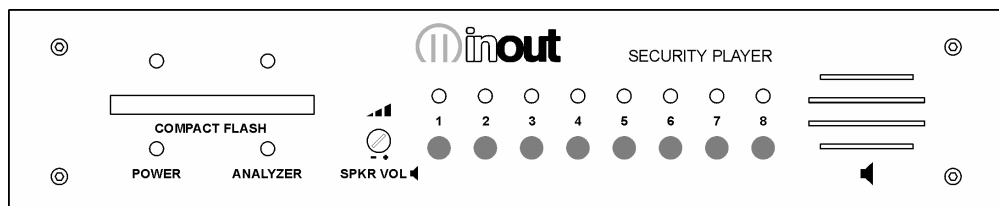


# User Manual

## mod. S-01



Version 1.1



**SECURITY PLAYER**

## Warranty

**Security Player** has a 24 month warranty on the electronic parts, running from the date of purchase. The warranty will not be valid in case of tampering with the device or in case personnel not authorised by the manufacturer or by the authorised dealer should carry out work on it.

**N.B.** responsibility of the purchaser: in case of operation under warranty, the device must be packaged so as to prevent damage during transport and shipped to the manufacturer together with all the accessories.

### Warranty rules

1. In order to exercise his warranty rights, the purchaser must enclose with the device a copy of evidence of purchase duly stamped by the dealer (bill/invoice).
2. The warranty lasts for 24 months for the electronic parts. The warranty is granted at the point of sale or else directly requested from the manufacturer.
3. The warranty only covers damage to the product which makes it work badly.
4. Work under warranty will only mean repairing or replacing, free of charge, any parts acknowledged to be defective during manufacture or in their material, including labour costs.
5. The warranty does not apply to damage caused by negligence or failure to comply with the instructions, or damage caused by unauthorised people, with a special reference to the outside parts.
6. Also, the warranty does not apply to damage caused to the device by connection to unsuitable power sources.
7. The warranty does not cover parts subject to wear after use, or the container if the material is not defective.
8. The warranty does not include transport costs, which will be paid for by the purchaser in relation to the manner and time of transport.
9. The warranty will run out after 24 months have elapsed. In this case, service will be provided charging for the parts replaced, labour costs and transport according to the current rates.
10. Any dispute will be settled exclusively before the Court of Law of Venice.

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# 1

## Introduction

### 1.1 What is the Security Player?

Security Player is a device that can reproduce audio messages registered on Compact Flash (solid state memory), after a specific binary combination of input commands.

### 1.2 What is Mp3?

Mp3 is an acronym for Mpeg-1 layer 3. This is an audio compression standard which eliminates sounds which the human ear cannot hear via a psycho-acoustic algorithm. The purpose of this compression is to reduce the space taken up by an audio file while still ensuring excellent quality. The greater the compression, the less the audio quality. The right compromise, which guarantees a quality comparable to that of a Compact Disc, is 128 Kbps (thousands of bits per second) which represents the most widely used manner, and reduces the size of an uncompressed file by 10 times.

### 1.3 Encoder

Software which compresses a CD audio or wave file in MP3. There are many programmes of this kind, and it is virtually impossible to say which is the best. Here is an internet site where you can download freeware software suitable for various operating systems: [www.mp3server.4t.com](http://www.mp3server.4t.com)

### 1.4 Decoder

Software which decompresses an MP3 audio file in order to send it to a digital-analog converter and reconstruct the original audio signal.

### 1.5 Player



Hardware and software system able to read MP3 audio files. Replay is able to carry out this function.

### 1.6 Wave

High quality audio format (extension .wav), compatible with the tracks of normal music CD's. If one uses a wave file in format 44.1 KHz/sec. at 16 bit in stereo, one will get exactly the same quality as a music CD, but the size of the file is about 10Mb per minute.

### 1.7 Audio compression in various formats.

The following graphic shows the space taken up by an uncompressed audio file of about 5 minutes (.wav) and compressed in MP3 at 128Kbps (MP3).

Wave		51.1 MB
MP3		4.6 MB

# 2

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## Installation

### 2.1 Content of the Security Player kit

n° 1 Security Player device;  
n° 1 Security Player User Manual;  
n° 1 power supply cable;  
n° 1 Compact Flash Memory card

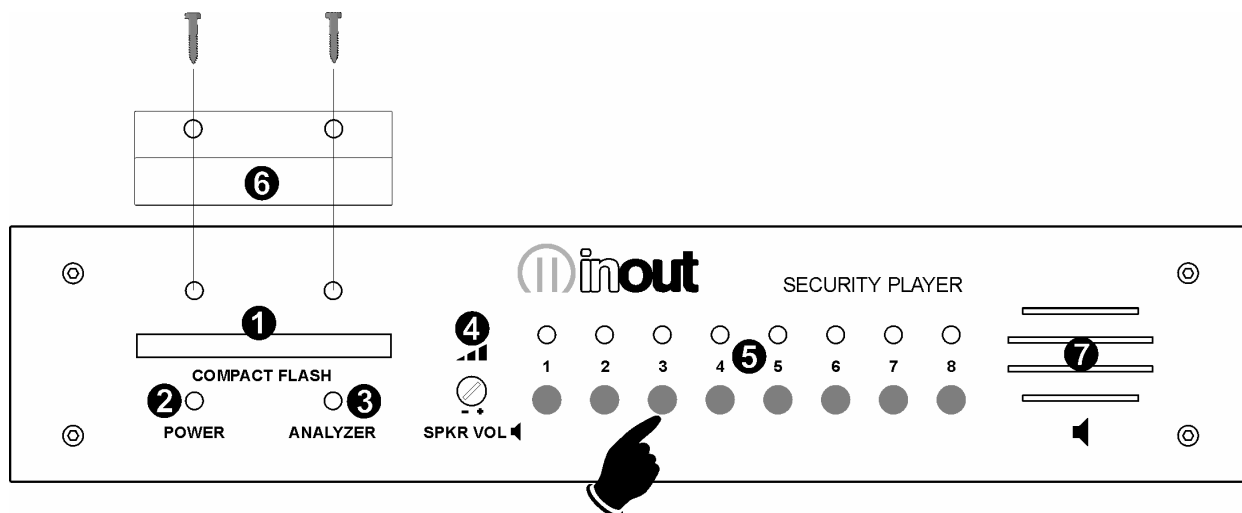
### 2.2 Warnings

1. Security Player was designed and made to operate only with a 230Vac power supply.
2. Only qualified staff should service and maintain the device.
3. Do not poke any objects through the holes into the device, as this could cause a fire or give an electric shock.
4. Disconnect the device from the electricity supply before starting any cleaning operations. Clean the device using a soft, dry cloth. Do not use liquids or sprays that might contain inflammable substances.

## 3

## Description

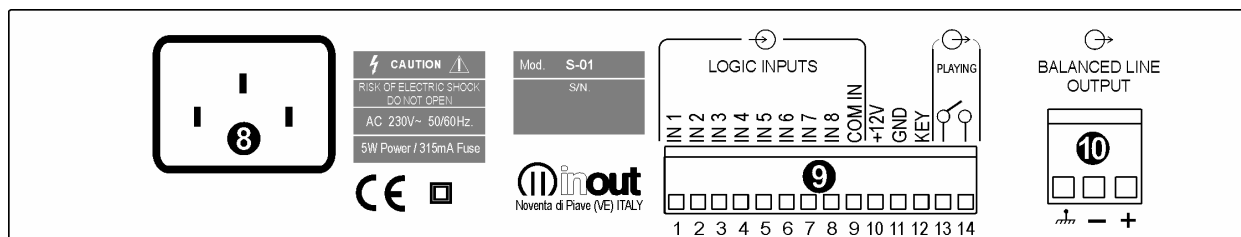
### 3.1 Security Player front panel


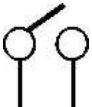


- ❶ Slot for inserting the Compact Flash memory.
- ❷ Red LED: on = power supply to device is on
- ❸ Green Led: on = file *Analyzer.mp3* is active; off = file *analyzer.mp3* absent; flashing = reproduction file 1-->255.mp3.
- ❹ Trimmer for adjusting the volume of the internal speaker.
- ❺ Buttons on front to control reproduction of messages: the number of the file being reproduced is shown when the corresponding LED in binary combination is switched on. The missing Compact Flash memory is signalled by LEDs 1-8 flashing at the same time.
- ❻ Tamper-proof metal protection for Compact Flash memory is fixed with 2 screws.
- ❼ Internal speaker.

## 3.2 Security Player rear panel

Connections at the rear of the device:



- 8** 230V ac power supply socket on VDE plug.
- 9** **IN1** input activation message *1.mp3* (bit 0 binary combination).
- **IN2** input activation message *2.mp3* (bit 1 binary combination).
  - **IN3** input activation message *4.mp3* (bit 2 binary combination).
  - **IN4** input activation message *8.mp3* (bit 3 binary combination).
  - **IN5** input activation message *16.mp3* (bit 4 binary combination).
  - **IN6** input activation message *32.mp3* (bit 5 binary combination).
  - **IN7** input activation message *64.mp3* (bit 6 binary combination).
  - **IN8** input activation message *128.mp3* (bit 7 binary combination).
  - **COM IN** Common inputs.
  - **+12V** Voltage +12V dc auxiliary available for activation of inputs using external relay contacts.
  - **GND** Ground of the auxiliary device available for activation of inputs using external relay contacts.
  - **KEY** Connected to the GND of the device, it disables the 8 buttons on the front in order to prevent accidental emission of messages.
-  **WARNING: DO NOT CONNECT THE PIN KEY TO +12V! IT WOULD CAUSE THE IMMEDIATE BREAKDOWN OF THE PIN.**
-  Auxiliary relay output contact N.O. for external commands. Activation of the output occurs in the moment in which the reproduction of an audio file begins and is maintained for the whole of the duration of the file.
- 
- N.B.  
The relay is not activated during the reproduction of the *Analyzer.mp3* file.  
*Relay contacts: 1A / 120Vac*
- 10** Balanced audio output (at 0dBu) on an extractable terminal.

# 4

---

## Connections

### 4.1 Power supply

When the Security Player is connected to the 230V ac power supply, via the appropriate supply cable provided, the red LED POWER comes on.

### 4.2 Inputs

Security Player has eight logical optoisolated inputs for controlling the reproduction of the messages.

The pins are:

- 1- IN 1
- 2- IN 2
- 3- IN 3
- 4- IN 4
- 5- IN 5
- 6- IN 6
- 7- IN 7
- 8- IN 8
- 9- COM IN

In order to activate the reproduction of a file, apply a voltage between +5 e +12Vdc to COM IN (*common inputs*) pin and the required input (or the required inputs if working in binary logic). The positive can be connected either on the COM IN or on the input pin.

The input is activated by connecting it to GND (pin 11) on the Security Player.

N.B. the external power supply source must be able to guarantee a current of at least 10mA for each input.

If an external power source is unavailable, it is possible to connect the COM IN to the +12V (pin 10) terminal on the Security Player. N.B. Galvanic isolation is not guaranteed in this case.

### 4.3 Relay output

The relay output on the Security Player is normally an open contact.

Activation of this output occurs in the moment in which the reproduction of an audio file begins and is maintained for the whole duration of the file.

**N.B.** The relay is not activated during the reproduction of the file *Analyzer.mp3*.

### 4.4 Audio output

The audio output on the Security Player is available on an extractable terminal in balanced mode (0dBu).



# 5

## Configuration file

### 5.1 What is the configuration file?

Security Player is a device which can be adapted to suit the requirements of the application for which it is being used. Different applications may require adjustment to the tone, loudness, communication parameters or particular timings. The text file called "configuration file" which is entered in the main directory of the Compact Flash with the audio files, permits the device's various parameters to be programmed.

This file must be given the name "config.txt" (this extension has been used in order to permit changes to be made through any text editor including those for Pocket PC handheld terminals).

### 5.2 Content of the configuration file

Each line of the configuration file is composed of:

- Mnemonic code for the parameter that is to be set. It is always made up of four alphanumeric characters in **CAPITALS** and must always be at the beginning of the line. No more than one parameter can be put in the same line.
- Separation character "=". It **MUST** be entered immediately after the mnemonic code without any spacing character or tabulation.
- The corresponding numerical parameter, expressed in **decimals**, is entered immediately after the separation character, without any spacing character or tabulation.

Example:

```
LMP3=14
LOUT=14
LLOU=12
LTRE=10
LBAS=10
MOMN=1
IMOD=0
TPCM=10
MICP=1
MIRS=0
```

### 5.3 How Security Player handles the file

As soon as it is switched on, or as soon as the COMPACT FLASH memory is inserted, Security Player starts to read the main directory in the memory; when it finds the "config.txt" file, it interprets the parameters that are entered in each line, storing them permanently in its NON VOLATILE type internal memory; the parameters therefore remain memorised even after the device has been switched off. For this reason it is not indispensable that the configuration file is always in the Compact Flash. Once all the parameters from the file have been acquired, the file can even be deleted.

**NOTE:** if it is necessary to configure several Security Players with the same parameters, it would be possible to prepare just one Compact Flash with the config.txt file concerned, insert this memory into all the modules to configure and then insert the memory with only the audio files.

## 5.4 Preparing the file

An ordinary text editor (such as Windows Notebook) can be used to create the file. The file must be saved as a text file. If different programs are used (e.g. Microsoft Word), make sure that the document is saved in **“text only”** format: if this is not done, control characters would be inserted, thereby making the file impossible for Security Player to interpret.

## 5.5 Storing the file in the Compact Flash

The configuration file and all the MP3 audio files can be stored in the Compact Flash via a special USB reader/writer for PCs.

## 5.6 Audio adjustment parameters

The tone, volume and loudness levels can be set for the audio section.

The following tables show the relationship between the value set in the configuration file and the value set in the audio processor inside the Security Player.

**WARNING!** If the volume is set too low, or is at zero, the speaker will not emit any signal: this might make one think the Security Player is faulty.

<b>Mnemonic</b>	<b>Description</b>
<b>LMP3</b>	MP3 decoder output level (value from 0 to 20 , in decimals).
<b>LOUT</b>	General audio output level (value from 0 to 20, in decimals).
<b>LLOU</b>	Loudness level (value from 0 to 20, in decimals).
<b>LTRE</b>	High tones level (value from 0 to 20, in decimals).
<b>LBAS</b>	Low tones level (value from 0 to 20, in decimals).
<b>MOMN</b>	ON/OFF internal speaker

<b>LMP3 (MP3 decoder output level)</b>																					
<b>Value</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>Level</b>	OFF	2%	5%	9%	14%	20%	26%	33%	40%	48%	56%	66%	77%	88%	100%	112%	128%	144%	161%	178%	200%
															0dB						+6dB

<b>LOUT (general output level)</b>																					
<b>Value</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>Level</b>	OFF	-55	-35	-28	-23	-20	-17	-14	-12	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12
		dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB

<b>LLOU (loudness level)</b>																					
<b>Value</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>Level</b>	0	+0,5	+1	+1,5	+2	+2,5	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12	+13	+14	+15	+16	+17
	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB

<b>LTRE (high tones level)</b>																					
<b>Value</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>Level</b>	-12	-10	-8	-7	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	+7	+8	+10	+12
	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB

<b>LBAS (low tones level)</b>																					
<b>Value</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>Level</b>	-12	-10	-8	-7	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	+7	+8	+10	+12
	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB

<b>MOMN (Monitor output mode)</b>	
<b>MOMN</b>	0=the internal speaker is always deactivated; 1=the internal speaker is activated during the reproduction of a coded file (therefore excluding the analyzer.mp3 file)

## 5.7 Input management parameters

<b>IMOD (input management mode)</b>	
<b>IMOD</b>	0= active-high input mode or with contact normally open. 1= active-low input mode or with contact normally closed.

<b>TPCM (Input command persistence time)</b>	
<b>TPCM</b>	This is the waiting time before the Security Player starts to interpret the input command. The persistence time setting for the input command is expressed in tens of milliseconds (value from 0 to 255, in decimals): 0 = no delay 1 = 10ms. 2 = 20ms. 100= 1 second

<b>MICP (Continuous Play input mode)</b>	
<b>MICP</b>	0=once the reproduction of the coded file, requested by the input code, is finished, the reproduction of the analyzer.mp3 file, if it exists, will be continued in loop, or if not, stand-by is activated. 1=the coded file required is played continuously while the corresponding code stays as input.

<b>MIRS (Restart input mode)</b>	
<b>MIRS</b>	0=repeated activation/deactivation of the same input code does not affect the reproduction of the corresponding file. Only the activation of a different code can stop the reproduction that is playing and activate the reproduction of the new file which has been requested. 1=at the moment in which an input code is activated, the reproduction of the beginning of the corresponding file is enabled, even if it is already playing.

# 6

## Mode of operation

### 6.1 Security Player mode of operation

Security Player is an automatic player of security messages and the activation of these messages is typically handled by an external supervision system.

The device operates as follows:

- In stand-by conditions, Security Player reproduces the file called *analyzer.mp3* in a continuous loop. This file is stored on the Compact Flash and is made up of a 20KHz sinusoidal audio signal. This signal can be monitored continuously by the external supervision system. In the event that this audio file is not stored, the device remains in stand-by without reproducing audio files, waiting for the inputs to be activated.
- reproduction of the security messages occurs by activating the 8 optoisolated inputs situated at the back of the device. These inputs can also be controlled manually using the 8 buttons situated on the front of the device. The 8 messages available with the single activation of each input must have the following denomination:

<i>1.mp3</i> = IN 1	<i>2.mp3</i> = IN 2	<i>4.mp3</i> = IN 3	<i>8.mp3</i> = IN 4
<i>16.mp3</i> = IN 5	<i>32.mp3</i> = IN 6	<i>64.mp3</i> = IN 7	<i>128.mp3</i> = IN 8

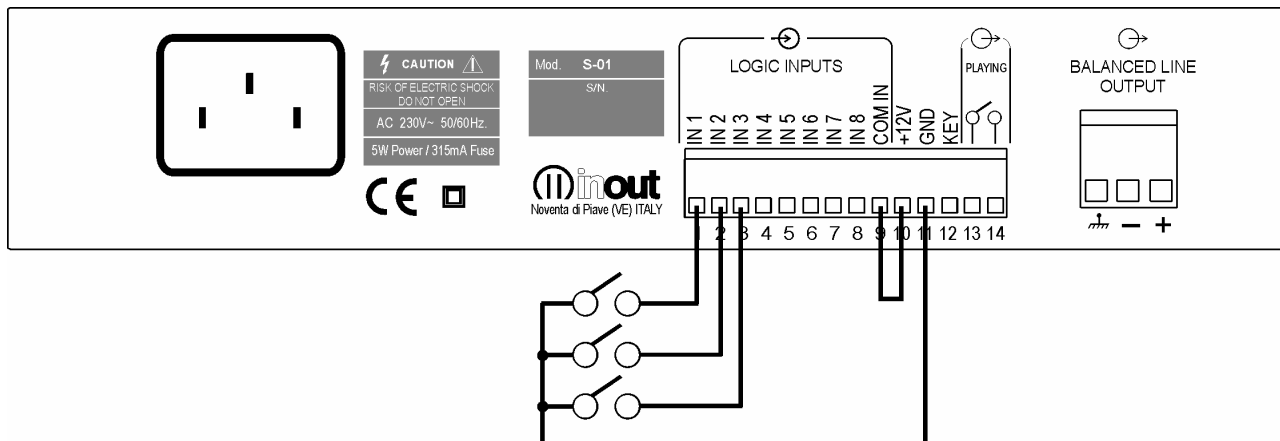
- By activating the inputs in binary combination, it is possible to start the reproduction of a maximum of 255 messages, naming the audio files as shown in table 1.
- The modes of reproduction are set using the parameters IMOD, TPCM, MICP and MIRS, entered in the configuration file (sect. 5.7).
- The device has 8 optoisolated inputs for controlling the start of the messages; the pins are: IN 1, IN 2, IN 3, IN 4, IN 5, IN 6, IN 7, IN 8, COM IN.
- The LEDs 1-8 flash at the same time to signal that the Compact Flash memory is missing.

The 2 modes for activating the inputs are given below:

## 6.2 High active input mode.

**IMOD=0**

**High-active input mode or with contact normally open.**



*To activate the inputs operate as follows:*

- Use voltage between 5 and 12V dc to *COM IN* pin\* and the required input or via binary combination of inputs according to table 1. The positive can either be on *COM IN* or on the input pin.  
N.B. the external power source must be able to ensure there is a current of at least 10mA for each input.

*The following modes can be used to supply the inputs:*

- Connecting the *COM IN* pin to an external power supply line between 5 and 12V dc. To activate the input connect it to GND of the power source.
- Connecting the *COM IN* pin to GND of external power supply . In order to activate the input, apply a positive voltage between 5 and 12V dc to the inputs.

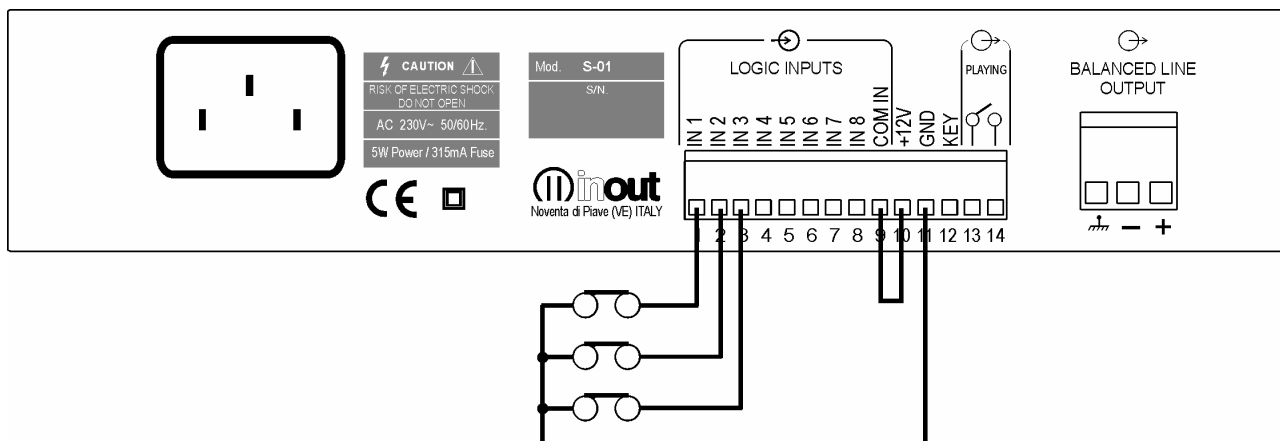
If there is no external voltage, the *COM IN* can be connected to the +12V pin. The input is activated by connecting it to GND of the device.

- Using the buttons 1-8 on the front panel.

## 6.3 Low active input mode.

**IMOD=1**

**Low-active input mode or with contact normally closed.**



**N.B. this management mode operates in the opposite way to the previous one; the inputs reproduce the messages when they are not active.**

*The following modes can be used to supply the inputs:*

- Connecting the *COM IN* pin to an external power supply line between 5 and 12V dc. To activate the input disconnect it from GND of the power source.
- Connecting the *COM IN* pin to GND of external power supply. In order to activate the messages, disconnect the input from the positive voltage.

If there is no external voltage, the *COM IN* can be connected to the +12V terminal. The input is activated by disconnecting it from GND of the device.

- Using the buttons 1-8 on the front panel.

**! IMPORTANT:** working in negative logic, the unused logic inputs must also be activated with straps on the connector (e.g. with no input connected, the Security Player plays the 255.mp3 file).

## 7

## Input command and message names

### 7.1 Binary input command codes

To play the messages stored in the Compact Flash, activate the Security Player inputs as shown in the following table according to binary combination.

The corresponding files must be named as described.

INPUT								CORRESPONDING MESSAGES	
1	2	3	4	5	6	7	8	Number	Reference
0	0	0	0	0	0	0	0	=	analyzer.mp3
1	0	0	0	0	0	0	0	=	1.mp3
0	1	0	0	0	0	0	0	=	2.mp3
1	1	0	0	0	0	0	0	=	3.mp3
0	0	1	0	0	0	0	0	=	4.mp3
1	0	1	0	0	0	0	0	=	5.mp3
0	1	1	0	0	0	0	0	=	6.mp3
1	1	1	0	0	0	0	0	=	7.mp3
0	0	0	1	0	0	0	0	=	8.mp3
1	0	0	1	0	0	0	0	=	9.mp3
0	1	0	1	0	0	0	0	=	10.mp3
1	1	0	1	0	0	0	0	=	11.mp3
0	0	1	1	0	0	0	0	=	12.mp3
1	0	1	1	0	0	0	0	=	13.mp3
0	1	1	1	0	0	0	0	=	14.mp3
1	1	1	1	0	0	0	0	=	15.mp3
0	0	0	0	1	0	0	0	=	16.mp3
1	0	0	0	1	0	0	0	=	17.mp3
0	1	0	0	1	0	0	0	=	18.mp3
1	1	0	0	1	0	0	0	=	19.mp3
0	0	1	0	1	0	0	0	=	20.mp3
1	0	1	0	1	0	0	0	=	21.mp3
0	1	1	0	1	0	0	0	=	22.mp3
1	1	1	0	1	0	0	0	=	23.mp3
0	0	0	1	1	0	0	0	=	24.mp3
1	0	0	1	1	0	0	0	=	25.mp3
0	1	0	1	1	0	0	0	=	26.mp3
1	1	0	1	1	0	0	0	=	27.mp3
0	0	1	1	1	0	0	0	=	28.mp3
1	0	1	1	1	0	0	0	=	29.mp3
0	1	1	1	1	0	0	0	=	30.mp3
1	1	1	1	1	0	0	0	=	31.mp3
0	0	0	0	0	1	0	0	=	32.mp3
1	0	0	0	0	1	0	0	=	33.mp3
0	1	0	0	0	1	0	0	=	34.mp3

1	1	0	0	0	1	0	0	=	35.mp3
0	0	1	0	0	1	0	0	=	36.mp3
1	0	1	0	0	1	0	0	=	37.mp3
0	1	1	0	0	1	0	0	=	38.mp3
1	1	1	0	0	1	0	0	=	39.mp3
0	0	0	1	0	1	0	0	=	40.mp3
1	0	0	1	0	1	0	0	=	41.mp3
0	1	0	1	0	1	0	0	=	42.mp3
1	1	0	1	0	1	0	0	=	43.mp3
0	0	1	1	0	1	0	0	=	44.mp3
1	0	1	1	0	1	0	0	=	45.mp3
0	1	1	1	0	1	0	0	=	46.mp3
1	1	1	1	0	1	0	0	=	47.mp3
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0	1	0	1	1	1	0	0	=	58.mp3
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1	0	1	1	1	1	0	0	=	61.mp3
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1	0	0	1	1	1	1	1	=	249.mp3
0	1	0	1	1	1	1	1	=	250.mp3
1	1	0	1	1	1	1	1	=	251.mp3
0	0	1	1	1	1	1	1	=	252.mp3
1	0	1	1	1	1	1	1	=	253.mp3
0	1	1	1	1	1	1	1	=	254.mp3
1	1	1	1	1	1	1	1	=	255.mp3

## 8

## Specifications

### 8.1 Technical characteristics

Power supply.....	: ~ 230VAC
Power requirement ... ..	: 1 W
Protection.....	: internal fuse: 315mA delayed.
Extractable memory capacity....	: Compact Flash from 32MB to 1GB.
Input absorption... ..	: 10 mA
Relay contacts specifications ...	: 1A / 120Vac
Formats supported.....	: MPEG1 layer 3 (MP3 files from 64 to 160 Kbps)
Frequency response.....	: 20 ~ 20.000 Hz ( $\pm 3$ dB)
Signal/noise ratio ... ..	: > 90dB.
Harmonic distortion.....	: < 0,1%
Audio characteristics.....	: - Volume control - Control of separated high and low tones - Loudness control
Classification.....	: IP 30 based on the penetration of the liquids and powder
Dimensions.....	: 158x215x44mm.

### 8.2 Maintenance and preservation

See sect. 2.2.

### 8.3 Disposal

In order to protect the environment, the device and the accessories must be disposed of in accordance with the law, in appropriately equipped areas or amongst special waste. Contact the retailer or producer if the appropriate legislation is not known.

Manufactured by:  Noventa di Piave (VE) - ITALY



This product complies with the following legislation: 73/23/CEE, 89/336/CEE e 93/68/CEE relating to electromagnetic safety and compatibility.