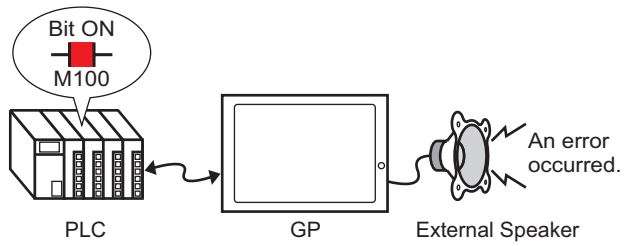
26 Buzzer/Sound

This chapter explains basic features and operations of “Sound/Buzzer” in GP-Pro EX.Please start by reading “26.1 Settings Menu” (page 26-2) and then turn to the corresponding page.

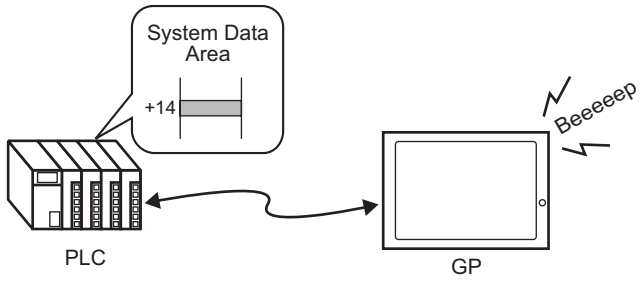
26.1 Settings Menu

Announcing Alarm Occurrences with Sound



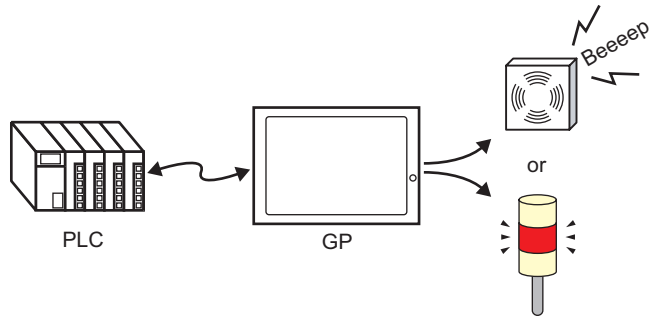
☞ Setup Procedure (page 26-4)
☞ Details (page 26-3)

Sounding the GP Buzzer from a Device/PLC



☞ Setup Procedure (page 26-8)
☞ Details (page 26-7)

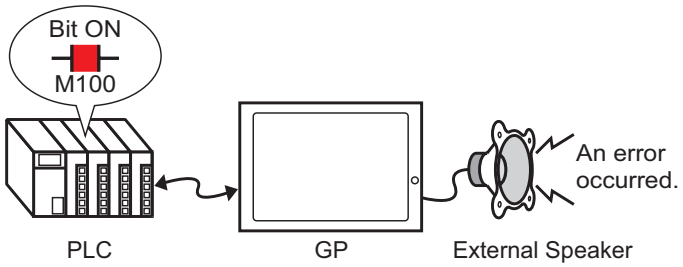
From the GP Trigger a Buzzer Sound



☞ Setup Procedure (page 26-11)
☞ Details (page 26-10)

26.2 Announcing Alarm Occurrences with Sound

26.2.1 Details

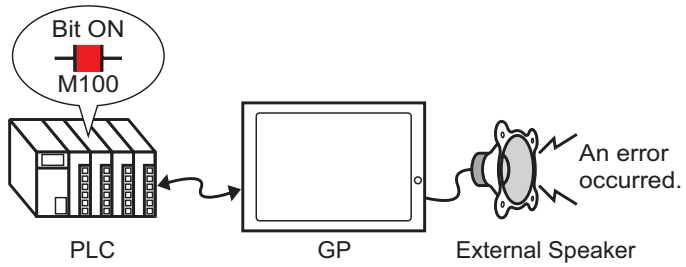


If you connect GP's sound output to an alarm, the GP can announce error occurrences with sound. Sound output requires an external speaker (sold separately).

26.2.2 Setup Procedure

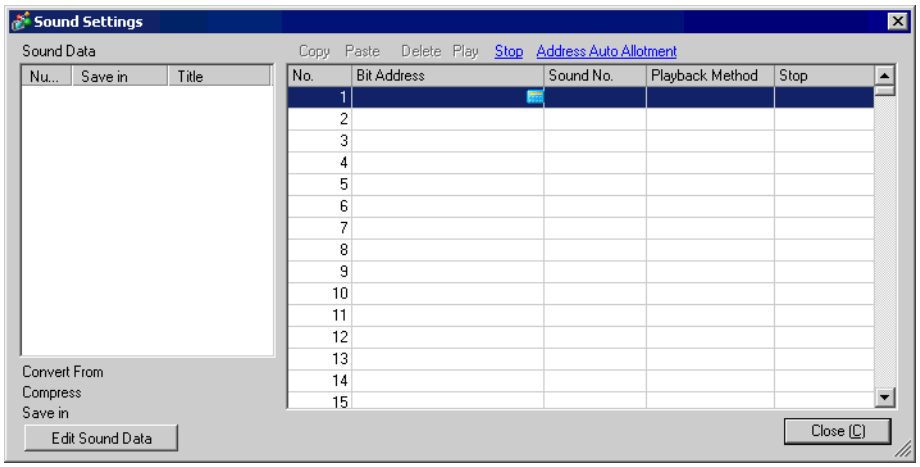
NOTE

- Please refer to the settings guide for details.
  ☞ "26.5.1 Common Settings (Sound Settings) Guide" (page 26-13)



1 Select the [Common Settings (R)] menu - [Sound Settings (H)] option, or click  .

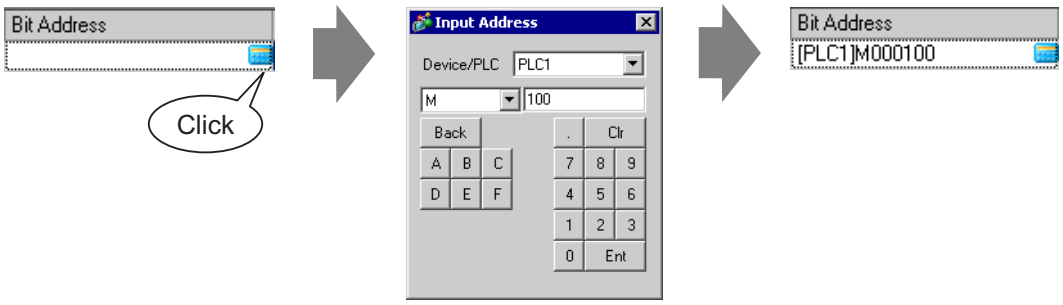
2 The [Sound Setting] dialog box opens.



3 Set the [Bit Address] to play the sound. (e.g.: M100)

Click the icon to display an address input keypad.

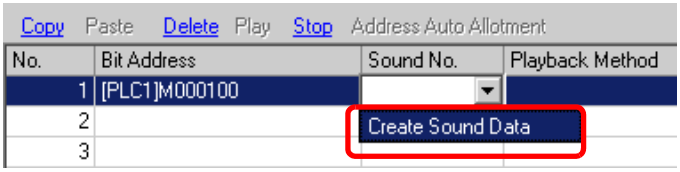
Select device "M", input "100" as the address, and press the "Ent" key.



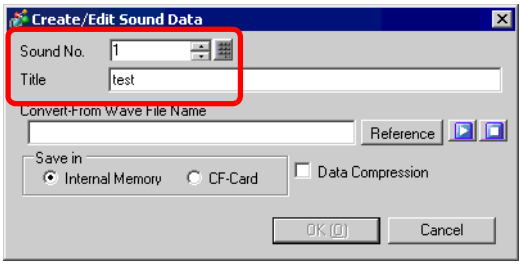
NOTE

- If you connect the bit address for sound output to the bit address for an alarm occurrence, you can provide an announcement of error occurrences with sound.

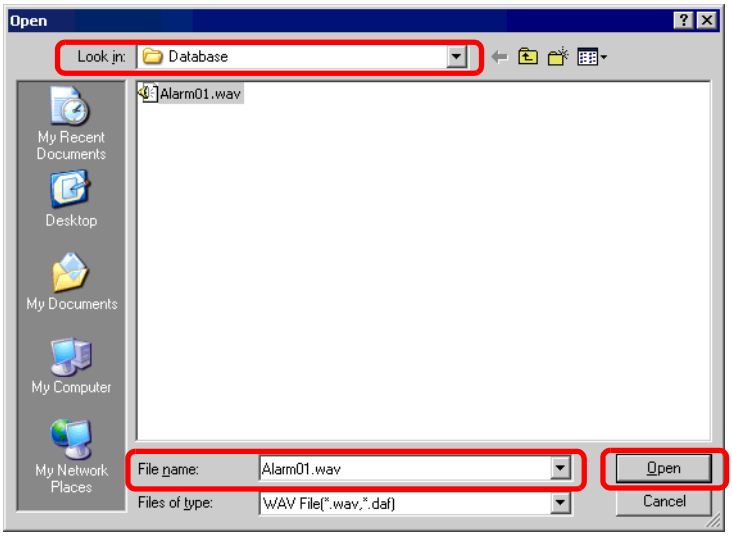
4 Next, specify the sound to play. Select the [Sound No.] cell, click , and select [Create Sound Data].



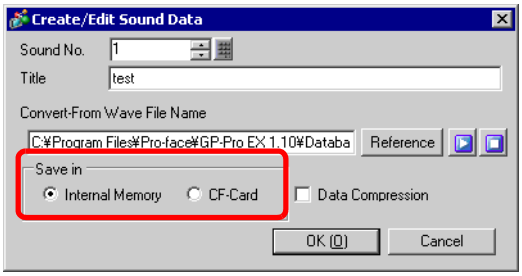
5 The [Create/Edit Sound Data] dialog box opens. Specify the [Sound No.] and [Title]. (e.g.: [Sound No.] 1, [Title] test).



6 Click the [Reference] button to open the [Open] dialog box. Specify [Look in] (location) and [File name] to find the file you want to convert and click [Open].



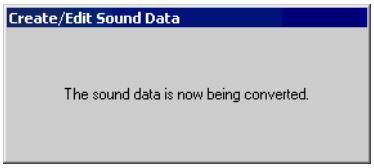
7 Select the destination in [Save in]. When the converted file is transferred to the GP, it is stored in the area designated in [Save in].



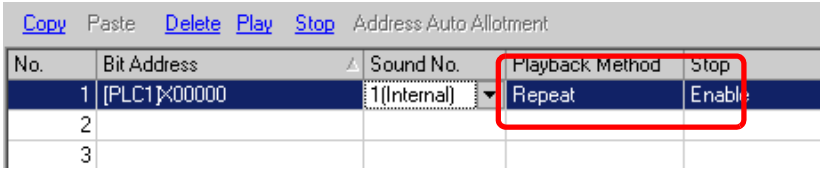
NOTE

- If you do not specify the destination to export the CF-card folder and select [CF-Card] in [Save in], a message appears to confirm the creation of [CF-Card Output Folder]. Click [Yes]. When the [Project Information] dialog box appears, put a check mark next to the [Enable CF-Card] box.

8 Click the [OK] button and the conversion will start.



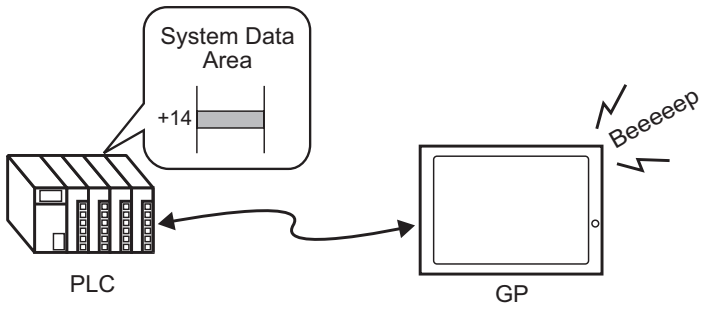
9 Set the [Playback Method] and whether or not to enable the [Stop] of the converted sound. (e.g.: [Playback Method] Repeat, [Stop] Enable)



10 The process is complete.

26.3 Sounding the GP Buzzer from a Device/PLC

26.3.1 Details



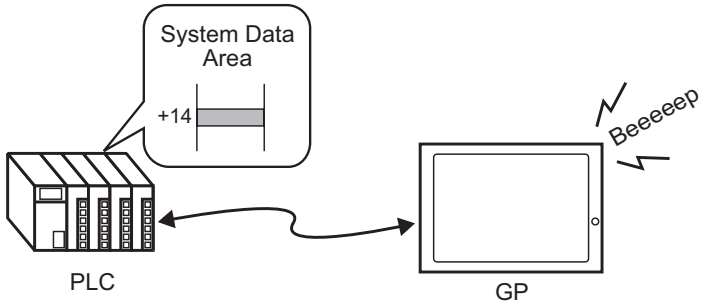
You can sound the GP internal buzzer from a device/PLC. You need to set the GP's system data area to the PLC to sound the buzzer.

26.3.2 Setup Procedure

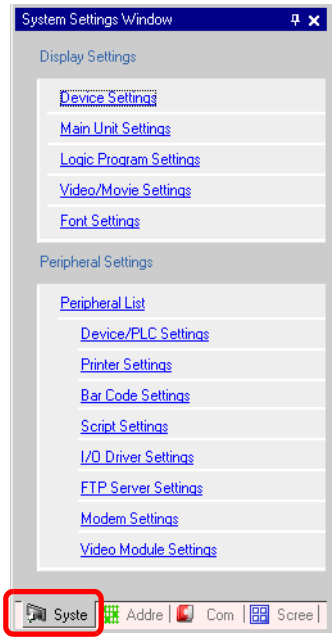
NOTE

- Please refer to the settings guide for details.

☞ "5.13.6 [System Settings Window] Settings Guide ◆ System Area Settings" (page 5-120)
☞ "A.1.4.2 System Data Area" (page A-10)



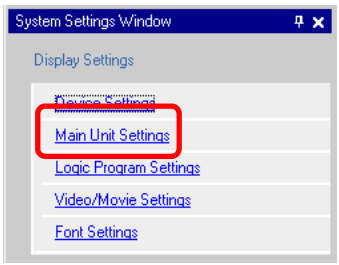
1 Select the System Settings Window tab to open the [System Settings Window].



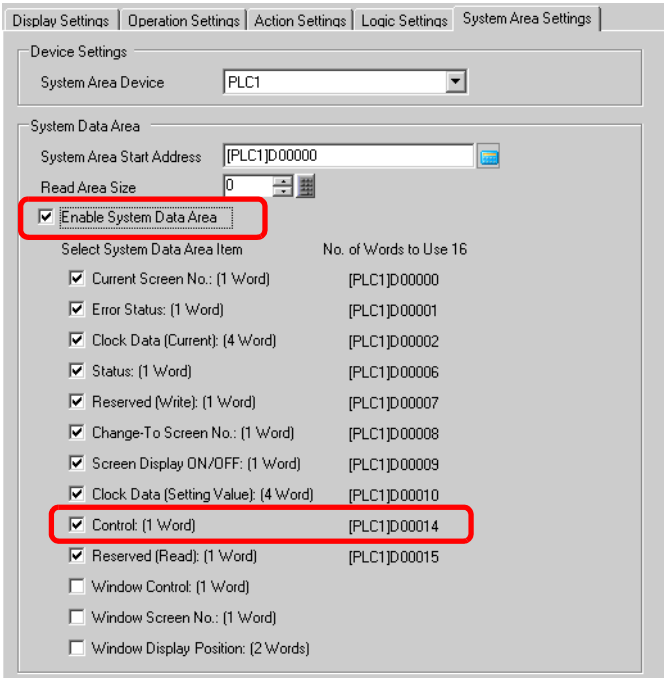
NOTE

- If the [System Settings Window] tab is not displayed in the workspace, select the [View (V)] menu - [Work Space (W)] option - [System Settings Window (S)] command.

2 Select [Main Unit Settings] from [Display Settings].



3 In [System Data Area], put check marks next to the [Enable System Data Area] box and the [Control: (1 Word)] box. This address is used to sound the GP internal buzzer from the PLC.



4 If you turn ON Bit 1 in the [Control: (1 Word)] address specified in step 3 while Bit 4 is OFF, the GP main unit's buzzer rings.

Bit Position	15	14	~	4	~	1	0
	0	0		0		1	0

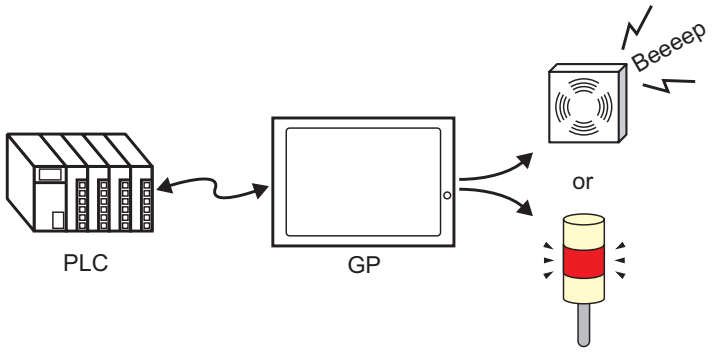
NOTE

- If you turn ON Bit 1 while Bit 4 is ON, the buzzer will not ring.
  Control Word Address: Bit 4 controls output to buzzer (0) or do not output to buzzer (1).

☞ "A.1.4.2 System Data Area" (page A-10)

26.4 From the GP Trigger a Buzzer Sound

26.4.1 Details



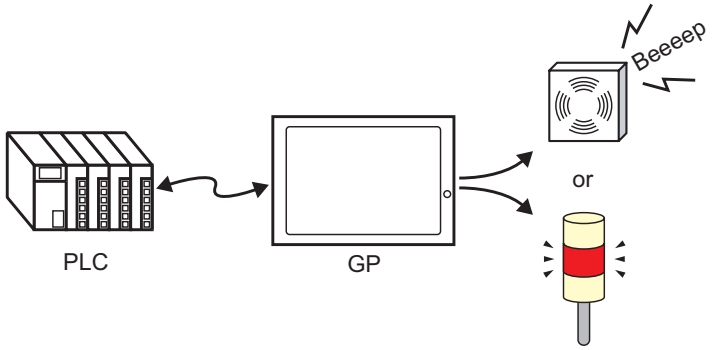
The output to sound an external buzzer is provided with the GP's AUX terminal.

26.4.2 Setup Procedure

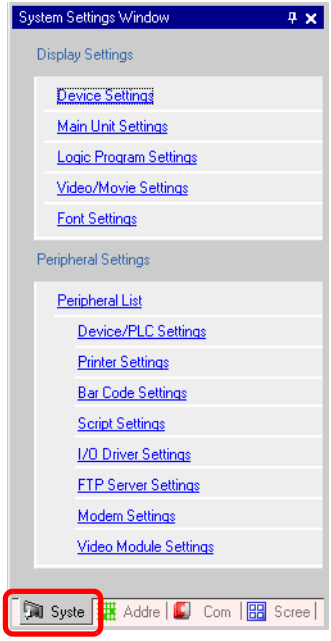
NOTE

- Please refer to the settings guide for details.

☞ "5.13.6 [System Settings Window] Settings Guide ◆ System Area Settings" (page 5-120)
☞ "A.1.4.2 System Data Area" (page A-10)



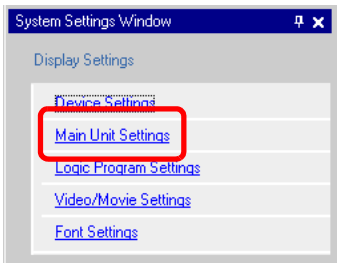
1 Select the System Settings Window tab to open the [System Settings Window].



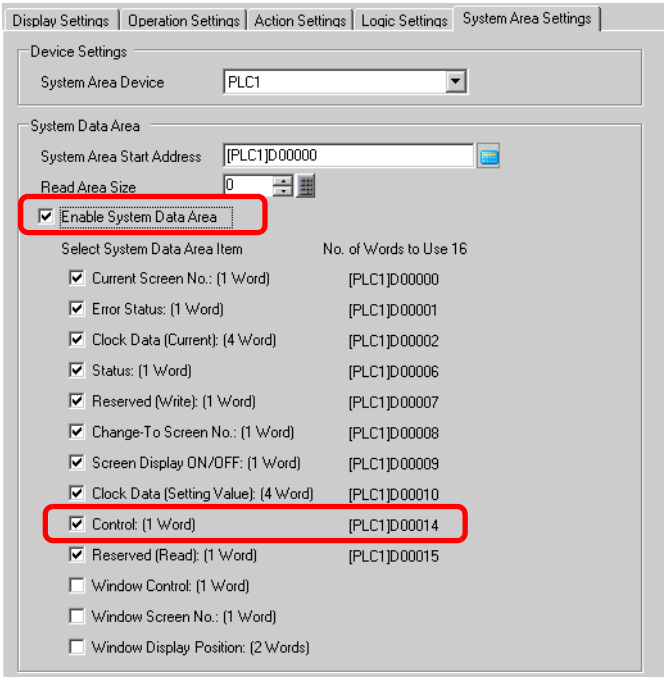
NOTE

- If the [System Settings Window] tab is not displayed in the workspace, select the [View (V)] menu - [Work Space (W)] option - [System Settings Window (S)] command.

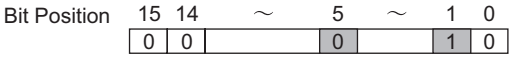
2 Select [Main Unit Settings] from [Display Settings].



3 In [System Data Area], put check marks next to the [Enable System Data Area] box and the [Control: (1 Word)] box.



4 If you turn ON Bit 1 in the [Control: (1 Word)] address specified in step 3 while Bit 5 is OFF, the contact to sound an external buzzer turns ON. You can then operate an external power supply and a buzzer or revolving light by connecting them.



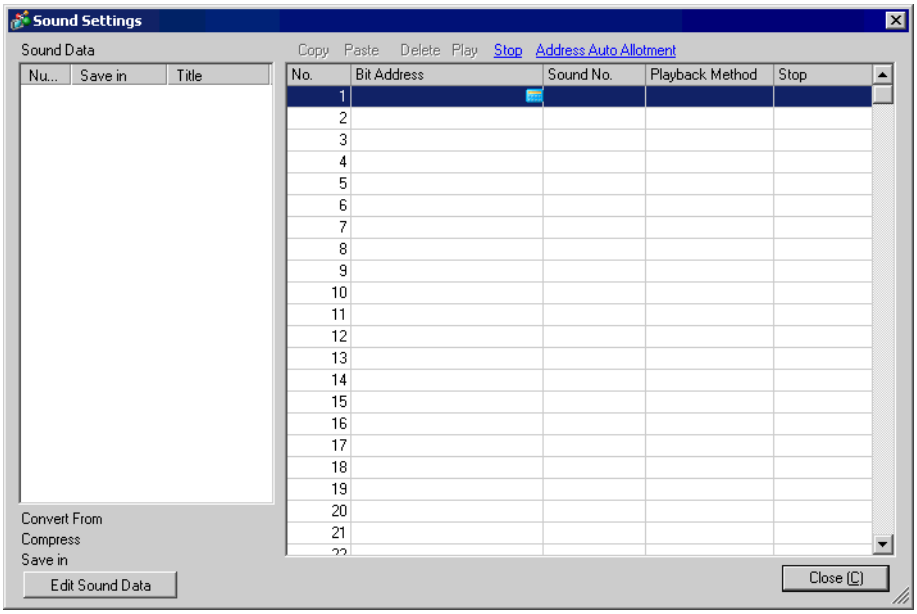
NOTE

- If you turn ON Bit 1 while Bit 5 is ON, the contact to sound an external buzzer will not turn ON.
  Control Word Address: Bit 5 controls output AUX (0) and do not output AUX (1).

☞ "A.1.4.2 System Data Area" (page A-10)

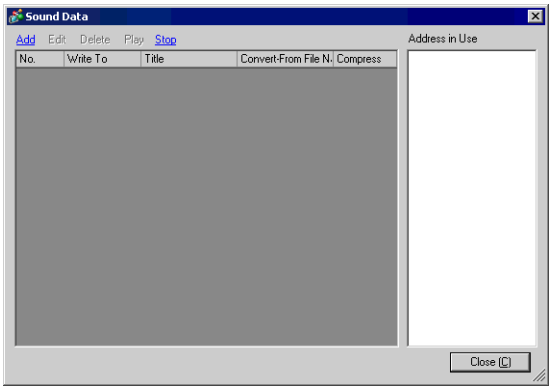
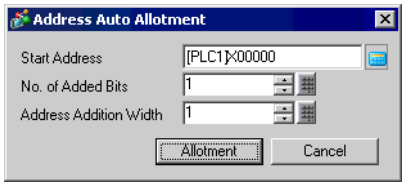
26.5 Settings Guide

26.5.1 Common Settings (Sound Settings) Guide

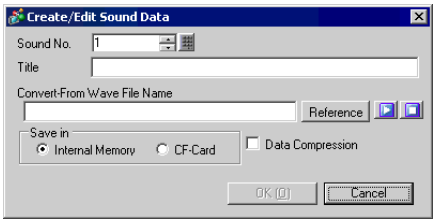


Setting	Description
Sound Data	Lists the registered sound data.
Number	Displays the registered [Sound No.].
Save in	Displays the location where the sound data is stored with either [Internal Memory] or [CF-Card].
Comment	Displays the comment for the registered sound data.
Convert From	Displays the file name of the sound data before conversion.
Compress	Indicates whether the data is compressed or not.
Save in	Displays the [Save in] location of the sound selected in the [Sound Data] list.

Continued

Setting		Description
	Sound Data Edit	Displays a dialog box to edit the sound data. The data in the [Sound Settings] dialog box can be edited, added, deleted, or played back. [Address in Use] lists bit addresses used to play the sound data. 
Copy		Copies the [Sound Settings] data in the selected row.
Paste		Pastes the copied [Sound Settings] data.
Delete		Deletes the [Sound Settings] data in the selected row.
Play		Plays the selected [Sound Settings] data. When this option is selected again during playback, the sound being played is stopped and played again. If the [Sound Settings] dialog box is closed during playback, the sound is stopped.
Stop		Stops the sound being played.
Address Auto Allotment		The [Address Auto Allotment] dialog box will appear. Configure settings to allocate designated addresses from the starting address. 
	Start Address	Specify the address to start the auto allotment.
	No. of Added Bits	Set the number of bits to add within the range from 1 to (Maximum number of sound settings - Current row position +1).
	Address Addition Width	Set the increment of the auto allotment from 0 to 4,096.
No.		Designate the registration No. of the sound data from 1 to 512.
Bit Address		Designate the bit address to play the sound.

Continued

Setting	Description
Sound No.	When [Create Sound Data] is clicked, the following [Create/Edit Sound Data] dialog box is displayed. 
Sound No.	Designate the sound data number from 1 to 8,999.
Comment	Type the comment for the sound data to be registered within 30 characters.
Convert-From Wave File Name	When the Wave file to be converted is specified, the path to reference the file is displayed here.
Reference	Opens the [Open] dialog box to allow designation of the Wave file to be converted. Sound No.
	Plays the source file to be converted from Wave.
	Stops the sound being played.
Save in	Specify where in the GP you want to save the converted sound data, either [Internal Memory] or [CF-Card].
Data Compression	Compresses data. You can save memory.
Playback Method	There are three modes: [Repeat], [Play] and [Play (Bit OFF)]. • [Repeat] Outputs sound while the bit address is ON. When multiple bit addresses are ON, repeats all sounds in the order in which the bit address turned ON. From the next playback, the sounds are output in the order in which they were set. • [Play] Plays only once when the bit address turns from OFF to ON. • [Play (Bit OFF)] Plays only once when the bit address turns from OFF to ON and automatically turns OFF the bit address. **NOTE** • This playback method is valid only when the LS area is used as a bit address.
Stop	Stops the sound file being played when the bit address turns from ON to OFF.

26.6 Restrictions

- The maximum number of sounds for the sound settings is 512.
- You can set the sound number from 1 to 8,999.
- The total capacity to store the sound data in [Internal Memory] is approximately 1 MB even when the data is compressed. When you select [CF-Card] in [Save in], the total capacity is equal to the CF card's free space.
- The sound data is PCM, 16-bit, 8 kHz, monaural WAV data.
- If you register sound data by setting all [Bit Addresses] to a word address, set the word address within 128 words.
- When multiple bit addresses turn ON at the same time, sound is played in the order of registration in [Sound Settings]. If another repeat playback starts during a [Repeat] playback, sound will be played in the order of registration in [Sound Settings] from the next repeat playback. The order, however, may change depending on the communication timing.
- When [Stop] is set, it may take a short time after the bit turns OFF before the output is stopped.
- During sound playback, retain the trigger bit's ON time or OFF time for [Communication Cycle Time][*1] or 150ms, whichever is longer.

*1 The communication cycle time is the time it takes to request and take in data from the GP unit to the PLC. It is stored in the internal device's LS2037 as binary data. The unit is 10ms.