

2. MANUAL CONTROL OF THE INSTRUMENT

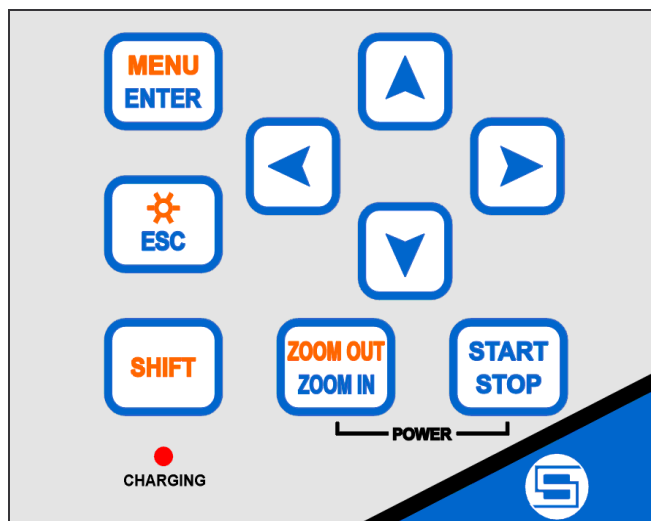
The control of the instrument is developed in the fully "conversational" way. The user can "programme" the operation of the instrument selecting the proper option from the MENU. Thanks to it the number of the control push-buttons of the instrument is reduced to 9.

2.1. CONTROL PUSH-BUTTONS ON THE FRONT PANEL

On the front panel of the instrument there are located the following control push-buttons:

1. <ENTER>, (<MENU>),
2. <ESC>, (<> >),
3. <SHIFT>,
4. <^>
5. <◀> ,
6. <▶> ,
7. <▼> ,
8. <ZOOM IN>, (<ZOOM OUT>),
9. <START / STOP>.

The name given in brackets (...) denotes the second push-button function which is available after pressing in conjunction (or in sequence) the <SHIFT> push-button.



The view of the control push-buttons of the SVAN 946A instrument

<SHIFT>

The second function of a push-button (written in red colour on a push-button) can be used when the <SHIFT> push-button is pressed. This push-button can be used in two different ways:

- As **SHIFT** in the keyboard; both push-buttons **must be pressed in parallel**;
- As **2nd Fun**; this push-button **must be pressed and released before pressing the second one**.



Notice: The operation of this push button can be set as the “Shift” mode or the “2nd Fun.” mode in the **SHIFT MODE** window of the **SETUP** list (see Chapter 5 for the **SETUP** list description).

<START / STOP>

This push-button enables one to start the measurement process, when the instrument is not measuring or to stop it, when the instrument is measuring. It is also possible to set such mode of this push-button, in which in order to start or stop the measurements the user has to press it simultaneously with the <SHIFT> one.



Notice: The changing of the <START / STOP> push-button mode is performed in the **SHIFT MODE** window of the **SETUP** list (see Chapter 5 for the **SETUP** list description).

<ZOOM IN>

This push-button enables one to obtain on the display better resolution of the **presented** spectrum of the **FFT** analysis. The spectrum calculated in the unit has always 1600 lines, but only 50 of them can be presented on the display. Usually, the maximum line from every 32 is drawn. After each pressing of the <ZOOM IN> push-button the resolution is two times better (the difference between two consecutive lines presented on the display is two times smaller). This push-button can be pushed up to 5 times (assuming that the user started to press this push-button when the whole band of the analysis was presented on the display). In this case the highest available resolution of the presented spectrum is obtained.

(<ZOOM OUT>)

This push-button (pressed together with the <SHIFT> one) enables the user to obtain the worse resolution of the **presented** spectrum of the **FFT** analysis. After each pressing of the <ZOOM OUT> push-button the resolution is two times worse (the difference between two consecutive lines presented on the display is two times greater). This push-button can be pushed up to 5 times (assuming that the user started to press this push-button when the highest available resolution was presented on the display). In this case the whole band of the analysis is obtained.



Notice: The simultaneous pressing of the <ZOOM IN> and <START / STOP> push-buttons switches the instrument on and off.

<ENTER>

This push-button enables one to enter the selected operation mode or to confirm control options. Some additional functions of this push-button will be described in the following chapters.

(<MENU>)

This push-button (pressed together with the <SHIFT> one) enables the user to enter the main list containing six sub-lists: **FUNCTION**, **INPUT**, **DISPLAY**, **FILE**, **REPORT** and **SETUP**. Each of the mentioned above sub-lists consists of the sub-lists, elements and data windows. These main sub-lists will be detailed described in the following chapters of the manual. Double pressed <MENU> push-button enters the list containing four last opened sub-lists. It often speeds up the control of the instrument.

<ESC>

This push-button closes the control lists, sub-lists or windows. It acts in opposite to the **<ENTER>** push-button. When the window is closed pressing the **<ESC>** push-button, any changes made in it are (in almost all cases) ignored.

(< >)

This push-button (pressed together with the **<SHIFT>** one) enables the user to switch on or off the backlight of the screen and the keyboard.

<◀>, <▶>

These push-buttons enable one, in particular, to:

- select the options in an active position in the "horizontal direction" (e.g. filter: **HP1**, **HP3** or **HP10**, RS232 Baud Rate: ..., **9600**, **19200**, **38400**, ... etc.),
- select the measurement result to be displayed (e.g. **RMS**, **PEAK**, **P-P**, **MTVV** etc.) in One Profile and **3 PROFILES** modes of result's presentation),
- control the cursor in **SPECTRUM** and **PLOT** modes of result's presentation,
- select the position of the character in the text edition (i.e. in the **FILE NAME** menu).

(<◀>, <▶>)

The **<◀>**, **<▶>** push-buttons pressed in conjunction (or in sequence) with the **<SHIFT>** enable one, in particular, to:

- speed up the changing of the numerical values of the parameters (i.e. the step is increased from 1 to 10 in the setting of INPUT/MEASURE SETUP/ **START DELAY**).
- insert or delete a character in the text edition modes,
- change the statistics class (the number displayed after the letter **L**) in One Profile and **3 PROFILES** modes of result's presentation,

Some other possible reactions of the instrument on the pressing of these push-buttons will be described in details in the following chapters.

<▲>, <▼>

The **<▲>**, **<▼>** push-buttons enable one, in particular, to:

- change the mode of result's presentation,
- select the proper character from the list in the text edition mode,
- switch the active sub-list in a list.
- programme the Real Time Clock (**RTC**) and **TIMER**.

Some other possible reactions of the instrument on the pressing of these push-buttons will be described in details in the following chapters.

(<▲>, <▼>)

The **<▲>**, **<▼>** push-buttons pressed in conjunction (or in sequence) with the **<SHIFT>** enable one, in particular:

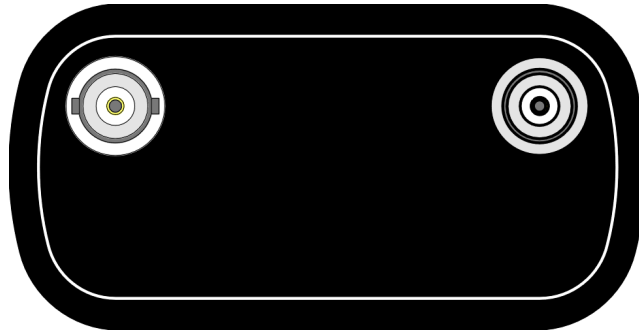
- change the relation between the Y-axis and X-axis of all plots presented on the screen,
- switch the profiles in One Profile mode of result's presentation,
- switch the active profile in **3 PROFILES** mode of result's presentation

Some other possible reactions of the instrument on the pressing of these push-buttons will be described in details in the following chapters.

2.2. INPUT AND OUTPUT SOCKETS OF THE INSTRUMENT

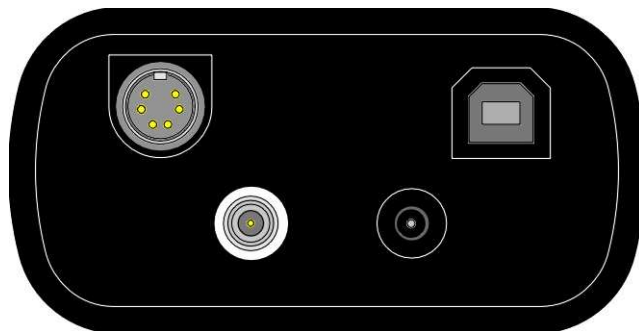
The measurement input, called **Acceler.**, is placed on the right side of the top cover of the instrument (looking at the front of the SVAN 946A). It is the TNC socket. Any transducer connected to the unit should have the proper TNC connector. The full description of the signals connected to the sockets is given in the Appendix C.

The second input, called **Probe**, is placed on the left side of the top cover of the instrument (looking at the front of the SVAN 946A). It is the BNC socket. This input is dedicated for additional functions which can be performed by the unit, e.g. the measurement of the machine rotation speed or balancing of the rotating mass. The full description of the signals connected to the sockets is given in the Appendix C.



The view of the top cover of the SVAN 946A instrument in 1:1 scale

In the bottom cover four sockets exist: **RS 232** (in the figure below in the up row in the left side), **USB** (in the figure below in the up row in the right side), **AC out** (in the figure below in the down row in the left side) and **Power** (in the figure below in the down row in the right side).



The view of the bottom cover of the SVAN 946A instrument in 1:1 scale

The **RS 232** interface conforms to the EIA Standard RS 232C. It enables the user to programme remotely all functions of the instrument and the transmissions to and from the analyser with the speed up to 115 200 bits/s (the default RS 232 interface transmission rate is equal to 9600 Bauds). More detailed description of 6-pins socket of RS 232 interface (connector type Mini-DIN) and 9-pins connector of the SC 17 cable (DB 09 F - pin female) is given in the Appendix C.

The **USB 1.1** interface is the serial interface working with 12 MHz clock. Thanks to its speed is widely used in all PC. In the instrument the standard 4-pins socket is used described in details in Appendix C.

The additional output socket, called **AC out**, is 1-pin LEMO compatible socket type ERN.00.250 (the left one in the Fig. above). On this socket the signal from the input of the analogue / digital converter

(before the correction) is available. This signal can be registered using magnetic recorder or observed on the oscilloscope.

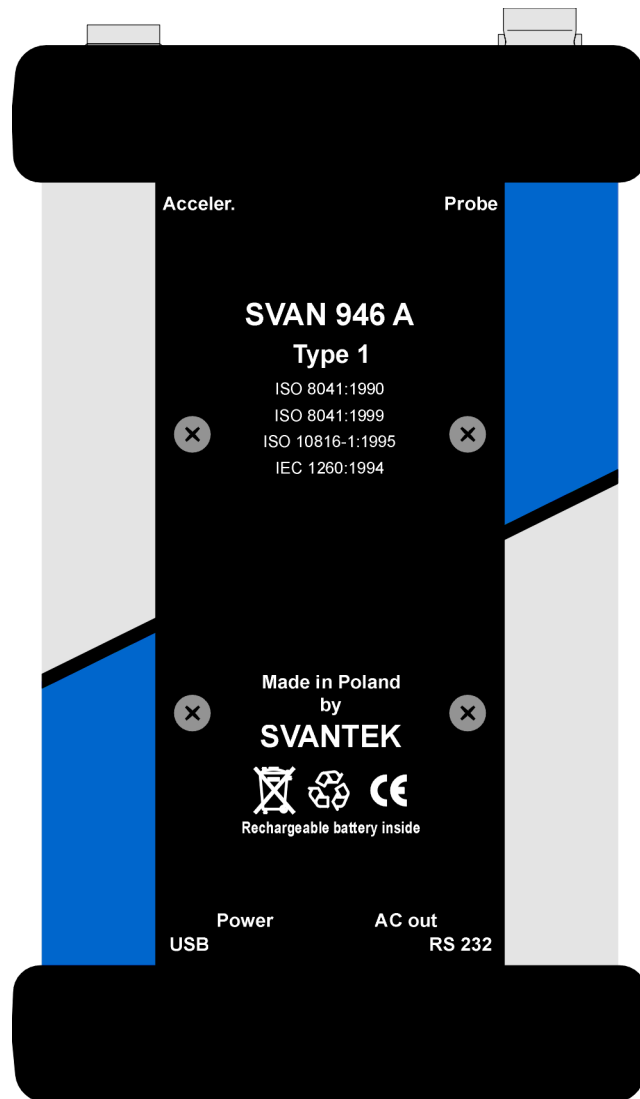
To the **Power** socket located on the bottom cover of the instrument dedicated for the connector type 3.0 / 1.1 mm (the right one in the bottom row in the Fig. above) the user can connect the external power (110 V / 220 V mains) adapter, which is also used for the internal battery recharging. The instrument can be charged from the external DC source (from 8 V to 15 V). The current consumption depends on the voltage of the power supplier.



Notice: Switch the power off before connecting the instrument to any other device (e.g. a printer or a Personal Computer).



The view of the front panel of the SVAN 946A instrument in 1:1 scale



The view of the rear panel of the SVAN 946A instrument in 1:1 scale