EMX INDUSTRIES, INC.

CHIME-100™

Auditory Alert System

Instruction Manual

The CHIME-100 is an accessory device that produces a very loud audible notification when activated. Its maximum volume can exceed 100dBA at 5ft, which is easily heard even in environments with high background noise. It includes six selectable melodies, an easily adjustable volume, passthrough power outputs to run other peripherals, such as sensors or visual alert devices, an output relay, and an input which only requires a set of dry contacts for activation. Intended for indoor use only.

Cautions and Warnings

Maximum volume in close proximities may exceed 100dBA, which can result in permanent hearing damage.

When drilling, ensure no damage can be caused in desired mounting location, e.g. hidden wires, waterlines, etc.

Specifications

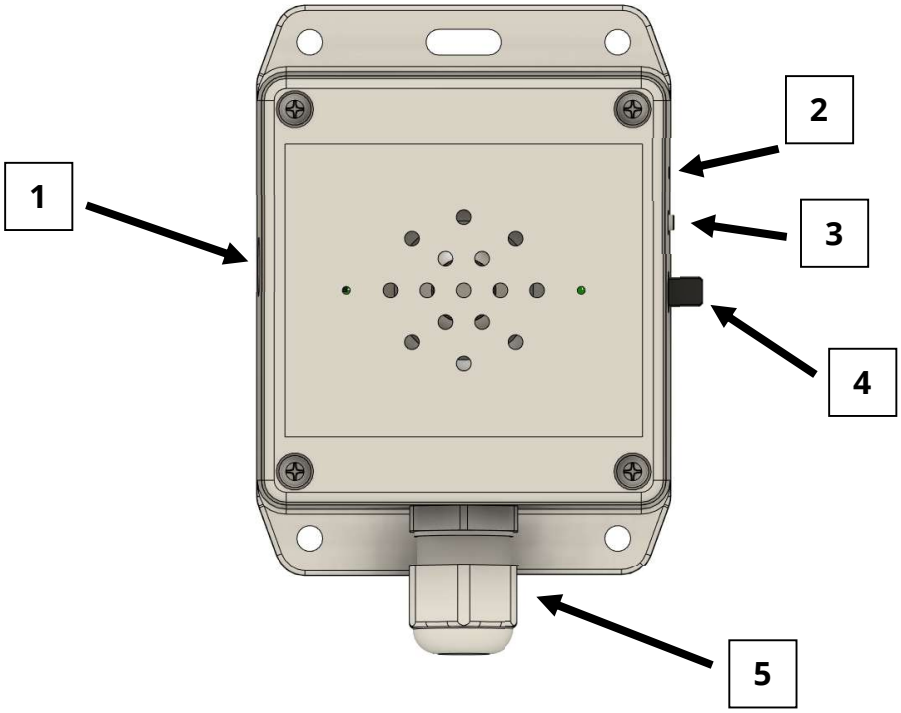
Input Voltage	9VDC
Max Current Draw	Standby: 10mA Max: 150mA
Operating Temperature	-4°F to 158°F (-20°C to 70°C)
Dimensions	3.35” (85mm) x 3.15” (80mm) x 2.17” (55mm)
Weight	0.35lbs (0.16kg)
Environmental Rating	IP30
Max Volume	Up to 100dBA @ 5ft
Relay Rating	2A, 250VAC/220VDC
NPN Rating	160mA, 100VDC
Maximum Input Resistance	25kΩ
Power Supply Rating	9VDC, 1.3A

Ordering Information

- CHIME-100 Auditory Alert Accessory
  Includes: CHIME-100, PG11 cable gland, and 9V Power Supply

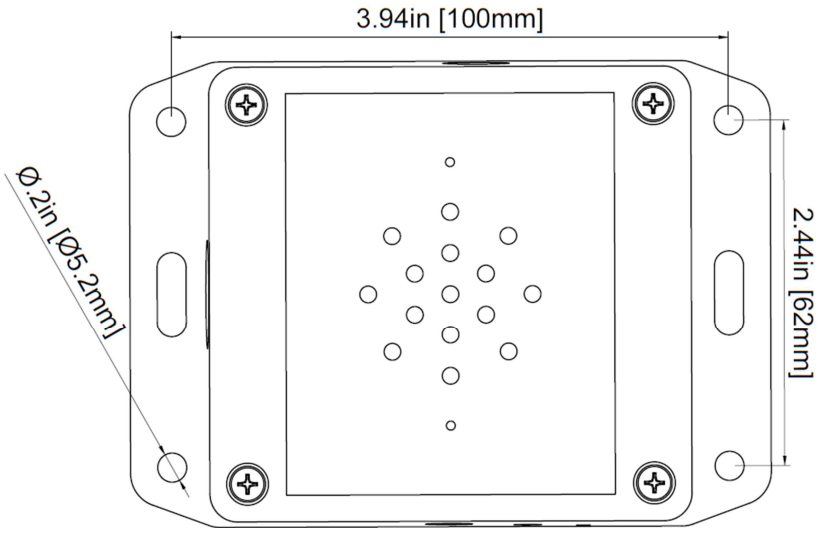
Controls and Indicators

1. Power Jack
2. Power LED
3. Chime Select Button
4. Volume Adjustment Knob
5. Cable Grip



Installation

1. In the desired location, mount the CHIME-100 housing using at least two screws.



2. Unscrew the lid of the housing and carefully remove the lid.

CAUTION: The lid and base are attached by the speaker's wires.
Excess force could damage the unit

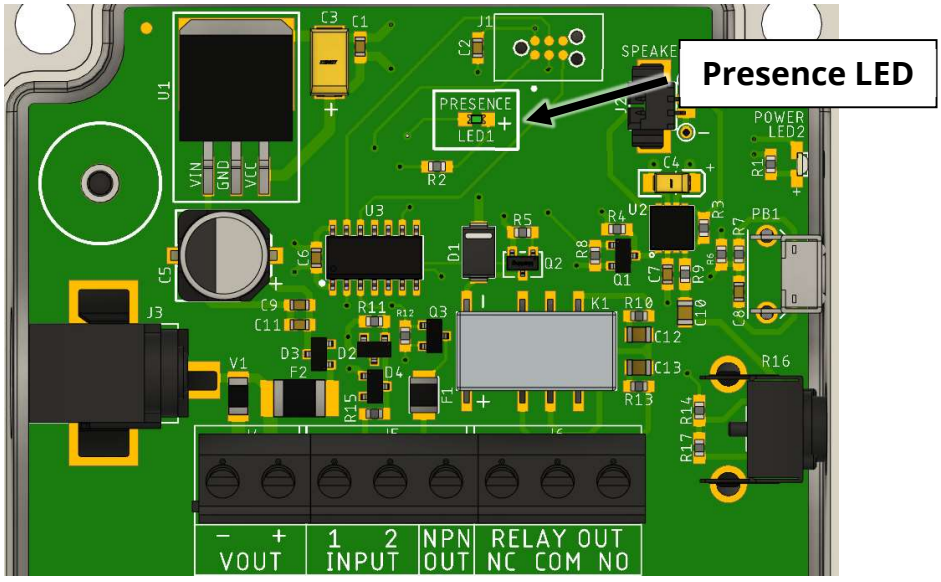
3. Mount the cable-grip in the large hole in the bottom of the housing by inserting it from the outside, then screwing on and tightening the nut from the inside.

4. Wire all needed connections on the device. See sections "Outputs" & "Inputs" for a detailed description of each terminal's function. The CHIME-100 requires a connection between **INPUT 1** and **INPUT 2** to properly function.

Connection		Description
VOUT -		Negative connection from power jack in. Can be used to power other low-power devices. (Power adapter included is 9VDC)
VOUT +		Positive connection from power jack in. Can be used to power other low-power devices. (Power adapter included is 9VDC)
INPUT 1		Closing the connection between these inputs will trigger the melody. It can be connected to a relay, switch, pushbutton, transistor, etc....
INPUT 2		
NPN OUT		An open collector transistor output which will pull down to ground when activated. This output can handle 170mA at 100VDC
RELAY OUT	NC	Normally-closed output connection
	COM	Common output connection
	NO	Normally-open output connection

5. All wiring should pass through the cable grip. Tighten down the cable grip once wiring is complete.

6. Check that the inputs are being properly recognized. The red **Presence LED** (see below) will turn on when the input is activated. If the input shorting lasts longer than 30 seconds, the presence LED will begin blinking.



7. Configure the CHIME-100 to play the desired melody by pressing the pushbutton on the side of the unit. Adjust the volume to a comfortable level. See section **"Chime Adjustment"** on next page for more information.

8. Reattach the lid to the base and screw down firmly. Test the setup again to ensure the correct chime plays at a comfortable listening level.

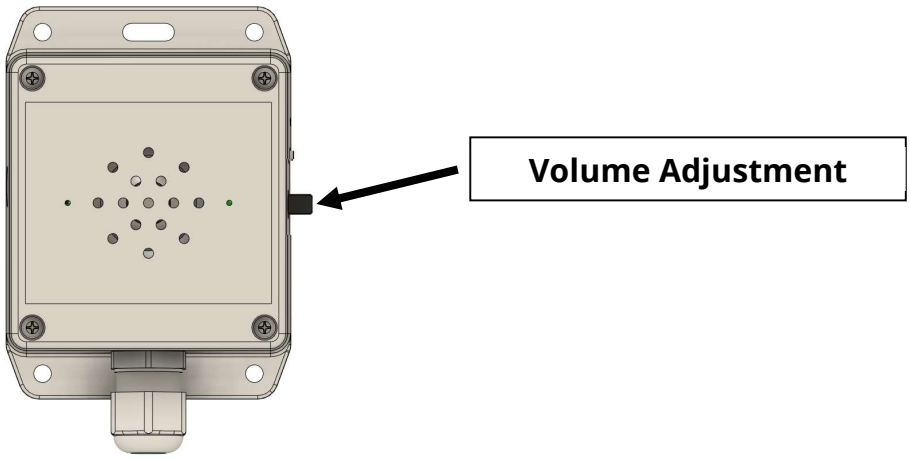
Chime Adjustment

Volume

To adjust the volume of the CHIME-100, use the **"Volume Adjustment Knob"** sticking out of the housing's side. See the table below.

Direction	Volume
Clockwise	Louder
Counter-clockwise	Quieter

TIP: When adjusted fully counter-clockwise, the CHIME-100 will be almost completely muted.



Chime

The melody that is played when the input is activated can be changed by pressing the **"Chime Select Button"** on the side of the unit. Each time the button is pressed, the next melody is selected and played. There is a total of six different melody options. The selected melody will be remembered through power-down.

Inputs

INPUT 1 & 2

The CHIME-100 will activate when terminal **INPUT 1** is shorted with terminal **INPUT 2**. The device used to short these terminals together can be anything that closes a circuit (e.g. relay contacts, transistor, light switch, pushbutton, etc).

Outputs

VOUT

The CHIME-100 comes with a 9VDC power adapter that plugs into the unit via barrel jack, and is powered through a wall outlet. This power supply can be used to power additional peripherals through the **VOUT** terminals. If using the included power adapter, the additional peripherals should draw no more than 400mA of current.

RELAY

A set of form C relay contacts (normally open, common, and normally closed), which can handle 2A, and 250VAC or 220VDC. This relay will switch states when **INPUT1/INPUT2** activates the CHIME-100.

NPN

An open collector transistor output will pull down to ground when activated. This output can handle 160mA, and 100VDC. This transistor will switch states when **INPUT1/INPUT2** activates the CHIME-100.

Troubleshooting

Symptom	Possible Cause	Solution
CHIME-100 does not play melody	Volume is at minimum	Rotate Volume Adjustment Knob clockwise.
	The input is not connected properly	Verify wiring to terminals INPUT 1 and INPUT 2. Verify presence LED turns on when the input terminals are shorted together.
	Speaker wires damaged or disconnected.	Verify both speaker wires are properly connected to the board via connector labeled "**SPEAKER**"
No Green Power LED	No power	Using a DMM, check the voltage across terminal **VOUT +** and **VOUT -**. Verify this voltage is at least 9VDC. If voltage is low, replace the power supply or wire in 3rd party 9VDC supply into the **VOUT** terminals.
	Incoming voltage is too low	
CHIME-100 presence LED does not activate when input terminals are shorted together.	Poor Wiring	Verify wiring connections to INPUT 1 and INPUT 2 terminals.
	Activation source	Verify the activation source is shorting together INPUT 1 and INPUT 2 terminals by using a DMM set to read Ohms (Ω) and ensuring that, when activated, the inputs are reading under 25kΩ.
NPN output not working	Damaged from current overload	Unit is damaged and will need to be repaired or replaced.

Warranty

EMX Industries, Inc. products have a warranty against defects in materials and workmanship for a period of two years from date of sale to our customer.