel at sea.

This telephone system is also specially designed and manufactured to comply with intrinsically safety construction standard of IEC 60079-0 I 60079-11 and Ex ia IIC T6 protection type.

It had been tested and inspected by the KIMM(Korea Institute of Machinery & Materials) under the authority vested by Republic of Korea.

I.S Telephone Certificate by KIMM and CE mark(EMC) by DNV

I.S Auto Telephone

- Voice open voltage : max. 21V
- Voice short current : max. 46mA
- Hook/Call SW short current: max. 10mA
- Transmitter/ Receiver level: adjustable
- Operating environment: 40°C<Ta<+60°C, 5%-95%



Wall Type



Wall Type
w/sub-receiver



Wall Type
w/headset connector



Portable Type



I.S Auto Telephone Barrier Box

- Power supply : AC110/220V, DC24V
- Hook/Call SW zener voltage : 28V
- Hook/Call SW short current : max. 10mA
- Voice signal zener voltage : 28V
- Voice signal short current : max. 46mA
- External alarm : 3 ports

INTRINSICALLY SAFE TELEPHONE SYSTEM

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I.S CBT System is for inter-communication where installed in hazardous or flammable area in consideration of the special environment of vessel at sea.

This telephone system is also specially designed and manufactured to comply with intrinsically safety construction standard of IEC 60079-0 I 60079-11 and Ex ia IIC T6 protection type.

It had been tested and inspected by the KIMM(Korea Institute of Machinery & Materials) under the authority vested by Republic of Korea.

I.S Telephone Certificate by KIMM and CE mark(EMC) by DNV

I.S Common Battery Telephone (IS CBT-16)

- Voice open voltage : max.13.1V
- Voice short current : max.46mA
- Hook/Call SW short current : max.10mA
- Transmitter/Receiver level : adjustable
- Operating environment : $40^{\circ}\text{C} < \text{Ta} < +60^{\circ}\text{C}$, 5%-95%



Wall Type



Wall Type
w/sub-receiver



Wall Type
w/headset connector



Portable Type



I.S CBT Barrier Box

- Capacity : max.16 lines
- Power supply : AC110/220V, DC24V
- Hook/Call SW zener voltage : 13.1V
- Hook/Call SW short current : max.10mA
- Voice signal zener voltage : 13.1V
- Voice signal short current : max.46mA
- External alarm : 2 ports

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INTRINSICALLY SAFE TELEPHONE SYSTEM

I.S SPT System is for inter-communication where installed in hazardous or flammable area in consideration of the special environment of vessel at sea.

This telephone system is also specially designed and manufactured to comply with intrinsically safety construction standard of IEC 60079-0 | 60079-11 and Ex ia IIC T6 protection type.

It had been tested and inspected by the KIMM(Korea Institute of Machinery & Materials) under the authority vested by Republic of Korea.

I.S Telephone Certificate by KIMM and CE mark(EMC) by DNV

I.S Sound Powered Telephone (IS SPT-16)

- Voice open voltage : max. 20V
- Voice short current: max. 50mA
- Hook/Call SW short current: max. 10mA
- Transmitter/Receiver level: adjustable
- Operating environment: $40^{\circ}\text{C} < \text{Ta} < +60^{\circ}\text{C}$, 5%-95%



Wall Type



Wall Type
w/sub-receiver



Wall Type
w/headset connector



Portable Type



I.S SPT Barrier Box

- Capacity : max. 16 lines
- Power supply : AC110/220V, DC24V
- Hook/Call SW zener voltage : 24V
- Hook/Call SW short current : max. 10mA
- Voice signal zener voltage : 5.1V
- Voice signal short current : max. 50mA
- External alarm : 8 or 16 ports

MARINE TELEPHONE SYSTEM ACCESSORIES

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Connection Box
(HFC-040C/045C)



Connection Box
(HFC-041A)
• Flush Type



Junction Box
(HTB-020A)
• For Shore Tel



Junction Box
(HPC-020A/020C/050B)
• For Portable Tel



Relay Box
(HSR-032)



Bell
(HBE-024/220)



Headset
(HAH-050B)



Rotating Lamp
(HRL-024D/220A)



**Electric Horn
with R/Lamp**
(SHD-WA024/220)



Electric Horn
(HEH-024D/220A)



Truble Alarm Box
(HTA-041A)
• Flush Type

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SATELLITE TV & COMMUNAL AERIAL SYSTEM

Satellite TV Receiving & Communal Aerial System is designed for watching TV and listening radio satisfactorily in any direction and place at sea, and the satellite TV antenna, omni-directional antenna and whip antenna are made of solid material in consideration of harsh marine environment at sea. The Satellite TV & multi-amplifier built in main unit enables to cover Ku band, C band, AM(MW/SW), FM, VHF, UHF band, adopted AGC(Automatic Gain Control) circuit to prevent the rage of weak electromagnetic wave.

The Communal Aerial System is operated automatically as power on, and manual control is not necessary because AGC level of amplifier unit is adjusted by maker's pre-setting.

CE mark(EMC) by DNV

System Feature (HCA-124C)

- Simple installation and compact unit
- Mounted automatic gain control circuit in the multi-amplifier unit
- Mounted break-in circuit to protect the system
- Available max. 92 outlets

(HWS-402LD)



(HCA-124C)

(HOA-33T)



SATELLITE TV & COMMUNAL AERIAL SYSTEM ACCESSORIES

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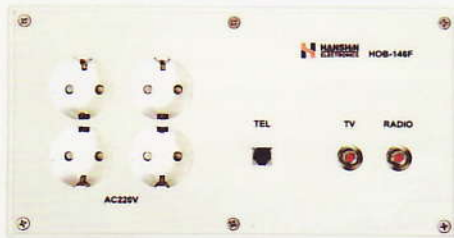
Combination Box



HOB-47



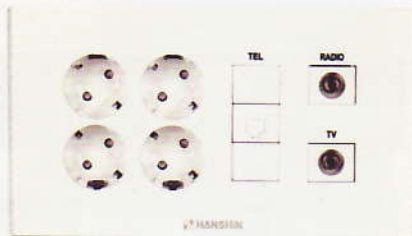
HOB-49



HOB-146



HOB-148



HOB-247



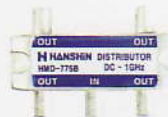
HOB-145

Outlet Box



HOB-52

Distributor



HMD-775B



HMD-777B

TV Set Cord



HTC-250

Radio Set Cord



HRC-161

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CCTV SYSTEM

This CCTV System is designed for real time monitoring & event recording.

It is applicable to record important scene with high resolution image.

Coaxial Video Transmitter Solution makes it possible to control PTZ camera remotely in one coaxial cable.

In addition DVR controller enables to control monitoring picture and controller remotely in one coaxial cable.

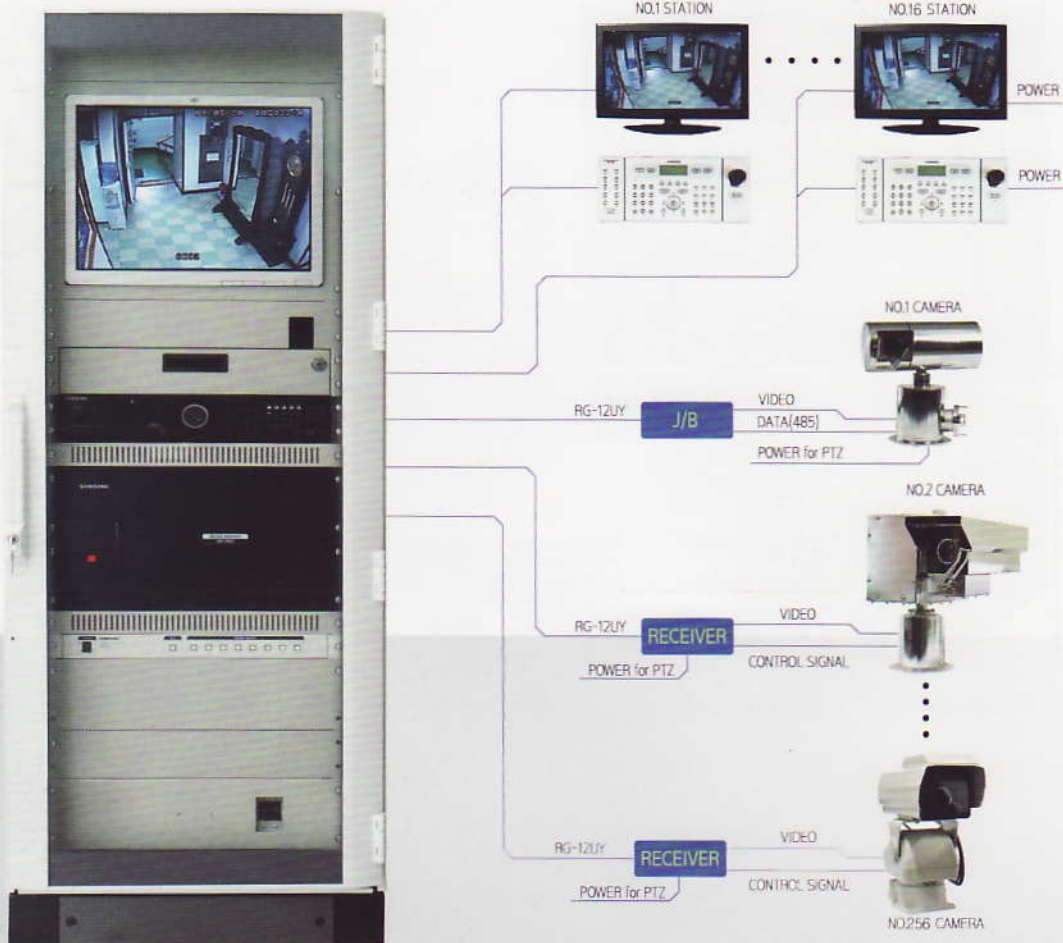
System Feature

- Camera and pan/tilt control are available in one coaxial cable
- Monitor picture and remote control are available in one coaxial cable
- Housing, Pan/tilt are designed against severe onboard environment (IP68)
- Ex Protection : Ex IIC T5, IP66
- Operating temperature : -25°C~+60°C

System Specification

- Camera input : max. 256 ea
- Control station : max. 16 ea
- PTZ Control support : RS422/485
- Pan/Tilt
 - Pan angle : 355°, Tilt angle : -90°~+90°
 - Operating temperature : -25°C~+60°C
 - International protection : IP68
 - Ex Protection : Ex IIC T5, IP66

System Diagram



IP CCTV SYSTEM

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To control the analog CCTV camera and pan/tilt, IP CCTV system based on LAN convert analog signal data to control on the Ethernet and the transmitted signal can be used in the CMS to control and real time monitoring.

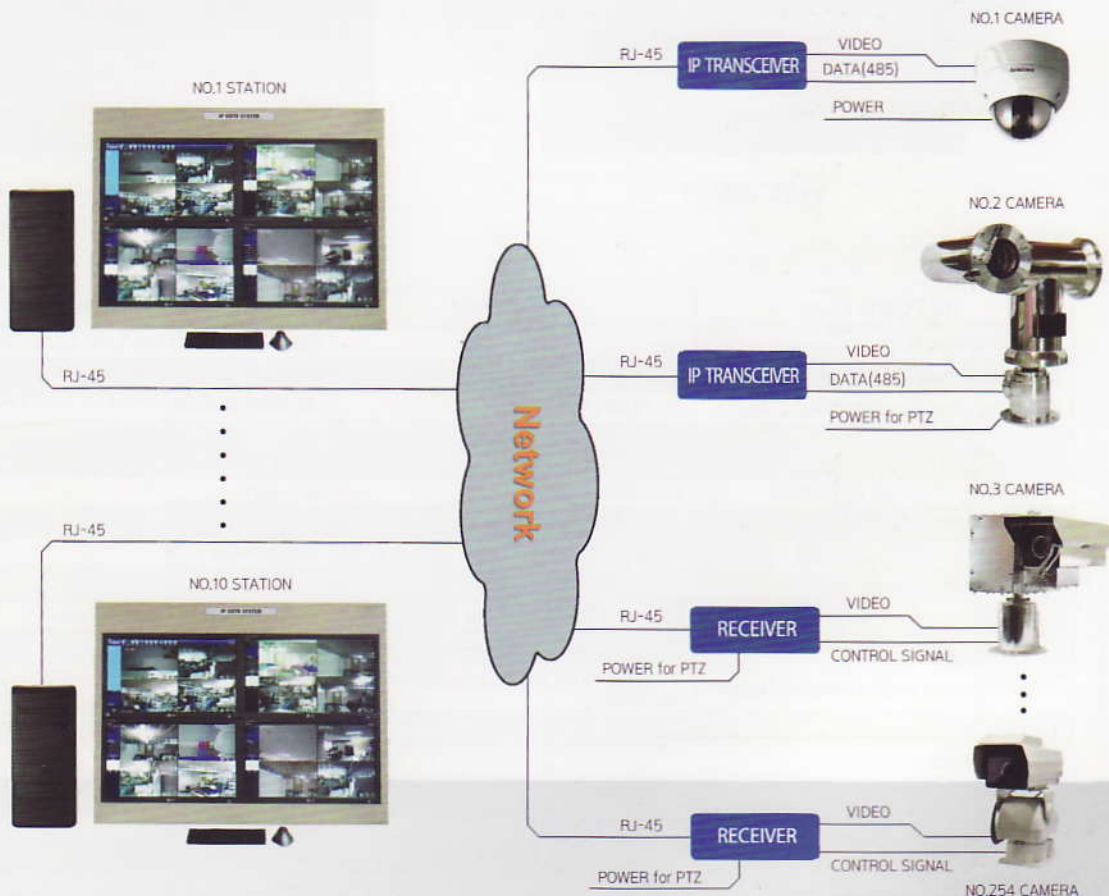
Main features of CMS are DVR function for the video recoding, matrix function to control multiple video and controller function to control pan/tilt.

Pan/Tilt/Housing can be classified dome type which is installed in accommodation area, waterproof type which is installed in machinery/outdoor area and Ex type which is installed in hazardous area.

System Feature

- Easy to install and can be utilized existing network
- CMS : Controller integrated program of DVR and Matrix
- Ex protection: Ex d IIC T6
- International protection: IP66
- Operating temperature: -25°C-+60°C

System Diagram



MARINE CLOCK SYSTEM

Provide two type of marine clock system .

HGC-100 digital marine clock display UTC(GMT) and LT(local time) with digital type and it can be connected with GPS/DGPS and will be changed the LT(local time) automatically or can be set manually as the location of the vessel.

Combined analog slave clock and digital slave clock is available.

HSC- MQ1 marine clock display UTC(GMT) and LT(local time) with analog type and it could be set local time manually as the location of the vessel.

Analog slave clock only is available.

CE mark(EMC) by DNV







HSC-MQ1







HGC-100

DESCRIPTION	HSC-MQ1	HGC-100
GPS INTERFACE	—	NMEA-0183(IEC1162-1,RS-422,\$--RMC)/4,800bps
SYSTEM CONFIGURATION	Analog Slave Clock(max. 70ea)	Analog & Digital Slave Clock(max. 100ea)
CRYSTAL OSCILLATION FREQUENCY	32.768kHz(TCXO)	32.768kHz(TCXO)
ACCURACY	Within ± 0.15 sec per day	Within ± 0.15 sec per day Synchronizing from GPS automatically
TEMPERATURE FOR ACCURCY	0℃~40℃	0℃~40℃
OPERATING TEMPERATURE RANGE	-25℃~+70℃	-25℃~+70℃
DISPLAY	Analog	Digital(FND)
OUTPUT SIGNAL(Analog Slave Clock)		
- For 0.5sec slave clock	DC24V, 0.5sec Polarized Pulse	DC24V, 0.5sec Polarized Pulse
- For 30sec slave clock	DC24V, 30sec Polarized Pulse	DC24V, 30sec Polarized Pulse
- Time signal for engine telegraph logger	Time signal for engine telegraph logger (ADV/REV)	Time signal for engine telegraph logger (ADV/REV)
- Serial	—	NMEA-0183(IEC1162-1,RS-422,\$--ZDA)/4,800bps
POWER CONSUMPTION		
- AC220V	max. 50VA	max. 200VA
- DC24V	1.6A(max. 50VA)	8.2A(max. 200VA)
POWER SUPPLY	AC100~220V & DC24V	AC100~220V & DC24V
MATERIAL	Steel	Steel
WEIGHT	8.5kg	8kg
DIMENSION(W x H x Dmm)	410 x 340 x 80(Flush/Wall type)	410 x 340 x 110(Flush type) 350 x 280 x 110(Wall type)

2 HAND SLAVE CLOCK




DESCRIPTION	HSC-103	HSC-104	HSC-431	HSC-404
ANALOG CLOCK (2HAND TYPE)				
MOUNTING TYPE	Flush type	Flush type	Decorative Wall type	Both-side type
WATER TIGHT	X	X	X	X
SILENCE MARK	X	X	X	X
E.L PLATE	O	X	X	X
MATERIAL	Steel	Steel	Wood	ABS





DESCRIPTION	HSC-320	HSC-321	HSC-322	HSC-251-1 (Battery Type)
ANALOG CLOCK (2HAND TYPE)				
MOUNTING TYPE	Wall type	Wall type	Luxery Wall type	Wall type
WATER TIGHT	X	O	X	X
SILENCE MARK	X	X	X	O
SECOND ADJUST SW	X	X	X	X
MATERIAL	ABS	ABS	ABS	ABS

3 HAND SLAVE CLOCK

DESCRIPTION	HSC-211	HSC-212	HSC-222	HSC-231	HSC-232	HSC-251
ANALOG CLOCK (3HAND TYPE)						
MOUNTING TYPE	Flush type	Flush type	Luxery Wall type	Wall type	Wall type	Wall type
WATER TIGHT	X	X	X	X	X	X
SILENCE MARK	X	X	X	X	X	O
SECOND ADJUST SW	O	X	X	O	O	O
E.L PLATE	X	O	X	X	O	X
MATERIAL	Steel	Steel	ABS	ABS	ABS	ABS

DIGITAL SLAVE CLOCK

DESCRIPTION	HDC-310	HDC-320	HDC-210
DIGITAL SLAVE CLOCK			
MOUNTING TYPE	Flush type	Wall type	Flush type
DIMMER SWITCH	X	O	O
WATER TIGHT	X	X	X
GLAND	X	X	X
DIMENSION(W x H x Dmm)	200 x 105 x 39	180 x 120 x 50	210 x 140 x 52
MATERIAL	Steel	Steel	Steel

DESCRIPTION	HDC-220	HDC-221	HDC-230	HDC-240
DIGITAL SLAVE CLOCK				
MOUNTING TYPE	Wall type	Wall type	Wall type	Both-side type
DIMMER SWITCH	O	X	X	O
WATER TIGHT	X	X	O	X
GLAND	X	X	O	X
DIMENSION(W x H x Dmm)	150 x 105 x 50	210 x 105 x 107	150 x 105 x 50	210 x 105 x 107
MATERIAL	Steel	ABS	Steel	Steel

DESCRIPTION	HCS-DA	HCS-DD	HCS-DS	HCS-DP
DIMMER CONTROLLER				
MOUNTING TYPE	Flush type	Flush type	Flush type	Flush type
WATER TIGHT	X	X	X	X
DIMENSION(W x H x Dmm)	80 x 120 x 71	80 x 120 x 71	80 x 120 x 71	80 x 120 x 71
MATERIAL	Steel	Steel	Steel	Steel
IN USE	Dimmer S/W for Analog Slave Clock	Dimmer S/W for Digital Slave Clock	Dimmer & Sec. Adjust Switch for Analog Slave Clock	Dimmer & Sec. Adjust Switch (Backlight) for Analog Slave Clock

REEFER CONTAINER MONITORING SYSTEM

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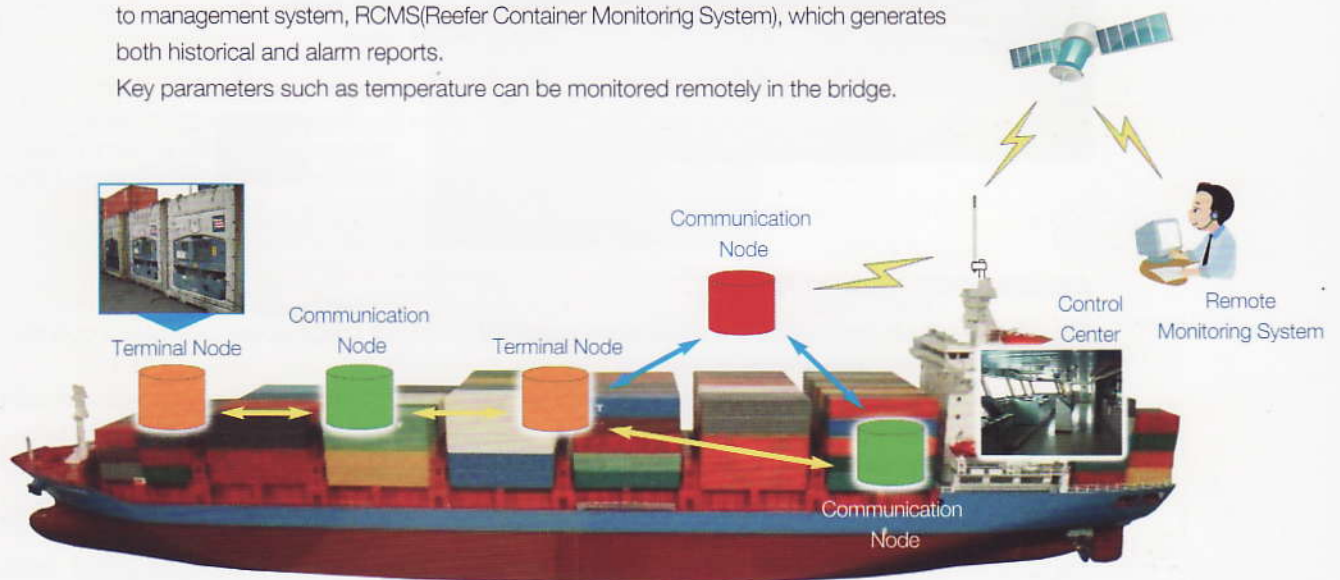
Reefer Container Monitoring System provides the critical information refrigerated container owners need to protect their cargo as it travels over-the-sea.

Additionally, RCMS can be installed in Container Yard in order to check the reefer container condition while they are waiting for movements.

RCMS monitors the key operational parameters (Set Point, Supply Temperature, Return Temperature and Alarm) of boxes in real-time.

RCMS is currently affixed to more than 1,000 reefer units to monitor, record, status, temperature and alarms. The information is sent via digital wireless data connection to management system, RCMS (Reefer Container Monitoring System), which generates both historical and alarm reports.

Key parameters such as temperature can be monitored remotely in the bridge.



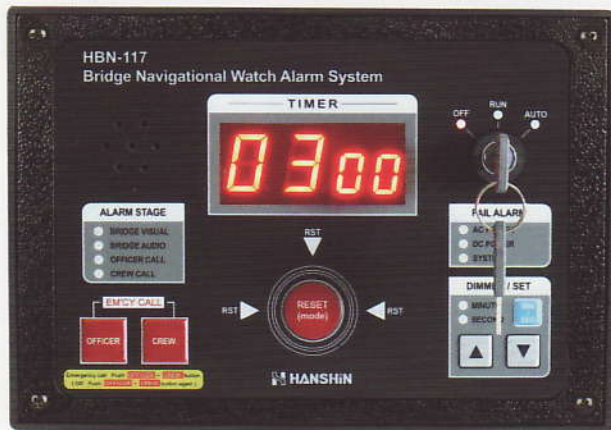
System Specification

Reefer container monitoring system provides the critical information regarding temperature, alarm and control mode in the refrigerated container to the control center.

- Providing gateway to meet communication protocol
- Retransmission function
- Display real-time information in the specific reefer containers
- Display control mode
- Display and warn every alarm information
- Display stowage location and compare container ID with manifest

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BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM



System Feature

- System Feature
- User-friendly
- Dimmer control
- Emergency call facility
- Infrared motion sensor
- Auto-run input(Auto pilot , Gyro)
- Power supply DC24V or AC220V
- Fail indicator
- Alarm
 - Standard : 30 ea
 - Option : max.90 ea
- Dimension (W x H x D) / Weight
 - Wall type : 270 x 188 x 110mm / 3Kg
 - Flush type : 210 x 145 x 105mm / 2Kg

About BNWAS (HBN-117)

The purpose of a bridge navigational watch alarm system is to monitor bridge activity and detect operator disability which could lead to marine accidents.

The system monitors the awareness of the Officer of the Watch(OOW) and automatically alerts the captain or another qualified OOW if for any reason the OOW becomes incapable of performing the OOW's duties. This purpose is achieved by a series of indications and alarms to alert first the OOW and, if he is not responding, then to alert the Captain or another qualified OOW. Additionally, the BNWAS may provide the OOW with a means of calling for immediate assistance if required.

The BNWAS should be operational whenever the ship's heading or track control system is engaged, unless inhibited by the Captain.

Time Chart

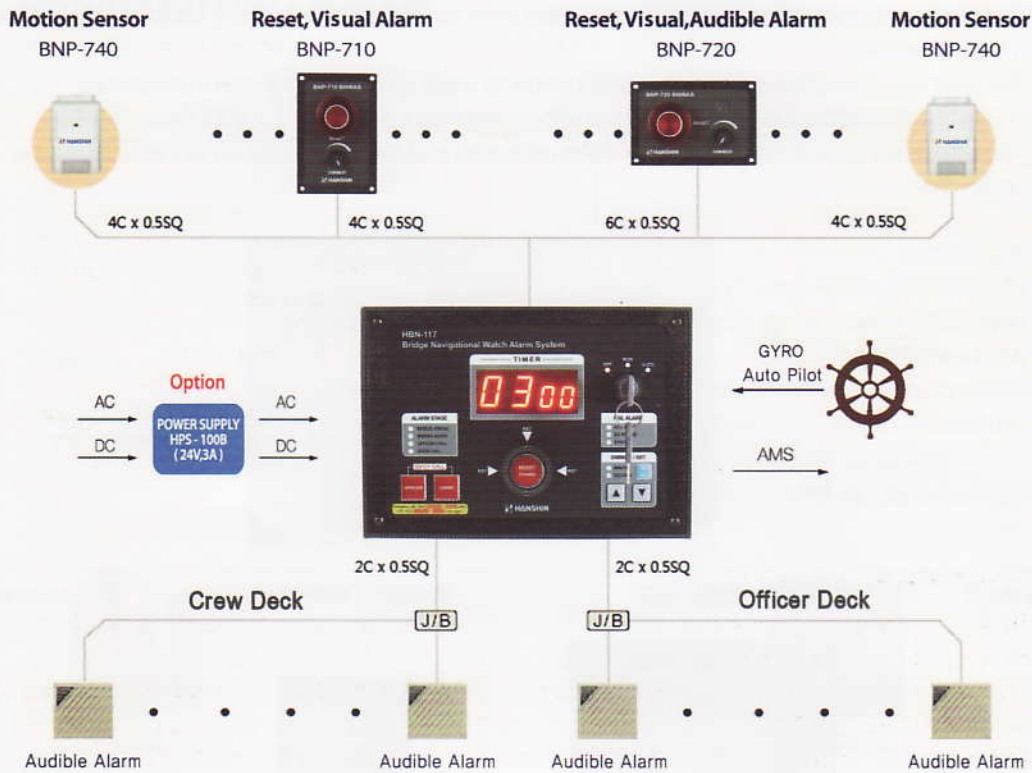


TimeTable



BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM

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MODEL	BNP-710F	BNP-720F	BNP-730F	BNP-750A / R (IP65)
RESET & ALARM UNIT				
DESCRIPTION	Reset, Visual Alarm	Reset, Visual, Audible Alarm	Audible Alarm	Audible, Visual, Reset Alarm
POWER SOURCE	DC24V, max 20mA	DC24V, max 70mA	DC24V, max 30mA	DC24V, max 30mA / max 15mA
SOUND LEVEL	none	85dBm, var. vol & tone	85dBm	85dBm
DIMENSION	W80 x H120 x D70	W120 x H80 x D70	W80 x H80 x D57	W80 x H80 x D73 / 250
WEIGHT	0.5kg	0.5kg	0.1kg	0.2kg / 0.15kg

MODEL	BNP-710W	BNP-720W	BNP-730W	BNP-740
RESET & ALARM UNIT				
DESCRIPTION	Reset, Visual Alarm	Reset, Visual, Audible Alarm	Audible Alarm	Motion Sensor
POWER SOURCE	DC24V, max 20mA	DC24V, max 70mA	DC24V, max 30mA	DC24V, max 17mA
SOUND LEVEL	none	85dBm, var. vol & tone	85dBm	none
DIMENSION	W80 x H120 x D80	W120 x H80 x D80	W80 x H80 x D58.7	W71 x H106 x D103
WEIGHT	0.8kg	0.8kg	0.15kg	0.11kg



ANEMOMETER & ANEMOSCOPE

Hanshin Anemometer is an accurate and reliable wind sensor specifically designed for the rigors of the marine environment.

The wind speed sensor is a three cups type in order to make easy installation and maintenance.

Unique transducer produces a NMEA signal without electrical contacts.

All materials are carefully selected for corrosion resistance and maximum durability in the harsh marine environment.

Specification

HTA-1400 : True & Relative mode monitoring, Digital display


HAA-1600 : Relative mode monitoring, Digital display

Wind speed range : 70m/s

Outdoor remote controller is provided by option

* Ultrasonic sensor type transmitter is available

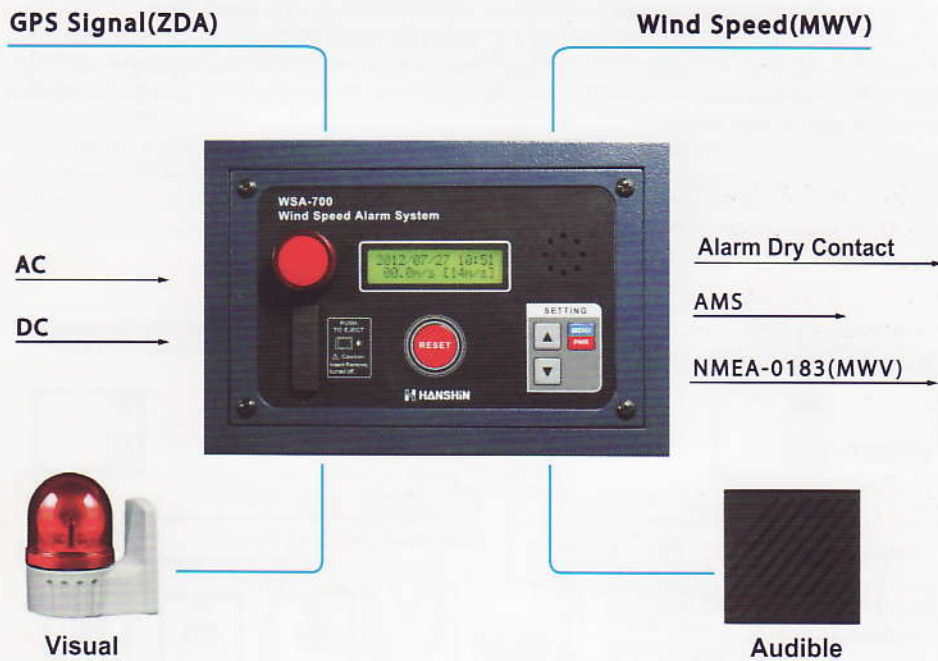
CE mark(EMC) by DNV

System	Main Unit	Remote Controller	Transmitter
HTA-1400	 HWD-400	 HWD-420	 HTR-130
HAA-1600	 HWD-600	 HWR-620	

WIND SPEED ALARM SYSTEM

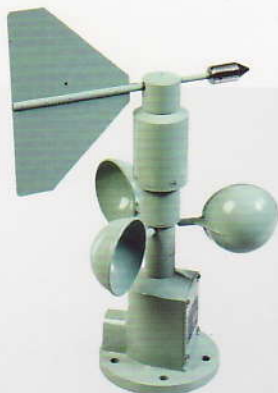
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WSA-700 SYSTEM DIAGRAM



System Feature

- Display Method : 2lines LCD, 16characters
- Alarm / Lamp Output : max. 2 Port
- NMEA Input
 - \$-ZDA, \$-MWV/ RS-422/ 4,800 bps / 38,400 bps
- NMEA Output
 - \$-ALR, \$-MWV/ RS-422/ 4,800 bps / 38,400 bps
- Alarm Dry Contact : max. 1 Port
- Power Input : AC170~264V (or AC85~132V)(Main), DC 24V(Em'cy)
- Consumption : max 2.1A
- Dimension (W x D x H) : 195 x 120 x 97mm
- Weight : Appr. 1 kg



HTR-130 Transmitter

- Power supply : DC 24V(from main unit)
- Direction : 0° ~ 359° / step 0.1°
- Speed : max. 70 m/s
- Output signal : RS422(\$WIMWV, NMEA-0183)
- Material : body-AL. DIE-CAST.
rataing-ABS
- Dimmension(W x H x D) : 309 X 510 X 192mm

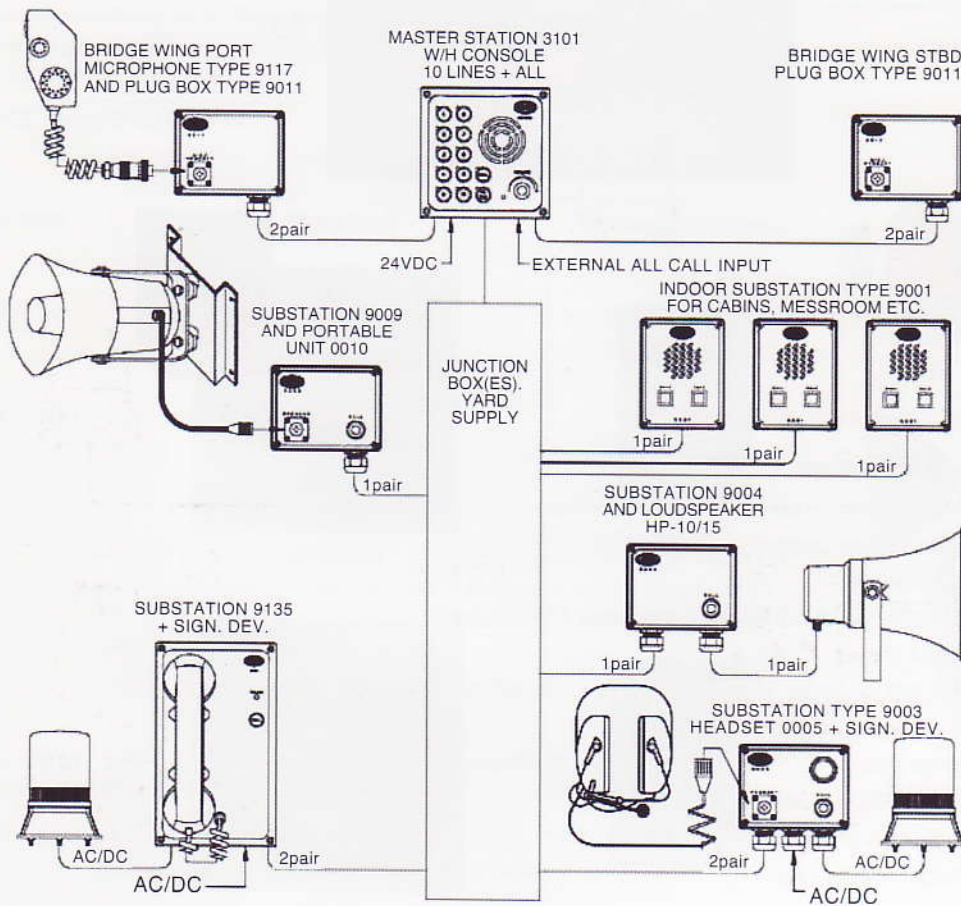
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COMMAND INTERCOM SYSTEM

Phontech Command Intercom System: CIS 3000

The concept CIS 3000 consists of a line of different master stations; Type 3100 (5 ext.), type 3101 (10 ext.), type 102 (20 ext.), and the extended facility units 3130/3131/3132 (15 ext. + 4 remotes). In addition, the systems are completed with various substations from the 9000-series.

The compact design is made according to DIN 144 standard sizes, harmonizing with our other models for console mounting. All master stations have a black keypad with integrated operator switches, indicator LED's, loudspeaker, microphone and volumecontrol. The operation is simple, controlled by the master station with priority.



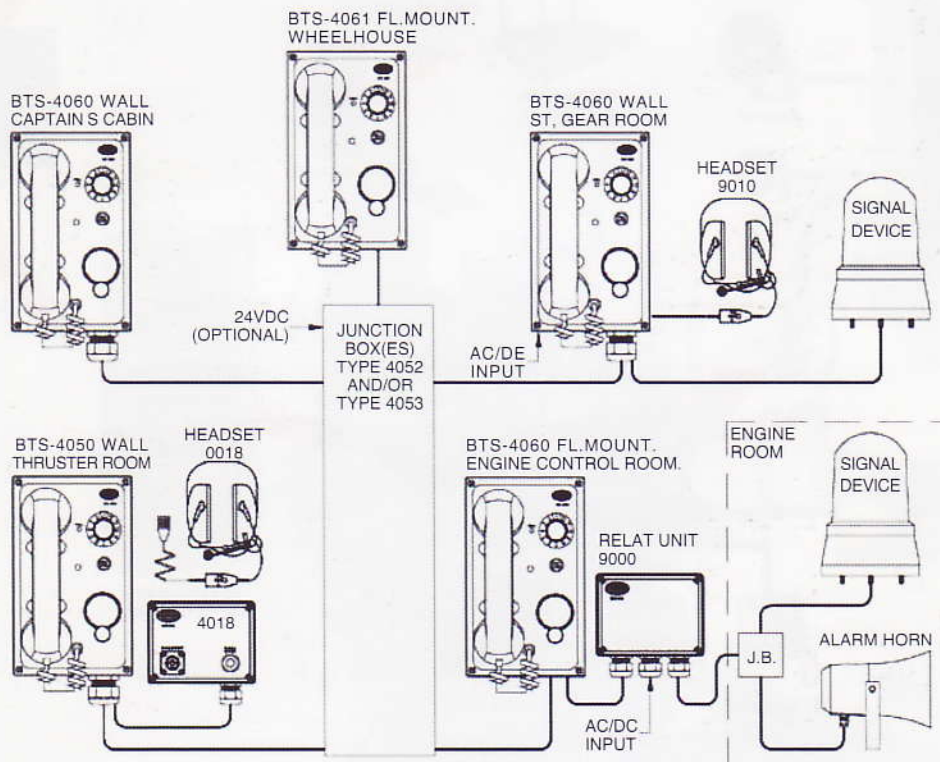
BATTERYLESS TELEPHONE SYSTEM

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Phontech Batteryless Telephone System: BTS 4000

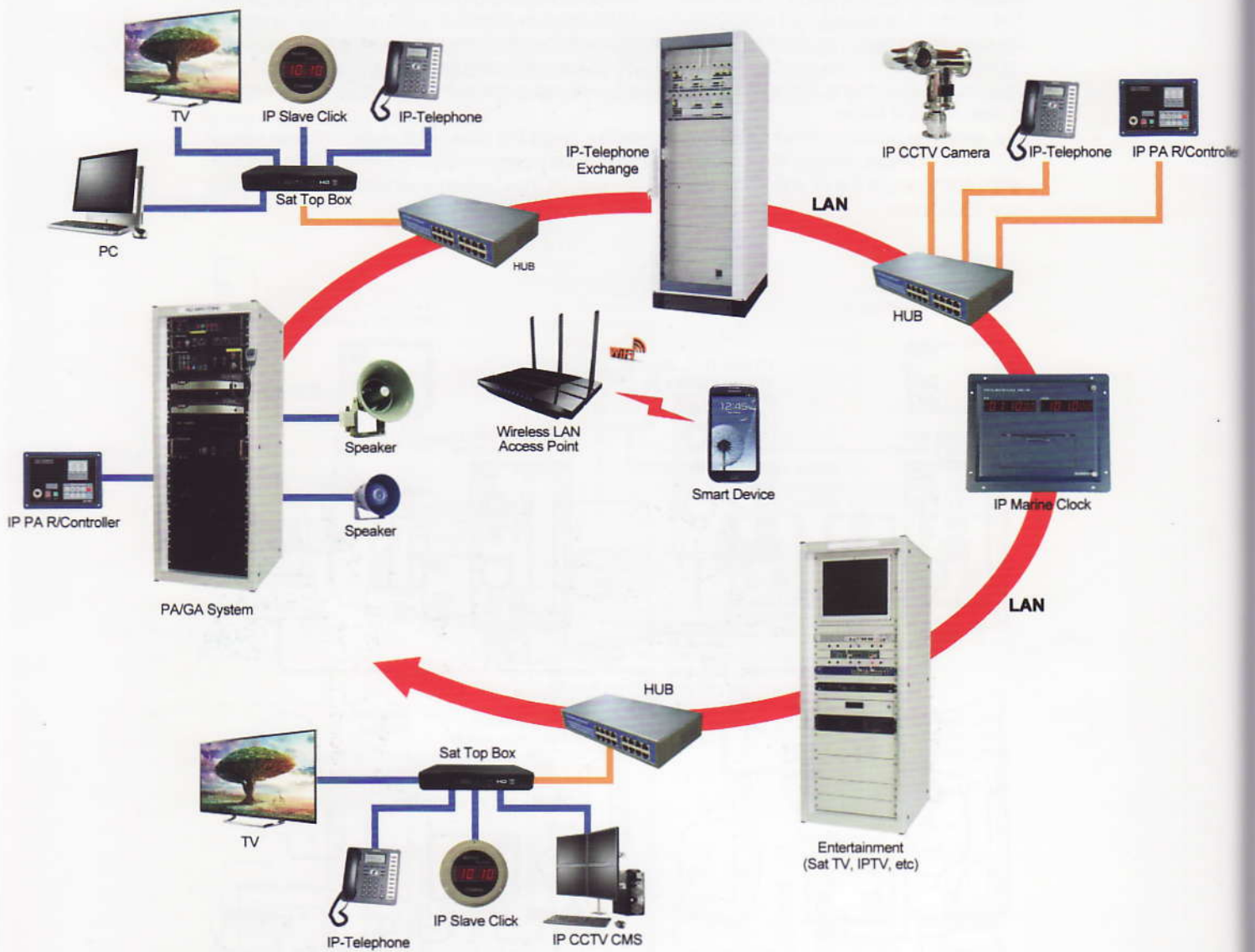
System BTS 4000 is an emergency telephone system without the requirement for any external power supply. All energy required for 4-6 minutes of continuous operation is produced by the call generator. The system is equipped with a sophisticated, extremely low power amplifier with high power and low distortion output. The amplifier is integrated in one of the telephone units to reduce the installation cabling. The system may also be connected to 24VDC power supply to ensure continuous operation under normal conditions. The system automatically switches to batteryless and emergency operation in case of mains failure.

The system is based on three types of units; 4050 – single line (direct call), 4060 -12 lines version and 4040 - 24 lines version. Any configuration needs one master telephone with a built-in amplifier, either 4051 –single line or 4061 – 12 lines version. For 24 lines version a separate speech amplifier type 4000 is needed.



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IP INTERCOMMUNICATION SYSTEM SOLUTION





GLOBAL NETWORK





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