

QuikWave EMV-2218D User's Guide



- Professional digital elevator announcer
- Supports uncompressed .wav files for best sound quality
- 2W monaural speaker output
- Single point direct trigger input
- Up to 4 priority announcements
- Up to 20 floor number announcements
- Audio content is fully user programmable
- Uses CompactFlash card for audio memory
- Single voltage power supply (12~40 VDC)
- Internal, prerecorded background music playback
- External background music injection
- Industrial grade screw terminal for I/O connections
- Reliable, maintenance free operation

Technical Specifications

Operation Mode

Playback only

Sound File Format

Windows .wav (uncompressed PCM)
- 11.025 or 22.05 KHz
- 8 bit resolution
- monaural

Max. Number of Sound Files

- 20 floor announcements
- 4 priority messages

Memory Type

CompactFlash card type I, 5V

Max. Recording Time

> 2 hours

Supply Voltage

12 ~ 40 VDC

Typical Standby Current

50 mA @24VDC

Max. Audio Output

2W (4 Ohm load)

Strobe Signal

5V CMOS level trigger, active low (not opto-isolated)

Physical Dimensions (mm)

206 (L) x 117 (W) x 50 (D)

General Descriptions

EMV-2218D is a digital message announcer designed specifically for elevator applications. It has 20 direct trigger inputs for floor number announcements, and 4 prioritized inputs for emergency messages. It can also play background music while no announcement is being made. The system offers straight forward interface to compatible elevators, and is very easy to install and maintain.

Being directly compatible with Windows .wav files, EMV-2218D faithfully reproduces the audio in its original quality because no additional conversion and/or compression are performed to introduce noises and distortions. The system supports uncompressed PCM format that offers the highest sound quality among all .wav formats. Since .wav is a nonproprietary audio standard, one can record the announcements with standard, low cost tools.

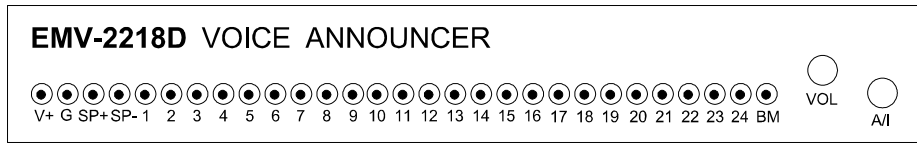
EMV-2218D is the first elevator announcer in the world to incorporate CompactFlash card and offer huge memory capacity at very low cost. The system can use CompactFlash cards of many different capacities. A 128MB card, for example, can store 96 minutes of audio digitized at 22.05KHz, or 192 minutes of audio digitized at 11.025KHz. Such a huge memory capacity allows the system to play back hours of prerecorded background music (explained below) in addition to the announcements.

A unique feature that EMV-2218D offers is the capability of playing back prerecorded background music. As mentioned above, hours of non-repeating music can be stored on the flash card and played back by the system automatically when no announcement is being made. It is also possible to inject background music into the system from an external audio source such as CD player, AM/FM radio or real time satellite feed.

Housed in a compact and rugged enclosure, EMV-2218D is a low power, self-contained device requiring only a single voltage power supply to operate. Built with industrial grade components, EMV-2218D is sure to provide years of reliable, trouble free operation.

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Interface Descriptions



Power Input Terminals: V+ & G

Use a well regulated DC power supply to obtain the best sound quality. Connect the power supply's positive output to terminal V+, and the negative output to terminal G. Be sure the supply voltage is within the range specified in the *Technical Specifications* section.

Speaker Output Terminals: SP+ & SP-

Balanced output. Load impedance should be at least 4 Ohm.

Trigger Input Terminals:

1 ~ 4: Priority announcements

5~24: Floor number announcements

Trigger the input with a momentary pulse to the ground (0 volt). All inputs are internally pulled up to +5V, so unused inputs may be left open. Inputs are prioritized - see the *Input Priority* section below for explanations.

External BGM Input Jack: A/I

Inject external background music via this 3.5mm mono phone jack. This input is subject to the BM control as described below. Possible external audio sources include CD player, AM/FM radio and real time satellite feed (signal booster may be required in some cases).

External BGM Control Terminal: BM

The external background music is turned on if this input is left unconnected or tied to +5V. The external background music is turned off if this input is tied to the ground (0 volt).

Volume Pot: VOL

Turn this knob clockwise to increase the output volume.

Input Priority

A higher priority input can interrupt a lower priority one, but not vice versa.

High Priority: T1 ~ T4

Among these four trigger inputs, T1 has the 1st priority, T2 has the 2nd priority, T3 has the 3rd priority and T4 has the 4th priority. T1 and T2 are repeatable if the trigger signal is applied constantly. T3 and T4 are not repeatable - the trigger signal must be removed and reapplied in order to play the message again.

Medium Priority: T5 ~ T24

Trigger inputs T5 ~ T24 all have the same, 5th priority. T5 ~ T24 are not repeatable.

Low Priority: BGM

The background music (internal or external) has the lowest priority.

Background Music (BGM)

By taking advantage of the huge memory capacity offered by the flash card, the system is able to generate hours of non-repeating background music (BGM) internally without adding any additional hardware. The prerecorded BGM can be used for both entertaining and advertising purposes. BGM content can be updated easily by simply overwriting the old BGM file with a new one.

If there is a file called "BGM.wav" (or any name starting with "BGM") on the flash card, the system will always use it as internal BGM, whether external BGM is enabled or not. Therefore, if you intend to use internal BGM, external BGM should be either disabled (via the BM input) or simply removed.

External BGM can be injected into the system via the A/I input jack. If you intend to use external BGM, be sure to delete the internal BGM file (if any) on the flash card.

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Flash Card Programming

CompactFlash cards can be programmed with a card reader attached to the PC (usually via a USB port). Two kinds of files are to be copied onto the flash card: the sound files and the configuration file.

The Sound Files

Every sound file should be assigned with a unique three-digit number for identification purpose. The file numbers can be assigned arbitrarily but no two files are to have the same number. Simply add the file number to the beginning of the filename. For example, "007floor.wav" is good but "7floor.wav" is not (must add leading zeros.)

The internal background music file (if any) must be called "BGM.wav" without any file number.

The Configuration File

The configuration file holds the mapping information between the inputs and the sound files. Each input is mapped to one or more sound files to be played consecutively when triggered.

The configuration file can be created with a simple text editor such as Windows Notepad or Wordpad. It must be called "MODE.TXT" and saved as a "text only" document. Its syntax is best explained with an example:

```
I001=F001  
I002=F002  
.....  
I024=F024  
END
```

In the example above, file #001 will be played when input #1 is triggered, file #002 will be played when input #2 is triggered, and etc. You can also play more than one files with an optional pause in between. The following line configures input #5 to play file #088 and file #089 without any pause in between.

```
I005=F088,F089
```

Pause can be added in units of 0.1 second, defined by the "W" command with a 5-digit multiplier. For example, W00010 = pause 1 second (10 x 0.1); W00600 = pause 60 seconds (600 x 0.1). The following line adds a 1/2 second pause between the messages:

```
I005=F088,W00005,F089
```

Note that a sound file may be used multiple times in one or multiple lines.

Trouble Shooting

1. There is no audio output.

- Make sure the file numbers are assigned properly and MODE.TXT has the correct content.
- The system will not work if the flash card is inserted without turning off the power first. In this case, just turn off the power for a few seconds to reset the system.
- If the flash card has been used in a digital camera before, it may need to be reformatted with the DOS FAT16 file system before using.

2. Sound is trashy.

The sound file is probably in the wrong format. Make sure it is in 8-bit, uncompressed PCM format.

3. Playback speed is too slow or too fast.

The sound file's sampling rate is not supported. Please convert it into a supported sampling rate.