

SG-1 OSD SYMBOL GENERATOR



The SG-1 device allows to display OSD symbols on monitor screen. It works as loop through device with analogue PAL video input and output. It enables CCTV camera image display together with symbols string on monitor screen. The symbol string can be for example the name of the camera for easy identification or privacy zone, which masks the selected part of the screen.

Main features:

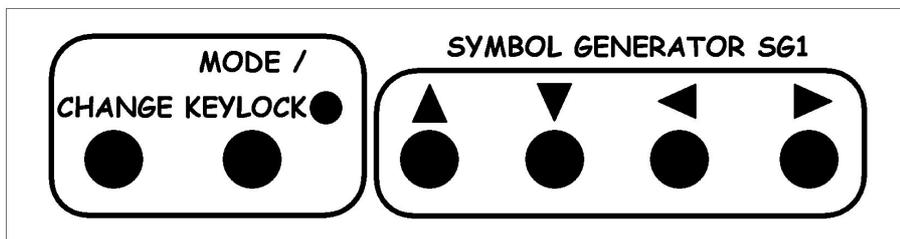
- any symbol strings display,
- the privacy zones settings (masking the part of the screen, for example: building windows on the image),
- the position cross display at any point of the screen (for industrial applications),
- text control from computer (using RS-485 interface).

SPECIFICATIONS:

Number of inputs	- 1xBNC (standard PAL)
Number of output	- 1xBNC (standard PAL)
Input impedance	- 75 Ohm
Output impedance	- 75 Ohm
Gain	- 0 db
Power supply	- 12VDC/70mA
Dimensions	- 100x62x28mm
Weight	- 75g

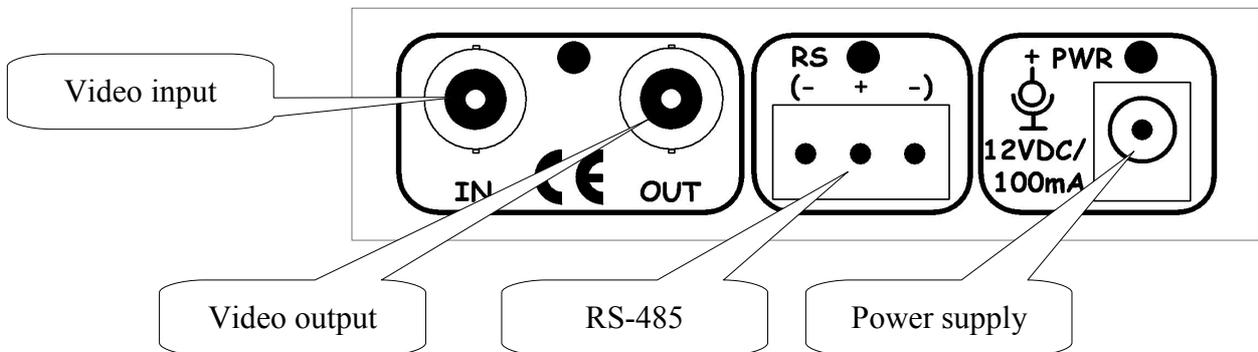
Front panel description

The configuration settings and work modes selection is made using 6 front panel keys. The direction keys (arrows) allow to select the position of the symbol on the screen. The "CHANGE" key selects the specific symbol from symbols table. The "MODE/KEYLOCK" key changes the work mode (short press) or lockes the device keyboard (long press).



Rear panel description

On the device rear panel there are following connectors: BNC video input socket (PAL standard), BNC video output socket (PAL standard), RS-485 socket (external control from PC) and DC 12V power socket. The green LED near the BNC video sockets indicates the video signal connection to the input of the device. The green LED near the RS-485 socket indicates the data frame reception. The red LED indicates the power is on.



Configuration and operations

After plug the power on the SG-1 device starts in default work mode. In default settings the keys are locked to protect against the accidental configuration changes. Press the "MODE/KEYLOCK" key for the long time, the keys will be unlocked. The "keyboard unlocked" message will be displayed on the screen. Now it is possible to change the generator work mode and modify the displayed symbols on the screen. To lock the keys press the "MODE/KEYLOCK" key once again, the keys will be locked. The "keyboard locked" message will be displayed on the screen.

The short pressing the "MODE/KEYLOCK" key allows to select the following work modes:

- "CROSS" mode - displays the cross on the screen. The direction keys allows to move the cross on the screen. It is possible to change the cross position with 360 horizontal steps and 144 vertical steps. This mode can be used for industrial applications to observe some kind of production processes (for example: the printing processes).
- "SYMBOL (text)" mode - displays and modifies alphanumeric symbols on the screen. Press one of the direction keys to display the cursor showing the modifying symbol in the text string. After selection the text symbol to modification press the "CHANGE" key until required symbol will be displayed.
- "SYMBOL (privacy zones)" mode - enables the privacy zones configuration together with text string display (set in previous mode). The configuration is similar like the "Symbol (text)" mode, but the "CHANGE" key allows to mask or unmask the selected part of the screen.
- "DEFAULT" mode - enables to select the default mode after power on the device.
- "EEPROM SAVE" mode - allows to save configuration settings to EEPROM memory. Press the "CHANGE" key to settings confirmation. All settings (cross position, text symbols, privacy zones, default mode) will be saved to memory and read from it after power on the device.

RS-485 control

The SG-1 device can be real-time controlled from PC using RS-485 transmission. To RS-485 transmission can be used a standard RS-232/RS-485 or USB/RS-485 adapter. It is necessary to know the communication protocol described below.

PC application

The **SG1Controller** is the free PC software, which allows to control the SG-1 device. It enables the device configuration and many extended functions, for example: display the text from computer, generate and display company logo. These functions can be used as commercial, teletext or information service. The software is available on following website: <http://shop.delta.poznan.pl>

Control protocol description

Data frame structure:

0xFF, 0x00, COMMAND, DATA0, DATA1, DATA2, DATA3, DATA4, DATA5, SUM

SUM – modulo-8 sum the bytes from COMMAND to DATA5

transmission – 2400 baud, 1 start bit, 1 stop bit, odd, 8 data bits

Available commands:

CROSS[X,Y] – the cross position setting from range (x<360, y<144)

0xFF, 0x00, 0x00, X_HI, X_LO, Y_HI, Y_LO, 0, 0, SUM

MODE[MODE_ID] – cross mode or symbol mode set

0xFF, 0x00, 0x01, MODE_ID, 0, 0, 0, 0, 0, SUM

MODE_ID = 0 – cross,

MODE_ID = 1 – symbols

DEFAULTMODE[MODE_ID] – default mode after power on the device

0xFF, 0x00, 0x07, MODE_ID, 0, 0, 0, 0, 0, SUM

MODE_ID = 0 – cross,

MODE_ID = 1 – symbols

EEPROMSAVE – save the current configuration to eeprom memory

0xFF, 0x00, 0x02, 0, 0, 0, 0, 0, 0, SUM

CLRSCR – clear screen and set the cross position in the center of the screen

0xFF, 0x00, 0x03, 0, 0, 0, 0, 0, 0, SUM

TEXTOUT[X,Y] – display the text at position (x<30, y<16)

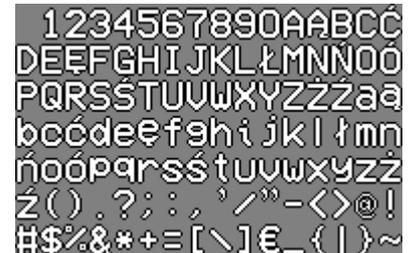
0xFF, 0x00, 0x04, POS_X, POS_Y, LENGTH, 0, 0, 0, SUM

LENGTH – number the bytes of the text (length<64),

- after send the command, send the previous declared number of text symbols in ASCII code,

- the break duration after the command and before send the text should be less than 500ms (auto-timeout),

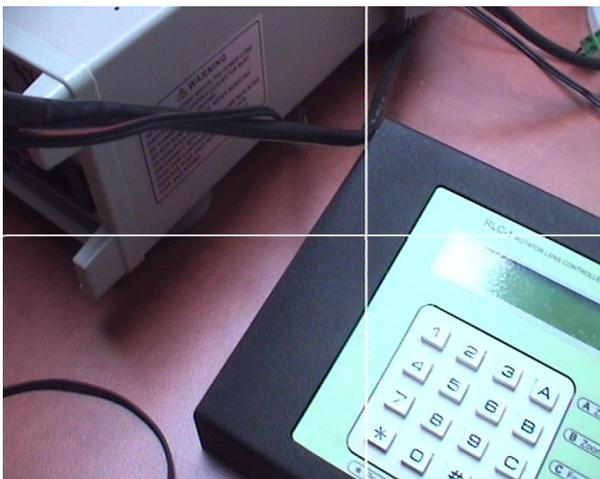
- the available symbols are showed in table on the right side.



The symbols table available in SG-1 device.

Screenshots

Please find below the example screenshots show the device operations:



CROSS MODE



SYMBOL / PRIVACY ZONES MODE

