




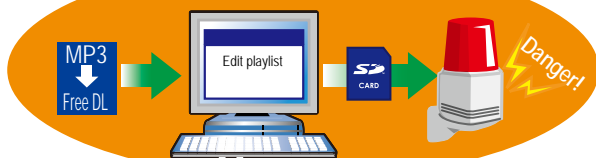


# Audible Alarms and MP3 Voice Annunciators

Page number	Page 139				Page 140	Page 141	Page 143	
Model Name	Audible Alarm				Slim MP3 Voice Annunciator		Audible Alarm	
Model	<b>BM</b>				<b>BSV-L</b>	<b>BSV</b>	<b>BD-A</b>	
Product image								
Rated Voltage	24V AC/DC	100V AC	120V AC	220V AC	12-24V DC	12-24V DC	12-24V DC	100/220V AC
Size (mm)	φ 30				□75	□75	□80	
IP	34 (D type)				54	54	54	
Sound pressure dB (at 1m)	90 (H type)		(H type)		87	87	90	
Case	ABS				ABS	ABS	ABS	
Terminal Block	○						○	
Number of tones	2				15	15	32	
Recording method					MP3	MP3		
Maximum Playback Time					520 s	63 s		
Message editing					○	○		
Maximum number of messages								
Number of channels (bit input)					4	4	○	
Number of channels (binary input)					15	15		
Test mode								
Sound Reduction					○	○		
Open collector					Either NPN or PNP	Either NPN or PNP	NPN	
CE Marking	○				○	○	○	
RoHS					○	○		○
UL standards					○	○	○	
Switch box compatible								
Built-in amp output								

Page number	Page 151					
Model Name	Audible Alarm Horn			MP3 Voice Annunciator Horn		
Model	<b>EHS</b>			<b>EHV</b>		
Product image						
Rated Voltage	12-24V DC	12-48V DC	100-240V AC	12-24V DC	12-48V DC	100-240V AC
Size (mm)						
IP	65			65		
Sound pressure dB (at 1m)	110			110		
Case	PC			PC		
Terminal Block	Terminal block or cable			Terminal block or cable		
Number of tones	32			63		
Recording method				MP3		
Maximum Playback Time				220 s		
Message editing				○		
Maximum number of messages						
Number of channels (bit input)	8			8		
Number of channels (binary input)	32			63		
Test mode						
Sound Reduction	○			○		
Open collector	NPN/PNP		NPN	NPN/PNP		NPN
CE Marking	○	○		○	○	
RoHS	○			○		
UL standards	○		○	○		○
Switch box compatible						
Built-in amp output						

Simple message registration with various tools







<https://www.patlite.com/oto/index0910.html>

SD card slot

Messages can be changed using an SD card.



Page number	Page 145		Page 147			Page 149		
Model Name	MP3 Voice Annunciator		Audible Alarm			MP3 Voice Annunciator		
Model	<b>BDV</b>		<b>BK</b>			<b>BKV</b>		
Product image								
Rated Voltage	12-24V DC	100/220V AC	12-24V DC	100V AC	220V AC	12-24V DC	100V AC	220V AC
Size (mm)	□80		□120			□120		
IP	54		54			54		
Sound pressure dB (at 1m)	87		95			95		
Case	ABS		ABS			ABS		
Terminal Block	○		○			○		
Number of tones			32					
Recording method	MP3					MP3		
Maximum Playback Time	63 s					63 s		
Message editing	○					○		
Maximum number of messages						○		
Number of channels (bit input)	4		8			5		
Number of channels (binary input)	15		32			31		
Test mode	○		○			○		
Sound Reduction								
Open collector	NPN		NPN			NPN		
CE Marking	○		○			○		
RoHS	○		○			○		
UL standards								
Switch box compatible								
Built-in amp output								

Page number	Page 153
Model Name	MP3 Player Circuit Board
Model	<b>FV-127JP</b>
Product image	
Rated Voltage	24V DC
Size (mm)	100×144
IP	
Sound pressure dB (at 1m)	
Case	
Terminal Block	○
Number of tones	
Recording method	MP3
Maximum Playback Time	240 minutes (when using SD card)
Message editing	○
Maximum number of messages	127
Number of channels (bit input)	7
Number of channels (binary input)	127
Test mode	
Sound Reduction	
Open collector	○
CE Marking	
RoHS	○
UL standards	
Switch box compatible	
Built-in amp output	4W

\* For specifications, see the product page.

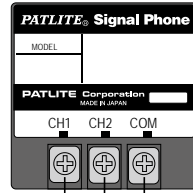
#### [Use of Copyrighted Material]

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded for Type-A, Type-C and Type-D melody charts outside of Japan. Therefore, please contact the local copyright association for permission before using the product in case this product is used outside of Japan. Melody chart Type-E is recommended for use outside of Japan as this playlist does not include copyrighted music or songs, and permission is not required.

# BM

BM type <standard type>  
 BM-H type <maximum volume type>  
 BM-D type <Splash resistant type>

D type only



Back  
Terminal Block



The BM Series features a compact design with a 30mm diameter speaker, comes loaded with 2 distinct tones with a 90dB sound output.

- Ultra-small, lightweight, audible with up to 90dB sound output
- 2 built-in sound tones to suitable for emergency alarms
- Up to 90dB sound output at 1m
- Designed for indoor mounting on a wall up to 7mm thick
- Can be operated by switching on/off power to the unit
- NPN/PNP types

Channel	Channel 1	Channel 2
Tone	Intermittent Buzzer	Continuous Buzzer

## Specification

Model	Rated Voltage	Operating Voltage Range	Power Consumption	Sound Pressure Level	External Contact Capacity	Operating Temperature Range	Contact Input Method	Playback Channel	Protection Rating	Mass
Standard type	<b>BM-202</b>	24V AC/DC	24V AC/DC (±10%)	0.4W	100mA or more	-10°C to +60°C (humidity 85% or less)	Power supply input method	2	IP30 (only the front)	0.1kg
	<b>BM-210</b>	100V AC	100V AC (±10%)	2.5W						
	<b>BM-220</b>	220V AC	220V AC (±10%)	3.5W						
Maximum volume type	<b>BM-202H</b>	24V AC/DC	24V AC/DC (±10%)	0.4W	100mA or more	-10°C to +60°C (humidity 85% or less)	Power supply input method	2	IP30 (only the front)	0.1kg
	<b>BM-210H</b>	100V AC	100V AC (±10%)	2.5W						
	<b>BM-220H</b>	220V AC	220V AC (±10%)	3.5W						
Splash resistant type	<b>BM-202D</b>	24V AC/DC	24V AC/DC (±10%)	0.4W	100mA or more	-10°C to +60°C (humidity 85% or less)	Power supply input method	2	IP34 (only the front)	0.1kg
	<b>BM-210D</b>	100V AC	100V AC (±10%)	2.5W						
	<b>BM-220D</b>	220V AC	220V AC (±10%)	3.5W						

(Note) The indicated sound pressure level is at maximum volume and the actual level may be lower than the indicated sound pressure level due to tone and voltage fluctuations.  
 \*When using multiple units, there may be variation in the playback sound even when started simultaneously with the tone.

## Model Code

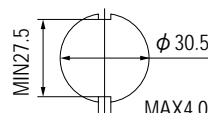
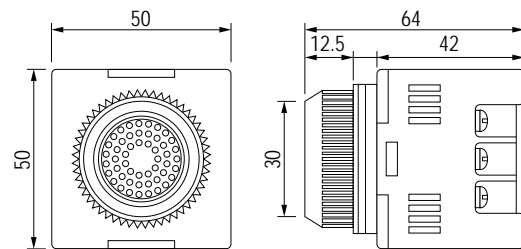
**BM-220D**

Model: BM-220D  
 Specification: D (Splash resistant type)

Blank	Standard type
H	Maximum volume type
D	Splash resistant type

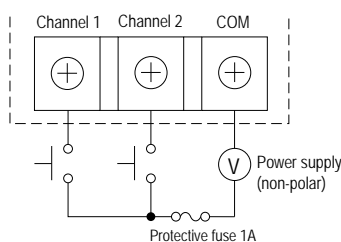
Rated Voltage	Model
24V AC/DC	202
100V AC	210
220V AC	220

## Dimensions (mm)



Board thickness = t; 7mm or less  
 Open with a  $\phi$  30.5mm hole if the tab is not necessary.

## Wiring Diagram



■ Tone order of priority

Channel 1 > Channel 2

\*If multiple signals are input simultaneously, it will prioritize Channel 1.

# BSV-L



-W (off-white)

-D (off-dark gray)

-S (Silver)

Simple message registration with various tools



The BSV-L Series features programmable voice signaling, an ultra-thin design and up to 520 seconds playback time with a 87dB sound output.

- Ultra-thin 19.9mm profile
- Maximum total playback time of 520 seconds
- Manual volume control located on back of unit and can also be adjusted by input signal
- IP54 rating for dust and water resistance
- NPN/PNP compatible



## Synthetic sound

Full scale



Panel mounting



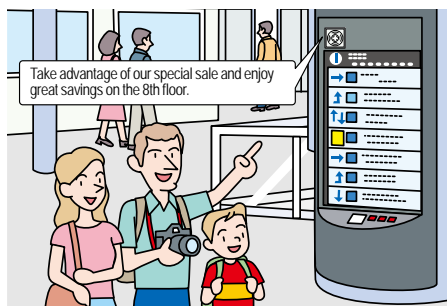
Wall mounting



### Compatible with multilingual voice guidance

- Scenario: Commercial facility, public facility, transportation facility, tourist site
- Application: facility guidance, event guidance, evacuation order, exhibit explanation

4 times the playback time for playback in 4 languages



With service enhancements based on multilingual support at commercial facilities, transportation facilities, and tourist sites on the rise, providing the voice guidance in the 4 languages of Japanese, English, Chinese, and Korean will require about 4 times the one language playback time. The BSV-L type enables a maximum 520 seconds playback, so easily ensures capacity for multilingual messages.

### Many different messages in a single unit

- Scenario: Public washroom, elevator, escalator
- Application: guidance on usage of facilities

Support facility use with voice guidance



Support elderly and disabled users by providing voice guidance to enable them to use the facilities with ease. For example, at the entrance to public washrooms you can use the speaker to provide location and information of the multipurpose washrooms.

## Specification

Model	Corresponding Transistor	Rated Voltage	Operating Voltage Range	Maximum Power Consumption	Sound Pressure Level	Operating Temperature Range	Maximum Seconds of Playback	Playback Channel	Protection Rating	Mass	Color of Body Front Cover	Registered Data
BSV-24NLM	NPN transistor	12-24V DC	10.8 - 26.4V DC	3.5W	Maximum 87dB (at 1m) 1kHz sine wave playback	-10°C - +50°C (humidity 85% or less)	520 s	4 (bit input) 15 (binary input)	IP54 Only forward panel-mounted front	100g ±10%	Off-white (-W) Off-dark gray (-D) Silver (-S)	Voice
BSV-24NL								*3 (bit input) and 7 (binary input) when used with sound reduction feature.				Alarm
BSV-24PLM	PNP transistor	12-24V DC	10.8 - 26.4V DC	3.5W	Maximum 87dB (at 1m) 1kHz sine wave playback	-10°C - +50°C (humidity 85% or less)	520 s	4 (bit input) 15 (binary input)	IP54 Only forward panel-mounted front	100g ±10%	Off-white (-W) Off-dark gray (-D) Silver (-S)	Voice
BSV-24PL								*3 (bit input) and 7 (binary input) when used with sound reduction feature.				Alarm

Audio files: MPEG1-Audio Layer III (mp3) standard bitrate: 64kbit/s, Fs=44.1kHz

(Note) The indicated sound pressure level is the maximum volume (synthetic sound type: sine wave (1KHz)) and the actual level may be lower than the indicated sound pressure level due to message content, tone, and voltage fluctuations.

\*When using multiple units, there may be variations in the playback sound even when started simultaneously with the tone. This product is not for mounting on a vehicle.

Network

Signal Tower

Signal Light

Revolving Warning Light

Cube Tower

Audibles

Hybrid Signaling Devices

LED Illumination

Options

## BSV



-W (off-white)

-D (off-dark gray)

-S (Silver)

Simple message registration with various tools



The BSV Series features programmable voice signaling, an ultra-thin design and 15 built-in alarm sounds with a 87dB sound output.

- Ultra-thin 19.9mm profile
- 15 built-in standard alarm sound options
- Up to 87dB sound output at 1m
- Manual volume control located on back of unit and can also be adjusted by input signal
- IP54 rating for dust and water resistance
- NPN/PNP compatible



## Synthetic sound

Full scale


 Panel mounting

 Wall mounting


Standard equipped with an SD card slot. Able to rewrite mp3 data on an SD card.  
In addition to rewriting data using existing dedicated application software, this system is able to rewrite data just by changing the file name of mp3 data without having to use dedicated software.

- Plays maximum 15 messages (BSV-M type)
- 15 built-in standard alarm sounds (BSV type)

Contains 15 standard alarm sounds.

No.1	Chime	No.2	Beep	No.3	Stutter	No.4	Bell	No.5	Yelp
No.6	Rapid Hi-Lo	No.7	Melody Chime	No.8	Synthesized Piano	No.9	Synthesized Bell	No.10	Stutter & Bell
No.11	Synthesized Melody	No.12	Call Sign	No.13	Inverted Reveille x3	No.14	Galactic Motor	No.15	Two Tone

\*All standard alarm sounds and mp3 data in the main unit memory is deleted when rewriting a message.

- Multicolored operation mode

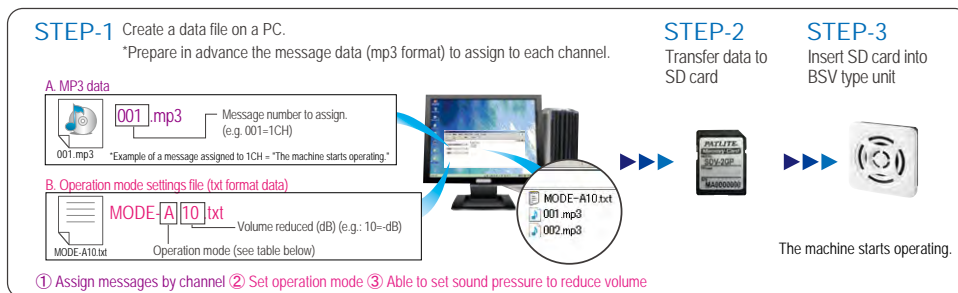
Variety of 8 operation modes.

Operating Mode					
A	Bit input and normal playback	C	Bit input and hold playback	E	Binary input and normal playback
B	Playback prioritizing bit input and subsequent input	D	Bit input and memory playback	F	Playback prioritizing binary input and subsequent input
		G	Binary input and hold playback	H	Binary input and memory playback

\*Changing operation modes requires an SD card (SDV-2GP sold separately). Operation is not guaranteed when using other types of SD cards.

\*While initial registered alarm data includes 15 sounds, operation mode must be changed to binary input when using all of them.

- Data rewriting method without the dedicated application.



Using the special application software enables additional features, such as produce a combination of messages and make individual volume adjustments.

## Specification

Model	Corresponding Transistor	Rated Voltage	Operating Voltage Range	Maximum Power Consumption	Sound Pressure Level	Operating Temperature Range	Maximum Seconds of Playback	Playback Channel	Protection Rating	Mass	Color of Body Front Cover	Registered Data
BSV-24NM	NPN transistor	12-24V DC	10.8 - 26.4V DC	3.5W	Maximum 87dB (at 1m) 1kHz sine wave playback	-10°C - +50°C (humidity 85% or less)	63 s	4 (bit input) 15 (binary input) *3 (bit input) and 7 (binary input) when used with sound reduction feature.	IP54 Only forward panel-mounted front	100g ±10%	Off-white (-W) Off-dark gray (-D) Silver (-S)	Voice
BSV-24N-W/D												Alarm
BSV-24PM	PNP transistor											Voice
BSV-24P-W												Alarm

Voice files: MPEG1-audio Layer III (mp3), standard bit rate: 64kbit/s, Fs=44.1kHz

(Note) The indicated sound pressure level is the maximum volume (synthesized sound type: sine wave (1kHz)) and the actual level may be lower than the indicated sound pressure level due to message content, tone, and voltage fluctuations.

\*When using multiple units, there may be variations in the play back sound even when started simultaneously with the tone. This product is not intended for the use of mounting on a vehicle.

## Model Code

# BSV-24NLM-W

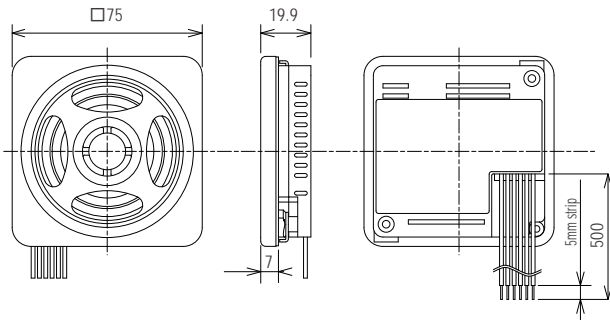
Model	BSV-24NLM-W		Color of Body Front Cover	
Corresponding Transistor	N	NPN	W	Off-white
	P	PNP	D	Off-darkgray
Recording time	L	520 s	S	Silver
	Blank	63 s	Message recording	
		Blank	None (15 built-in alarm sounds)	
		M	Specified messages registered on delivery	

## Optional Parts

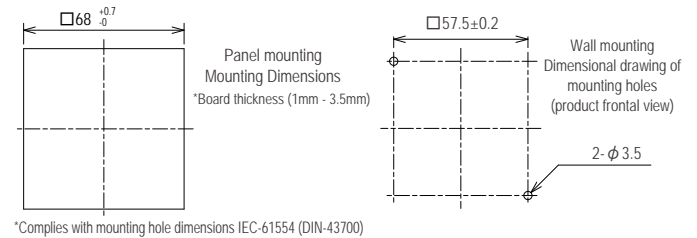
For details, see pages 182 to 187.

Optional Parts	Model
SD card (2GB)	SDV-2GP

## Dimensions (mm)

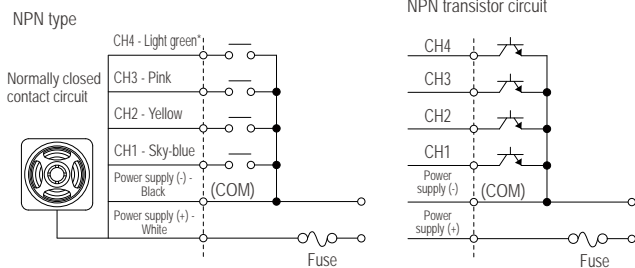


### Mounting Dimensions

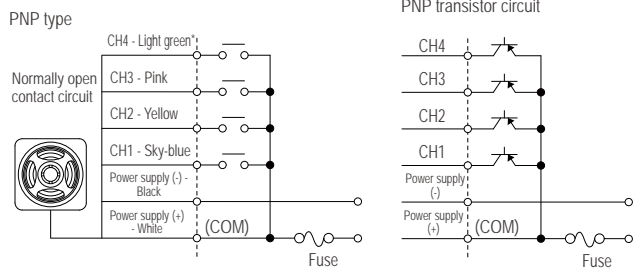


## Wiring Diagram

### BSV-24NL (M) / BSV-24N (M)



### BSV-24PL (M) / BSV-24P (M)



\*Signal wire CH4 (Light green) is used for the sound reduction feature. When the feature is used, the number of playback messages is 3 channels (for bit input) and 7 channels (for binary input).

## Speaker

□BSV shaped speakers are also available in the lineup.

We have also added BSV shaped speakers to the lineup, which you can use for purposes that do not require synthesized sounds.

With an IP54 (forward-mounted front only, when panel mounted) the compact speakers do not take much space to install.



SPB-2E type (2W 8 $\Omega$ )  
-W (Off-white)

# BD-A



-J (Light gray)



-K (Dark gray)

The BD Series features an embedded mounting design and comes pre-loaded with 32 built-in sounds with a 90dB sound output.

- Front switch and volume control access
- 32 built-in standard alarm sound options
- Up to 90dB sound output at 1m
- IP54 rating for dust and water resistance
- NPN compatible



## Table of tones

**32 Built-in Tones.** Every unit has 32 tones built-in.  
Four built-in variations include BD-AA, BD-AC, BD-AD and BD-AE.

### Type A

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter & Bell	Synthesized Melody	Chime	Call Sign
Fur Elise	A Maiden's Prayer	Minuet in Gmjr	Annie Laurie
London bridge is falling down	Holdiridia	Mary had a little Lamb	Camptown Races
Cuckoo Song	Village Blacksmith	On the Avignon Bridge	Daydream Believer
Amaryllis	Mozart Symphony No.40	Quiet Lakeside	Mountain Musician
Spanish Romance	Katyusha	Grandfather's Clock	Ave Maria

### Type C

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter & Bell	Synthesized Melody	Chime	Call Sign
Can't take my eyes off of You	Top of the World	The Entertainer	Amazing Grace
Maiden with the flaxen hair	Aux Champs-Elysees	Canon	La-la Sunshine
Space Battleship Yamato	Oshiete	Makenai de	Theme Song
I Don't Want to Miss a Thing	Yozora no Mukou	Ai wa Katsu	Truth
Guts Daze!!	Odoru Ponpokorin	Ima sugu Kiss Me	Haru yo, Koi

### Type D

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Chime	Call Sign	Runner	Mamotte Agetai
While listening to Olivia	September	Douyobi no Koibito	Aki no Kihai
Surf Tengoku, Ski Tengoku	Iro, White Blend	Happy Birthday	Hi Ho
I've been working on the Railroad	The Bear Song	Toys Go Cha-Cha-Cha	Konnako Irukana
Shubert's Lullaby	Rudolph the Red-nosed Reindeer	She Wore a Yellow Ribbon	My Darling Clementine
Yellow Rose of Texas	Yankee Doodle	When the Saints Go Marching In	Londonderry Aire

### Type E

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter & Bell	Synthesized Melody	Chime	Call Sign
Bee-boh sound	Galloping Hi-Lo	Alien Chatter	Falling Crystals
Inverted Reveille x3	Galactic Motor	Ringling Phone	Two Tone
Alarm Clock	Ringling Hi-Lo	Fur Elise	Minuet in Gmjr
Annie Laurie	London bridge is falling down	Mary had a little Lamb	Camptown Races
Amaryllis	Mozart Symphony No.40	Ave Maria	Grandfather's Clock

### Use of Copyrighted Material

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded for Type-A, Type-C and Type-D melody charts outside of Japan. Therefore, please contact the local copyright association for permission before using the product in case this product is used outside of Japan. Melody chart Type-E is recommended for use outside of Japan as this playlist does not include copyrighted music or songs, and permission is not required.

- 4-sound playback (see instruction manual for 4 sound grouping)
- Alarm tones are denoted in characters for convenience' sake. Please inquire about actual tones or check our website for more details.

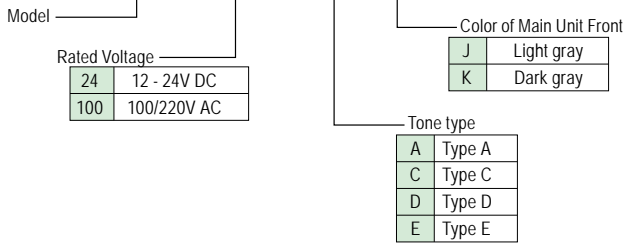
## Specification

Model	Rated Voltage	Operating Voltage Range	Maximum Power Consumption	Sound Pressure Level	Operating Temperature Range	Contact Input Method	Playback Channel	Protection Rating	Mass
BD-24AA-J/-K BD-24AC-J/-K BD-24AD-J/-K BD-24AE-J/-K	12-24V DC	10.8 - 26.4V DC	4W	Maximum 90 dB (at 1m)*	-20°C to +55°C (humidity 85% or less)	1 bit input	4	IP54 (Mount on forward-facing panel) Front only	160g
BD-100AA-J/-K BD-100AC-J/-K BD-100AD-K BD-100AE-J	100/220V AC	100V AC±10% 220V AC±10%	5W						180g

\*The sound pressure level changes based on tone, use environment, and working voltage.

## Model Code

# BD-24AA-J

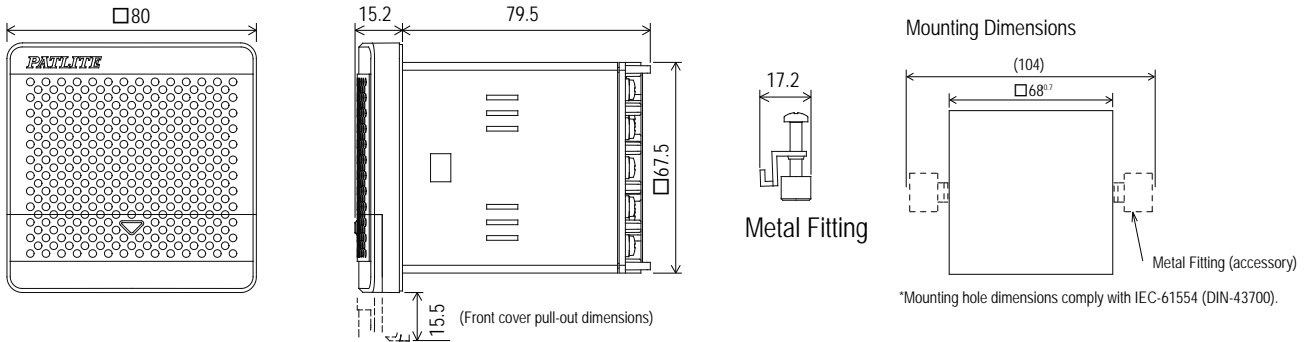


## Optional Parts

For details, see pages 182 to 187.

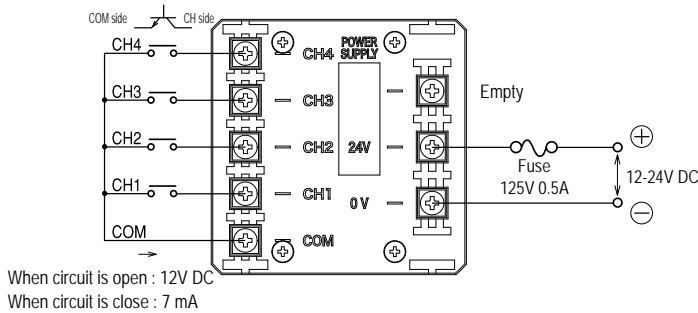
Optional Parts	Model
SD card (2GB)	SDV-2GP

## Dimensions (mm)

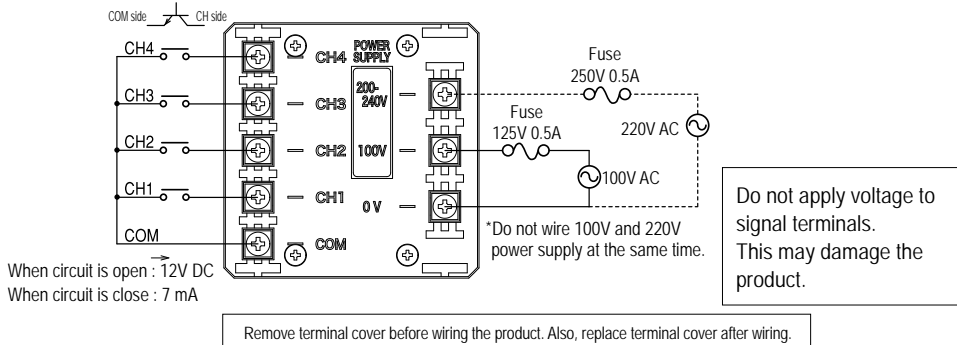


## Wiring Diagram

Example: BD-24A NPN transistor connection diagram



Example: BD-100A NPN transistor connection diagram



Remove terminal cover before wiring the product. Also, replace terminal cover after wiring.



# BDV



-K (Dark gray)



-J (Light gray)

The BDV Series features programmable voice signaling, an embedded mounting design and a sound output of 90dB.

- Front switch and volume control access
- Up to 90dB sound output at 1m
- IP54 rating for dust and water resistance
- NPN compatible



Simple message registration with various tools



## Sound Playback Mode

Select various playback modes based on their application.

A	Bit input mode	Plays back up to 4 messages using Channels 1 to 4.	F	Playback mode prioritizing binary input and subsequent input	Plays back up to 15 messages using Channels 1 to 4. If a message input occurs during playback of another message, the message will stop and allow the input message to play back.
B	Binary input mode	Plays back up to 15 messages using Channels 1 to 4.	G	Bit input and hold playback mode	Plays back up to 4 messages using Channels 1 to 4. As long as the input is held on, the message is played back, once the input is removed, the message playback stops.
C	Bit input and sound reduction mode	Plays back up to 3 messages using Channels 1 to 3. When Channel 4 receives an input, the volume is reduced by about -10dB.	H	Binary input and hold playback mode	Plays back up to 15 messages using Channels 1 to 4. As long as the input is held on, the message is played back, once the input is removed, the message playback stops.
D	Binary input and sound reduction mode	Plays back up to 7 messages using Channels 1 to 3. When Channel 4 receives an input, the volume is reduced by about -10dB.	I	Test mode	Plays back Message No. 1
E	Playback mode prioritizing bit input and subsequent input	Plays back up to 7 messages using Channels 1 to 3. If a message input occurs during playback of another message, the message will stop and allow the input message to play back.			

## Specification

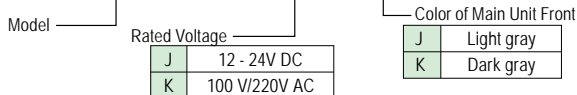
Model	Rated Voltage	Operating Voltage Range	Maximum Power Consumption	Sound Pressure Level	Audio File	Operating Temperature Range	Maximum Seconds of Playback	Playback Channel	Protection Rating	Mass
BDV-15JF	12-24V DC	10.8 - 26.4V DC	4W	Maximum 87 dB (at 1m)	MP3 (MPEG1-Audio Layer III (mp3) Standard bitrate : 64kbit/s, Fs=44.1kHz)	-10°C to +50°C (humidity 85% or less)	63 s	4 (bit input) 15 (binary input)	IP54 (Mount on forward-facing panel) Front only	0.22kg
BDV-15KF	100/220V AC	100V AC±10% 220V AC±10%	5W							0.34kg

(Note) The indicated sound pressure level is the maximum volume (synthesized sound type: sine wave (1KHz)) and the actual level may be lower than the indicated sound pressure level due to message content, tone, and voltage fluctuations.

\*When using multiple units, there may be variations in the playback sound even when started simultaneously with the tone. This product is not for mounting on a vehicle.

## Model Code

# BDV-15JF-J

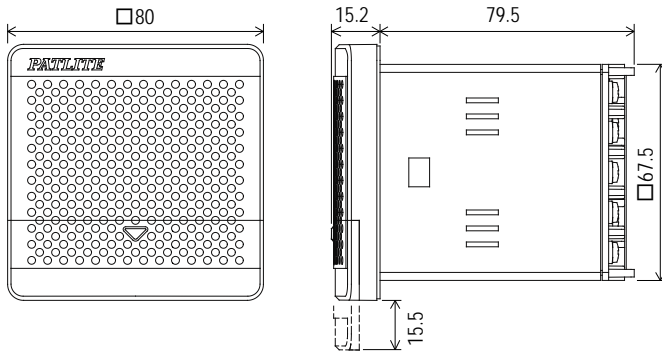


## Optional Parts

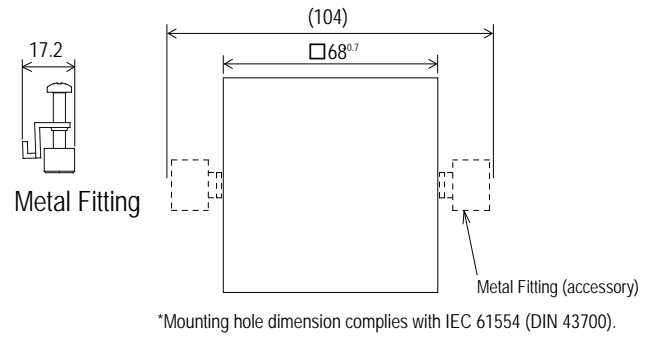
For details, see pages 182 to 187.

Optional Parts	Model
SD card (2GB)	SDV-2GP

Dimensions (mm)

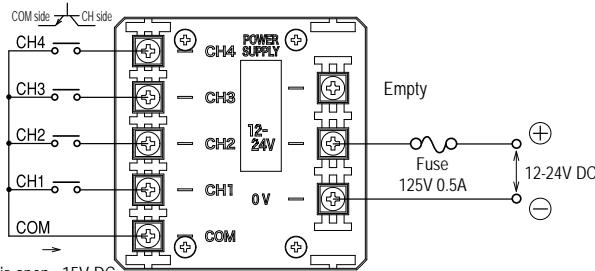


Mounting Dimensions



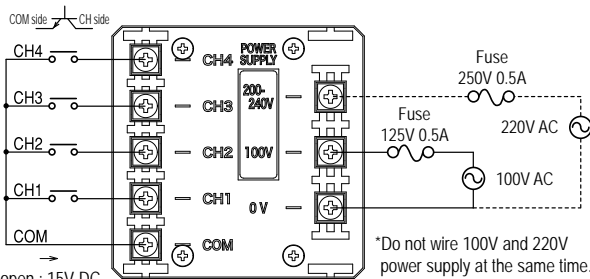
Wiring Diagram

BDV-15JF



When circuit is open : 15V DC  
When circuit is close : 7 mA

BDV-15KF



When circuit is open : 15V DC  
When circuit is close : 7 mA

Do not apply voltage to signal terminals. This may damage the product.

Remove terminal cover before wiring the product. Also, replace terminal cover after wiring.

Table 1: Signal circuit

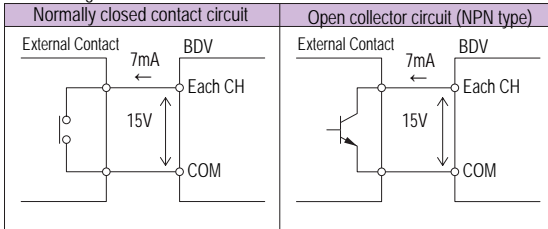


Table 2: Signal contact capacity

Current Capacity	10mA or more
Withstand Voltage	20V DC or more
Leakage Current	0.1mA or less
ON voltage (Vsat)	1V or less



-J (Light gray)



-K (Dark gray)

The BK Series features an embedded mounting design, a sound output of 95dB, and comes pre-loaded with 32 sound tones.

- Front switch and volume control access
- Pre-loaded with 32 tone and alarm sound options
- Up to 95dB sound output at 1m
- IP54 rating for dust and water resistance
- NPN compatible



(only 24V)

## Table of tones

### 32 Built-in Tones.

Every unit has 32 tones built-in.

Four built-in variations include BD-AA, BD-AC, BD-AD and BD-AE.

#### Type A

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter & Bell	Synthesized Melody	Chime	Call Sign
Fur Elise	A Maiden's Prayer	Minuet in Gmjr	Annie Laurie
London bridge is falling down	Holdiridia	Mary had a little Lamb	Camptown Races
Cuckoo Song	Village Blacksmith	On the Avignon Bridge	Daydream Believer
Amaryllis	Mozart Symphony No.40	Quiet Lakeside	Mountain Musician
Spanish Romance	Katyusha	Grandfather's Clock	Ave Maria

#### Type C

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter & Bell	Synthesized Melody	Chime	Call Sign
Can't take my eyes off of You	Top of the World	The Entertainer	Amazing Grace
Maiden with the flaxen hair	Aux Champs-Elysees	Canon	La-la Sunshine
Space Battleship Yamato	Oshiete	Makenai de	Theme Song
I Don't Want to Miss a Thing	Yozora no Mukou	Ai wa Katsu	Truth
Guts Daze!!	Odoru Ponpokin	Ima sugu Kiss Me	Haru yo, Koi

#### Type D

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Chime	Call Sign	Runner	Mamotte Agetai
While listening to Olivia	September	Douyobi no Koibito	Aki no Kihai
Surf Tengoku, Ski Tengoku	Iro, White Blend	Happy Birthday	Hi Ho
I've been working on the Railroad	The Bear Song	Toys Go Cha-Cha-Cha	Konnako Irukana
Shubert's Lullaby	Rudolph the Red-nosed Reindeer	She Wore a Yellow Ribbon	My Darling Clementine
Yellow Rose of Texas	Yankee Doodle	When the Saints Go Marching In	Londonderry Aire

#### Type E

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter & Bell	Synthesized Melody	Chime	Call Sign
Bee-boh sound	Galloping Hi-Lo	Alien Chatter	Falling Crystals
Inverted Reveille x3	Galactic Motor	Ringling Phone	Two Tone
Alarm Clock	Ringling Hi-Lo	Fur Elise	Minuet in Gmjr
Annie Laurie	London bridge is falling down	Mary had a little Lamb	Camptown Races
Amaryllis	Mozart Symphony No.40	Ave Maria	Grandfather's Clock

#### Use of Copyrighted Material

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded for Type-A, Type-C and Type-D melody charts outside of Japan. Therefore, please contact the local copyright association for permission before using the product in case this product is used outside of Japan.

Melody chart Type-E is recommended for use outside of Japan as this playlist does not include copyrighted music or songs, and permission is not required.

- Bit input → plays 8 sounds (see instruction manual for 8 sound grouping) Binary input → plays 32 sounds
- Alarm tones are denoted in characters for convenience' sake. Please inquire about actual tones or check our website for more details.

## Specification

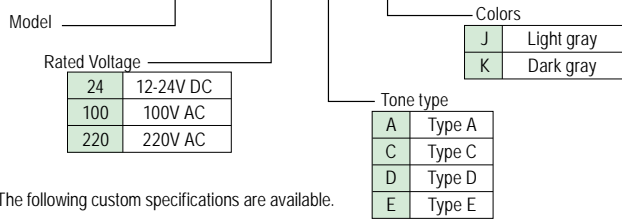
Colors not listed in stock products, and any products other than stock products are made-to-order.

Model	Rated Voltage	Operating Voltage Range	Maximum Power Consumption	Sound Pressure Level	Operating Temperature Range	Playback Channel	Protection Rating	Mass
BK-24A-J-K	12-24V DC	10.8 - 26.4V DC	12W	Maximum 95 dB (at 1m)*	-20°C to +50°C (humidity 85% or less)	Bit input: 8 Binary input: 32	IP54 (Mount on forward-facing panel) Front only	0.35kg
BK-24C-J								0.53kg
BK-24E-J								0.53kg
BK-100A-J	100V AC	100V AC±10%	10W					
BK-220A-J	220V AC	220V AC±10%	11W					

\*The sound pressure level changes based on tone, use environment, and working voltage.

## Model Code

# BK-24A-J



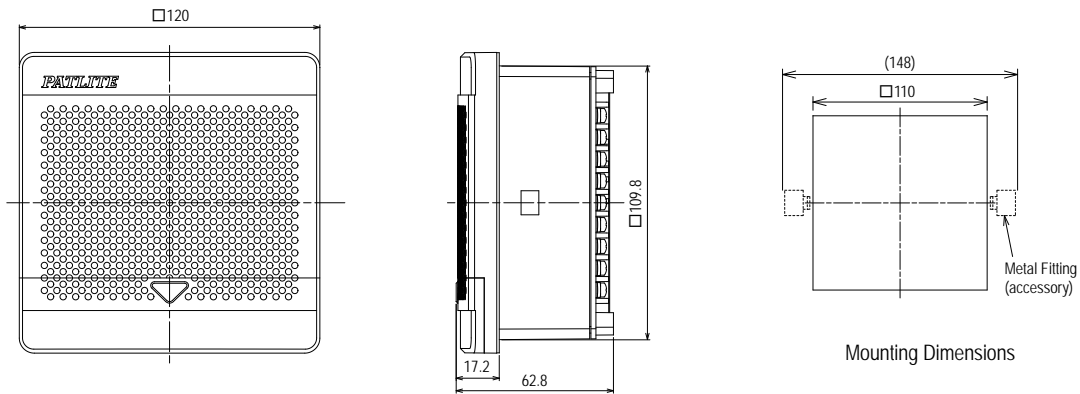
## Optional Parts

For details, see pages 182 to 187.

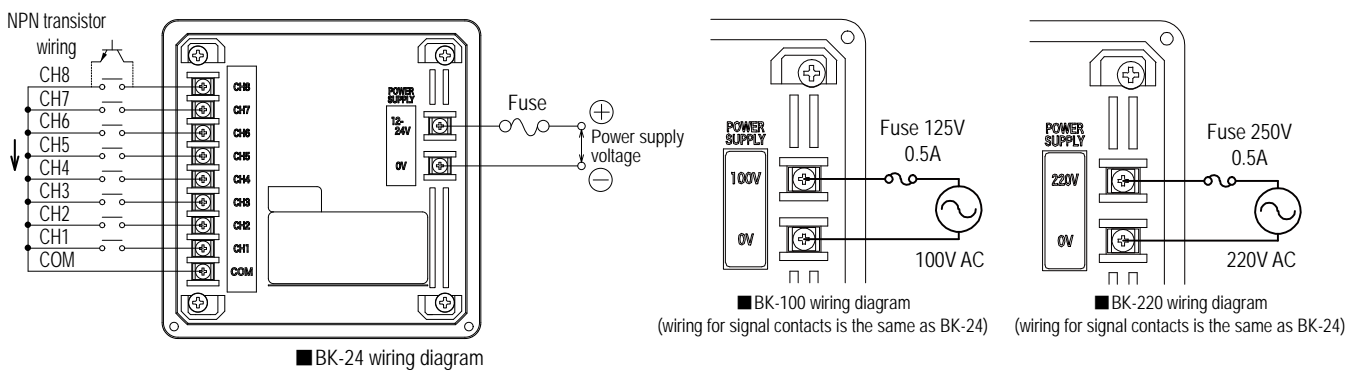
Optional Parts	Model
Mounting bracket	BK-001 (2 fixed seals attached)
Mounting bracket	BK-002-J
Mounting bracket	BK-002-K
SD card (2GB)	SDV-2GP

\*The BK-001 type can use □130 embedded mounting holes.

## Dimensions (mm)



## Wiring Diagram



Please wire the power supply voltage indicated to the left of the power supply terminal.

Do not apply voltage to signal terminals.  
This may damage the product.

	Fuse	Channel contact capacity
BK-24	125V 1A	Current Capacity 10mA or more
BK-100	125V 0.5A	Withstand Voltage 20V DC or more
BK-220	250V 0.5A	Leakage Current 0.1mA or less
		ON voltage (Vsat) 1V or less

# BKV



-J (Light gray)



-K (Dark gray)

The BKV Series features programmable voice signaling, an embedded mounting design, and a sound output of 95dB.

- Front switch and volume control access
- Comes pre-loaded with select voice messages but can be easily overwritten
- Up to 95dB sound output at 1m
- IP54 rating for dust and water resistance
- NPN compatible



Simple message registration with various tools



## Sound Playback Mode

Select various playback modes based on their application.

<b>A</b>	Bit input mode	Plays back up to 5 messages using Channels 1 to 5.	<b>F</b>	Playback mode prioritizing binary input and subsequent input	Plays back up to 31 messages using Channels 1 to 5. If a message input occurs during playback of another message, the message will stop and allow the input message to play back.
<b>B</b>	Binary input mode	Plays back up to 31 messages using Channels 1 to 5.	<b>G</b>	Bit input and hold playback mode	Plays back up to 5 messages using Channels 1 to 5. As long as the input is held on, the message is played back, once the input is removed, the message playback stops.
<b>C</b>	Bit input and sound reduction mode	Plays back up to 4 messages using Channels 1 to 4. When Channel 5 receives an input, the volume is reduced by about -15dB.	<b>H</b>	Binary input and hold playback mode	Plays back up to 31 messages using Channels 1 to 5. As long as the input is held on, the message is played back, once the input is removed, the message playback stops.
<b>D</b>	Binary input and sound reduction mode	Plays back up to 15 messages using Channels 1 to 4. When Channel 5 receives an input, the volume is reduced by about -15dB.	<b>I</b>	Test mode	Plays back Message No. 1
<b>E</b>	Playback mode prioritizing bit input and subsequent input	Plays back up to 5 messages using Channels 1 to 5. If a message input occurs during playback of another message, the message will stop and allow the input message to play back.			

## Specification

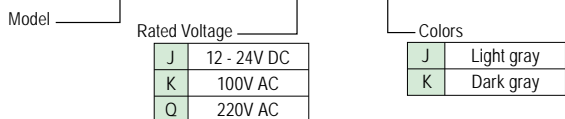
Model	Rated Voltage	Operating Voltage Range	Maximum Power Consumption	Sound Pressure Level	Audio File	Operating Temperature Range	Maximum Seconds of Playback	Playback Channel	Protection Rating	Mass
<b>BKV-31JF</b>	12-24V DC	10.8 - 26.4V DC	9W	Maximum 95 dB (at 1m)	MPEG1-Audio Layer III (MP3) Standard bitrate : 64kbit/s, Fs=44.1kHz	-10°C to +50°C (humidity 85% or less)	63 s	5 (bit input) 31 (binary input)	IP54 (Mount on forward-facing panel) Front only	0.35kg
<b>BKV-31KF</b>	100V AC	100V AC±10%	10W							0.53kg
<b>BKV-31QF</b>	220V AC	220V AC±10%	10W							0.53kg

(Note) The indicated sound pressure level is the maximum volume (synthesized sound type: sine wave (1KHz)) and the actual level may be lower than the indicated sound pressure level due to message content, tone, and voltage fluctuations.

\*When using multiple units, there may be variation in the playback sound even when started simultaneously with the tone and voice. This product is not for mounting on a vehicle.

## Model Code

# BKV-31JF-J



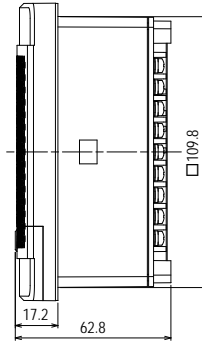
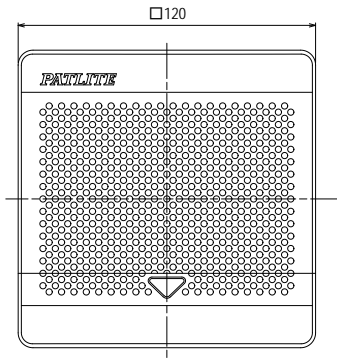
## Optional Parts

For details, see pages 182 to 187.

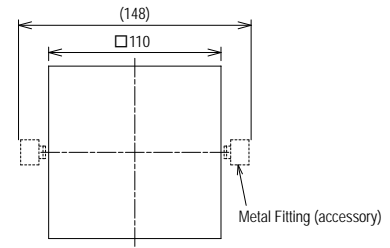
Optional Parts	Model
Mounting bracket	BK-001 (2 fixed seals attached)
Mounting bracket	BK-002-J
Mounting bracket	BK-002-K
SD card (2GB)	SDV-2GP

\*The BK-001 type can use I130 embedded mounting holes.

## Dimensions (mm)



### Mounting Dimensions



## Wiring Diagram

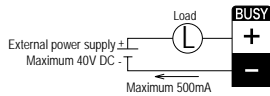
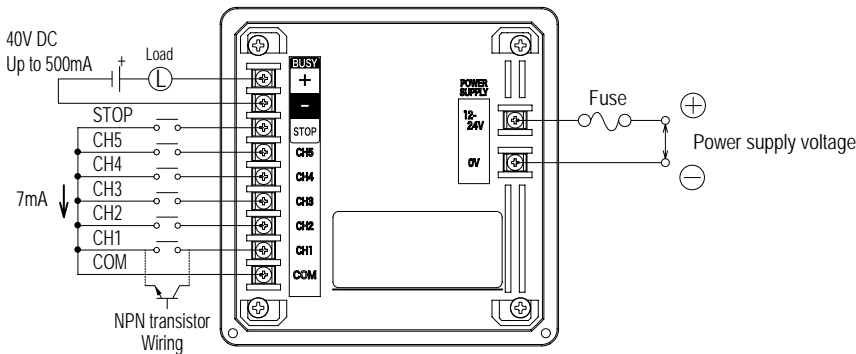


Table 1: Signal circuit

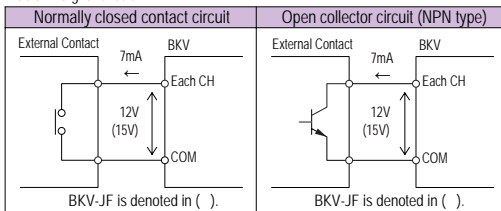


Table 2: Power supply inrush current and fuses

Model	Inrush current	Fuse
BKV-JF	Maximum 10A/5ms	125V 1A
BKV-KF	Maximum 1.5A/12ms	125V 0.5A
BKV-QF	Maximum 1.2A/0.5ms	250V 0.5A

Table 3: Signal contact capacity

Current Capacity	10mA or more
Withstand Voltage	20V DC or more
Leakage Current	0.1mA or less
ON voltage (V <sub>sat</sub> )	1V or less

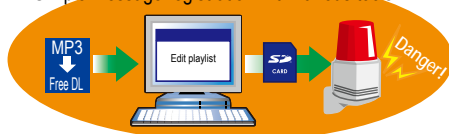
Do not apply voltage to signal terminals.

Do not apply an overload, reverse polarities or an over-voltage to the Busy terminal. Product damage may occur.

# EHS/EHV



Simple message registration with various tools



- M3 specifications have achieved anti-vibration 7G and passed vibration testing standards for automobile parts <JIS D 1601-1995, types 3 and B> by attaching anti-vibration rubber.
- 4 operation modes can be selected. (EHS type has Hold Playback only)

The EH Series features programmable voice signaling, high vibration resistance, and a high sound output of 110dB, designed to be heard above machine noise.

- Vibration resistant up to 4.5G, ideal for moving vehicles
- Comes pre-loaded with tone and alarm sounds
- Up to 110dB sound output at 1m
- IP65 rating for dust and water resistance
- Built-in sound reduction feature for quieter environments
- NPN/PNP compatible



## Table of tones

### EHS Tone List

#### Type A

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter & Bell	Synthesized Melody	Chime	Call Sign
Fur Elise	A Maiden's Prayer	Minuet in Gmjr	Annie Laurie
London bridge is falling down	Holdiridia	Mary had a little Lamb	Camptown Races
Cuckoo Song	Village Blacksmith	On the Avignon Bridge	Daydream Believer
Amaryllis	Mozart Symphony No.40	Quiet Lakeside	Mountain Musician
Spanish Romance	Katyusha	Grandfather's Clock	Ave Maria

#### Type C

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter & Bell	Synthesized Melody	Chime	Call Sign
Can't take my eyes off of You	Top of the World	The Entertainer	Amazing Grace
Maiden with the flaxen hair	Aux Champs-Elysees	Canon	La-la Sunshine
Space Battleship Yamato	Oshiete	Makenai de	Theme Song
I Don't Want to Miss a Thing	Yozora no Mukou	Ai wa Katsu	Truth
Guts Daze!!	Odoru Ponpokorin	Ima sugu Kiss Me	Haru yo, Koi

#### Type D

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Chime	Call Sign	Runner	Mamotte Agetai
While listening to Olivia	September	Douyobi no Koibito	Aki no Kihai
Surf Tengoku, Ski Tengoku	Iro, White Blend	Happy Birthday	Hi Ho
I've been working on the Railroad	The Bear Song	Toys Go Cha-Cha-Cha	Konnaku Irukana
Shubert's Lullaby	Rudolph the Red-nosed Reindeer	She Wore a Yellow Ribbon	My Darling Clementine
Yellow Rose of Texas	Yankee Doodle	When the Saints Go Marching In	Londonderry Aire

#### Type E

Beep	Stutter	Bell	Yelp
Rapid Hi-Lo	Melody Chime	Synthesized Piano	Synthesized Bell
Stutter & Bell	Synthesized Melody	Chime	Call Sign
Bee-boh sound	Galloping Hi-Lo	Alien Chatter	Falling Crystals
Inverted Reveille x3	Galactic Motor	Ringling Phone	Two Tone
Alarm Clock	Ringling Hi-Lo	Fur Elise	Minuet in Gmjr
Annie Laurie	London bridge is falling down	Mary had a little Lamb	Camptown Races
Amaryllis	Mozart Symphony No.40	Ave Maria	Grandfather's Clock

### EHV Tone List

#### Type F

Galactic Hovercraft	Game Intermission	Spring Melody	Jalopy Horn
ET Doorbell	RR-crossing	Train Whistle	Train Ride
Starting Notice Chime1	Starting Notice Chime2	Starting Notice Chime3	Ending Notice Chime1
Ending Notice Chime2	RHYTHM AND POLICE	ZANKOKUNA TENSHINO TEEZE	MAJINGAA ZETTO
HATARAKU KURUMA	NINGENTTE IINA	ROBINSON	WORLD FOOTBALL ANTHEM
BANZAI SUKIDE YOKATTA	NAMONAKI UTA	SOUSEIKO AKUERION	MAMBO NO 5
The Parade of the Tin Soldiers	Turkey in the Straw	Aka tombo	Funiculi, Funicula
Furusato	Beautiful Dreamer	JOLLY HOLIDAY	

The above 31 tones & 32 EHS type A tones are built-in

#### Type G

Galactic Hovercraft	Game Intermission	Spring Melody	Jalopy Horn
ET Doorbell	RR-crossing	Starting Notice Chime1	Starting Notice Chime2
Ending Notice Chime1	Ending Notice Chime2	The Parade of the Tin Soldiers	If You're Happy and You Know It
Flea Waltz	Turkey in the Straw	The Battle Hymn of the Republic	J'ai perdu le do de ma clarinette
Can-can	Radetzky March	Funiculi, Funicula	Csikos Post
Polka Trablanka	O Vreneli	KAERUNO GASSHOU	El Condor Pasa (If I Could)
Hungarian Dance No.5	William Tell Overture	Pomp and Circumstance	Greensleeves
Nedelka	Moonlight Serenade	WAREWA UMINO KO	

The above 31 tones & 32 EHS type E tones are built-in

### Optional Parts

For details, see pages 182 to 187.

Optional Parts	Model
SD card (2GB)	SDV-2GP

- Alarm tones are denoted in characters for convenience' sake. Please check our website for more details.
- Tone group settings are described in the list of tones in the specification and general instruction manual, so please check our website for more details.

#### Use of Copyrighted Material

PATLITE Corporation has not applied for permission to use certain copyrighted music or songs recorded for Type-A, Type-C and Type-D melody charts outside of Japan. Therefore, please contact the local copyright association for permission before using the product in case this product is used outside of Japan. Melody chart Type-E is recommended for use outside of Japan as this playlist does not include copyrighted music or songs, and permission is not required.

## EHS specifications

Model	Rated Voltage	Operating Voltage Range	Rated Power Consumption	Sound Pressure Level	Operating Temperature Range	Playback Channel	Wiring method	Mass
EHS-M1HA	12 - 24V DC	10.8 - 35V DC	5.0W (12V DC when using normally closed/NPN)	Alarm: maximum 110dB (at 1m)*	-20°C to +50°C (humidity 85% or less)	Bit input: 8 Binary input: 32	Cable cable	1.25kg±10%
EHS-M1TA			5.9W (24V DC when using normally open/PNP)				Terminal Block	
EHS-M1TE			6.9W (240V AC when using normally closed/NPN)				Cable cable	
EHS-M2HA	100 - 240V AC	90 - 264V AC	5.3W (240V AC when using normally closed/NPN)	Standard bitrate: 64kbit/s Fs=44.1kHz	220 s	Bit input: 8 Binary input: 63	Terminal Block	
EHS-M2TA							Cable cable	
EHS-M3HA	12 - 48V DC	10 - 60V DC	5.1W (48V DC when using normally closed/NPN)				Cable cable	

\*The sound pressure level changes based on tone, use environment, and working voltage.

## EHV specifications

Model	Rated Voltage	Operating Voltage Range	Rated Power Consumption	Sound Pressure Level	Operating Temperature Range	Maximum Seconds of Playback	Playback Channel	Wiring method	Mass
EHV-M1H	12 - 24V DC	10.8 - 35V DC	4.0W (12V DC when using normally closed/NPN)	Alarm: maximum 110dB (at 1m)* MP3: maximum 105dB (at 1m)* (1kHz sine wave upon data playback) Standard bitrate: 64kbit/s Fs=44.1kHz	-20°C to +50°C (humidity 85% or less)	220 s	Bit input: 8 Binary input: 63	Cable cable	1.25kg±10%
EHV-M1H-M			5.0W (24V DC when using normally open/PNP)					Terminal Block	
EHV-M1TG			5.3W (240V AC when using normally closed/NPN)					Cable cable	
EHV-M1T	100 - 240V AC	90 - 264V AC	5.3W (240V AC when using normally closed/NPN)	Standard bitrate: 64kbit/s Fs=44.1kHz	220 s	Bit input: 8 Binary input: 63	Terminal Block		
EHV-M2H-M							Cable cable		
EHV-M2T	12 - 48V DC	10 - 60V DC	5.6W (48V DC when using normally closed/NPN)				Terminal Block		
EHV-M3H-M				Cable cable					

\*The sound pressure level changes based on tone, use environment, and working voltage.

## Model Code

Model

EHS	Audible Alarm Horn
EHV	MP3 Voice Annunciator Horn

Rated Voltage

M1	12 - 24V DC
M3	12 - 48V DC (mountable in vehicle)
M2	100 - 240V AC

Wiring method

H	Cable
T	Terminal Block

\*M3 specifications  
H: cable type specifications only

# EHV-M1HFM

Tone type

	EHS	EHV
A	Type A	F
C	Type C	G
D	Type D	
E	Type E	

Message recording

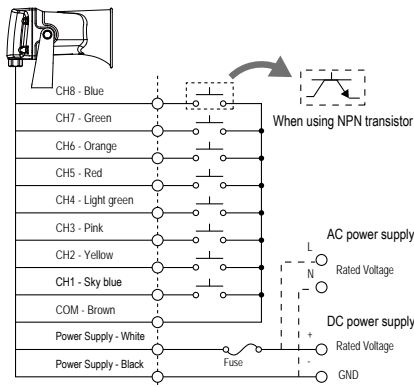
Blank	None
M	Registered shipping of designated messages (EHV type only)

## Wiring Diagram

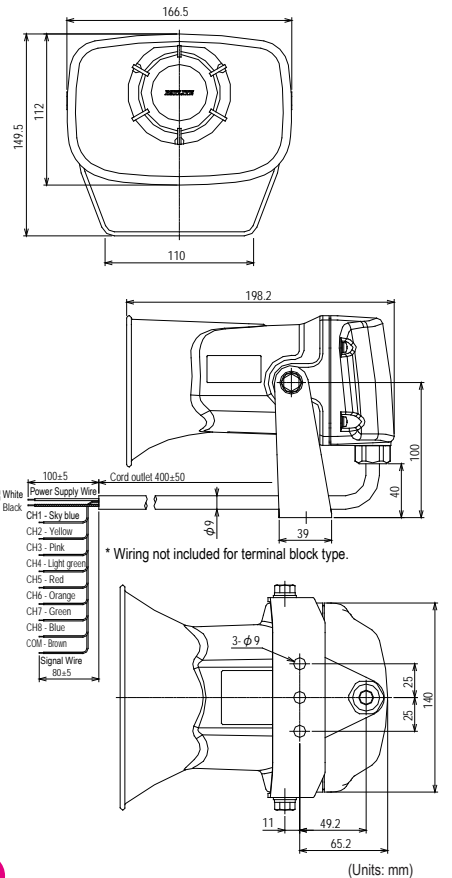
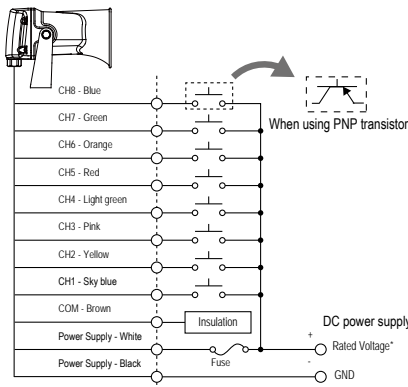
## Dimensions (mm)

### Wiring Example (Cable Type)

#### Normally Closed Contact Wiring

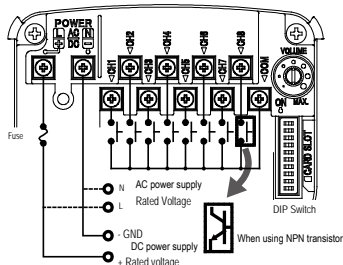


#### When using normally open contact (only EH□-M1)

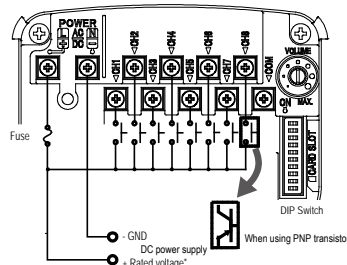


### Wiring Example (Terminal Block Type)

#### Normally Closed Contact Wiring



#### Normally Open Contact Wiring (EH□-M1 only)



Signal Wire Contact Capacity

	Normally closed contact	Normally open contact (EH□-M1) Applied voltage less than 26.4V	Normally open contact (EH□-M1) Applied voltage at least 26.4V
Current Capacity	10mA or more	10mA or more	15mA or more
Withstand Voltage	At least 35V DC		
Leakage Current	0.1 mA or less		
ON voltage (Vsat)	1V or less		

Recommended fuses

	Rated Voltage	Rated Current	Fusing type
EH□-M1	250V	500mA	Normal A type
EH□-M2	250V	800mA	Normal A type
EH□-M3	250V	800mA	Normal A type

Power supply inrush current

EH□-M1	12.5A	EH□-M2	23A	EH□-M3	45A
--------	-------	--------	-----	--------	-----

\*Set input voltage to 10.8 - 31.6V DC for normally open contact input.

•We recommend using the following cable when wiring to a terminal block.  
•Diameter:  $\phi$  8.5mm -  $\phi$  10.5mm / terminal: M3 round terminal with insulating layer, made by Japan Solderless Terminals N1.25-3 (RoHS compliant)

## Conformity Standards

M1	EMC Directive (EN 61000-6-4, EN 61000-6-2) RoHS Directive (EN 50518) UL 464, CSA-C22.2 No. 205-M1983 FCC Part 15 Subpart B Class A KC (KN22, KN24)
M2	UL 464, CSA-C22.2 No. 205-M1983 FCC Part 15 Subpart B Class A KC (KN22, KN24)
M3	EMC Directive (EN 13309) ECE Regulation No. 10

There are no contents of controlled substances exceeding the threshold for the RoHS Directive.

There are no contents of controlled substances exceeding the threshold for the RoHS Directive.



# FV-127JP



The FV Series circuit board is designed to add audible or voice message playback to various types of machinery. It can be installed inside or on the rear of a machine for a more streamlined design.

- Installs seamlessly on the inside of machinery
- Up to 240 minutes total playback time
- Audio files can be registered to 127 available channels
- Built-in sound reduction feature
- Built-in terminal block for easy wiring
- Speaker output included in the terminal



Simple message registration with various tools



## Specification

Model	Rated Voltage	Operating Voltage Range	Power Consumption	External Contact Capacity	Operating Temperature Range	Contact Input Method	Number of playback channels	AUX Output	BUSY Output	Maximum Playback Time	Maximum Output	Output Load Impedance	Mass
<b>FV-127JP</b>	24V DC	19 - 29V DC	15W	35V15mA or more	-10°C to +50°C (humidity 85% or less)	Normally closed contact or NPN open collector	When using binary input: 127; when using bit input: 7	0dBv 600Ω	Maximum load 40V DC 500mA	About 8 minutes of main unit memory (when using)	4W	8Ω	160g±10%

■ Product price including the message registration fee (tax excluded)

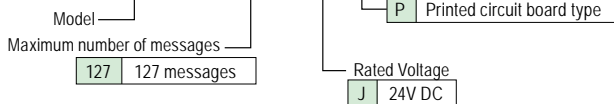
\*The above FV-127JP base price does not include the message registration fee.

FV-127JP-064 (001-064 phrases)	FV-127JP-128 (065-128 phrases)	FV-127JP-192 (129-192 phrases)	FV-127JP-256 (193-256 phrases)
FV-127JP-320 (257-320 phrases)	FV-127JP-384 (321-384 phrases)	FV-127JP-448 (385-448 phrases)	FV-127JP-512 (449-512 phrases)

Messages are free if you choose from over 3,000 standard messages. (An additional cost applies for other custom messages)

## Model Code

# FV-127JP



## Optional Parts

For details, see pages 182 to 187.

Optional Parts	Model
Speakers (2W 8Ω)	SPB-2E-W
Speakers (5W 8Ω)	SPB-5E
Speakers (5W 8Ω)	SPW-5E
Speakers (5W 8Ω)	SPL-5E
SD card (2GB)	SDV-2GP

## Dimensions (mm)

