

### 3. MANUAL CONTROL OF THE INSTRUMENT

The control of the instrument has been developed in the fully conversational way. The user can fully programme the operation of the instrument selecting the proper option from the MENU. This solution reduces the number of the control push-buttons to only 15.

#### 3.1. Control push-buttons on the front panel

The following control push-buttons are located on the front panel of the instrument (cf. Fig. 2.1):

1. <SHIFT> ,
2. <ESC> (<PRINT>),
3. <START / STOP> ,
4. <ENTER / PAUSE> ,
5. <▶> ,
6. <◀> ,
7. <▲> ,
8. <▼> ,
9. <FUNC> (<EXCH.>),
10. <INPUT> (<SETUP>),
11. <CURSOR> (<EXCH.>),
12. <DISPLAY> (<LIGHT>),
13. <ZOOM> (<ZOOM IN>),
14. <FILE> (<REPORT>),
15. <POWER>.



**Notice:** The name given in brackets denotes the second push-button function in conjunction with the <SHIFT>. Depending on the setting in **AUX. FUNCTIONS MODE / SHIFT MODE: On / Off** both push-buttons must be pressed simultaneously or in series. In the latter case the <SHIFT> must be pressed as the first one.

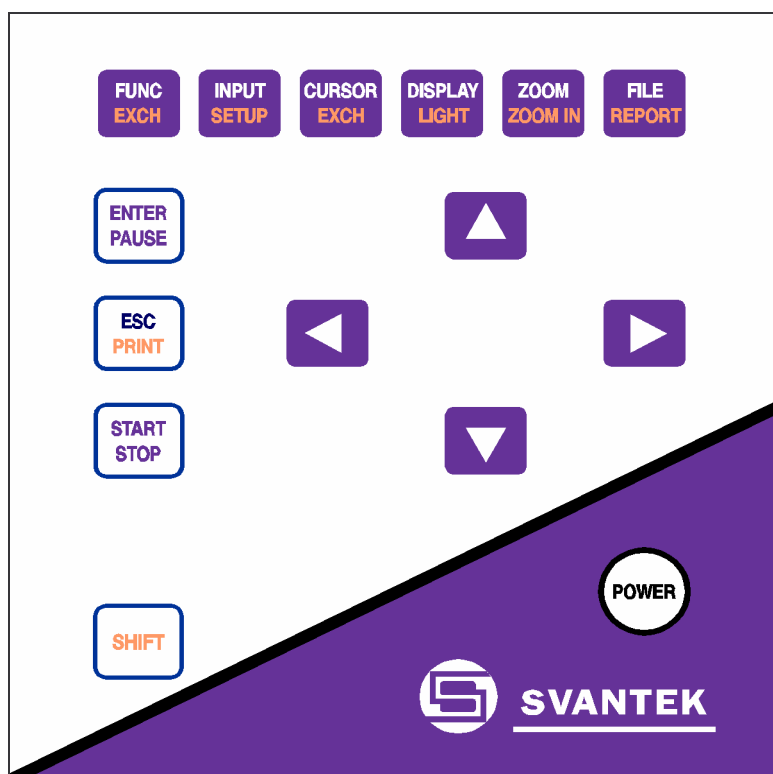


Fig. 2.1. The view of the control push-buttons of the instrument

**<SHIFT>**

The **<SHIFT>** push-button enables one to use the additional function (named in red colour) of the control push-button subset (cf. **Notice** described above).

**<START / STOP>**

This push-button enables one to start and break the measurement process. The **<START / STOP>** push-button function is cyclic. In the case of some measurement functions (e.g. **Leq**, **SEL**, the linear averaging e.t.a.) the change of the control state to **STOP** is done automatically after collecting the required number of results.

**<ESC>**

The **<ESC>** push-button enables one to change the current operating mode or control window of the instrument. Pressing the **<ESC>** push-button causes return to the previous control state, up to the **MAIN MENU**. On **MAIN MENU** level the **<ESC>** push-button is no longer active (no reaction on pressing it).

**(<PRINT>)**

In conjunction with the **<SHIFT>** push-button, it enables one to make the hard copy of the instrument's display. A printer must be connected to the RS 232 interface. The proper printer driver and other printing parameters are set by means of the control window **AUX. FUNCTIONS MODE → PRINTER SETUP**. In order to start printing one has to press the **<SHIFT>** push-button and keeping it pressed push the button (**<PRINT>**).

**<ENTER / PAUSE>**

This push-button enables one to enter the selected operation mode or to confirm some control options. Pressing the **<ENTER / PAUSE>** push-button causes:

- in the **MAIN MENU** level, that the selected (displayed inversely) operation mode is entered,
- in the **AUX. FUNCTIONS MODE**, that the currently active (displayed inversely) control window is opened,
- the confirmation of the control command when **ENTER to EXEC.** prompt (displayed inversely) has appeared,
- in the **METER MODE**, the temporary break (**PAUSE**) of the measurement (it will be restarted after pressing the **<START / STOP>**),
- in the **CALIBRATION MODE** – the calculation and the storage of the calibration factor
- the confirmation of the selected sign in the **FILE NAME** window,
- the confirmation of the selected file in the **CATALOGUE** window.

In all other situations this push-button is not active (there is no reaction on pressing this push-button).

**<◀, ▶>**

These push-buttons enable one:

- the selection of the options in an active window in the "horizontal direction" (e.g. **FUNCTION: Leq**),
- to move the cursor on the display (in the result's plot area).

**(<◀, ▶>)**

The usage of the **<SHIFT>** push-button together with the **<◀, ▶>** push-buttons enables one to move faster the cursors or to change faster the current parameters.

**<▲, ▼>**

These push-buttons enable one to select the MENU options in the "vertical direction" and:

- to select the active control window (the active control window is displayed inversely),
- to select the range of the displayed time waveform (time history), spectrum or data buffer,
- to switch between the profiles in the **METER MODE**,
- to set the date and time in the **AUX. -FUNCTIONS MODE**,
- to review the LN values in the **METER -MODE**.

**(<▲>, <▼>)**

The usage of the **<SHIFT>** push-button together with the **<▲>**, **<▼>** push-buttons enables one:

- to review the contents of the spectra buffer (the option **SCANNING:On**),
- to control the displaying of the histogrammes in the statistical analysis for 1/1 and 1/3 octave bands.

**<FUNC>**

This push-button enables one to open the **FUNCTION** control window. The next pressing of this push-button will close the window.

**(<EXCH.>)**

This push-button, active after pressing **<SHIFT>**, is reserved for the future functions.

**<INPUT>**

This push-button enables one to open the **INPUT** control window. The next pressing of this push-button will close the window or will open the **TRIGGER** window (only in the **ANALYZER MODE**).

**(<SETUP>)**

In conjunction with the **<SHIFT>**, the push-button enables one to open the **SETUP FILE** control window. The next pressing of this push-button will close the window.

**<CURSOR>**

This push-button enables one to open the **CURSOR** control window. Next push of this button will close the window.

**(<EXCH.>)**

In conjunction with the **<SHIFT>**, the push-button enables one to exchange currently active cursor (only in **DOUBLE CURSOR MODE**) without opening the **CURSOR** control window.

**<DISPLAY>**

This push-button enables one to open the **DISPLAY** control window. The next pressing of this push-button will close this window or will open the **Plot** window (only in the **METER MODE**).

**(<LIGHT>)**

In conjunction with the **<SHIFT>**, the push-button enables one to switch the **back-light** on or off.

**<ZOOM>**

The push-button enables one to open the **ZOOM** control window. The next pressing of this push-button will close the window.

**(<ZOOM IN>)**

This push-button, active after pressing **<SHIFT>**, is reserved for the future functions.

**<FILE>**

This push-button enables one to open the **FILE** control window. The next pressing of this push-button will close the window.

**(<REPORT>)**

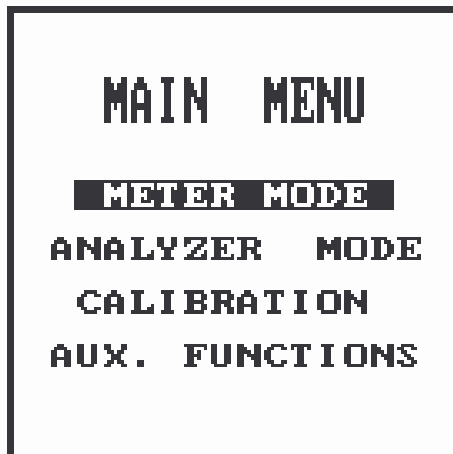
In conjunction with the **<SHIFT>**, the push-button presents the measurement results in the table form (**Report**).

**<POWER>**

This push-button switches the instrument "on" and "off".

### 3.2. Measurement functions of the instrument

After switching on the unit and after the end of the “self test”, the **MAIN MENU** control window is presented on the instrument's display. It contains four basic options: **METER MODE**, **ANALYZER MODE**, **CALIBRATION** and **AUX. FUNCTIONS**.



The display of the main control window

The entrance to the selected function (displayed inversely) is done by means of the **<ENTER>** push-button. The **<◀>** and **<▶>** push-buttons are dedicated for the change of the control options. The **<ESC>** push-button should be pressed in order to return to the **MAIN MENU**.



**Notice:** Depending on the control “level”, the return to the **MAIN MENU** may require pressing the **<ESC>** push-button several times.

The **METER MODE** provides the user with the standard (and not standard) functions of the Integrating Sound Level Meter and Vibration Meter. The RMS measurement of the voltage signals is also possible in this mode. The detailed description of the available functions is given in Chapter 4.

The **ANALYZER MODE** provides the user with the standard (and not standard) functions of the Real Time Signal Analyser. Three basic modes of the frequency analysis are available in the instrument: 1/1 octave (the digital filters), 1/3 octave (the digital filters) and the narrow band (FFT) with the advanced digital ZOOM option. The time waveform analysis is also possible in this mode. The detailed description of the available functions is presented in Chapter 5.

The **CALIBRATION** provides the user with the measurement channel calibration (including the external preamplifiers and transducers). The detailed description of the available calibration functions and procedures is given in Chapter 6.

The **AUX. FUNCTIONS** provide the user with the rest of the instrument control options (e.g. the RS 232 interface transmission speed, the polarisation voltage of the condenser microphone, time & date setting e.t.a.) and the control of the **BATTERY** condition. The detailed description of the available functions is presented in Chapter 7.