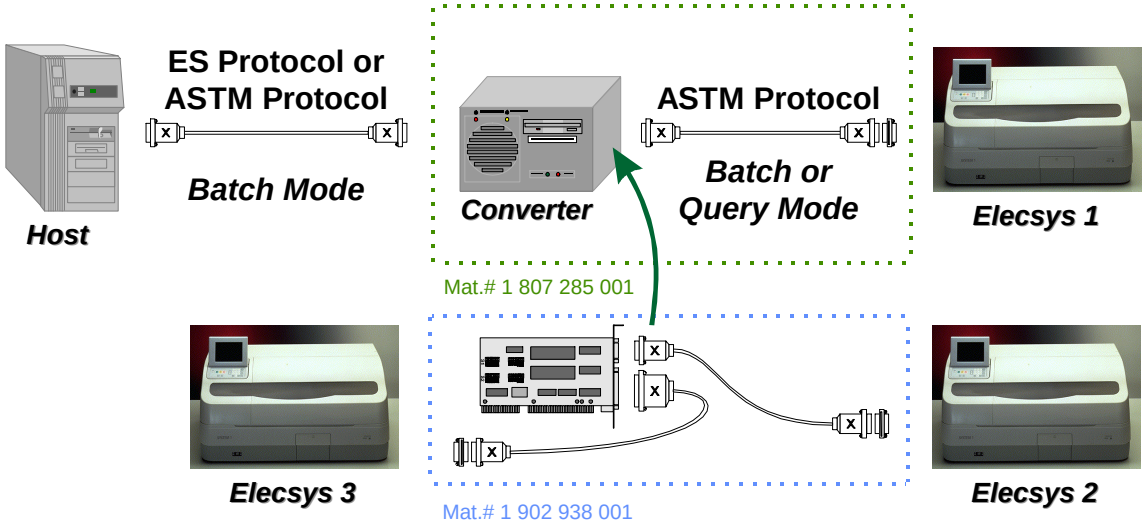
ES-Elecsys-Converter Version 2.0 - Modification Manual

1 Purpose:

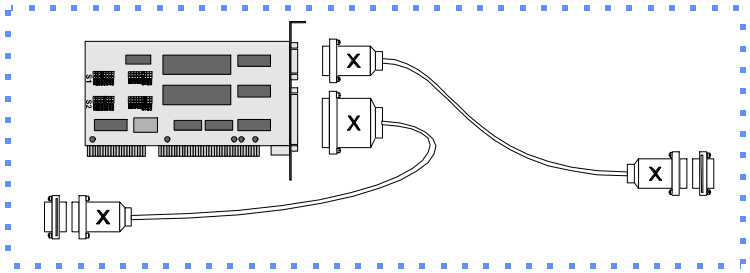
This manual describes the hardware upgrade for two more serial ports in order to run the converter simultaneously with multiple instruments.

Due to the low space in the converter and the high amount of cables and connectors the procedure must be done carefully and should be left to experienced people.



2 Contents:

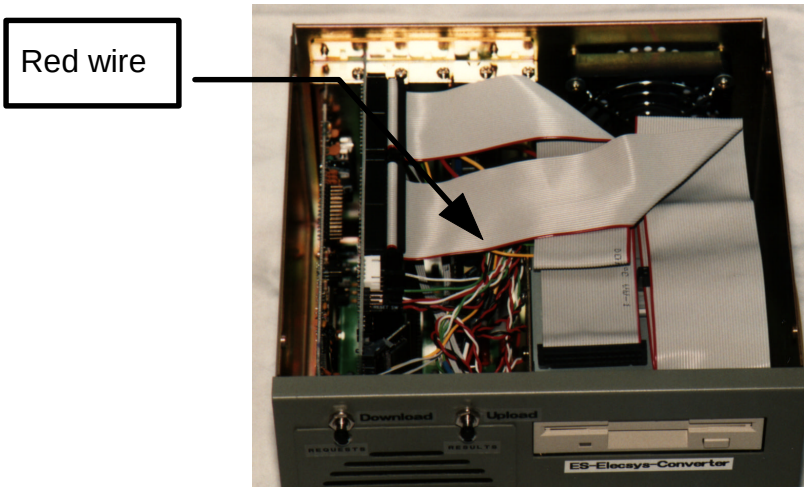
Modification Kit:	Mat#:	190 29 38 001
	Text:	Extension package for protocol converter
Contents:	1 serial I/O card with two UART 16550	
	2 host interface cables (5m/7m)	
	1 Adapter SUB-D 9pin male/25 pin female	
	2 Gender changer SUB-D 9 pin male/male	
	1 Diskette with Software Version 2.0	
	1 Diskette with serial I/O test tool	



Mat.# 1 902 938 001

3 Disassemble:

- Remove top cover (4 screws)
- Remove floppy and hard disk cable from the single board computer (Note: Red wire towards front)
- Remove carefully the single board computer
  (Pay attention so none of the small cables will be removed from the appropriate connector)
- Search for a free slot and remove the slot plate.



4 Prepare serial I/O card:

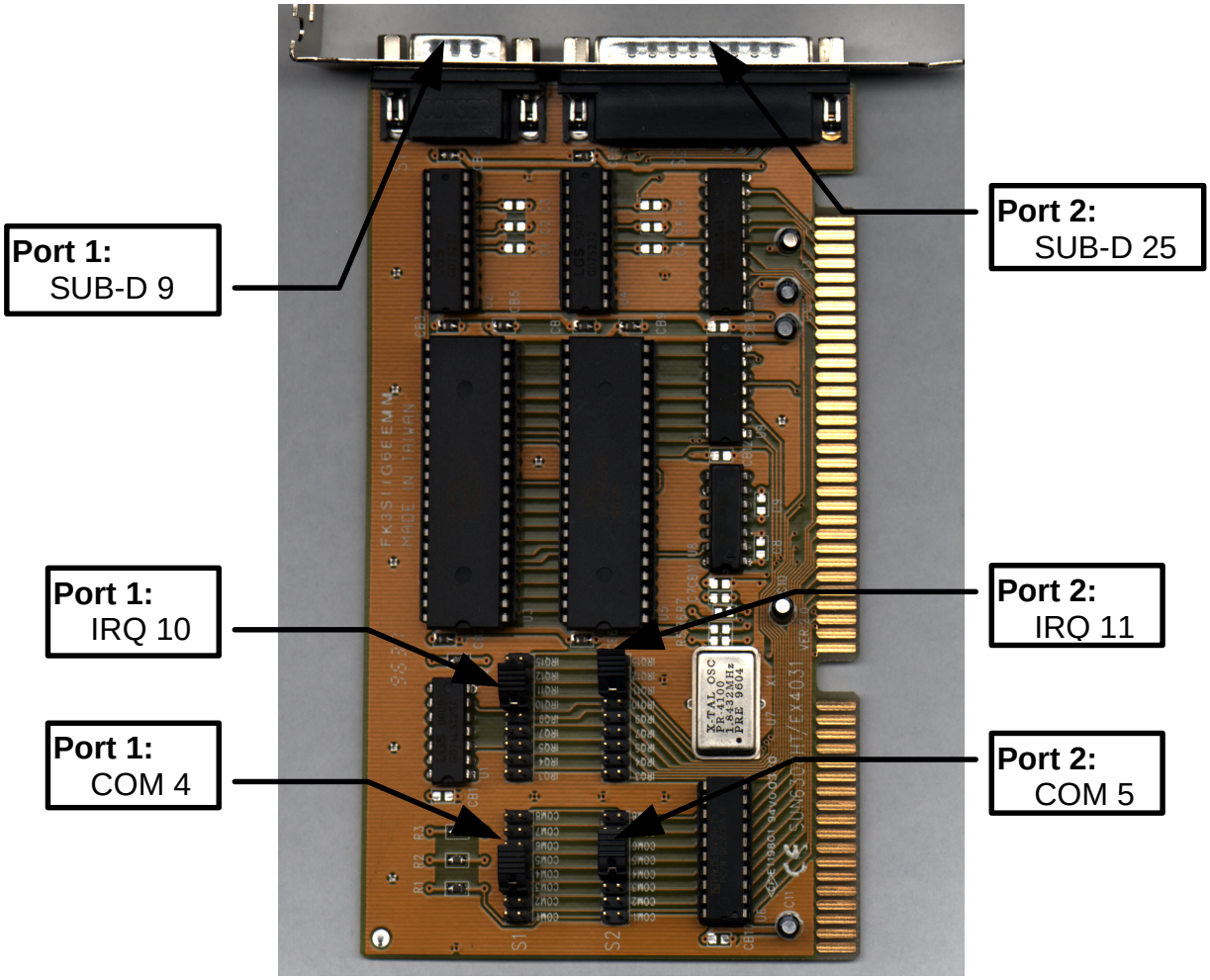
- Check the serial I/O card and set the jumpers for

Port 1	COM 4	2E8h	IRQ 10	SUB-D 9
Port 2	COM 5	250h	IRQ 11	SUB-D 25

- The port assignment of the converter than is as follows

Elecsys 1	COM 1	3F8h	IRQ 4	SUB-D 9
Host	COM 2	2F8h	IRQ 3	SUB-D 9
Modem	COM 3	3E8h	IRQ 5	RJ11
Elecsys 2	COM 4	2E8h	IRQ 10	SUB-D 9
Elecsys 3	COM 5	250h	IRQ 11	SUB-D 25

Note: Due to different production lots it might happen, that the serial I/O card might differ from the displayed one below. In that case please refer to the manual of the delivered card and set up the two ports corresponding to the table above.



5 Assemble:

- Insert the serial I/O card into the free slot and fix it with a screw.
- Insert the single port computer and fix it with a screw.
- Check if none of the small cables is removed from its connector
- Plug floppy and hard disk cable to the single board computer
  (Note: Red wire towards front)
- Close top cover and fix the screws.

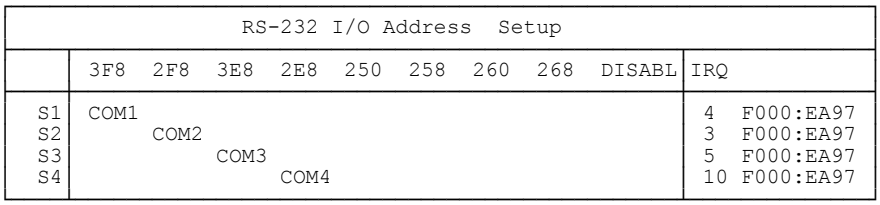
6 Functionality check:

- For testing connect the converter to a keyboard and a monitor.
- Boot the system and check if the system does not have any alarm.
- Reboot the system and press F8 to interrupt loading config.sys and autoexec.bat
- Confirm each entry with 'No'
- Insert the diskette labeled **Serial I/O-Test** in drive A:
- Execute the command **IOTEST.COM**.
  There should be the following screen out put :

```
WHATUART:
  This program will interrogate your serial ports and display the
  type of UART fitted.
  For reliable HIGH SPEED modem or FAX modem operation your serial
  port requires at least a 16450 type UART.

  "UART" stands for Universal Asynchronous Receiver Transmitter
  and performs the translation from the parallel data of your
computer
  I/O bus to the serial data required by your modem.

Analysing . . .

Checking for COM1 at 03F8 . . . Testing for UART type
Checking for COM2 at 02F8 . . . Testing for UART type
Checking for COM3 at 02E8 . . . Testing for UART type
Checking for COM4 at 0250 . . . Testing for UART type

Results . . .

COM1 was found and reports a 16550A type UART
COM2 was found and reports a 16550A type UART
COM3 was found and reports a 16550A type UART
COM4 was found and reports a 16550A type UART
```

Note: The main purpose of the test is to check the two new ports. Even though this program displays COM3 for address 02E8h and COM4 for address 0250h it actually checks ports 4 and 5. The modem port is not tested. While COM1 to COM4 is only a counter the port addresses in this test program were especially modified for the case of this test purpose.

- If the display is okay execute the second command **SETIO.EXE**.
  There should be the following screen out put :



- With cursor keys move the entries COM3 and COM4 to the addresses 2E8 and 250.
- Then press ESC-key to leave the program and invoke it again.
- Afterwards the following output should appear.

RS-232 I/O Address Setup										
	3F8	2F8	3E8	2E8	250	258	260	268	DISABL	IRQ
S1	COM1									4 F000:EA97
S2		COM2								3 F000:EA97
S3				COM3						10 F000:EA97
S4					COM4					11 F000:EA97

- If something is different from what displayed above, check the jumper settings of the I/O card with the manual and repeat the tests.
- If problems could not be solved please contact Boehringer Mannheim´s Central Service.

7 Installation and Setup of the Software:

- Insert diskette with software into drive and reboot the system.
- For configuration of the Software Version 2.0 please refer to the operator manual.