

Saia PCD® 12'' SVGA Web panel with MicroBrowser

User guide



The box contains:

- x 1 MicroBrowser panel with labelling
- x 1 Plastic bag containing
 - x8 mounting clamps with screw M5x30 (panel fixing)
 - x1 screw with star washer (for frame ground connection)
 - x1 spring connector, 2-pole (for power 24 VDC)
- x 1 Release note
- (x 1 Stylus pen)

Revision	Description	Author	Date
REV 0	Release of the Pilot Series one and two (HW version: \$A1 & \$B1) → read recommendation/ restrictions in section 12	TR	18.03.11
REV 1	Release Pilot HW \$C/D Front panel W x H: 319 x 264 (compatible with in/on wall mountings kits.)	TR	11.05.11
REV2	Release Pilot HW \$E with FW Version 1.18.10 : <i>Multi connection / Support macro save logs to files / DHCP DNS / info video cache calculation / Gif files decompression into video cache at starting. (intermediate version)</i>	TR	15.09.11
REV 3	Release First Series: <i>Multi connection / Support macro save logs to files / DHCP DNS / info video cache calculation / Gif files decompression into video cache at starting. This revision is corresponding to the firmware version 1.18.12.</i>	TR	26.09.11
ENG04	Change of Logo - new mounting clamps	HaMa	2015-02-04

Types:

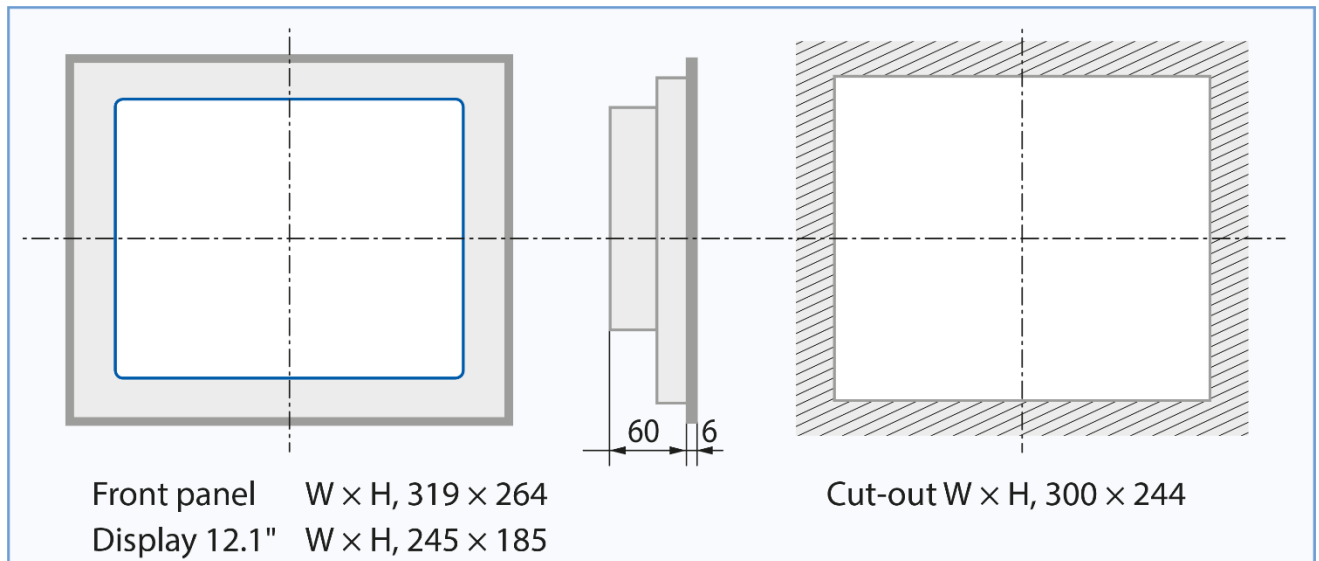
12.1'' TFT SVGA Types: PCD7.D412DTPF

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1. Dimensions and cut-out (all in mm)

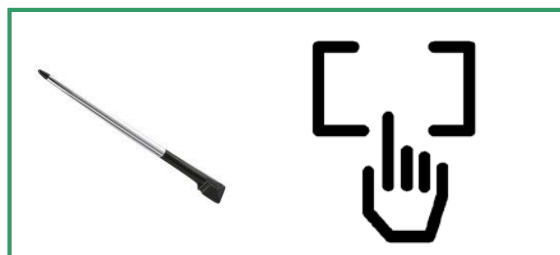
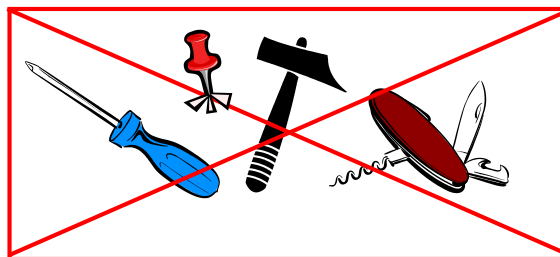


2. Mounting

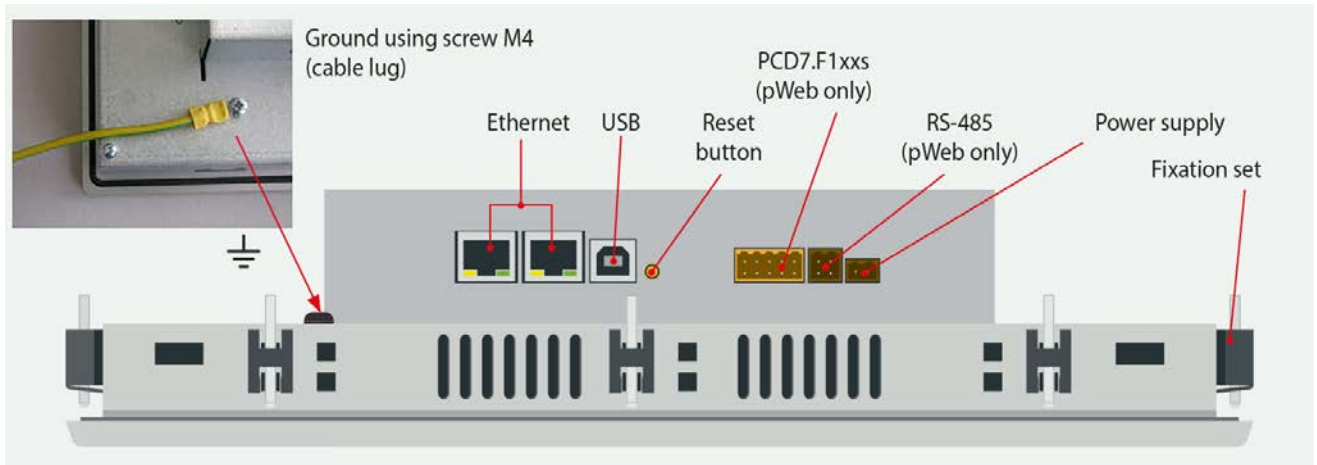
- Clip the 8 clamps onto the unit then tighten the grub screws M5×30 until they touch the plate
- The required torque to seal the gasket is 20 cNm. Do not exceed 30 cNm to avoid breaking of the clamp
- Mounting position is horizontal or vertical position (see section 7.4.1)
- Ensure that the ventilation slits are positioned above and below in mounting position.
- Operating temperature: 0...50 °C (portrait or landscape positions)
- Extended operating temperature range → contact PCD support.

3. Operation and handling

To operate the touch-screen, use only a finger, soft stylus pen or soft finger stylus. Do not operate with sharp tools (e.g. metal tips, paperclips or screw drivers ...)



4. Connections and power requirements



Power Supply	Gnd (-) / 24V (+)	Spring connector, 2-pole
Communication	X2 Ethernet (Switch !!)	x2 RJ 45 with LED control
	USB	Standard USB slave
Reset button	Push button	See section 16.2.2



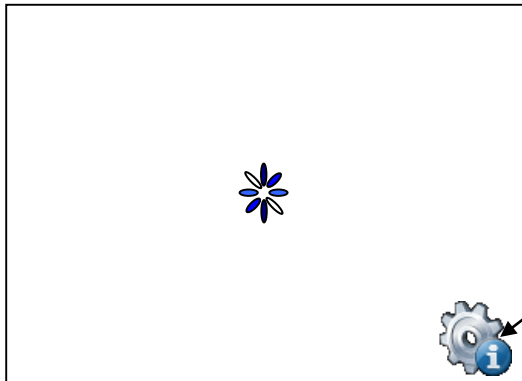
4.1. Electrical specifications

Technical data	
Line	Base
Type	PCD7.D412DTPF
Display	
Colour	65 K
Display	12,1 " TFT
Resolution/Pixel	SVGA 800 x 600
Resistive Touch-Screen	5-Wires
Contrast adjustment	yes
Backlight	LED
Front LED 2)	Multi colors
Processor	
Processor	Coldfire CF5373L 240 MHz
Memory for local File System	64 Mbytes
Real-time clock (RTC)	Yes with Super-cap
Interfaces	
Ethernet 10/100 M	x 2 Ethernet (switch) / http direct
USB 12 M	x 1 client
Seriell	-
Operating system	Saia PCD® COSinus
Browser	SBC Micro Browser
Server	Web-Server (HTTP D)
Software-tool	
Grafic-Editor	Saia PG5® Web Editor
* using PG5 Resources	Yes
Technical data	
Supply voltage	18...32 VDC
Power consumption at Un	600 mA
Protection class (front)	IP 65
Operating temperature	0...50°C
Dimensions (W x H x D) mm	see topic 1.1
Cut-out (W x H) mm	300 x 244
Accessories	
Kit for in-wall mounting	PCD7.D412-IWS
Kit for on-wall mounting	PCD7.D412-OWS
2) not in this version	

- Extended operating temperature range → See our local PCD support site: www.sbc-support.com
 General information → Certificates/Quality → PCD/PCS → Miscellaneous → Extended temperature ranges

5. TITLE

The title screen is displayed for a few seconds. It is the first screen to appear after a power ON. The welcome text and splash image are defined in → System / Intro screen (see section 7.3.2.3)



Available for a few seconds only, pressing on this icon will take you directly to the setup menu.
Or see section 6: Setup menu



= Animated Icon for "please wait, activity in progress, loading"

Custom your start page: See section 7.3.2.3

6. Enter & quit Setup Menu

Enter the setup menu:

- By pressing **at any time** and anywhere (except on button fields) for 4 seconds
- By pressing on icon displayed during start-up (see section 5.TITLE)
- SETUP menu contains an ON-LINE Help (press help icon)

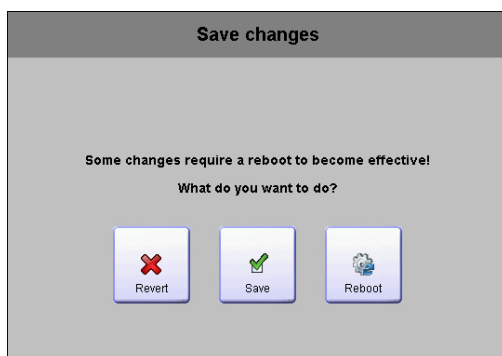


6.1. Password

MB panels from the PCD7.D4xxx series are delivered without a Setup password. However, if a password has subsequently been defined for access to the Setup menu, you will have to enter the correct password and confirm it with OK.

→ Setting password: see section 7.6

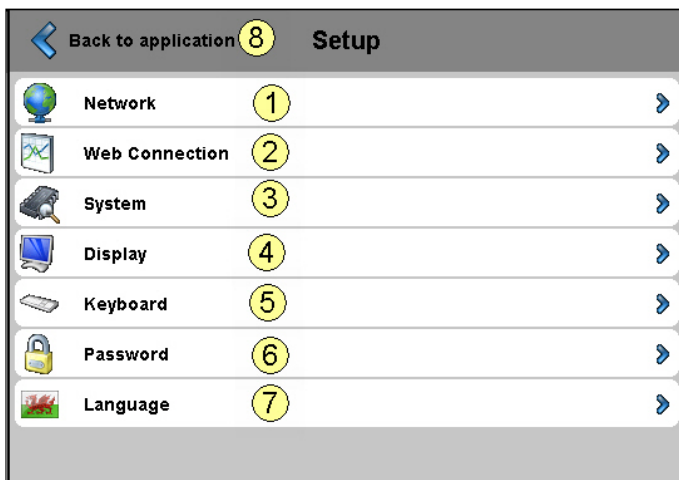
6.2. Save and Quit



If you change one or more parameters, you must confirm whether you want to save, save & reboot, or revert without saving the new parameters.

7. SETUP screen

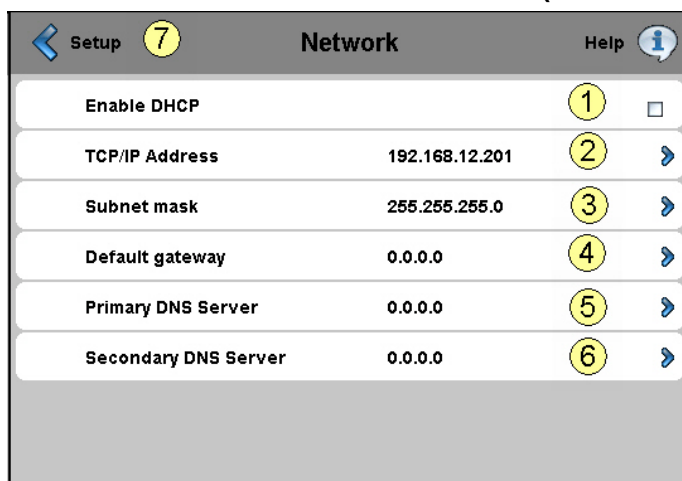
The Setup screen is the first one displayed when you enter the Setup menu.



1	Network	MB panel settings	See section	7.1
2	Web connection	Configuration of the Web connection	See section	7.2
3	System	Info/settings/special/FW download and reboot	See section	7.3
4	Display	Display settings	See section	7.4
5	Keyboard	Virtual Keyboard	See section	7.5
6	Password	Enter a password	See section	7.6
7	Language	Selection of the language (E, G, F, I and Dutch)		
7	Back to application	Back to application		

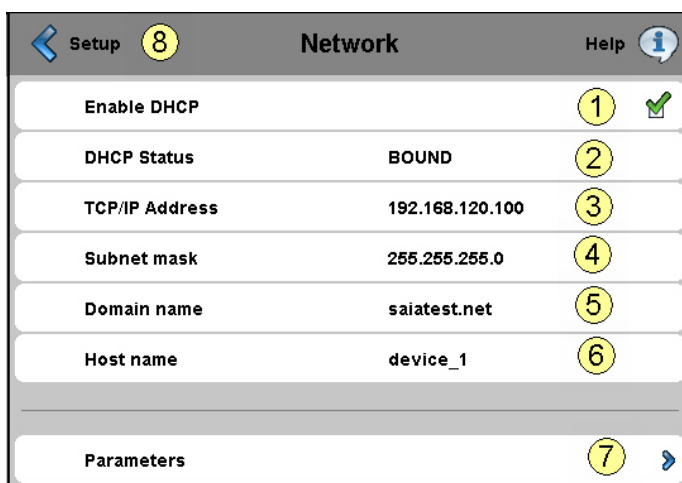
7.1. Network

7.1.1. No DHCP server is used (Standard configuration)



1	Enable DHCP	<input type="checkbox"/>	Default is disabled	<input type="checkbox"/> Not enabled: User must supply IP address
2	TCP/IP address		Read/write	IP address of the MB panel
3	Subnet mask		Read/write	Subnet Mask IP address
4	Default gateway		Read/write	Default gateway IP address
5	Primary DNS server		Read/write	IP address of the primary DNS server
6	Secondary DNS server		Read/write	IP address of the secondary DNS server
7	Setup			Back to main Setup menu

7.1.2. DHCP server is used

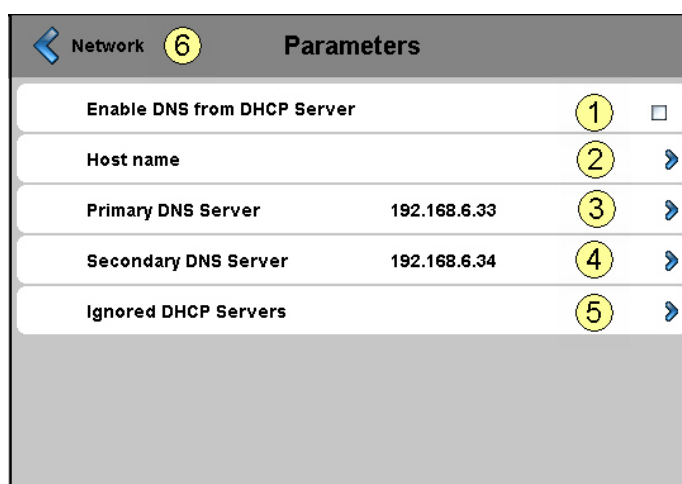


1	Enable DHCP <input checked="" type="checkbox"/>	Default is disabled	<input checked="" type="checkbox"/> Enabled. Configuration is supplied by the DHCP server.
2	DHCP status	Read only	INIT , INIT-REBOOT, REBOOTING, BOUND = gets an address from the server
3	TCP/IP address	Read only	IP address of the MB panel provides by the DHCP server.
4	Subnet mask	Read only	Subnet Mask IP address provides by the DHCP server.
5	Domain name	Read only	Provides by the DHCP server.
6	Host name	Read only	
7	Parameters >	Write	See the section 7.1.3
8	Setup		Back to main Setup menu

→ See also document 26-867 section 4 (TCP/IP Enhancements DHCP and DNS)

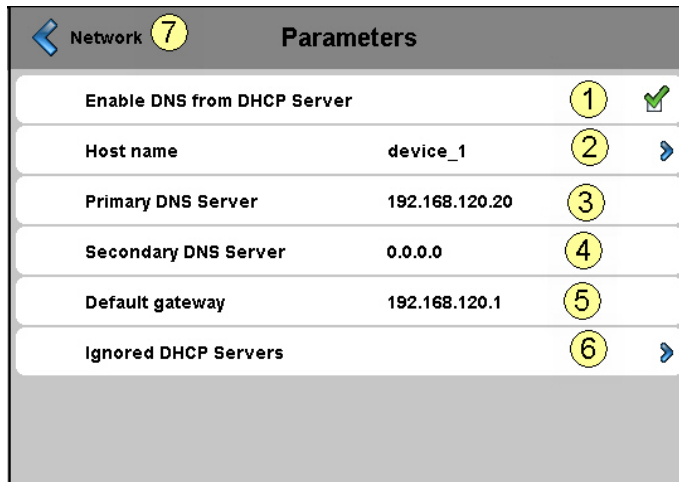
7.1.3. Parameters (Disable or Enable DNS from DHCP server)

DISABLED



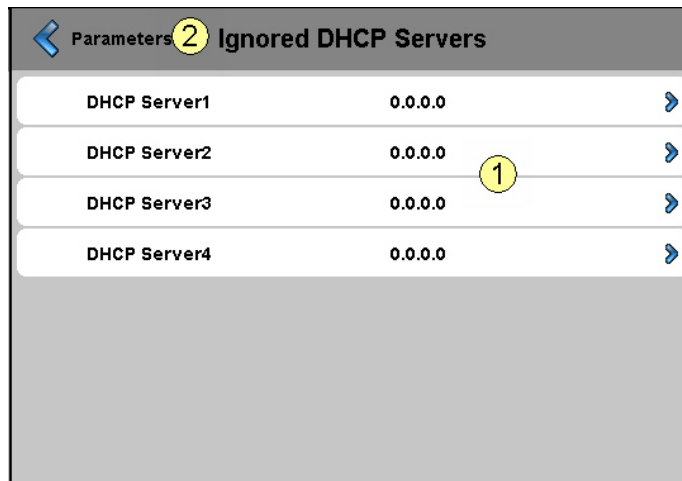
1	Enable DNS from DHCP server <input type="checkbox"/>	Default is disabled	<input type="checkbox"/> Not checked: DNS from DHCP server is disabled (Does not get DNS from DHCP server)
2	Host name	Read/write	Free host name
3	Primary DNS server	Read/write	IP address of the primary DNS server
4	Secondary DNS server	Read/write	IP address of the secondary DNS server
5	Ignored DHCP servers		See section 7.1.4
6	Network		Back to Network menu

ENABLED



1	Enable DNS from DHCP server <input checked="" type="checkbox"/>	Default is disabled	<input checked="" type="checkbox"/> Checked: DNS from DHCP server is Enabled (Gets DNS from DHCP server)
2	Host name	Read/write	Free Host name (example: device_1)
3	Primary DNS server	Read only	IP address of the primary DNS server
4	Secondary DNS server	Read only	IP address of the secondary DNS server
5	Default gateway	Read only	IP address of the default gateway
6	Ignored DHCP servers		See the section 7.1.4
7	Network		Back to Network menu

7.1.4. Ignored DHCP servers



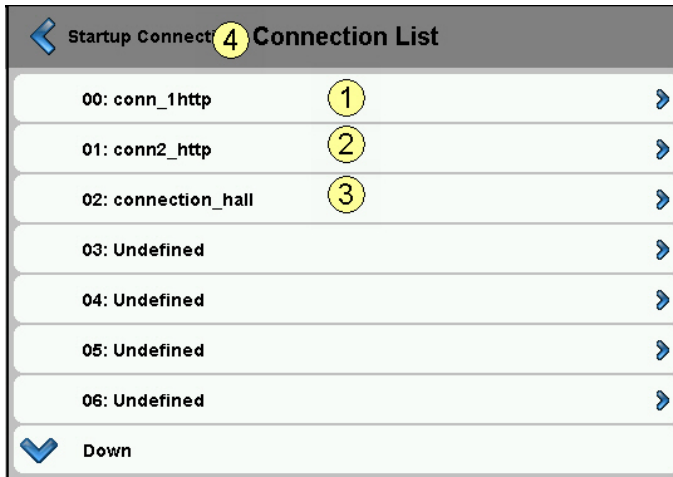
Fehler! Keine gültige Verknüpfung.

7.2. Web connection

We advise you to create one or more connections (up to x16) **starting from the “Connection List”**. Edit the connection or connections and chose which connection is to be used in your project. Each connection may be edited at any time.

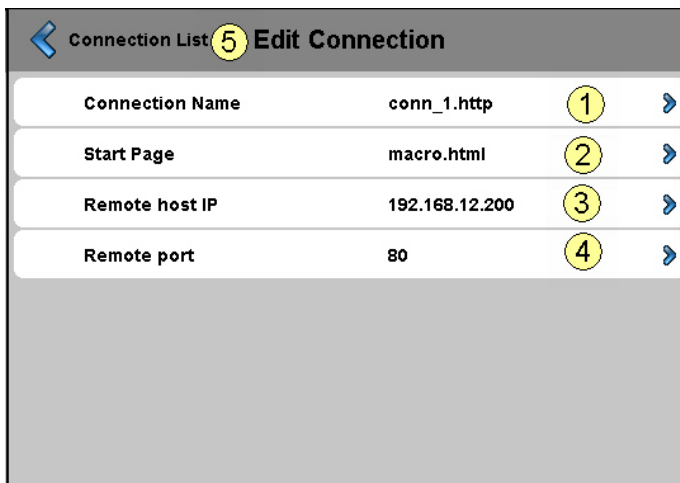
The names of connections are necessary for the URL jump (see section 7.2.4)

7.2.1. Connection List (NEW)



1	conn_1http >	Undefined (default)	Name of first connection
2	conn2_http >	Undefined (default)	Name of second connection
3	Connection_hall >	Undefined (default)	Name of third connection: example connection-3
4	Startup connection		Back to the Startup connection

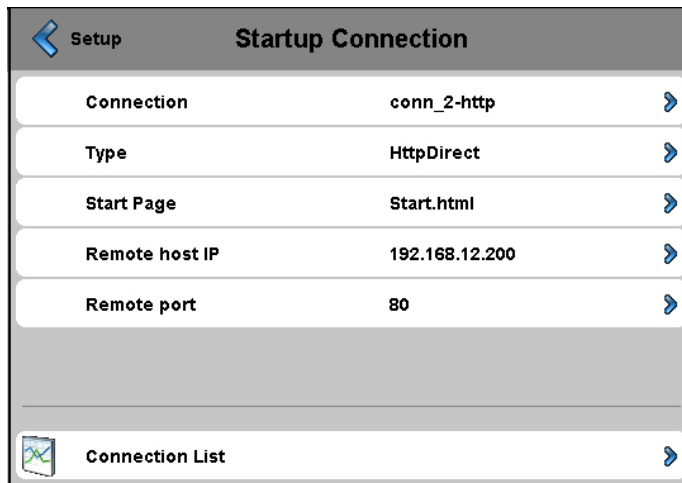
7.2.2. Edit a Connection



1	Connection name	conn_1 -http	Name of connection	
2	Start Page	Start.html	Name of start-page for this connection	
3	Remote host IP	192.168.12.200	IP address of connected PCD	
4	Remote port	80 (default)	Remote port	
5	Connection list		Back to Connection List	

7.2.3. Choose the Startup Connection

→ Finally, choose the Startup connection



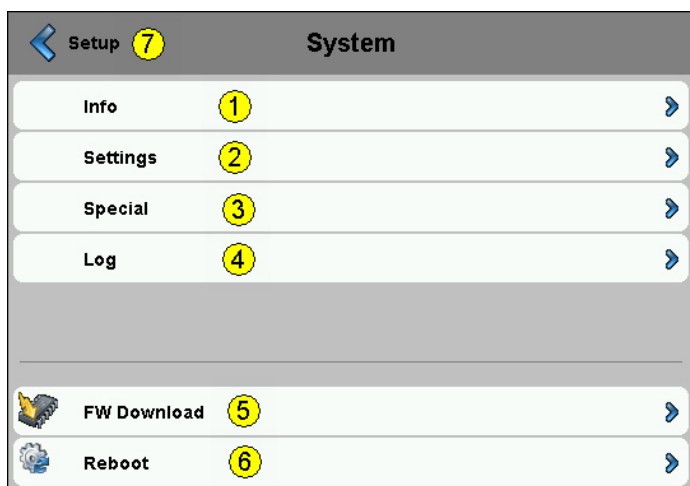
Local	No connection with any PCD The connection is to the local IP address 127.0.0.1
Httpdirect	http direct connection (Ethernet only)

7.2.4. URL Jump on Web-Editor

The string contains: the name of the connection list / the name of the html start page

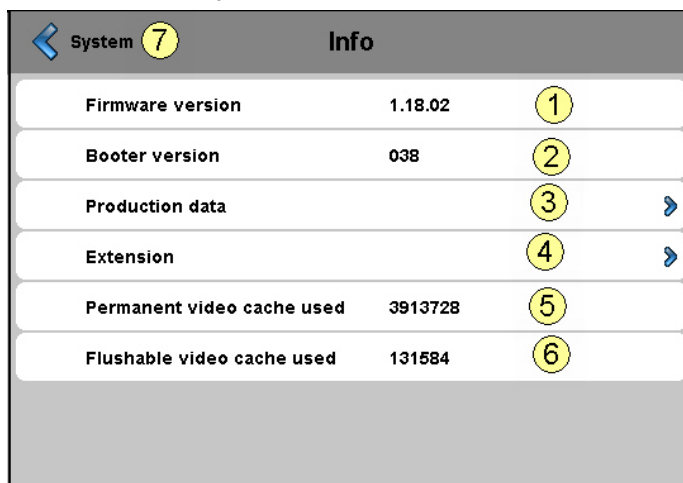


7.3. System



1	Info	System info (FW , booter versions...)	See section	7.3.1
2	Settings	Settings for: buzzer, file search order, startup timeout, info screen, file cache and auto-repeat.	See section	7.3.2
3	Special	Reset parameters, Format INFLASH, Time and memory	See section	7.3.3
4	Log	Overview log.txt	See section	7.3.4
5	FW Download	Select mode of downloading	See section	7.7
6	Reboot	Reboot MB panels (with confirmation)	Like a power OFF and ON, but without any HW switching	7.8
7	Setup	Back to main setup menu		

7.3.1. System info



1	Firmware version	V xxxx	Firmware version of the MB panel (Read only)
2	Booter version	V xxxx	Booter version of the MB panel (Read only)
3	Production data		See section 7.3.1.1
4	Extension		See section 7.3.1.2
5	Permanent video cache used	xxxxxx	Info: Permanent video cache used / read only ~ 4 MByte
6	Flushable video cache used	xxxxx Byte	Flushable video cache used / read only. Memory used in cache for pictures. It depends on the size and number of gif files used in caching. (see section 19.5)
7	System		Back to system page

7.3.1.1. Production data

Info 8 Production data		
ASN	PCD7.D412DTPF00	1
Serial number	03602A30	2
MAC Address	00:50:C2:D0:FA:CF	3
HW version	\$B	4
Fabrication date	2011/KW23	5
Display type	48	6
HW LCD rotation	2	7

All are READ ONLY

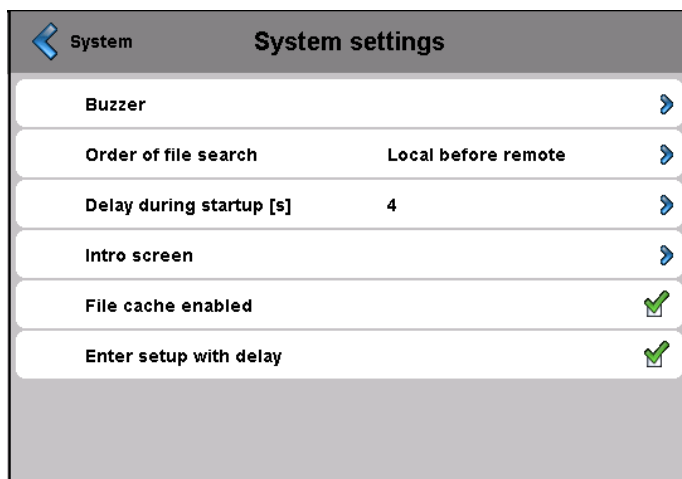
1	ASN	PCD7.	Product code
2	Serial Number	xxxxxx	Serial number of the panel. This number is unique to each panel and can be used for product traceability.
3	Mac address	12 Charact.	Unique Mac address
4	HW version	XX	Hardware version
5	Fabrication date	xxxxxx	Fabrication date
6	Display type	xx	Type of display on board
7	HW LCD rotation	x	Code for display rotation
8	System		Back to info page

7.3.1.2. Extension info (only for special configuration)

Info 3 Extension info		
Extension 1 ASN	no extension	1
Extension 1 version	No FW version	
Extension 2 ASN	no extension	2
Extension 2 version	No FW version	

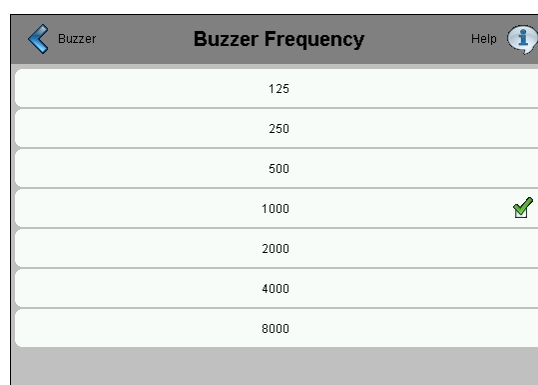
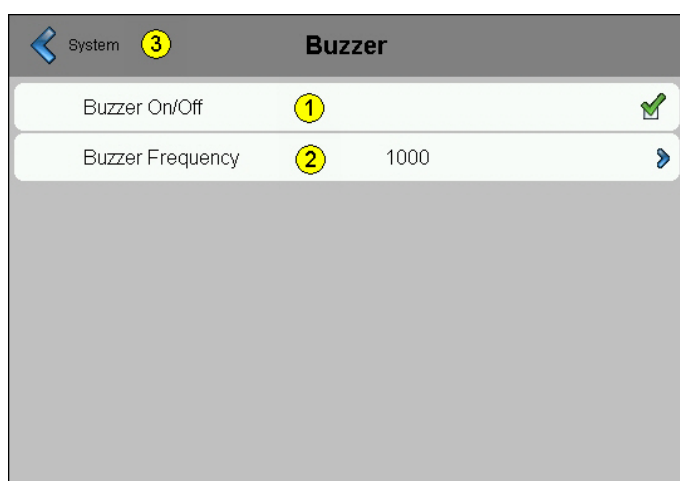
Fehler! Keine gültige Verknüpfung.

7.3.2. Settings



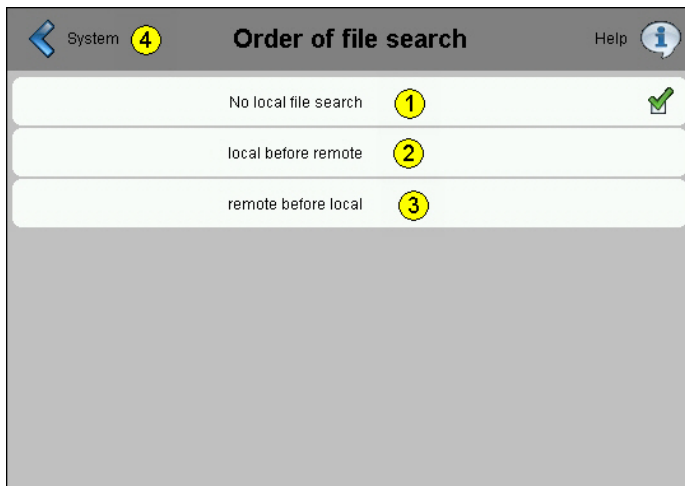
1	Buzzer	On / Off / frequency	See section	7.3.2.1
2	Order of file search	Local / remote files	See section	7.3.2.2
3	Delay during Startup (s)	4 (default)	Min: 0 & Max:15	
4	Intro screen	Entry welcome text and splash image	See section	7.3.2.3
5	File Cache enabled	Default: Enabled In normal operation, the file cache should always be enabled.	The file cache can be enabled/ disabled. Disabling is particularly useful for projects in development in order to see the visible change in files cached.	
6	Enter setup with delay	Default: Enabled	Delay is enabled or disabled	
7	System		Back to system page	

7.3.2.1. Buzzer



1	Buzzer on/off	Default is on	Change by pressing once
2	Buzzer Frequency	Default is 1000	Select between 125 and 8000 Hz
3	System		Back to system page

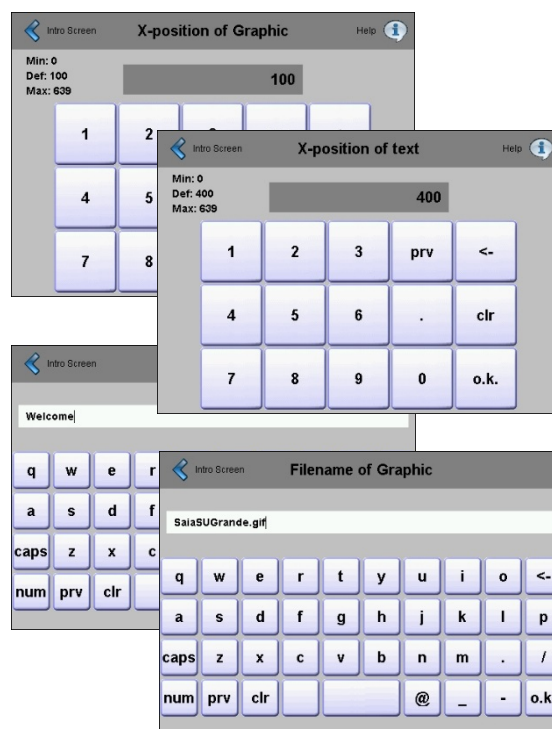
7.3.2.2. Order of file search



1	No local file search	Default	"No local file search" means that no files (.teq, .gif ...) will be searched in the local server of the Mb panel.
2	Local before remote		"Local file search before remote" means that files (.teq,.gif, ...) will be searched in the local server before searching in the PCD server. The files will be searched first in INTFLASH/Webpages
3	Remote before local		"Local file search after remote" means that files (.teq or .gif) will be searched in the remote server before searching in the local server of the MB panel.
4	System		Back to system page

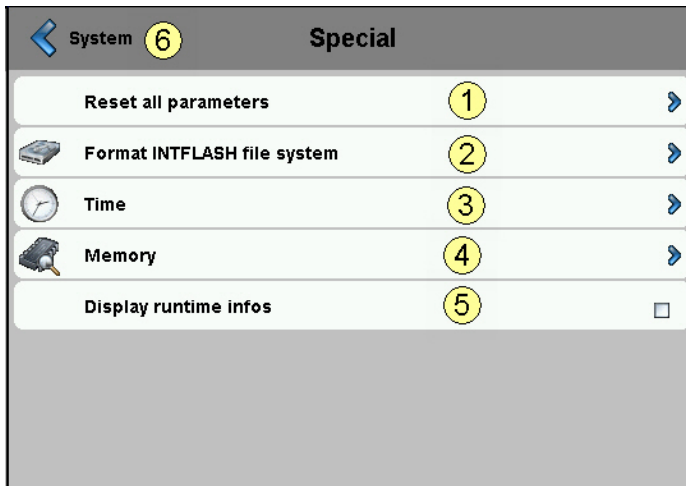
7.3.2.3. Intro screen

System 5		Intro Screen		Help
Welcome text	1	Welcome	>	
X-position of text		400	>	
Y-position of text	2	300	>	
<hr/>				
Filename of Graphic	3	SaiaSUGrande.gif	>	
X-position of Graphic		100	>	
Y-position of Graphic	4	50	>	



1	Welcome text	Default: Welcome	Free welcome text (64 characters max)
2	X position of text	Default X= 400 pixel	Value between 0 and 639
2	Y position of text	Default Y= 300 pixel	Value between 0 and 479
3	Filename of Graphic	Default: SBC SUGrande.gif	Free welcome gif file: INTFLASH/WEBPAGES/...
4	X position of Graphic	Default X= 100 pixel	Value between 0 and 639
4	Y position of Graphic	Default Y= 50 pixel	Value between 0 and 479
5	System		Back to system page

7.3.3. System Special

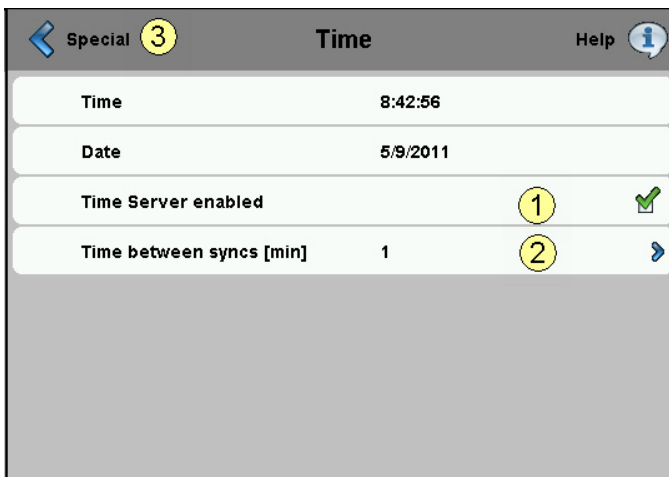


1	Reset all parameters	This command allows you to reset all parameters to their default values	
2	Format INTFLASH file system	Advanced function with confirmation message: "Do you really want to format the INFLASH?" This command will erase flash and create file system. When format is OK, function returns to the System menu.	
3	Time	RTC and Time server enabled/disabled	See section 7.3.3.1
4	Memory	Only in case of problems: out of range of memory → Heap 1, 2, 3 and LR.	See section 7.3.3.2
5	Display runtime infos	Advanced command regarding runtime	
6	System	Back to the system menu	

7.3.3.1. Time



1	Time	xx.xx.xx	Real time clock: Enter time (container: uBT_RtcTime)
2	Date	Default: 1.1.1990	Real time clock: Enter date(container: uBT_RtcDate)
3	Time server disable	Default is disabled <input type="checkbox"/>	Disabled
4	Special		Back to Special menu



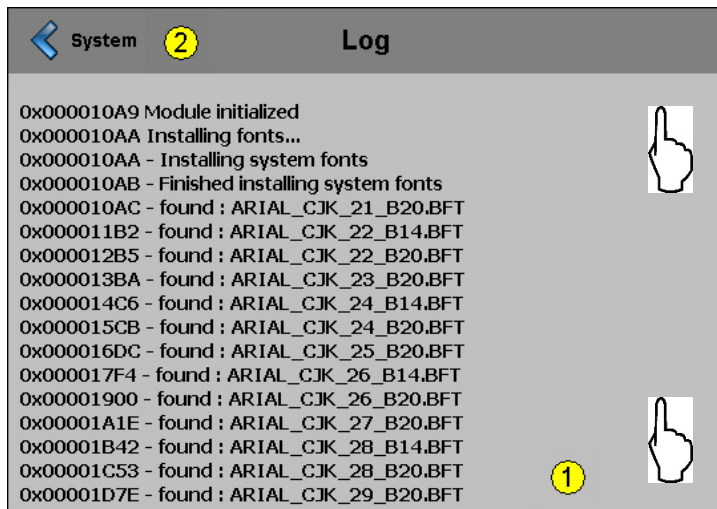
1	Time server enabled	Default is disabled <input type="checkbox"/>	Is enabled by selecting checkbox <input checked="" type="checkbox"/>
2	Time between syncs (min)	Default is 50 minutes	The time is synchronized on startup and re-synchronized periodically according to this value.
3	Special		Back to Special menu

7.3.3.2. Memory

Special 9		Memory	Help i
Heap1 available	1536	1	>
Heap1 used	0	2	
Heap2 available	1024	3	>
Heap2 used	0	4	
Heap3 available	1280	5	>
Heap3 used	0	6	
Heap LR available	512	7	>
Heap LR used	0	8	

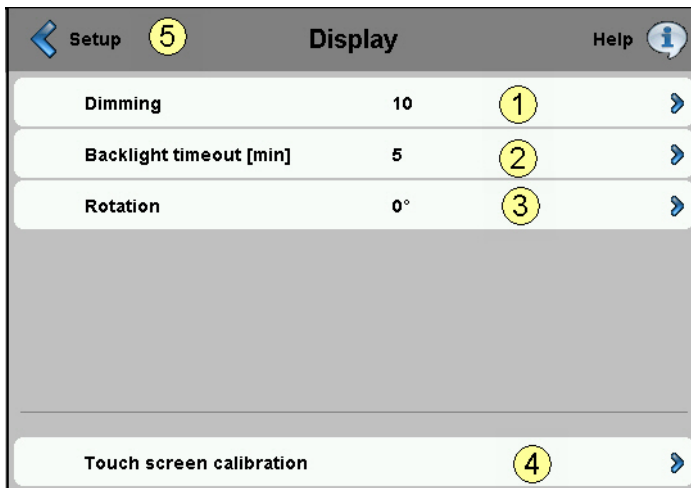
1	Heap1 available	Read/Write Default:1536 kbytes	max: 2048 kbytes
2	Heap1 used	Read only	See "list of Message box messages" section 18
3	Heap2 available	Read/Write Default:1024 kbytes	max: 4096 kbytes
4	Heap2 used	Read only	See "list of Message box messages" section 18
5	Heap3 available	Read/Write Default:1280 kbytes	max: 4096 kbytes
6	Heap3 used	Read only	See "list of Message box messages" section 18
7	Heap LR available	Read/Write Default: 512 kbytes	Min 512 max: 1024 kbytes
8	Heap LR used	Read only	See "list of Message box messages" section 18
9	Special		Back to the Special menu

7.3.4. Log

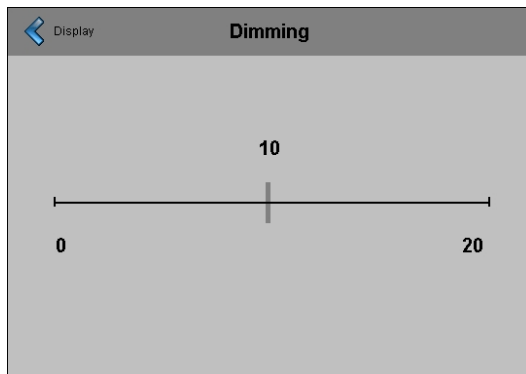


1	LOG.TXT/ Read only	Page through the list by pressing on the touch buttons. This lets you check, for example, whether the fonts are found. The last page contains info about any errors. Access to log.txt via FTP: uBT_FS/LOG.TXT	
2	System	Back to the System menu	

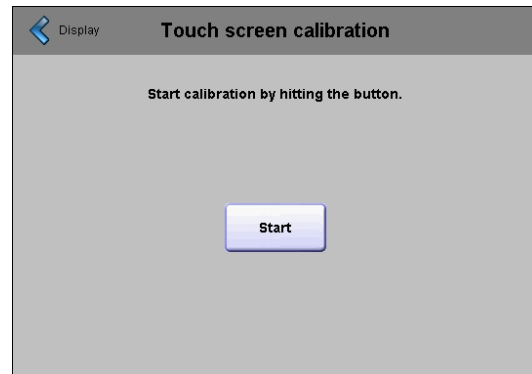
7.4. Display



Dimming

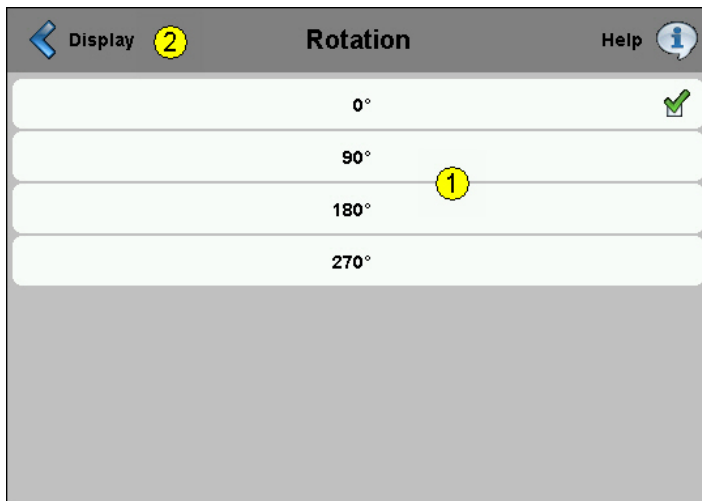


Re-calibration



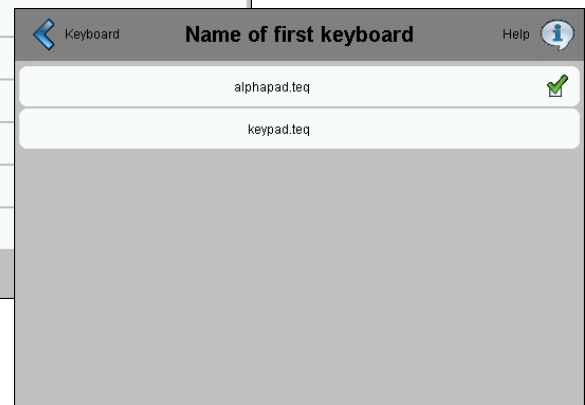
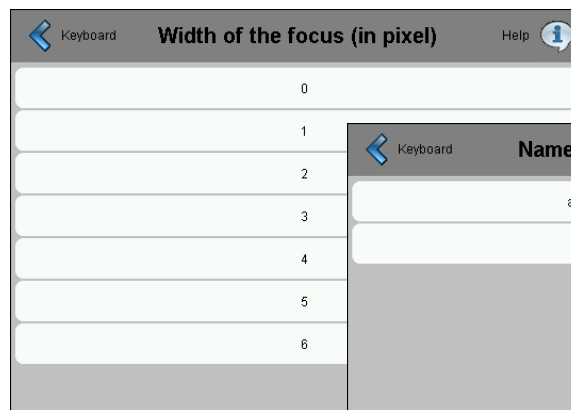
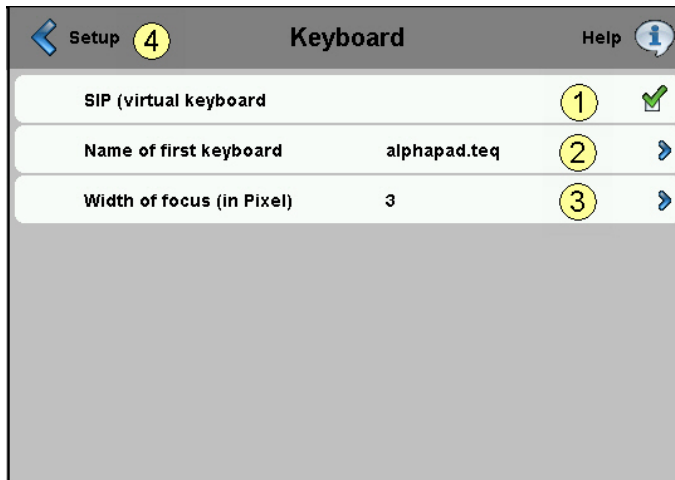
1	Dimming	Default: 10	Adjustable between 0 and 20	
2	Backlight timeout (min)	Default: 15 minutes	The backlight turns off if neither the touch-screen nor any keys are pressed during this time. The backlight reactivates as soon as the blank screen or keys are pressed. Adjustable between 0 and 5000.	
3	Rotation	Def. 0°	Landscape / Portrait	See section 7.4.1
4	Touch screen calibration	Re-calibration	Use stylus or fine pen with care	
5	Setup		Back to the main Setup menu	

7.4.1. Rotation



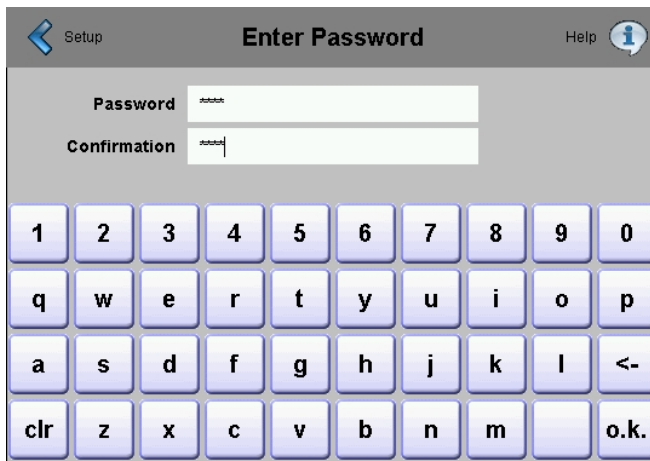
1	0°, 90°, 180°, 270°	Default: 0°	Change the orientation from landscape to portrait + inverted
2	Display		Back to Display menu

7.5. Keyboard



1	SIP (virtual keyboard)	Default: Enabled	Enable/Disable SIP (S oft I nput P anel). Virtual keyboards
2	Name of the first keyboard	Default: Alphapad.teq, alphanumeric keyboard is opened first	You can choose: Alphapad.teq (alphanumeric) or keypad.teq (numeric) as first keyboard opened.
3	Width of focus (in pixel)	Default is 2 pixel	Select between 0 and 6 pixel. A border is drawn around the currently active button or edit field. The width of this border is controlled by the property and is measured in pixel. If a width of 0 is selected no border is drawn. This is useful if only touch screen operation is used.
4	Setup		Back to the main Setup menu

7.6. Enter Password



Setting a password

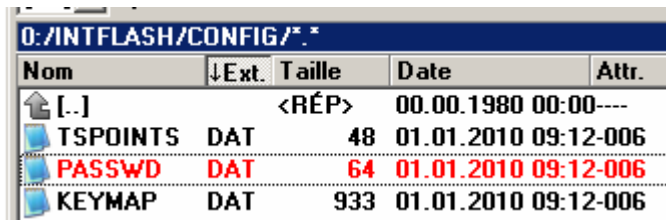
An alphabetical, numeric or alphanumeric password is possible (maximum characters = 32, spaces included)

When setting a password, a confirmation is required.

When setting a new password, a confirmation is required. If the phrases entered do not match, the old password will be retained.

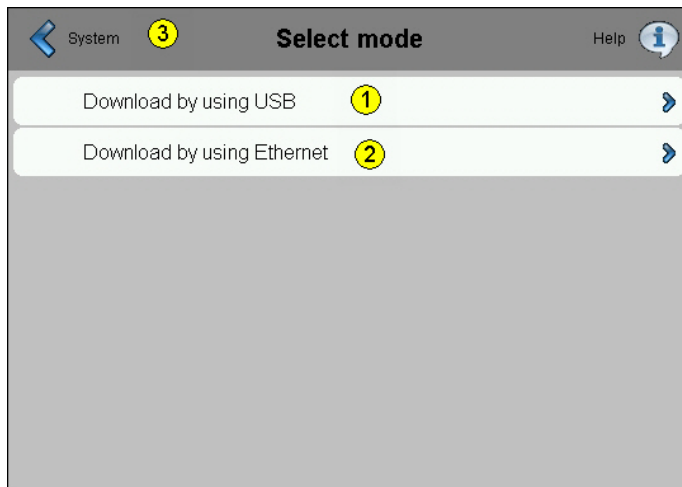
If you want to remove password protection, just enter and confirm no characters

☹ Forgot your password → [delete the inflash/config/passwd.dat file \(FTP connexion\)](#) That's all.



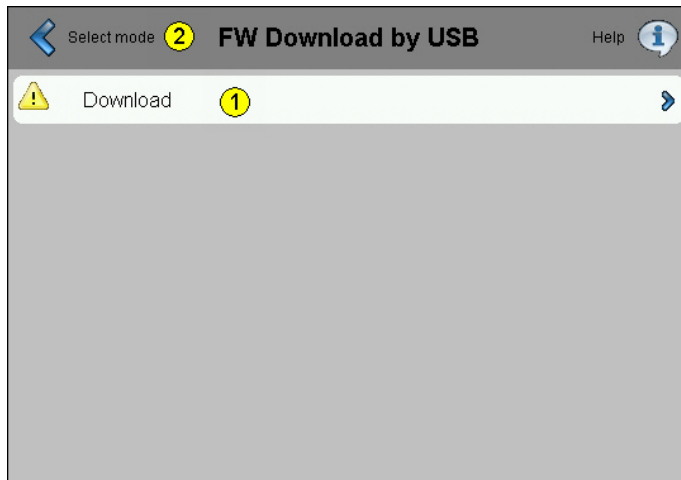
Nom	Ext.	Taille	Date	Attr.
[.]		<RÉP>	00.00.1980 00:00----	
TSPOINTS	DAT	48	01.01.2010 09:12-006	
PASSWD	DAT	64	01.01.2010 09:12-006	
KEYMAP	DAT	933	01.01.2010 09:12-006	

7.7. Firmware Download (MB panel side)



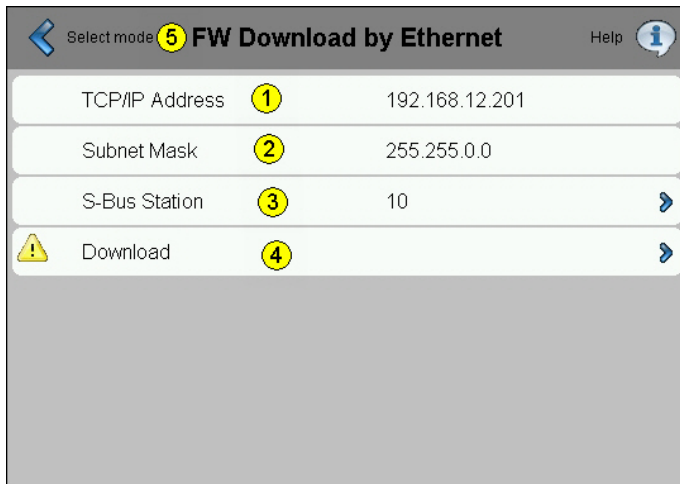
1	Download by using USB		See section	7.7.1
2	Download by using Ethernet		See section	7.7.2
3	System	Back to System page		

7.7.1. FW Download by USB



1	Download		Hit the download button to put the MB panel into download mode. After a successful update of the FW, the MB panel will restart automatically after ~ 15 sec.	
2	Select mode		Back to the Firmware Select mode page	

7.7.2. FW Download by Ethernet



1	TCP/IP address	Read only	
2	Subnet Mask	Read only	
3	S-Bus station	Read/write	You may change the S-Bus station number before hitting the download button to put the MB panel into download mode.
4	Download		Hit the download button to put the MB panel into download mode. After a successful update of the FW, the MB panel will restart automatically after ~ 15 sec.
5	Select mode		Back to the Firmware Select mode page

7.7.3. Firmware Download (SBC 's firmware download utility)

Firmware can be updated with the Firmware Download utility.

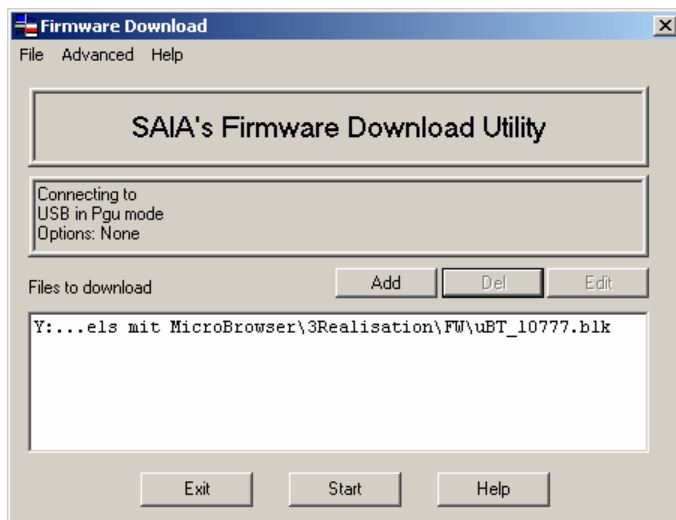
The microBrowser panels must be connected to the PC via the USB port or via Ethernet

Then select "Firmware Download" from the terminal settings menu.

Start the Firmware Download utility of the PG5 programming tool (PG5 1.4, PG5 2.0)

It is only necessary to download one .blk file.

After downloading, the screen freezes for about 15 seconds.



7.8. Reboot MB panel

Like a power OFF and ON, but without any HW switching



8. Local files / local server

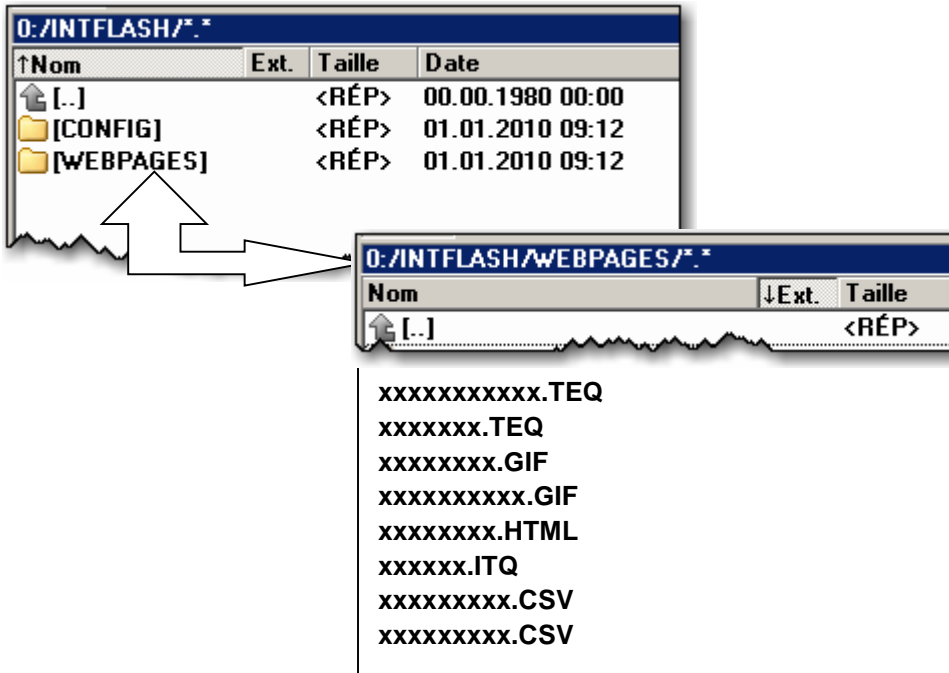
FTP is the only way of accessing internal structure: SBC file system (ftp access: user name and password).
ftp:// IP address

Nom	↓Ext.	Taille
[..]		<RÉP>
[FILECACHE]		<RÉP>
[INTFLASH]		<RÉP>
[PLC_SYS]		<RÉP>
[UBT_FS]		<RÉP>
[WEB]		<RÉP>

FILECACHE	:	contains the cache memory	
INTFLASH	:	contains:	
		INTFLASH/ CONFIG/	
		KEYMAP.DAT	→ Keymap configuration (only MB with keys (Fkeys) Not used for this MB panel.
		PASSWD.DAT	→ Only appears if your have created a password (Forgot password? → Delete this.)
		TSPOINTS.DAT	→ For internal usage
		INTFLASH/ WEBPAGES	→ Directory reserved for all the project files that you want as "LOCAL" (teq, gif files ..)
		INTFLASH/ FONT	→ FONT directory must created by the user. It will contain all special or additional .bft font files.
		INTFLASH/ TRENDLOGS	→ TRENDLOGS directory is created automatically by saving logs to files. The .CSV files containing the logs will be saved automatically in this place.(by using Web-Editor MB macro S2F)
PLC_SYS	:	for internal usage	No access (contains configurations, uBT_containers ..)
UBT_FS	:	UBT_FS/LOG.TXT	Listing of the Startup Process + info errors (read only)
WEB	:	for internal usage	
SLOFLASH	:	<i>Automatically created by plugging SD-card interface with SDflash</i>	

8.1. INTFLASH/WEBPAGES

Please note: The directory name "M1_Flash" used in the SBC File System of the current QVGA and VGA MB Panel does not exist any more for this panel. The top-level directory name is "INTFLASH"



1) Recommended, easiest method: Copy all common files (.teq, .gif, ...) to INTFLASH/WEBPAGES.

N.B.: If local server use involves copying .teq or .gif files (or even .itq, .csv and .html files), you must always at least build (Web Builder) the .tcr, because it contains all the PPO data.

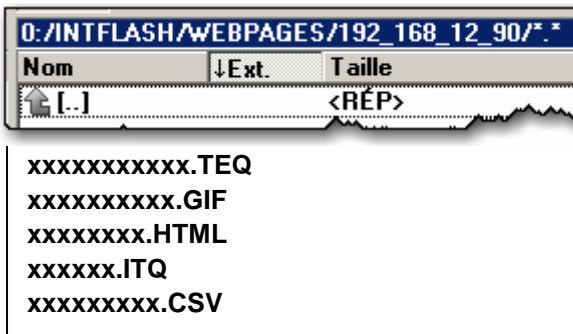
→ Remember to change the setup option from "No local file search" to "Local file search before remote".

2) Copy all dedicated files (.teq + .gif) into the respective sub-directories under INTFLASH/WEBPAGES/. Each dedicated station has its own sub-directory.

Sub-directory names reflect communication type:

- http direct communication → IP address of station, but with "underlines" instead of "dots" (e.g.: IP address 192.168.12.90 becomes 192_168_12_90)

Copy files to INTFLASH/WEBPAGES/192_168_12_90



!!! → Filenames: maximum 24 ASCII characters without spaces, format name included.

N.B.: If local server use involves copying .teq or .gif files (or even .itq, .csv and .html files), you must always at least build (Web Builder) the .tcr, because it contains all the PPO data.

Remember to change the setup option from "No local file search" to "Local file search before remote".

9. uBTerminal containers (SVGA)

The UBTERMINAL.TXT configuration file is **not** accessible by FTP connection because this file is on sub-directory / PLC_SYS/CONFIG/ (which is protected).

Containers let the application program exchange information with the firmware. All container variables have the prefix "uBT_". Caution: case sensitive !!!

Config file entry	Container (Source HN 10.03.10)	Type	Default	Min Value Min Length	Max Value Max Length	Description
R/W	uBT_AlarmFrequency	Decimal value string	1000	125	8000	Frequency setting of the acoustic alarm (Hz) (Rounded down to 125,250,500,1000,2000,4000,8000) Use this before starting the alarm. New frequency set during a running alarm will only apply from start of next alarm.
No	uBT_AlarmStart	Decimal value string	0	0	30000=30 Sec	Write a value to start or stop the pulsed acoustic alarm. The acoustic alarm can be started with a setting of the interval time (0 ..30000 mSec) of the pulsed signal. A 50% duty cycle is used with pulse time equal to pause time. If already running a renewed setting is ignored. Setting it to 0 however switches it off immediately. The alarm is also stopped by any touch on the screen.
R/W	uBT_AlarmVolume	Decimal value string	10	0	20:100%	Acoustic alarm volume setting (0 ... 20). As pulse width modulation is used to control the volume, this setting has an influence on the sensed pitch of the alarm. Use this before starting the alarm. New volume set during a running alarm will only apply from start of next alarm.
R/W	uBT_AutoRepeat	Boolean value string	0	0	1	At Soft Input Panel SIP (keyboard on the screen) use: SIP Key board: AutoRepeat on(1), off (0)
No	uBT_BackLight	Boolean value string	1	0	1	Read/write 1, 0 → Remote backlight control OFF The backlight is switched OFF if the value was '1' before. Any touch on the screen switches the backlight on again. Read/write 0, 1 → Remote backlight control ON The backlight is switched ON if the value was '0' before. The backlight may switch off after a time out. For remote control over PPO <-> container coupling only. <i>Use not supported in Button and Edit painters.</i>
No	uBT_BackLightOn	Boolean value string	1	0	1	Direct control of the back light at a write to this container (1: On, 0 : off). It returns the status of the back light at read back. The container is set with the activation of the backlight at the touch of the screen, and reset with the switch off of the backlight after a switch off of the backlight over uBT_BackLightTimeout. It can be used for remote monitoring and remote control over PPO <-> container coupling, local user control on the terminal over the Button painter (Mouse down, Mouse up), and locally used over the Edit box painter in the Web project.
R/W	uBT_BackLightTimeout	Decimal value string	15	0	5000	Time (min) after which the backlight switches off. At any touch of the screen or at a switch on over container, the back light switches on and the count down restarts. If the value is 0 the backlight time out supervisory is inactive. A switched on back light is kept switched on forever in that case.

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Config file entry	Container (Source HN 10.03.10)	Type	Default	Min Value Min Length	Max Value Max Length	Description
Read only	uBT_BooterVersion	ANSI text string	Current version string	0	8	Firmware booter version Read only string
R/W	uBT_BuzzFreq	ANSI text string	1000	125	8000	Frequency setting of the acoustic beep at touch (125,250,500,1000,2000,4000,8000) This sets the pitch of the acoustic signal at the use of the touch function of the touch panel.
R/W	uBT_BuzzOnOff	Boolean value string	1 (On)	0	1	Acoustic beep at touch on (1)/off (0)
R/W	uBT_BuzzVol	Decimal enum. value string	1	0	20 : 100%	Read/write buzzer volume setting (0 ... 20). This sets the volume of the acoustic signal at the use of the touch function of the touch panel. As pulse width modulation is used to control the volume this setting has an influence on the sensed pitch of the alarm. Volume 0 setting switches it off.
Read only	uBT_ConfigType	ANSI text string	Current Config Type	0	24	Configuration Type Read only string
R/W	uBT_DefaultGateway	IP address string	0x00 00 00 00	*	*	Read/write IP address of the gateway within the used subnet (forced setting, default override). * 0 setting deactivates this forced setting. With 0 setting, depending on the used router, external addresses that are outside the subnet can not be reached. Modifications force a restart. FTP connections are lost with that.
No	uBT_DispResolution	ANSI text string	<Screen width> <Screen height> <Color depth>	0	16	Resolution information Read only string
Yes	uBT_DisplayRotation	UTF8 1) !!! text string	0° (0x30 C2 B0)	0°	270°	Rotation 0°,90°,180°,270° Modifications force a restart. FTP connections are lost with that. !!!! 1) FTP client may not support direct display of UTF8. The display is rotated 'as such' with part of the screen possibly not displayed – also in the auto scale mode. If up scaling is active the scaling from the non rotated display is kept at rotation. Rotated screens take the calibration on non rotated screens. To calibrate the screen please return to non-rotated use.
R/W	uBT_EnableCache	Boolean value string	1 (Enabled)	0	1	File cache use (1), 0 no file cache for all non-image visualization files. Files first are cached the moment they are used. The cache is the place where files are searched first, independent of local file use settings. The cache is cleared at start-up and at URL jumps. Image files are decompressed and cached in a separate video cache that is always active. This video cache is cleared at start-up and URL jumps and at too much data loaded, in which case all required files are reloaded and decompressed again.

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Config file entry	Container (Source HN 10.03.10)	Type	Default	Min Value Min Length	Max Value Max Length	Description
R/W	uBT_EnableSIP	Boolean value string	1 (Enabled)	0	1	Read/write SIP → Select Soft Input Panel (keyboard on the screen) Write 0 → SIP is disabled. Virtual keyboards are disabled. Write 1 → SIP is enabled. Virtual keyboards (alphapad.teq and keypad.teq) are enabled.
No	uBT_FlashStatus	Decimal value string	0	0	255	INTFLASH status20: Device present, no file system 21: Device present, file system OK 22: Device present, error at file system creation 23: Device present, busy creating file system 24: Device present, busy with flash sector based compression -1: Unknown error
R/W	uBT_FocusBorderWidth	Decimal value string	2	0	5	On the Edit and Button Painter visualization a rectangle focus frame is drawn to indicate it's activation. This setting is used for the object focus frame line width (pixel): 1-5 0 switches the focus off.
R/W	uBT_InactivityPollTime	ANSI text string	0	0	5	Touch / Keyboard inactivity supervisory selection (1), at 0 off. Used for a switch to a less frequent touch / keyboard entry polling mode.
No	uBT_IntFlashStatus	Decimal value string	0	0	255	Internal Flash status 20: Device present, no file system 21: Device present, file system OK 22: Device present, error at file system creation 23: Device present, busy creating file system 24: Device present, busy with flash sector based compression -1: Unknown error
R/W	uBT_IntroGraphicName	ANSI text string	SBC SU Grande.gif	0	20	Intro Graphic
R/W	uBT_IntroGraphicXPos	Decimal value string	100	0	639	Intro Graphic position (Horizontal position from the left)
R/W	uBT_IntroGraphicYPos	Decimal value string	50	0	479	Intro Graphic position (Vertical position, downwards from the top)
R/W	uBT_IntroText	ANSI text string	Welcome	0	32	Intro text
R/W	uBT_IntroTextXPos	Decimal value string	350	0	639	Intro text position (Horizontal position from the left)
R/W	uBT_IntroTextYPos	Decimal value string	300	0	479	Intro text position (Vertical position, downwards from the top)
R/W	uBT_TCPIPAddr	IP address string	0xC0 A8 0C 5A: 192.168.12.90	*	*	Read/write TCP/IP address of terminal (own address) within the used subnet.* Modification forces a restart. FTP connections are lost.
No	uBT_IsTSPresent	Decimal value string	Current value	0	255	Touch screen detected (1). If 0 the calibration at start-up has / will be skipped.
R/W	uBT_LcdContrast	Decimal value string	10	0	20: 100%	Contrast dimming / Backlight brightness setting (0:20). A higher value puts the brightness up.

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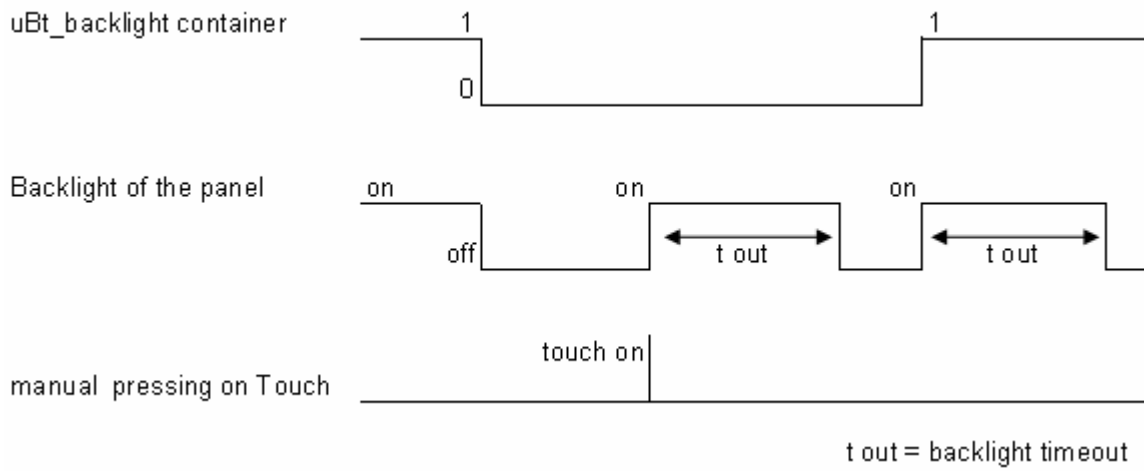
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Config file entry	Container (Source HN 10.03.10)	Type	Default	Min Value Min Length	Max Value Max Length	Description
R/W	uBT_LocalFileSearch	Decimal enum. value string	Local before remote (1)	0	2	Select local file search mode 0: no local file use 1: use local files before remote 2: use remote files before local
No	uBT_MACAddr	ANSI text string		0	20	Own MAC address (read only)
No	<i>uBT_MultiKeyValue</i>	<i>ANSI text string</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>The container is not available External SIP Keyboard multi key indication (1). At 0 no actual multi key active</i>
R/W	uBT_SbusAddr	Decimal value string	10	0	253	Own SBus address
R/W	uBT_ScaleMode	Decimal enum. value string	Auto (0)	0	2	Upscale mode setting Auto (0): Smaller views are automatically adjusted to the terminal screen size on a view by view base. QVGA views are expanded to full screen use on VGA terminals (horizontal and vertical two fold expansion with pixel doubling). VGA (1): Forced setting to VGA without up-scaling of smaller views. This switches the up-scaling off on VGA terminals. QVGA (2): Forced up-scaling with pixel doubling on VGA terminals. The setting gets effective at the next view jump or URL jump, or after restart.
Read only	uBT_SerialNumber	Hex or Dec		0	...8	Serial Number (read only)
No	uBT_Setup	text	-	-	-	"show" (case sensitive) must be written. Cause the terminal to pop up and jump in the setup menu.
R/W	uBT_SubNetMask	IP address string	0xFF FF FF 00	*	*	Read/write subnet mask of the subnet that is used by the terminal. * Modification forces a restart. FTP connections are lost.
Read only	uBT_Version	ANSI text string	Current version string	0	32	Firmware version Read only string
R/W	uBT_RtcDate	ANSI text string				Date coming from the real time clock of the MB panel. (RTC must be Enabled in setup menu)
R/W	uBT_RtcTime	ANSI text string				Time coming from the real time clock of the MB panel. (RTC must be Enabled in setup menu)

*: Generally IPv4 private addresses are used. Standard settings are:

- 1 x A class, with subnet addresses 10.x.x.x, and mask 255.0.0.0 - parts may be used also
- 16 x B class, with subnet addresses 172.16.x.x up to 172.31.x.x and mask 255,255,0,0 – parts or combinations may be used also
- or 256 x C class, with subnet addresses 192.168.0.x up to 192.168.255.x and mask 255,255,255,0 -combinations may be used also

10. Using uBT BackLight container



11. Additional uBTerminal containers for “Save logs to File” function

Container Name	Default	Meaning	Access
uBT_TrendPath		Dynamically concatenated file path.	ronly
uBT_TrendDevice	INFLASH:	Current saving device.	ronly
uBT_TrendDir	WEBPAGES/ TRENDLOGS	Sub Directory to store all trends.	rd
uBT_TrendSDFlash	0	0: INTFLASH (SVGA) 1: SLOFLASH* (*not in this MB panel)	rw
uBT_TrendPrefix	TR	Filename prefix, max 5 characters	rw
uBT_TrendSave		Latest saved file.	ronly
uBT_TrendLoad		Current loaded file.	rw
uBT_TrendSelect	Latest file in the directory.	Current selected file. When saving a trend this value gets set with the saved file name.	rw
uBT_TrendOldest	Modifies the uBT_TrendSelect container. Use with actions on buttons.	Select the oldest file.	wonly
uBT_TrendNewest		Select the newest file.	wonly
uBT_TrendPrev		Select the previous file.	wonly
uBT_TrendNext		Select the next file.	wonly
uBT_TrendDelAll		Delete all files in directory.	wonly
uBT_TrendDelSel	Use with actions on buttons.	Delete the current selected file.	wonly
uBT_TrendDelLast		Deleted the last saved file.	wonly
uBT_TrendDelOld		Deleted all files older than the selected file.	wonly

→ Example with the online minimal S2F macro for MB panel “**MB_OnlineTrendMinimal_5_13_01.esm**”
 See the section 17

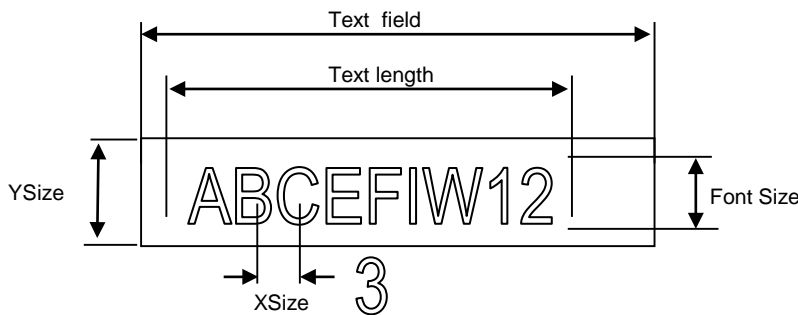
12. Default fonts

Default fonts available for VGA MB panel

Fonts and font style	FONT SIZES						
	10	12	14	16	20	24	36
Arial	x	x		x	x	x	x
Arial Bold			x		x	x	x
Courier New		x		x	x		
Courier New Bold			x		x		
Tahoma		x		x	x	x	
Tahoma Bold			x		x	x	

Calculation of reserved margins regarding:

Simple text box, multiline text box, edits box text field and button with text.



Definitions :

Font size: size of the character (font size in pixel)

YSize: size of the painter (in pixel)

XSize: width of one character

Text length: length of an one line text.

Text field: length of the painter

General recommendation regarding the Text field (info already in the online-help of the first Web-editor Version)

It is recommended to use text fields that are up to 20% larger than the size that is displayed in the editor. For very precise text field length, you can also use the table below min xSize and max xSize.

General recommendation regarding the Ysize in comparison to the font size and style

Rule: the text is written WITHIN the outline.

For button and edit boxes, a 2 pixel shading is added (on the **inside** of the outline for buttons, and on the **outside** for edit boxes).

For the edit box, if the text is too big it will be overwritten by the outline and 3D shading.

The added margins to be reckoned with are:

- simple and multiline text boxes: 2 x outline width + 1
- buttons: 2 x outline width + 5
- edit fields : 2 x outline width + 5

	Fontsize	ySize	min xSize	max xSize
Arial	36	41	7	36
Arial	24	28	7	24
Arial	20	23	6	20
Arial	16	19	3	16
Arial	12	15	3	12
Arial	10	12	3	10
Arial Bold	36	41	9	35
Arial Bold	24	28	7	23
Arial Bold	20	23	6	20
Arial Bold	14	16	4	15
CourierNew	20	23	12	12
CourierNew	16	19	10	10
CourierNew	12	14	7	7
CourierNew	10	12	6	6
CourierNew Bold	20	23	12	12
CourierNew Bold	14	17	8	8
Tahoma	24	29	5	24
Tahoma	20	25	4	20
Tahoma	16	20	4	16
Tahoma	12	15	4	12
Tahoma	10	13	3	10
Tahoma Bold	24	29	7	29
Tahoma Bold	20	25	6	24
Tahoma Bold	14	17	4	17

13. Special fonts and Unicode fonts

13.1. General

The user is able to provide additional fonts to meet specific requirements for languages or special fonts/styles/sizes which are not standard in the MB panel .

Examples of languages: Russian, Greek, Chinese, Japanese, Korean,

Examples of fonts: Comic sans MS, Charleworth, Book Antica, Century, Trebuchet, Verdana

All fonts can be combined with different sizes: 10,12,14 ... or styles: plain (or regular), bold ...

Fonts and Unicode fonts: <http://www.sbc-support.com> → them Product info → HMI → Web-Panel PCD7.D4xxx → Additional information for Sales Companies (restricted Area)

It is possible to install other font files on an MB Panel in order to satisfy the requirement for special languages and fonts/styles/sizes which are not present in the list. In this case, contact sbc-support.

The Arial font is recommended to ensure all characters are covered. This applies especially for languages with a large number of characters, such as Chinese.

This is done through the use of Unicode font files (.bft), which are generated and provided by SBC -Burgess.

The firmware searches the following locations for the font files:

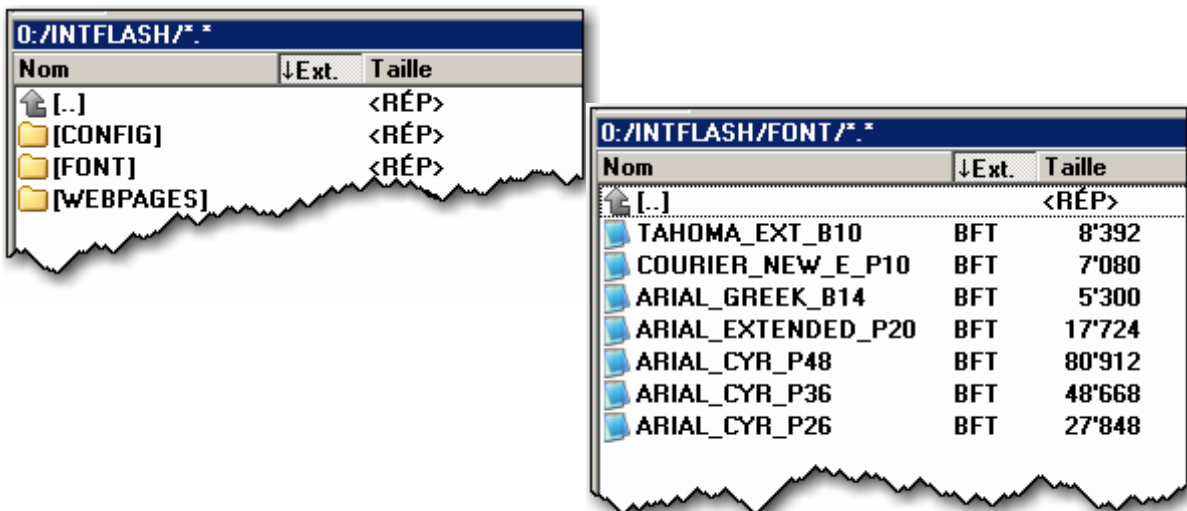
INTFLASH/FONT

A font file contains the data for one continuous range of characters. For example, if Greek and Cyrillic are needed, two files should be loaded: one containing the Greek alphabet, the other containing the Cyrillic characters.

The size of a font file must not exceed 128 KBytes.

(There are many files to cover the Chinese language with several font sizes.)

If a font file is found, it is registered. It is possible to register a maximum of 65 different files. As soon as a character is needed, the font file will be opened and the character data retrieved. The data will be cached for reuse later.



→ Font filename: 24 ASCII characters max. without spaces (extension file included)

→ Font file installation: Copy files via an FTP connection to the FTP server of the MB panel.

→ Chinese fonts: Size 12 is the minimum readable size.

13.2. Multi languages: example

→ Change a language by pressing on a button (set variable on mouse down).

Basic example is a translation of “Happy Birthday” in Czech using “HTML TAG” type.

The Czech language needs extended European characters, which are downloadable from the sbc-support site, restricted area.

What's the drill?

- 1) Unicode Font .bft file(s) with extended European characters must be copied under INTFLASH /FONT (see above section 13.1)
- 2) Web-Editor: Edit a static text with the text “Happy Birthday” and chose the “HTML TAG” source type.

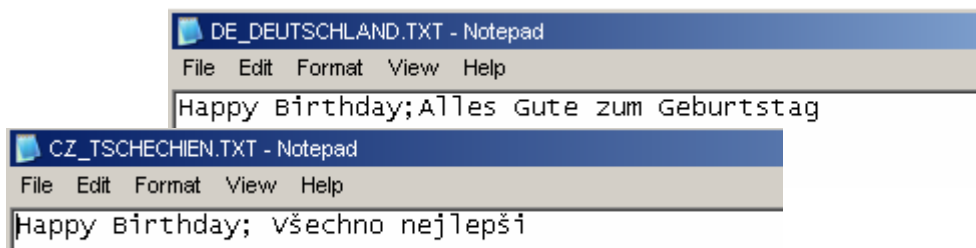


Regarding “Text Positions Advanced” tab: When using exotic characters (like Katakana, Chinese ..) it is advisable to keep the default text positions (not centred, not justified)

- 3) Some fonts can not display all of the Unicode characters. It is recommended to use the fonts “Arial Unicode MS” or 'MS Sans Serif' which are a good choices for Unicode characters.

Don't edit your CSV file directly in the S-Web Editor, because the text window of the S-Web Editor saves the CSV file in ASCII mode. You can use Notepad for example to edit your CSV files (or any other text editor which allows you to save files in Unicode format). In the 'Save As' dialogue in Notepad you can choose 'Unicode' in the DropDown 'Encoding'. Use the format 'Unicode Text' in MS Excel.

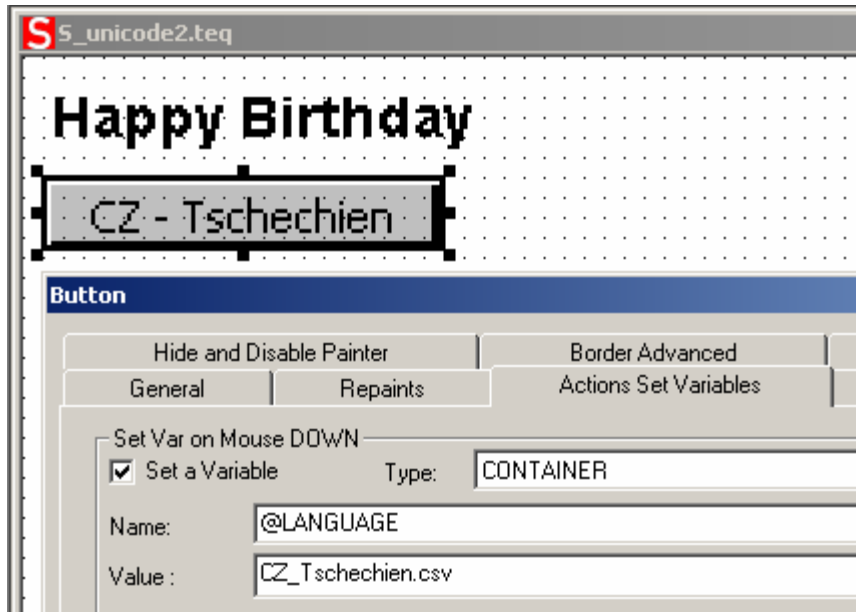
If you saved your CSV file in Unicode format and you have chosen a font in your HMI which is able to display Unicode characters, the Unicode strings should be displayed correctly. You needn't make additional settings in the S-Web Editor, if you want to use Unicode.



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- 4) Web-Editor: Create a button with the following “Actions Set Variables” parameters:
Type is “container”, name is “@LANGUAGE”, then the Unicode .csv file.



We advise you to copy the .csv files in the local server of the MicroBrowser Panel under INTFLASH/ Webpages/...

→ Read also the topic: “Multilingual HMIs” in the online help of the Web-editor.

13.3. Interpretation of wrong fonts (types, sizes or styles)

1. Arial, same style, **keep** size
2. Arial, plain, **keep** size

If the size does not exist for Arial:

3. Same font name, same style, **reduce size to the next best**
4. Same font name, plain, **reduce size to the next best**

If a smaller font does not exist for this font name:

5. Arial, same style, **reduce size to the next best**
6. Arial, plain, **reduce size to the next best**

If a smaller font also does not exist for Arial:

7. Arial, same style or plain, **use the smallest available size**

The substitution of one font for another is reported in the log file (see section 7.3.4)

13.4. Web-Editor

Unicode character sets are available:

- by using source type "HTML TAG" in the Web-Editor and via a .CSV file.
- by entering text directly in the Web-Editor as a string. In this case it is not necessary to use .CSV files. Do not import a Web-Editor project compiled with Microsoft Windows using Unicode character set A to another Windows project compiled using Unicode character set B.

14. Interface connection

14.1. Ethernet port RJ45, X2 / X3



Connection between the PCD7.D4xx terminal and SBC ® PCD can be made by using standard or CAT5 “crossed” Ethernet cable equally when using the X2 or X3 Ports in http direct. For multiple network connections, please use the second Ethernet port or a Fast Ethernet Switch 10/100 Mbps, or use a Router.

14.2. USB service interface

Standard master-to-slave type commercial cable can be used.

This interface is only used for service purposes (e.g. a FW update), but not for any other communication.

15. Web-Editor project

15.1. Wed-Editor Version

For SVGA MB panels, we recommend use of the latest version.

15.2. VGA → SVGA (MB panel) and SVGA (Win panel) → SVGA (MB panel)

A - From VGA MB project to SVGA MB project

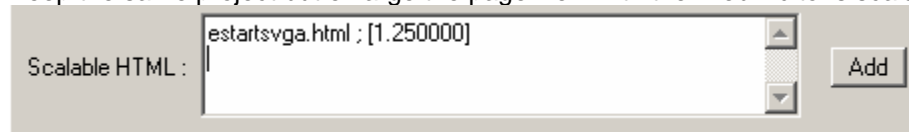
First solution (longer)

New Web-Editor project with resizing of all drawings, pictures, painters and font sizes by a ratio of 1.25. Use photo-editor, gimp or similar tool to edit and resize the pictures (gif files)

Second solution (faster)

→ Scalable function of the Web-Editor.

Keep the same project but enlarge the page view with the Web-Editor's scalable function.



This option is selectable in the Web-Editor project configuration.

VGA = 640 x 480

640 x 1.25 = 800

480 x 1.25 = 600

SVGA = 800 x 600 (done!)

In the MB panel's Setup menu, start up the connection with the scalable html name.

B - From SVGA project for Win panel to SVGA project for MB panel

The project is, in most case, compatible.

- Trending and alarming macros are supported. The only function not yet implemented is “save log to file” in the trend macro.
- Fonts not listed as default SVGA fonts (Section 6) will be replaced by similar ones.
- Animated gifs are not supported by the MB panels. Only the first picture of an animated gif will be displayed on the VGA MB panel.

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We ask you therefore:

- to check the length of texts (can be cut at end) and if necessary adapt the fonts
- to replace an animated gif possibly with the macro "animatedGif x_xx_xx".

15.3. Adapting virtual keyboard (SIP)

→ The virtual keyboard appears only if the SIP option is enabled (see section 7.5)

Best way to use customized virtual keyboards

Never change the original alphapads and keypads in WEB/DEFPAGES/

but

Via FTP, select files in the ALPHAPAD.TEQ ; KEYPAD.TEQ ; ALPHAPAD90.TEQ ; KEYPAD90.TEQ and copy them to a Web-Editor project.

Modify the teq views and save them without changing the file names.

Then copy the new files to INFLASH/WEBPAGES/

Thanks to the option: "Local file search before remote", the new (modified) ALPHAPAD.TEQ ; KEYPAD.TEQ ; ALPHAPAD90.TEQ KEYPAD90.TEQ will be displayed.

Be careful.

- Do not modify these TEQ views in depth (keep the inside macros...)
- Customizing the standard virtual keyboard is not "harmless"
- We recommend changing only the "décor" (background colours, ...)

16. Advanced

16.1. Advanced information concerning FW download

Recommendations if you experience difficulties downloading via USB.

Power on the MB-Panel with the USB cable REMOVED. Hit the download button to put the MB panel into download mode. You are then able to connect the USB Cable on the MB-Panel and press Start on the FW Download utility.

Recommendations if you experience difficulties downloading via USB or Ethernet

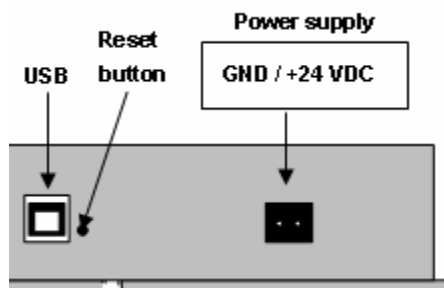
If communication stops or is lost during the downloading procedure, the system will not show any display. This is normal, because the FW Flash Memory is erased at the beginning of the procedure.

16.2. Safety procedure for downloading firmware

16.2.1. Safety procedure for downloading firmware is always via USB.

A. Power off the MB-Panel

B. On the top of the back cover there is a 3mm diameter hole. Inside you will find a button. Take a fine pen or small screwdriver (a cylinder with Dia 3mm is best) and press continuously (hold it) on that button. The position of the **reset button** is shown below:



C. Then simultaneously Power ON the MB-Panel. Wait about 3-4 sec. until the LED is flashing. Then Download the FW with the SBC firmware download utility.

ATTENTION: The named *.blk file corresponds to a full FW file. Use only files provided by SBC -Burgess Controls SA for the PCD7.D4xx Panel.

16.2.2. Reset / Device back to default parameters

The reset button can also be used in some special cases to make a full reset of the MB-Panel and restore the default parameters set by the manufacturer.

When can this function be useful?

When making an FTP connection to the local server, perhaps you copied the local file you needed to the wrong directory. Or maybe you inadvertently erased some files required for the Setup Menu display. The most common error is when the display writes: **“uBTerminal not found”** and the screen stays the same without changing the page displayed. In this case, proceed as follows:

1. Power off the MB-Panel
2. On the top of the back cover, activate the reset button (see 14.2.1 above) by holding it down.

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3. At the same time, power on the MB-Panel. After about 5 seconds, the buzzer is switched on and its frequency increases.
4. Once the sound (i.e. frequency) of the buzzer has stabilized (after about 10 seconds) you can release the reset button and wait.

The waiting time can last 1 to 2 minutes. In that time the FW rebuilds the whole memory organization and recovers every necessary default file. At the end the MB-Panel will do an automatic reboot and ask you for a new touch-screen calibration. Calibrate it and your system will be fully restored.

17. Special trend macros for MB panels with save logs to files

- The **Web-Editor macro-library does not contain specific trend macros with S2F (save to files) for MicroBrowser panels***. This macros must be downloadable from the **Support Site in a first time and will be included in a next PG5 version.**

- These trend macros are 100% based on the Standard Trend macros (Minimal and Complete) with some additional edit fields and buttons (container variables) that allow csv files to be displayed, managed and erased if necessary.
- The names of the macros are the same as the standard macros with the prefix "MB_"
- The online and offline trend logs can be saved as "CSV format file" in the MB panel itself and can be replayed on it. These .CSV files are readable as text via an FTP access. These files are saved in the MB panels under a sub-directory of the INTFLASH/ WEBPAGES/ "TRENDLOGS" (or optional SD flash).
- The name of the CSV file is created automatically except a free prefix of max 5 characters. The name contains the file's full date of creation: year, month, day and hour/minute/second.

Example: TR_20110713081305.CSV (TR_is the prefix)

Web-Editor






After downloading the macros, create two sub-directories and copy them.

MacroLib/SBC TrendMacro/**MB_ trend macros with S2F**

MacroLib/ SBC HDLogTrendMacro/**MB_ HDlog macros with S2F**

→ MacroLib /SBC TrendMacro / MB_ trend macros with S2F

This concerns the "online trends", "offline trends" (DBs) and "offline saved trends", which allow all saved files to be replayed.

 MB_OnlineTrendComplete_S2F_5_13_01	esm
 MB_OfflineTrendMinimal_S2F_5_13_01	esm
 MB_OfflineTrendComplete_S2F_5_13_01	esm
 MB_OfflineSavedTrendMinimal_S2F_5_13_01	esm
 MB_OfflineSavedTrendComplete_S2F_5_13_01	esm

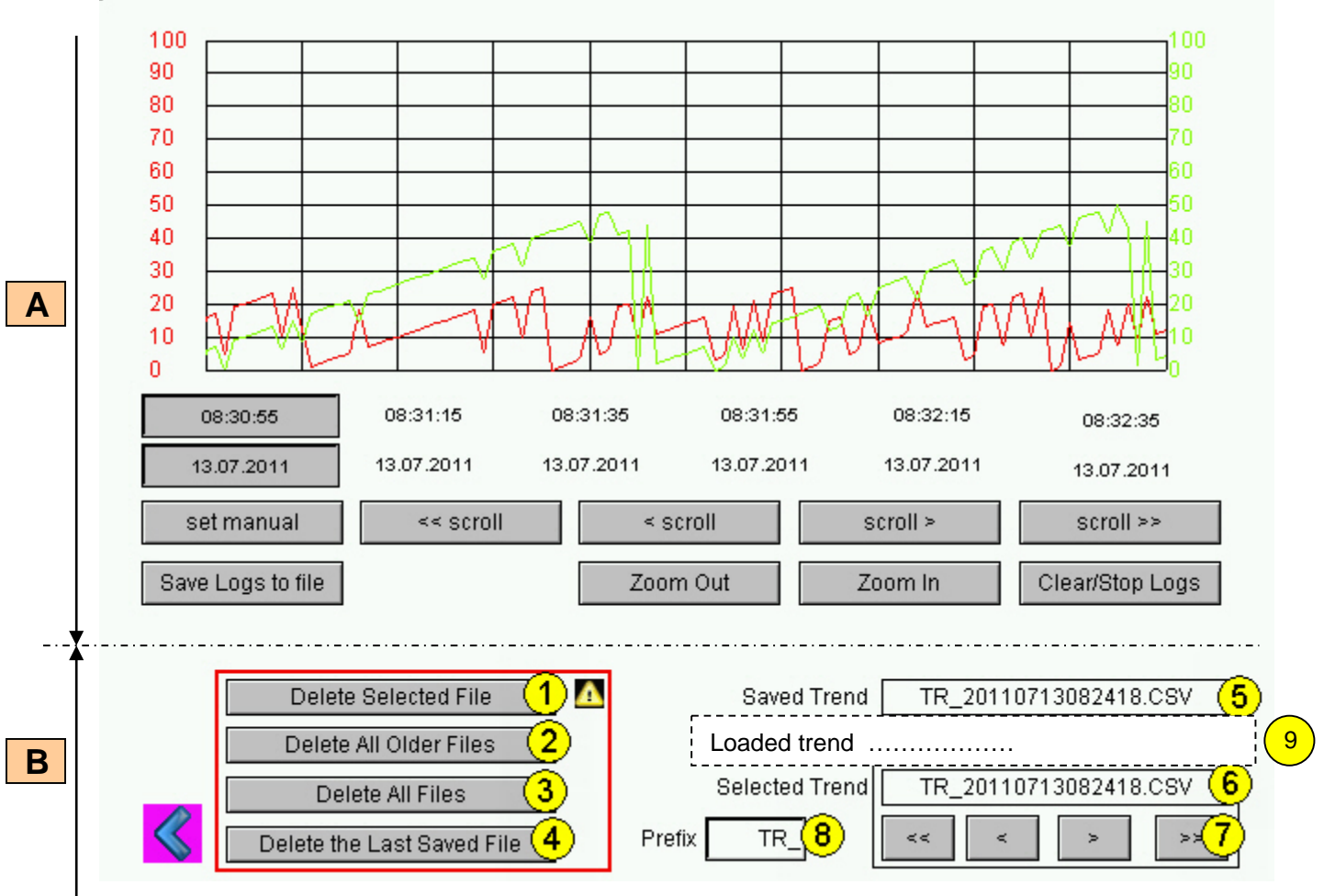
→ MacroLib/SBC HDLogTrendMacro / MB_ HDlog macros with S2F

This concerns the "remote offline saved trends" (HDlog macros)

 MB_RemoteOffSavedTrdMini_S2F_5_14_25	esm
 MB_RemoteOffSavedTrdComplete_S2F_5_14_25	esm

Section 11 shows the list of containers required by the special MB_ trend macros.

MB panels → Example of Trend teq view with macro “MB_OnlineTrendMinimal_S2F_5_13_01.esm”



A Standard online Trend Minimal macro

B Additional buttons and edit fields which allow: display of saved file names, list of saved files as well as navigation in the list of .CSV files .

Nr.	Designation	Action	
1	Delete Selected File	By pressing	Delete the selected trend file (6)
2	Delete All Older files	By pressing	Delete all files older than the selected file.
3	Delete All files	By pressing	Delete all saved files
4	Delete the last Saved File	By pressing	Delete the last saved file
5	Saved Trend	Read only	Full name of the last saved file
6	Selected Trend	Read only	Latest file in the directory. By pressing on the navigation buttons you can show the list of saved files and select one of them.
7	<< < > >>	By pressing	Allows navigation in the file list with the same prefix
8	Prefix name	Read/write	Free characters using as prefix (5 characters max) Don't inadvertently change the prefix name between each logging. This can cause problems. The name is only taken to identify a group of .CSV files.
9	Loaded trend	Read only	<i>Not in the online trend but only with the MB_OfflineSavedTrend macros. Name of loaded file which is selected</i>

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Important: Depending on the application, some buttons or edit fields are unnecessary. What's the drill? Ungroup the macro and delete buttons edit fields that you do not use. Re-group it.

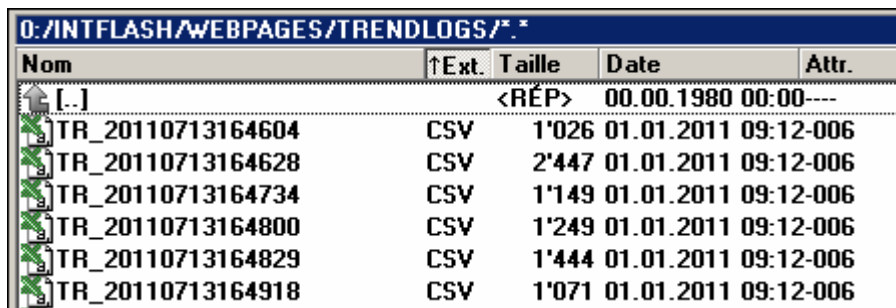
Example: The Edit box named Prefix can be removed without changing the trend function.

You may also redesign the macro: enlarge the buttons... But the position of dates and times (X axis) must be not changed.(reversed..)

FTP access

By FTP access, you can display the list of .CSV files and read them.

In INTFLASH/TRENDLOGS/



Nom	↑Ext.	Taille	Date	Attr.
[.]		<REP>	00.00.1980 00:00----	
TR_20110713164604	CSV	1'026	01.01.2011 09:12-006	
TR_20110713164628	CSV	2'447	01.01.2011 09:12-006	
TR_20110713164734	CSV	1'149	01.01.2011 09:12-006	
TR_20110713164800	CSV	1'249	01.01.2011 09:12-006	
TR_20110713164829	CSV	1'444	01.01.2011 09:12-006	
TR_20110713164918	CSV	1'071	01.01.2011 09:12-006	

18. List of Message-Box messages.

Messages	Remarks
Out of memory in Ramdisk	May appear if a file (most commonly a .gif) is too large. VGA MB panel: < 256 Kb (see also section 18)
Language	
Failed to parse .csv	No memory is available to parse a .csv file.
LR: out of memory! or out of memory for language resource	No memory is available to parse a .csv file. or the total size memory used is > 512 kbytes (see also the section 18)
Failed to initialize LR heap!	The memory for the .csv file will be initialized every time a file is parsed. This message means it has failed.
Memory	
Failed to initialize heap 1	On heap1 the painter objects and the list of current PPOs are allocated. This heap will be erased after each .teq jump
Out of memory in heap 1	The total size memory used by the painters is > 1536 Kbytes (see also the section 18)
Failed to initialize heap 2	Container variables, Html tags, TCR table + source & Emit Objects of online trend are stored on heap 2. This heap will be initialized on every URL jump.
Out of memory in heap 2	The total size memory used by the html tags and containers variable > 1024 Kbytes. Most probable cause for this message is that too many offline trends are active. → Can appear in the case of offline trends and online trends too.
Out of memory in heap 3	→ Can appear mainly in the case of too many data points. Offline trend, Alarms Events, HD log and online trend are stored on heap 3. The total size memory used by the offline trend Data and HD log > 1280 kbytes also the section 13) The memory requirement must be calculated before using trends. <u>Online trends:</u> In case of the Update period of process points (web-editor parameter) = < 1000 milliseconds → (store time in sec) x (total nber of trends) x (Size of one Data point → 28 Bytes) Example: 4200 sec x 4 trends x 28 Bytes = 470 Kbytes <u>Offline trends:</u> - Offline trends Macros (with or without "save to file" function). To avoid frozen trend lines if you get the message box „out of memory in heap 3“press clear button in the macro to allocate memory in heap 3. Than you have the possibility to load next files.
Object	
Maximum number of object reached!	The maximum amount of objects (e.g. buttons, rectangles etc) in one .teq view has been exceeded. <u>Maximum object = 512</u> → See also the definition of an object in the section 17.
PPO	
OrderValues on remote host has failed !	Ordering of the list of current PPOs on the remote host has failed.
ReadFile on remote host has failed !	Periodic polling of PPOs has failed.
Communication	
buffer OVF in Spider_fileReadln(!)	During loading of a file more data has been received than the buffer will hold.
Range is null!	The calculation of the range of a bar graph has been faulty.
TCR	
value out of range !	The min/max limits of a TCR value have been exceeded.
value out of default range !	The value of a TCR is not valid, for example "aa" for hour.
TEQ	
Reading UTF string failed;	Probably the end of the file was reached during reading of a string.
Painter	

19. Recommendations

19.1. In “Project configurations”

- Don't forget to select the default font that will be the most used in the project.

19.2. In the Web-Editor project (global)

- It is recommended to use text fields that are up to 20% larger than the size displayed in the editor. For details, see section 12.
- IMasterSBC 5_xx_xx.jar is not necessary to display web page on an MB panel.
- The .tcr file is the only file which must be built in the web server project (.wsp). All other project files can be copied on the flash (PLC or local server of the MB panel) under INFLASH/webpages/
- Add Unicode fonts → check in the list: <http://www.sbc-support.ch> → then Product info → HMI → Web-Panel PCD7.D4xxx → Additional information for Sales Companies (restricted Area)
- If you cannot find right font in list → Contact PCD support in Murten. We are happy to help you.
- Container offset name (containername) must not contain “underscore” or @ characters.
- (example: PDP-ADDRESS+@COFF_containername@,PDP-FORMAT)
- Don't forget !: Container offset suffix is ,d for decimal and ,k for the format HH:MM
- “Online trends macros” with right time stamps: Time server must be ENABLED in the setup menu.
- Calculation of memory requirement: see section 18 and 7.3.3.2.
- View angle: The surface (front plate of the panel) is elevated by some millimetres over the graphic display. Keep free a frame of 4..5 pixel around the view (black colour)
- PPOs: → Number of objects per page: Tested with 1024 objects (1024 objects with 3 flags by object = 3072 flags)
- PPOs: → Number of registers by page: Tested with 475 registers
- Maximum objects (painters) per page is 512 objects
- Project configuration → scalable html: Define HTMLs that resize the HMI during runtime according to a defined factor. Scale your HMI up 200% for example without needing to change your TEQ-Views. MicroBrowser will resize the TEQ-Views during runtime if you type in the URL of your new 'scalable' HTML file instead of your standard HTML.
Examples: Factor 2.000000 means 200% of 640x480 which is 1280x960
Factor < 1 (< 100%) is not recommended for applications using MB panels.

19.3. Definition of an object in the Web-Editor

- An object is a static text, a multiline label, a line, a rectangle, an ellipse, a polygon, an edit box, a button, or a bargraph. Macros contain many objects (offline trend contains 44 objects).

19.4. Handling

- Touch screen: The basic material of the touch screen is glass. Do not use a screwdriver or hard tool to touch the screen. Touch only with a finger or special “touch pen stylus”.
- Advanced: Use the right tool to effect a hardware reset (section 16.2.1). Do not use a paper clip or needle. Use a $\varnothing 3$ drill and press softly on the microswitch.

19.5. Some rules regarding gif images

- The three time items on the image display of the MB panel are:
 - Repaint from video cache
 - Decompression into the video cache with URL jump and after startup (nearly linear with the number of pixels) .See section 7.3.1
 - File transfer time over the link, if not local
- 1 bigger picture (max 512 Kbytes) is better than 2 with the same total size of gif file . Recommended max size 798x 598 pixel (one pixel free around)
- It is better to use the same picture x times (in the same project) because it will transferred, decompressed and stored in video cache only once. For example: put it in the common background teq.

19.6. Gif files: Decompression into video cache at start

19.6.1. Gif files: decompression into video cache at start using Gif List

This solution allows gif files to be decompressed into video cache **in the “background”**.

Advantage: You don't wait for the end of decompression before showing the first page.

The first page appears immediately (as with a project without gif list) and does not wait until all the gif files on the giflist have been decompressed. Decompression continues in the background until video memory is full in the case of multiple gif files in the giflist. See the section 19.6

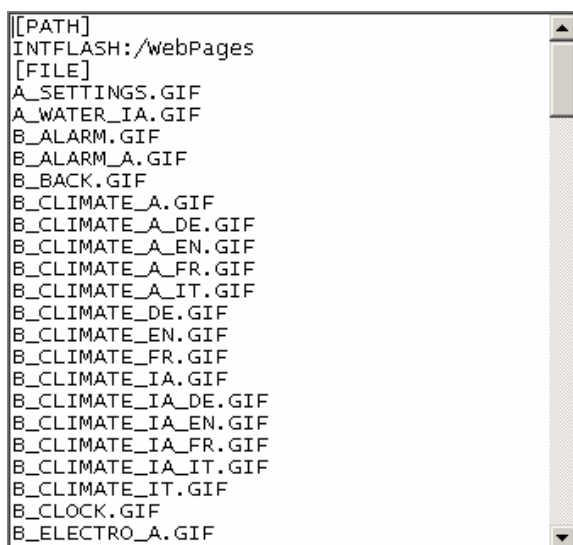
How to operate:

- Open Microsoft®Notepad” editor
- Write the following Head text for the file:

```
[PATH]  
INTFLASH:/WebPages  
[FILE]
```

- Then enter the name of all the gif files (the same as under the local directory INTFLASH/WebPages).
- Save the file under “GifList.txt” name.

Example of GifList.txt

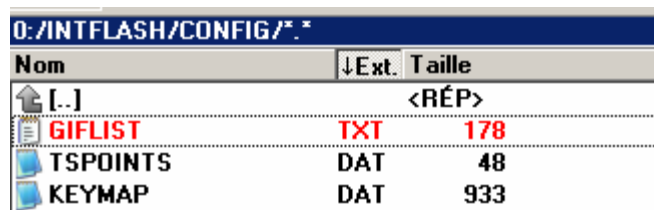


```
[[PATH]  
INTFLASH:/webPages  
[FILE]  
A_SETTINGS.GIF  
A_WATER_IA.GIF  
B_ALARM.GIF  
B_ALARM_A.GIF  
B_BACK.GIF  
B_CLIMATE_A.GIF  
B_CLIMATE_A_DE.GIF  
B_CLIMATE_A_EN.GIF  
B_CLIMATE_A_FR.GIF  
B_CLIMATE_A_IT.GIF  
B_CLIMATE_DE.GIF  
B_CLIMATE_EN.GIF  
B_CLIMATE_FR.GIF  
B_CLIMATE_IA.GIF  
B_CLIMATE_IA_DE.GIF  
B_CLIMATE_IA_EN.GIF  
B_CLIMATE_IA_FR.GIF  
B_CLIMATE_IA_IT.GIF  
B_CLIMATE_IT.GIF  
B_CLOCK.GIF  
B_ELECTRO_A.GIF
```

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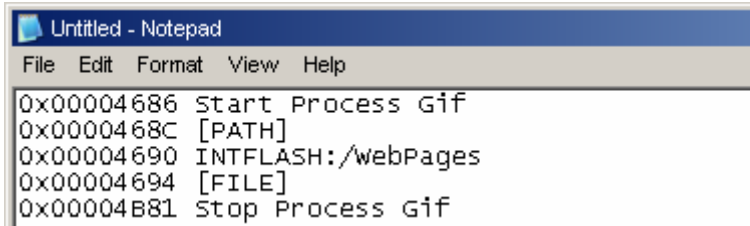
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- Copy of GifList.txt under INTFLASH/Config/



Nom	Ext.	Taille
[..]	<RÉP>	
GIFLIST	TXT	178
TSPOINTS	DAT	48
KEYMAP	DAT	933

- In LOG.TXT (UBT_FS/LOG.TXT) for checking



```
Untitled - Notepad
File Edit Format View Help
0x00004686 Start Process Gif
0x0000468C [PATH]
0x00004690 INTFLASH:/webPages
0x00004694 [FILE]
0x00004B81 Stop Process Gif
```

19.6.2. Gif file decompression into video cache at start using dummy first page

- Put all gifs into a dummy first teq page.

This solution allows decompression of gif files into video cache before showing the real first page of the project.

Advantage: Decompression is finished when you show the first page of the project

Disadvantage: You wait until the end of decompression before displaying the first page.

Tip: Display a dummy page containing:

- a text "Please wait while loading pictures"
- and ViewJump_onTimeout macro which jumps to the right first page of the project

19.6.3. Gif file decompression: evaluation/calculation

Available for solution of sections 19.6.1 and 19.6.2

How to evaluate the number of gifs in video cache based on number of pixels in the gif pictures?. Total video cache (permanent and flushable) is 16 MBytes. Including 4.. 6 Mbytes for permanent. Remaining ~ 10 -12 Mbyte are at disposal.

Examples of calculation of number of pictures using permanent video cache of 4 Mbytes

Example 1: Pixel number for pictures is 640 x 480 pixels (full screen).

12 000 000 Byte / (640 x 480)x2 = 19 that means max 19 gif files can be in cache

Example 2: Pixel number for pictures is ~ 120 x 120 pixels

12 000 000 Byte / (120 x 120)x2 = that means max 400 gif files can be in cache

Remark: The ratio between the size of the gif file and the number of pixels is not a "constant"

20. Error messages: Advanced

Advanced: The following messages * may appear:

If memory sizes used by gif files, painters, html tags and container variables, online /offline trending and HD log, and language resources (.csv files) are exceeded.

Some parameters must be adapted by changing values directly in the setup menu (see Section 7.3.3.2) !!!

After modification the Panel has to be restarted.

Recommendations:

We recommend not setting the maximum value at first but instead trying with the medium value. This is because, if we increased all memories to max. values, it might create major problems and significantly reduce performance.

Error messages *	Defaults values	Mid values	Max values
- out of memory in ramdisk	512 kbytes	640 kbytes	1024 kbytes
- out of memory in heap 1	1536 kbytes	1792 kbytes	2048 kbytes
- out of memory in heap 2	1024 kbytes	2048 kbytes	4096 kbytes
- out of memory in heap 3	1280 kbytes	2048 kbytes	4096 kbytes
- out of memory for language resource (or LR: out of memory)	512 kbytes	768 kbytes	1024 kbytes

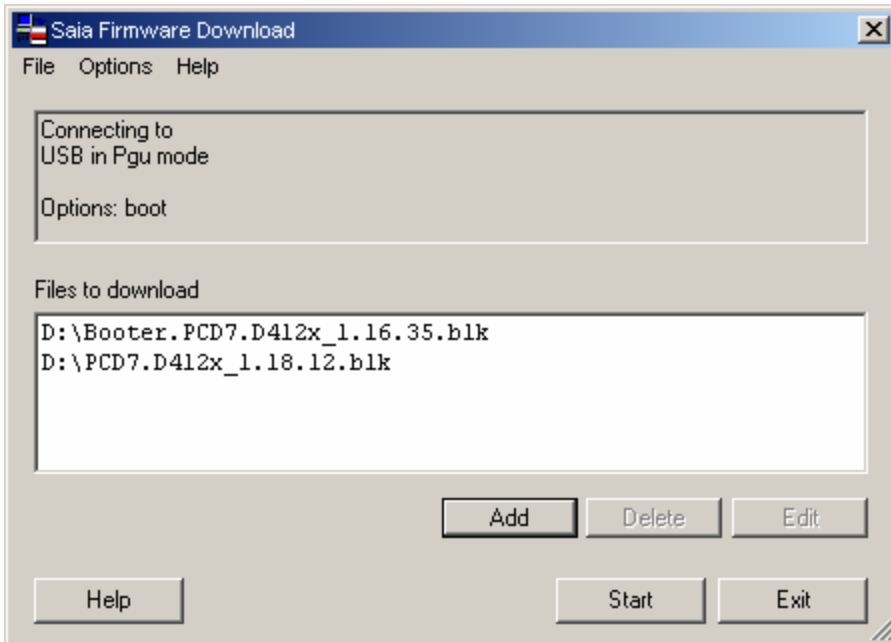
21. Compatibility between Hardware versions of pilot series and booter & firmware versions of the first series

To use the 12.1" SVGA MB panels of the pilot series with the same functionalities as the first series, we recommend you upgrade the booter and firmware versions. You can do this yourself.

Depending of the HW versions, the new FW and booter versions must be downloaded:

- 1 - by the "current procedure": Pput the panel in "FW reception mode" in the setup menu" or
- 2 - by the "safety procedure": Power off the device, then press reset button, then power on the device, release the button after 2-3 seconds. The screen displays: "waiting for FW" .See section: 16.2.1

!!!! In both cases: Use the FWDownBoot tool of the PG5 2.0



Hardware Versions (on the main label or in the setup menu: System/System info/Production data/HW version ---)	<u>Download both</u> : Booter Version & Firmware Version Booter: 1.16.35 Firmware: 1.18.12
Pilot series HW \$A and \$B	Safety Procedure (via the reset button) section 16.2.1
Pilot series HW \$C and \$D	Current Procedure (via the setup menu) section 7.7.1

* Booter and Firmware are on the public launch page