

# MARINE TELEPHONE SYSTEM

## Auto Telephone Exchanger



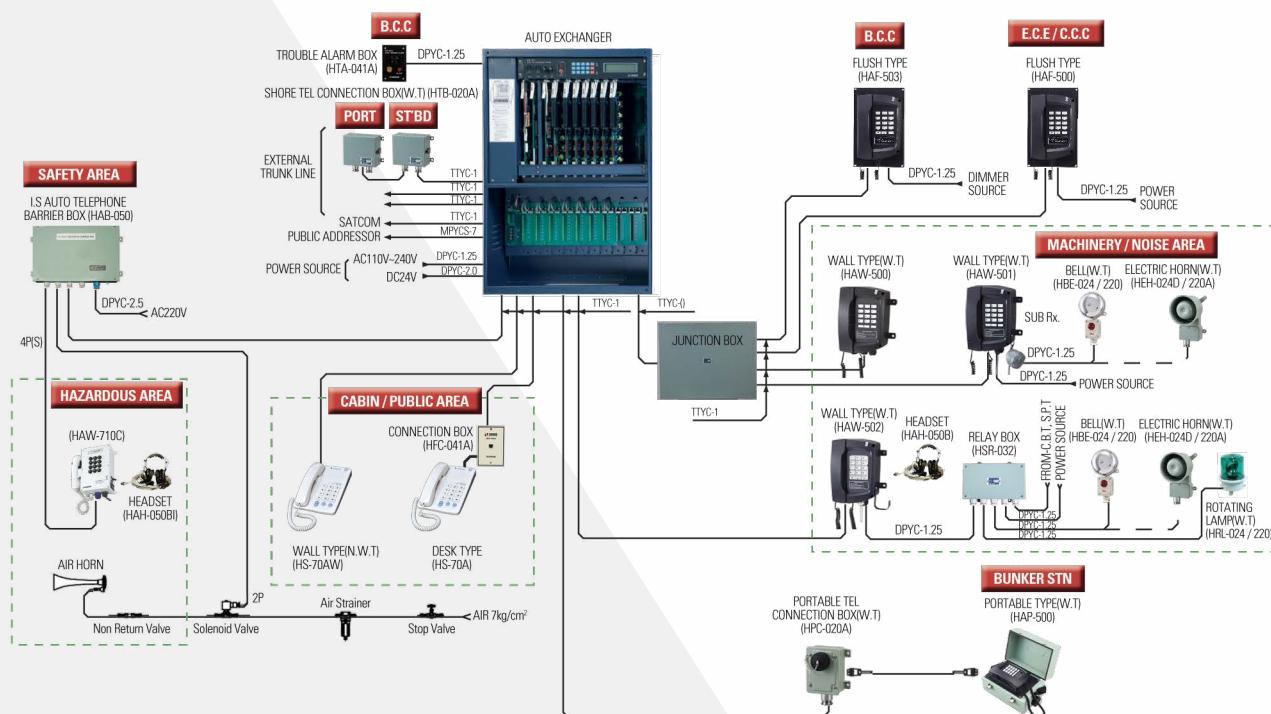
**HX-120**

**HX-72**

**HX-26**



### | System Diagram |



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 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 GL for HX-120 and HX-72

Type Approval by RINA for HX-120 and HX-72

CE mark(EMC) by DNV GL 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

# MARINE TELEPHONE SYSTEM

LOUD&amp;CLEAR

## | System Function & Specification |

DESCRIPTION	HX-120	HX-72	HX-26	
SYSTEM CAPACITY	0	Extension : max. 118 line(HX-120), 70 lines(HX-72) External : 4 lines(option : max. 40 lines)	0	Extension : max. 26 lines External : 2 lines(option : max. 12lines)
MAJOR FUNCTION			0	
INTER - COMMUNICATION	0		0	
AUTOMATIC CALL - BACK	0		0	
CALL TRANSFER(CAMP-ON)	0		0	
EXTERNAL CALL & TRUNK	0	4 lines(shore line, satcom & etc)	0	2 line(shore line & satcom)
ADD-ON CONFERENCE	0	All lines	0	All lines
PRIORITY CALL	0		0	
CALL SPLIT	0		0	
WAKE-UP CALL(MORNING CALL)	0		X	
SIMULTANEOUS CALL	0	max. 15 lines	0	max. 4 lines
SELF RING TEST	0		0	
PAGING CALL	0	3 lines(all, group-A, group-B)	0	1 line(all)
GROUP CALL	0	option(max. 6 groups)	X	
HOT LINE	0	option	X	
REMOTE DISPLAY UNIT	0	option	X	
ALARM AND DISPLAY FOR SYSTEM FAILURE	0		X	
ALARM FOR HANDSET OFF-HOOK	0		0	
DISPLAY FOR HANDSET OFF-HOOK	0	max. 8 lines	X	
PULSE / TONE CONVERSION	0		0	
AUTOMATIC MAIN / EM'CY POWER CHANGEOVER	0		0	
REDIAL, HOLD & SPEAK-PHONE	0	Desk type, Wall type(N.W.T)	0	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%, 0.38A, 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 D x H mm)		540 x 240 x 1340	630 x 250 x 730	440 x 166 x 570

MODEL	HS-70A	HS-70AW	HAW-50X	HAW-501	HAW-502	HAF-50X	HAP-530
TELEPHONE							
MOUNTING TYPE	DESK	WALL	WALL	WALL	WALL	FLUSH	PORTABLE
TYPE	STANDARD	STANDARD	STANDARD, NOISE CANCEL	SUB RECEIVER	HEADSET	STANDARD, NOISE CANCEL, DIMMER	STANDARD
IP GRADE	IP20	IP20	IP56	IP56	IP56	IP56	IP66
DIMENSION (WxDxH mm)	160 x 80 x 220	160 x 110 x 220	199 x 135 x 242	199 x 135 x 242	199 x 135 x 242	182 x 131 x 285	325 x 205 x 210
MATERIAL	ABS	ABS	ABS	ABS	ABS	ABS	STEEL

# MARINE TELEPHONE SYSTEM

## Common Battery Telephone

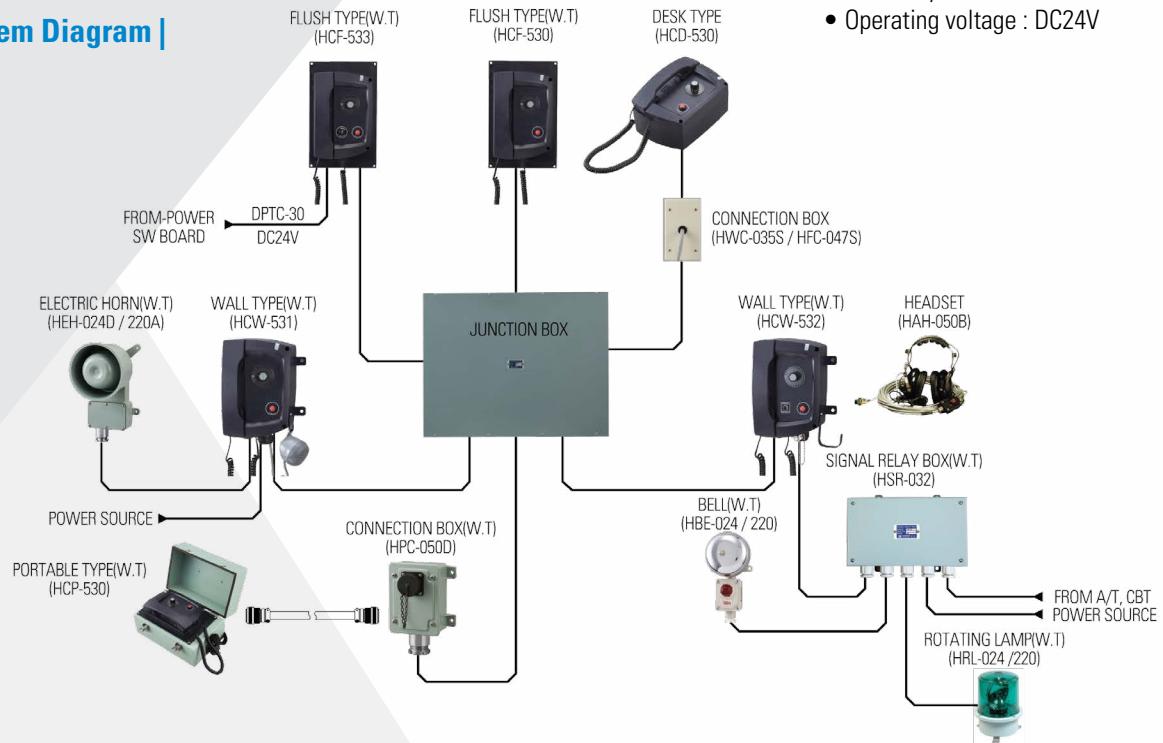
Common Battery Telephone System(HCT-5D, HCT-12S, HCT-24S) is very useful communication system under the emergency situation. I.S type telephone can be combined with HCT-12S or HCT-24S as well.

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

Type Approval by DNV GL and RINA



### | System Diagram |



### | 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, 24 lines)

### | Operating Specification |

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

MODEL	HCD-5X0	HCW-5XX	HCW-5X1	HCW-5X2	HCF-5XX	HCP-5X0
TELEPHONE						
MOUNTING TYPE	DESK	WALL	WALL	WALL	FLUSH	PORTABLE
TYPE	STANDARD	STANDARD, NOISE CANCEL, CABLE ENTRY	SUB RECEIVER	HEADSET	STANDARD, NOISE CANCEL, DIMMER	STANDARD
LINE	DIRECT, 12 LINES, 24 LINES					
IP GRADE	IP56	IP56 / IP22(CABLE ENTRY)	IP56	IP56	IP56	IP66
DIMENSION (WxDxH mm)	157 x 155 x 244	199 x 135 x 242	199 x 135 x 242	199 x 135 x 242	182 x 131 x 285	325 x 205 x 210
MATERIAL	ABS	ABS	ABS	ABS	ABS	STEEL

# MARINE TELEPHONE SYSTEM

## Sound Powered Telephone

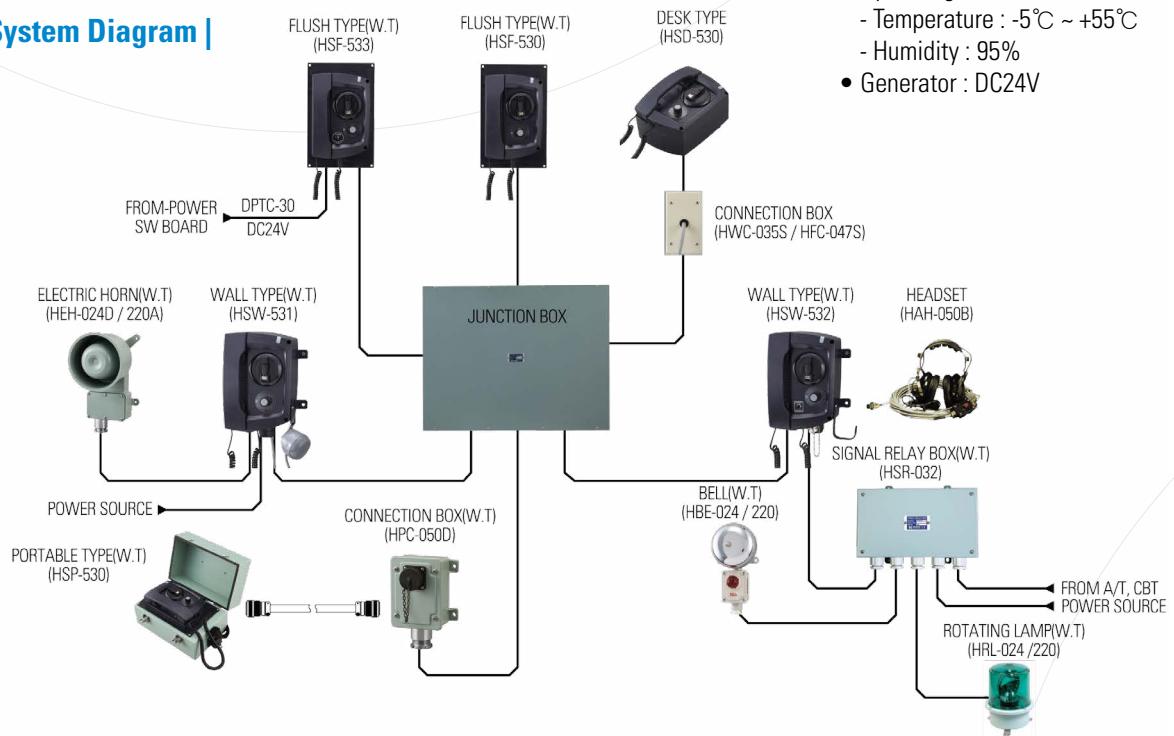
LOUD&amp;CLEAR

Sound Powered Telephone System(HST-5D, HST-12S, HST -24S) 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 GL, RINA and CCS



### | System Diagram |



### | 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, 24 lines)

### | Operating Specification |

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

MODEL	HCD-5X0	HSW-5XX	HSW-5X1	HSW-5X2	HSF-5XX	HSP-5X0
TELEPHONE						
MOUNTING TYPE	DESK	WALL	WALL	WALL	FLUSH	PORTABLE
TYPE	STANDARD	STANDARD, NOISE CANCEL, CABLE ENTRY	SUB RECEIVER	HEADSET	STANDARD, NOISE CANCEL, DIMMER	STANDARD
LINE	DIRECT, 12 LINES, 24 LINES					
IP GRADE	IP56	IP56 / IP22(CABLE ENTRY)	IP56	IP56	IP56	IP66
DIMENSION (WxDxH mm)	157 x 155 x 244	199 x 135 x 242	199 x 135 x 242	199 x 135 x 242	182 x 131 x 285	325 x 205 x 210
MATERIAL	ABS	ABS	ABS	ABS	ABS	STEEL

# MARINE TELEPHONE SYSTEM

## I.S Auto Telephone

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 / 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 GL

### | System Feature |

- Voice open voltage : max. 21V
- 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%

MODEL	HAW-710A	HAW-710B	HAW-710C	HAP-910
I.S TELEPHONE				
MOUNTING TYPE	WALL	WALL	WALL	PORTABLE
TYPE	STANDARD	SUB RECEIVER	HEADSET	STANDARD
IP GRADE	IP56	IP56	IP56	IP56
DIMENSION (WxDxH mm)	241 x 106 x 308	241 x 106 x 308	241 x 106 x 308	326 x 180 x 188
MATERIAL	PC	PC	PC	STEEL

MODEL	HET-700	HET-700S
Ex. TELEPHONE		
MOUNTING TYPE	WALL	WALL
Ex. TYPE	Ex d ia IIC T6	Ex d ia IIC T6
IP GRADE	IP56	IP56
DIMENSION (WxDxH mm)	375 x 150 x 355	375 x 150 x 355
MATERIAL	CAST AL & CAST BRASS	CAST AL & CAST BRASS



### 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

# MARINE TELEPHONE SYSTEM

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

LOUD&amp;CLEAR

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 / 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.

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

### | System Feature |

- 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°C<Ta<+60°C, 5%-95%

MODEL	HCW-701A3	HCW-701B3	HCW-701C3	HCF-801A3	HCF-801D3	HCP-901A3
SAFETY TELEPHONE						
MOUNTING TYPE	WALL	WALL	WALL	FLUSH	FLUSH	PORTABLE
TYPE	STANDARD	SUB RECEIVER	HEADSET	STANDARD	DIMMER	STANDARD
IP GRADE	IP56	IP56	IP56	IP22	IP22	IP56
DIMENSION (WxDxH mm)	241 x 99 x 308	241 x 99 x 308	241 x 99 x 308	220 x 152 x 275	220 x 152 x 275	325 x 180 x 198
MATERIAL	PC	PC	PC	STEEL	STEEL	STEEL

MODEL	HCW-710A	HCW-710B	HCW-710C	HCF-810	HCP-910
HAZARDOUS TELEPHONE					
MOUNTING TYPE	WALL	WALL	WALL	FLUSH	PORTABLE
TYPE	STANDARD	SUB RECEIVER	HEADSET	STANDARD	STANDARD
IP GRADE	IP56	IP56	IP56	IP22	IP56
DIMENSION (WxDxH mm)	241 x 99 x 308	241 x 99 x 308	241 x 99 x 308	220 x 152 x 275	365 x 240 x 188
MATERIAL	PC	PC	PC	STEEL	STEEL



### 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

# MARINE TELEPHONE SYSTEM

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

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 GL

### | System Feature |

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

MODEL	HSW-730A	HSW-730B	HSW-730C	HSF-830	HSP-930
HAZARDOUS TELEPHONE					
MOUNTING TYPE	WALL	WALL	WALL	FLUSH	PORTABLE
TYPE	STANDARD	SUB RECEIVER	HEADSET	STANDARD	STANDARD
IP GRADE	IP44	IP44	IP44	IP33	IP56
DIMENSION (WxDxH mm)	241 x 99 x 532	241 x 99 x 532	283 x 99 x 532	220 x 151 x 350	365 x 240 x 188
MATERIAL	PC	PC	PC	STEEL	STEEL

MODEL	HSD-640	HSW-740A	HSW-740B	HSW-740C	HSF-840A	HSF-840D	HSP-940
SAFELY TELEPHONE							
MOUNTING TYPE	DESK	WALL	WALL	WALL	FLUSH	FLUSH	PORTABLE
TYPE	STANDARD	STANDARD	SUB RECEIVER	HEADSET	STANDARD	DIMMER	STANDARD
IP GRADE	IP22	IP44	IP44	IP44	IP22	IP22	IP56
DIMENSION (WxDxH mm)	215 x 220 x 120	200 x 153 x 307	200 x 153 x 307	234 x 153 x 307	160 x 165 x 280	160 x 150 x 280	325 x 180 x 198
MATERIAL	ABS	ABS	ABS	ABS	ABS	ABS	STEEL



### 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

LOUD&amp;CLEAR

MODEL	HJB-511AF / CF	HJB-512AF / CF	HJB-524CF	HJB-511AW / CW	HJB-512AW / CW	HJB-524CW
CONNECTION BOX						
MOUNTING TYPE		FLUSH			WALL	
IP GRADE		IP23			IP23 / IP44	
DIMENSION (WxDxH mm)		475 x 82 x 320 / 280 x 80 x 230 / 850 x 160 x 645			460 x 82 x 350 / 265 x 80 x 228 / 850 x 160 x 683	
MATERIAL		STEEL			STEEL	

MODEL	HFC-041A	HWC-031A	HPC-020A	HTB-020A
CONNECTION BOX				
MOUNTING TYPE	FLUSH	WALL	WALL	WALL
IP GRADE	IP20	IP20	IP56	IP56
DIMENSION (WxDxH mm)	80 x 54 x 120	80 x 54 x 120	155 x 112 x 190	210 x 88 x 189
MATERIAL	ABS	ABS	POLYESTER	STEEL

MODEL	HWC-030C	HFC-040C	HPC-020C	HPC-050B	HPC-050BI	HPC-050D
CONNECTION BOX						
MOUNTING TYPE	WALL	FLUSH	WALL	WALL		
IP GRADE	IP20	IP20	IP56	IP56		
DIMENSION (WxDxH mm)	80 x 54 x 120	80 x 54 x 120	155 x 112 x 190	155 x 116 x 198		
MATERIAL	ABS	ABS	UNSATURATED POLYESTER	UNSATURATED POLYESTER		

MODEL	HWC-033C	HWC-035S	HWC-134S	HFC-045C	HFC-047S	HFC-146S	MODEL	HSR-032
CONNECTION BOX							SIGNAL RELAY BOX (W.T.)	
MOUNTING TYPE	WALL		FLUSH				MOUNTING TYPE	WALL
IP GRADE	IP20		IP20				IP GRADE	IP44
DIMENSION (WxDxH mm)	80 x 50 x 140		80 x 50 x 140				DIMENSION (WxDxH mm)	284 x 84 x 200
MATERIAL	STEEL		STEEL				MATERIAL	ABS

# MARINE TELEPHONE SYSTEM

## ACCESSORIES

MODEL	HRL-024D	HRL-220A	MODEL	HEH-220A	HEH-024D
ROTATING LAMP (W.T)			ELECTRIC HORN (W.T)		
MOUNTING TYPE	WALL	WALL	MOUNTING TYPE	WALL	
POWER	DC24V	AC220V	OUTPUT	max. 20W	
IP GRADE	IP56	IP56	SPEAKER LEVEL	max. 110 ~ 115dB	
DIMENSION (WxDxH mm)	154 x 183 x 197	155 x 183 x 197	IP GRADE	IP56	
MATERIAL	PC, ALUMINUM	PC, ALUMINUM	DIMENSION (WxDxH mm)	168 x 148 x 296	
MODEL	HAH-050B	HAH-050BI	MATERIAL	POLYETHYLENE	
HEADSET			Ex. BELL (W.T)		
MOUNTING TYPE	-	-	MOUNTING TYPE	WALL	
IP GRADE	IP30	IP30	SOUND LEVEL	100-102dB	
DIMENSION (WxDxH mm)	160 x 310	160 x 327	TYPE OF PROTECTION	Ex d IIC T6	
MATERIAL	ABS	ABS	IP GRADE	IP66	
MODEL	HTA-041A	HTA-030A	DIMENSION (WxDxH mm)	200 x 132 x 239	
TROUBLE ALARM (N.W.T)			MATERIAL	ALUMINUM, STEEL	
MOUNTING TYPE	FLUSH	WALL	MODEL	HEE-020	
IP GRADE	IP20	IP20	Ex. ELECTRIC HORN (W.T)		
DIMENSION (WxDxH mm)	80 x 70 x 120	80 x 69 x 120	Ex. TYPE	Ex d IIC T6	
MATERIAL	STEEL	ABS	IP GRADE	IP56	
MODEL	HBE-024A	HBE-220A	DIMENSION (WxDxH mm)	158 x 240 x 224	
BELL (W.T)			MATERIAL	ALUMINUM	
MOUNTING TYPE	WALL	WALL	MODEL	HBE-024B	
OUTPUT	DC24V	AV220V	Ex. BELL (W.T)		
SOUND LENEL	105dB	108dB	MOUNTING TYPE	WALL	
IP GRADE	IP65	IP65	OUTPUT	DC24V	
DIMENSION (WxDxH mm)	200 x 132 x 336	200 x 132 x 336	SOUND LENEL	AV220V	
MATERIAL	ABS, STEEL	ABS, STEEL	IP GRADE	103dB	
MODEL	HCC-162		DIMENSION (WxDxH mm)	105dB	
HAZADOUS PORTABLE TEL CONNECTION BOX (W.T)			MATERIAL	IP65	
MOUNTING TYPE	WALL		MODEL	HSC-165	
IP GRADE	IP56		Ex. PORTABLE TEL CONNECTION BOX (W.T)		
DIMENSION (WxDxH mm)	152 x 107 x 184		MOUNTING TYPE	WALL	
MATERIAL	BMC		OUTPUT	DC24V	