

## General Descriptions

EMV-2218 is a digital message announcer designed specifically for elevator applications. Announcements such as floor numbers, going directions and emergency messages can be played at the precise moment dictated by the elevator's control system. With a fully programmable interface, EMV-2218 is suitable for both building into brand new elevators and retrofitting old elevators.

In order to accommodate a variety of elevators of different brands, EMV-2218 incorporates a flexible interface that can be easily configured with a simple text file. Such configuration mainly involves the decoding of elevator control signals, and EMV-2218 can be ordered with pre-configured binary code or gray code interface. For other coding schemes, special configuration file can be created at the factory, or by the user with a simple text editor such as Windows Wordpad.

There are two kinds of elevator announcements: regular and priority. Regular announcements are floor numbers and directions. Priority announcements are emergency messages and etc. Priority announcements usually have higher priority than regular announcements, meaning that they can interrupt regular announcements at any time but not vice versa. In many cases, priority announcements are further prioritized among themselves. EMV-2218 supports basic prioritization through the configuration file, and advanced prioritization through factory customization.

Thanks to the direct support of Windows WAV format, EMV-2218 is able to offer the best sound quality because no file conversion and/or compression are made. More important is the fact that WAV is a standard, non-proprietary audio format, allowing the user to make his/her own recordings with standard tools. A highly efficient power amplifier inside the unit provides enough output to drive a speaker directly, eliminating the need for external amplification in most cases.

EMV-2218 uses CompactFlash memory card to store audio files and configuration information. CompactFlash cards, utilized in many digital cameras, are available from many brands in different capacities, and EMV-2218 is compatible with most of them. A 128MB card, for example, can store more than two hour's audio digitized at 16 KHz. Such a huge memory capacity allows EMV-2218 to offer hours of pre-recorded background music (explained below) in addition to the announcements.

A unique feature that EMV-2218 offers is the capability of generating background music internally, eliminating the need for any external music source. If a pre-recorded music file is present in the system, it will be played whenever no message is being played. In the case of model EMV-2218E, the background music can also be injected into the system from an external music source.

Housed in a rugged enclosure, EMV-2218 is a self-contained unit requiring only a single voltage to operate. Built with industrial strength components, EMV-2218 is sure to provide years of reliable, maintenance free operation.

## Key Features

- Plays floor/direction information and priority messages
- Flexible interface works with elevators new and old
- Binary code, Gray code or custom code capable
- Audio based on standard Windows WAV format
- Internal background music generation
- External music injection (EMV-2218E only)
- Utilizes CompactFlash memory technology
- Hours of audio possible
- 2.5W speaker output
- Single voltage power supply
- Compact rugged enclosure
- Industrial screw terminal for I/O connections
- Reliable, maintenance free operation

## Available Models

Currently two models are available:

### **EMV-2218E**

This model has an expanded interface and can be used in most modern elevators. Inputs are opto-isolated for better protection against harsh environment found in many locations. Background music can be generated internally or injected into the unit from an external source such as CD player, AM/FM radio or satellite feed.

#### **Interface Options**

- Binary Code
- Gray Code
- Custom Code

### **EMV-2218H**

This model has a simplified interface and is mainly compatible with Hitachi elevators. Inputs are 5V CMOS logic compatible and not opto-isolated. Background music can only be generated internally.

#### **Interface Options**

- Binary Code
- Custom Code

## Specifications

### Operation Mode

playback only

### Sound File Format

Windows WAV (uncompressed PCM)  
 - 11.025, 16 or 22.05 KHz  
 - 8 bit depth (resolution)  
 - monaural

### Max. Number of Sound Files

- 63 regular messages  
 - 15 priority messages

### Memory Type

CompactFlash card, type I, 5V

### Max. Recording Time

> 1 hour

### Supply Voltage

12 ~ 40 VDC

### Typical Standby Current

50 mA @24VDC

### Max. Audio Output

2.5W (4 Ohm load)

### Code Input Interface

EMV-2218E:

12 ~ 40 VDC, opto-isolated

EMV-2218H:

5V CMOS logic, not opto-isolated

### Strobe Signal

EMV-2218E:

12 ~ 40 VDC, opto-isolated  
 rising edge trigger

EMV-2218H:

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

### Logic Definitions

EMV-2218E:

1 = 12 ~ 40 VDC

0 = zero or no voltage

EMV-2218H:

1 = zero voltage (ground)

0 = +5 VDC or no voltage (floating)

### Physical Dimensions (mm)

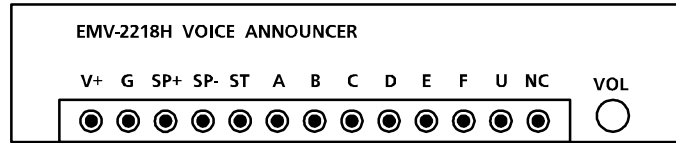
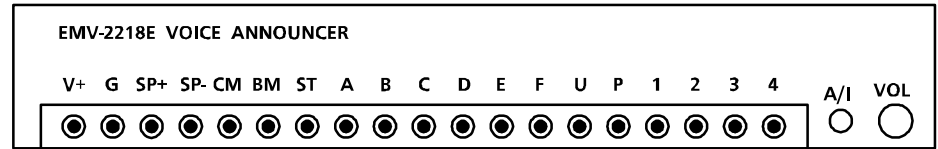
EMV-2218E:

175 (L) x 115 (W) x 35 (D)

EMV-2218H:

150 (L) x 100 (W) x 35 (D)

## Interface Diagrams



## 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-

For best sound quality, use a high efficiency, low impedance (4 ~ 8 Ohm) speaker.

### Common Terminal: CM (EMV-2218E only)

This is the common point for all opto-isolated inputs. Note that all inputs (except power) are opto-isolated on EMV-2218E. This terminal is usually connected to the ground of the elevator's control system (where all input signals come from).

### Message Selection Input Terminals:

EMV-2218E: A (LSB) ~ F (MSB), U, P, 1 (LSB) ~ 4 (MSB)

EMV-2218H: A (LSB) ~ F (MSB), U

Present a message code on these terminals to select which message to play. Binary code and Gray code are standard options. Other codes can be special ordered or configured by technically oriented users.

### Strobe Input Terminal: ST

Set this input at logic "1" to start playing the selected message (subject to the priority rules). Be sure the message code is presented on the Message Selection Input Terminals at least 100 ms before sending the strobe signal which must have a minimum width of 100 ms also.

### Audio Input Jack: A/I (EMV-2218E only)

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

### BGM Control Input Terminal: BM (EMV-2218E only)

The external background music is turned on if this input is grounded or left unconnected. The external music is turned off if a voltage of 12 ~ 40 VDC is present at this input. Note that if the flashcard contains a BGM file, the internal background music will be played regardless of the status of this input. It's usually not desired to play both internal and external background music at the same time.

### Volume Pot: VOL

Turn this knob clockwise to increase the output volume.

**EMV-2218E Binary Code Table**

**Logic Definitions**

1 = positive voltage (12 ~ 40 VDC) present at input

0 = zero or no voltage present at input

X = don't care

**Message Selection Inputs 1 ~ 4, A ~ F:** Binary code

**Direction Input U, P**

Say "up" after message if U = 1.

Say "down" after message if P = 1.

**Strobe Input ST:** Rising edge triggered (logic 0 to 1).

**Priority Order** (from highest to lowest)

- Priority Message #1
- Priority Message #2
- Priority Message #3
- Priority Message #4
- All Other Messages

1	2	3	4	A	B	C	D	E	F	U (UP)	P (DOWN)	ST	Message
1	X	X	X	X	X	X	X	X	X	X	X	X	Priority Message #1
0	1	X	X	X	X	X	X	X	X	X	X	X	Priority Message #2
0	0	1	X	X	X	X	X	X	X	X	X	X	Priority Message #3
0	0	0	1	X	X	X	X	X	X	X	X	X	Priority Message #4
0	0	0	0	1	0	0	0	0	0	0/1	0/1	1	1st Floor
0	0	0	0	0	1	0	0	0	0	0/1	0/1	1	2nd Floor
0	0	0	0	1	1	0	0	0	0	0/1	0/1	1	3rd Floor
0	0	0	0	0	0	1	0	0	0	0/1	0/1	1	4th Floor
0	0	0	0	1	0	1	0	0	0	0/1	0/1	1	5th Floor
0	0	0	0	0	1	1	0	0	0	0/1	0/1	1	6th Floor
0	0	0	0	1	1	1	0	0	0	0/1	0/1	1	7th Floor
0	0	0	0	0	0	0	1	0	0	0/1	0/1	1	8th Floor
0	0	0	0	1	0	0	1	0	0	0/1	0/1	1	9th Floor
0	0	0	0	0	1	0	1	0	0	0/1	0/1	1	10th Floor
0	0	0	0	1	1	0	1	0	0	0/1	0/1	1	11th Floor
0	0	0	0	0	0	1	1	0	0	0/1	0/1	1	12th Floor
0	0	0	0	1	0	1	1	0	0	0/1	0/1	1	13th Floor
0	0	0	0	0	1	1	1	0	0	0/1	0/1	1	14th Floor
0	0	0	0	1	1	1	1	0	0	0/1	0/1	1	15th Floor
0	0	0	0	0	0	0	0	1	0	0/1	0/1	1	16th Floor
0	0	0	0	1	0	0	0	1	0	0/1	0/1	1	17th Floor
0	0	0	0	0	1	0	0	1	0	0/1	0/1	1	18th Floor
0	0	0	0	1	1	0	0	1	0	0/1	0/1	1	19th Floor
0	0	0	0	0	0	1	0	1	0	0/1	0/1	1	20th Floor
0	0	0	0	1	0	1	0	1	0	0/1	0/1	1	21st Floor
0	0	0	0	0	1	1	0	1	0	0/1	0/1	1	22nd Floor
0	0	0	0	1	1	1	0	1	0	0/1	0/1	1	23rd Floor
0	0	0	0	0	0	0	1	1	0	0/1	0/1	1	24th Floor
0	0	0	0	1	0	0	1	1	0	0/1	0/1	1	25th Floor
0	0	0	0	0	1	0	1	1	0	0/1	0/1	1	26th Floor
0	0	0	0	1	1	0	1	1	0	0/1	0/1	1	27th Floor
0	0	0	0	0	0	1	1	1	0	0/1	0/1	1	28th Floor
0	0	0	0	1	0	1	1	1	0	0/1	0/1	1	29th Floor
0	0	0	0	0	1	1	1	1	0	0/1	0/1	1	30th Floor

**EMV-2218E Binary Code Table**

(Continued)

1	2	3	4	A	B	C	D	E	F	U (UP)	P (DOWN)	ST	Message
0	0	0	0	1	1	1	1	1	0	0/1	0/1	1	31st Floor
0	0	0	0	0	0	0	0	0	1	0/1	0/1	1	32nd Floor
0	0	0	0	1	0	0	0	0	1	0/1	0/1	1	33rd Floor
0	0	0	0	0	1	0	0	0	1	0/1	0/1	1	34th Floor
0	0	0	0	1	1	0	0	0	1	0/1	0/1	1	35th Floor
0	0	0	0	0	0	1	0	0	1	0/1	0/1	1	36th Floor
0	0	0	0	1	0	1	0	0	1	0/1	0/1	1	37th Floor
0	0	0	0	0	1	1	0	0	1	0/1	0/1	1	38th Floor
0	0	0	0	1	1	1	0	0	1	0/1	0/1	1	39th Floor
0	0	0	0	0	0	0	1	0	1	0/1	0/1	1	40th Floor
0	0	0	0	1	0	0	1	0	1	0/1	0/1	1	41st Floor
0	0	0	0	0	1	0	1	0	1	0/1	0/1	1	42nd Floor
0	0	0	0	1	1	0	1	0	1	0/1	0/1	1	43rd Floor
0	0	0	0	0	0	1	1	0	1	0/1	0/1	1	44th Floor
0	0	0	0	1	0	1	1	0	1	0/1	0/1	1	45th Floor
0	0	0	0	0	1	1	1	0	1	0/1	0/1	1	46th Floor
0	0	0	0	1	1	1	1	0	1	0/1	0/1	1	47th Floor
0	0	0	0	0	0	0	0	1	1	0/1	0/1	1	48th Floor
0	0	0	0	1	0	0	0	1	1	0/1	0/1	1	49th Floor
0	0	0	0	0	1	0	0	1	1	0/1	0/1	1	50th Floor
0	0	0	0	1	1	0	0	1	1	0/1	0/1	1	51st Floor
0	0	0	0	0	0	1	0	1	1	0/1	0/1	1	52nd Floor
0	0	0	0	1	0	1	0	1	1	0/1	0/1	1	53rd Floor
0	0	0	0	0	1	1	0	1	1	0/1	0/1	1	54th Floor
0	0	0	0	1	1	1	0	1	1	0/1	0/1	1	55th Floor
0	0	0	0	0	0	0	1	1	1	0/1	0/1	1	56th Floor
0	0	0	0	1	0	0	1	1	1	0/1	0/1	1	57th Floor
0	0	0	0	0	1	0	1	1	1	0/1	0/1	1	58th Floor
0	0	0	0	1	1	0	1	1	1	0/1	0/1	1	59th Floor
0	0	0	0	0	0	1	1	1	1	0/1	0/1	1	60th Floor
0	0	0	0	1	0	1	1	1	1	0/1	0/1	1	61st Floor
0	0	0	0	0	1	1	1	1	1	0/1	0/1	1	62nd Floor
0	0	0	0	1	1	1	1	1	1	0/1	0/1	1	63rd Floor
0	0	0	0	0	0	0	0	0	0	X	X	X	BLANK

**EMV-2218E Gray Code Table**

**Logic Definitions**

1 = positive voltage (12 ~ 40 VDC) present at input

0 = zero or no voltage present at input

X = don't care

**Message Selection Inputs 1 ~ 4, A ~ F:** Gray code

**Direction Input U, P**

Say "up" after message if U = 1.

Say "down" after message if P = 1.

**Strobe Input ST:** Rising edge triggered (logic 0 to 1).

**Priority Order** (from highest to lowest)

- Priority Message #1
- Priority Message #2
- Priority Message #3
- Priority Message #4
- All Other Messages

1	2	3	4	A	B	C	D	E	F	U (UP)	P (DOWN)	ST	Message
1	0	0	0	X	X	X	X	X	X	X	X	X	Priority Message #1
0	1	0	0	X	X	X	X	X	X	X	X	X	Priority Message #2
1	1	0	0	X	X	X	X	X	X	X	X	X	Priority Message #3
0	0	1	0	X	X	X	X	X	X	X	X	X	Priority Message #4
1	0	1	0	X	X	X	X	X	X	X	X	X	Priority Message #5
0	1	1	0	X	X	X	X	X	X	X	X	X	Priority Message #6
1	1	1	0	X	X	X	X	X	X	X	X	X	Priority Message #7
0	0	0	1	X	X	X	X	X	X	X	X	X	Priority Message #8
1	0	0	1	X	X	X	X	X	X	X	X	X	Priority Message #9
0	1	0	1	X	X	X	X	X	X	X	X	X	Priority Message #10
1	1	0	1	X	X	X	X	X	X	X	X	X	Priority Message #11
0	0	1	1	X	X	X	X	X	X	X	X	X	Priority Message #12
1	0	1	1	X	X	X	X	X	X	X	X	X	Priority Message #13
0	1	1	1	X	X	X	X	X	X	X	X	X	Priority Message #14
1	1	1	1	X	X	X	X	X	X	X	X	X	Priority Message #15
0	0	0	0	1	0	0	0	0	0	0/1	0/1	1	1st Floor
0	0	0	0	1	1	0	0	0	0	0/1	0/1	1	2nd Floor
0	0	0	0	0	1	0	0	0	0	0/1	0/1	1	3rd Floor
0	0	0	0	0	1	1	0	0	0	0/1	0/1	1	4th Floor
0	0	0	0	1	1	1	0	0	0	0/1	0/1	1	5th Floor
0	0	0	0	1	0	1	0	0	0	0/1	0/1	1	6th Floor
0	0	0	0	0	0	1	0	0	0	0/1	0/1	1	7th Floor
0	0	0	0	0	0	1	1	0	0	0/1	0/1	1	8th Floor
0	0	0	0	1	0	1	1	0	0	0/1	0/1	1	9th Floor
0	0	0	0	1	1	1	1	0	0	0/1	0/1	1	10th Floor
0	0	0	0	0	1	1	1	0	0	0/1	0/1	1	11th Floor
0	0	0	0	0	1	0	1	0	0	0/1	0/1	1	12th Floor
0	0	0	0	1	1	0	1	0	0	0/1	0/1	1	13th Floor
0	0	0	0	1	0	0	1	0	0	0/1	0/1	1	14th Floor
0	0	0	0	0	0	0	1	0	0	0/1	0/1	1	15th Floor
0	0	0	0	0	0	0	1	1	0	0/1	0/1	1	16th Floor
0	0	0	0	1	0	0	1	1	0	0/1	0/1	1	17th Floor
0	0	0	0	1	1	0	1	1	0	0/1	0/1	1	18th Floor
0	0	0	0	0	1	0	1	1	0	0/1	0/1	1	19th Floor
0	0	0	0	0	1	1	1	1	0	0/1	0/1	1	20th Floor
0	0	0	0	1	1	1	1	1	0	0/1	0/1	1	21st Floor
0	0	0	0	1	0	1	1	1	0	0/1	0/1	1	22nd Floor
0	0	0	0	0	0	1	1	1	0	0/1	0/1	1	23rd Floor

**EMV-2218E Gray Code Table**

(Continued)

1	2	3	4	A	B	C	D	E	F	U (UP)	P (DOWN)	ST	Message
0	0	0	0	0	0	1	0	1	0	0/1	0/1	1	24th Floor
0	0	0	0	1	0	1	0	1	0	0/1	0/1	1	25th Floor
0	0	0	0	1	1	1	0	1	0	0/1	0/1	1	26th Floor
0	0	0	0	0	1	1	0	1	0	0/1	0/1	1	27th Floor
0	0	0	0	0	1	0	0	1	0	0/1	0/1	1	28th Floor
0	0	0	0	1	1	0	0	1	0	0/1	0/1	1	29th Floor
0	0	0	0	1	0	0	0	1	0	0/1	0/1	1	30th Floor
0	0	0	0	0	0	0	0	1	0	0/1	0/1	1	31st Floor
0	0	0	0	0	0	0	0	1	1	0/1	0/1	1	32nd Floor
0	0	0	0	1	0	0	0	1	1	0/1	0/1	1	33rd Floor
0	0	0	0	1	1	0	0	1	1	0/1	0/1	1	34th Floor
0	0	0	0	0	1	0	0	1	1	0/1	0/1	1	35th Floor
0	0	0	0	0	1	1	0	1	1	0/1	0/1	1	36th Floor
0	0	0	0	1	1	1	0	1	1	0/1	0/1	1	37th Floor
0	0	0	0	1	0	1	0	1	1	0/1	0/1	1	38th Floor
0	0	0	0	0	0	1	0	1	1	0/1	0/1	1	39th Floor
0	0	0	0	0	0	1	1	1	1	0/1	0/1	1	40th Floor
0	0	0	0	1	0	1	1	1	1	0/1	0/1	1	41st Floor
0	0	0	0	1	1	1	1	1	1	0/1	0/1	1	42nd Floor
0	0	0	0	0	1	1	1	1	1	0/1	0/1	1	43rd Floor
0	0	0	0	0	1	0	1	1	1	0/1	0/1	1	44th Floor
0	0	0	0	1	1	0	1	1	1	0/1	0/1	1	45th Floor
0	0	0	0	1	0	0	1	1	1	0/1	0/1	1	46th Floor
0	0	0	0	0	0	0	1	1	1	0/1	0/1	1	47th Floor
0	0	0	0	0	0	0	1	0	1	0/1	0/1	1	48th Floor
0	0	0	0	1	0	0	1	0	1	0/1	0/1	1	49th Floor
0	0	0	0	1	1	0	1	0	1	0/1	0/1	1	50th Floor
0	0	0	0	0	1	0	1	0	1	0/1	0/1	1	51st Floor
0	0	0	0	0	1	1	1	0	1	0/1	0/1	1	52nd Floor
0	0	0	0	1	1	1	1	0	1	0/1	0/1	1	53rd Floor
0	0	0	0	1	0	1	1	0	1	0/1	0/1	1	54th Floor
0	0	0	0	0	0	1	1	0	1	0/1	0/1	1	55th Floor
0	0	0	0	0	0	1	0	0	1	0/1	0/1	1	56th Floor
0	0	0	0	1	0	1	0	0	1	0/1	0/1	1	57th Floor
0	0	0	0	1	1	1	0	0	1	0/1	0/1	1	58th Floor
0	0	0	0	0	1	1	0	0	1	0/1	0/1	1	59th Floor
0	0	0	0	0	1	0	0	0	1	0/1	0/1	1	60th Floor
0	0	0	0	0	0	0	0	0	0	X	X	X	BLANK

**EMV-2218H Binary Code Table**

**Logic Definitions**

1 = zero voltage (ground) present at input

0 = +5 VDC or no voltage (floating) present at input

**Message Selection Inputs A ~ F, U: Binary code**

**Strobe Input ST: Level triggered (logic 1)**

**Priority Order: None**

A	B	C	D	E	F	U	ST	Message
1	0	0	0	0	0	0	1	1st Floor
0	1	0	0	0	0	0	1	2nd Floor
1	1	0	0	0	0	0	1	3rd Floor
0	0	1	0	0	0	0	1	4th Floor
1	0	1	0	0	0	0	1	5th Floor
0	1	1	0	0	0	0	1	6th Floor
1	1	1	0	0	0	0	1	7th Floor
0	0	0	1	0	0	0	1	8th Floor
1	0	0	1	0	0	0	1	9th Floor
0	1	0	1	0	0	0	1	10th Floor
1	1	0	1	0	0	0	1	11th Floor
0	0	1	1	0	0	0	1	12th Floor
1	0	1	1	0	0	0	1	13th Floor
0	1	1	1	0	0	0	1	14th Floor
1	1	1	1	0	0	0	1	15th Floor
0	0	0	0	1	0	0	1	16th Floor
1	0	0	0	1	0	0	1	17th Floor
0	1	0	0	1	0	0	1	18th Floor
1	1	0	0	1	0	0	1	19th Floor
0	0	1	0	1	0	0	1	20th Floor
1	0	1	0	1	0	0	1	21st Floor
0	1	1	0	1	0	0	1	22nd Floor
1	1	1	0	1	0	0	1	23rd Floor
0	0	0	1	1	0	0	1	24th Floor
1	0	0	1	1	0	0	1	25th Floor
0	1	0	1	1	0	0	1	26th Floor
1	1	0	1	1	0	0	1	27th Floor
0	0	1	1	1	0	0	1	28th Floor
1	0	1	1	1	0	0	1	29th Floor
0	1	1	1	1	0	0	1	30th Floor
1	1	1	1	1	0	0	1	31st Floor
0	0	0	0	0	1	0	1	32nd Floor
1	0	0	0	0	1	0	1	33rd Floor
0	1	0	0	0	1	0	1	34th Floor
1	1	0	0	0	1	0	1	35th Floor
0	0	1	0	0	1	0	1	36th Floor
1	0	1	0	0	1	0	1	37th Floor
0	1	1	0	0	1	0	1	38th Floor
1	1	1	0	0	1	0	1	39th Floor
0	0	0	1	0	1	0	1	40th Floor

**EMV-2218H Binary Code Table**

(Continued)

A	B	C	D	E	F	U	ST	Message
1	0	0	1	0	1	0	1	41st Floor
0	1	0	1	0	1	0	1	42nd Floor
1	1	0	1	0	1	0	1	43rd Floor
0	0	1	1	0	1	0	1	44th Floor
1	0	1	1	0	1	0	1	45th Floor
0	1	1	1	0	1	0	1	46th Floor
1	1	1	1	0	1	0	1	47th Floor
0	0	0	0	1	1	0	1	48th Floor
1	0	0	0	1	1	0	1	49th Floor
0	1	0	0	1	1	0	1	50th Floor
1	1	0	0	1	1	0	1	51th Floor
0	0	1	0	1	1	0	1	52th Floor
1	0	1	0	1	1	0	1	53th Floor
0	1	1	0	1	1	0	1	54th Floor
1	1	1	0	1	1	0	1	55th Floor
0	0	0	1	1	1	0	1	56th Floor
1	0	0	1	1	1	0	1	57th Floor
0	1	0	1	1	1	0	1	58th Floor
1	1	0	1	1	1	0	1	59th Floor
0	0	1	1	1	1	0	1	60th Floor
1	0	1	1	1	1	0	1	61st Floor
0	1	1	1	1	1	0	1	62nd Floor
1	1	1	1	1	1	0	1	63rd Floor
0	0	0	0	0	0	0	X	BLANK
1	0	0	0	0	0	1	1	Priority Message #1
0	1	0	0	0	0	1	1	Priority Message #2
0	0	1	0	0	0	1	1	Priority Message #3
0	0	0	1	0	0	1	1	Priority Message #4



This page is for those who want to program and manage their own sound files, or implement a custom interface coding.

The tools you will need are

- A simple text editor such as Notepad or Wordpad
- A CompactFlash card reader to read/write the flash card

We will assume that you already know how to use these tools, and you have recorded the announcements into audio files of supported formats. Please refer to the User's Manual for a list of supported audio formats.

It is highly recommended that you read the User's Manual first and get familiar with the basic operation concept of the system.

## The Configuration File

Designed as an elevator announcer, EMV-2218 plays a corresponding message when a valid control code is detected on the interface. For example, when the control code indicates that the up-going elevator has reached the eleventh floor, EMV-2218 can be programmed to say "Eleventh Floor, Going Up."

It is possible for the messages to be recorded as two or more files, and constructed on the fly by the system. For example, "Eleventh Floor" as one file and "Going Up" as another. The "Going Up" file can then be used to construct other messages such as "Fifth Floor, Going Up." This way the storage requirement is greatly reduced.

Note that messages can be designated as either regular or priority. Regular messages are usually used for floor number and moving direction announcements, while priority messages are usually used for emergency announcements in case of power failures and such. Regular messages can usually be interrupted by priority messages, but not vice versa. Priority messages can sometimes be further prioritized among themselves.

A configuration file, stored on the flash card along with the sound files, holds the mapping information between the control codes and the sound files. Each control code can be mapped to a unique sequence of sound files, and the message is constructed on the fly. The configuration file is also used to define whether the message is interruptible or not.

## File Naming Convention

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, meaning that it contains only text but no formatting information. The configuration file should be the only TXT file on the flash card.

All sound files should be assigned a three digit file number, added to the beginning of the original filename. For example, "007floor.wav" is good but "7floor.wav" is not (must add leading zeros.) The file number is assigned purely for identification, and has nothing to do with the control codes. Although only up to 512 files are allowed on the flash card, "777jack.wav" is a good name nonetheless.

## Script Commands

Inside the configuration file there are lines of script commands, one for every valid control code. Each line defines the playback steps for a certain control code in the following manner:

**I###=Step1,Step2,Step3...**

Here "###" is the control code.

There are two different kinds of Step:

**F###**

Play File ###

**W#####**

Wait ##### units of 0.1 second

Here is a simple example:

```
I101=F101,W00005,F199
I033=F027,W00050,F027,W00050,F027
END
```

When control code 101 (binary 1100101) is triggered, the system plays file #101 such as "101st floor", waits 0.5 second, and plays file #199 such as "going up". Another example is that file #101 plays "101st floor going up" in English, and file #199 plays the same message in French. It all depends on what messages are recorded into these files .

When control code 33 (binary 0100001) is triggered, the system plays file #027 three times with a 5-second pause in between.

Remember to put the word END at the end of the file. You may add any text after END and they will be ignored by the system.

## Internal Background Music

Internal background music is enabled if, on the flash card, there is a filename starts with "BGM" (e.g. "BGM\_JAZZ.WAV"). Only one such file should exist on the flash card, otherwise the wrong music may be played.