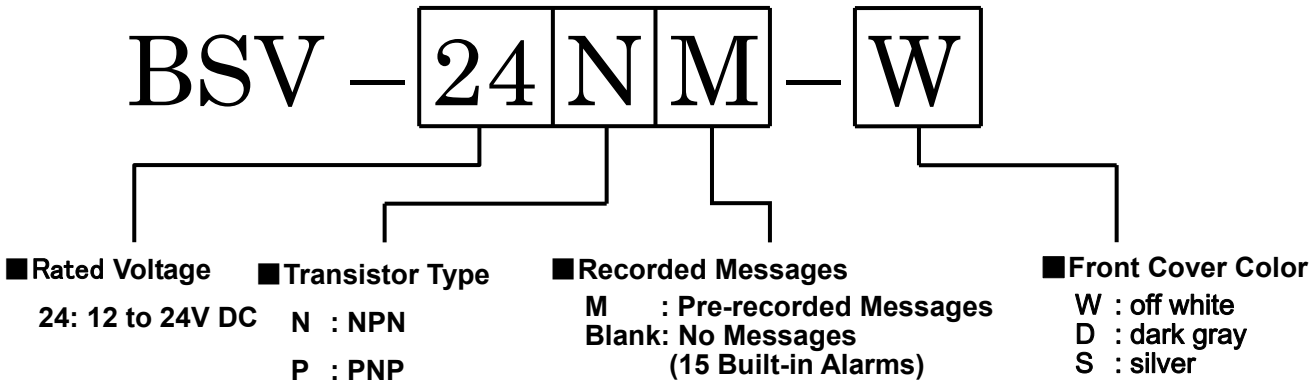
Specifications

Model	BSV-24□□-□

PATLITE Corporation

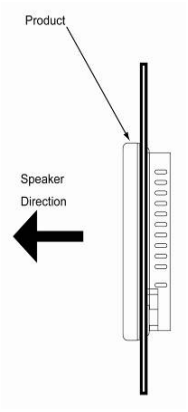
Table of Contents

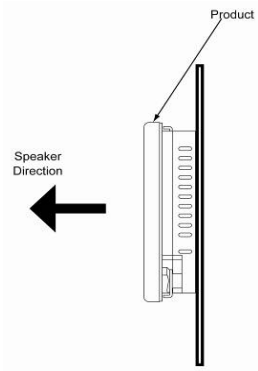
1. Model Number Configuration

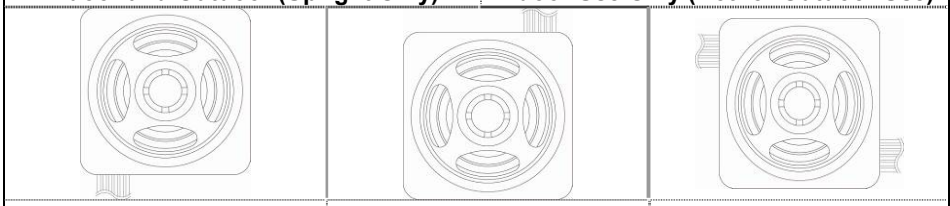


2. Specifications

2-1 General Specifications

<table>
<tr><th>Item</th><th>Specification</th></tr>
<tr><td>Rated Voltage</td><td>12 to 24V DC</td></tr>
<tr><td>Voltage Range</td><td>10.8 to 26.4V DC</td></tr>
<tr><td>Rated Power Consumption</td><td>3.5W (1*)</td></tr>
<tr><td>Operating Temperature Range</td><td>-10°C to 50°C</td></tr>
<tr><td>Storage Temperature Range</td><td>-20°C to 60°C</td></tr>
<tr><td>Relative Humidity</td><td>Less than 85% (No condensation)</td></tr>
<tr><td rowspan="6">Installation Method</td><td> 

Side View</td><td> 

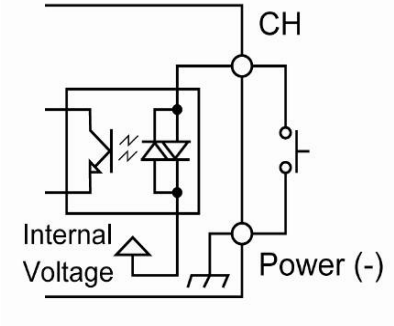
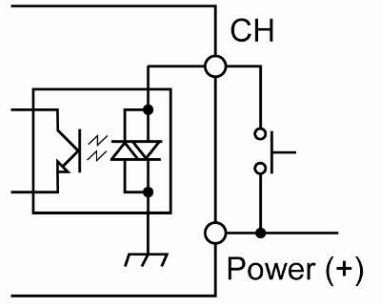
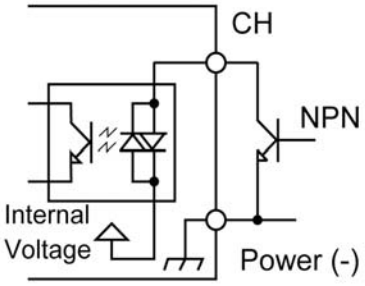
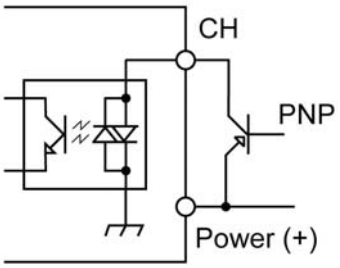
Side View</td></tr>
<tr><td>Panel Mount</td><td>Wall Mount</td></tr>
<tr><td>Direction: Upright, Sideways, Inverted</td><td>Direction: Upright, Sideways, Inverted</td></tr>
<tr><td>Indoor and Outdoor (Upright Only)</td><td>Indoor Use Only (Not for Outdoor Use)</td></tr>
<tr><td colspan="2">  </td></tr>
<tr><td>Upright</td><td>Inverted / Sideways</td></tr>
<tr><td>Protection Rating</td><td colspan="2">Panel Mount: IP54 (For Upright Installation Only, Self-Declaration based on IEC 60529)
Wall Mount : IP20 (Self-Declaration based on IEC 60529)</td></tr>
<tr><td>Insulation Resistance</td><td colspan="2">More than 1MΩ at 500VDC between the terminals and the chassis</td></tr>
<tr><td>Withstanding Voltage</td><td colspan="2">500VAC applied for 1min between terminals and chassis without breaking insulation</td></tr>
<tr><td>Vibration Resistance</td><td colspan="2">70.0m/s^2 (In the X, Y and Z directions for 2 hrs. each at 30Hz)</td></tr>
<tr><td>Mass (Tolerance ±10%)</td><td colspan="2">100g</td></tr>
<tr><td>Compliances</td><td colspan="2">RoHS Directive(DIRECTIVE 2002/95/EC)
Conforms to the CE requirements:EN 61000-6-4, EN 61000-6-2
UL Recognized Component (UL464 File No.S24210)
FCC Part15 SubpartB Class A</td></tr>
</table>

(1*) Tested with 24VDC supply at maximum volume and with channels 1 through 4 entered and data playback with a 1kHz Sine Wave at -6dB.

2-2 Performance Specifications

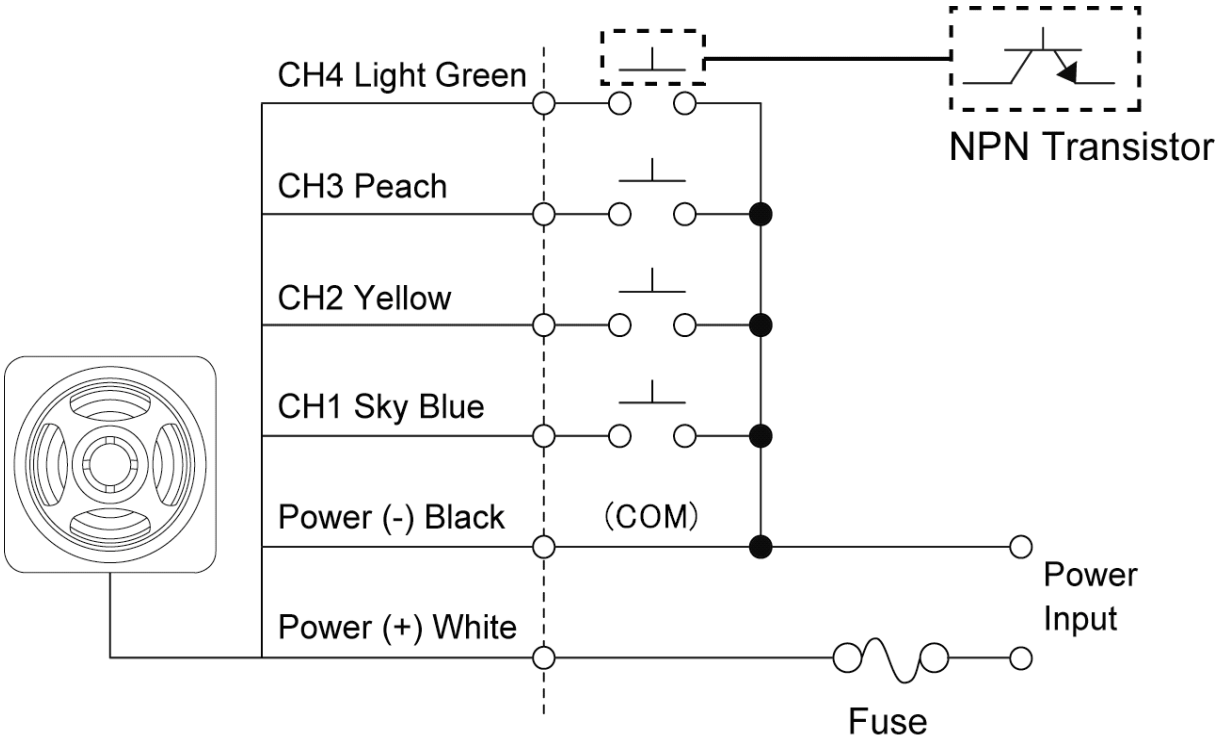
<table>
<tr><th>Item</th><th colspan="10">Specification</th></tr>
<tr><td rowspan="2">Sound Pressure Level</td><td colspan="5">Max. 87 dB or more : (For Panel Mount)</td><td colspan="5">Max. 85 dB or more (For:Wall Mount)</td></tr>
<tr><td colspan="10">Measurement Conditions: The product is attached to the center of a 300x300mm board with a 1kHz sine wave played back at -6dB, and the decibel meter is set 1 meter away from the front of the product. * The sound pressure level will vary with the surrounding environment and message contents.</td></tr>
<tr><td>Volume Control</td><td colspan="10">Volume Adjustment: Minimum to Maximum
Sound Reduction Function: -1dB to -50dB (CH4 is designated as the sound reduction input)</td></tr>
<tr><td>Number of Playback Messages</td><td colspan="10">Bit Input: 4 (3) / Binary Input: 15 (7)
* The brackets indicate channels available when the sound reduction function is activated.</td></tr>
<tr><td rowspan="4">Initial Registered Alarm Data</td><td colspan="10">The following alarm data is loaded when no set messages are ordered</td></tr>
<tr><td>No. 1</td><td>Chime</td><td>No. 2</td><td>Beep</td><td>No. 3</td><td>Stutter</td><td>No. 4</td><td>Bell</td><td>No. 5</td><td>Yelp</td></tr>
<tr><td>No. 6</td><td>Rapid Hi Lo</td><td>No. 7</td><td>Melody Chime</td><td>No. 8</td><td>Synthesized Piano</td><td>No. 9</td><td>Synthesized Bell</td><td>No.10</td><td>Stutter + Bell</td></tr>
<tr><td>No.11</td><td>Synthesized Melody</td><td>No.12</td><td>Call Sign</td><td>No.13</td><td>Inverted Reveille</td><td>No.14</td><td>Galactic Motor</td><td>No.15</td><td>Two Tone</td></tr>
<tr><td>Audio File Format</td><td colspan="10">MPEG1-Audio Layer Ⅲ (MP3)</td></tr>
<tr><td>Bit Rate</td><td colspan="10">32kbit/s, 64kbit/s (Standard Rare)</td></tr>
<tr><td>Playback Time</td><td colspan="10">Total of 63 seconds (at the standard bit rate of 64kbit/s)</td></tr>
<tr><td>Audio Startup Time</td><td colspan="10">About 300ms after a signal or power supply input is activated</td></tr>
<tr><td>Unit Memory Size</td><td colspan="10">508 KB (MP3 data sum total)</td></tr>
<tr><td>Compatible Memory Card</td><td colspan="10">SD Card Recommended Part：SDV-128P (Sold Separate)</td></tr>
<tr><td>SD Card Format</td><td colspan="10">FAT16</td></tr>
<tr><td>Applicable Software</td><td colspan="10">Patlite Playlist Editor</td></tr>
<tr><td>Mode Change</td><td colspan="10">Selectable for a file name with an empty text file.</td></tr>
</table>

2-3 Signal Input Specifications

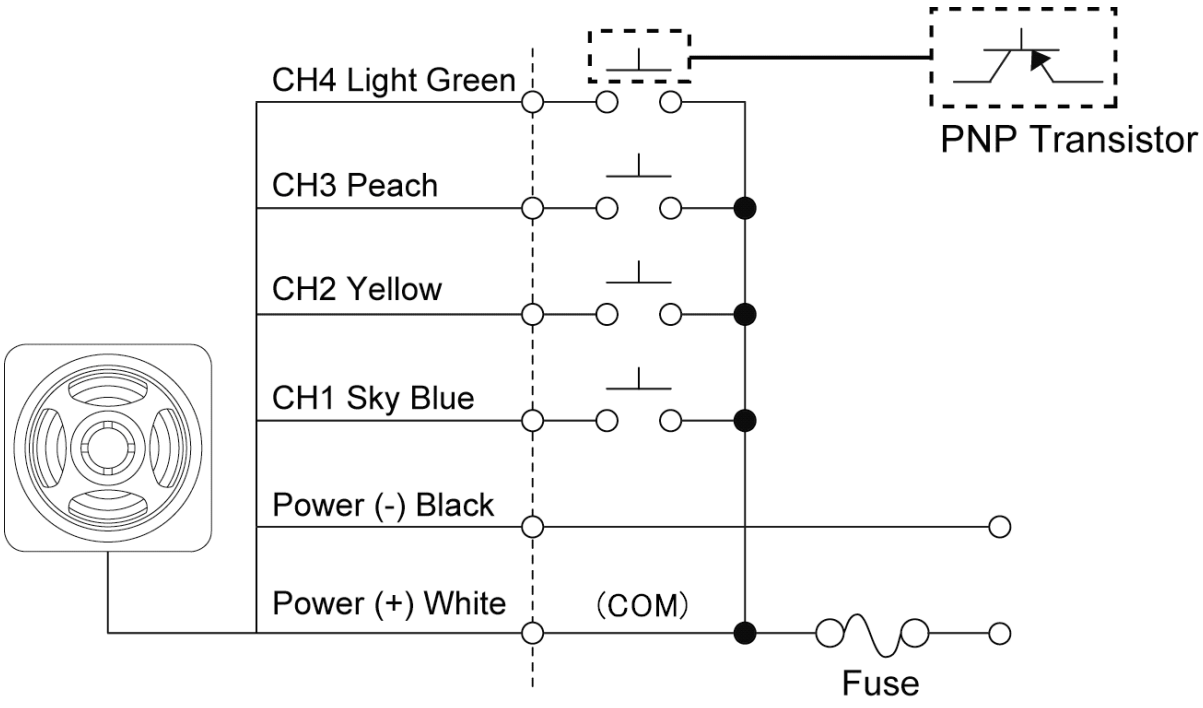
<table>
<tr><th rowspan="2">Item</th><th colspan="2">Specification</th></tr>
<tr><th>BSV-24N</th><th>BSV-24P</th></tr>
<tr><td>Input Method</td><td colspan="2">Pulse Input (Pulse Width: 100msec or more, excluding the hold input mode)</td></tr>
<tr><td>Channel Priority</td><td colspan="2">CH4 > CH3 > CH2 > CH1 (except for the binary input mode)</td></tr>
<tr><td>Signal Input Voltage</td><td>N/A</td><td>DC 12 to 24V</td></tr>
<tr><td>Open Circuit Voltage</td><td>Same as Input Voltage</td><td>N/A</td></tr>
<tr><td>Input Current</td><td colspan="2">5mA±1mA (power supply/input voltage at 12VDC)
10mA±1mA (power supply/input voltage at 24VDC)</td></tr>
<tr><td rowspan="2">Relay Input
(Circuit Diagram)</td><td>Non-voltage Contact Input</td><td>Voltage Contact Input</td></tr>
<tr><td> 
</td><td> 
</td></tr>
<tr><td rowspan="2">Transistor Input
(Circuit Diagram)</td><td>NPN Transistor Circuit</td><td>PNP Transistor Circuit</td></tr>
<tr><td> 
</td><td> 
</td></tr>
</table>

2. Wiring Diagram

■BSV-24N



■BSV-24P



4. Functions

4-1 Volume Adjustment

The volume control is located inside the front cover and is adjustable.

4-2 Operating Mode

There are eight operation modes selectable from “A" through “H” which, in combination with commands, can select the various functions.

Operating Mode			
Mode	**Function**	**Mode**	**Function**
A	**Bit Input / Normal Playback**	**E**	**Binary Input / Normal Playback**
B	**Bit Input / Input Priority Playback**	**F**	**Binary Input / Input Priority Playback**
C	**Bit Input / Hold Playback**	**G**	**Binary Input / Hold Playback**
D	**Bit Input / Memory Playback**	**H**	**Binary Input / Memory Playback**

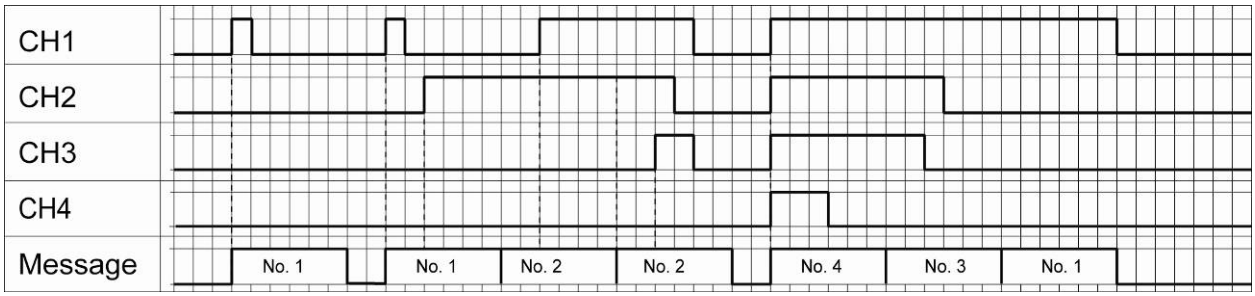
※ Factory default settings

Model	Mp3 Data Registration	Operating Mode
BSV-24□-□	**No specified messages (Initial Registered Alarm Data)**	**Binary Input / Normal Playback**
BSV-24□M-□	**Four or less message specified**	**Binary Input / Input Priority Playback**
	Five or more message specified	**Binary Input / Hold Playback**

Although there are 15 sounds registered, when using all 15. It is necessary to change The operational mode into the Binary input mode.

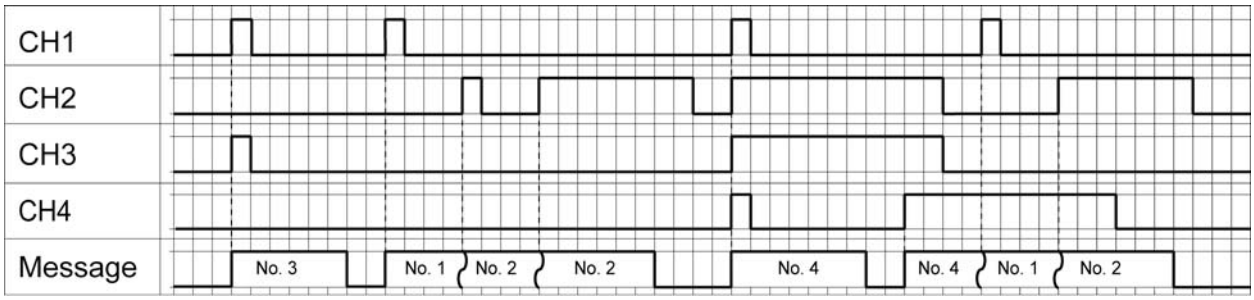
4-2-1 Mode A: Bit Input/ Normal Playback

- **CH1 to CH4 are used for a maximum playback of 4 channels.**
- **Playback is through a pulse input. Playback is repeated when an input is held.**
- **Any input is invalid during an MP3 message playback**



4-2-2 Mode B: Bit Input/ Input Priority Playback

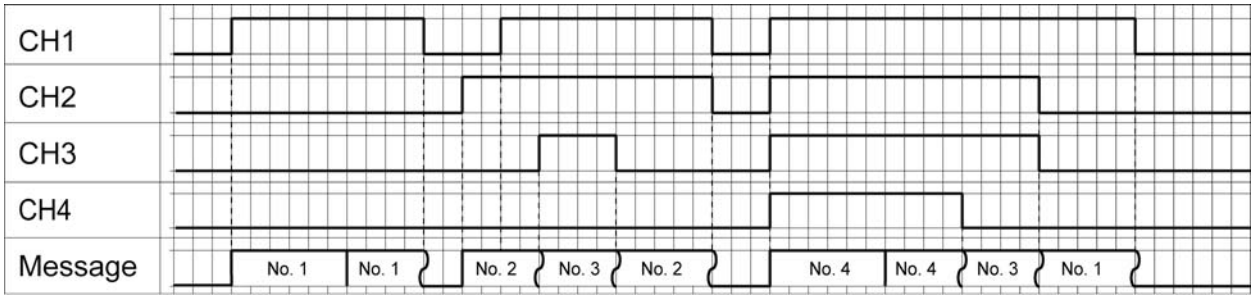
- **CH1 to CH4 are used for a maximum playback of 4 channels.**
- **During an MP3 message playback, the message will stop when a different channel input is entered and the message will continue after the previous channel's message has ended.**
- **Even if an input is held, playback is only played once.**



✧ **The wavy line in the pulse train indicates a message stopped during playback and the message in conjunction with the input channel is played.**

4-2-3 Mode C: Bit Input/ Hold Playback

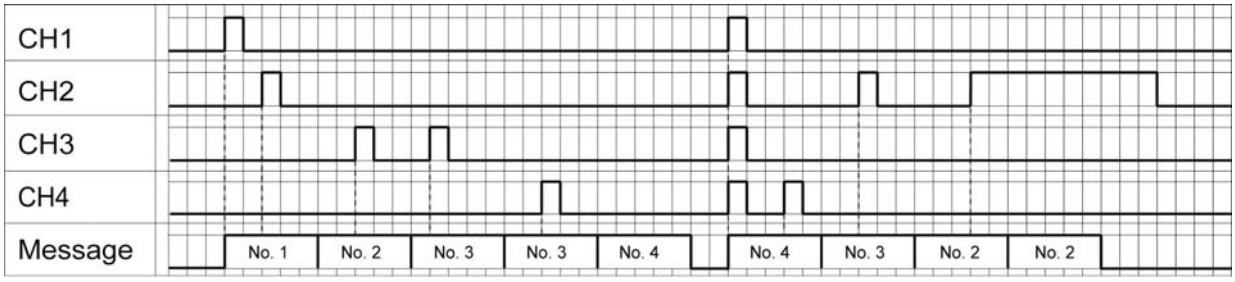
- **CH1 to CH4 are used for a maximum playback of 4 channels.**
- **The message will only play back while the input is held on, and the message will stop when the input is removed.**
- **While the input is held on, the message playback will be repeated.**



✧ **The wavy line in the pulse train indicates a message stopped during playback and the message in conjunction with the input channel is played.**

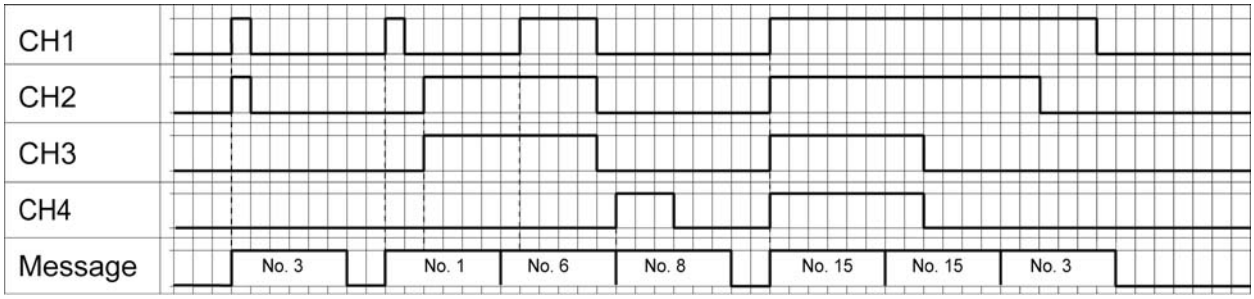
4-2-4 Mode D: Bit Input/ Memory Playback

- **CH1 to CH4 are used for a maximum playback of 4 channels.**
- **When the channel is entered once, the memory of the corresponding channel will playback when the current message is completed. The input channel is invalid after entering it once into memory.**
- **When two or more inputs are simultaneously entered, playback is based on the channel with the higher priority.**
- **Even if an input is held, playback is only played once.**



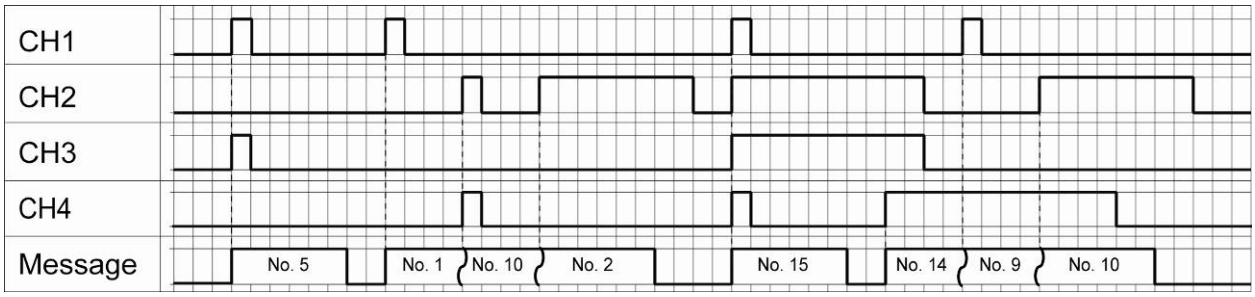
4-2-5 Mode E: Binary Input/ Normal Playback

- **CH1 to CH4 are used for a maximum playback of 15 channels. (Refer to 4-3. "Binary Input Table")**
- **Playback is through a pulse input. Playback is repeated when an input is held.**
- **Any input is invalid during an MP3 message playback.**



4-2-6 Mode F: Binary Input/ Input Priority Playback

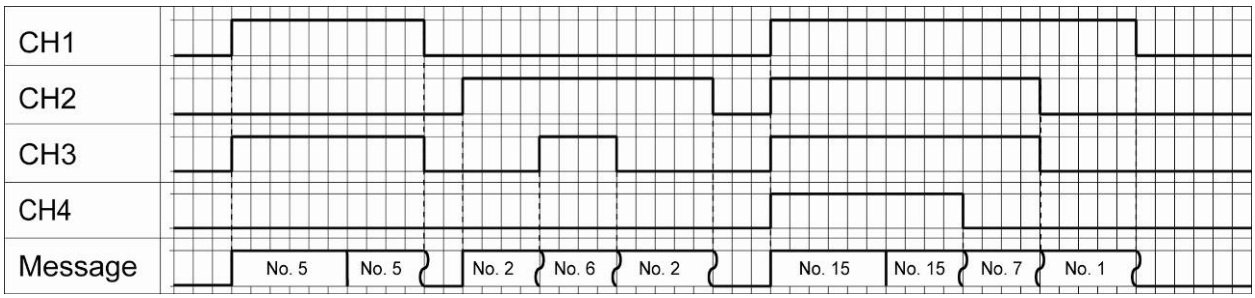
- **CH1 to CH4 are used for a maximum playback of 15 channels. (Refer to 4-3. "Binary Input Table")**
- **During an MP3 message playback, the message will stop when a different channel input is entered and the message will continue after the previous channel's message has ended.**
- **Even if an input is held, playback is only played once.**



✧ **The wavy line in the pulse train indicates a message stopped during playback and the message in conjunction with the input channel is played.**

4-2-7 Mode G: Binary Input/ Hold Playback

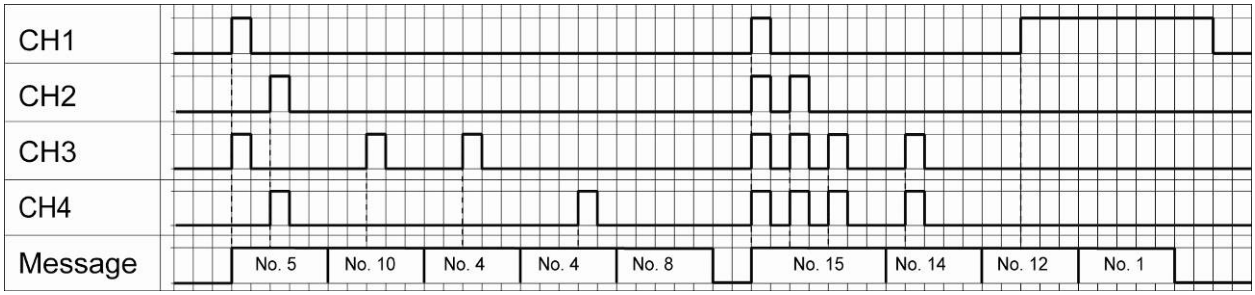
- **CH1 to CH4 are used for a maximum playback of 15 channels. (Refer to 4-3. "Binary Input Table")**
- **The message will only play back while the input is held on, and the message will stop when the input is removed.**
- **While the input is held on, the message playback will be repeated.**



✧ **The wavy line in the pulse train indicates a message stopped during playback and the message in conjunction with the input channel is played.**

4-2-8 Mode H: Binary Input/ Memory Playback Mode

- **CH1 to CH4 are used for a maximum playback of 15 channels.**
- **When the channel is entered once, the memory of the corresponding channel will playback when the current message is completed. The input channel is invalid after entering it once into memory.**
- **Even if an input is held, playback is only played once.**



4-3 Binary Input Table

Playback Message	CH1	CH2	CH3	CH4	Playback Message	CH1	CH2	CH3	CH4
No. 1	●				No. 9	●			●
No. 2		●			No. 10		●		●
No. 3	●	●			No. 11	●	●		●
No. 4			●		No. 12			●	●
No. 5	●		●		No. 13	●		●	●
No. 6		●	●		No. 14		●	●	●
No. 7	●	●	●		No. 15	●	●	●	●
No. 8				●					

The "●" refers to the channel input.

4-4 Sound Reduction Function

When the sound reduction function is activated, if CH4 is entered while an MP3 message is in playback, the sound level of the message being played back can be reduced.

The sound pressure for the sound reduction can be preset.

(Refer to "4-6. Operation Mode Data Setup" for details.)

4-5 Changing the Voice Message Data

SD card (SDV-128P sold separately) can be used for rewriting messages.

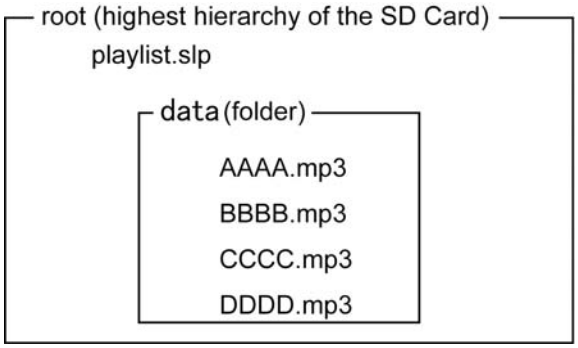
- **It is recommended to use the SDV-128P SD card. There is no guarantee in operation when using other SD cards.**

4-5-1 When using PATLITE's Playlist Editor

Using PATLITE's Playlist Editor, the combination of MP3 files can be freely edited.
For details, please refer to the help menu in PATLITE's Playlist Editor.

- **PATLITE's Playlist Editor is free with the purchase of a PATLITE MP3 product.**

1. **Please save the created data onto an SD Card data for PATLITE's Playlist Editor. For creating, saving and other functions related to PATLITE's Playlist Editor, please refer to the help menu in the respective software.**



4-5-2 When not using PATLITE's Playlist Editor

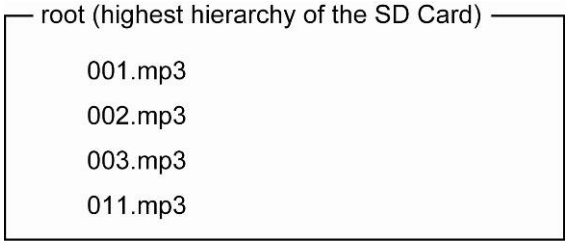
A voice message can be changed by just changing the MP3 file name, without even using PATLITE's Playlist Editor.

1. **The MP3 file is designated as entering the playback message number (three significant digits) for the file name.**

Example:

Message No.	File Name	Operation Mode	
		Bit Input	Binary Input
2	002.mp3	CH2	CH2
6	006.mp3	Playback Impossible	CH2, CH3

2. **Please save the created file on an SD card.**



4-6 Changing the Operation Mode Data

SD card (SDV-128P sold separately) can be used for saving changes to different operation modes.

- **It is recommended to use the SDV-128P SD card. There is no guarantee in operation when using another SD card.**

1. **Refer to the following table to create the operational mode text file.**
   - **Read the file name to change the mode. The data inside the text file is not read.**

Operation Mode		File Name	Operation Mode		File Name
A	Bit Input/ Normal Playback	mode-a**.txt	E	Binary Input/ Normal Playback	mode-e**.txt
B	Bit Input/ Input Priority Playback	mode-b**.txt	F	Binary Input/ Input Priority Playback	mode-f**.txt
C	Bit Input/ Hold Playback	mode-c**.txt	G	Binary Input/ Hold Playback	mode-g**.txt
D	Bit Input/ Memory Playback	mode-d**.txt	H	Binary Input/ Memory Playback	mode-h**.txt

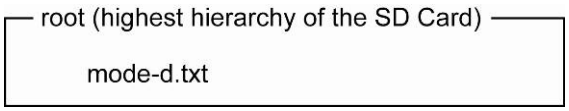
   - **Refer to the following for the "**".**

In order to activate the sound reduction function (function which drops the sound pressure of the MP3 data to be played back), enter two significant digits in the range of 01 to 50 where the "" indicates the value for sound reduction. The function becomes invalid when "00" or no integer is entered.**

   - **An empty space (Null) will become an error.**

Sound Reduction Level	Two significant digits to enter
No Reduction	Empty space or “00”
-7 db Reduction	07
-20dB Reduction	20

2. **Save the created file on an SD card.**



- **An error occurs when a file of two or more operational modes is saved on an SD card.**

4-7 Data Transfer

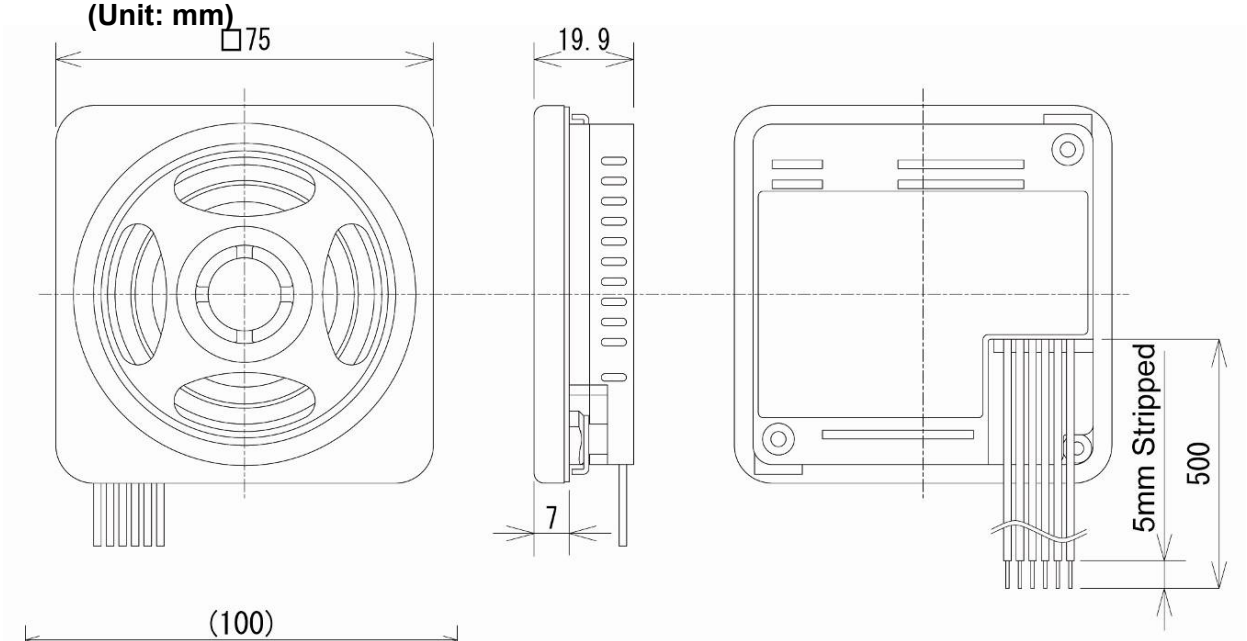
The data saved on SD card by "4-5. Changing the Voice Message Data", and "4-6. Changing the Operation Mode Data" can be transmitted to a product.

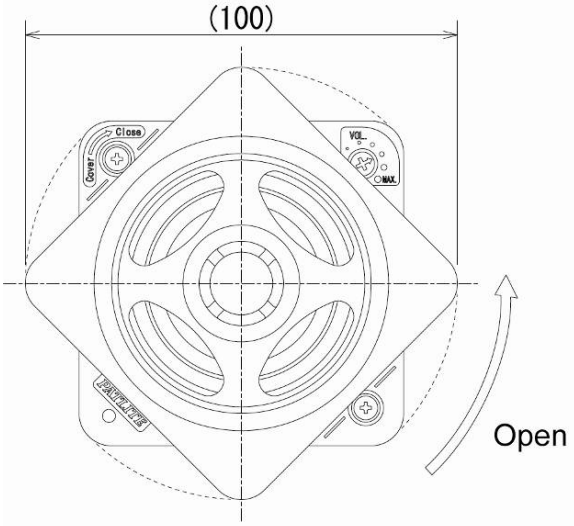
- **When the data of both "4-5. Changing the Voice Message Data" and "4-6. Changing the Operational Mode Data" is saved on an SD card; data transfer can be performed simultaneously.**
- **When saving data onto the SD Card using both the "4-5-1. When using PATLITE's Playlist Editor" and the "4-5-2. When not using PATLITE's Playlist Editor ", the data from the "4-5-1. When using PATLITE's Playlist Editor " is given priority.**
  1. **Please check that the products power source is turned on.**
  2. **Please insert the SD card with the saved data into the SD card slot.**
  3. **The sound of a high-low beep will indicate that the data transfer is started.**
     - **During the upload of the data from the SD card, any signal inputs will be ignored.**
     - **When the SD card is inserted during a voice message playback, the data transfer will start after the end of the message playback.**
  4. **When the sound of a short beep is heard to indicate that the data transfer has successfully been completed, please extract the SD card. Uploading should be completed within 60 seconds. When a short intermittent beep or long intermittent beep is heard, or if nothing occurs at all, the data transfer was not successfully completed. As a caution, please be sure the volume is adjusted to a nominal level, or the indicating beep will not be heard.**
  5. **After data has been uploaded, verify the message contents and operation of the product is programmed as expected.**

*** All MP3 registered messages for the BSV-24□M-□ will be erased if written over.**

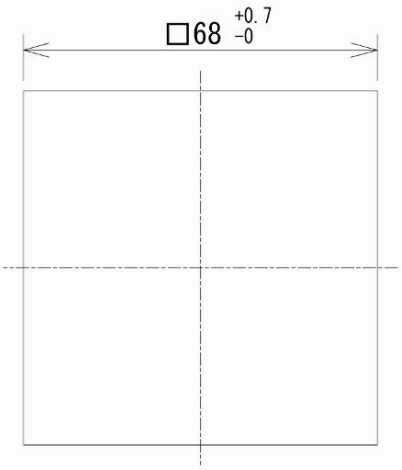
5. Outer Dimensions

(Unit: mm)

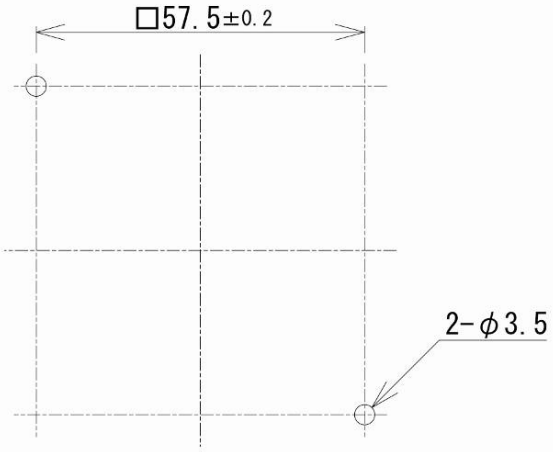




Case Resin: Polycarbonate
Waterproof Packing: Polyurethane
Harness: UL1007/AWG22



Panel Mounting Dimensions
* Dimensions are IEC-61554 (DIN-43700) Compliant



Wall Surface Mounting Dimensions
(Front View of Product)