USER MANUAL TLCC-01 Triple LED Current Controller



Version: 07 Date: 25.03.2011

Main Office		European Sales Office		North America Sales Office	
Phone:	+972-27-2500097	Phone:	+44-(0)77-9172-9592	Phone:	+1-(248)-436-8085
Fax:	+972-27-2500096	Fax:	+44-(0)20-7681-2977	Fax:	+1-(248)-281-5236
sales@prizmatix.com		sales.europe@prizmatix.com		sales.usa@prizmatix.com	
P.O.B. 4234 Modiin-Ilite 71				Israel	

Table of Contents

1	Intr	oduc	stion	3
	1.1	Fea	tures	3
	1.2	Spe	cifications	3
	1.3	Ove	erview	1
2	Safe	ety	5	5
3	Ma	nual	Operating the TLCC-016	5
	3.1	Init	ial power up6	5
	3.2	LED	Channel Selection6	5
	3.3	LED	Channel Power Setting	5
	3.4	ON,	/OFF of Single Channel	7
	3.5	ON,	/OFF of All Channels	7
4	PC	Oper	ating of TLCC-01 E	3
	4.1	Inst	allation of the Microcontroller Driver	3
	4.2	The	e LabVIEW Based Software14	1
	4.2.	1	Installation	ļ
	4.2.	2	Prizmatix_TLCC-01 software usage 17	7
	4.3	Cor	nputer Interface by Terminal Style Commands18	3
	4.3.	1	Introduction	3
	4.3.	2	How to create a new Hyper Terminal communication link	3
	4.3.	3	Command Set 27	7
	4.3.	4	Commands Description 27	7
	4.4	Tips	5)
	4.4.	1	Tip#1 How to find Device COM port number?)

Main Office		European Sales Office		North America Sales Office		
Phone:	+972-27-2500097	Phone:	+44-(0)77-9172-9592	Phone:	+1-(248)-436-8085	
Fax:	+972-27-2500096	Fax:	+44-(0)20-7681-2977	Fax:	+1-(248)-281-5236	
sales@prizmatix.com		sales.europe@prizmatix.com		sales.us	a@prizmatix.com	
	P.O.B. 4234 Modiin-Ilite 71919, Israel					

1 Introduction

The TLCC-01 Benchtop Triple LED Current Controller is designed to provide a low noise current for driving a variety of High Power LEDs in continuous (CW) or chopped operation mode by external TTL input. The internal microcontroller provides a simple user interface for LED power adjustment and ON/OFF power control of each channel. The USB link enables easy connection of the system to PC, as well as integration of the LED light source with various image analysis software and microscope automation software packages.

1.1 Features

- Three separate LED drivers
- Constant current or chopping operation modes
- Precise LED current setting
- TTL external trigger input
- USB link
- Computer control via hyper terminal style commands or LabView
- Free control software provided (Win XP/2000/Vista)

1.2 Specifications

Max. output current: factory preset to 350, 500,700 or 1000mA Output voltage: 1-15 V TTL modulation frequency: DC – 10 KHz Connector for LED: 9-pin D-type Connector for TTL input: BNC Input power supply: 24 VDC, 1A Power adaptor input: 100-240 VAC, 1A, 47-63Hz

Controller dimensions: 195mm x 70mm x 170mm (W x H x L) without extrusions **Power adaptor dimensions**: 60mm x 35mm x 10mm (W x H x L)

Specifications are subject to change without notice.

Main Office		European Sales Office	North America Sales Office	
Phone:	+972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085	
Fax:	+972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236	
sales@prizmatix.com		sales.europe@prizmatix.com	sales.usa@prizmatix.com	
	P.0	.B. 4234 Modiin-Ilite 71919,	Israel	

1.3 Overview



Front Panel controls of TLCC-01



Back panel controls of TLCC-01

Main Office		European Sales Office		North America Sales Office	
Phone:	+972-27-2500097	Phone:	+44-(0)77-9172-9592	Phone:	+1-(248)-436-8085
Fax:	+972-27-2500096	Fax:	+44-(0)20-7681-2977	Fax:	+1-(248)-281-5236
sales@prizmatix.com		sales.europe@prizmatix.com		sales.usa@prizmatix.com	
P.O.B. 4234 Modiin-Ilite 71919,					

2 Safety

Before applying power to the power adaptor of the TLCC-01 system, make sure that the protective conductor of the 3 conductor mains power cord is correctly connected to the protective earth contact of the socket outlet! Improper grounding can cause electric shock with damages to your health or even death!

When wiring the device disconnect it from the power source and turn OFF the main switch on the back panel of the TLCC-01. Not doing so may result in electric shock, injury and/or damage of your equipment.

Prizmatix products are NOT authorized for use as components in life support devices or systems.

The TLCC-01 and the Mic-LED-XXX LED heads must not be operated in explosion endangered environments!

Any maintenance shall be performed ONLY by Prizmatix authorized technician.

Cellular phones or other radio transmitters are not to be used within the range of few meters of this unit.

The head of Mic-LED-XXX can contain an UV and other intense light!

In case of UV LED intense UV light can be emitted by the system during operation. Precautions must be taken to prevent looking directly at the UV light with unprotected eyes or illuminating the UV light on skin. Do not look directly into the UV light or look through the optical system during operation of the device. This can be harmful to the eyes even for brief periods due to the high intensity of the UV light.

If viewing the light is necessary, use light protective glasses to avoid damage by the intense light.



Main Office	European Sales Office	North America Sales Office	
Phone: +972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085	
Fax: +972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236	
sales@prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com	
P.C	Israel		

3 Manual Operating the TLCC-01

3.1 Initial power up

Connect the power adaptor to the TLCC-01 controller and the 9 pin D-Type connectors according to the specified current.

Switch ON the system by the ON/OFF toggle switch on the back panel of the device.

The following message will appear on the screen:

PRIZMATIX LIGHT	
SOURCE SYS 1.6c4	

Press the center OK button on the 5 keys switch. Following message will appear:

LED>ch1	nm	>>00
LED>ch3	nm	00

3.2 LED Channel Selection

Press the Left / Right arrows keys on the 5 keys switch to scroll the LED channels. Following message will appear:



Remark: by default the microcontroller supports more than 3 channels actually available in TLCC-01 model. Please ignore these additional channels.

3.3 LED Channel Power Setting

To increase or decrease the power setting of specific LED channel scroll to the specific channel by Left / Right arrows keys and then use Up/Down arrows keys of the 5 keys switch to increase or decrease the LED light power. Each click on the key will increase the value by 1 unit. Press and hold the key to get faster scrolling of the values.



Remark: the units on the display are relative units from 00 to 99. The LED actual power is not necessarily linear proportional to these numbers.

Main Office		European Sales Office	North America Sales Office	
Phone:	+972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085	
Fax:	+972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236	
sales@prizmatix.com		sales.europe@prizmatix.com	sales.usa@prizmatix.com	
P.O.B. 4234 Modiin-Ilite 71919, Israel				

3.4 ON/OFF of Single Channel

In order to switch the LED ON/OFF after the power setting, use the center OK button on the 5 keys switch. The (*) mark will appear adjacent to the powered ON LED like this example:

LED>ch3	nm	>>86*
LED>ch4	nm	00

3.5 ON/OFF of All Channels

In order to switch the all LEDs ON/OFF at once after the power setting;

Use Left / Right arrows keys to scroll beyond the last LED channel, following message will appear:

ALL LEDs ON

Press center OK button on the 5 keys switch, to change all LEDs to ON state, the display will change to:

ALL LEDs OFF

Main Office	Europe	European Sales Office		North America Sales Office	
Phone: +972-2	7-2500097 Phone:	+44-(0)77-9172-9592	Phone:	+1-(248)-436-8085	
Fax: +972-2	27-2500096 Fax:	+44-(0)20-7681-2977	Fax:	+1-(248)-281-5236	
sales@prizmatix	.com sales.e	urope@prizmatix.com	sales.usa	a@prizmatix.com	
P.O.B. 4234 Modiin-Ilite 71919, Israel					

4 PC Operating of TLCC-01

4.1 Installation of the Microcontroller Driver

Remark: DO NOT connect the TLCC-01 USB cable to the computer at this stage of the installation. The USB cable shall be connected at final stage of the installation.

Insert the CD-ROM into CD-ROM driver and browse it for the Silicon Labs. Driver



Double click on the CP210x_VCP_Win2K_XP_S2K3.exe to run the setup. The following screen will appear:



Click on the Next button, the following screen will appear:

Main Office	Europ	European Sales Office		North America Sales Office	
Phone: +972-27-2	500097 Phone	: +44-(0)77-9172-9592	Phone:	+1-(248)-436-8085	
Fax: +972-27-2	500096 Fax:	+44-(0)20-7681-2977	Fax:	+1-(248)-281-5236	
sales@prizmatix.co	m sales.e	sales.europe@prizmatix.com		sa@prizmatix.com	
	P.O.B. 42	Israel			



Choose "I accept the terms and the license agreement" and click Next, following screen will appear:

Select folder where setup will i	on install files.
Setup will install Silicon Labora Server/Vista in the following fo	atories CP210x VCP Drivers for Windows 2000/XP/2003
To install to this folder, click N another folder.	ext. To install to a different folder, click Browse and select
Destination Folder	
Destination Folder c:\SiLabs\MCU	Biowse

You can choose other destination directory or accept the default installation directory, click on Next to proceed. Following screen will appear:

Main O	ffice	European Sales Office	North America Sales Office
Phone:	+972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax:	+972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@p	prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
	P.O	D.B. 4234 Modiin-Ilite 71919,	Israel

n settings, click Back. Click Cancel to exi
n settings, click Back. Click Cancel to exi
n settings, click Back. Click Cancel to exi

Click on Install to proceed with installation, following screen will appear:



Important: Choose the option "Launch the CP210x VCP Driver Installer"

Click on Finish to finish the initial installation and to start the driver installation. The following screen will appear:

Main Office	Europ	ean Sales Office	North /	America Sales Office
Phone: +972-27-2	500097 Phone	: +44-(0)77-9172-9592	Phone:	+1-(248)-436-8085
Fax: +972-27-2	500096 Fax:	+44-(0)20-7681-2977	Fax:	+1-(248)-281-5236
sales@prizmatix.co	m sales.e	europe@prizmatix.com	sales.us	sa@prizmatix.com
P.O.B. 4234 Modiin-Ilite 71919, Israel				



Choose alternative location for the driver or leave the default and start the installation by clicking on Install button. Following screen will appear:



After some time following screen will appear:



Click OK to close the dialog box.

Connect the USB connector of the TLCC-01 to the computer USB socket. After few moments following message will be displayed at the right lower corner of the screen:



After few moments the driver will automatically recognize the device. At this stage the installation has been completed.

In order to check the device, Click **My Computer** with Right Mouse Button and choose **Manage** from the menu.

Main O	ffice	Europe	an Sales Office	North A	America Sales Office
Phone:	+972-27-2500097	Phone:	+44-(0)77-9172-9592	Phone:	+1-(248)-436-8085
Fax:	+972-27-2500096	Fax:	+44-(0)20-7681-2977	Fax:	+1-(248)-281-5236
sales@prizmatix.com sales.europe@prizmatix.com sales.usa@prizmatix.com				a@prizmatix.com	
P.O.B. 4234 Modiin-Ilite 71919, Israel					



Following display will appear:



Chose Device Manager on the Left Panel and Click on the Ports (COM & LPT) on the Right Panel.

The **Silicon Labs CP210x USB to UART Bridge** will appear. Please remember the COM port number for farther software configuration. In current example it is COM4.

Main O	ffice	European Sales Office	North America Sales Office	
Phone:	+972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085	
Fax:	+972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236	
sales@p	prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com	
P.O.B. 4234 Modiin-Ilite 71919, Israel				



Double click on the **Silicon Labs CP210x USB to UART Bridge**, the **Properties** dialog box will appear. If needed change the settings as in following figure and click on OK to approve and close the **Properties** dialog box.

	er Details	
$/ \rightarrow$	Bits per second: 115200	×
	Data bits: 8	~
	Parity: None	Y
	→ Stop bits: 1	×
	Elow control: None	~
	Advanced	Restore Default

Now the driver installation is completed and the device works properly.

Main O	ffice	European Sales Office	North America Sales Office
Phone:	+972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax:	+972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@p	prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
	P.0	.B. 4234 Modiin-Ilite 71919,	Israel

4.2 The LabVIEW Based Software

4.2.1 Installation

Insert the CD-ROM into CD-ROM driver and browse it for the Prizmatix TLCC-01 software setup file:



Double click on the setup.exe to initialize the setup procedure. The following screen will be displayed:



Click Next button to continue. The following screen will be displayed:

Main Office	European Sales Office	North America Sales Office
Phone: +972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax: +972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
P.C	.B. 4234 Modiin-Ilite 71919,	Israel

Destination Folder Select a folder where the application will b	re installed.
The installation wizard will install the files	s for Prizmatix_TLCC-01 in the following folder.
To install into a different folder, click the	Browse button, and select another folder.
You can choose not to install Prizmatix_" wizard.	TLCC-01 by clicking Cancel to exit the installation
Doomation i olaon	
C:\Program Files\Prizmatix_TLCC-01	\ Browse
C:\Program Files\Prizmatix_TLCC-01	\ Browse

Here you can either choose another directory for the software installation or continue with the default directory. Click Next to continue, following screen will appear:

Prizmatix_TLCC-01 Setup		
Ready to Install the Application		1
Click Next to begin installation.		100
Click the Back button to reenter the installat the wizard.	ion information or click Cancel to exit	
	<back next=""></back>	Cancel

Click on Next to start installation process. Following screen will appear:

European Sales Office	North America Sales Office
Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales.europe@prizmatix.com	sales.usa@prizmatix.com
.B. 4234 Modiin-Ilite 71919,	Israel
	European Sales Office Phone: +44-(0)77-9172-9592 Fax: +44-(0)20-7681-2977 sales.europe@prizmatix.com .B. 4234 Modiin-Ilite 71919,

Prizmatix_TLCC-01 Setup	
Jpdating System	
The features you selected are currently being installed.	
Updating component registration	
	Cancel

Wait till the automatic setup will be finished. At the end the following screen will appear:

Prizmatix_TLCC-01 Setu	P	
	Prizmatix_TLCC-01 has bee successfully installed.	'n
	Click the Finish button to exit this installation.	
1/2		
	<back einish<="" td=""><td>Cancel</td></back>	Cancel

Click Finish to end the setup process. The Prizmatix_TLCC-01 software will appear at Start>All Programs menu.



Click Prizmatix_TLCC-01 to launch the software.

0005
-0000
-5236
)m
-

4.2.2 Prizmatix_TLCC-01 software usage

After software launch select the Configuration Tab and configure the appropriate COM port as described at the end of section 4.1

LED Operation	Configuration		_
	VISA resource name	read string	
	delay before read (r	ns)	

There is no need to change other settings. After section of appropriate COM port <u>close the</u> <u>software and re-open it again</u>, check that the COM port is correct.

Select LED Operation Tab. Here you can change the sliders of each one of the LED channels to set its power.

You can either click and drag the slider or write the desired value in the control. After setup of required power click on Apply button to transfer the values to the TLCC-01 controller.

The LED ON/OFF button will switch all LEDs channels ON/OFF.

LED Operation	Configuration			
	Ch1	Ch2	Ch3	
	100	100	100	
	75	75	75	
	50	50-	50	
	25	25	25	
	0.0	0.0	0.0	LED ON/OFF
	0 0	0 0	0 0	
	00	00	00	
		Apply		STOP
				Prizmatix TLCC-01

The Stop button will quit the software.

Main Office	European Sales Office	North America Sales Office
Phone: +972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax: +972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
P.0	.B. 4234 Modiin-Ilite 71919,	Israel

4.3 Computer Interface by Terminal Style Commands

4.3.1 Introduction

The TLCC-01 has a USB interface that allows user to control LEDs from host computer using the terminal style commands. The connection of the TLCC-01 to the computer is accomplished by a USB cable supplied with the device. Please refer first to the section 4.1 for instructions regarding driver installation. Refer to section 4.3.2 on how to create the HyperTerminal communication link.

4.3.2 How to create a new Hyper Terminal communication link

In order to create a new **HyperTerminal** connection, following steps are required:





Remark: If you already have created HyperTerminal XXXX you will see additional HyperTerminal icon at lower part of the list. In such case click on the most upper item marked as HyperTerminal.



Main Of	fice	European Sales Office	North America Sales Office
Phone:	+972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax:	+972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@p	rizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
	P.0	.B. 4234 Modiin-Ilite 71919,	Israel

Following dialog box may appear. Check the **Don't ask me this question again** check box and press either **Yes** or **No** button (this selection does not influence TLCC-01 controller functionality).

Default T	elnet Program?		-	?×
1	We recommend that y program. Do you war	rou make HyperT It to do this?	erminal your de	efault teinet
	Don't ask me this c	uestion again		
/		Yes	No	

New Connection - HyperTerminal screen will appear along with **Connection Description** dialog box:

New Connection - Hy	perTerminal		÷	÷	
File Edit View Cal Tran	sfer Help · · · · · · · · · · · ·				
	Connection Description		? 🔀		
	Enter a name and choose a	n icon for the connection:			
	Name: Prizmatix-TLCC-01	• • •			
		8 🗟 🔊	8	 	
		ОК	Cancel		
	Ne e e e e e e e e e e e e e e e e e				
Disconnected Aut	to detect Auto detect SC	ROLL CAPS NUM	Capture Print	echo	×

Type Name and Select the Icon, Press **OK** to proceed.

In next dialog box press **OK** regardless on the information which will be displayed.

Connect To				
Prizmati	x TLCC-)1		
Enter details for	the phon	e number th	at you want to	dial:
Country/region	Israel	(972)	i.	~
Area code:	08	11		
Phone number:	-		- E	
Connect using	Conex	ant HDA D3	30 MDC V 92 1	Modei 👻
		_		
		ОК	Ce	ancel

Main O	ffice	Europe	ean Sales Office	North /	America Sales Office
Phone:	+972-27-2500097	Phone:	+44-(0)77-9172-9592	Phone:	+1-(248)-436-8085
Fax:	+972-27-2500096	Fax:	+44-(0)20-7681-2977	Fax:	+1-(248)-281-5236
sales@p	prizmatix.com	sales.e	urope@prizmatix.com	sales.us	sa@prizmatix.com
	P.C	.B. 423	Modiin-Ilite 71919,	Israel	

The following dialog box will appear:

	?
ix-TLCC-01	
	1
Invalid phone number	<u>M</u> odify
MyLocation	Dialing Properties
None (Direct Dial)	
	ix-TLCC-01 Invalid phone number My Location None (Direct Dial)

Press the **Modify**... button, you will get the **Properties** dialog box. Select the **Connect To** tab and change the **Connect using** setting to the COM port number of the device. The number of COM port was found during the driver installation (see above). In current example it is COM4

Connect To Settin	ngs	
Prizmatio	x-TLC-01	Change <u>I</u> con
<u>C</u> ountry/region:	Israel (972)	~
Enter the area co	de without the long-dista	ance prefix.
Ar <u>e</u> a code:	08	
Phone number:		
Connect using:	Conexant HDA D330	MDC V.92 Moc 💌 🛶
	Conexant HDA D330 M Standard 33600 bps M COM6	MDC V.92 Modem Nodem
✓ Use country/r	eCOM10	
Redial on bus	COM11	
	COM12	
	COM13	
	COM20	
	COM21	ancel
	COM22	
	COM40	
	COM3	
	COM	

Main O	ffice	European Sales Off	ice	North A	merica Sales Office
Phone:	+972-27-2500097	Phone: +44-(0)77-9	172-9592	Phone:	+1-(248)-436-8085
Fax:	+972-27-2500096	Fax: +44-(0)20-7	681-2977	Fax:	+1-(248)-281-5236
sales@p	prizmatix.com	sales.europe@prizma	itix.com	sales.us	a@prizmatix.com
	P.0	.B. 4234 Modiin-I	lite 71919, Is	srael	

onnect To Setti	ngs	
Prizmati	x-TLC-01	Change <u>I</u> con
<u>Country/region:</u>	Israel (972)	×
Enter the area co	de without the long-dist	ance prefix.
Ar <u>e</u> a code:	08	
Phone number:		
Co <u>n</u> nect using:	COM4	~
	Configure	
	egion code and area co	ode
Redial on bu	sy	

Still at the **Connect To** tab, click on **Configure...** button.

You will get **COM4 Properties** Dialog Box:

M4 Properties Port Settings	2
▶ Bits per second: 115200	~
Data bits: 8	~
Parity: None	M
<u>S</u> top bits: 1	~
Elow control: None	~
	Restore Defaults
ОК	Cancel Apply

Configure the Port Settings in following way:

- Port speed: 115200
- Data bits: 8
- Parity: None
- Stop Bits: 1
- Flow control: None

Main O	ffice	European Sales Office	North America Sales Office
Phone:	+972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax:	+972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@p	prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
	Ρ.Ο	.B. 4234 Modiin-Ilite 71919,	Israel

press **OK** button.

	purdies		
Connect To Settings			
- Function, arrow, and ct	rl kevs act :	as	_
Terminal keys	O Wi	ndows keys	
C Terminar Keys	<u> </u>	ndows keys	
C Backspace key sends			-
() <u>C</u> trl+H () <u>D</u> el	O Ctr	I+ <u>H</u> , Space, Ctrl+H	
Emulation:			
TTY	~	Terminal <u>S</u> etup	
			_
Telnet terminal ID:	TELEIM	PE-33	
Backscroll buffer lines:	500		
Play sound when cor	nnecting or	disconnecting	
Input Translation.		ASCII Setup	
	1		
	-		

Now you will be back to the Properties dialog box. Choose the Settings tab

Change the **Emulation** to **TTY** and press **ASCII Setup**... button.

You will get ASCII Setup dialog box. Select the check boxes as in the following figure:

Main Office	European Sales Office	North America Sales Office
Phone: +972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax: +972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
P.C	.B. 4234 Modiin-Ilite 71919,	Israel



After that press **OK** to approve and close the **ASCII Setup** dialog box. You will be back to **Properties** dialog box

onnect To Settings			
Function, arrow, and c	rl keys act	as	<u>.</u>
<u>●</u> <u>T</u> erminal keys	Ow	indows keys	
Reducer law and			+
- backspace key send			<u>in an de c</u>
(●) <u>C</u> trl+H () <u>D</u> el	O CI	rl+ <u>H</u> , Space, (Ctrl+H
Emulation:	:		÷
TTY	~	Terminal	Setup
	+		<u></u>
Tel <u>n</u> et terminal ID:	TELETY	PE-33	
Backscroll buffer lines:	500		
Dackseron Daner intes.	000		
Play sound when co	nnecting o	disconnectin	9
i	ļ.		
Input Translation		ASCII	Setup
		L	

Click **OK** to close the **Properties** dialog box.

Press Cancel in the Connect dialog box to close it.

Main O	ffice	European Sales Office	North America Sales Office
Phone:	+972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax:	+972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@p	prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
	P.0	.B. 4234 Modiin-Ilite 71919,	Israel

Connect					?
	Ĵ.	i.		1	
Rrizmat	ix TLCC-01				
				1	
	÷				
Phone number:	Invalid phone nu	mber		Modi	fy
		· · · · · · ·			
Your location:	My Location	1		Dialing Pro	notion
i our <u>i</u> ocauon.	inty Edeadori				penes
Calling card:	None (Direct Dia	D)			
		1		j.	1
	· · · · · · · · · · · · · · · · · · ·				
			Dial	C	ancel
1	:	:			

Close HyperTerminal by clicking on \mathbf{X} at upper right corner:

Prizmatix TLCC-01 - HyperTern	ninal		:	
File Edit View Call Transfer Help		2	:	
0000			:	
· • • • • • • • • • • • • • • • • • • •				
	1		1	· · · ·
	-	-	1	
	20	10		
	•			
			2	
• • • • • • • • • • • • • • • • • • •	an increase			
	1			
· ·				
	1			
	SV	1	25	
			2	
e e a neve e e a neve e a a se e a s	an ing an ing a s	anan da ana d		eren en e
	1	1		
8	100		2	
	1		2	
			1	
	20	80	22	
	1	1	1	
		ana da		
		SCROLL CARE	anna Captura Dri	nt acho
Disconnected . TTY	Auto detect	SCRULL . CAPS	NUM capture Ph	in cono

In following dialog box, click on **Yes** to save the newly defined connection.

		10	•	0
Hyperlermina	1		+	- C
		13	2	
A Daire	a complete the second	in the connection	a anneal UDrismatic	TI CC OI
· · · · · · · · · · · · · · · · · · ·	in many to say	ve the connector	I nameu Prizmaux	ILCC-01
		•		
			· ·	
Ē	Vec		Consti	
Ē	Yes	<u>N</u> o	Cancel	
٦	<u>Y</u> es	No	Cancel	
٦,	<u>Y</u> es	No	Cancel	
_	Yes	No	Cancel	

This will finish the setup of HyperTerminal Connection.

Click on Start: All Programs: Accessories: Communications: HyperTerminal: Prizmatix TLCC-01 connection.

Main Office	European Sales Office	North America Sales Office
Phone: +972-27-2500	97 Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax: +972-27-2500	96 Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
	P.O.B. 4234 Modiin-Ilite 7191	9, Israel



The following HyperTerminal window will appear:



In order to check the connection, type simple command like **\$Ver%** to get system version number.

Remark: The commands are case sensitive, therefore type \$Ver% not \$ver%.

Main Office	European Sales Office	North America Sales Office
Phone: +972-27-25000	7 Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax: +972-27-25000	6 Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
	.O.B. 4234 Modiin-Ilite 71919,	Israel



Refer to **Command Set** section of this manual for full list of possible commands.

Main Office	European Sales Office	North America Sales Office
Phone: +972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax: +972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
P.C	.B. 4234 Modiin-Ilite 71919,	Israel

4.3.3 Command Set

The following table is a quick reference table for the TLCC-01 command set.

A host computer may control the TLCC-01 by simply sending ASCII commands through standard

USB port.

All commands must use UPPER CASE characters.

#	Command	Description
1	\$V%	Get system version
2	\$R%	Reset of the system
3	\$CY,XX%	Set power of LED at specified channel
4	\$A%	Get value of LED power
5	\$DXX,YY,ZZ%	Set power of LEDs at all channels*
6	\$NX%	Set number of active channels
7	\$K%	Set all active channels to ON/OFF toggle switch function
8	\$LXXX,YYY,ZZZ,%	Set the LCD representation of the channels*

* Most TLCC-01 devices have 4 channels software therefore the command shall include four channels like for example: \$D99,83,56,00%

4.3.4 Commands Description

4.3.4.1 Get system version

Description	Request the Device version.
Syntax	\$V%
Response	NN if the command was valid
	NN - A string containing the device version
Example	Command: \$V%
	Response: Vr1.4
	Requests the device to send its version. The response indicates that
	the command was successful and that the device version is 1.4

Main O	ffice	European Sales Office	North America Sales Office
Phone:	+972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax:	+972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales@p	prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com
	P.C	.B. 4234 Modiin-Ilite 71919,	Israel

4.3.4.2 Reset of the system

Description	Resets the Device setting to the default values.
Syntax	\$R%
Response	R if the command was valid and done
Example	Command: \$R%
	Response: R
	Resets the Device setting to the default values. The response
	indicates that the command was successful and that the device was
	reset.

4.3.4.3 Set power of LED at specified channel

Description	Sets power of the specified LED channel.
Syntax	\$CY,XX,%
	Y channel number
	XX power intensity
Response	C if the command was valid
Example	Command: \$01,89,%
	Response: C
	Requests the device to set the power level of channel #01 to a
	value of 89. The response indicates that the command was
	successful and that the device channel #01 was set to the power
	level of 89.

4.3.4.4 Get value of LED power

Description	Gets power of all LED channels.
Syntax	\$A%
Response	AMM,NN,KK,LL if the command was valid
	MM, NN, KK, LL – are strings containing the power value in a.u.
	from 00 to 99.
Example	Command: \$A%
	Response: A36,88,95,00
	Request the device to report the power level of all channels. The
	response indicates that the command was successful and that the
	device is at power level channel is: #1=36, #2=88, #3=95, #4=00.

European Sales Office	North America Sales Office
Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085
Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236
sales.europe@prizmatix.com	sales.usa@prizmatix.com
D.B. 4234 Modiin-Ilite 71919,	Israel
	European Sales Office Phone: +44-(0)77-9172-9592 Fax: +44-(0)20-7681-2977 sales.europe@prizmatix.com D.B. 4234 Modiin-Ilite 71919,

4.3.4.5 Set power of LEDs at all channels

Description	Sets power of all LED channels at once.
Syntax	\$DXX,YY,ZZ,%
	XX channel #1 power.
	YY channel #2 power.
	ZZ channel #3 power.
Response	D if the command was valid and done
Example	Command: \$D29,42,63,00%
	Response: D
	Requests the device to set the power level of all channels to
	specified values. The response indicates that the command was
	successful and that the device channel #01,#02,#03,#04 were set to
	the power levels 29,42,63,00 respectively as requested.

4.3.4.6 Set number of active channels

Description	Sets number of active channels.
Syntax	\$NX%
	X number of active channels.
Response	N if the command was valid and done.
Example	Command: \$N2%
	Response: 2
	Requests the device to set the number of active channels. The
	response indicates that the command was successful and that the
	device is configured to 2 active channels

4.3.4.7 Set all active channels to ON/OFF toggle function

Description	Sets all active channels to ON or OFF state.			
Syntax	\$K%			
Response	K if the command was valid and done			
	The controller toggling the led ON/OFF to the intensity set before			
Example	Command: \$K%			
	Response: K			
	Changes the state of all LED channels from ON to OFF and vice			
	versa. The response indicates that the command was successful			
	and that the device channels changed their state.			

Main Office	European Sales Office	North America Sales Office				
Phone: +972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085				
Fax: +972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236				
sales@prizmatix.com	sales.europe@prizmatix.com	sales.usa@prizmatix.com				
P.O.B. 4234 Modiin-Ilite 71919, Israel						

4.3.4.8 Set the LCD representation of the channels

Description	Sets the way the channels are represented on the LCD screen of the
	TLCC-01 device.
Syntax	\$LXXX,YYY,ZZZ,,%
Response	'L' if the command was valid and done
Example	Command: \$L365,405,480%
	Response: L
	Changes the representation of the LED channels on the device LCD
	screen to the specified values. It is useful for programming the
	wavelength of the LED sources to be displayed for the user. In this
	example the system was programmed to display that the LED
	channels #01,#02,#03 are 365nm, 405nm and 480nm LEDs
	respectively. The response indicates that the command was
	successful.

4.4 Tips

4.4.1 Tip#1 How to find Device COM port number?

In order to check the device COM port number:

a) Click **My Computer** with Right Mouse Button and choose **Manage** from the menu.



Main Office		European Sales Office	North America Sales Office				
Phone:	+972-27-2500097	Phone: +44-(0)77-9172-9592	Phone: +1-(248)-436-8085				
Fax:	+972-27-2500096	Fax: +44-(0)20-7681-2977	Fax: +1-(248)-281-5236				
sales@prizmatix.com		sales.europe@prizmatix.com	sales.usa@prizmatix.com				
P.O.B. 4234 Modiin-Ilite 71919, Israel							

Following display will appear:



Chose Device Manager on the Left Panel and Click on the Ports (COM & LPT) on the Right Panel.

The Silicon Labs CP210x USB to UART Bridge will appear.

Note the COM port number at the end of the line. In current example it is COM4.



Main Office		European Sales Office		North America Sales Office		
Phone:	+972-27-2500097	Phone:	+44-(0)77-9172-9592	Phone:	+1-(248)-436-8085	
Fax:	+972-27-2500096	Fax:	+44-(0)20-7681-2977	Fax:	+1-(248)-281-5236	
sales@prizmatix.com		sales.europe@prizmatix.com		sales.usa@prizmatix.com		
P.O.B. 4234 Modiin-Ilite 71919, Israel						