



Attenuator Driver GPDVC-15/100/RS



Operation Manual
ELVA-1, Ltd.

General remarks.

Driver GPDVC-15/100/RS provides biasing current for Voltage Controlled Variable Attenuator (VCVA). The Driver is controlled by IBM PC via GPIB or RS-232 interface.

Ambient conditions.

The Driver is an indoor device intended for using in laboratory conditions:

air temperature: +5°...+40°C;

air humidity: up to 95% at 30°C;

atmospheric pressure: 84 – 112 kPa.

Device parameters.

Power supply: 90 - 240 ± 10% AC V / 200 mA;

Output current*): 0...< +100 mA DC

*) Max value of output current is matched to VCVA-XX attenuator used with the driver.

Disposition of controls and connectors on the device panels.

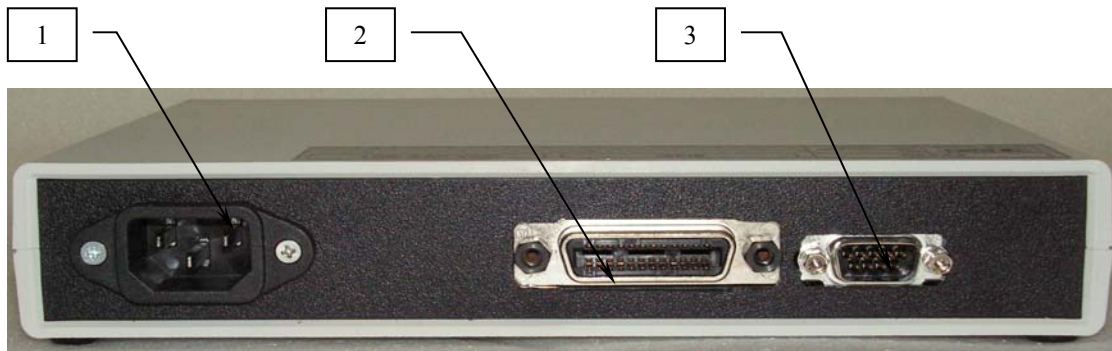


Figure 1. Rear panel

1 – Power plug 90-240 ACV; 2 – Connector for GPIB bus; 3 – RS-232 connector



Figure 2. Front panel

4 – Output for VCVA, BNC connector. 5 - Power supply knob with LED.

Principle of functioning

The Driver converts input 12-bit hexadecimal code, entering it through GPIB or RS-232 interface, into the output current.

Code 0000 → 0 mA and

Code 0FFF → Max mA.

GPIB configuration and operation commands.

Device is configured for proper operation, so the only thing to be changed in its settings is GPIB address - we left factory default '4'.

Command strings and responses given in apostrophes to separate them from spaces and comments. Really there mustn't be apostrophes.

GPIB configuration

Action	Command string	Warning
Set new GPIB address 11	'SYST:COMM:GPIB:ADDR 11' Address will be changed after 30 mSec delay.	Do not forget it!
Set baud rate 1200, update UART	'SYST:COMM:SER:BAUD 1200;UP' <u>Baud rate 1200 recommended.</u>	
Set baud rate 1200, update UART and query the value	'SYST:COMM:SER:BAUD 1200;UP;BAUD?' response: '1200'	!!! Default set Baud=9600 To be changed to 1200
Set RS232 timeout 25 msec	'SYST:COMM:SER:TIME 25' <u>Recommended value</u>	!!! Default set Timeout=25
Set factory default settings	'CAL:DEF' After the command CAL:DEF for normal operation, set the baud rate to 1200 by command Set baud rate , see above.	- Factory default GPIB address - 4. - !!! Default set Baud=9600 - Default set Timeout=25
Save current settings	'*SAV 0'	

GPIB operation

A) GPIB Interface.

1. Setting GPIB address. Factory default address is 4. If you want to change GPIB address you need to send the following commands:

'SYST:COMM:GPIB:ADDR xx', where xx – new GPIB decimal address, and then save this setting:

'*SAV 0' (this command has to be send with new GPIB address)

2. Connect Driver to GPIB bus.
3. Connect the Attenuator with applied cable to connector 4 of the Driver.
4. Turn on the Driver with the switch on its front panel.
5. GPIB command is the following:
"PO B3B2B1B0", where
B0 - "0" bit of sending byte in hexadecimal code
B1 - "1" bit of sending byte in hexadecimal code
B2 - "2" bit of sending byte in hexadecimal code
B3 - "3" bit of sending byte, which should be always equal 0.
6. For setting needed attenuation to use applied calibrations data for VCVA -
attenuation vs code.

B) RS-232 Interface.

Factory setting are: 1200, 8N1

1. Connect Driver to RS-232 bus.
2. Connect the Attenuator with applied cable to connector 4 of the Driver.
3. Turn on the Driver with the switch on its front panel.
4. RS-232 command is the following:
5. "PO B3B2B1B0", where
6. B0 - "0" bit of sending byte in hexadecimal code
7. B1 - "1" bit of sending byte in hexadecimal code
8. B2 - "2" bit of sending byte in hexadecimal code
9. B3 - "3" bit of sending byte, which should be always equal 0.
10. For setting needed attenuation to use applied calibrations data for VCVA -
attenuation vs code.