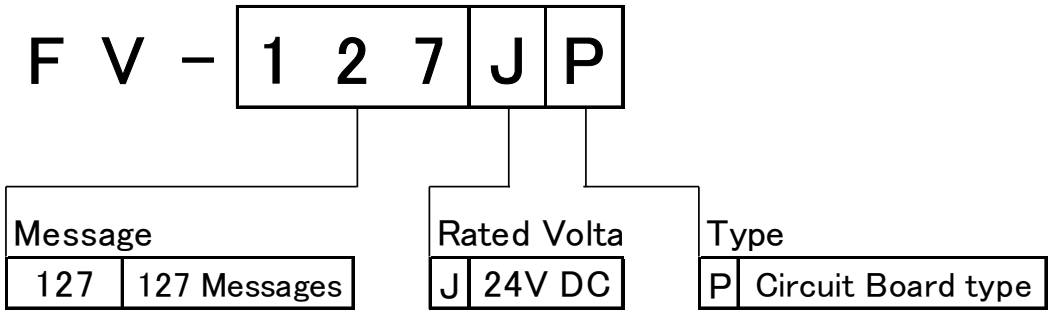
SPECIFICATIONS

Model: FV-127JP

PATLITE Corporation

1.型式


F V - 1 2 7 J P
Message
127 127 Messages
Rated Volta
J 24V DC
Type
P Circuit Board type

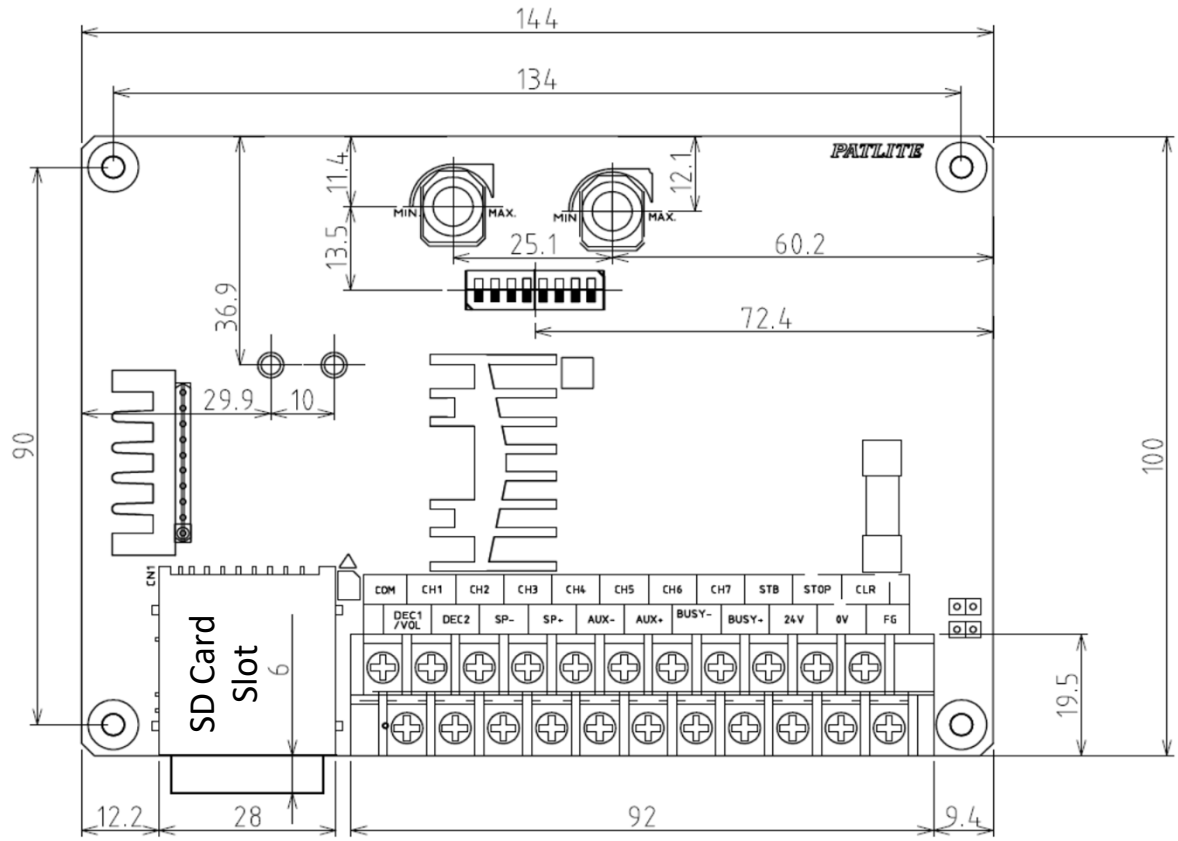
2.SPECIFICATIONS

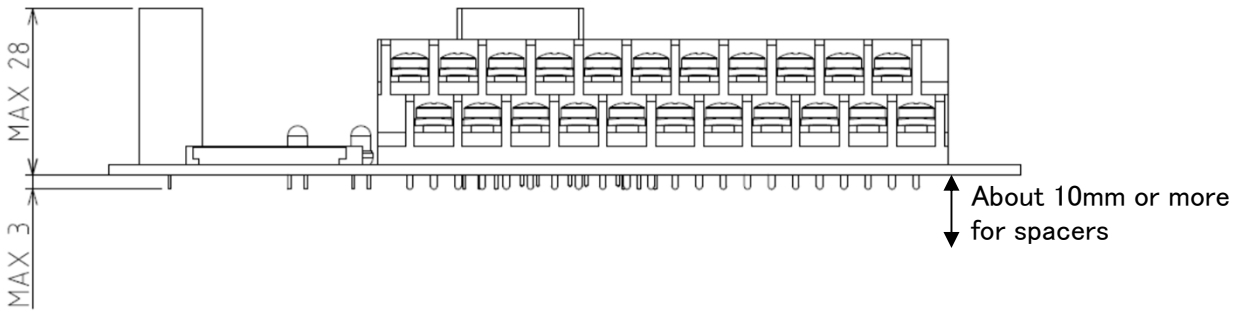
General Specifications	
Model	FV-127JP
Rated Voltage	DC 24V
Operating Voltage Range	DC 19～29V
Wiring Method	M3 Terminal Block
Maximum Power Consumption	15W （1kHz Sine Wave Data Playback at -6dB）
Operating Ambient Temperature	-10℃～50℃
Storage Ambient Humidity	-40℃～80℃
Operating Ambient Humidity	85%RH 0r less
Operating Environment	Built-in Type Only
Installation Method	4 Screw Tie-down
Vibration Resistance	$45m/s^2$ (30 Hz forward and back, Left and right for 2 hrs./ up and down for 4 hrs.)
Mass (Tolerance ±10%)	160g
Outer Dimensions	144×100×28 [mm] (Lead Wires and Mounting Posts not included.)

Audible Specifications	
Replay Message Number	For Binary input : 127 For Bit Input : 7
Audio File Format	MPEG1-Audio Layer Ⅲ (MP3)
Bit Rate	32 kbit/s、64 kbit/s (Standard)、128 kbit/s :Fs=44.1 kHz
Muximum Playback Time	On-board Memory (4,360,191byte) : About 8 min. (Recorded with standard bit rate)
	External Memory (SD Card) :With 128MB about 240 min. (Recorded with standard bit rate)
Unit Memory Size	4,360,191byte
Audio Startup Time	About 260 ms (When sound mute not added at beginning and end of messages.)
Audio Pause Time	Unless specified, 100 ms sound mute added at beginning and end of messages.
Compatable Memory Card	SD Card (Recommended Part : SDV-2GP□ [Sold Separate])
Card Format	FAT16
Audio Rewrite Capability	Possible with SD Card and Special Software (PATLITE Playlist Editor or FV-WIN)
Audio Replay Time	About 180 sec. (When changing the 4,360,191byte on-board memory.)

Input / Output Specifications	
Signal Input Section	CH1 , CH2 , CH3 , CH4 , CH5 , CH6 , CH7 , STB , CLR , STOP, DEC1/VOL, DEC2
Signal Input Priority	CLR Input > STOP Input > CH Input (Larger Channel takes Priority)
Sound Reduction Input	Speaker/AUX Output three Noise Reduction Levels of -10dB, -20dB, -30dB (1kHz Sine Wave Data Playback at -6dB)
Input Hold Time	More than 10 ms or 50 ms (Setting Switchable)
Signal Input Type	Non-voltage contact or NPN Open Collector
Speaker Output	4W output (Compatable Speaker : Imp. 8Ω, Watt.:4W or more) or 2W output (Compatable Speaker : Imp. 8Ω, Watt.:2W or more) (Setting Switchable)
Maximum Sound Pressure Level	Speaker Output at 4W:105dB ; 2W:102dB (at 1m with 1kHz Sine Wave Data Playback at -6dB and SPW-5E Speaker (Sold Separate))
AUX Output	0dBV 600Ω (Adjustable with Volume Control or Sound Reduction Input)
BUSY Output	Maximum 40V DC 500mA
Remarks	This product complies with the RoHS directive (DIRECTIVE 2002/95/EC)

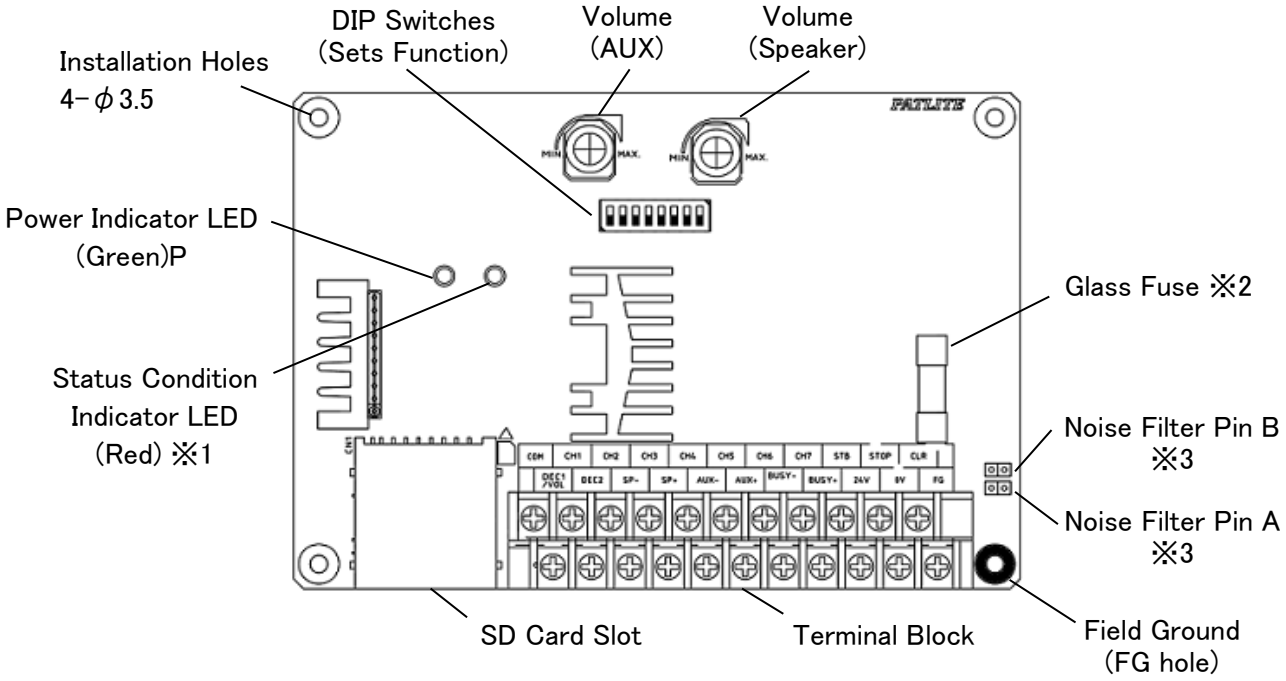
3.Outer Dimensions 【mm】





【Mounting Installation Method】
Mount with spacers with a height of 10mm or more, using the four mounting holes.

4.Part Names



※1 Status Condition Indicator LED (Red)

LED Status	LED Status
Off	During Standby or Audio Message Playback
On	During Audio Message Rewriting or Audio Message Export
Flashing	Error During Playback

※2 Glass Fuses

φ5.2×20 Rated Current 1.0A Standard Fusion Type
(Replacement Part:Nippon Seisen Co., Led. FBM 250V 1A / Fuji Electric FGMB 250V 1A)

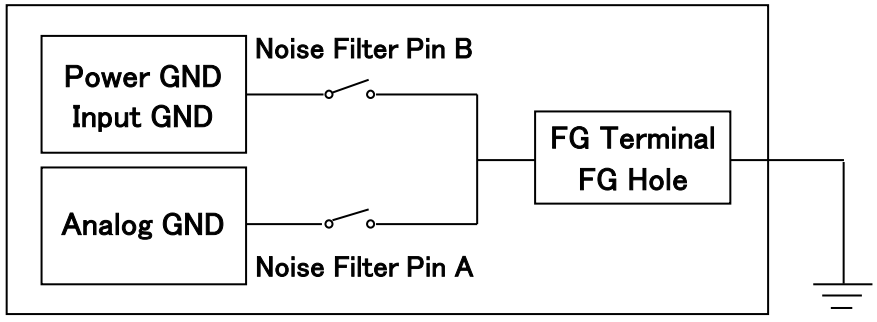
※3 Noise Filtering Pin

Depending on the work environment, noise can be reduced by changing the pin conditions. Both pins are inserted at time of shipment, but depending on environment, both pins may not be necessary for noise reduction.

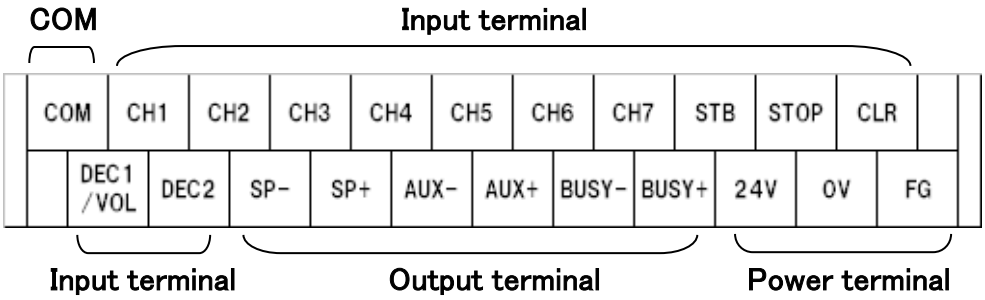
Noise Filter Pin A ・・・ Connects the Analog Ground to FG.
Use for Speaker Output・AUX Output Noise Filtering.

Noise Filter Pin B ・・・ Connects the Power Ground and Input Ground to FG.
Use for Input Terminal Line Noise Filtering.

FV-127JP



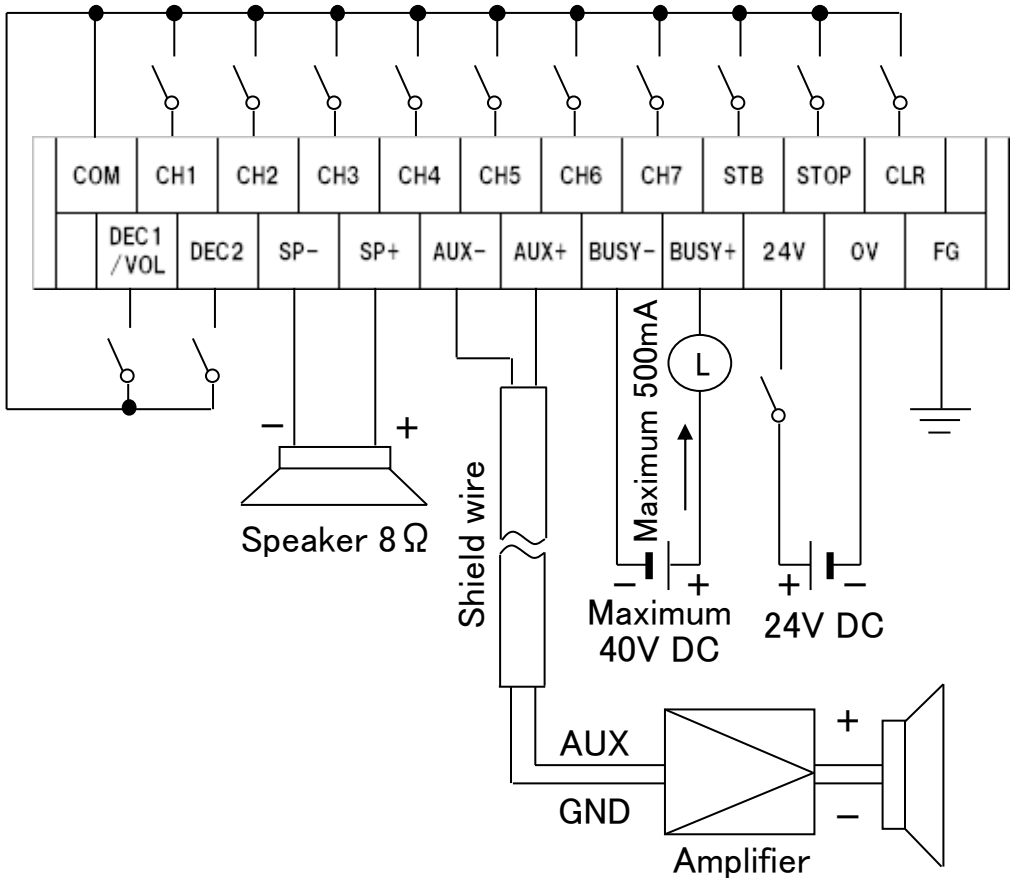
5.Terminal Block Arrangement and Names



Name	Function
COM	Input Terminal Common Connection
CH1～7	Channel selection terminal for audio messages. Short to COM for the selected channel to playback message. Two input modes "binary" and "bit" can be selected.
STB	Used during playback when in the "binary mode". (Hold Playback Mode not included.)
STOP	Stops the message during playback.
CLR	Used during "memory playback" mode, ereases the audio playback message. For other modes, the function is the same as the "Stop" mode.
DEC1/VOL ・DEC2	Depending on the input status, the speaker volume or AUX volume decreases.
SP−,SP+	Speaker Terminal Connection (Note Polarity).
AUX−,AUX+	Amplifire Terminal Connection (Note Polarity).
BUSY−,BUSY+	Output is produced during message playback (Note Polarity).
24V,0V	Power Input Terminal. Connect 24V DC only (Note Polarity).
FG	When connecting to earth ground (FG), under certain environments can reduce the effect of noise.

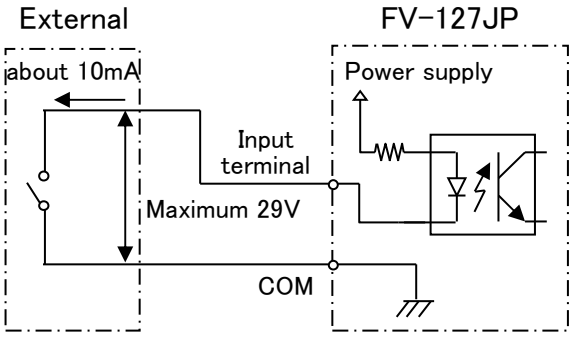
DEC1/VOL	DEC2	減音レベル
Open	Open	No Reduction
Short to COM	Open	−10dB
Open	Short to COM	−20dB
Short to COM	Short to COM	−30dB

6.Wiring Diagram

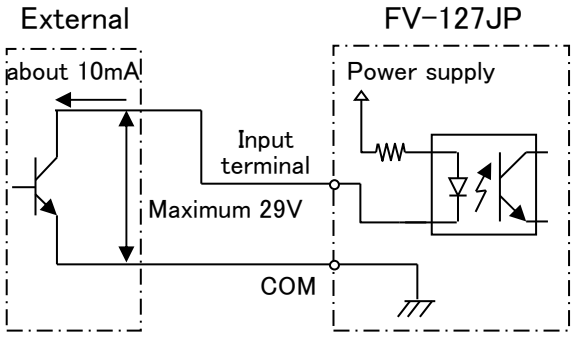


●Use non-voltage contact switches such as a relay switch etc., or an open-collector circuit (NPN) for external contact connections.

Non-voltage contact circuit Example



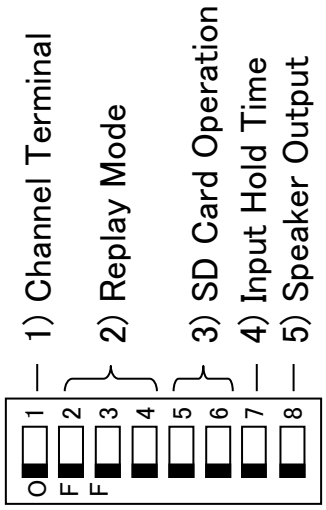
Open-collector circuitExample



Please use the following table to determine the capacity for external connections:

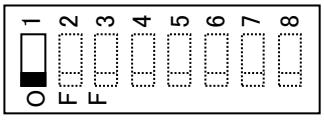
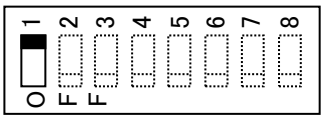
Voltage Capacity	15mA or more
Withstanding Voltage	35V DC or more
Leakage Current	0.1mA or less
ON Voltage (Vsat)	1V or less

7.Function Setting



Factory Setting : All Off

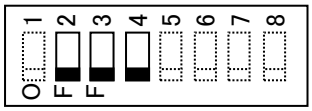
1) Channel Terminal Input

Binary Input 	●When terminals CH1 to CH7 are shorted to COM, if terminal STB and terminal COM are short-circuited, the voice message will be played back. (The hold playback mode is excluded.) ●A maximum of 127 messages can be reproduced. (Refer to "9.Binary Input Table".)
Bit Input 	●When terminals CH1 to CH7 are shorted to the COM terminal, the voice message will playback. The terminals CH1 to CH7 corresponds to voice messages No.1 to 7, respectively. Do not use the STB terminal. ●A maximum of seven messages can be played back. ●When two inputs or more are selected at the same time, the channel is selected in order of precedence. In memory playback mode, the momory is selected in order of the channel with the highest priority level.

2) Playback Mode

Refer to "8.Timing Sequence" for the I/O timing.

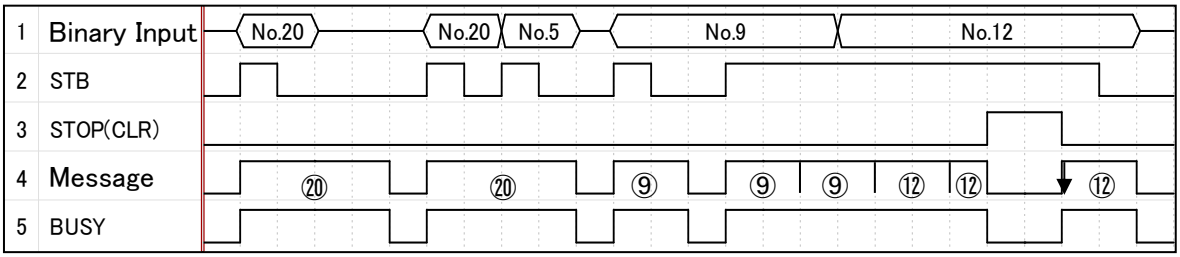
(A) Normal Playback



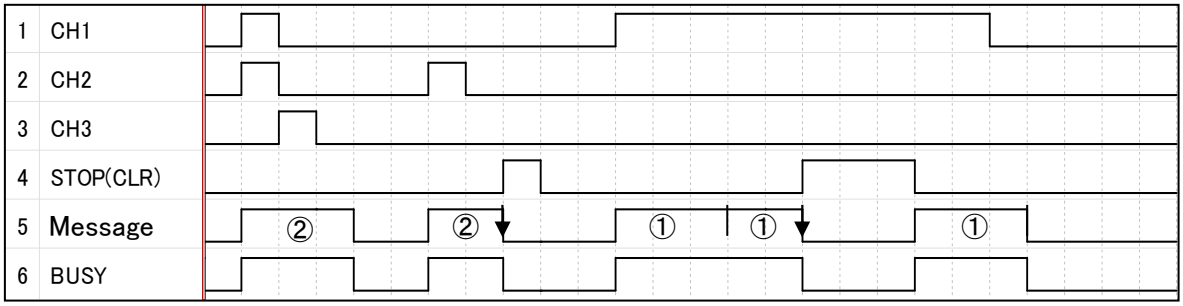
Playback the message according to the input. With a one shot input, playback the message only once and repeat it with the input held on.

- The input becomes invaild when the message is in playback.
- Stop the voice message during playback by shorting the CLR terminal or STOP terminal to the COM terminal.

Binary Input Mode Puise Train



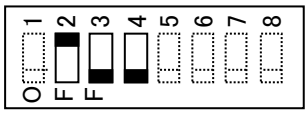
Bit Input Mode Puise Train



⑳ ・・・ Displays playback of voice message No.20.

↓ ・・・ Displays the voice message being played back was stopped.

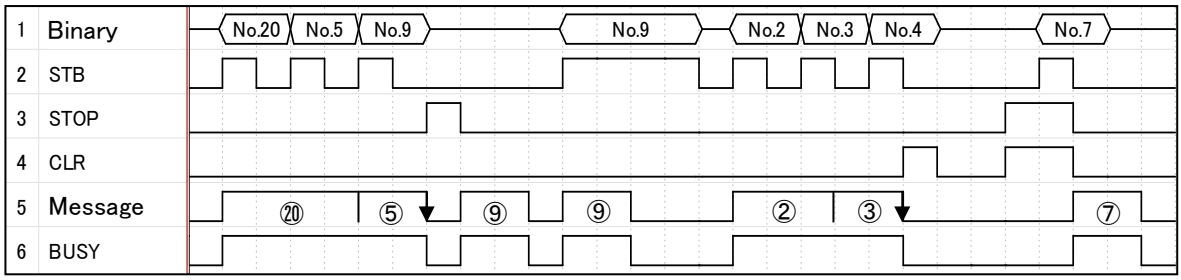
(B) Memory Playback



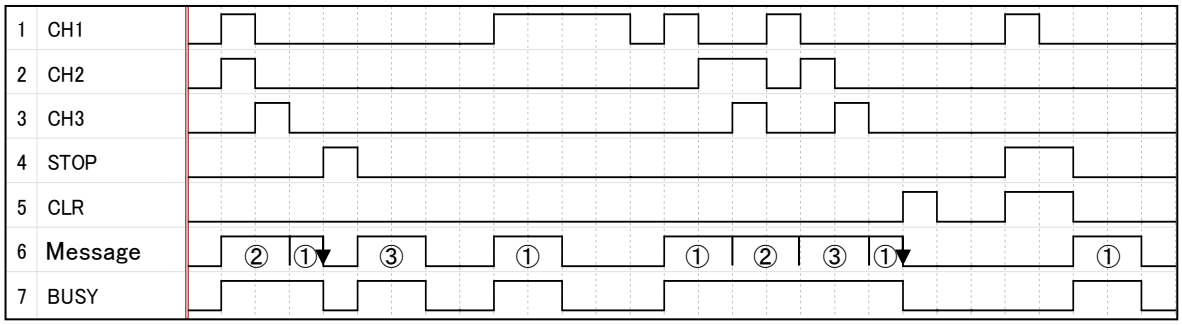
A maximum of 23 voice messages can be stored in memory in order of priority. When the playback voice message ends, the next message in memory will be played. Inputs that exceed the maximum memory becomes invaild.

- Stop the voice message during playback by shorting the STOP terminal to the COM terminal to playback the next voice message in memory.
- Stop the voice message during playback by connenting the CLR terminal to COM delete all voice messages contained in the memory.
- Even while holding the CLR or STOP input on, the voice message in memory can be paused. After Releasing the held-down input, the next voice message in the memory will be played back.

Binary Input Mode Pulse Train



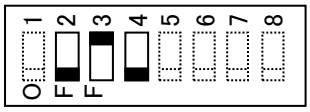
Bit Input Mode Pulse Train



⑳ ・・・ Displays playback of voice message No.20.

↓ ・・・ Displays the voice message being played back was stopped.

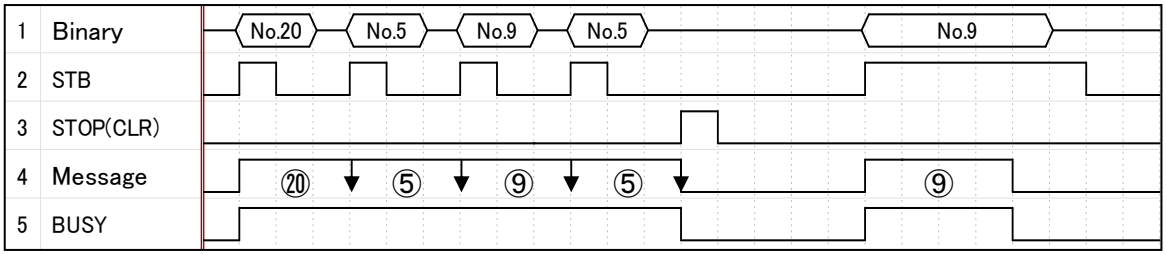
(C) Input Priority Playback



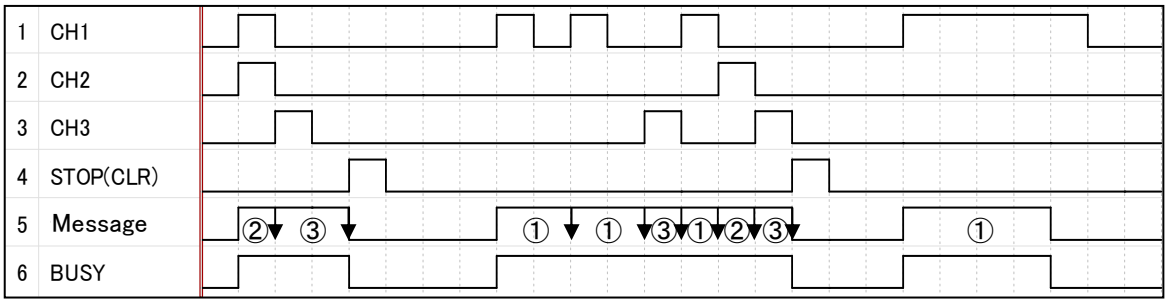
If the next voice message input is turned on while the current message is in plyaback, the next message will be played back and the current message will playback after the input is turned on.

- The voice message being played back can be stopped by shorting the input to the CLR or STOP terminal.
- Even when holding the input on, the voice message playback ends after completion.

Binary Input Mode Pulse Train



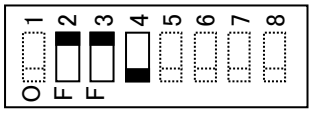
Bit Input Mode Pulse Train



⑳ ・・・ Displays playback of voice message No.20.

↓ ・・・ Displays the voice message being played back was stopped.

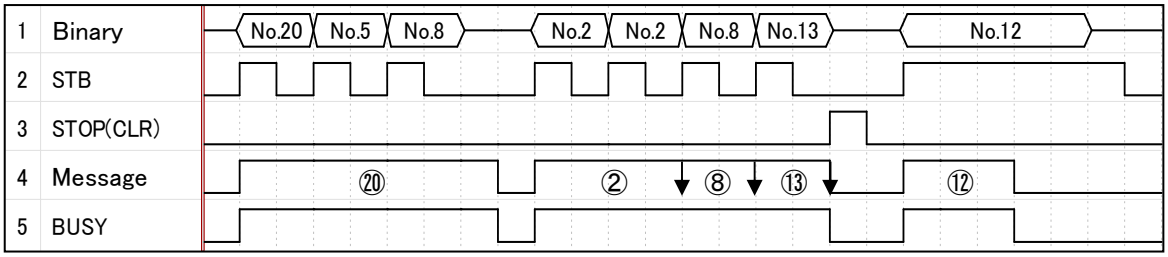
(D) Input, Top Channel Priority Playback



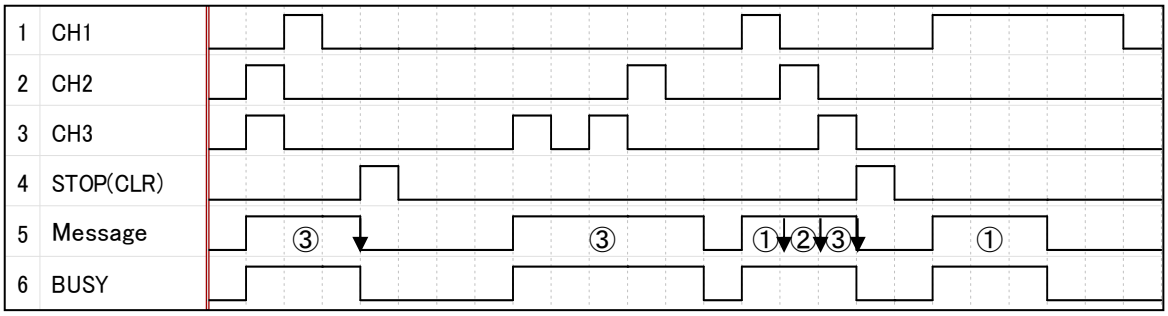
While the message is in playback, if a message of a higher number is entered, the current message will stop and the message with the higher number will be played. The previous voice message will playback after the input is turned on.

- The voice message being played back can be stopped by shorting the input to the CLR or STOP terminal.
- Even when holding the input on, the voice message playback ends after completion.

Binary Input Mode Pulse Train



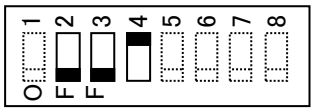
Bit Input Mode Pulse Train



⑳ ・・・ Displays playback of voice message No.20.

↓ ・・・ Displays the voice message being played back was stopped.

(E) Hold Playback

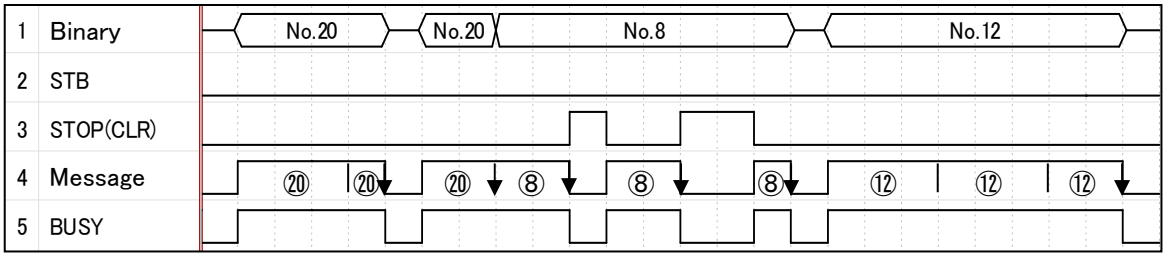


While the input is held on, the voice message playback is possible.
While the input is released, the voice message playback stops.

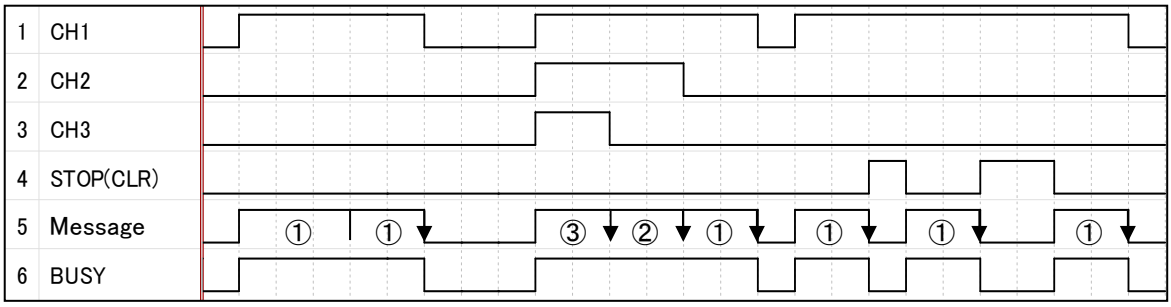
- In this mode, the STB dose not operate for the Binary Input Mode. Shorting the CH terminal to the COM will playback the message.
- The playback will play repeatedly as long as the input is held on.
- In this mode, the One-shot input will not operate.
- The mesasge playback can be stopped by shorting the CLR or STOP terminal.
- For the Binary Input mode, hold the CH terminal for 10ms or less(※). If the input is not held within 10ms, another message will start playback(※).

※The input delay time is set for 10ms.
The input delay can be set for 50ms, for a 50ms delay.

Binary Input Mode Pulse Train



Bit Input Mode Pulse Train

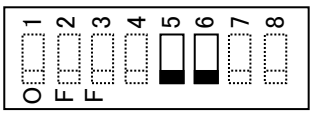
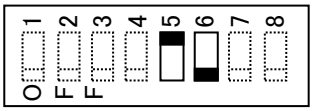
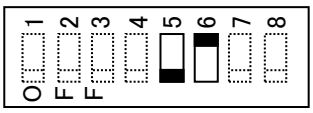
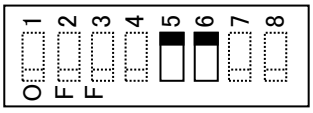


⑳ ・・・ Displays playback of voice message No.20.

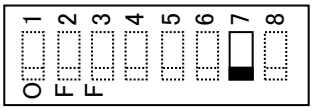
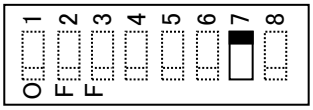
↓ ・・・ Displays the voice message being played back was stopped.

Settings outside (A) through (E)	No operation

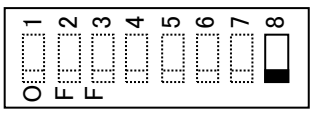
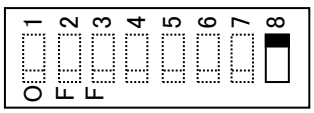
3) SD Card Operation

Normal Mode 	Playback the voice message downloaded into the internal memory.
Write Mode 	The voice message in the internal memory can be overwritten. However, an SD card and special software for overwriting is necessary. No voice message playback can be done in this mode.
Export Mode 	The voice message in the internal memory can be exported to the SD card. The data in the internal memory can be overwritten again, and message reorganization can be done. The data of the internal memory is retained, even after it is exported. No voice message playback can be done in this mode. ★Always delete all previous data on the SD card before exporting data onto the card. Do not insert an SD card that contains critical data.
Permanent SD Mode 	Playback the voice message from the data contained in the SD card without using the internal memory. When the optional SDV-2GP☐ is used, the maximum playback of about 240 minutes is possible. Playback with the SD card left inserted. The internal memory data remains as is. It is not possible to combine playback data from the internal memory with the SD card.

4) Input Hold Time

10msec 	In playback modes other than the input hold playback, an effective pulse width of the input signal is 10ms. Hold the input duration for 10ms or more for an input. For the Binary Input mode, hold the CH terminal for 10ms or less for Playback.
50msec 	In playback modes other than the input hold playback, an effective pulse width of the input signal is 50ms. By setting the Input Hold Time to 50ms, it might make it more difficult to receive noise under an environment with a lot of noises ets. Secure the input time of 50 ms or more for an input. For the Binary Input mode, hold the CH terminal for 10ms or less.

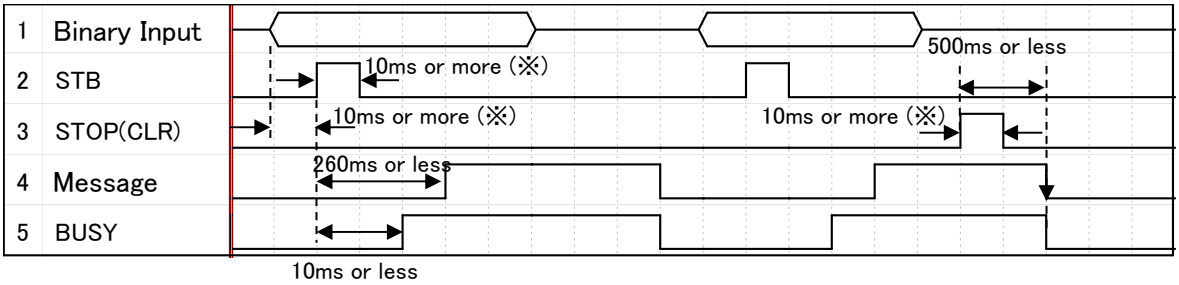
5) Speaker Output

4W 	Speaker Output is 4W.	**2W** 	Speaker Output is 2W.

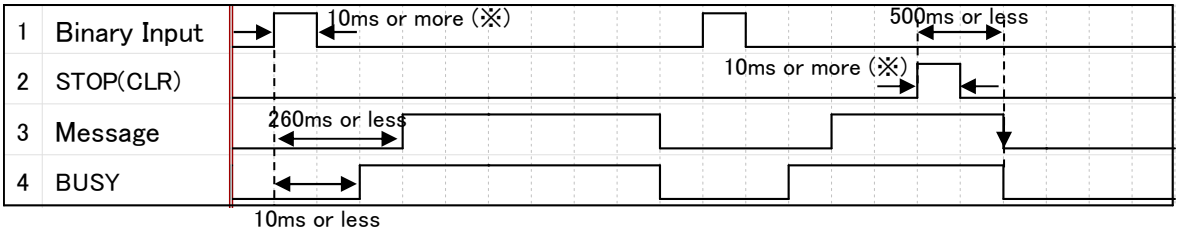
8.Timing Sequence

Each terminal input should conform to the timing for the following chart.
Any input activation outside the timing may not reproduce the desired function for message.

Binary Input Mode Pulse Train

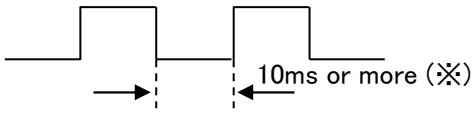


Bit Input Mode Pulse Train



↓ ・・・ Displays the voice message being played back was stopped.

●The timing duration between the input on and off can be no less than 10ms (※).



●When the message starts playback, this is the case when no silence is added at the head of the message.

●The STB terminal is not operable in the binary/hold playback mode.

※The input delay time is set for 10ms. The input delay can be set for 50ms, for a 50ms delay.

9.Binary Inout Table

Message No.	CH1	CH2	CH3	CH4	CH5	CH6	CH7
No.1	●						
No.2		●					
No.3	●	●					
No.4			●				
No.5	●		●				
No.6		●	●				
No.7	●	●	●				
No.8				●			
No.9	●			●			
No.10		●		●			
No.11	●	●		●			
No.12			●	●			
No.13	●		●	●			
No.14		●	●	●			
No.15	●	●	●	●			
No.16					●		
No.17	●				●		
No.18		●			●		
No.19	●	●			●		
No.20			●		●		
No.21	●		●		●		
No.22		●	●		●		
No.23	●	●	●		●		
No.24				●	●		
No.25	●			●	●		
No.26		●		●	●		
No.27	●	●		●	●		
No.28			●	●	●		
No.29	●		●	●	●		
No.30		●	●	●	●		
No.31	●	●	●	●	●		
No.32	●	●	●	●	●		
			⋮				
No.118		●	●		●	●	●
No.119	●	●	●		●	●	●
No.120				●	●	●	●
No.121	●			●	●	●	●
No.122		●		●	●	●	●
No.123	●	●		●	●	●	●
No.124			●	●	●	●	●
No.125	●		●	●	●	●	●
No.126		●	●	●	●	●	●
No.127	●	●	●	●	●	●	●

The "●" make indicates the channel (CH) terminal to COM contact short condition.