



**Automotive electronics, programming, chip tuning.**

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Abbreviated instruction  
on operating the DiagProgII™ instrument

## Introduction

In virtue of rapid progress on PC-compatible computer market and very frequent changes of software (including operation systems) being a result of hardware development, as well as because of continuous amendments of working parameters of a personal computer – the [ElproSys](#) company has brought to the market its own standard of a portable computer, which is power supplied from a diagnostic plug of a vehicle. By development of the new appliance called [DiagProg II](#) we got rid of the problems related to the lack of compatibility and various clock rates of different PC computers. The new device has a feature to update its software – the most recent versions of programs are always available from our web site. The new equipment has been designed purposefully to meet the requirements of those customers, who are not demanded to be advanced PC users. The software is extremely user-friendly, hence using it will not be a trouble even for a car electrician. The instruction below presents selected technical problems related to operating the tester.

Apart from this document, our company is working on development of the up-to-date documentation that shall present features of software, which is delivered along with this appliance.

## Contents

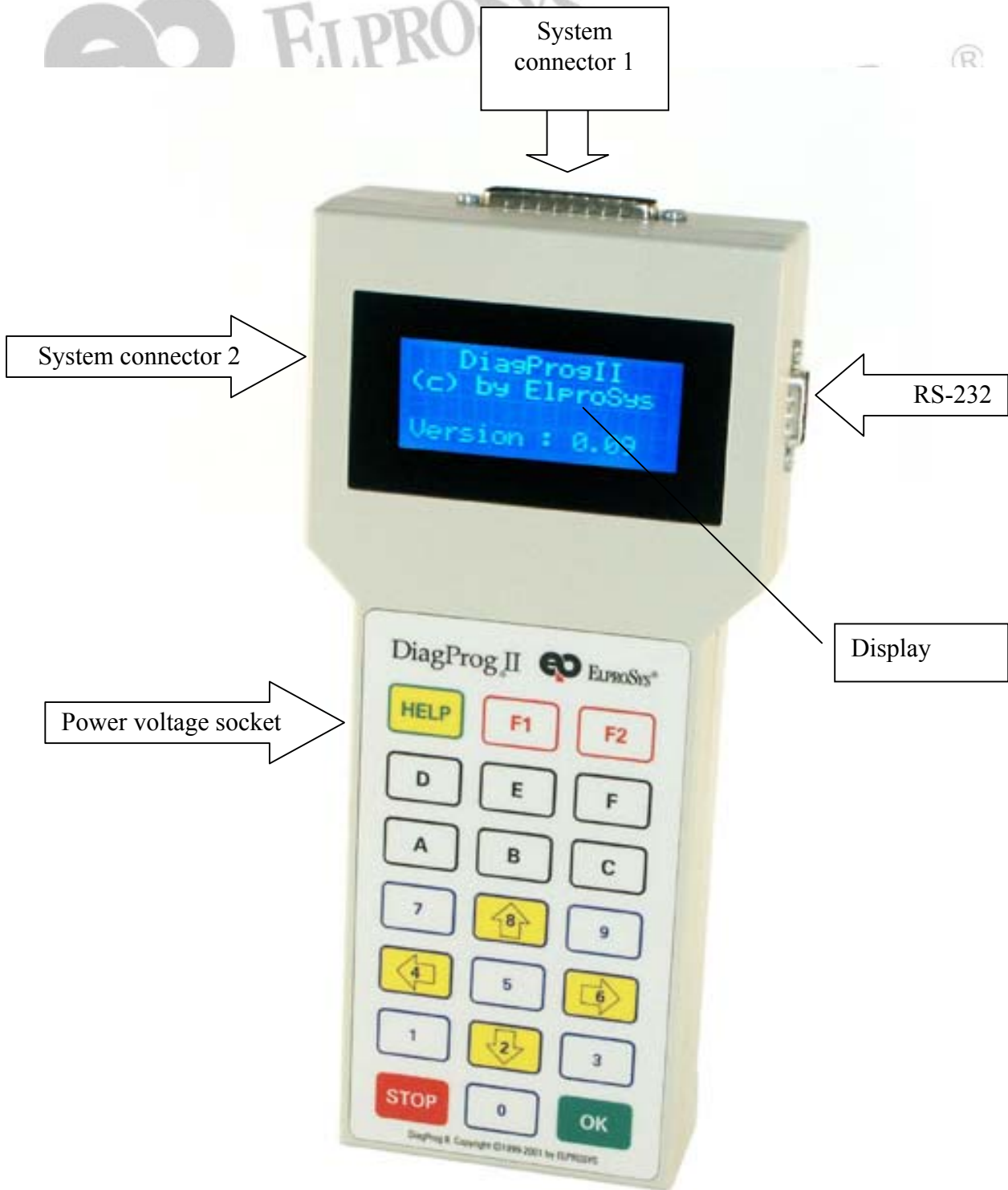
1.	<a href="#">Introduction</a>	2
2.	<a href="#">Menu options of the instrument software</a>	4
3.	<a href="#">DiagProg II external view</a>	6
4.	<a href="#">Keyboard description</a>	7
5.	<a href="#">Power supply of the instrument</a>	8
6.	<a href="#">Operating condition</a>	8
7.	<a href="#">Options</a>	8
8.	<a href="#">DiagProg II features</a>	10
9.	<a href="#">The test adapter electric scheme</a>	11
10.	<a href="#">Connecting DiagProg II to a PC computer</a>	11

## Menu options of the instrument software

- A** --- Options- a-[Activation](#)  
b-[Units](#)----- a-m/h  
c-[Language](#) b-mp/h  
d-[Limit of program cycles](#)  
a-[PC connection](#)  
b-[Special](#)  
c-Test --- a-[Flash](#)  
b-[Interface](#)  
c-[Keyboard](#)  
d-[Display](#)  
d-[Code change](#)
- B** --- Alfa -- a-145/146  
b-156  
c-164  
d-166  
a-GTV Spider
- C** --- Audi --- a-Starter lock --- a-Key memorizing 1  
b-Counter -- a-A3/S3 b- Key memorizing 2  
c-A4/S4 c- Key memorizing 3  
d-A6/S6  
a-A8  
b-S8  
c-TT  
c-SRS Airbag --- a-Errors
- D** --- BMW --- a-E31 (series 8 )  
b-E36 (series 3 )  
c-E39 (series 5 )
- A** --- Chrysler --- a-300M  
b-Cirrus ----- a-Body  
c-Grand Cherokee b-SRS Airbag  
d-Jeep Cherokee ---- a-SRS Airbag  
a-Jeep Wrangler ---- a-SRS Airbag  
b-Neon ----- a-SRS Airbag  
c-SRI  
d-Stratus ----- a-Body  
b-SRS Airbag  
a-Voyager ----- a-Body  
b-SRS Airbag
- B** --- Citroen --- a-Evasion  
b-Xantia  
c-Xara
- C** --- Ferrari --- a-F-50  
b-Modena
- D** --- MB (Mercedes) --- a-A Klass
- D** --- Fiat a-Bravo/Bravak  
b-Marea  
c-Multipla  
d-Punto II  
a-Scudo  
b-Tempra  
c-Tipo  
d-Ulysse
- A** --- Ford -- a-Cougar  
b-Escort  
c-Fiesta  
d-Focus  
a-Galaxy V1  
b-Galaxy V2  
c-Lincoln --- a-Navigator  
d-Mondeo b-Town Car  
a-Puma  
b-Scorpio
- B** --- Honda --- a-Accord  
b-HRV  
c-Legend
- C** --- Jaguar
- D** --- Lancia --- a-K  
b-Lybra  
c-Y  
d-Z
- A** --- Land Rover --- a-Discovery  
b-Freelander  
c-Rangerover
- B** --- Lexus ---a-GS 300  
b-GS 400
- C** --- Mazda ---a-323 ---- a-1 Series  
b-2 Series  
b-626 ---- a-1 Series  
c-MPV b-2 Series  
d-MX-5  
a-Premacy  
b-RX-7

- b-C Klass  
 c-E Klass  
 d-G Klass  
 a-M Klass  
 b-S Klass  
 c-Smart ----- a-Body  
 d-Sprinter    b-Tacho  
 a-Vito
- A --- Mitsubishi ---** a-Carisma  
 b-Colt  
 c-Lancer  
 d-Pajero  
 a-Spacegear  
 b-Spacestar  
 c-Spacewagon
- B --- Nissan ---** a-Almera  
 b-Micra  
 c-Pathfinder  
 d-Patrol  
 a-Primera  
 b-Primera 99  
 c-Terrano
- C --- Opel ---** a-Agila  
 b-Astra  
 c-Corsa  
 d-Frontera  
 a-Vectra  
 b-Zafira
- D --- Peugeot ---** a-206  
 b-306  
 c-406  
 d-806
- A --- Porsche ---** a-928  
 b-996  
 c-996 T  
 d-Boxer
- B --- Renault ---** a-25  
 b-Clio  
 c-Espace  
 d-Kangoo  
 a-Laguna  
 b-Megane/Scenic  
 c-Safrane  
 d-Twingo
- C --- Rover ---** a-45  
 b-75
- D --- Saab ---** a- 9-3 S130  
 b- 9-3 S220  
 c- 9-5 S130  
 d- 9-5 S220
- A --- Seat ---** a-Starter lock – a-Key memo  
 b-Counter --- a-Alhambra  
 b-Cordoba  
 c-Ibiza  
 d-Toledo  
 c-SRS Airbag --- a-Errors  
 d-Crash event reset
- B --- Skoda ---** a-Starter lock  
 b-Licznik ----- a-Oktavia  
 c-SRS Airbag --- b-Errors  
 d- Crash event reset
- C --- Subaru ---** a-Forester  
 b-Impreza  
 c-Legacy
- D --- Suzuki ---** a-Jimmy  
 b-Vitara
- A --- Toyota ---** a-Avensis  
 b-Camry  
 c-Corolla  
 d-K-95  
 a-Landcruiser  
 b-Picnic  
 c-RAV 4  
 d-Y
- B --- Volvo ---** a-850  
 b-Series 40  
 c-Series 70  
 d-Series 80
- C --- VW ---** a-Starter lock. --- a-Key memorizing 1  
 b-Key memorizing 2  
 b- Counter -- a-Golf 3/Vento  
 b-Golf 4/Bora  
 c-Lupo  
 d-New Beetle  
 a-Passat  
 b-Polo 3  
 c-Polo 4/5  
 d-Sharan  
 a-T4/T5  
 c-SRS Airbag --- a-Errors  
 b-Crash event reset

## DiagProg II external view



- System connector 1 - It is a plug that has all the interface standards available within the instrument
- System connector 1 - Serves as extension of the connector 1 and has 12 input lines and 11 outputs.
- Power voltage socket - it is an additional connection that makes possible to energise the instrument.
- RS-232 - it is a socket that is used for connecting the appliance with a PC computer. The special RS-232 cable has to be used for that purpose.

### **Keyboard description**

- Help - by depressing that key the user gets access to the help system that describes all the available functions of the DiagProg II appliance;
- F1 /F2 - special function keys;
- 0 ... 9, A ... D - keys that are used for entering the codes;
- A ... D, 2, 8 - keys used for navigation through the menu system;
- STOP - the CANCEL /EXIT key
- OK - the ACCEPT /ENTER key

## Power supply of the instrument

When the instrument is used in typical way, when programming or diagnostics of a vehicle is carried out via the diagnostic plug, the appliance is energised from the connector. However, during programming the device itself (e.g. a counter), the module can be power supplied from an external source of stabilized voltage e.g. power supply module 12 V DC, 3 A or a car lighter socket. One should remember that the DC power supplying voltage should be within the limits from 10 to 14.4 V DC. **Incorrect values of the voltage may lead to damage of the appliance.**

It is a very important feature of the device, that after supplying the voltage to the energising socket, the same voltage value is transmitted to the system connector No 1.

The power supply module, which is delivered by our company, is suitable exclusively for energising the instrument during software update or file transmission between the device and a PC computer. **Since it is not a stabilized power supply module, it cannot guarantee correct programming or diagnostics of the instrument if the delivered module is used.**

After switching power voltage on, the number of software version shall appear on the display for a while. Next, the main menu is exposed. Navigation over menu options is carried out in the following way: for to move to an upper or lower menu level, one should use the “8” or “2” key, the necessary option is selected by means of the “A”, “B”, “C” or “D” keys.

## Operating condition

DiagProgII can be operated at the temperature from 0°C to 40°C.

The temperature may be lower during a short programming cycle.

**Please remember, never switch the power voltage on after carrying the appliance from an area with temperature below 0°C.**

The keyboard is waterproof and protected against moisture leakage. The same refers to the glass of display unit. **But the system connectors No 1 and No 2 as well as the RS 232 socket are sensitive to water and moisture.**

## Options

- Activation** – by means of that function one can activate the software, which is not provided for the possessed appliance. After contacting his reseller or dealer, the user obtains software code that has to be entered into the appropriate box and then confirmed. The message “PASSWORD FOR THE DISTRIBUTOR” followed by the 16-digit number shall appear on the DiagProgII display. That number should be obtained to the reseller. The instrument shall require entering the 16-digit code that must be written twice – the second time for comparison. After the fifth erroneous entering the code, the instrument is locked. In such a case the operator should switch the instrument off and contact his reseller. After switching the power off and again on, the password shall remain unchanged. Hence, power supply can be disconnected until the respond from the reseller is received. The password that shall be obtained and entered in such a case cannot be used again any more!!! That option can never be used without a prior contact with the manufacturer.
- Units** – this option can be used for changing the mileage units, switching between km/h and mph. This option works exclusively for cars that are available on the American car market (USA).
- Language** - makes it possible to change language of menu options (depending of the model of the appliance);
- Limit of programming cycles** displays the number of programming cycles that are left up to the licensed limit (for the defined software versions, according to the licence terms). Although the limit is exhausted, some diagnostic programmes can be launched, e.g. reading of error codes.
- PC-connection** - this option is to be used when the instrument is connected to a PC computer. It causes that the DiagProgII instrument awaits data transmission from the PC.
- Special** - activates special options of the appliance. **Before using that function, one has to contact the manufacturer !!!**
- Tests** - this options carries out internal tests of the device.
- Flash** - this option makes possible to check the amount of flash-type memory. After selecting that option, the unit automatically detects number of memory chips installed. Nowadays, the devices with one or three flash memory modules are manufactured (the second version is designed for car tuning).
- Interface** - after selection of this option, the instrument successively checks correctness of operation :
1. A/D converter;
  2. input/output lines that are available on the system connector No 1;

3. relay;
4. the k-line interface No 1 and k-line No 2;

For execution of that test, a special [test adapter](#) has to be connected.

During the test procedure, the instrument must be energised from a separate power supply unit 12V DC ( $\pm 0.2$  V). Otherwise, reliable results of the test are not guaranteed.

**Keyboard** - after selecting the keyboard test, one has to depress the key, correctness of which is to be checked. Then observe the display, on which a message should appear. The message contains:

- the name of the key,
- *OK* confirmation (only for fault-free keys)

If the key under test is faulty, the name of the depressed key shall not appear on the display or the name of another key shall be indicated.

**Display** - a thorough test of the display module. After selecting this function, the digits from 0 to 9 should appear on the display. In this way, one can check whether all the segments of the display are alive.

**Code change** - it is a protection against unauthorised use of the appliance. In order to activate this function, the user, after selecting the menu option, is demanded to enter the access code. If the function is inactive (factory setting) it is enough to depress the OK button. Then the new access code can be entered (from 1 to 6 characters) and confirmed. While the instrument is switched on the next time, the demand for the access code shall be displayed.

However, the described function can be de-activated. For that purpose it is necessary to enter the correct access code and, on request of the DiagProgII appliance, refuse entering a new code but depress the OK instead. Then the selection should be confirmed by pressing the OK key once more.

## DiagProg II features

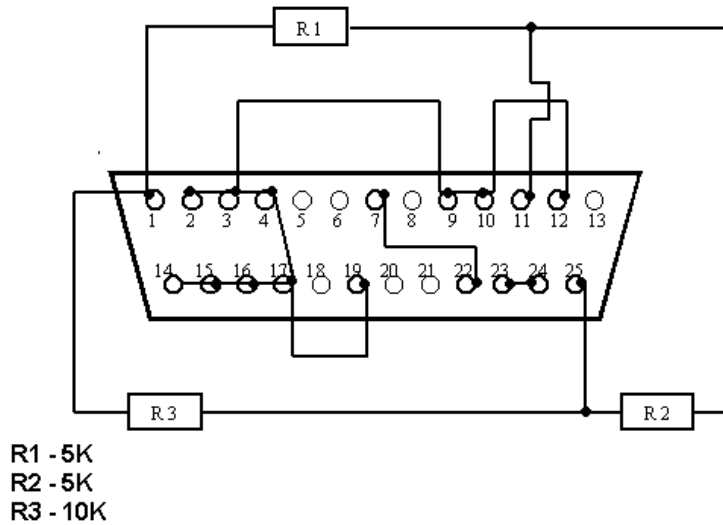
The DiagProgII instruments has the following characteristics:

- 11 input /output lines, rated at 4 MHz (0 ... 5 V),
- 12 input lines, rated at 4 MHz (0 ... 5 V),
- 11 output lines, rated at 4 MHz (0 ... 5 V),
- RS 232 interface (voltage level 0 ... 5 V and 0 ... 12 V),
- CAN – BUS interface (matches the ISO 11898 standard),
- K-line interface (matches the ISO 9141 standard),
- SPI interface (Master – Slave),
- the analogue output (0 – 15 V),
- the +12 V driven by a relay,
- 2 PWM outputs for timing generation,
- a sturdy casing that can be used under car garage circumstance,
- flash memory 1 MB or 3 MB (up to customer's choice),

- authorised access to nearly 900 program facilities – via Internet, fax of passwords assigned by phone,
- built-in 4 languages: Polish, English, German or French,
- possibility to update software via Internet or by means of a standard RS - 232 cable,

## The test adapter electric scheme

The DB-25 socket layout from the back side



## Connecting DiagProg II to a PC computer

In order to connect the DiagProgII instrument to a PC computer, one has to use the RS – 232 cable (Fig. 1) as well as the DiagProgII Setup program. This program is distributed free-of-charge and can be obtained directly from the manufacturer or via the ElproSys web site. **However, one should remember, that the PC computer must have the hardware key (HASP) installed. The key is delivered along with the DiagProg II instrument. Otherwise, the DiagProg II Setup program will not run.**

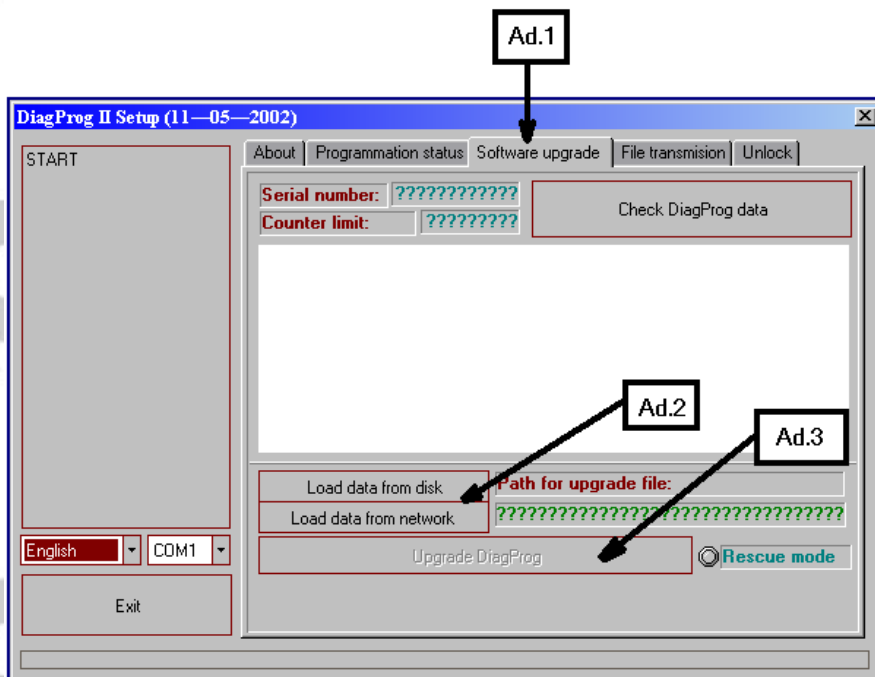


Fig.1

Firstly, the power supplying wires should be connected to the instrument. Then the “PC connection” option has to be selected from the menu. The function causes that the DiagProgII appliance awaits data transmission from the PC computer. If everything is ready, the DiagProgII Setup program can be run on the PC computer.

### Software upgrading

1. Within the DiagProgII Setup program one has to select the *Software upgrade* function.
2. Then, the upgrading information must be read from a disk (only the files with \*.dpu extension) or downloaded via the web. **If the software is upgraded via Internet, one has to remember that the computer, on which the DiagProgII Setup software is installed, should be connected to the web.**
3. Next, the data can be transmitted to the instrument. For this one has to select – *Upgrade DiagProg*.

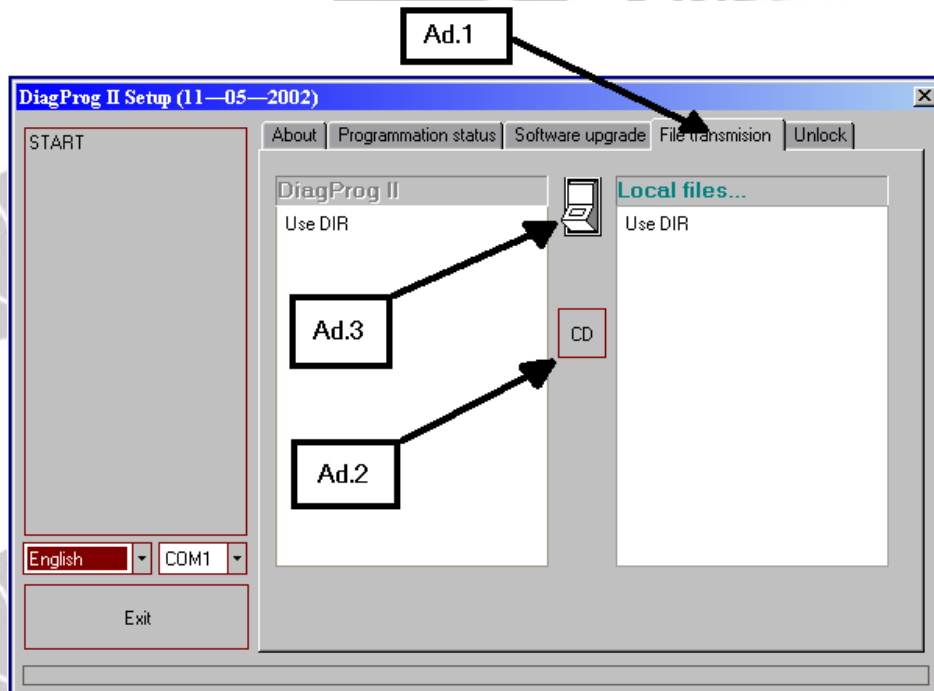


### Data transmission between the PC computer and the DiagProgII instrument

1. Firstly, one has to select the function *File transmission*.

2. Next, depress the CD button and mark the folder (directory) from which data shall be read.
3. Finally, the switch mark is to be clicked. The arrows should appear that serve for data transmission from the computer to the instrument or vice versa.

On the left-hand side the files located on the DiagProgII instrument are displayed and on the right-hand side – the files from the computer.



In both cases of transmission, one has to remember that switching the instrument off during transmission is prohibited. The instrument can be de-energised only after the blue bar located in the bottom part of the window fills to its end. If the transmission is interrupted, the instrument may not restart.

If, because of any reason, the instrument does not restart, one has to make an attempt to activate it with the HELP button depressed. Hold the button down until the message “CONNECTED...” appears on the instrument display. Then, within the DiagProg II Setup program, run the EMERGENCY MODE. For this purpose, on the computer keyboard depress the Ctrl+Shift+A key simultaneously. This shall be confirmed by blinking the dot (LED diode) next to the notice “Rescue mode”. Later, software upgrading should be carried out. Having the process completed, the instrument should restart in normal way.

By means of the DiagProgII Setup program the user can also activate software tools, which were unavailable before or for which the number of programming cycles has been exhausted.

1. Firstly, within the menu, the “UNLOCK” option should be selected.
2. Next, move to the option “LOAD FILE WITH PASSWORD FROM DISK” (the files can be obtained from a reseller, where the instrument was purchased).
3. Finally, software upgrade can be executed, selecting the option “UPDATE DIAGPROG II LOADING FILE”

