



# PATLITE REV-100F-R Voice Synthesized Speaker and LED Revolving Light Installation Guide

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# ***PATLITE***®

Voice ynthesized Speaker and LED Revolving Light Installation Manual  
GA0001229 031  
(Installation) (Wiring)  
TYPE RFV

## Notice to Customer

Thank you very much for purchasing our Patlite products.

- This product requires installation, wiring, and other related work. Be sure to ask an expert technician to perform these procedures.
- This installation manual is intended for the technician who performs the installation and wiring of the product.
- A separate user's manual is provided for customers who operate the product after installation. Be sure to read the user's manual before operating the product.



## **WARNING**

Indicates an imminently dangerous condition: failure to follow the instructions may lead to death or serious injury.

- Request the installation and wiring to be accompanied by a professional contractor. If installation is done improperly, it may result in fire, electric shock, falling, or malfunction.



## **CAUTION**

Indicates a potentially dangerous condition: failure to follow the instructions may lead to slight injury or property damage.

- Use a soft cloth dampened with water to clean the product. (Do not use thinner, benzine, gasoline or oil.)

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## Notice for Safe Operation

In order to prevent any damage to the user and other personnel or to assets, note the following:

- The warning indications are divided into the following classes according to the degree of danger or damage incurred when the warning is not taken into consideration and the product is not correctly used.

### PLEASE

Indicates something to observe before using this product. The disregard to this indication may lead to product malfunction or failure.

**NOTE** Notice regarding supplementary information or convenient explanation is indicated.



### Warning

- Be sure the power is disconnected before wiring or installing this product. Possibility of electric shock may occur.
- Do not disassemble or modify this product. Possibility of fire or electric shock may occur. If repair is needed, refer to [1. Before Requesting Repair]. For questions concerning our product or for when repair is necessary, refer to the end of this User's Manual for contacting your nearest PATLITE Sales Representative.
- Be careful not to miswire this product. Possible miswiring can cause product failure or fire.
- Be sure to stay within the operating voltage range. Possibility of fire, failure or malfunction may occur.
- Request the installation and wiring be accompanied by a professional contractor. Possibility of fire, electric shock or falling from high places may result.



### Caution

- To protect the power supply and other internal circuitry, be sure to connect an external fuse.

Contrary to Warnings and Cautions indicated by this document, product failure due to mishandling, disassembly, modifications or natural disasters, etc. is not covered by any Warranty. Moreover, avoid any applications outside those indicated in this document.

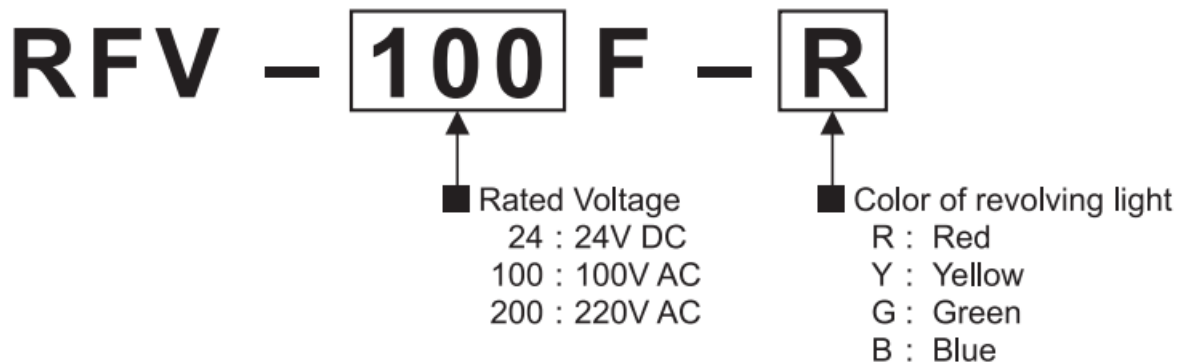
### PLEASE

- Do not use in an environment exposing strong radio waves or inductance noise. Noise may be induced from the speaker horn causing malfunction or failure.
- Do not use in an environment where corrosive gas is present. Possible cause of failure may occur.
- To prevent damage from static electricity, touch hands or other body parts to metals or an earth ground to discharge the body from static charge before handling static sensitive parts, such as the SD Card.
- Use the recommended torque when attaching parts for installation, etc.
- When this product is used for security purposes, it should be inspected daily. In case a malfunction should occur, it is recommended that you use this product together with other security products.
- Do not install this product in a location which exceeds the rated vibration specifications.
- Operate the product with the side cover closed. Water or dust entering the product may cause damage.

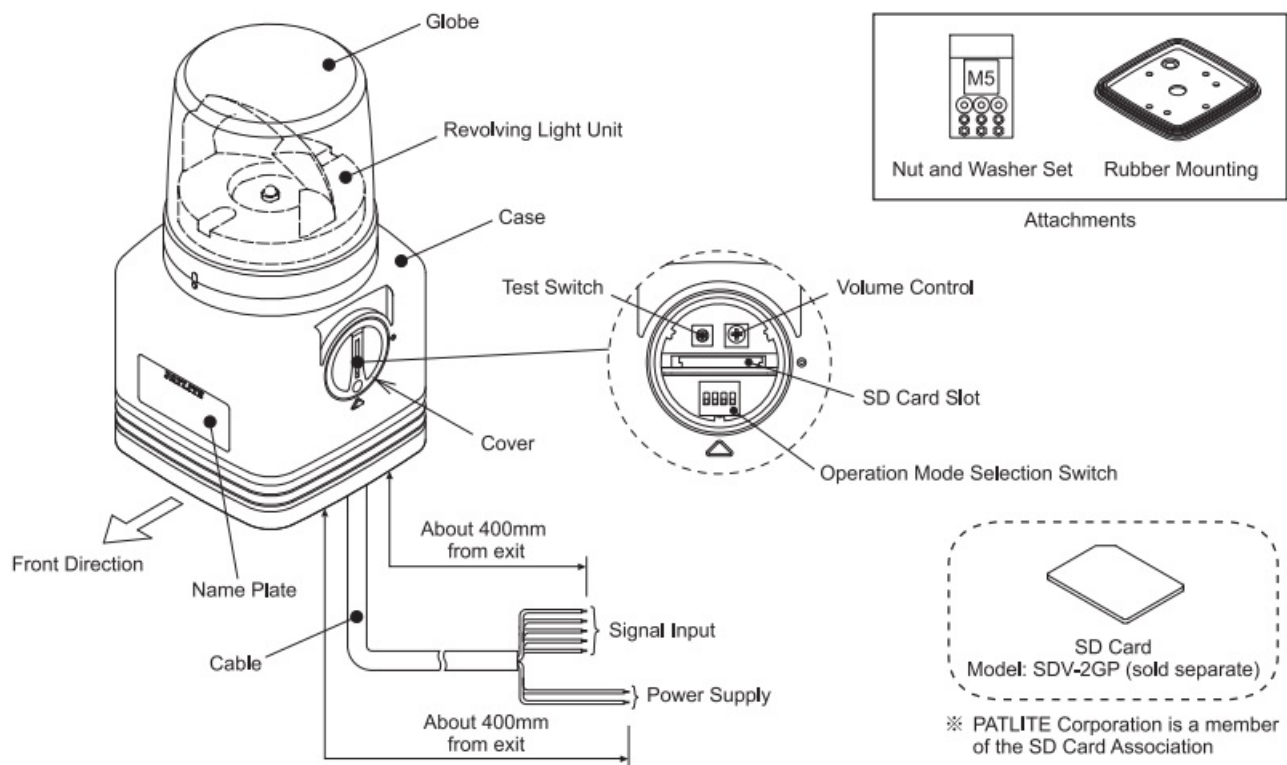
– Caution on copyright –

Work that was recorded or copied from music CDs or other media used in public places may infringe upon copyrights and law enforcement may be imposed. When using a work that was recorded or copied from music CDs or other media, be sure to obtain permission from the author. In addition, copyright of audio/music data distributed or sold by PATLITE Corporation belongs to PATLITE. It is strictly prohibited to copy/reprint whole or partial contents of audio/music data belonging to PATLITE Corporation, or to transfer/sell such material on computer networks etc., without permission of the rightful holder.

### Model Number Configuration



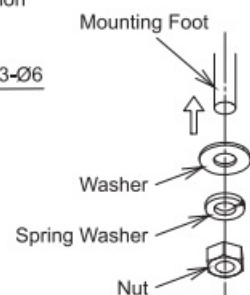
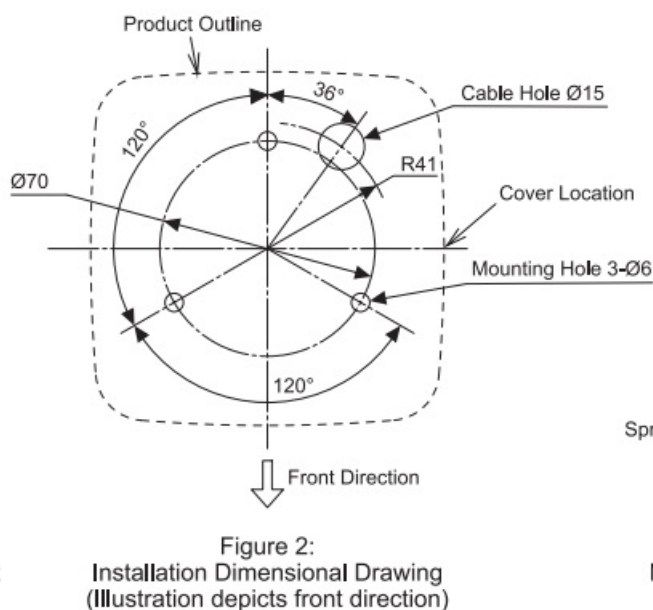
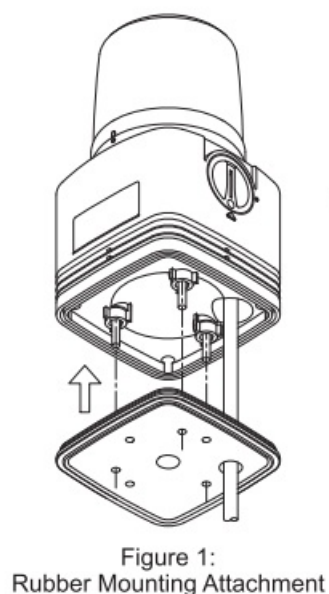
### Part Names



## Installation

Install the product in accordance to the procedure below.

1. Attach the rubber mounting to the product as shown in “Figure 1: Rubber Mounting Attachment”.
2. Refer to Figure 2 below for the mounting dimensions and drill mounting holes on a mounting surface.
3. Insert the mounting feet of the product into the mounting holes and refer to Figure 3 for the assembly of the nuts and washers. then tighten the nuts with the recommended torque. (Recommended tightening torque:  $0.7 \pm 0.1 \text{ N} \cdot \text{m}$ )
4. Confirm that the product and mounting assemblies are attached correctly.



- Be sure the power is disconnected before wiring or installing this product. Possibility of electric shock may occur.
- Request the installation and wiring be accompanied by a professional contractor. Possibility of fire, electric shock or falling from high places may result.



### **Caution**

- Ensure the installation surface is sufficient enough to handle the weight of the product, and where vibration doesn't exceed the specifications. Failure to comply will lead to injury or damage to the product.
- Be sure to attach with all the materials included for installation and fasten them only with the recommended tightening torque. Failure to comply will lead to injury or damage to the product.

### **PLEASE**

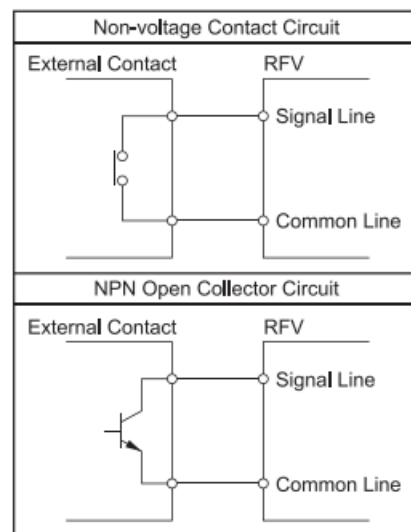
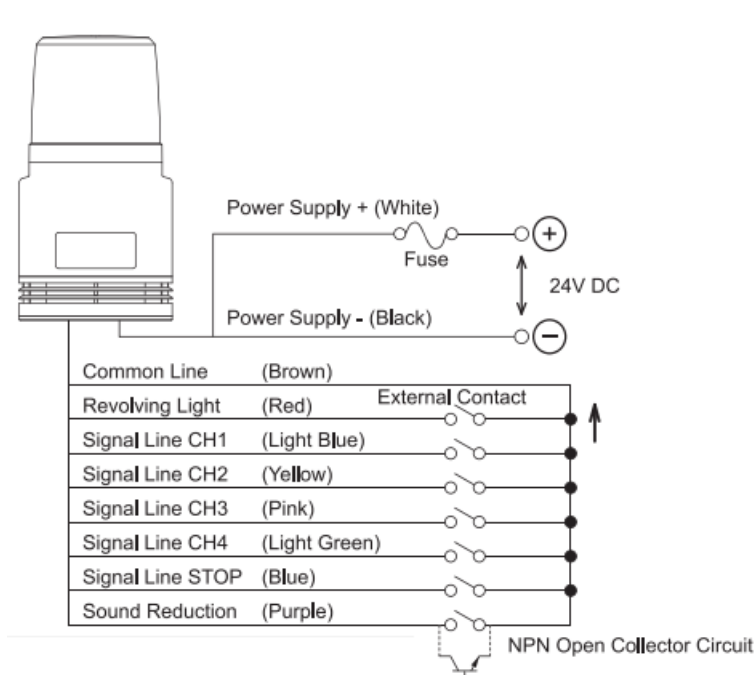
- Be sure to attach the rubber mounting in a manner in which there is no opening between the rubber mounting and the product. Failure to comply will weaken its resistance to water and dust.
- Install the product on a flat surface with no uneven surfaces. Failure to comply will weaken its resistance to water and dust.
- To prevent the product from falling in places where vibration may be generated, apply thread locking adhesive, etc., to the mounting angle screws and periodically check it.
- When installing in high places, choose a location which is accessible by a scaffold, ladder, etc., for repairs.
- When operating the product by controlling the power ON/OFF, be sure to include a switch by which the power supply can be easily cut near the main power for safety.
- Mount on a flat surface in an environment rated as Type 1 based on the NEMA designation.

### **Wiring.**

When connecting the signal line to an external contact, use a non-voltage dry contact circuit such as a relay, switch or NPN open collector circuit. Refer to the table on the lower right for the circuit diagram and contact capacity.

Table 1

Model	Inrush Current	Fuse
RFV-24F	Maximum : 10A/5ms	125V 1A
RFV-100F	Maximum : 2.0A/20ms	125V 1A
RFV-220F	Maximum : 1.0A/20ms	250V 1A



\* Do not supply power to the signal lines. Failure to comply will damage the product.

Contact Capacity	
Current Capacity	10mA or higher
Withstanding Voltage	20V DC or higher
Leakage Current	0.1 mA or lower
On Voltage (Vsat)	1V or lower

### Warning

- Ensure the power has been disconnected before wiring. Possible electric shock may occur.
- Ensure the wiring is correct before connecting the power. Miswiring may result in failure or product damage.

### Caution

- To protect the power supply and other internal circuit, be sure to connect an external fuse.

### PLEASE

- Confirm that polarities and rated voltages are correct before connecting the power supply.
- To countermeasure against interference noise, make wiring as short as possible and use shielded wires whenever possible. In addition, separate any signal lines which pass along high voltage cables or is susceptible to receive induction noises. Interference may influence signal inputs and cause product malfunction.
- If a non-voltage contact, such as a relay or switch etc., is used for the power supply line, consider inrush current (Table.1) capacity when selecting the contact. If the capacity is insufficient, it will cause pitting or

welding of the contacts, causing malfunction.

## NOTE

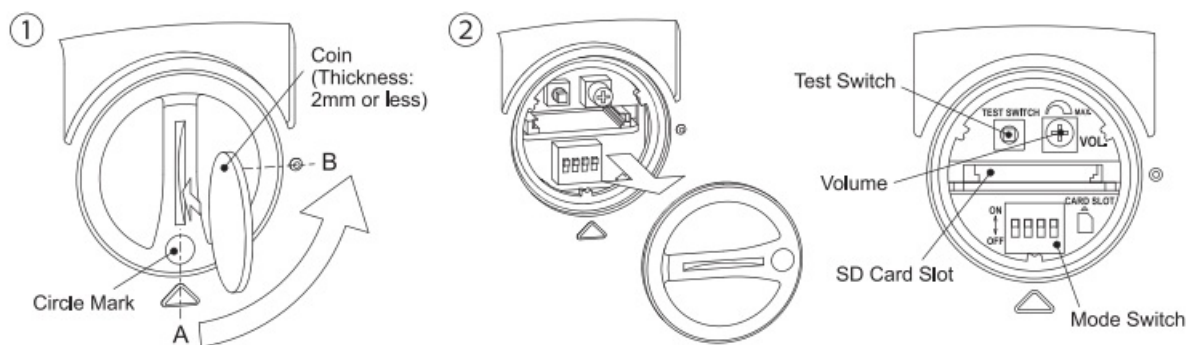
- If the power supply or signal lines are switched on simultaneously from multiple units, their playback and revolving lamp may not start at the same time.

## How to Setting

### 6-1 Cover Access

Follow the procedure below to open or close the cover when performing tasks such as accessing the SD Card Slot, Mode Switch or adjusting the volume.

1. Use something 2mm in thickness, such as a coin, to turn the circle mark on the cover to position “B”.
2. Pull the cover straight out to remove it. Repeat in the reverse order to close the cover.



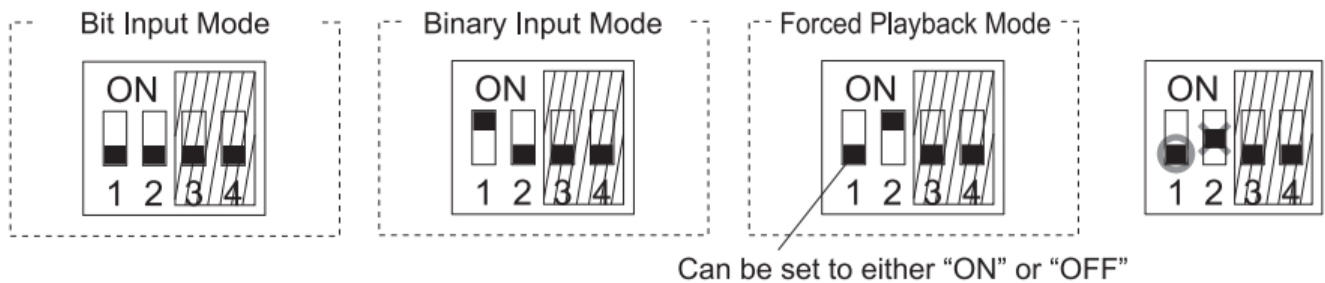
## PLEASE

- Avoid the int usion of foreign objects while the cover is removed.
- When replac ng the cover, ensure the cover has been fully turned to the position “A” circle mark. Failure to comply will decrease the resistance to water and dust.

### 6-2 Playback Mode Selection

One of the following modes can be selected when changing the selection switch:

- Bit Input Mode: Channel (CH) input is set for the bit input mode. Refer to 6-6-1 for operation.
- Binary Input Mode: Channel (CH) input is set for the binary input mode. Refer to 6-6-2 for operation.
- Forced Playback Mode: CH1 is played when the power is turned on. It ignores any inputs other than volume adjustments.

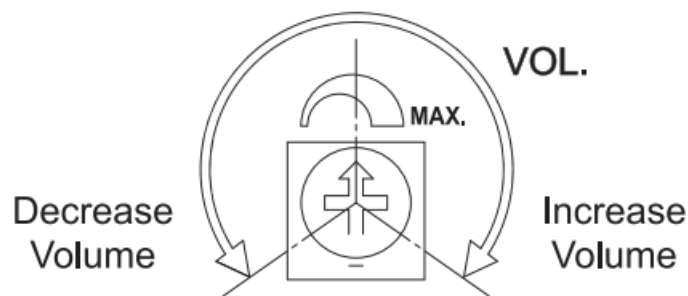


\* Ensure the switches are in their full ON or "OFF" position. Failure to comply will cause operation in a mode not desired. The switches in the shaded area are unused.

Factory Settings: Bit Input Mode is set when messages of 4 or less are registered. Binary Input Mode is set when messages of 5 or more are registered.

### 6-3 Adjusting the Volume

Volume can be adjusted using the volume control. The volume is adjustable by turning the knob with your fingers.



### PLEASE

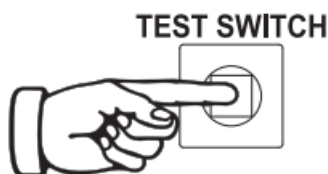
- Turn the volume control lightly, a torque over 0.5N•m can damage the volume control.

### NOTE

- As the sound increases, the possibility of distortion may also occur.
- Due to environmental conditions and tolerances. the volume may not be at zero sound level.

### 6-4 Test Switch

When the test switch is pressed down once with no SD card inserted, CH1 will playback and the revolving light operates. When it is pressed down again, the playback and revolving light stop. Use the test switch when checking operation or volume adjustment. When the test switch is pressed down while an SD Card is inserted, data will load from the SD Card and rewriting of the message will commence. For further details, Refer to "6-5. Message Rewriting".

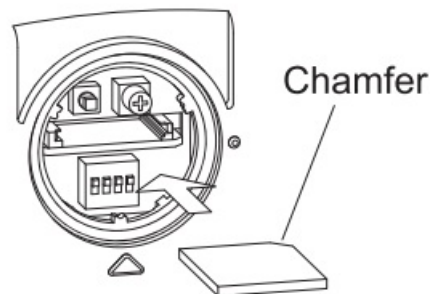


### 6-5 Message Rewriting



By using our PATLITE Playlist Editor (download from our homepage is possible without extra charge), an SD card (Model: SDV-2GP sold separately), and an MP3 sound editing tool, the message can be rewritten. The maximum playback time for this product is 63 seconds (at a rate of 64kbits, Fs=44.1 kHz and internal memory size of 504Kb). Refer to the "Help" section of the corresponding software for the procedure to create the MP3 Data and storing it onto an SD Card. Message Rewriting Procedure:

1. Remove the cover and turn on the power to the product.
2. Verify the signal input mode is set for either bit or binary input before inserting the SD card into the SD Card Slot where the rewritten data is stored. \* Message rewriting is not possible in the "Forced Playback Mode" or while a message is being played back.
3. When the test switch is pressed down, a high-low beep will sound to indicate rewriting has begun.
4. When the rewriting is complete, a short beep will sound and the SD card can be removed. \* Rewriting should be completed within 45 seconds. If a long beep sound or no sound occurs at all, the rewriting is not successfully completed. Refer to Section "1. Before Requesting Repair".
5. Confirm the messages were successfully rewritten by checking the playback to each CH.



## PLEASE

- Optional SDV-2GP type should be used for the SD card. Using other SD cards is not guaranteed for proper operation.
- When formatting an SD card, please use the FAT16 format.
- Depending on formatting conditions, there is a possibility that the data stored in the SD card cannot be read if the format is not supported by this product. To avoid formatting issues, please make sure that your OS is compatible with FAT16 formatting, or that you use the formatting tool that is provided by the SD Association (link below). <https://www.sdcard.org/downloads/formatter/index.html> (Note: formatting tool requires administrative rights)
- To prevent the possibility of damage to the product or SD card, please beware of the following.
- When inserting the SD card in the card slot, be careful of the direction of the SD card.
- Do not forcibly insert the SD card into the card slot.
- Do not operate the product with the SD card inserted.
- Avoid any foreign substances from entering the card slot.

## 6-6 Message Playback

Turn the product on and when the Signal Line to Common Line is short-circuited, a message will playback.

- Revolving Light: Operates when the common line is short-circuited to the Signal Rotation Line (Red).
- CH1 – CH4: Short-circuit the Signal Lines to the Common Line for 100ms or longer for a message to be played

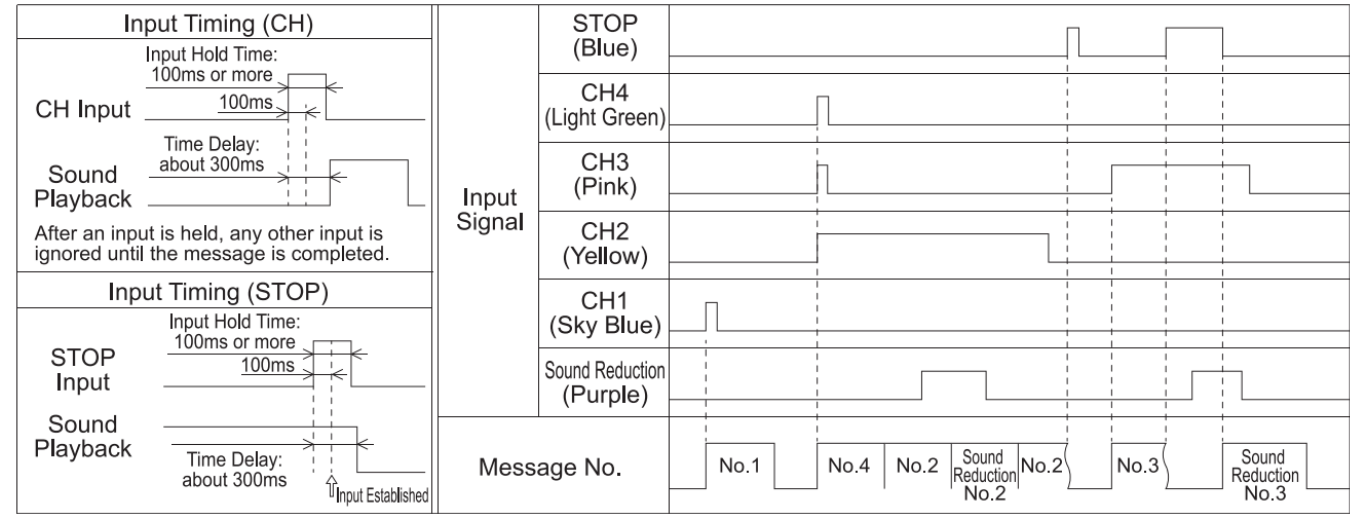
back. The Revolving Light operates while the message is being played. During message playback, it ignores all inputs except the “STOP” input. If no messages are stored, only the Revolving Light will operate when the channel input signal line is short-circuited.

- The CH playback is determined by the Signal Line Input Mode. See sections “6-6-1 Bit Input Mode” and “6-6-2 Binary Input Mode”.
- STOP: When the “STOP” Signal Line (Blue) is short-circuited for 100ms or longer, the message being played and the revolving light are stopped.
- Sound Reduction: While Channel inputs 1 through 4 (CH1 – CH4) are being short-circuited, the sound pressure for playing the message can be reduced by 15dB. If a signal is held on while a message is repeatedly played back, the next message to be played will reduce in sound as long as the Sound Reduction Line is shorted to the Common Line.

### 6-6-1. Bit Input Mode

- A maximum of 4 messages can be played.
- When two or more signal wires are simultaneously short-circuited to the common line, the larger number of the channels is played back. Input Priority: STOP > CH4 > CH3 > CH2 > CH1
- When controlling this product by the power supply, start-up time takes at least 1 second.
- Refer to the timing chart below when controlling this product with the signal line.

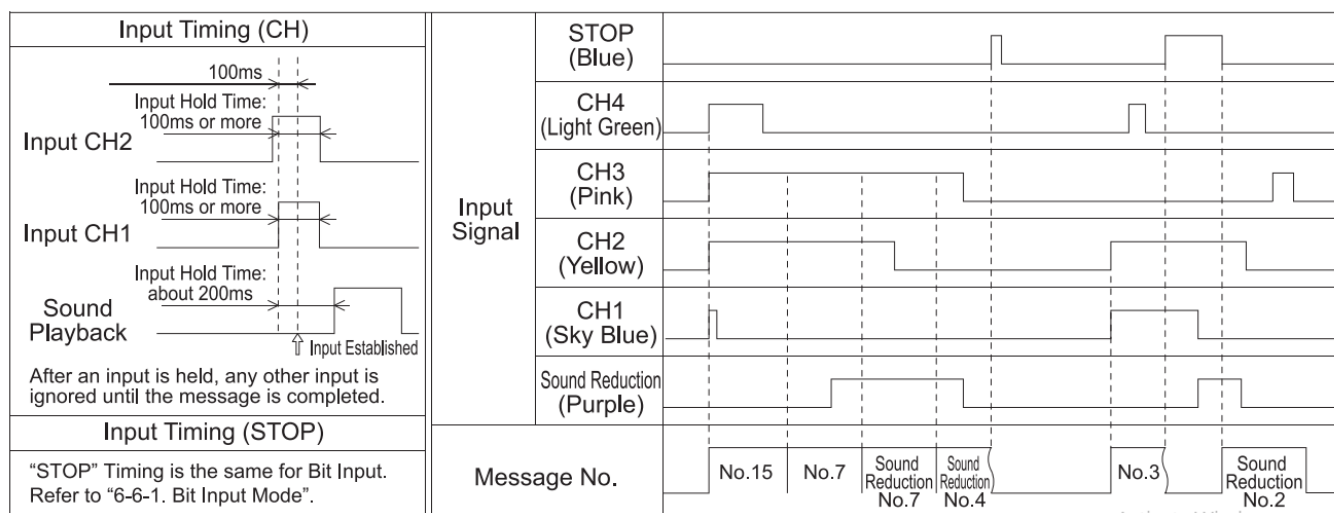
Signal Input Timing Chart (Bit Input)



### 6-6-2. Binary Input Mode

- A maximum of 15 messages can be played.
- A message corresponding to the binary input table listed below will play when a signal line among CH1 – CH4 are short-circuited to the common line.
- When controlling this product by the power supply, start-up time takes at least 1 second.
- Refer to the timing chart below when controlling this product with the signal line.

Signal Input Timing Chart (Binary Input)



## Binary Input Mode Table

Playback CH	Signal Input Line		Playback CH	Signal Input Line		Playback CH	Signal Input Line	
	(Sky Blue ) (Yellow)	(Pink) (Light Green )		(Sky Blue) (Yellow)	(Pink) (Light Green )		1 2 (Sky Blue) (Yellow)	3 4 (Pink) (Light Green )
1	10	0	6	11	10	11	11	1
2	1	0	7	1	10	12	0	11
3	11	0	8	10	1	13	10	11
4	0	10	9	0	1	14	1	11
5	10	10	10	11	1	15	11	11

※ A "1" in the table refers to the short-circuit of the signal line to the common line.

## Documents / Resources

	<a href="#">PATLITE REV-100F-R Voice Synthesized Speaker and LED Revolving Light [pdf] Installation Guide</a> REV-100F-R, REV-100F-R Voice Synthesized Speaker and LED Revolving Light, Voice Synthesized Speaker and LED Revolving Light, Speaker and LED Revolving Light, LED Revolving Light, Light
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