

# -COMM

phytron®

## Software for Stepper Motor Controller Systems



**Manual 1097-A009 GB**

**customized solutions**  
in motion



**α – COMM®**  
**PC Software for**  
**Stepper Motor Controller Systems**

© 2005

All rights with:

Phytron-Elektronik GmbH

Industriestraße 12

82194 Gröbenzell, Germany

Tel.: +49(0)8142/503-0

Fax: +49(0)8142/503-190

Every possible care has been taken to ensure the accuracy of this technical manual. All information contained in this manual is correct to the best of our knowledge and belief but cannot be guaranteed. Furthermore we reserve the right to make improvements and enhancements to the manual and / or the devices described herein without prior notification.

We appreciate suggestions and criticisms for further improvement. Please send your comments to the following

E-mail address: [doku@phytron.de](mailto:doku@phytron.de)

## Contents

1 What is $\alpha$ -COMM®? .....	4	5.4 The Menu <i>Transmission</i> .....	13
1.1 First steps with $\alpha$ -COMM.....	4	5.4.1 Receive .....	13
1.2 The main features of $\alpha$ -COMM on one view.....	5	5.4.2 Send .....	15
2 System requirements .....	6	5.4.3 Delete .....	18
3 Program installation .....	6	5.4.4 Direct Mode .....	20
3.1 How to Install the Program .....	7	5.4.5 Operation.....	21
3.2 File Names .....	8	5.4.6 IO Monitor.....	22
3.3 Update of $\alpha$ -COMM Above Program Version 3.0 .....	8	5.4.7 RS Monitor .....	23
4 The Working Environment Used by $\alpha$ -COMM .....	9	5.5 The Menu <i>Options</i> .....	24
4.1 Icon Description.....	10	5.5.1 Parameter Text File .....	24
5 The $\alpha$ -COMM Menus.....	11	5.5.2 Select Language .....	25
5.1 Starting and Leaving $\alpha$ -COMM.....	11	5.5.3 Select Controller Type .....	25
5.2 The Menu <i>File</i> .....	11	5.5.4 Interface Parameters .....	25
5.2.1 New .....	11	5.5.5 About Alpha-Comm .....	27
5.2.2 Open.....	12	5.6 The Menu <i>Telephone Call</i> .....	28
5.2.3 Save .....	12	5.7 The Menu <i>Window</i> .....	28
5.2.4 Save as.....	12	6 The Configuration File Alpha3.ini .....	29
5.2.5 Close .....	12	7 Error Messages.....	30
5.2.6 Print.....	12	7.1 Interface Problems .....	30
5.2.7 Exit program .....	13	8 Interface Parameters : Standard Values .....	31
5.3 The Menu <i>Edit</i> .....	13	9 Adapter Cables .....	32
		10 Copyright and Limitation of Warranty ...	35
		11 Index.....	36

## 1 What is $\alpha$ -COMM<sup>®</sup>?

---

$\alpha$ -COMM is a WINDOWS program to operate PHYTRON stepper motor controllers by means of a PC. Even without programming experience you can easily handle the communication with PHYTRON controller systems after only a short learning period.

You only have to connect the PHYTRON controller to the RS232 connector of your PC, and you have to install the  $\alpha$ -COMM software according to the instructions in this manual - that's all.

$\alpha$ -COMM supports the edition of MINILOG-programs for several types of PHYTRON controllers, e.g. IXE, SAM and PLS 02A. In addition,  $\alpha$ -COMM handles and stores MINILOG-programs, parameter and register sets of the controllers.

### 1.1 First steps with $\alpha$ -COMM

---

**Remark:** For the most users Microsoft<sup>®</sup> Windows<sup>®</sup> is a familiar operating system. Therefore, we suppose the application of windows specific inputs for the  $\alpha$ -COMM operation, switches, mouse clicks. You will find helpful information for your Windows operating system in your Windows user's guide.

- Please check whether your PC fulfills the hardware and software requirements as shown on page 6 (chap. 2).
- Please install  $\alpha$ -COMM following the instructions starting on page 7 (chap 3.1).
- To connect the PC and the stepper motor controller you have to purchase an adapter cable, or you have to make one by yourself following the instructions in the chapter 7 (page 33).
- Start the program by clicking the button **Start** on the taskbar. In the menu *Start* select **Programs/AlphaCommV3\_3/AlphaCommV3\_3** by clicking the left mouse key. Or start the program by double-clicking on the selected  $\alpha$ -COMM-Icon.
- After program startup you can see the startup desktop. On the upper side there is the menu bar. Please select the appropriate settings for the type of controller you use: Select first the menu item **Options** with the mouse and then select **Controller type**, please refer to table 5.5.3 on page 25.

**Important:**

- If you miss your controller type, select the standard controller type **Alpha 6 characters**
- Now it is the time simply to play with the program and to test some of its functions. You will see that the handling is very simple and self-explaining.
- For further instructions please refer to the appropriate items in this manual. You will find a summary, many cross references and an index at the end of the manual. This will help you to get an overview about all functions of the program.
- For programming commands and other information about your control units, please refer to the special programming manuals and hardware manuals of your devices.

MINILOG programs stored in your control unit and new MINILOG programs created with  $\alpha$ -COMM can be printed.

- **Example:** Printout of a test program
  - Select the menu item **File/New/Program**: The program editor window is shown on the desktop.
  - Enter some MINILOG program lines or simply some lines of text (line numbers will be added automatically) in the left column. In the right column you may enter some comment lines.
  - Select the menu **File/Print** : Printer selection, print properties, print range and number of prints can be set
- **Example:** Printing a program listing directly out of the control unit's memory
  - In the menu **Options/Interface parameters/Setting ...** you have to define some parameters of the interface driver you use (Chap.5.4.4).
  - Now select the type of your control unit in **Options/Controller type** (Chap 5.5.3).
  - Select the menu item **Transmission/Receive/Program**, start the program transfer from the controller and save the program with a new .apr-filename.
  - Select **File/Open** and open the saved file once more
  - Select **File/Print**: Printer selection, print qualities, print range and number of prints can be set

## 1.2 The main features of $\alpha$ -COMM on one view

---

- Desktop with pull-down menus and mouse support
- Hotkeys for frequently used commands
- Dynamic allocation of PC resources, that means,  $\alpha$ -COMM will only occupy the memory space needed in each moment.
- Program editor for a unlimited number of program lines
- Register editor for a unlimited number of registers
- Parameter editor for up to 8 stepper motor axes
- To each MINILOG program line and each MINILOG register you can edit and store up to 7 comment lines. The comment lines can be moved individually.
- When reading out program lines and register values from the control unit,  $\alpha$ -COMM always tries to preserve existing comment lines, if you store your data in an already existing file.
- With only one command you can transfer several programs from the control unit to the PC or vice versa.

## 2 System requirements

---

$\alpha$ -COMM can be used on PCs with at least the following features:

- Operating system Windows<sup>®</sup> 95, 98, 2000 or also NT<sup>®</sup>
- At least 32 MB RAM free memory
- Mouse
- Floppy disk drive 3,5“, in case of disk program installation
- Free interface RS232 for controller connection

## 3 Program installation

---

The following folders are saved on the CD:

English	Includes the files for a setup in English
French	Includes the files for a setup in French
German	Includes the files for a setup in German

In every folder the following files are stored:

Setup.exe	Installation file
Setup.lst	List file
AlphaC1.CAB	Packed program file 1
AlphaC2.CAB	Packed program file 2
AlphaC3.CAB	Packed program file 3



### 3.1 How to Install the Program

1. Put the program CD into the CD-ROM drive.
2. Select **Start/Explore**. Start the installation program [CD-ROM address][English]or[French]or[German]SETUP.EXE by clicking **OK**.
3. The installation program copies the files into the RAM after the program start.
4. The screen shows the following information:



Fig. 1: Setup program for  $\alpha$ -Comm

5. Please click on **OK** and the following information is on the screen:

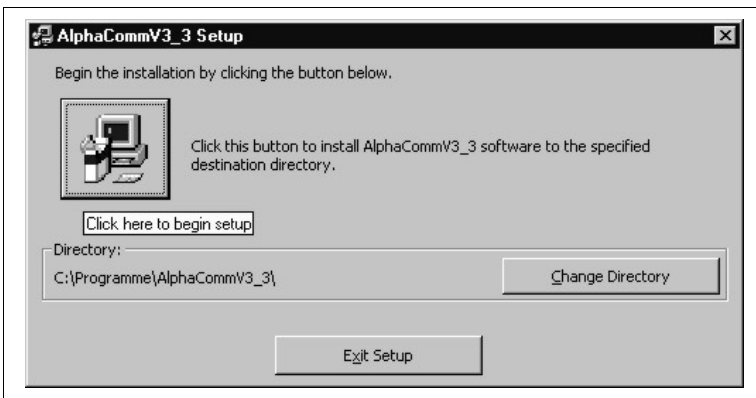


Fig. 2: Setup start for  $\alpha$ -Comm

6. **c:\Programs\AlphaCommV3\_3** is the standard directory of  $\alpha$ -COMM. With *Change directory* another directory can be selected. Click on the ,PC' Button to start the installation.

7. Then, please select a program group (f. ex. AlphaCommV3.3).
8. The files will be stored into the defined directory, some files will be stored into the Windows directory.
9. When the message *AlphaComm3 successfully finished* is on desktop, the installation is successfully finished.
10. Remove the CD from the CD-ROM drive.
11. For better working we recommend to save the AlphaComm-Icon on desktop. Therefore, a fast program start is possible.

**Remark:**

**If you have got the  $\alpha$ -COMM files on another way (f. ex. email), the program installation can be done like in chapter 3.1 (beginning at item 2). Instead of CD-ROM drive select the corresponding directory, on which the file SETUP.exe is stored.**

## 3.2 File Names

---

After installation the following files are stored in the directory:

AlphaCommV3.exe	Program $\alpha$ -COMM
D_Alpha.par E_Alpha.par F_Alpha.par	Parameter file with default parameter settings in German, English and French
D_Par21.par E_Par21.par F_Par21.par	Parameter file in German, English and French
St6unst.log	Protocol file of the program installation

## 3.3 Update of $\alpha$ -COMM Above Program Version 3.0

---

If you want to install an update in case of an existing  $\alpha$ -COMM copy, the installation program automatically deletes the old version before installing the new.

## 4 The Working Environment Used by $\alpha$ -COMM

After the successful program start of  $\alpha$ -COMM the desktop will show up like in fig. 3:

























Fig. 3: Desktop after program start

The working environment of  $\alpha$ -COMM consists of four main components:

1. The selection menu in the top line on the desktop:  
File, Edit, Transmission, Options, Telephone call, Window
2. The selection menu of some commands with icons
3. The working area
4. The state line at the bottom of the desktop: Interface parameters, Controller type, Modem Status

## 4.1 Icon Description

Icon	Significance	Remark
	Write new program	X
	Write new register	X
	Write new parameters	X
	Open program file	X
	Open register file	X
	Open parameter file	X
	Save file	O
	Print file	O
	Cut	O
	Copy	O
	Insert	O
	Search	O
	Open menu Direct mode	X
	Open menu RS Monitor	X
	Open operation mode	X
	Open menu IO Monitor	X
	Receive program	X
	Receive register	X
	Receive parameter	X
	Send program	X
	Send register	X
	Send parameter	X

X = This icon is always shown in the selection menu

O = This icon is conditionally shown in the selection menu

---

## 5 The $\alpha$ -COMM Menus

---

To work with  $\alpha$ -COMM is as easy as efficient. The new WINDOWS desktop of  $\alpha$ -COMM is delivered with new features to allow a comfortable use.

In this chapter you will find all you need for starting and leaving  $\alpha$ -COMM, and there is a detailed description of each single menu command, dialog box, switch etc.

---

### 5.1 Starting and Leaving $\alpha$ -COMM

---

Select **Start / Programs / AlphaCommV3\_3 / AlphaCommV3\_3** by clicking the program start with the left mouse key. Or click on the  $\alpha$ -COMM-Icon, if it exists on your desktop.

Use the menu command **File / End** to leave  $\alpha$ -COMM.  $\alpha$ -COMM will display a warning message if there still is unsaved data in one of its editor windows.

---

### 5.2 The Menu *File*

---

In the menu **File** you will find commands to open files, to create new files, to save changed files, to print files and to leave  $\alpha$ -COMM.

---

#### 5.2.1 New

---

In the submenu **File / New** you select the editor type, for which you want to create a new window on the desktop.

These new windows have default names like NONAMExx.yyy until you save the contents and assign a new file name. These NONAME-files are only temporary. You are asked for a new file name during the save process.

Note: We recommend not to use NONAMExx as a new file name.

The extension of the filename yyy depends on the data  $\alpha$ -COMM stored in the file.

The 3 possible values are:

- .APR for a program editor,
- .APA for a parameter editor and
- .ARE for a register editor.

#### **Remark:**

If you create a new parameter editor window the parameters in it are preset to default values for one axis. These default values are stored in a default parameter file (see chap. 5.5.1) You can easily change this default parameter file according to your needs.

## 5.2.2 Open

---

In the sub menu **File / Open** you are first asked to select a file type (program, parameter or register), then a dialog box is opened to select one file of this type.

The dialog box contains an edit box, a file list and action buttons **OK** and **Cancel**.

- The file will be opened and loaded into a new editor window.
- Select a new file name in the file list. The file will be opened and loaded into a new editor window.

### Remark:

If you create a new parameter file  $\alpha$ -COMM will prepare data for one axis. These data are preset using the default values from the default parameter file (see chap. 5.4.1). Now you can modify these values and save them.

## 5.2.3 Save

---

**File / Save** stores the data from the active editor window into a file.

## 5.2.4 Save as

---

With **File / Save as** you can define a new file name for the data you are editing in the current editor window, or you can store the data with the same file name, but into another directory or drive.

## 5.2.5 Close

---

With **File / Close** the file in the active editor is closed. The program remains opened.

## 5.2.6 Print

---

**File / Print** opens the Windows specific print sub menu where you can select the printer type and the print properties.

---

## 5.2.7 Exit program

With **File / Exit** you finish  $\alpha$ -COMM. If files are open which are not yet saved,  $\alpha$ -COMM will ask you to save them.

---

## 5.3 The Menu *Edit*

The menu **Edit** is a program editor to change the opened file. The edit functions of this file depend on the file type. For program or register files the editor modus **Cut, Delete, Copy or Insert** can be selected, for parameter files **Add Parameter Set** or **Delete**.

The menu **Search** starts from the first position and searches for the input text in program lines or comment lines.

The menu **Continue Search** repeats the search of the input text continuously in program lines or comment lines.

---

## 5.4 The Menu *Transmission*

In the **Transmission**-menu you will find all functions to communicate with a Phytron stepper motor controller connected to your PC. You can read out parameters, programs and register sets, or you can send these data to the stepper motor controller. Also you can delete programs saved in the controller, send commands directly to the controller, operate the system in a manual test mode, and perform tests with your PC's interface.

### Remark:

If the connection between the PC and the controller fails, every command contained in the transmission menu may result in a transmission error. If this happens, the action is aborted and an error message is displayed. Please refer to chapter 7 to remove the error condition.

### Important:

The sub menu item Megacard is only active for the controller types Alpha 6 characters and Alpha 8 characters. For all other controller types the sub menu item remains unconsidered.

---

### 5.4.1 Receive

**Transmission / Receive** activates a submenu with the items Program, Parameters, Registers and Megacard. If you select the menu item Megacard, you can select the items Program, Parameter and Register in a further submenu.

$\alpha$ -COMM will ask you, which program/parameters/register you want to read. You will get a selection list of all programs/registers/parameters you can find on a controller. Select the

program/parameter/register by clicking the left mouse key. Then you will be asked for the name of the files to store. (see Fig. 4:).



Fig. 4: Menu item receive programs

If you input a new name, the read data will be stored again. If you input an existing name, it will be overwritten after the reading.

During transmission a running box will inform you about the actual transmission status.

After successful data reading and saving, the desktop shows the message *all programs/Parameters/Registers successfully received*, which should be confirmed by **OK**.

## Receive program

With the menu item **Transmission / Receive / Program** you can read out programs from the controller connected to your PC.

## Receive parameter

With **Transmission / Receive / Parameter** you can read the parameter set out of the controller connected.  $\alpha$ -COMM will read for every axis exactly the number of parameters as defined in the default parameter file (see chap. 5.4.1).



## Receive register

With **Transmission / Receive / Register** you can read the register set out of the controller connected.  $\alpha$ -COMM gives you the information about the number of register values by a window.

## Receive from Megacard

**Transmission / Receive / Megacard** opens a submenu with the items program, parameters and registers. If you use an  $\alpha$ -controller, you can read data directly from the megacard.

### Remark:

Fundamentally, you have to notice for this menu option, that the program memory, the parameters and registers of  $\alpha$ -COMM are stored intermediately as temporary files and are stored back after the megacard transmission.

## Receive from Megacard: Program

**Transmission / Receive / Megacard / Program** allows you to read programs directly from the megacard of an  $\alpha$ -controller. The procedure is equivalent to the one described with **Receive** on page 13.

## Receive from Megacard: Parameters

**Transmission / Receive / Megacard / Parameters** allows you to read programs directly from the megacard of an  $\alpha$ -controller. The procedure is equivalent to the one described with **Receive** on page 13.

## Receive from Megacard: Registers

**Transmission / Receive / Megacard / Registers** allows you to read programs directly from the megacard of an  $\alpha$ -controller. The procedure is equivalent to the one described with **Receive** on page 13.

---

## 5.4.2 Send

**Transmission / Send** opens a submenu with the items Program, Parameters, Registers and Megacard. The item Megacard will again open another submenu with the functions Program, Parameters and Registers.

## Send program

With the menu entry **Transmission / Send / Program** you can transfer complete programs to the controller connected to the PC.

$\alpha$ -COMM asks you, which program you want to send. You will receive a selection list of all stored programs. Select the program by double clicking the left mouse key. Then, you will be asked for a program name the data should be saved on the controller. (see fig 5).



Fig. 5: Menu box send program

During the transmission a running box gives the actual information to you about the transmission status.

After successful data reading and saving, the message *programs transmitted* is shown on the desktop, which has to be confirmed with **OK**.

## Send parameters

With the menu entry **Transmission / Send / Parameters** you can update the parameter list of the controller connected. A selection list shows the parameter files in the current directory.

After parameter file selection by double clicking the left mouse key the parameter transmission starts.

While the transmission is running  $\alpha$ -COMM will show the actual state in a small window.

After successful data reading and saving, the message *parameters transmitted* is shown on the desktop, which has to be confirmed with **OK**.

### Send Registers

With the menu item **Transmission / Send / Registers** you can write a register set into the controller connected. A selection list shows all available register files in the current directory.

After register file selection by double clicking the left mouse key the register transmission starts.

While the transmission is running  $\alpha$ -COMM will show the actual state in a small window.

After successful data reading and saving, the message *registers transmitted* is shown on the desktop, which has to be confirmed with **OK**.

### Send to Megacard

#### Remark:

Fundamentally, you have to notice for this menu option, that the program memory, the parameters and registers of  $\alpha$ -COMM are stored intermediately as temporary files and are stored back after the megacard transmission.

**Transmission / Send / Megacard** opens a submenu with the entries program, parameter and register. If you are using  $\alpha$ -controller type with megacard you can use this submenu to write data direct into the controller's megacard.

#### Send to Megacard: Program

The menu item **Transmission / Send / Megacard / Program** will write programs directly into the megacard of the  $\alpha$ -controller.

The complete procedure is described in paragraph **Transmission / Send / Program**. The only difference is that after the transfer of the data the megacard will be programmed. You will be informed by a small window.

#### Send to Megacard: Parameters

The menu item **Transmission / Send / Megacard / Parameters** will write parameters directly into the megacard of the  $\alpha$ -controller.

#### Send to Megacard: Registers

The menu item **Transmission / Send / Megacard / Register** will write registers directly into the megacard of the  $\alpha$ -controller.

## 5.4.3 Delete

---

**Transmission / Delete** opens a submenu with the entries Program, Registers, All and Megacard. If you select the menu item Megacard, you can select the items Program, Parameters, Registers and All in a further submenu.

### Delete program

With the menu item **Transmission / Delete / Program** you can delete single programs in the controller connected. This function will work only with  $\alpha$ -type controllers.

$\alpha$ -COMM will show a file selection list with all programs in the controller's memory.

Before the program is really deleted,  $\alpha$ -COMM requires the confirmation **OK** for the deletion. With **Cancel** the program will not be deleted.

### Warning:

A program deleted here by accident **cannot** be restored!

### Delete registers

With **Transmission / Delete / Registers** all registers in the controller will be reset to 0.

$\alpha$ -COMM will ask you for confirmation before it starts the process. You will be informed by a small window.

### Delete All

With the menu item **Transmission / Delete / All** all programs in the controller will be reset to 0.  $\alpha$ -COMM will ask you for confirmation before it starts the process. You will be informed by a small window.

### Remark:

The command **Delete All** will even work for programs in controllers where the command delete programs selectively does not work .

**Warning:** There is **no** possibility to recover programs or registers after processing the delete command!

## Delete on Megacard

**Transmission / Delete / Megacard** opens a submenu with the items Program, Parameter, Register and All. For an  $\alpha$ -controller type with megacard you can use this menu item to initialize the megacard.

**Transmission / Delete / Megacard** activates a submenu with the entries program, parameters, registers and all. If you are using an  $\alpha$ -type controller you can for instance use this command to initialize the megacard completely.

### Remark:

The commands for programs, parameters and registers do not free the memory space on the megacard. The commands only mark the memory space as deleted.

## Delete on Megacard: Program

With **Transmission / Delete / Megacard / Program** individual programs on the megacard can be deleted. The process is described on page 18 and is equivalent to the command *Delete/ Program*.

## Delete on Megacard: Parameters

With **Transmission / Delete / Megacard / Parameters** individual parameter sets on the megacard can be deleted. The process is described on page 18 and is equivalent to the command *Delete/ Program*.

## Delete on Megacard: Registers

With **Transmission / Delete / Megacard / Registers** individual register sets on the megacard can be deleted. The process is described on page 18 and is equivalent to the command *Delete/ Program*.

## Delete on Megacard: All

**Transmission / Delete / Megacard / All** will cause that the megacard is completely new initialized. During this process all programs, parameter sets and register sets are deleted. The process is performed only after you have confirmed it, and it will last between 4 to 6 minutes. You will be informed by a small window.

**Warning:** The deletion process **cannot** be made undone!

## 5.4.4 Direct Mode

With **Transmission / Direct Mode** you open a dialog box which allows to send commands directly to the stepper motor controller.  $\alpha$ -COMM will generate the complete protocol automatically.

To send a command to the controller you first have to select the input box, if it is not already active. Now enter the MINILOG command, e.g. XP5R which means read parameter 5 from axis X, see Fig.6:

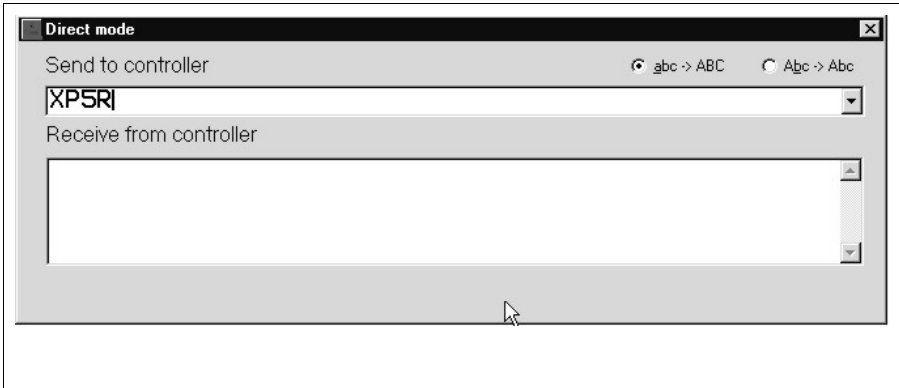


Fig. 6: Direct mode

The command will be sent to the controller by pressing the [↵]-key.

The response box will show any answer from the controller, in the example this could be <ACK> 25000, which means, that parameter 5 of axis X has the value 25000.

With the DropDownkey [!] a history list with commands used earlier can be activated.

### Remark:

Usually Phytron controllers will answer with <NAK> if you use a command which is invalid for the controller connected.

Nearly, all Minilog instructions can be written without consideration of the capital and small letters. If you have clicked on the button abc --> ABC, the instruction is changed to the capital letters.

### Important:

Therefore, for instructions with or-logic operation (f. ex. Ev011) and for the display commands d0 or d1 click on the button Abc --> Abc to keep the capital and small letters.

## 5.4.5 Operation

With **Transmission /Operation** you open the following window, in which you can move the motor directly by mouse click:

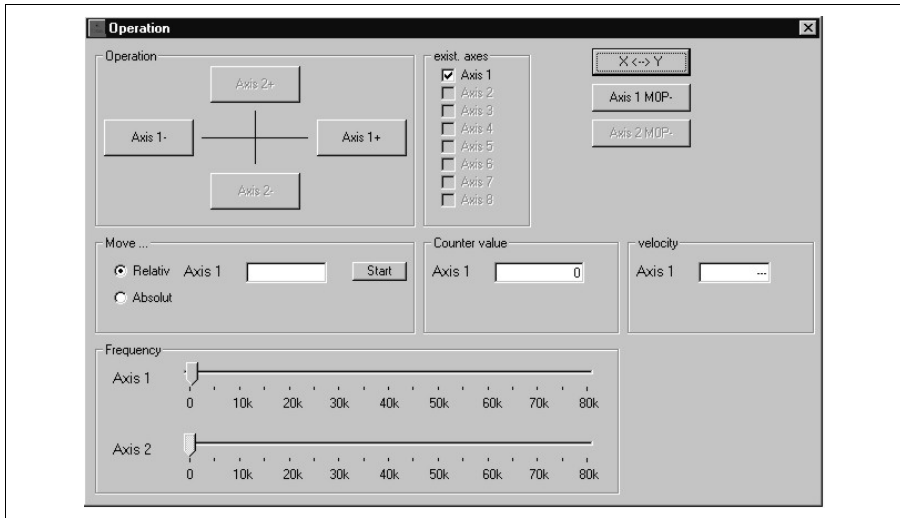


Fig. 7: Operation

Simply click on one of the buttons **AXIS 1–** (direction), **AXIS1+**, **AXIS2–**, **AXIS2+**. Direction + means clockwise movement, seen onto the motor axis from outside.

If the axis numbers 1 and 2 are coordinated wrong, you can "exchange" the axes by clicking on the button **X <-> Y**.

You can enter drive instructions for both axes into the window **Drive Relative**.

The symbol + or – before the entered number of steps defines the direction.

**Drive Relative** means moving from the actual position by x-counter values. With **Drive Absolute** the input counter value is referred to the zero point.

When you click on the button **Start** the instruction will be executed. Now the button has the marking **Stop** in order to cancel the movement if required.

In the column **Exist. axes** the program indicates which axes can be operated with. This information only refers to the power stage state. The program does not recognize whether a stepper motor is connected or controlled with a suitable current setting.

With two slider controls at the bottom of the window you can change the drive frequencies of both motors.

You can initialize each axis with click on one of the buttons **Axis1 MOP** or **Axis2 MOP**.

After start the button has the marking **Stop** to cancel initializing if required.

In **velocity** you can see the speed with the unit of measure, which is defined in the parameter P02. The units of measure can be: steps, mm/s, inch/s or revolutions per minute (RPM).

## 5.4.6 IO Monitor

In **Transmission /IO Monitor** you can test the inputs and outputs.

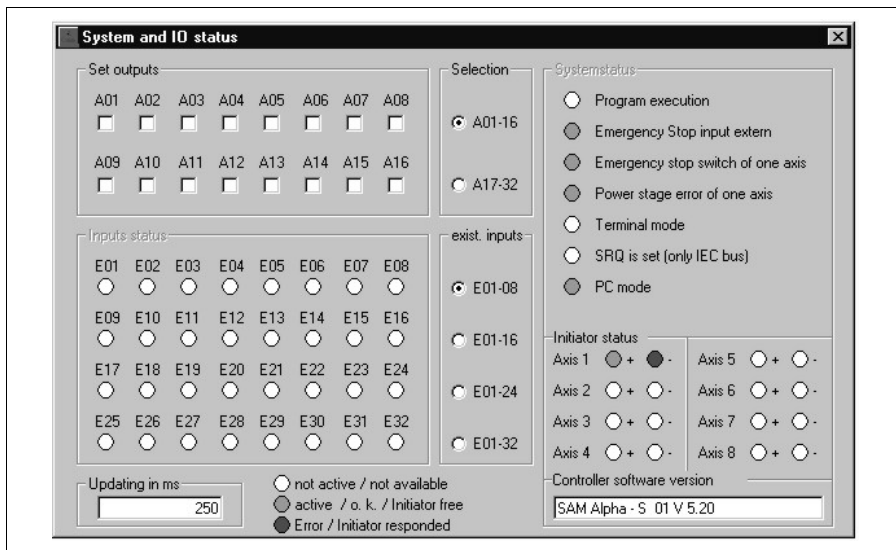


Fig. 8: IO Monitor

In **Set outputs** you can select the outputs, which shall be switched. Therefore, you can select a pre-selection range (**Selection**), which depends on the number of connected axes.

In the column **exist. inputs** you can define input ranges, which should be read. The input status are shown in **Input status** by coloured buttons (see table below).

In **Updating in ms** the state read time can be defined.

In **Initiator status** the corresponding axis fields are marked (see table).

In **Controller software version** is shown, which software version is stored in the controller.

Color	Input status	Initiator status
white	not active or not available	Initiator not available
green	active or O.K.	Initiator free
red	-----	Initiator responded

**Remark:** Only these I/O-groups are identified by  $\alpha$ -COMM, which are supplied by power!



### 5.4.7 RS Monitor

**Important:**

**RS monitor is a program for the service. If you want to use this program, please call Phytrons's service in any case.**

This is a program for testing the RS Interface. It's application is then efficient, if you want to check the RS interface. The data will be saved in a file as a protocol.

For the application the RS monitor should be connected between PC side and controller side with an adapter cable (fig. 9).

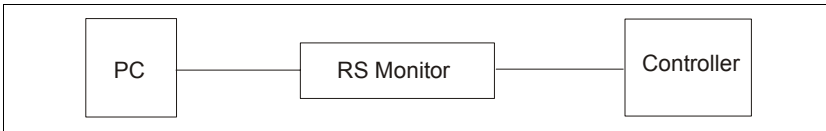


Fig. 9: RS monitor connection

**Example: Loopback**

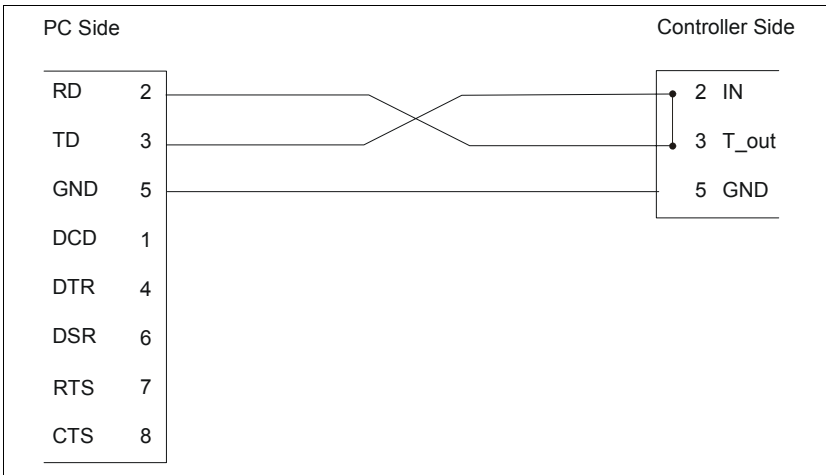


Fig. 10: Example Loopback

For the loopback test the interface cable will be connected to the PC. Pin 2 and Pin 3 (Receiver (IN) and Transmitter (T\_out)) are shorted-out by an adequate adapter cable.

After program start of **RS Monitor** the input command string is sent to the controller and is received by the bridge at the same time. So you can test, if a cabling is defect.

**Remark:**

This test gives no information about the correct wiring of the interface!

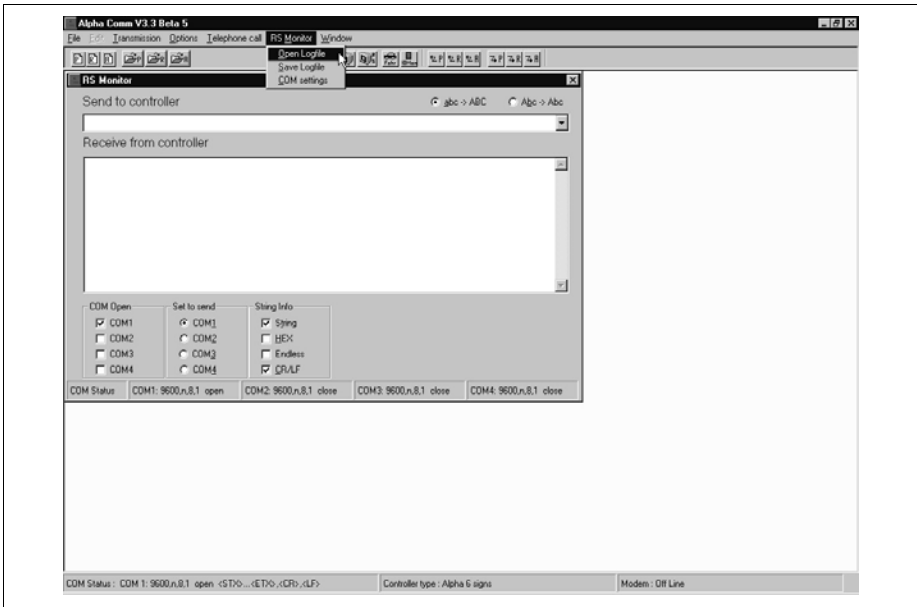


Fig. 11: RS Monitor: input window

With **RS Monitor / Open Logfile** the filename of the protocol file is created in the defined directory and with **RS Monitor / Save Logfile** the controller command is saved to this file.

In **RS Monitor / COM Settings** for the 4 COM interfaces the baudrate (from 110 to 115200) and the transmission format (data bits, stop bits, parity) are set.

## 5.5 The Menu Options

### 5.5.1 Parameter Text File

With **Options / Parameter Text File** you can select the default Parameter Text File in the root directory of  $\alpha$ -COMM. This file holds then the default values used if you create a new parameter file. A new parameter file is created if you use the menu **File / New / Parameter** (see chapter 5.2.1), or implicitly if you receive parameter sets from a controller (5.3.1).

The dialog box contains an input box, a file selection list, and the buttons **OK** and **Cancel**. Input a file name, and select **OK**. Then, a file is selected as a new default Parameter Text File.

#### Remark:

$\alpha$ -COMM **always** will look for parameter text files in the  $\alpha$ -COMM root directory!

### 5.5.2 Select Language

With **Options / Select Language** you can select the output of the program dialog in German, English or French.

### 5.5.3 Select Controller Type

With **Options / Select Controller Type** you can choose the type of the stepper motor controller you use. The controller type will influence the interface settings as the transmission speed, the protocol used and so on. You can select the type you are using by clicking the left mouse key or the arrow buttons.

In the following table you will find a list of available controller types and some hints for choosing the appropriate controller:

Controller type	Please use this controller type with one of the following devices...
Alpha 6 characters (=standard)	IXE $\alpha$ -A, IXE $\alpha$ -A-RS, IXE $\alpha$ -C-T, IXE $\alpha$ -C-RS, SAM $\alpha$ The program names should be long 6 characters maximum
Alpha 8 characters	<b>Customer specific special version:</b> The program names should be long up to 8 characters
IXE A/B-T	IXE A and IXE B
IXE A/B-RS	IXE A-RS and IXE B-RS
IXE C-T	IXE C-T
IXE C-RS	IXE C-RS
SAM, SAM 300	SAM, SAM-X and SAM 300

### 5.5.4 Interface Parameters

With the menu item **Options / Interface Parameters**  $\alpha$ -COMM is adapted to the type of interface and the correct settings for the controller type you use. In total you can define up to 4 different interface channels.

In the dialog box **COM Interface Setting** (Fig.12) the following settings are possible:

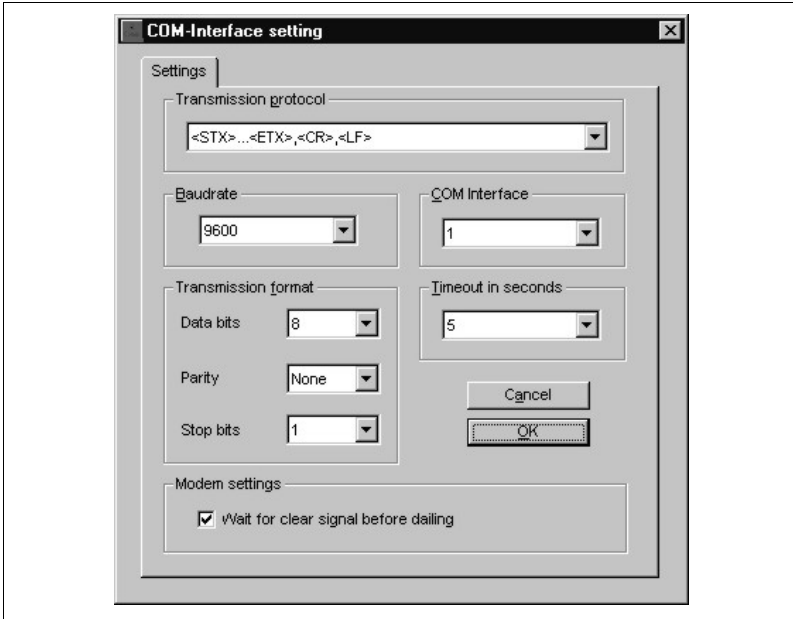


Fig. 12: Interface parameters settings

## Transmission protocol

With the menu item Options / Interface Parameters / Transmission Protocol you can choose one of the protocol types used by the controllers. Up to now, 2 types are defined, and the second one should be used only if there is a corresponding note in your controller's hardware manual.

1. Transmission Protocol:           <STX> . . . <ETX><CR><LF>

This is the standard Phytron transmission protocol which is implemented in devices of IXE, SAM, PLS , TMC and OMC type. If your hardware manual delivered with the controller contains no other information, please use this protocol.

2. Transmission Protocol:           <STX> . . . <ETX>

This is a special version of the protocol used only in some customer specific software versions. Use this protocol only if your controller manual recommends so.

## Baudrate

The baudrate (multitude of data per second in KBits) can be selected by clicking the drop down arrow of the box **Baudrate** (values from 110 to 115200). The value must be compatible to the controller's baudrate.

### Set COM Interface

By clicking the drop down arrow of the box **COM Interface** you select the number of the actual interface (1 to 4).  $\alpha$ -COMM uses this interface for communication with the connected controller.

### Set timeout delay

In the box **Timeout in seconds** you define a time limit (1 to 60 seconds) for the response of the controller to any command of  $\alpha$ -COMM. A very good value is a delay of 5 seconds, and you should not go below this value.

### Transmission format

In the box **Transmission format** 3 variables can be defined: Data bits, parity, stop bits.

In the table on page 28 the controller linked variables are defined.

With **OK** the new defined data boxes are saved before exiting the dialog box **COM Interface Setting**. If you click on **Cancel** you exit the data of this dialog box without saving.

### Modem settings

Here you define, whether the modem on the controller side has to wait for dialing tone.

- : Modem lifts, waits for dialing tone, selects partner, data transfer
- : Modem lifts, sends 0, waits for dialing tone, selects partner, data transfer

## 5.5.5 About Alpha-Comm

The menu **Options / About Alpha-Comm** gives you important information about the program version of  $\alpha$ -COMM, copyright and Phytron's firm data (fig 13):



Fig. 13: About  $\alpha$ -COMM

## 5.6 The Menu *Telephone Call*

---

The menu **Telephone Call** is used for telemaintenance. PC and Controller can communicate with each other by the modem connection. (Fig 14).

In the right box of the taskbar the modem status is displayed, that means whether the modem is in Online- or Offline mode.

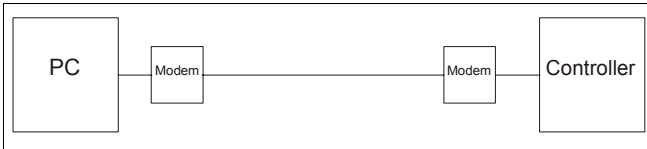


Fig. 14: Connection via modem

In **Selecting number** you input the telephone number for dialing.

The modem on the controller side must be configured, so that it accepts callings automatically.

In **Dialing** you input the telephone number for dialing.

In **Configure modem** the receiving modem is set, so that it accepts callings automatically.

In **Reset modem** the receiving modem is reset.

After the file transmission the dialog box **Disconnect the set** the line must be disconnected again.

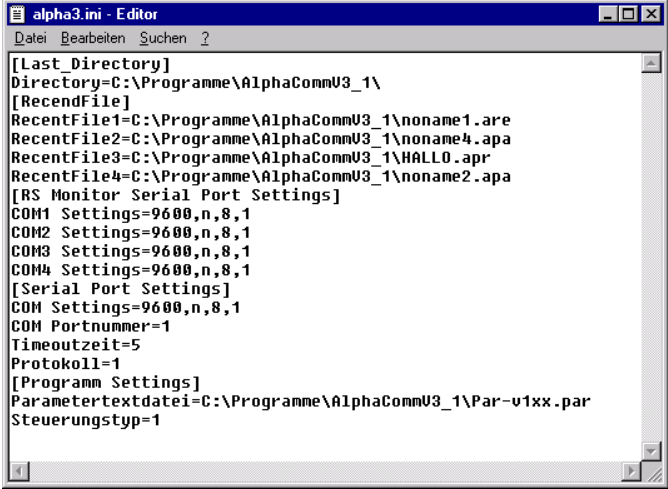
## 5.7 The Menu *Window*

---

This menu is helpful when 2 files are opened at least. It makes easier to select the active window when a lot of files are opened. After clicking *Window* a list of all opened files appears. Select the active window on desktop by mouse clicking or input of the corresponding number, which is in front of the file name. The actual active window is marked by a tick.

## 6 The Configuration File Alpha3.ini

$\alpha$ -COMM writes the configuration file Alpha3.ini into the Windows directory. In Alpha3.ini are saved the interface parameters and the parameter text file. (See fig. 15)



```
alpha3.ini - Editor
Datei Bearbeiten Suchen ?
[Last_Directory]
Directory=C:\Programme\AlphaCommU3_1\
[RecendFile]
RecentFile1=C:\Programme\AlphaCommU3_1\noname1.are
RecentFile2=C:\Programme\AlphaCommU3_1\noname4.apa
RecentFile3=C:\Programme\AlphaCommU3_1\HALL0.apr
RecentFile4=C:\Programme\AlphaCommU3_1\noname2.apa
[RS Monitor Serial Port Settings]
COM1 Settings=9600,n,8,1
COM2 Settings=9600,n,8,1
COM3 Settings=9600,n,8,1
COM4 Settings=9600,n,8,1
[Serial Port Settings]
COM Settings=9600,n,8,1
COM Portnummer=1
Timeoutzeit=5
Protokoll=1
[Programm Settings]
Parametertextdatei=C:\Programme\AlphaCommU3_1\Par-v1xx.par
Steuerungstyp=1
```

Fig. 15: The Alpha3.ini file

### Remark:

Please, don't change this configuration file with the editor! It is written by  $\alpha$ -COMM.

## 7 Error Messages

---

In this appendix you will find hints how to handle error messages of  $\alpha$ -COMM. In the following text these messages are written in bold or underscored italics. Messages which do not need any additional information are not contained in this appendix.

### **Remark:**

Error messages resulting of problems with any peripheral device are very often caused by trivial facts like: device is not switched on, cables are missing, cable is defect and so. Please check these items.

### 7.1 Interface Problems

---

#### **An interface timeout has occurred**

Possible reasons for this problem may be:

- The cabling is wrong (RD and TD pins interchanged).
- The controller is not in the REMOTE operation mode.
- The cabling is defect or interrupted.
- The timeout time selected in  $\alpha$ -COMM is too short.
- The interface parameters selected in  $\alpha$ -COMM do not match the controller type used.

#### **Modem not ready**

Possible reason for this problem may be:

- No feedback from the modem, that it hasn't connected correctly

#### **COM Interface already open**

Possible reason for this problem may be:

- The COM interface is already used by another program.



## 8 Interface Parameters : Standard Values

Controller	Baudrate	Number of Databits	Number of Stopbits	Parity
IXE $\alpha$ -A and IXE $\alpha$ -A-RS	9600	8	1	None
IXE $\alpha$ -C-T and IXE $\alpha$ -C-RS	9600	8	1	None
IXE-A and IXE-A-RS	9600	7	2	Even
IXE B and IXE B-RS	9600	7	2	Even
IXE C-T and IXE C-RS	9600	7	2	Even
SAM $\alpha$ ...	9600	8	1	None
SAM, SAM-X and SAM 300	2400	7	2	Even
ASM 02 and ASM 02A	9600	8	1	None
PLS 02 and PLS 02A	9600	8	1	None

## 9 Adapter Cables

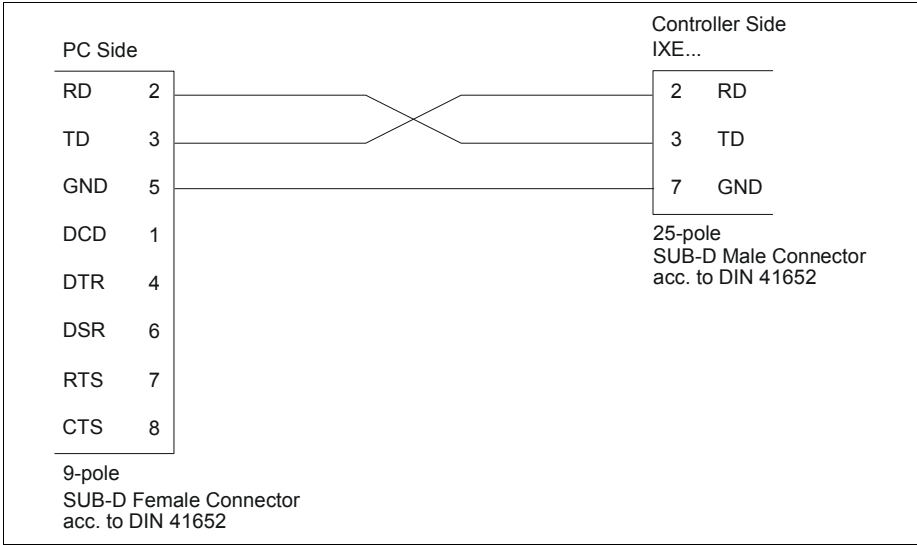


Fig. 1: PC (9-pole male connector) <-----> controller type IXE...

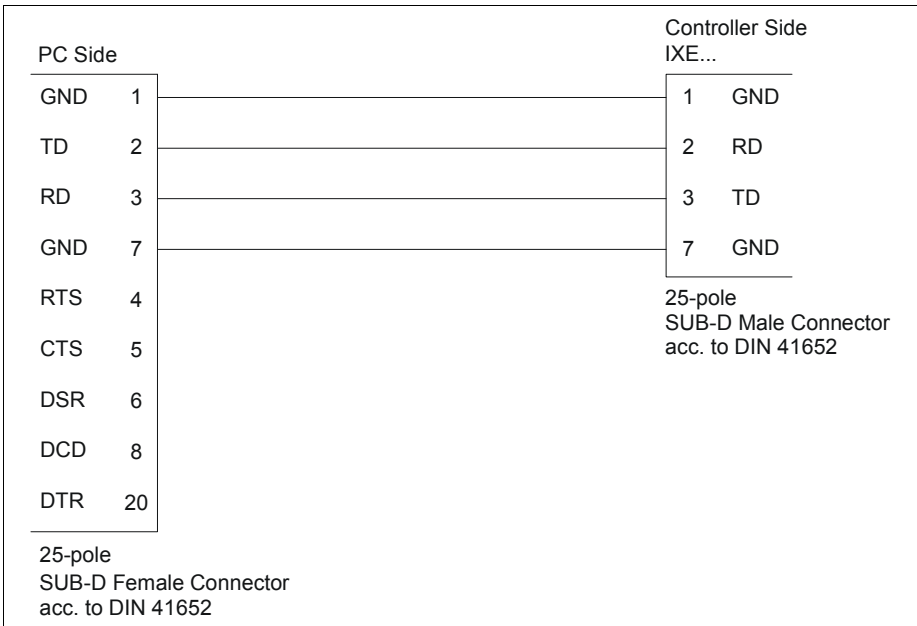


Fig. 2: PC (25-pole male connector) <-----> controller type IXE...

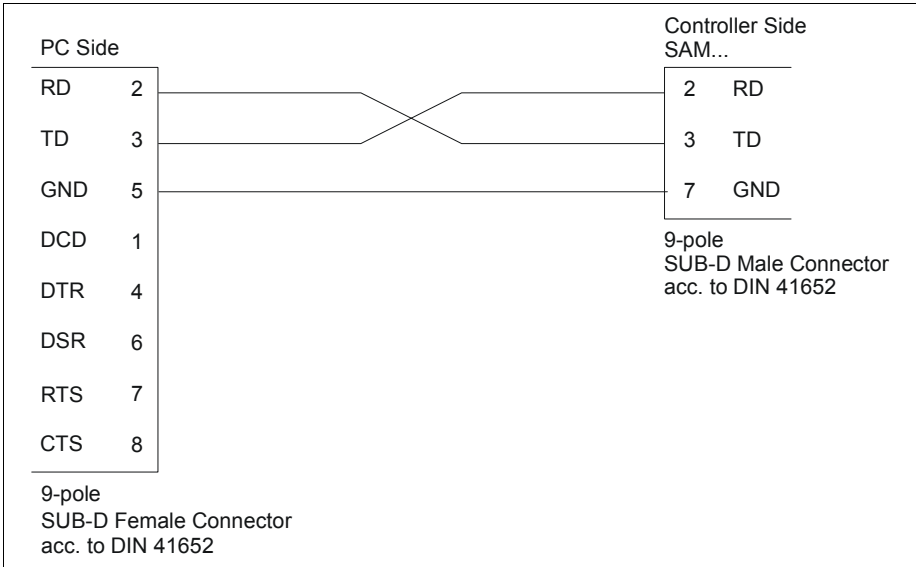


Fig. 3: PC (9-pole male connector) <-----> controller type SAM...

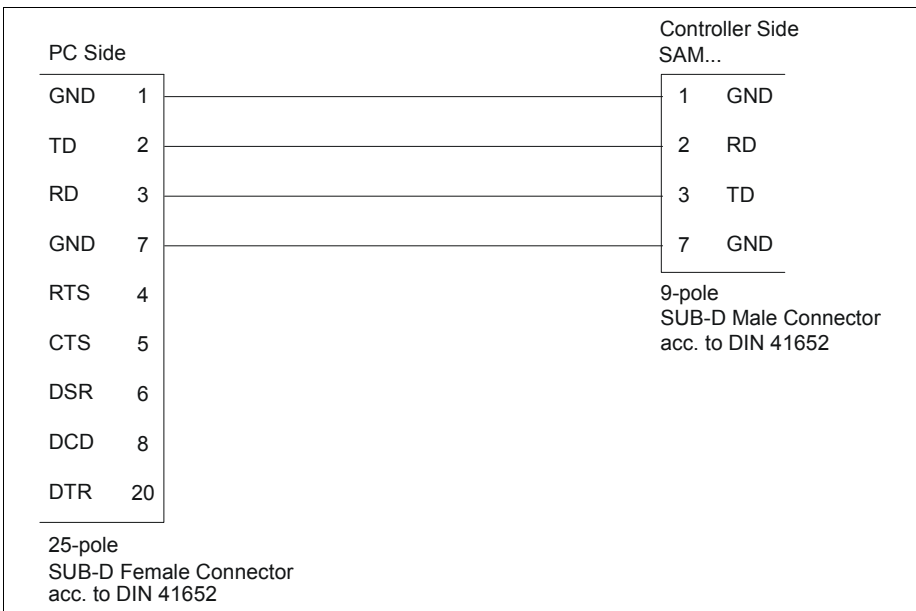


Fig. 4: PC (25-pole male connector) <-----> connector type SAM...

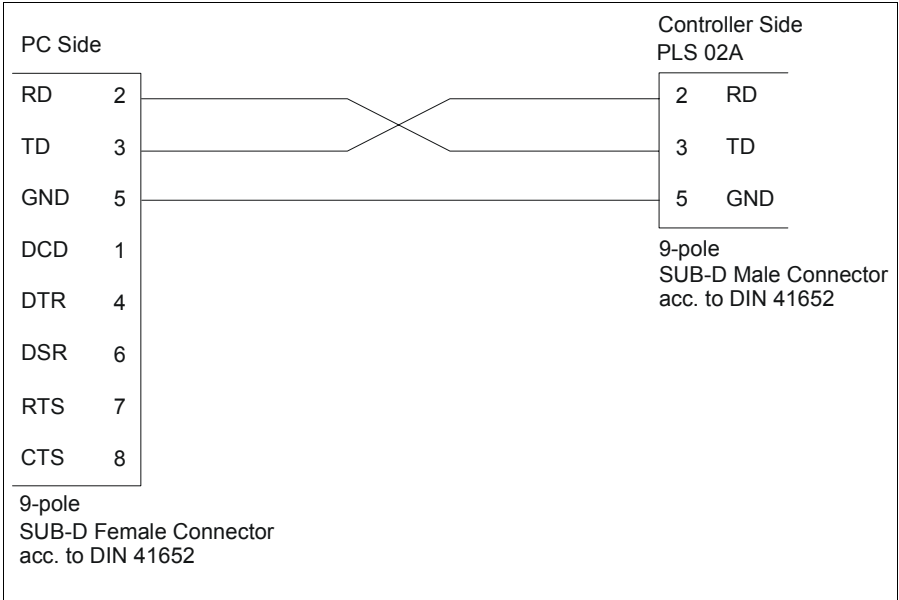


Fig. 5: PC (9-pole male connector) <-----> controller type PLS 02A

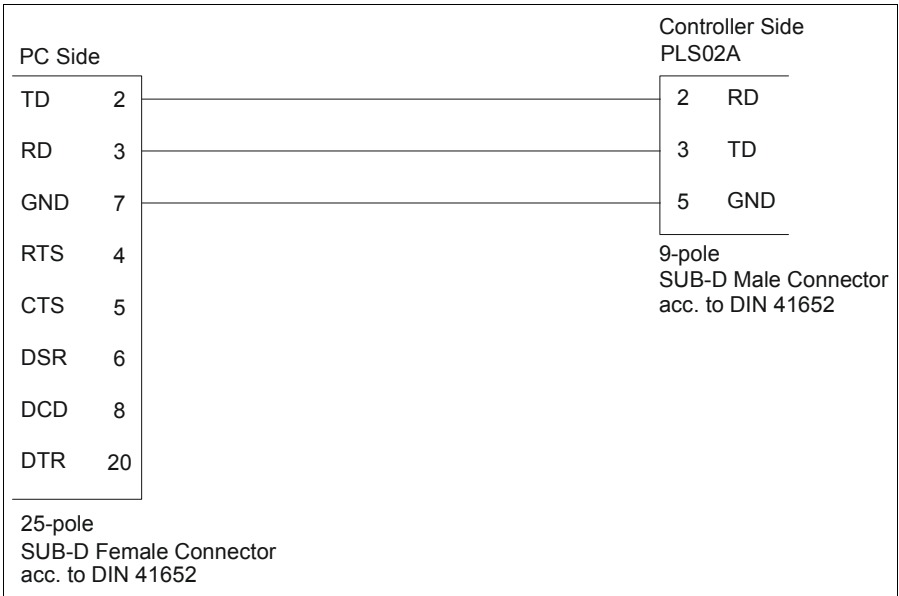


Fig. 6: PC (25-pole male connector) <-----> controller type PLS 02A

## 10 Copyright and Limitation of Warranty

The software  $\alpha$ -COMM and any documentation delivered with it are protected by copyright law.

$\alpha$ -COMM as a freeware product will only give you the right to make backup copies for personal use. However, the program must not be changed neither be sold.

### Limitation of warranties

The software  $\alpha$ -COMM and its documentation have been made with great carefulness and have been reproduced under effective controlling measures. Nevertheless there might be mistakes. Phytron-Elektronik GmbH therefore will take no responsibility for any damage resulting from the use of the software and / or the manual. If you detect any mistake in the manual or in the software, we would appreciate any information about this to increase the quality of the product.

We refer to our delivery conditions and terms of payment, particularly to item VII Liability and item IX Software utilization.

By installing, copying or using otherwise the software product, you agree with our delivery conditions and terms of payment .

If you don't agree to these delivery conditions, you won't be authorized to install or to use the software product.

### Trade marks

In this manual several trade marks are used which are no longer explicitly marked as trade marks within the text. The lack of this signs may not be used to draw the conclusion that these products are free of rights of third parties. Some product names used herein are for instance

- $\alpha$ -COMM is a trade mark of the Phytron-Elektronik GmbH.
- Microsoft is a registered trade mark and WINDOWS is a trade mark of the Microsoft Corporation in the USA and other countries.

## 11 Index

---

### A

Alpha( $\alpha$ )-COMM-Icon 11  
Alpha.par 8  
Alpha3.ini 29  
AlphaC1.CAB 6  
AlphaC2.CAB 6  
AlphaC3.CAB 6  
AlphaCommV3.exe 8  
Axes 5

### B

Baudrate 26, 31

### C

Cabling 30  
Capital letter 20  
COM Interface 30  
Copyright 2, 27

### D

Defect cabling 23, 30  
Direct mode 20  
Disk 7

### E

Edit 13

### I

Input 22  
Installation program 7  
Interface problem 30  
Interface problems 30  
IO-Monitor 22

### L

Loopback 23

### M

Main features 5  
Megacard 15, 17, 19  
Modem 28  
Modem setting 27

### O

Online-Modus 28  
Operating system 6  
Operation 21  
Options 25  
Output 22

### P

Program version 27

### R

RAM 6  
Register 5  
Research 13  
RS monitor 23

### S

Search 13  
Selection menu 9  
Send 16  
Setup.exe 6, 7  
Setup.lst 6  
Standard values 31  
Start 4  
State line 9  
System requirements 6

### T

Telephone call 28  
Test program 5  
Timeout 27  
Transmission 13  
Transmission format 27, 28

### W

Window 28  
Windows 4  
Working environment 9

### X

x\_Par21.par 8



**Phytron-Elektronik GmbH • Industriestraße 12 • 82194 Gröbenzell, Germany**  
**Tel. +49(0)8142/503-0 • Fax +49(0)8142/503-190 • E-Mail [info@phytron.de](mailto:info@phytron.de) • [www.phytron.de](http://www.phytron.de)**

**Phytron, Inc. • 600 Blair Park Road, Suite 220 • Williston, VT, 05495 USA**  
**Tel. +1-802-872-1600 • Fax +1-802-872-0311 • Email [info@phytron.com](mailto:info@phytron.com) • [www.phytron.com](http://www.phytron.com)**