26 | Using Audio Notifications

This chapter explains how to set and operate audio notifications such as buzzers and similar sounds in GP-Pro EX.
Please start by reading "26.1 Settings Menu" (page 26-2), and then go to the corresponding page.
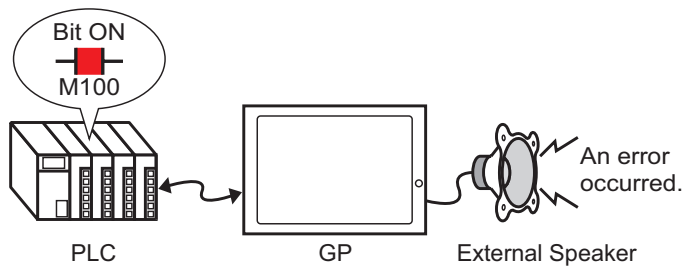
26.1 Settings Menu

Announcing Alarms with Sound	
	)Setup Procedure (page 26-4))Introduction (page 26-3)

Sounding the GP Buzzer from a Device/PLC	
	)Setup Procedure (page 26-8))Introduction (page 26-7)

Triggering a Buzzer Sound from the GP	
	)Setup Procedure (page 26-11))Introduction (page 26-10)

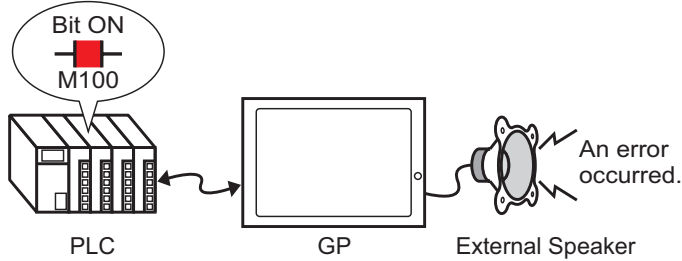## 26.2   Announcing Alarms with Sound

26.2.1   Introduction

If you connect a GP sound output to an alarm, the GP can announce errors with sound. Sound output requires an external speaker (sold separately).
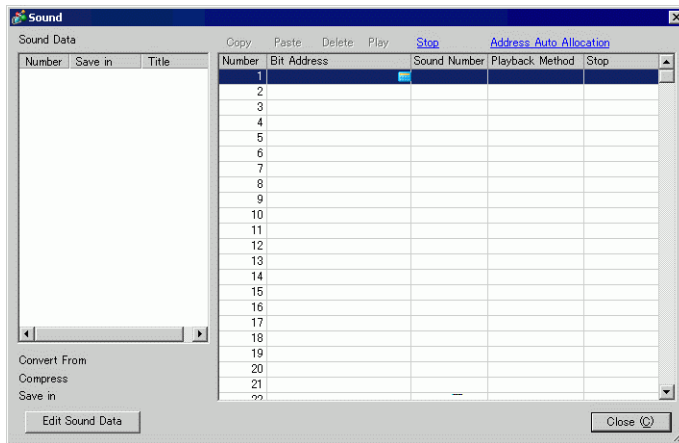
26.2.2 Setup Procedure

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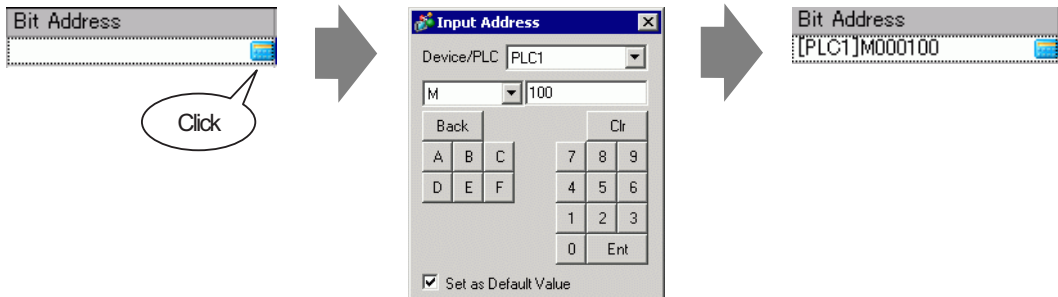

PLC   GP   External Speaker

1 From the [Common Settings (R)] menu, select [Sound (H)], or click 🔊 .

2 The [Sound Setting] dialog box appears.

3 Set the [Bit Address] to play the sound. (For example, 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 Number] cell, click ▾, and select [Create Sound Data].

Copy	Paste	Delete	Play	Stop	Address Auto Allocation	
Number	Bit Address			Sound Number	Playback Method	Stop
1	[PLC1]M000100			▾		
2				Create Sound Data		
3						

5 The [Create/Edit Sound Data] dialog box opens. Specify the [Sound Number] and [Comment]. (For example, [Sound Number] 1, [Comment] test).
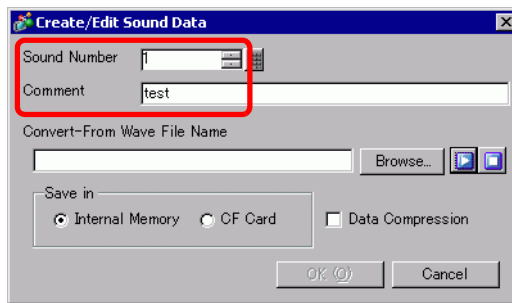
6 Click the [Browse] button to open the [Open] dialog box. Select the location and file name of the file you want to convert and click [Open].
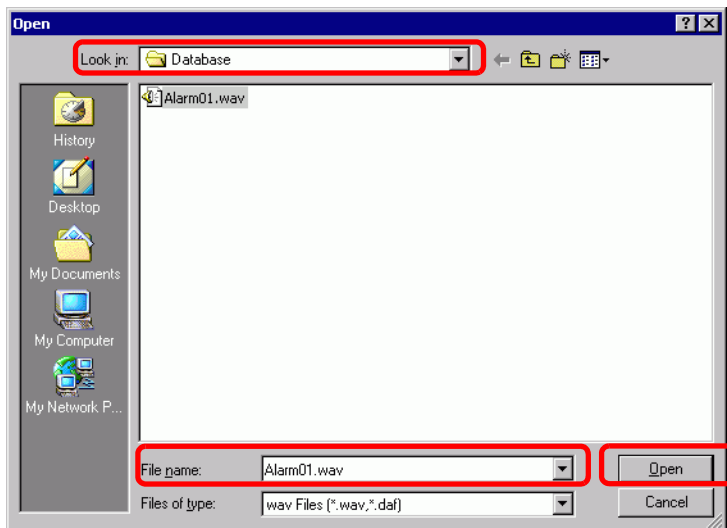
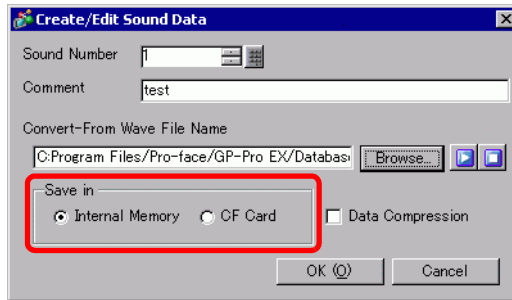7 Select [Save in]. The converted file will be stored in the area specified in [Save in] when transferred to the GP.

NOTE
• If you select [Save In] - [CF Card] without specifying the CF Card Folder, a message to create the [CF Card Folder] appears. Click [Yes]. When the [Project Information] dialog box appears, select the [Enable CF Card] check box and specify the folder.

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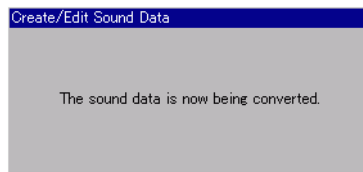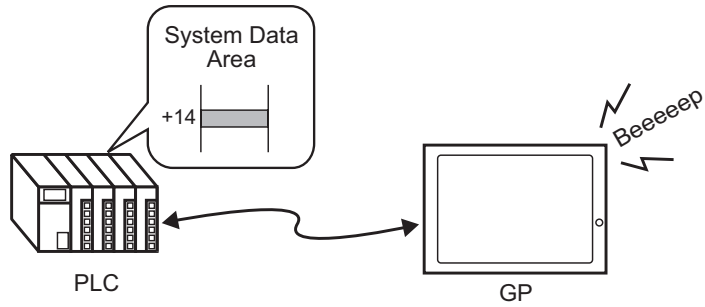

9 If needed, select [Playback Method] and [Stop] functions for the converted sound. (For example, [Playback Method] Repeat, [Stop] Enable)

10 The process is complete.

26.3 Sounding the GP Buzzer from a Device/PLC

26.3.1 Introduction

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

26.3.2 Setup Procedure

NOTE	• Please refer to the Settings Guide for details.
	☞ "5.17.6 [System Settings] Setting Guide ◆ System Area Settings" (page 5-175)
	☞ "A.1.4.2 System Data Area" (page A-11)
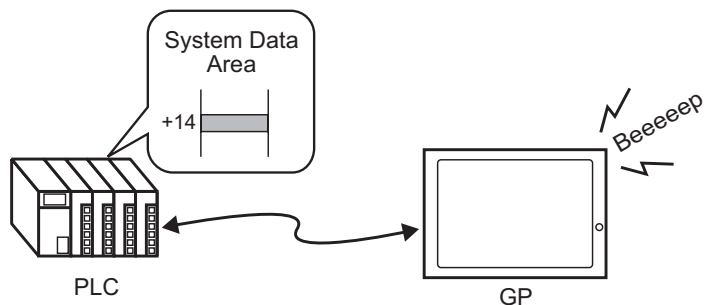
1 Select the System Settings tab to open the [System Settings].

NOTE	• If the [System Settings] tab is not displayed in the workspace, on the [View (V)] menu, point to [Workspace (W)], and then click [System Settings (S)].

2 From [Display], select [Display Unit].

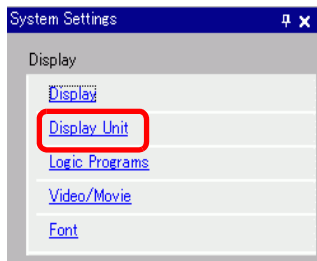3 In [System Data Area], select the [Enable System Data Area] and [Control: (1 Word)] check boxes. This address is used to sound the GP internal buzzer from the PLC.
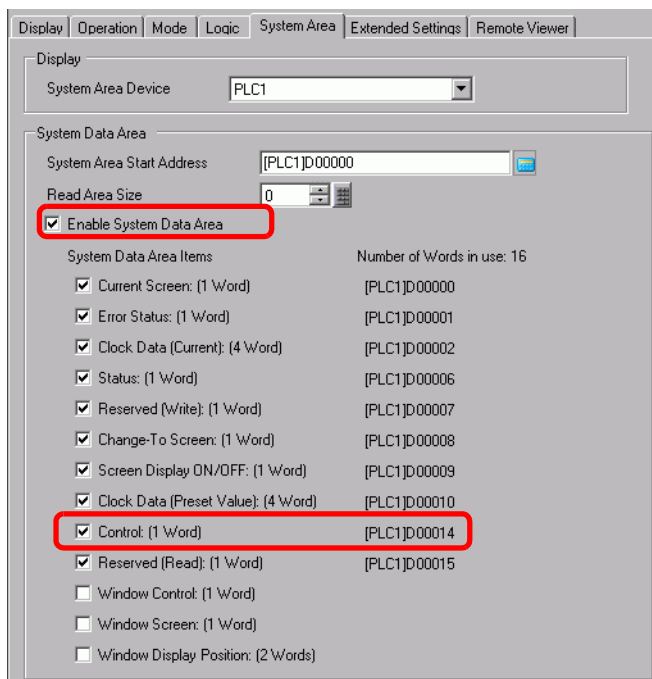
4 If you turn ON Bit 1 in the [Control: (1 Word)] address specified in step 3 while Bit 4 is OFF, the GP display unit buzzer rings.

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 does not output to buzzer (1).
☞ "A.1.4.2 System Data Area" (page A-11)

26.4   Triggering a Buzzer Sound from the GP

26.4.1   Introduction

The GP AUX terminal connector can be used for external audio output devices.

26.4.2 Setup Procedure

NOTE
- Please refer to the Settings Guide for details.
)"5.17.6 [System Settings] Setting Guide ◆ System Area Settings" (page 5-175)
)"A.1.4.2 System Data Area" (page A-11)

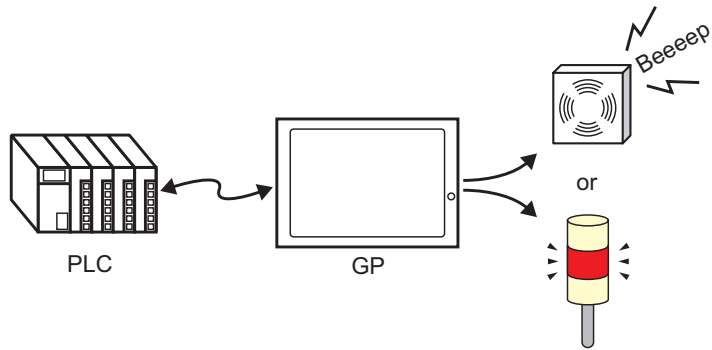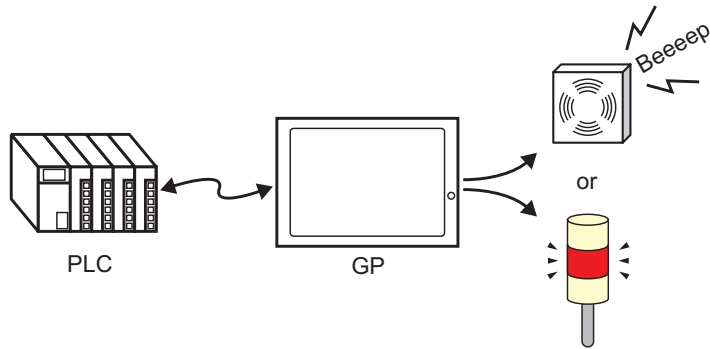1 Select the System Settings tab to open the [System Settings].

NOTE
- If the [System Settings] tab is not displayed in the workspace, on the [View (V)] menu, point to [Workspace (W)], and then click [System Settings (S)].

2 From [Display], select [Display Unit].

3 In [System Data Area], select the [Enable System Data Area] and [Control: (1 Word)] check boxes.
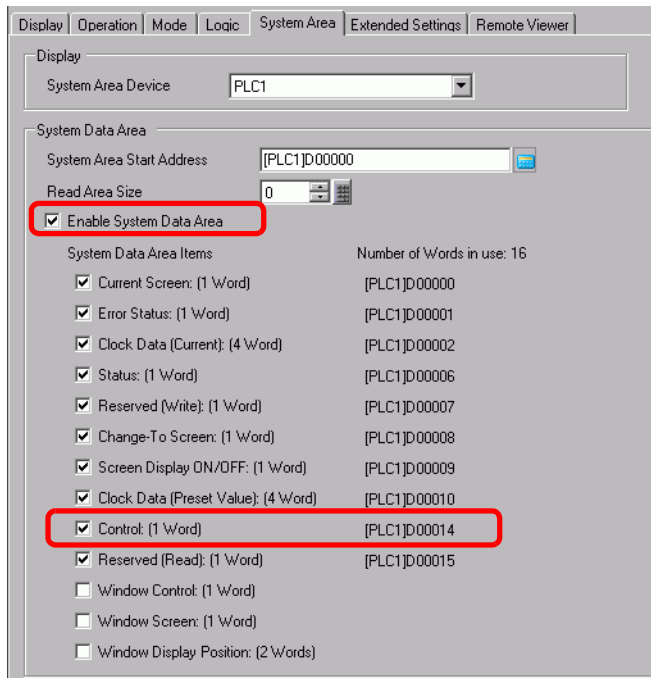
4 If you turn ON Bit 1 in the [Control: (1 Word)] address specified in step 3 while Bit 5 is OFF, the contact to sound an external buzzer turns ON. You can then connect and operate an external power supply and a buzzer or revolving light.
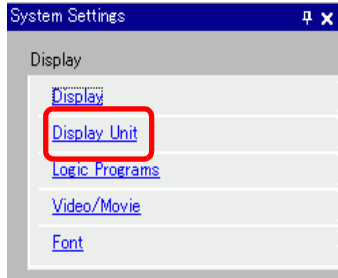
Bit Position	15	14	~	5	~	1	0
	0	0		0		1	0

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 AUX output (0: Enabled, 1: Disabled)
☞ "A.1.4.2 System Data Area" (page A-11)
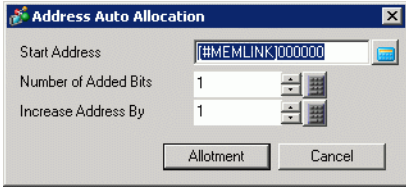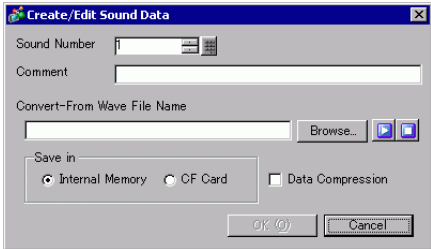
26.5 Settings Guide

26.5.1 Common (Sound) Settings Guide
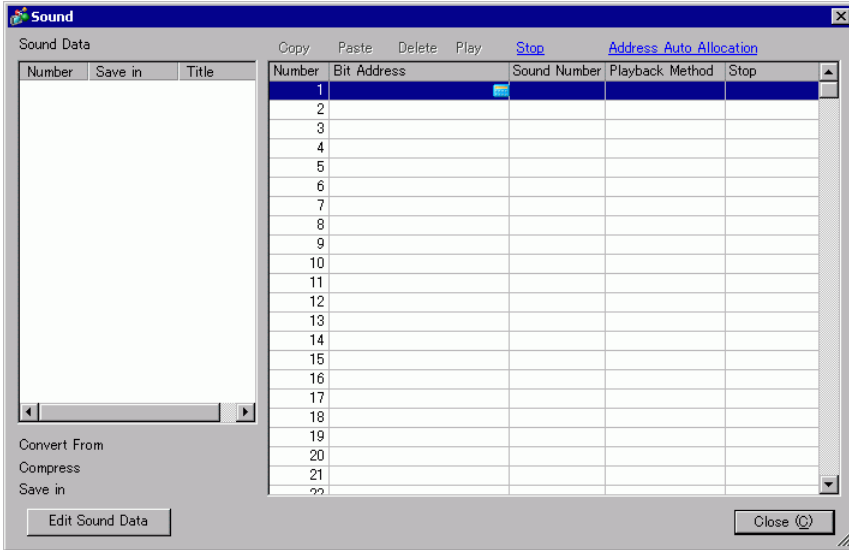
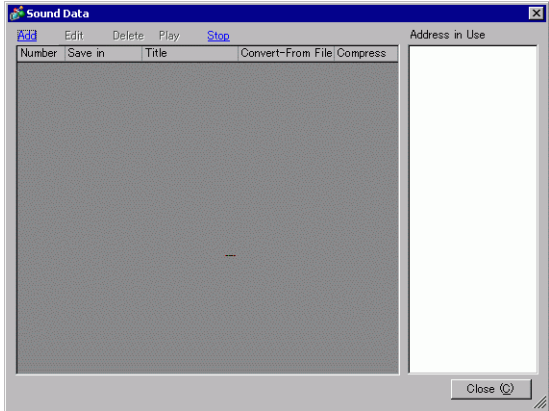| Setting	Description
Sound Data	Lists the registered sound data.
Number	Displays the registered [Sound Number].
Save in	Displays the location where the sound data is stored in either [Internal Memory] or [CF Card].
Title	Displays the comment for the registered sound data.
Convert From	Displays the file 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.
Edit Sound Data	The [Sound Data] dialog box appears. The data in the [Sound Data] dialog box can be edited, added, deleted, or played back. [Address in Use] lists bit addresses used to play the sound data.

Continued

Setting	Description
Copy	Copies the [Sound Data] information in the selected row.
Paste	Pastes the copied [Sound Data] information.
Delete	Deletes the [Sound Data] information in the selected row.
Play	Plays the selected [Sound Data] information. When this option is selected again during playback, the sound being played is stopped and played again. If the [Sound Data] dialog box is closed during playback, the sound is stopped.
Stop	Stops the sound being played.
Address Auto Allocation	The [Address Auto Allocation] dialog box appears. Configure settings to allocate specified addresses from the starting address. ![Address Auto Allocation dialog]
Start Address	Specify the address to start the auto allotment.
Number 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).
Increase Address By	Set the increment of the auto allotment from 0 to 4096.
Number	Designate the registration Number of the sound data from 1 to 512.
Bit Address	Designate the bit address to play the sound.
Sound Number	Click [Create Sound Data] and the following [Create/Edit Sound Data] dialog box appears. ![Create/Edit Sound Data dialog]
Sound Number	Designate the sound data number from 1 to 8999.
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.
Browse	The [Open] dialog box to allow designation of the Wave file to be converted appears.
▶	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.

Continued

Setting	Description
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 8999.
- 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.
- Use the PCM 16 Bit 8 KHz Monaural data for Wave files of sound data. If you use more than 8 KHz, enable Windows Standard audio.
- 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 (H)]. If another repeat playback starts during a [Repeat] playback, sound will be played in the order of registration in [Sound (H)] from the next repeat playback. The order, however, may change depending on the communication timing.
- When [Stop] is set, there is a short delay 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 150 ms, whichever is longer.
- A movie's audio output is overridden when the Sound settings start bit is turned ON during movie playback.

[1]   The Communication Cycle Time is the time from when the display unit requests data from GP to PLC, until the display unit receives the data. It is stored in the internal device LS2037 as binary data. The unit is in 10 milliseconds (ms).