DELGEN

X-Graph Software Module

xgCONSOLE Users Manual

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Tables

1 Welcome

1.1 Introduction

You're not familiar with programming or don't want to spend time and/or resources on C programming. The X-Graph Telnet Console, nickname xgConsole, is a solution for you.

Each X-Graph module is shipped with the xgConsole firmware pre-installed. You just need to connect the X-Graph module with either an Ethernet cable, a RS232C cable or a USB cable to your PC. Launch a terminal emulator and start typing high level commands to control your X-Graph module. Just type 'help' to see a full list of available commands.

xgConsole has commands to control all features of the X-Graph modules. X-Graph events (i.e. keyboard, touchscreen, RC-5, …) can be used to automatically execute commands or batch files. All xgGUI, xgFAT, … features are accessible.

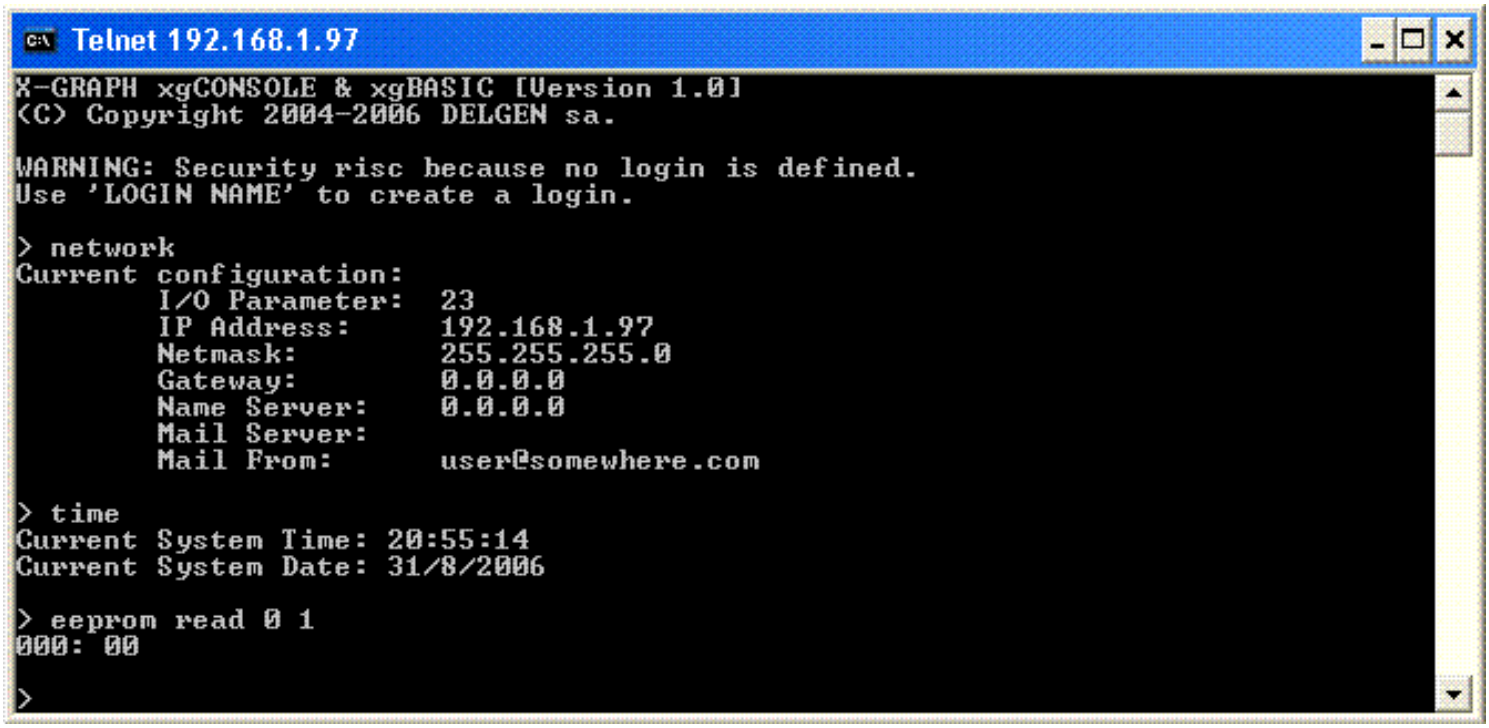

Figure 1: Telnet Console

1.1.1 Batch Files

Batch files can be stored on an xgFAT compatible device (SDCard, CF, Flash disc, …). These are used to automate returning tasks and handle events. The AUTOEXEC.BAT batch file is executed automatically on power-up. This feature is used to auto-start a standalone module. Batch files can be used to handle a series of complex tasks without the need for C programming.

1.1.2 Applications

With the xgConsole you do not need to run or purchase Dynamic C to operate the module in this mode. It takes no more then 5 minutes before you can discover the advanced features of the X-Graph module.

The xgConsole can simple be used to execute commands entered on a terminal.

A batch file driven module can be used to handle events and execute commands. This allows users to build complex stand-alone applications.

The xgConsole can also be used to build a remote controllable graphic terminal. The X-Graph is used as a graphic terminal and a PC application controls the GUI and input/output. Such a PC application only needs a serial port driver to send the xgConsole commands.

1.1.3 Limitations / xgBASIC

The xgConsole does not support variables, constants, operators and program flow control.

If your project gets too complex for the xgConsole commands and you don't want to learn C programming and/or use DynamicC, DELGEN offers the xgBASIC interpreter (product under development).

Anybody whom has ever used QBASIC will feel comfortable immediately with the xgBASIC interpreter. Also new programmers will find xgBASIC a lot easier to learn compared to DynamicC.

xgBASIC is pre-installed on all X-Graph modules (once available, contact DELGEN about the release date). Best of all, it's totally free. You don't need to purchase DynamicC or any other programming tool.
There is a separate manual on xgBASIC.

xgBASIC is basically an expansion of the xgConsole batch system. It adds variables, constants, operators and program flow control. And a lot of extra commands are added to access many of the DynamicC functions.

1.2 How This Book Is Organized

You can find following chapters in it:

Chapter 1 contains a view on all the information in this book.

Check **Chapter 2** for installation instructions. Find out how easy it us to get the xgConsole operational.

Chapter 3 contains a list of all available xgConsole commands. Use this chapter as a command reference.

Chapter 4 gives information on how to design and compile a custom version of the xgConsole.

1.3 More Questions

If you have questions while using your X-Graph module or one of the X-Graph Software Modules, check first if the information is available in this book of the other X-Graph Users Manuals. If you cannot find the answer check the information and forum on the X-graph website (www.x-graph.be). Finally you can also contact your local distributor or the X-Graph technical support by e-mail (techsup@x-graph.be).

This manual includes information on the X-Graph modules. It is strongly advised to download and read documentation on the Rabbit processor from the Rabbit Semiconductor (www.rabbitsemiconductor.com) website.

This manual is complimentary to the documentation found on these websites.

2 Installation

2.1 Ethernet / Telnet

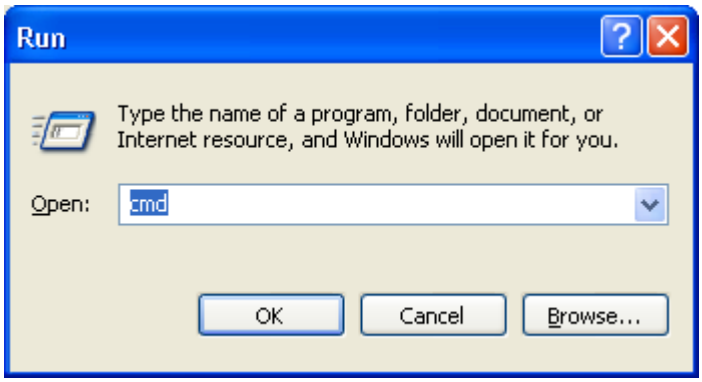

Figure 2: Windows XP Command Prompt

Connect the X-Graph Ethernet port with your local network. The default IP address of the X-Graph module is 192.168.1.97. The first time you use the module, your PC's IP address must be in the same range. If needed change the IP address of your PC. Contact your network administrator if you're unsure about this. Once you get the xgConsole running, change the X-Graph IP address (IP command). Then you can restart the X-Graph module and reset your PC's network configuration.

You will need a telnet client. A basic client is included with Microsoft Windows.

Open a command window (Start button, Run). Then type 'cmd' and click the OK button.

Once the command prompt is available type: 'telnet 192.168.1.97' to start the xgConsole.

DELGEN includes a copy of the freeware terminal emulator "TeraTerm Pro Web 3.1.3" with the X-Graph libraries. You can this program as a telnet client. The same program can also be used for the serial port terminal emulator.
The program does not need to be installed. Just launch "ttermpro.exe" (located the Utilities directory of your DynamicC installation root directory). First enter the correct IP address and press ok. Or if you prefer to use a serial port, select 'Serial' and the correct com port number.

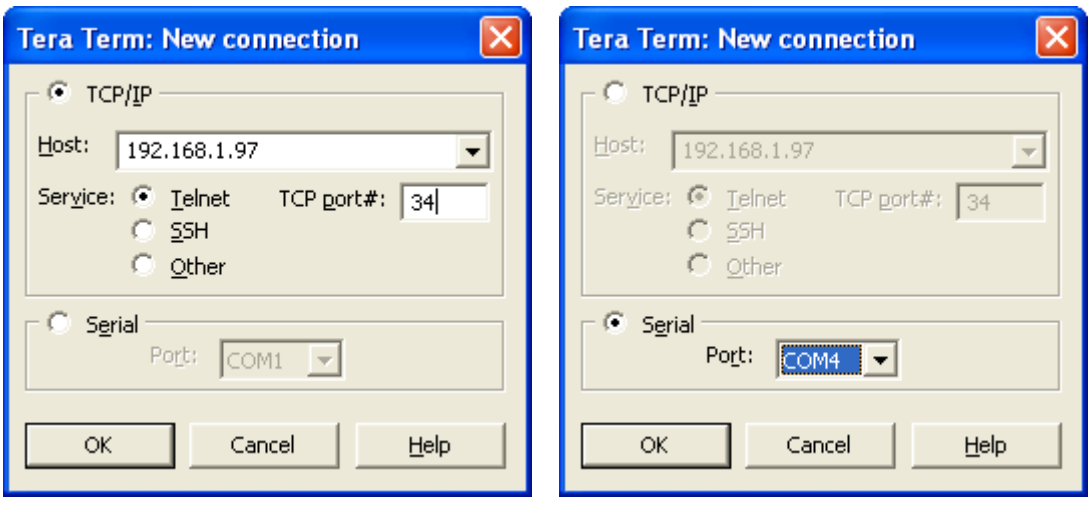

Figure 3: Tera Term Configuration

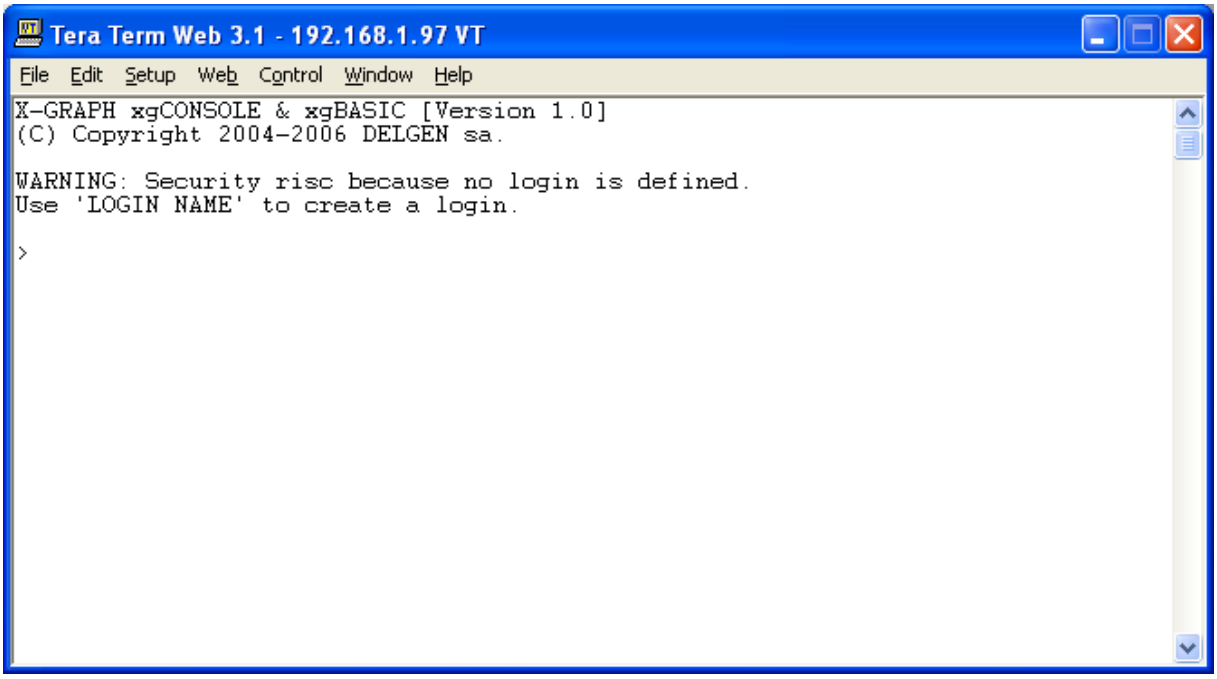

Figure 4: Tera Term with xgCONSOLE started

2.2 RS232C

Connect a null-modem cable between your pc and the X-Graph RS232C port. Then start a terminal program on your PC and set it for 9600 baud, 8 bits, no parity, 1 stop bit. Start the X-Graph module and you'll see the xgConsole welcome message and prompt. You can change the default baudrate with the RS232A/B BAUD command.

On X-Graph modules with 2 level-converted serial ports, both can be used. They are identified as RS232A (Ser Port C on XG5000) and RS232B (Ser Port D on XG5000).

Important: the RS232C ports of all shipped X-Graph module are not enabled for xgConsole operation. This is done to prevent problems with already connected RS232C a hardware. You will need to start the xgConsole via either the Ethernet port or USB port. On modules without an ethernet and USB port, the RS232A is enabled as the default xgConsole port. You can enable one or both RS232C ports for xgConsole operation with the RS232A/B ON command.

2.3 USB

Because the USB port is normally the Rabbit debugging port, it's not available as a xgConsole console during debugging. When the X-Graph debugging port is not used (i.e. in standalone mode) the USB port is automatically enabled as a xgConsole port. The console functionality can be disabled with the USB OFF command.

Read the 'X-Graph and Dynamic C Users Manual' for more information on how to install the FTDI USB drivers on your PC. Once the drivers are installed, follow the same instructions as for the RS232C port.

3 xgConsole Commands

DELGEN is continuously working on new xgConsole commands. This paragraph lists the currently available commands. If your application requires not listed commands to control specific functions, contact DELGEN. In most cases we can include the required commands easily.

This chapter includes all available xgConsole commands. Many commands are hardware related and might not be available in all X-Graph modules. The list of available commands for your X-Graph module is limited by the modules hardware capabilities.

3.1 Console Control Commands

3.1.1 HELP or H or ?

List all the available commands.
Type "HELP <command>" for more information on a specific command.
Type "HELP GUI" to get a list of all GUI commands.
Type "HELP FS" to get a list of all file system commands.
Type "HELP UI" to get a list of all user interface commands.
The latter three options are only available if the necessary software modules are pre-compiled.

3.1.2 ECHO

ECHO
Turns on or off the echoing of characters on a particular I/O stream.
It does not affect echoing globally, but only for the I/O stream on which it is issued.

Usage:
ECHO ON
ECHO OFF

3.1.3 LOGIN

LOGIN NAME
LOGIN PASSWORD
A login name and/or password can be store in non-volatile memory.
Once a login name is enabled a console session will only start after proper login.

Usage:
LOGIN NAME <name>
Enable console session login and set the login <name>

LOGIN PASSWORD
Follow the instructions to enter a new password

LOGIN DELETE
Remove the login name and password

Important: Do not forget your login name and/or password. It is impossible to logon without the proper values.

3.1.4 LOGOUT

LOGOUT
Exit the current console session

3.1.5 RS232A

RS232A
Configures the primary RS232 console using Rabbit serial port C (on XG5000)

Usage:
RS232A ON
RS232A OFF (default)
RS232A BAUD <variable> sets the RS232 console baudrate
RS232A shows the RS232 console communication parameters

3.1.6 RS232B

RS232B
Configures the secondary RS232 console using Rabbit serial port D (on XG5000)

Usage:
RS232B ON
RS232B OFF (default)
RS232B BAUD <variable> sets the RS232 console baudrate
RS232BA shows the RS232 console communication parameters

3.1.7 TELNET

TELNET
Configures the TELNET console

Usage:
TELNET ON
TELNET OFF
TELNET PORT <variable> sets the TELNET console port to <variable>
TELNET shows the TELNET console parameters

3.1.8 TIME

TIME
Display or set the system time and date

Usage:
TIME - Display the system time and date
TIME SET <hour> <min> <sec> <day> <month> <year>
<hour> - hour 0-23
<min> - minutes 0-59
<sec> - seconds 0-59
<day> - day 1-31
<month> - month 1-12
<year> - year 1980-2047

3.1.9 USB

USB
Configures the USB console

Usage:
USB ON
USB OFF (default)
USB BAUD <variable> sets the USB console baudrate
USB shows the USB console communication parameters

3.1.10 VERSION or VER

VER
VERSION
Print the X-GRAPH firmware version numbers

3.2 Ethernet Control Commands

3.2.1 DHCP

DHCP
Enable or disable DHCP on the default interface.

Usage:
DHCP ON [interface]
DHCP OFF [interface]

[interface] (optional) should be one of the available interfaces
Depending on your hardware you can select:
ETH0, ETH1, WIFI0, WIFI1, PPPOE0, PPPOE1, PPP0, PPP1, PPP2, PPP3, PPP4, PPP5

3.2.2 GATEWAY

GATEWAY
DELETE GATEWAY
Set/reset the network gateway IP address

Usage:
GATEWAY <value> where <value> is the gateway
DELETE GATEWAY <value> where <value> is the gateway to be deleted

3.2.3 ICMP

ICMP
Allow the IP address of an interface to be set by a directed ping

Usage:
ICMP ON [interface]
ICMP OFF [interface]
The optional parameter [interface] can be ETH0 or ETH1.

3.2.4 ICMP RESET

ICMP RESET
Allows reconfiguration via directed ping

Usage:
ICMP RESET
If ping config is on and the config has already been set, this allows the ping config to be set again.

3.2.5 IP

IP
Sets the IP address of an interface

Usage:
IP <value> [interface] where <value> is the IP address

[interface] (optional) should be one of the available interfaces
Depending on your hardware you can select:
ETH0, ETH1, WIFI0, WIFI1, PPPOE0, PPPOE1, PPP0, PPP1, PPP2, PPP3, PPP4, PPP5

3.2.6 MAIL FROM

MAIL FROM
Sets the return address for all email messages.

Usage:
MAIL FROM <address>
This address will be added to the outgoing e-mail and should be valid in case the e-mail needs to be returned.

3.2.7 MAIL TO

MAIL TO
Sends an e-mail to the server specified by MAILSERVER and with the return address specified by MAIL FROM.

Usage:
MAIL TO destination@where.com
Opens a line editor
The first line of the message will be used as the subject, and the other lines
are the body. The body is terminated with a ^D or ^Z (0x04 or 0x1A).

3.2.8 MAILSERVER

MAILSERVER
Sets the IP address or name of the SMTP mailserver used to send mails.

Usage:
MAILSERVER <value> where <value> is the mailserver

3.2.9 MTU

MTU
Sets the MTU value for an interface

Usage:
MTU <value> [interface]

<value> is the new MTU value

[interface] (optional) should be one of the available interfaces
Depending on your hardware you can select:
ETH0, ETH1, WIFI0, WIFI1, PPPOE0, PPPOE1, PPP0, PPP1, PPP2, PPP3, PPP4, PPP5

3.2.10 NAMESERVER

NAMESERVER
ADD NAMESERVER
REMOVE NAMESERVER
Manages a list of IP addresses for name servers

Usage:
NAMESERVER <value> where <value> is the name server
ADD NAMESERVER <value> where <value> is added to the list of name servers
REMOVE NAMESERVER <value> where <value> is removed from the list of name servers

3.2.11 NETMASK

NETMASK
Sets the netmask used for an interface

Usage:
NETMASK <value> [interface] where <value> is the netmask

[interface] (optional) should be one of the available interfaces
Depending on your hardware you can select:
ETH0, ETH1, WIFI0, WIFI1, PPPOE0, PPPOE1, PPP0, PPP1, PPP2, PPP3, PPP4, PPP5

3.2.12 NETWORK

NETWORK
Shows the current I/O port, ip, gateway, netmask, ...

3.2.13 NETWORK MULTI

NETWORK MULTI
Shows a list of active interfaces and global network information

NETWORK MULTI [interface]
Shows network interface related information
Depending on your hardware you can select:
ETH0, ETH1, WIFI0, WIFI1, PPPOE0, PPPOE1, PPP0, PPP1, PPP2, PPP3, PPP4, PPP5

3.3 X-Graph Hardware Control Commands

3.3.1 1WIRE

1WIRE INIT
Initializes the 1-Wire bus

1WIRE SEARCH
Searches the 1-Wire bus for devices and prints a table

1WIRE READ
Reads bytes from the 1-Wire bus

1WIRE WRITE
Write data to the 1-Wire bus

1WIRE SWRITE
Write data to the 1-Wire bus, then switch strong pull-up on

Usage:
1WIRE INIT
1WIRE SEARCH [type] where type is an optional search command. If type is not supplied 0xf0 is used, the default 1-Wire search command.
1WIRE READ <nr> reads <nr> bytes for the 1-Wire bus
1WIRE WRITE <value> writes <value> to the 1-Wire bus
1WIRE SWRITE <value> writes <value> to the 1-Wire bus, the enables a strong-pullup

Example to read temperature with a DS18S20 1-Wire temperature sensor:
> 1WIRE INIT // Inits the 1-Wire bus
Found 1 1-Wire devices
> 1WIRE WRITE 204 // Skip ROM command
> 1WIRE SWRITE 68 // Start temperature conversion + strong pull-up
(Wait 750 msec)
> 1WIRE INIT // Re-init = stop strong pull-up
Found 1 1-Wire devices
> 1WIRE WRITE 204 // Skip ROM command
> 1WIRE WRITE 190 // Read scratchpad command
> 1WIRE READ 9 // Read 9 bytes from 1-Wire device
2F-00-4B-46-FF-FF-06-10-A4 // This is the scratchpad of the DS18S20
// The first value (2F) is the temperature in 0.5 deg increments. 0X2F = 47 = 23.5 deg Celsius.

3.3.2 ADC

ADC
ADC DIFF
Reads an ADC channel.

Usage:
ADC <channel nr> reads a single ADC value with ground reference
<channel nr>: 0->23 corresponds with AINxx input pin of X-Graph module

ADC DIFF <channel nr> reads a differential ADC value

<channel nr>:
0 = +AIN8 -AIN9 8 = -AIN8 +AIN9

1 = +AIN10 -AIN11 9 = -AIN10 +AIN11
2 = +AIN12 -AIN13 10 = -AIN12 +AIN13
3 = +AIN14 -AIN15 11 = -AIN14 +AIN15
4 = +AIN16 -AIN17 12 = -AIN16 +AIN17
5 = +AIN18 -AIN19 13 = -AIN18 +AIN19
6 = +AIN20 -AIN21 14 = -AIN20 +AIN21
7 = +AIN22 -AIN23 15 = -AIN22 +AIN23

3.3.3 ASIX

ASIX OUT
Writes to the asix parallel port

ASIX IN
Reads the asix parallel port

ASIX DIR
Sets the direction of the asix parallel port

ASIX <line>
Reads or writes an ASIX I/O line

Usage:
ASIX OUT <value> where 8-bit <value> is written to the parallel port
ASIX IN where the active 8-bit value of the parallel port is returned
ASIX DIR <direction> is 0 (input) or 1 (output)
ASIX <output line> <value> sets 0 or 1 to the output line
ASIX <input line> reads the status of the input line

<input line>: BUSY, ACK, PE, SLCT and ERR
<output line>: SLCTIN, INIT, ATFD and STRB

3.3.4 BUZZER

BUZZER
Turns the buzzer on or off.

Usage:
BUZZER ON
BUZZER OFF

3.3.5 DAC

DAC
Sets a DAC output level

Usage:
DAC <value>
Range is 0 up to 4095 which corresponds to an output voltage range of 0 to max. Volt.
Max. might be 5 Volt or 3.3 Volt depending on your X-Graph module version.

3.3.6 EEPROM

EEPROM
Reads or writes in the EEPROM array

Usage:
EEPROM WRITE <address> <value> writes <value> to <address> in the eeprom array

EEPROM READ <address> <nr> reads <nr> bytes starting from <address>

EEPROM ERASE erases the complete eeprom array

3.3.7 HVOUT

HVOUT ON
Enables current sinking on a high-current/high-voltage output

HVOUT OFF
Disables the output

HVOUT PWM
Sets a PWM output value to a high-current/high-voltage output

Usage:
HVOUT ON <channel>
HVOUT OFF <channel>
HVOUT PWM <channel> <pwm value> sets a 10-bit pwm value

3.3.8 I2C

I2C READ
Read data from the I2C interface

I2C WRITE
Writes data to the I2C interface

I2C SPEED
Sets the I2C communication speed

I2C RESET
Resets the I2C interface

I2C ON
I2C OFF
Enable/disables the I2C interface

Usage:
II2C READ <nr> reads <nr> bytes from I2C device
I2C WRITE <nr> <address> <value> ... <value> writes <nr><value>'s to I2C device <address>
I2C SPEED <speed> sets the speed (in kHz)
I2C RESET
I2C ON
I2C OFF

Example to write/read data to a 24C16 type eeprom (device address = 160)

```
>I2C ON                                  // Enables I2C (normally 2 ADC lines)
>I2C SPEED 400                           // Set speed to 400kHz
>I2C WRITE 2 160 2 23                    // Writes value 23 to address 2
>I2C WRITE 1 160 0                       // Sets device address to 0
>I2C READ 10                             // Read 10 bytes from device
00-00-17-00-00-00-00-00-00-00            // Return data printed in hex
```

3.3.9 KEYBOARD

KEYBOARD
Enables or disables the PS/2 keyboard interface

Usage:
KEYBOARD ON
KEYBOARD OFF

3.3.10 KEYPAD

KEYPAD
Enables or disables the keypad interface

Usage:
KEYPAD ON
KEYPAD OFF

3.3.11 RABBIT

RABBIT OUT
Sets a rabbit I/O line output level

RABBIT IN
Reads the status of a rabbit I/O line

Usage:
RABBIT OUT <port> <data> [address]
RABBIT IN <port> [address]

<port>
Allowed internal I/O pins:
PD4 - PD5 - PD6 - PD7
PE0 - PE1 - PE2 - PE5 - PE6 - PE7
PF0 -> PF7
PG0 -> PG7
Allowed external I/O ports:
EXT0 - EXT1 - EXT5 - EXT6 - EXT7

<data>
Internal I/O ports:
0 = low
1 = high
2 = open-drain high
External I/O ports: 8-bit data

[address] external sub-address (range 0 up to 63)

Example 1: Internal I/O pins:
RABBIT OUT PD4 0 // Toggle Rabbit I/O pin PD4
RABBIT OUT PD4 1 // The pin will automatically be set to output

Example 2: External I/O
RABBIT EXT5 178 13 // Send byte 178 to external I/O port 5 sub-address 13
This port used PE5 as an active low CS, Port A as data bus and pins PB2 up to PB7 as sub-address I/O lines.
With this command up to 5 external devices can be controlled. Such devices should use an 8-bit databus, maximum 6 address lines and a I/O CS line.

3.3.12 RESET

RESET
Resets the X-GRAPH module.

3.3.13 SD

SD READ
SD WRITE
Read/Write raw single sectors from/to a SD memory card.
SD RESET
Reset the card installed in the SD card reader.

Usage:
SD READ <sector nr> reads a single sector from a SD memory card
SD WRITE <sector nr> <512x value> writes a single sector to the SD memory card
Warning: 512 values MUST be supplied.

3.3.14 SLAVE

SLAVE OUT
Sets a slave processor I/O line output level

SLAVE IN
Reads the status of a slave processor I/O line

SLAVE PULLUP
Enables a pull-up resistor on a slave processor I/O line

SLAVE DIR
Sets the direction of a slave processor I/O line

Usage:
SLAVE OUT <line> <level>
SLAVE IN <line>
SLAVE PULLUP <line>
SLAVE DIR <line> <direction>

<level> is either 0 (low) or 1 (high)
<direction> is either 0 (input) or 1 (output)

<line> is one of the slave processor I/O lines:
1 = AIN2
2 = AIN3
3 = AIN4
4 = AIN5

5 = AIN6
6 = AIN7
7 = UART TXD
8 = UART RXD
9 = 1-Wire
10 = RC5

3.3.15 SFLASH

SFLASH
Reads or writes in the Secure FLASH array

Usage:
SFLASH WRITE <address> <value> idem in the secure flash array

SFLASH READ <address> <nr> idem for the secure flash array

SFLASH ERASE erases the complete secure flash array

3.3.16 SUART

SUART TXD
Send data via the slave uart port

SUART <config>
Configure the SUART port

SUART TXD ON
SUART TXD OFF
SUART RXD ON
SUART RXD OFF
Enables or disables the slave uart transmit or receive pin

Usage:
SUART TXD <value> sends one byte <value>
SUART BAUD <value> sets the port baudrate
SUART CONFIG <parity> <stop> <size>
<parity> 0 = none, 1 = even, 2 = odd
<stop> sets the number of stop bits (1 or 2)
<size> sets the character size (5, 6, 7, 8 or 9)

SUART TXD ON
SUART TXD OFF
SUART RXD ON
SUART RXD OFF

3.3.17 TOUCHSCREEN

TOUCHSCREEN
Enables or disables the touchscreen interface

Usage:
TOUCHSCREEN ON
TOUCHSCREEN OFF

3.4 xgGUI Commands

3.4.1 BACKLIGHT

BACKLIGHT
Switches the backlight on or off

Usage:
BACKLIGHT ON switches the LCD backlight on
BACKLIGHT OFF switches the LCD backlight off

3.4.2 BLANK SCREEN

BLANK SCREEN
Blank LCD

3.4.3 BRIGHTNESS

BRIGHTNESS
Sets the brightness of the backlight

Usage:
BRIGHTNESS <level> where <level> can be 0 (min. brightness) up to 1023 (max. brightness)
This command can not be used with CCFL backlight LCD's.

3.4.4 CIRCLE

CIRCLE
Draws a circle

Usage:
CIRCLE <x> <y> <r> draws a circle with center point at x,y and a radius of r

3.4.5 COLOR

COLOR
Sets the active color

Usage:
COLOR <color value>
<color value> is used for all following graphic primitive commands

B/W LCD's:
0: black
1: white
CSTN Color LCD's:
0: black
1: blue
2: green
3: cyan
4: red
5: magenta
6: yellow
7: white

8-bit/pixel LCD's: a value between 0 and 255
The top 3 bits of <color value> are the red intensity bits (0 up to 7)
The next 3 bits are the green intensity bits (0 up to 7)
And the lower 2 bits are the blue intensity bits (0 up to 3)
Basic color table:
0: black
3: blue
28: green
31: cyan
224: red
227: magenta
252: yellow
255: white

3.4.6 CONTRAST

CONTRAST
Sets the LCD contrast

Usage:
CONTRAST <value> where <value> can be 0 (min. contrast) up to 100 (max. contrast)
Contrast settings can not be used with TFT LCD's.

3.4.7 DOT

DOT
Draws a dot

Usage:
DOT <x> <y> draws a dot at the x,y coordinates

3.4.8 FILL CIRCLE

FILL CIRCLE
Draws a filled circle

Usage:
FILL CIRCLE <x> <y> <r> draws a filled circle with center point at x,y and a radius of r

3.4.9 FILL POLYGON

FILL POLYGON
Draws a filled polygon

Usage:
FILL POLYGON <nr> <x1> <y1> ... <xn> <yn>
Draws a filled polygon with nr sides.
The coordinate list must contain x,y pairs matching the <nr> of sides.

3.4.10 FILL RECTANGLE

FILL RECTANGLE
Draws a filled rectangle

Usage:
FILL RECTANGLE <x1> <y1> <x2> <y2> draws a filled rectangle between the x1,y1 and x2,y2 points

3.4.11 FILL SCREEN

FILL SCREEN
Fill screen with then active color

3.4.12 FONT

FONT
Sets the active font

Usage:
FONT <font> sets the active font
The allowed range depends on the number of loaded fonts.

3.4.13 GPRINT

GPRINT
Print a string on the LCD

Usage:
GPRINT <x> <y> <string>
Prints the string centered around the x,y coordinates.
Currently gprint uses proportional fonts, transparency off, no underlines.

3.4.14 HLINE

HLINE
Draws a horizontal line

Usage:
HLINE <x> <y1> <y2> draws a line from x,y1 to x,y2

3.4.15 INVERT RECTANGLE

INVERT RECTANGLE
Color inverts a rectangular area

Usage:
INVERT RECTANGLE <x1> <y1> <x2> <y2> color inverts the rectangular area between x1,y1 and x2,y2

3.4.16 LCD

LCD
Switches the LCD on or off

Usage:
LCD ON switches the LCD on
LCD OFF switches the LCD off
This command can not be used with TFT LCD's. Use the BACKLIGHT command for these LCD's.

3.4.17 LINE

LINE
Draws a line

Usage:
LINE <x1> <y1> <x2> <y2> draws a line from x1,y1 to x2,y2

3.4.18 POLYGON

POLYGON
Draws a polygon

Usage:
POLYGON <nr> <x1> <y1> ... <xn> <yn>
Draws a polygon with nr sides.
The coordinate list must contain x,y pairs matching the <nr> of sides.

3.4.19 RECTANGLE

RECTANGLE
Draws a rectangle

Usage:
RECTANGLE <x1> <y1> <x2> <y2> draws a rectangle between the x1,y1 and x2,y2 points

3.4.20 VLINE

VLINE
Draws a vertical line

Usage:
VLINE <x1> <x2> <y> draws a line from x1,y to x2,y

3.5 xgFAT File System Commands

Tbf

4 Compiling a Custom xgConsole Version

The xgConsole library is included in the X-Graph library set. You can easily edit and change this library to make a custom version of the xgConsole mode. For example you could limit the number of commands for your specific application. This way your customers can only access whatever you think is useful to them.
Or new commands can be added for features specific for your application.

The xgConsole uses the standard DynamicC ZCONSOLE.LIB library. But many of the ZCONSOLE functions are replaced to reduce the root memory usage and add additional features.

4.1 User Interface Console

The standard library allows a user interface plug-in. Just include a CONSOLE_UI macro in your source code to plug-in some application dependent macros.
Check the following example:

```
#ifdef CONSOLE_INCLUDE_HELP
#ximport "C:\X-Graph\Samples\X-Graph\XG5000\Demo\Help\xg_help_demo.txt"
help_demo_txt
#else
#define help_demo_txt 0
#endif

#define CONSOLE_UI_PROTOTYPE  int uicon_demo_enable(ConsoleState* state); \
                              int uicon_demo_disable(ConsoleState* state);
#define CONSOLE_UI { "DEMO ON", uicon_demo_enable, help_demo_txt }, \
                   { "DEMO OFF", uicon_demo_disable, help_demo_txt }, \
                   { "DEMO", xgcon_ok, help_demo_txt }, \
                   { "UI", xgcon_ok, help_demo_txt }

#define CON_INFO_DEMO_EN      CON_INFO_UI
#define CON_INFO_DEMO_DIS     CON_INFO_UI+1
#define CONSOLE_UI_INFOCODE   CON_INFO_DEMO_EN, \
                              CON_INFO_DEMO_DIS
#define CONSOLE_UI_INFO    "Demo Mode Enabled\r\n", \
                           "Demo Mode Disabled\r\n"
```

4.2 xgConsole Macro's

Tbf

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Change List

1.0

Initial release