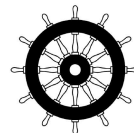# MPA-9000 Series PA/GA System

Public Address & General Alarm system

MED Cert

GENERAL DESCRIPTION

The Public Address system is a marine and offshore PA/GA system. The Public Address System (PA) and General Alarm System (GA) are very important in ensuring the safety of facilities and human life. The system accurately and seamlessly addresses emergency situations and integrates with a variety of alarm systems. In particular, this system is designed to respond precisely to emergency situations through the connection with various alarm systems. In explosion endangered areas, the system utilizes explosion-proof speakers and intrinsically safe microphones. This system was tested at the IEC60945 standard and approved for CE by DNV GL . The Type Approval was done by DNV GL, KR, CCS, RMRS.
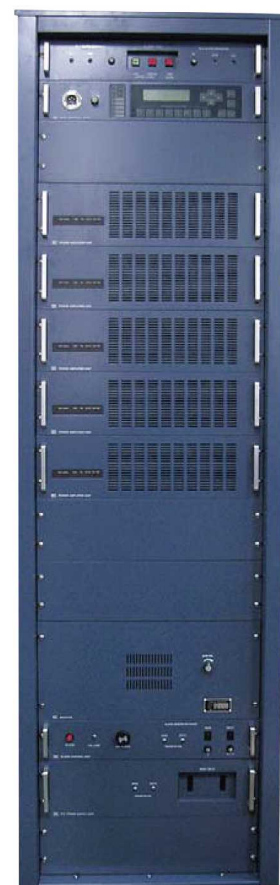
REGULATIONS:

- ⓐ International Electro-Technical Commission (IEC)
- ⓑ International Maritime Organization (IMO) SOLAS
- ⓒ Nautical Safety (Rules for the Classification of Ships, DNV)

PRODUCT INFORMATION

| SYSTEM FEATURES

- MPA-9000 main unit for 19", single/dual rack mount
- Up to 10 MPA 9000 control units connected
- Digitally programmed for priority, input and output, systemdiagnosis, password control
- Up to 11 emergency microphones connected
- External paging (0/8/9) facility from Talkback/PABX etc
- Prepared for A/B dual system, with alarm synchronization
- Interfaces for manual and/or automatic alarms
- Entertainment sources, with free zone selection
- Signal processing capabilities
- Configurable priority levels
- 16 speaker outputs, with unlimited amplifier expansion
- Facility for muting local loudspeaker during paging
- Override of entertainment volume controls during paging
- Output for muting external GA system
- Output for activating external GA system
- Synchronization with external GA tones
- Up to 10 additional alarms in the system
- Chime (ding-dong) generator
- LSC (Light Signal Column) activation
- Interfaces UHF/VHF Transceiver
- Built in audio output for peripheral device
- Mutable external alarm facility
- External general button (Zone 1 and Zone 2)
- Built-in loudspeaker, to monitor activity
- Powered by 110/220V AC with automatic switch to 24V DC
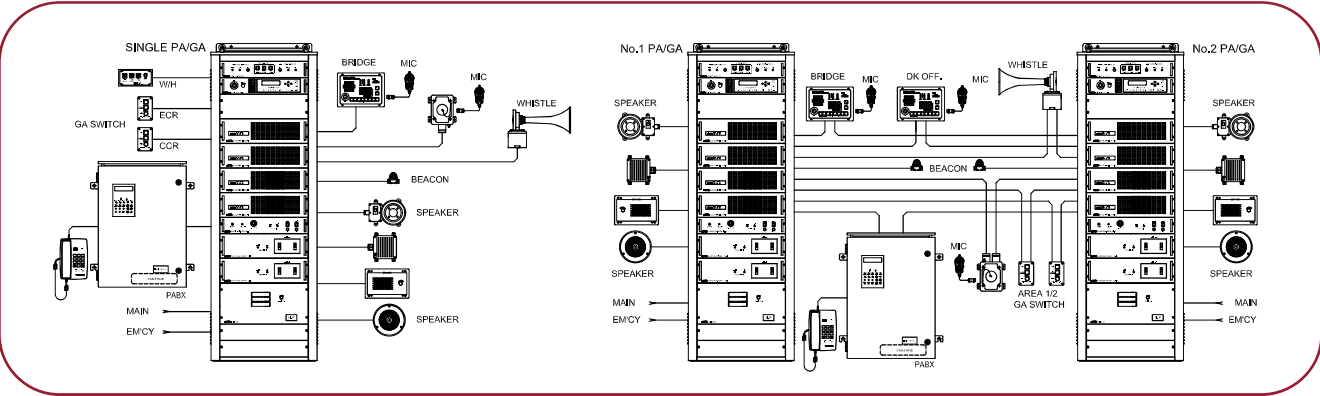- Overload, fault indication and amplifier monitoring

▲ MPA-9000 MAIN CABINET

PRODUCT INFORMATION

| Technical Specification (Power) | 1. Power Output : 400W ~ 4.8KW
2. Frequency Characteristics : 300 ~ 10,000Hz (6dB)
3. Distortion Ratio : 5% or less
4. S/N Ratio : 50dB or higher
5. Source of Power : AC110/220V 60Hz, DC
6. Power Consumption : 40A (DC) Fuse/NFB 24V 5A (AC), 20A Fuse/NFB
7. Temperature and Humidity Range : -15°C~ 55°C, 90% or less | Signal Type In / Out / Mute Alarm | Signal in : All 18 (Eighteen)
1. Abandon (Muster) : Automatically operated; 1 short & 1 long alarm
2. GA: Hand & Auto : Manually operated & 7 short and 1 long alarms
3. Fire Alarm : 1300Hz, 1100Hz, 0.25 sec. interval, (Alternating) sustained
4. Alarm 7 : Watch Alarm (Optional)
5. Alarm 8 : ESDS Alarm (Optional)
6. Alarm 9 : CO2 Alarm (Optional)
7. Alarm 10 : Machinery Alarm (Optional)
8. Alarm 11 : Steering Gear Alarm (Optional)
9. Alarm 12 : Bilge Alarm (Optional)
10. Alarm 13 : Engineer Alarm (Optional)
11. Alarm 14 : Personal Alarm (Optional)
12. Alarm 15 : Cargo Alarm (Optional)
13. Alarm 16 : Gas Det. Alarm (Optional)
14. General Alarm Test
15. Fire Alarm Test |
| Alarm Generator Unit, AG-901 | 1. Power Source : AC110/220V, 1Ø, 50/60 Hz
2. Emergency Power : AC or DC 24V (Ripple less than 5%)
3. Power Consumption : AC - less than 100VA DC - less than 5A (At 24V DC)
4. Temperature : -20°C ~ +45°C
5. Humidity : Less than 90%
6. Certification : Submitted | | |

WIRING DIAGRAM OF PUBLIC ADDRESS & GENERAL ALARM SYSTEM

MPA-2000 Series PA/GA System

Public Address and General Alarm system

GENERAL DESCRIPTION

The Public Address system is a marine and offshore PA/GA system. The Public Address System (PA) and General Alarm System (GA) are very important in ensuring the safety of facilities and human life. The system must be able to address emergency situations accurately and seamlessly, integrated with various other alarm systems. In particular, this system is designed to respond precisely to emergency situations through the connection with various alarm systems. In explosion endangered areas, an explosion-proof speaker or an intrinsically safe microphone is supposed to operate.
This system was tested at the IEC60945 standard and approved for CE by DNV GL.

REGULATIONS:

- **(a)** International Electro-Technical Commission (IEC)
- **(b)** International Maritime Organization (IMO) SOLAS
- **(c)** Nautical Safety (Rules for the Classification of Ships, DNV)

PRODUCT INFORMATION

SYSTEM FEATURES

- Max. 300W audio amplifier per 100W unit
- Up to 2 MPA 2000 control units connected
- Diode Matrix programming for priority, input and output
- Up to 6 talk back microphones connected
- Up to 3-group talk back system
- Up to 10 microphones connected include talk back
- External paging facility for PABX for 3-zone group
- Prepared for General Alarm system
- Interfaces for manual and/or automatic alarms with GAG-95B
- Entertainment sources, with free zone selection
- Configurable priority levels
- 15 speaker outputs, with unlimited amplifier expansion
- Facility for muting local loudspeaker during paging
- Override of entertainment volume controls during paging
- Output for muting external GA system
- Output for activating external GA system
- Mutable external alarm facility
- External general button (Zone 1 and Zone 2) Built-in loudspeaker to monitor activity
- Powered by 110/220V AC with automatic switch to 24V DC
- Built-in 24VDC BK terminal to protect radio receiver

▲ MPA-2000 MAIN CABINET

ELECTRIC & ENVIRONMENT

- Power Output : 100W/200W/300W, etc.
- Frequency Characteristics : 300~5000Hz within 6dB
- Distortion & S/N Ratio : Less than 5% / more than 50dB
- Power Source (Single) : AC-220V/100V, DC 24V
- Power Consumption (Single) : 16A, per 200W (DC 24V) & 2.5A per 200W (AC 220V), 5.6A per 200W (AC 100V)
- Operating Temperature Range : -10°C ~ +40°C
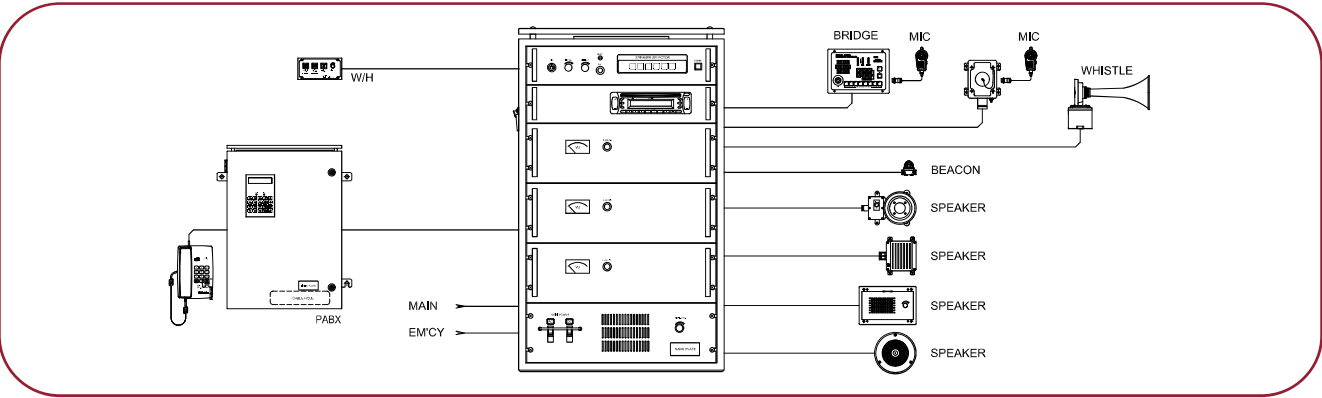- Operating Humidity : Less than 90%

PRODUCT INFORMATION

Talk-Back Area	1. Wing (PORT / STBD) 2. Upper Deck FORE / AFT 3. SGR, ECR and CCR	**Interfaces with Emergency General Alarm Generator**	1. GA switch (Triggered and turned off) 2. GA bell, buzzer, PA speaker or others (7-short and 1-long tones) 3. PA STOP signal : Supply a dry contact signal from the GA equipment to the PA 4. Navigation bridge microphone on/off button 5. GA STOP signal : This dry contact signal is sent from the PA to the GA
Paging Call	1. All Paging Call : Similar output as PA 2. No.1/2 Group Paging : "8" & "9" (Machinery / Deck Area, Option)		
Broadcasting Priority	1. Emergency speech from control panel in wheelhouse overriding general / fire / various alarm 2. Emergency General Alarm (External Input) 3. Public addressing from control panel in main unit 4. Talk-Back 5. Auto-telephone paging "0" 6. Radio, cassette, CD addressing from control panel in main unit 7. External Audio Input		

PA Equipment Speakers

WIRING DIAGRAM OF PUBLIC ADDRESS AND GENERAL ALARM SYSTEM

Public Address and General Alarm system

ACCESSORY SPEAKER

MODEL	HS-50A(1)/B(1)	HS-25A(1)/B(1)/C(1)/D(1)	BHS-20A(1)/B(1)/C(1)/D(1)	BHS-20VA(1)/B(1)/C(1)/D(1)
PHOTO				
Mounting Type	BRACKET	BRACKET	WALL	WALL
Rated	50W/30W	25W/20W/15W/10W	20W/15W/10W/5W	20W/15W/10W/5W
Impedence	100V	100V	100V	100V
Volume Control	X	X	X	O
IP Grade	IP56	IP56	IP56	IP56
Gland	1	2	2	2
Dimension(WxDxH)mm	347×360×373	252×290×265	157×263×135	157×263×135
Material	AL, ABS	AL, ABS	ABS	ABS
Colour	GRAY	GRAY	GRAY	GRAY
Weight	7kg	.2kg	2.9kg	2.9kg
Install Area	OUTSIDE	MACHINERY/OUTSIDE	MACHINERY/OUTSIDE	MACHINERY/OUTSIDE

MODEL	PHS-20A(1)/B(1)/C(1)/D(1)/E(1)/F(1)	WS-2A/2B	WS-2V-A/B	WS-3A/3B
PHOTO				
Mounting Type	PORTABLE	WALL	WALL	FLUSH
Rated	Max 15W	2W/1W	2W/1W	2W/1W
Impedence	100V	100V	100V	100V
Volume Control	X	X	O	X
IP Grade	IP56	IP56	IP56	IP56
Gland	X	2	2	2
Dimension(WxDxH)mm	120×185×136	157×75×125	157×75×125	137×78×137
Material	ABS	ABS	ABS	ABS
Colour	GRAY	GRAY	GRAY	WHITE
Weight	3kg	1.2kg	1.2kg	1.2kg
Install Area	FORE/AFT	TOILET	TOILET	TOILET

LP-5V-A/B/C	RP-5V-A/B/C	LW-5V-A/B/C	LD-5V-A/B/C
FLUSH	CEILING	WALL	BOTH SIDE
5W/2W/1W	5W/2W/1W	5W/2W/1W	5W/2W/1W
100V	100V	100V	100V
O	O	O	O
IP22	IP22	IP22	IP22
X	X	X	X
230×45.5×147	175×125×125	230×92×147	230×125×153
ABS	ABS	ABS	ABS
WHITE	WHITE	IVORY	IVORY
0.7kg	0.5kg	0.8kg	1.1kg
CABIN/PASSAGE	CABIN/PASSAGE	CABIN/PASSAGE	CABIN/PASSAGE

HS-10Exde	HS-30Exde	LPO-5V-A/B/C	RSO-5V-A/B/C	WSO-3A/3B
BRACKET	BRACKET	FLUSH	CEILING	FLUSH
30W/15W/7.5W/5W/3W/2W	10W/5W/2.5W/1.5W/1W/0.5W	5W/2W/1W	5W/2W/1W	2W/1W
100V	100V	100V	100V	100V
X	X	O	O	X
IP66	IP66	IP22	IP44	IP56
2	2	X	2	2
164×227×226	216×301×235	230×92×147	188×130×188	137×78×137
AL	AL	STEEL	STEEL	STEEL
DARK BLUE	DARK BLUE	IVORY	IVORY	IVORY
3.4kg	4.5kg	2.5kg	2.5kg	2.3kg
HAZARDOUS AREA	HAZARDOUS AREA	B-O AREA	B-O AREA	B-O AREA

Accessories : Connection Boxes

Public Address and General Alarm system

ACCESSORY SPEAKER

MODEL	PB-1	PB-1A	PB-1C	PB-2A
PHOTO				
Specification	AUTO/HAND/DIMMER SW.	AUTO SW. ONLY	AUTO/HAND SW.	AUTO SW. ONLY
Mounting Type	FLUSH	FLUSH	FLUSH	WALL
IP Grade	IP22	IP22	IP22	IP44
Gland	X	X	X	1
Dimension(WxDxH)mm	80×70×128	80×70×128	80×70×128	80×64×128
Material	STEEL	STEEL	STEEL	STEEL
Colour	BLACK	BLACK	BLACK	7.5BG7/2
Weight(QC)	0.5kg	0.3kg	0.5kg	1kg
Install Area	BCC	ECC, FCC	ECC, FCC	ECC, FCC

ACCESSORY SPEAKER

MODEL	MC-2	MSC-2	MC-0	MC-6B
PHOTO				
Mounting Type	WALL	WALL	FLUSH	FLUSH
IP Grade	IP56	IP56	IP56	IP56
Gland	2	2	X	X
Dimension(WxDxH)mm	153×110×160	153×110×160	120×11×160	262×70×162
Material	POLYCARBONATE	POLYCARBONATE	POLYCARBONATE	STEEL
Colour	GRAY	GRAY	BLACK	BLACK
Weight	1.5kg	1.5kg	0.4kg	7.6kg
Install Area	WING, S/G	FORE /AFT	WING CONSOLE	ECC

MAIN CABINET

MPA-9000 Series | MPA-2000 Series | MTB-1200 Series

PB-2D	PB-3A	GAG-95B GENERATOR
AUTO/HAND SW.	AUTO SW. (ON/OFF) ONLY	AUTO/HAND/ABANDON/DIMMER SW.
WALL	WALL	FLUSH
IP44	IP56	IP22
1	3	X
80×64×128	66×57×148	184×180×90
STEEL	ABS	STEEL
7.5BG7/2	IVORY	BLACK
1kg	0.3kg	2.5kg
FCS	FCS	BCC

MJ-5	MJ-6(JM-3A)	MJ-6A(JM-3B)
FLUSH	WALL	FLUSH
IP22	IP22	IP22
X	X	X
78×52×116	100×50×100	80×57×126
STEEL	STEEL	STEEL
BLACK	BLACK	BLACK
0.5kg	0.4kg	0.4kg
BCC, ECC, CCC	STEERING STAND	STEERING STAND

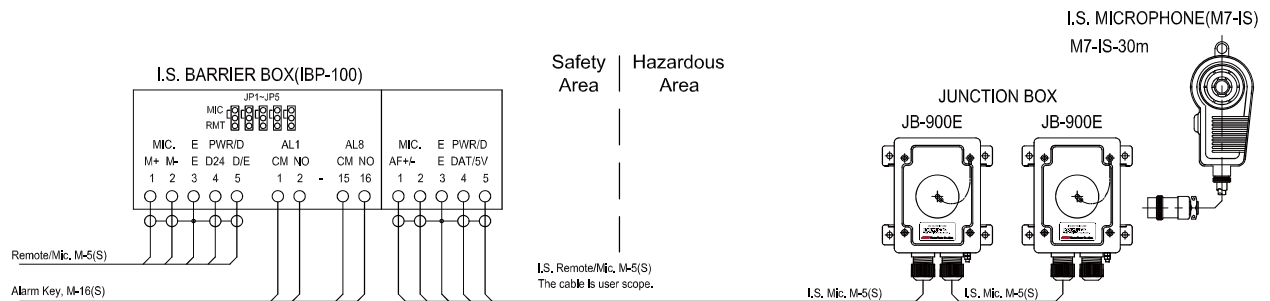# Intrinsically Safe PA/GA Barrier Box

I.S. PA/GA Barrier Box

ACCESSORY SPEAKER

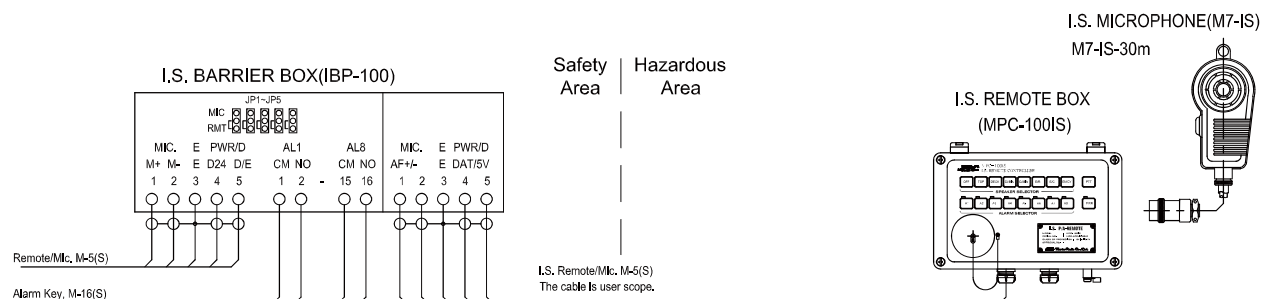| MODEL	MPC-100IS	IBP-100	JB-900E	M7-IS
PHOTO				
Cert No.	IECEx BAS 18.0066	IECEx BAS 18.0065	–	IECEx BAS 18.0066
IP Grade	IP44	IP44	IP56	IP56
(WxDxH)mm	300 × 200 × 90	460 × 297 × 83	133 × 160 × 78	65 × 143 × 42
Weight	7.6kg	8.4kg	1.5kg	1.5kg
Colour	BLACK	GRAY	BLACK	DARK BLUE
Material	GRP/SUS	STEEL	PC / GF	AL WITH LEATHER
Install Area	HAZARDOUS AREA	SAFE AREA	HAZARDOUS AREA	HAZARDOUS AREA

Certified IECEx, IEC 60079-0, 60079-11 (Certified by SGS Baseefa)

CONNECTION EXAMPLE 1 : IBP-100 & JB

CONNECTION EXAMPLE 2 : IBP-100 & MPC-100IS

CONNECTION EXAMPLE 3 : IBP-100, MPC-100IS & JB