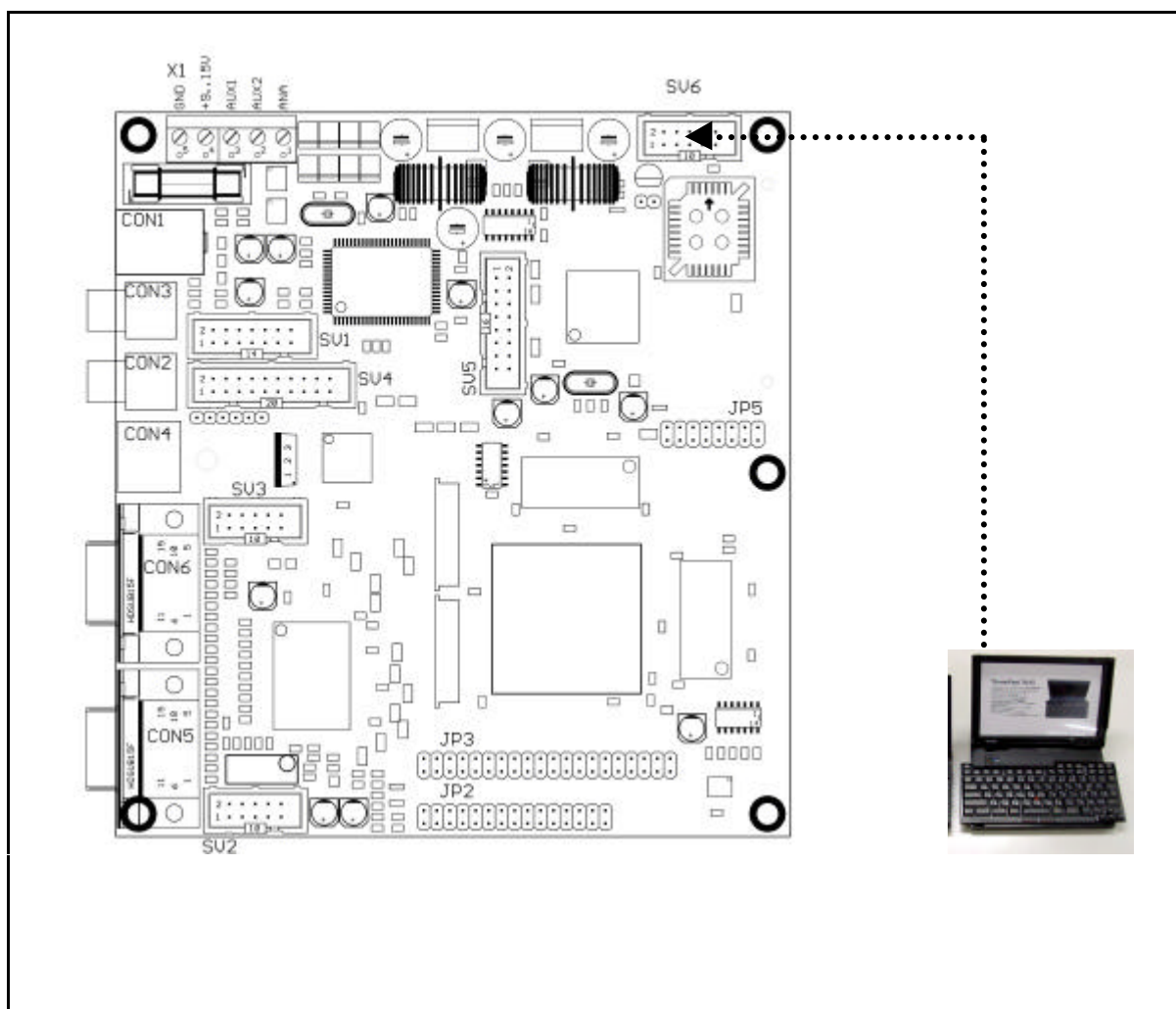


# Instruction Manual for IBREMOTE II



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# Instruction Manual for IBREMOTE II

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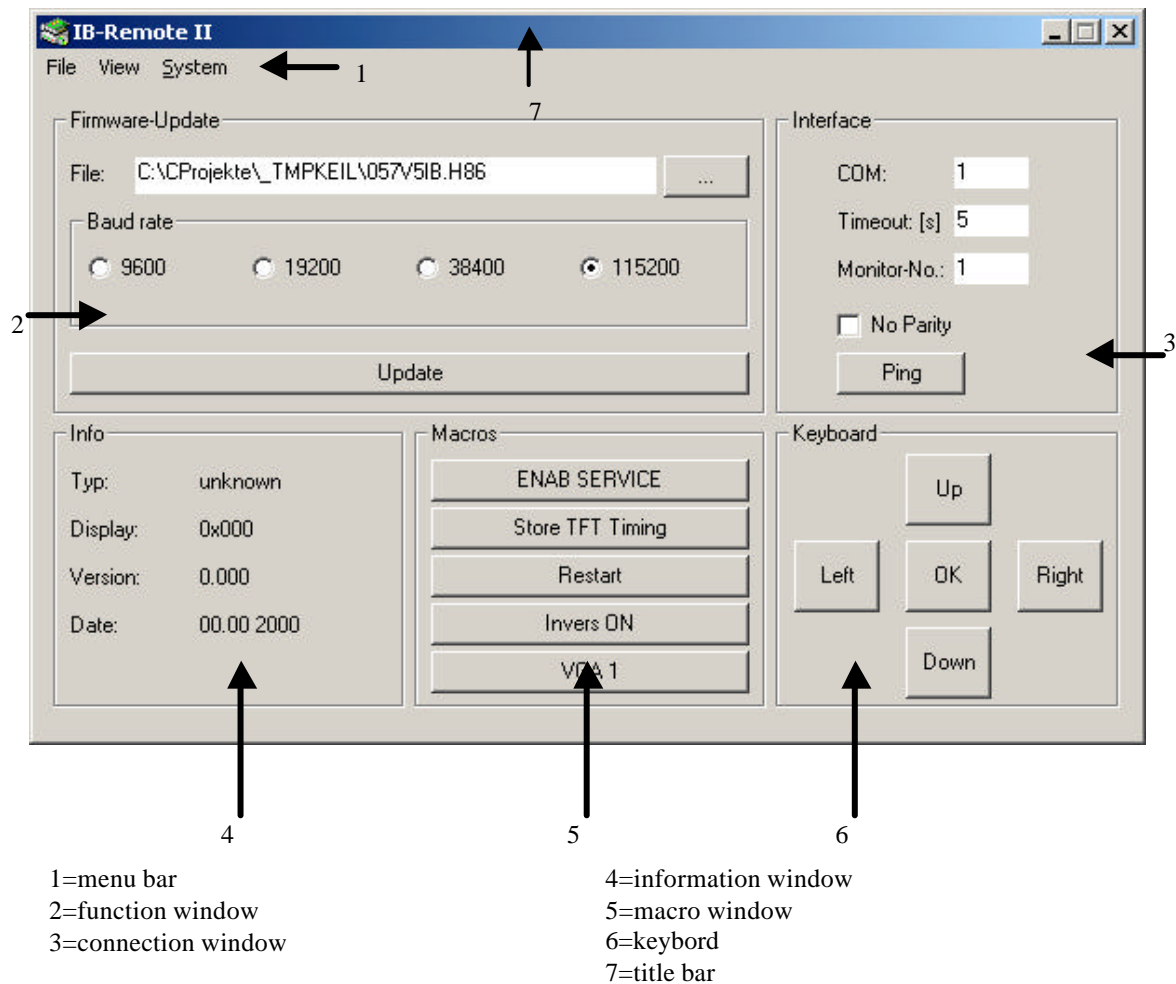
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# Instruction Manual for IBREMOTE II

## 1 Overview

### 1.1 User Interface



In the connection window you can select the connected monitor(s).

The information window shows the common information about the selected monitor.

The buttons in the macro window send commands to the selected monitor.

The keyboard send keyboard commands to the selected monitor.

# Instruction Manual for IBREMOTE II

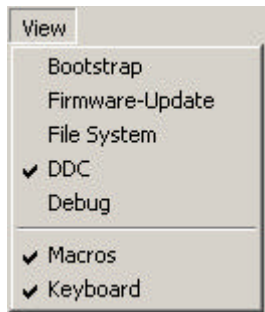
## 1.2 Menu Items

### 1.2.1 System



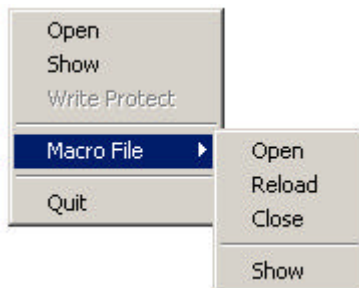
- Select the system language  
(The selected language will be marked.)
- Select the connection mode  
(The selected mode will be marked.)

### 1.2.2 View



- Select the main function that will be shown in the function window  
(The active function will be marked.)
- Activation of the extended windows and functions  
(will be marked if it's activated)

### 1.2.3 File

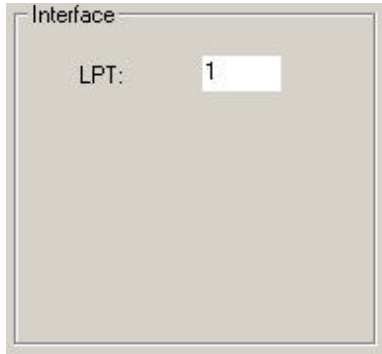


- Select, show or release the macro file.
- Use Reload if the program is already running and the macro file will be changed.

- *Open:*  
Select a new file for the main function.
- *Show:*  
Show the selected file.
- *Write Protect:*  
The selected file can't be written by the application.  
(will be marked if it's activated)

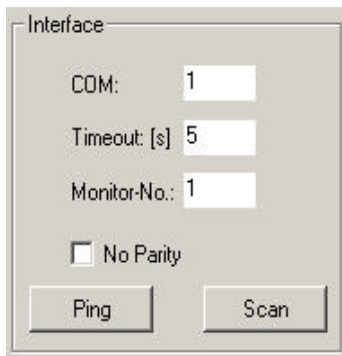
## 2 Connection Windows

### 2.1 Connection for DDC-Operations



- choose the LPT-port here  
(The addresses will be configured in the configuration file.)

### 2.2 Connection for Serial-Monitor-Operations



#### COM:

- Choose the COM-port for the monitor(s) here  
(Can be built-in-ports or USB-RS232-converters).

#### Timeout:

- Longest time of waiting for answer from monitor  
(in seconds)

#### Monitor-No.:

- Number of monitor(s), the first one is number „1“  
(0=all monitors at this port)

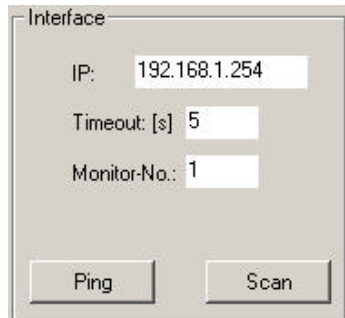
#### No Parity:

- The port will be opened in „no parity mode“

- *Scan:*
  - Sets the application into „scan mode“  
(for scanning the system for interfaces,...)
- *Ping:*
  - Count and indicate all monitors at the port
  - Send the number of monitors to „Monitor-No.“.  
(If after „Ping“ the „Monitor-No.“ is „0“ then no monitor is connected.)

# Instruction Manual for IBREMOTE II

## 2.3 Connection for IP-Monitor-Operations (Monitor over IP)



### IP:

- Choose the target-IP for the monitor(s) here  
(Can be AK-NORD ethernet-to-serial-converters).

### Timeout:

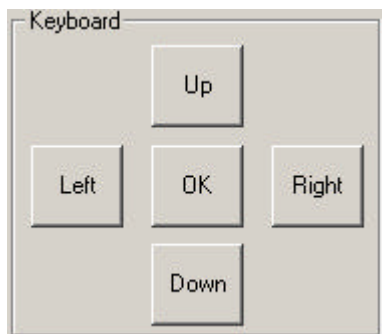
- Longest time of waiting for answer from monitor  
(in seconds)

### Monitor-No.:

- Number of monitor(s), the first one is number „1“  
(0=all monitors at this port)

- *Scan:*
  - Sets the application into „scan mode“  
(for scanning the system for interfaces,...)
- *Ping:*
  - Count and indicate all monitors at the port
  - Send the number of monitors to „Monitor-No“.  
(If after „Ping“ the „Monitor-No.“ is „0“ then no monitor is connected.)

## 3 Keyboard



This is a virtual keyboard for the monitor(s). The usage of the buttons will simulate using the depending key on the regular keyboard for the selected monitor(s).

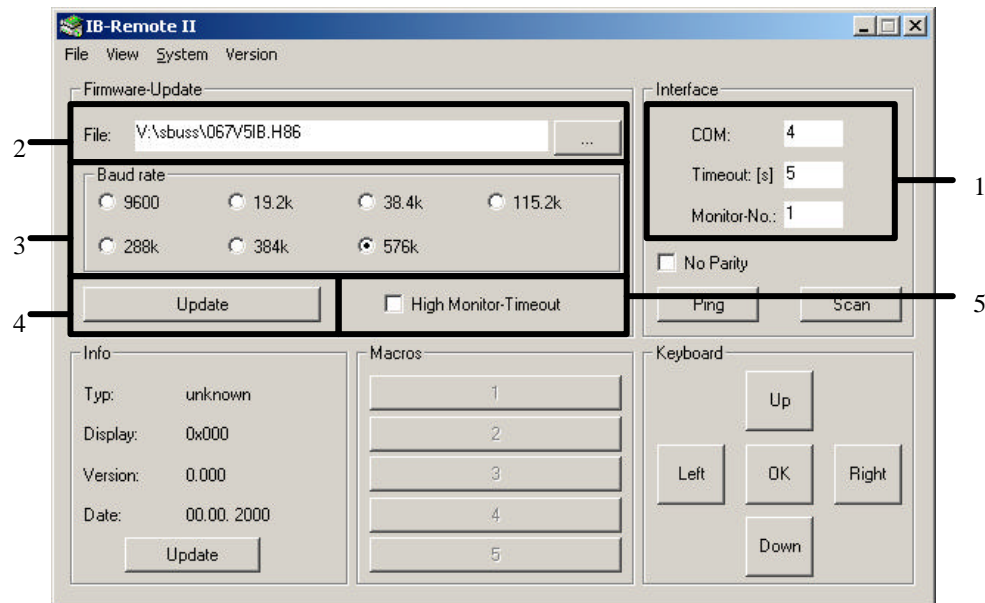
This function must be activated in the menu „View“.

The monitors(s) must:

- be connected to the computer
- run in usual operation mode,
- be selected in the connection window!

This function supports the „IP-List-Group-Message“.

## **4 Firmware Update**



- 1=Selection of interface
- 2=Firmware File
- 3=Selection of baud rate
- 4=Button: Start update
- 5=Selection for "High Monitor Timeout"  
(longer break time at update start, use  
in ring configuration)

- The „Monitor-No.“ will be detected automatically.
- The compression for the firmwarefile will be used automatically if it is possible.
- The monitor(s) must:
  - be connected to the computer,
  - run in usual operation mode,
  - be selected in the connection window!
- Button „Update“:
  - Starts the firmware update



# Instruction Manual for IBREMOTE II

## 5 Macros

With the macro function you can send commands or command lists to the monitor(s).

The macro function doesn't wait for answers from the monitor.

- This function must be activated in the menu „View“.
- This function supports the „IP-List-Group-Message“
- The monitor(s) must:
  - be connected to the computer and run in usual operation mode,
  - be selected in the connection window!
- If a dataset is empty the depending button will be deactivated

### 5.1 Macro File

i.e.:

```
MAKRO1 <VGA 1>
:00 0x138D 0x0001
MAKRO1 <VGA 2>
:00 0x149A 0x0001
MAKRO1 <FBAS 1>
:00 0x14B9 0x0001
MAKRO1 <FBAS 2>
:00 0x14BA 0x0001
MAKRO1 <YC>
:00 0x14BB 0x0001
MAKRO2 <Store Displaytiming>
:01 0x600A 0x0000
MAKRO3 <Restart>
:01 0x13BE 0xFFFE //Restart
MAKRO4 <BL Norm>
:01 0x1897 0x0000
MAKRO4 <BL Rev>
:02 0x1897 0x0001
```

A macro file consist of:

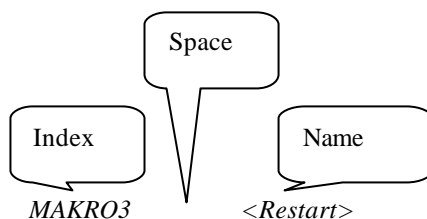
- Group Entries  
i.e. *MAKRO1 <VGA 1>*
- Data Entries  
i.e. *:00 0x138D 0x0001*
- Comments (optional)  
i.e. *//Press OK*

The file can also include blank lines.

All signs of the line following the „//“-tag will be ignored.

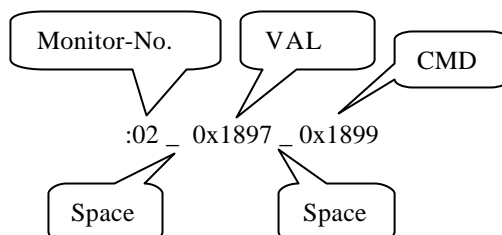
Each line can only consist of one entry.

- Group Entries:



- Index= name or index of the button  
(i.e. MAKRO1...MAKRO5)  
(at most 5 different indices)
- Name= Text, this is shown on the Button, if this entry is active.
- At most 25 group entries for one index

- Data Entries:

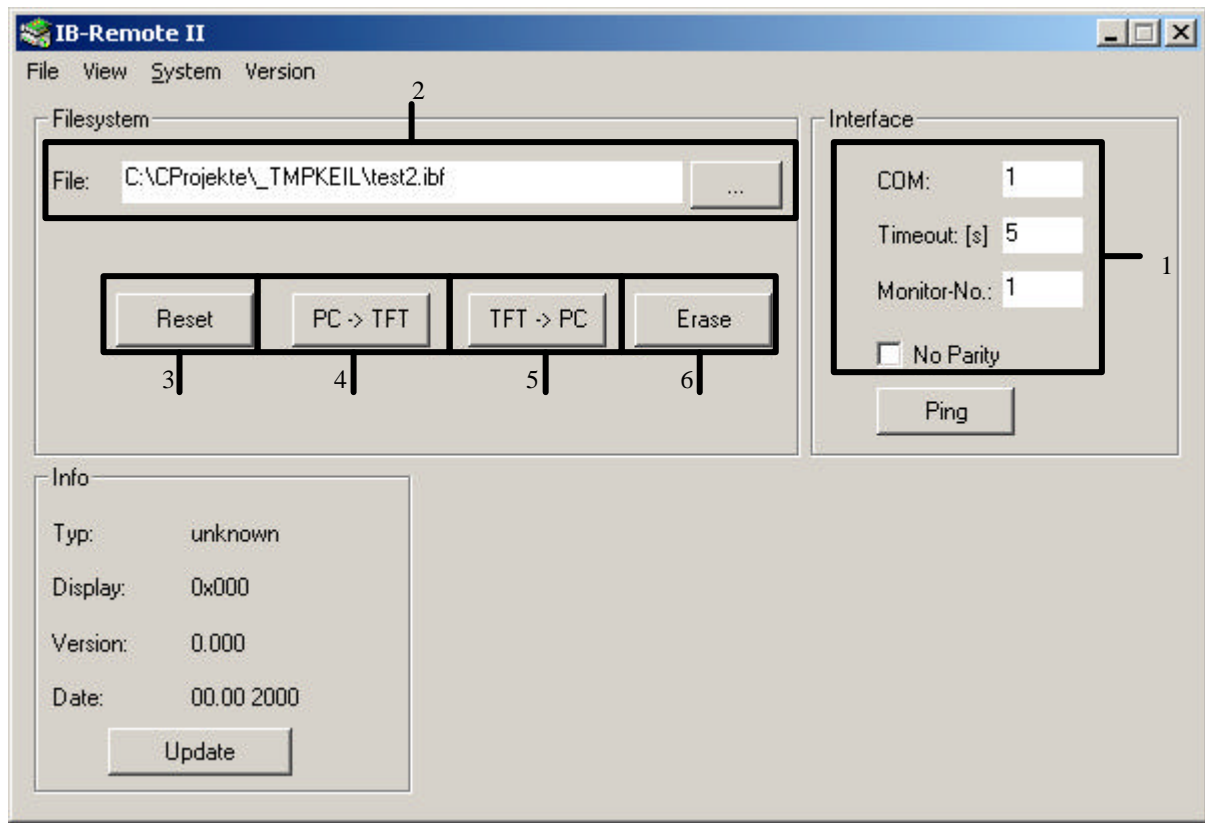


- Monitor-No.:  
0xFF= Broadcast, 0x00=use Monitor-No. from connection, 0x01..0xFE / 1...254=use this Monitor-No.
- CMD, VAL:  
-command for the monitor, q.v. documentation for MMIB  
- with prefix "0x..."=hexadecimal number else decimal  
(i.e. 0x0001, 0x0000)  
- without prefix "0x" or "0"= decimal number ( i.e. 0, 2)

- At most 10 commands for one data entry

# Instruction Manual for IBREMOTE II

## 6 File System



1=Connection Data

2=File-System-File

3=Button: Restart (all) monitor(s)

4=Button: Write file system

5=Button: Read file system

6=Button: Erase file system

- The monitors(s) must:
  - be connected to the computer,
  - run in usual operation mode,
  - be selected in the connection window!
- Button „Reset“:
 

Sends the restart command to the selected monitors(s) and doesn't wait for answers from the monitor.
- Button „PC->TFT“:
 

Sends the file-system-file to the monitor. If the „Monitor-No.“ is „0“ the file will be send to all monitors at this port. This function supports the „IP-List-Group-Message“.
- Button „TFT->PC“:
 

Reads the filesystem from the monitor and save it in the file-sytem-file, write-protection must be disabled
- Button „Erase“:
 

Erases the filesystem of the selected monitor. If the „Monitor-No.“ is „0“ the file systems of all monitors at the port will be erased. This function supports the „IP-List-Group-Message“.

## 6.1 File System File

- standard file names: „\*.ibf“

```
// INTERNAL DATA
:40A1 0240 0320 0258 0103 0090 0300 2807 0108 0271 0006 1818 01F6 ...

;C1 //Chroma and Gamma
//CIE xy R G B W
; 2 67 56 67 78 89 10 23
//RGB x R G B
; 0 1 1 1
; 25 27 26 24
...
; 255 253 252 251

;C9 //Chroma and Gamma DICOM
//CIE xy R G B W
;634 345 267 644 175 111 313 329
//RGB x R G B
; 0 1 3 0
...
; 255 255 255 252
```

- all parts of the line after „//“ are comments and will be ignored
- can consist of data- and gamma entries
- one entry usually ends with the end of the line

### 6.1.1 Data Entries

- Starts with „:“
- Format: „:XXXX XXXX XXXX XXX...“ (only one space between)
- Hexadecimal numbers, 64 Bytes

### 6.1.2 Gamma Entries

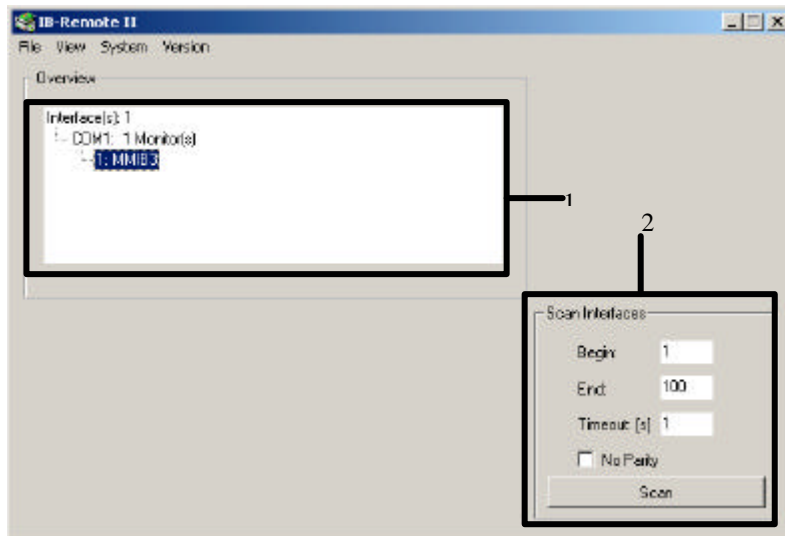
- Placed at the end of the file
- Lines start with „;“
- Only one collection in the file
- no breaks with other entries in the collection!
- RGB gamma table sorted by x(0...255)  
(x= 255? last line)
- Contents:
 

```
;;C1“ //Start line
;650 330 286 590 144 68 289 294 //xR yR xG yG xB yB xW yW //CIE Colorpoints
for Red, Green, Blue, White

; 0 0 0 //x, R, G, B->RGB gamma table
...//more RGB-entries
```
- Gamma Types:
 

```
;C1 = Gamma Table
;41 = Default Gamma Table
;C9 = Gamma Table DICOM
;49 = Default Gamma Table DICOM
```

## 7 Scan for Interfaces (scan mode)



1=Overview-Window

2=Scan-Window

### **7.1 Scan-Window**

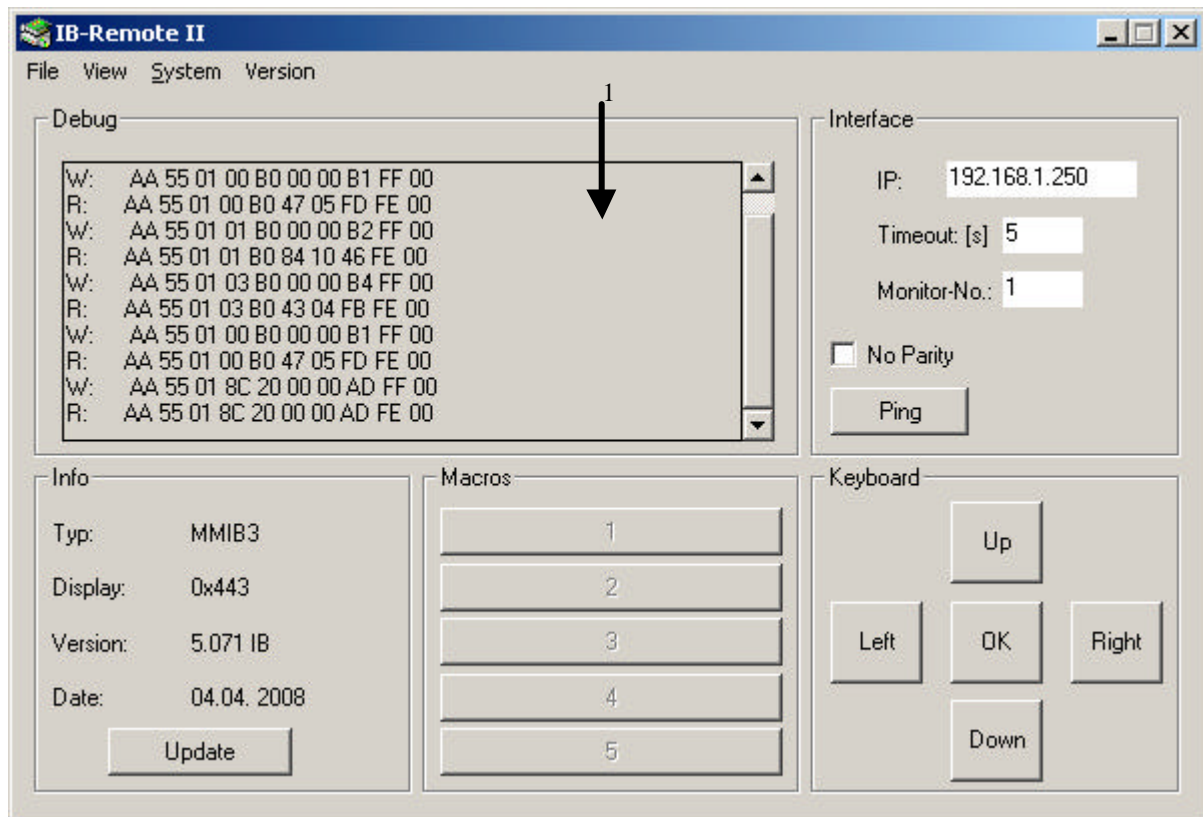
- Begin=first number of interface (i. e. COM1->"1")
- End=last number of interface (i.e. COM10->"10")
- Button „Scan“: Starts the scan for interfaces and monitors

### **7.2 Overview-Window**

- Shows an expandable tree (use double-click to expand or collapse an entry)
- Shows interfaces and monitor details

## **8 Debug Functions**

### **8.1 Debug View**



1=Debug Window

The Debug Window shows the last commands. It will only be filled if it is visible.

If there are too much data this field will be cleared automatically.

The last command stands at the end and the first at the start of the list.

„W:“ = Written Data  
„R:“ = Read out Data

### **8.2 Log-Function**

You can enable the „Log Function“ at the configuration file.

The log file will be cleared at startup.

The data will be logged in the file „test.txt“ in the application's directory.

# Instruction Manual for IBREMOTE II

## 9 Configuration File

```
index1 value1
index2 value2
...
indexn valuen
```

Structure:

Each line can include one entry that consist of index and value.  
Index and value are separated by one or more space(s).

- Hexadecimal Values:
  - can consist of digits and small or capital characters{A...F}
  - can be written with the prefix „0x“ and all prefixed „0“  
i.e.: 0x0001, 0X0000
  - can be written without „0x“ and without all prefixed „0“  
i.e.: 0, 1F, e2d

### 9.1 Detect-Settings

<u>Index</u>	<u>Value</u>	<u>Explanation</u>
ix_det_mmib_cmd ix_det_mmib_val ix_det_sw_cmd ix_det_sw_val ix_det_mmib_cmd ix_det_mmib_val ix_det_disp_cmd ix_det_disp_val	<ul style="list-style-type: none"> <li>- 16 bit value (hexadecimal)</li> <li>- Commands that are necessary for the monitor information detection</li> <li>- „...cmd=0“ will deactivate the detection for the corresponding value</li> <li>- Values:               <ul style="list-style-type: none"> <li>-type of board (...mmib...)</li> <li>-firmware (...sw...)</li> <li>-date of firmware (...dat...)</li> <li>-display number (...disp...)</li> <li>...</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- i.e.: ix_det_mmib_cmd 0x08E4 ix_det_mmib_val 0</li> </ul>

### 9.2 System Settings

<u>Index</u>	<u>Value</u>	<u>Explanation</u>
ik_eth_init_err	<ul style="list-style-type: none"> <li>- Binary number („0“ or „1“)</li> <li>- Value=“0“: The application don't send message if it can't initialize the ethernet interface or the snmp functions.</li> <li>- Value=“1“: The application don't send message if it can't initialize the ethernet interface.</li> </ul>	<ul style="list-style-type: none"> <li>- i.e.: ik_eth_init_err 1 ik_eth_init_err 0</li> </ul>
ik_tempf	<ul style="list-style-type: none"> <li>- Path and name for the temporary file</li> <li>- without wildcards,... („%..%“, „*“, ...)</li> </ul>	<ul style="list-style-type: none"> <li>- i.e.: ik_tempf C:\Temp\ibrm.tmp</li> </ul>
ik_w_lf, ik_w_tp	<ul style="list-style-type: none"> <li>- Position of the window (Left, Top)</li> <li>- Natural number including „0“, 0&lt;=x&lt;=32767</li> </ul>	<ul style="list-style-type: none"> <li>- i.e.: ik_w_lf 0 ik_w_tp 0</li> </ul>
ik_app_name	<ul style="list-style-type: none"> <li>- application name (usually shown in the title bar)</li> <li>- character string, (at most 127 characters)</li> </ul>	<ul style="list-style-type: none"> <li>- i.e.: „...IB-Remote II“</li> </ul>

# Instruction Manual for IBREMOTE II

## 9.3 Log-Settings

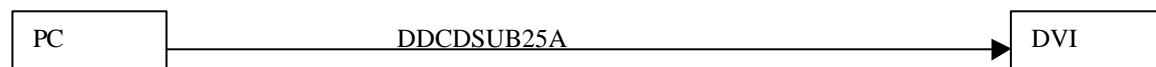
<u>Index</u>	<u>Value</u>	<u>Explanation</u>
ik_log	- Can be „0“ (disabled) or „1“	- i.e.: ik_log 1 //Enable log

## 9.4 Connection Settings

<u>Index</u>	<u>Value</u>	<u>Explanation</u>
ik_ip1_1, ik_ip1_1_2 ... ik_ip1_9 ... ik_ip1_9_29	<ul style="list-style-type: none"> <li>- IP-Lists (0..9)</li> <li>- Each list can consist 1 to 29 entries</li> <li>- The ip „0.0.0.0“ ends a list.</li> <li>- IPV4-decimal or DNS-adresse</li> <li>- If the „IP-List-Group-Message“ is not supported, the first ip will be selected.</li> </ul>	<ul style="list-style-type: none"> <li>- i.e.: ik_ip1_2 192.168.1.254 ik_ip1_4_15 monitor2</li> </ul>
ik_ddc_1 ik_ddc_1s ... ik_ddc_4 ik_ddc_4s	<ul style="list-style-type: none"> <li>- 16 bit value (hexadecimal)</li> <li>- specific addresses for LPT1...4, used for DDC-operations</li> <li>- ik_ddc_n=data port for LPTn</li> <li>- ik_ddc_ns=status port für LPTn</li> </ul>	<ul style="list-style-type: none"> <li>- usually: ik_ddc_ns= ik_ddc_n+1</li> <li>- i.e.: ik_ddc_1 378 ik_ddc_1s 0x0379</li> </ul>

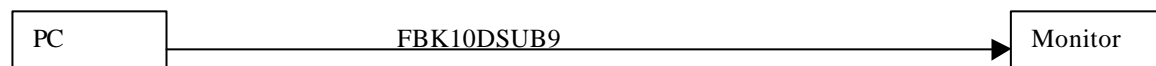
## 10 Connections and Cables

### 10.1 Connecting DVI-Board (DDC-Mode)

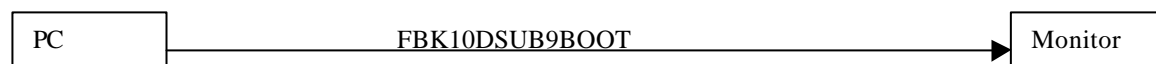


### 10.2 Connecting Monitor(s)

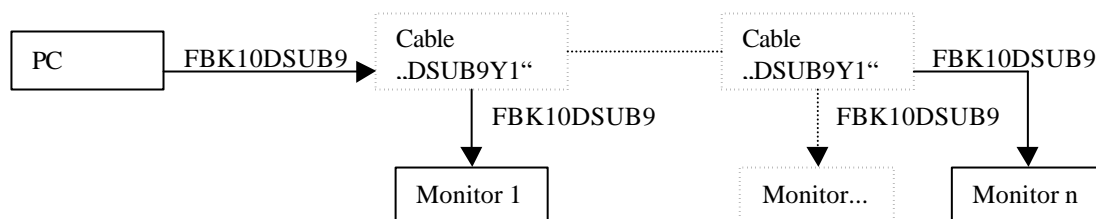
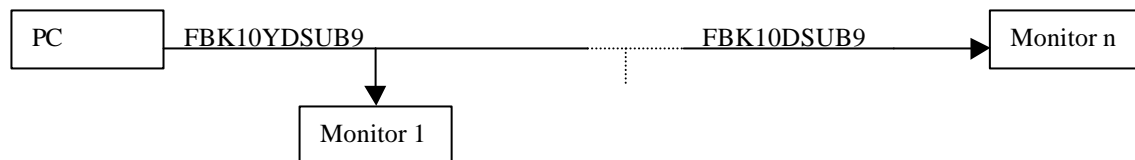
- Single monitor in usual operation mode

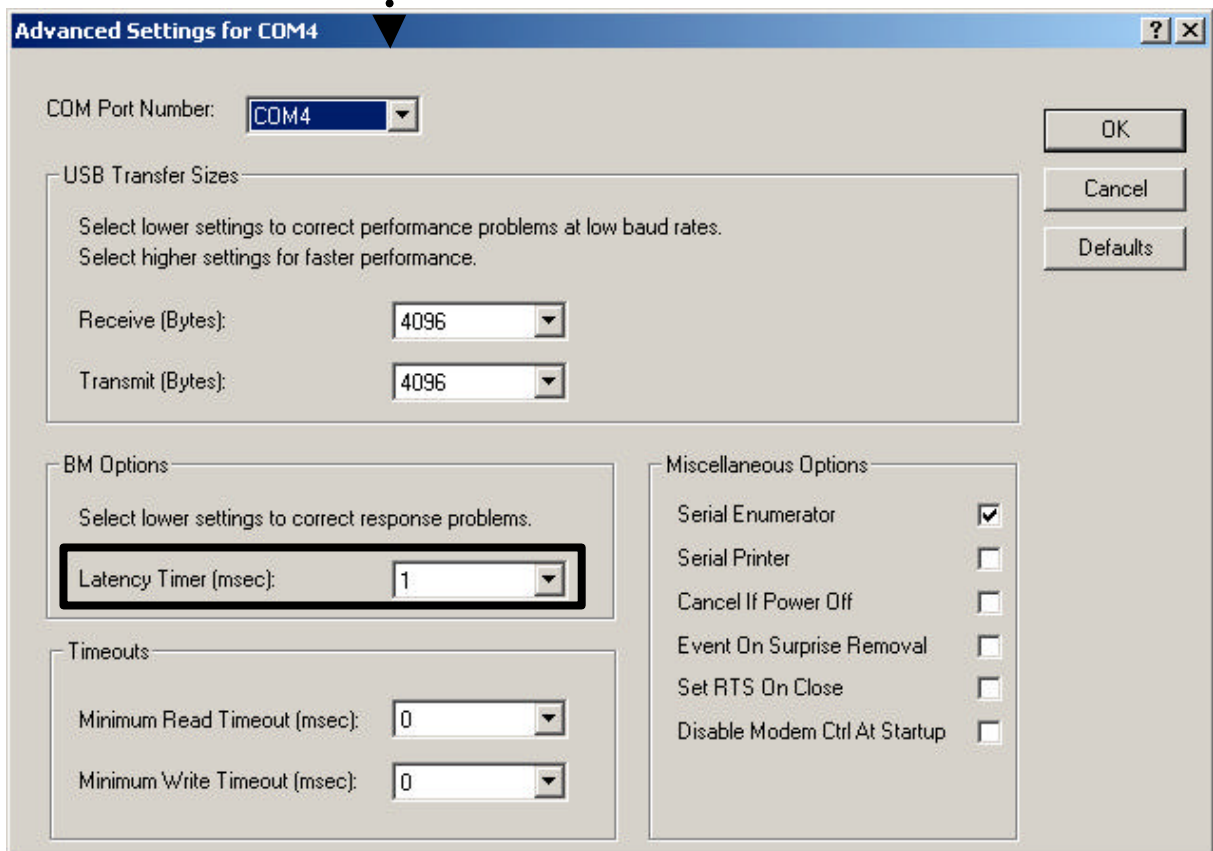
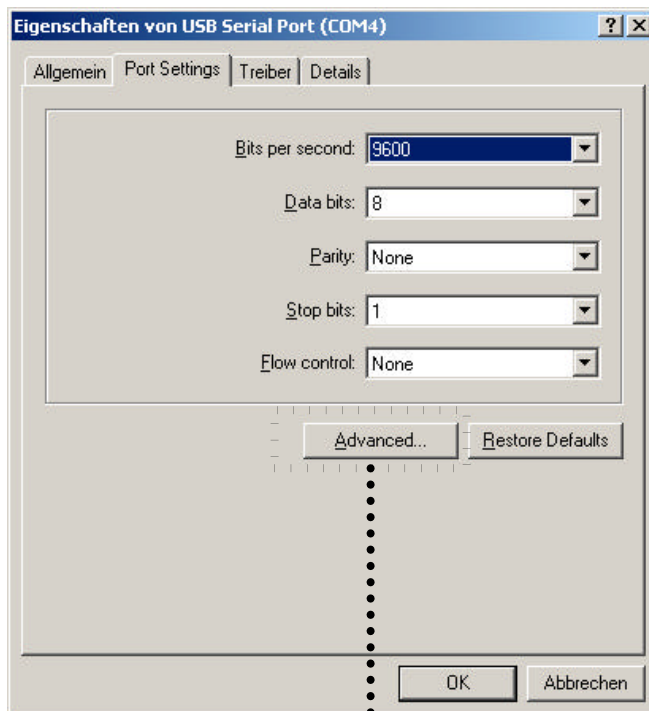


- Single monitor in bootstrap-mode



- Group of monitors in usual operation mode



**10.2.1 Configuration for USB-to-RS232-Converters**



**11 Error messages****11.1 Startup Errors**

<b>Message</b>	<b>Funktion</b>	<b>Error</b>
„Can't find a useable "WinSock DLL"!“	Startup	The ethernet interface can't be initialized. Please check your system software. - Can be disabled by using the „ik_eth_init_err“-entry in the configuration file.
„Can't load "inpout32.dll"“	Startup	The file is missing or corrupted. You should copy a suitable one in the application directory.
„Can't load "ibrm.dll"“	Startup	The file is missing. You should copy a suitable one in the application directory.
„Can not open macro file!“	Startup	The macro file is missing. You should close the macro file or open a valid one.
„error in macro file: "XXX"“	Startup	XXX is a invalid term in the macro file. You should close the macro file or open a valid one.

**11.2 Connection Errors**

<b>Message</b>	<b>Funktion</b>	<b>Error</b>
„can not open port“	Communication	The port can't be opened. Possible reasons: - Port is already opened - Port doesn't exist
„invalid checksum“	Communication	The checksum in the received frame is invalid.
„invalid IP“	Communication	The monitor-ip is invalid. Possible reasons: - The ip doesn't belong to an ethernet-rs232-converter - It's not possible to connect to this ip
„Loop“	Communication	The port is only repeating the message. Possible reasons: - Monitor-No. too high - Loopback-plug at the interface - Monitor not indicated
„no ACK at interface“	Communication	The communication device doesn't send an ACK (Acknowledgement) to the computer.
„no i2c-converter detected“	Communication (DDC)	You must connect a DDCSUB25A-Cable to the selected LPT-port.
„IP-List is empty“	Communication	The selected ip-list doesn't contain active entries.
„Timeout“	Communication	The answer takes too much time.

# Instruction Manual for IBREMOTE II

## 11.3 File Errors

<i>Message</i>	<i>Funktion</i>	<i>Error</i>
„can not open file“	Open File	The file can't be opened. Possible reasons: - The file doesn't exist. - You don't have the access rights to open or create the file.
„error while file access“	File Access	- A file operation failed
„file entry too short“	Read out File	- At least one byte is missing in a data entry
„invalid or missing file path“	Open File	- Invalid or missing filename or path
„invalid size of file“	Check or Read out File	- The file size is invalid.
„no entries in file“	Read out File	- File doesn't contain data entries
„too much entries in file“	Read out File	- File contains too much data entries
„Value: „XXX““	Read out File	- Invalid value „XXX“ in file

## 11.4 General Errors

<i>Message</i>	<i>Funktion</i>	<i>Error</i>
„ddc writeprotection“	„PC -> DDC“	The ddc-eprom is write-protected or can't be written.
„Monitor-No. must be set to "0"!“	„IP-List-Group-Message“	„Monitor-No.“ is not 0.
„no MMIB Nr.“ or „no Monitor No.“	i.e. „TFT->PC“	You have to select a monitor („Monitor-No.“ is 0) .
The file is write-protected!	...->PC	The write-protection is enabled. It has to be disabled.

## 11.5 File System Errors

<i>Message</i>	<i>Funktion</i>	<i>Error</i>
„error in gamma data“	„PC->TFT“	The gamma data are invalid.
„missing gamma start tag“	„PC->TFT“	The gamma start tag ( i.e. „;C1 “) is missing.
„multiple definition of a gamma table“	„PC->TFT“	A gamma table ist defined twice.
„too much gamma entries in table“	„PC->TFT“	A gamma table consists of too much entries.

## 11.6 Firmware Errors

<i>Message</i>	<i>Funktion</i>	<i>Error</i>
„The Version of the fimware of a monitor must be 068 or higher. Continue?“	„Firmware-Update“	The current firmware on a monitor is too old for updating with the selected firmware.
„There are differences between type of firmware and a Monitor. Continue? “	„Firmware-Update“	The selected firmware wouldn't work on a monotor because another type of controller is detected.

# Instruction Manual for IBREMOTE II

## 12 Revisions

<u>Date</u>	<u>Version</u>		<u>DLL-Version</u>
04.02.2009	1.013	- Added „ping“ before trying connect to ethernet device - Bug in DDC view fixed	1.003
04.04.2008	1.012	- Added „Log-Function“ - Added „Default Gamma Tables“	1.003
31. 03. 2008	1.011	- "Firmware Update" detects the version of the monitor's one and alerts if it will not work suitable. - Empty gamma tables will not be exported into "file system file" - Bugs fixed - Added „Debug-View“	1.003
13. 09. 2007	1.010	- "Firmware Update" detects if the selected baudrate can be used and decrease it if necessary - The „Detect-Settings“ from the configuration will only be used if a unknown firmware will be detected	1.003
11. 09. 2007	1.009	- Bug fixed: The last byte of the file system entry was not loaded or saved. - Bug fixed: Sending macros over ethernet causing an error. - Added the "IP-List-Broadcast" for macros - Monitor number in macro file will be interpreted now. - Added update buadrates (288k, 384k and 576k) for firmware update - Firmware file will be buffered before running firmware update or bootstrap download - "Firmware Update+Erase" removed - Idle time after firmware-update decreased (from 9 sec.) to 5 sec.	1.003
21. 03. 2007	1.008	- Bug fixed: Application crashed if ibrm.dll was missing - Added „File System Cycle Download“ if using „File System Download“ with monitor number „0“ - Buffering „File-System –File“ at download (at most 200 enties) - Added „IP-List-Group-Message“-function for „File System Download“ and „File System Erase“ - Added DICOM-gamma-table in „File System Download“ and „File System Upload“ - Buffering gamma tables while „File System Download“ and „File System Upload“ (at most 32 enties in gamma table)	1.002
15. 02. 2007	1.007	- Added IP-List - Added parity to ethernet connection - Added „File System Cycle Erase“ if using „Files System Erase“ with monitor number „0“	1.002
13. 02. 2007	1.006	- Idle time after firmware-update increased (from 7 sec.) to 9 sec. - Scan function improved - Added error message „error in macro file: "XXX"“ (was only German)	1.002
06. 02. 2007	1.005	- The startup-language is set (from German) to English. - Application shows and checks version of „ibrm.dll“ - Added filesystem-comments for display-timing - Set language from filesystem-comments (from German) to English - Added direct use of ethernet-to-rs232-converter	1.001

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<u>Date</u>	<u>Version</u>		<u>DLL-Version</u>
23. 01. 2007	1.004	<ul style="list-style-type: none"> <li>- Added simple scan function</li> <li>- Added ddc-convert function</li> <li>- Added comments for „fs-upload“</li> <li>- Added read/write gamma data</li> <li>- Defined times and process-steps for aborting a running action</li> <li>- Timeout intervall increased (up to 60sec.)</li> <li>- Added function „deactivate detect-item“</li> <li>- Added „ibrm.dll“.</li> </ul>	1.000
04. 08. 2006	1.003	<ul style="list-style-type: none"> <li>- Bugs fixed</li> <li>- Detect type of software and monitor while firmware update, send warning if necessary</li> </ul>	
28. 07. 2006	1.002	<ul style="list-style-type: none"> <li>- Added status and progress dialogue</li> <li>- Memory for macros increased (from 10 group entries per button to 25)</li> <li>- Data from ddc upload will be buffered in temporary file</li> <li>- Added temporary file path and name to configuration</li> </ul>	
21. 07. 2006	1.001	<ul style="list-style-type: none"> <li>- Buffering of firmware data while for bootstrap download</li> <li>- Monitor information manually operated</li> <li>- Added detect items to configuration</li> </ul>	
06. 06. 2006	1.000	Version tag added, 1 <sup>st</sup> Release	