ezTCP Configuration Program

ezConfig User's Manual

Version 1.2 2009-09-23

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	Peer IP Address	0	Stop Bit	
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Sollae Systems Co., Ltd. http://www.sollae.co.kr

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1 Overview

1.1 Overview

In order to use all the ezTCP, environmental parameters are should be set correctly. Not only IP address but all of the serial port parameters (Type, Baud Rate, Data bit, Stop bit, Parity and Flow Control) are needed on ezTCP. There are a few ways for configuration and it could be different according to product. ezConfig, one of the ways, is software for easy configuration of those parameters through LAN and serial port on windows. Most of products, whose names are started with "EZL", are available on this program. For your information, this document is based on 4.4f version.

1.2 Related Products

Model	ezConfig	Туре	Note
EZL-50L	0	Serial to Ethernet	Needs Connection with Ethernet
EZL-50M	0	Serial to Ethernet	
EZL-60L	0	Serial to Ethernet	
EZL-60M	0	Serial to Ethernet	
EZL-70	0	Serial to Ethernet	
EZL-200F	0	Serial to Ethernet	
EZL-220	0	Serial to Ethernet	
EZL-200L	0	Serial to Ethernet	
EZL-80	0	Serial to WLAN	
EZL-80C	0	Serial to WLAN	Needs Connection with Wireless LAN
EZL-90	0	Serial to WLAN	

Table 1-1 Products which are use ezConfig for configuration

The A few of products which are discontinued are not on the list.

2 Window Composition

2.1 Initial Appearance



Fig 2-1 Initial Appearance of ezConfig

3 Functions of Elements

3.1 Search

Search	Search
MAC Address IP Address	MAC Address IP Address
MAC Address	MAC Address
00 30 f9 00 00 01	00 30 f9 02 a0 2e
Read	Read
Search Results	Search Results
	00:30:f9:00:00:04
	00:30:f9:01:70:de
	00:30:f9:02:75:22
	00:30:f9:02:75:db
	00:30:f9:02:a0:2e

Fig 3-1 MAC Address tab (left) and IP Address tab (right) of Search Section

3.1.1 MAC Address

Before configuring parameters with ezConfig, users have to search and select the product. There are two ways to search ezTCP, one of way is using UDP broadcast and the other way is using UDP unicast. When using broadcast, select the [MAC Address] tab and press the [Search All] button. If there is one or more ezTCP, ezConfig would find and list them all on [Search Results] box. Surely, this is about only products which use this program.

• MAC Address

This area is for MAC address of ezTCP which would be searched. [Read] button let you search the product.

3.1.2 **IP Address**

When searching and configuring ezTCP which is not located in the same network with your PC, you should use the UDP unicast. Select [IP] tab and input the IP address. And then, press the [Read] button. The product will be appeared on [Search Results] box.

• Local IP Address

This is a text box for IP address or hostname of ezTCP. [Read] button will find you the product.

3.1.3 Search Results

On this [Search Results] box, searched ezTCP are listed. Select a MAC address of your products on this box to configuration confirming the address.

3.2 Network

Product	Product EZL-50L/200L/70
	Version:1.2A
Network	Network
Local IP Address	Local IP Address
10 . 1 . 0 . 1	10 . 1 . 0 . 1
Subnet Mask	Subnet Mask
255 . 0 . 0 . 0	255 . 0 . 0 . 0
Gateway IP Address	Gateway IP Address
0.0.0.0	0.0.0.0
Peer IP Address	Allowed IP Address
0.0.0.0	0.0.0.0

Fig 3-2 Active (right) and Inactive (left) status of Network Section

3.2.1 **Product**

[Product] box shows the name of the selected ezTCP model. Its firmware version will be shown under this box and this part couldn't be changed by users.

3.2.2 Local IP Address

This is a text box for the IP address of ezTCP. If you want to use DCHP or PPPoE on the [Option] part, [Local IP Address] is automatically assigned and disabled.

3.2.3 Subnet Mask

Subnet Mask should be set on this text box. It is for classification each network.

3.2.4 Gateway IP Address

Gateway IP address of user's networks should be set on this box. Gateway is needed to be connected with other networks. If it isn't correct, Internet communication will be impossible.

3.2.5 **Peer IP Address**

This box is for setting IP address of TCP server who should be connected with your ezTCP. This could be set when your product is in the COD or U2S communication mode. In U2S mode, [Peer Address] means destinations of UDP packet. It could be an IP address or host name.

3.2.6 Allowed IP Address

This is a type of security options. Users can assign an IP address which allowed to access. [Allowed IP Address] will be shown only T2S communication mode.

3.3 TCP/IP

TCP/IP	TCP/IP
Communication Mode	Communication Mode
AT Command - ATC 💌	TCP Server - T2S 💌
Local Port	Local Port 1470
Timeout(s)	Timeout(s)
Event Byte	Event Byte
Peer Port	Peer Port
Password	Password

Fig 3-3 Active (right) and Inactive (left) status of TCP/IP Section

3.3.1 **Communication Mode**

Select one of ezTCP Communication Modes. There are four different modes. Those are TCP Server (T2S), TCP Client (COD), AT Emulation (ATC) and UDP (U2S).

3.3.2 Local Port

In case of T2S mode (TCP server), this item is port number which will listen to TCP connection. When the ezTCP is set as U2S mode, it will be a port number where the data will be come into.

3.3.3 Timeout

When ezTCP is using TCP protocol (T2S, COD or ATC mode), if this parameter's value is not set to zero, the connection will be dead after the amount of time is passed (unit: second).

3.3.4 Event Byte

[Event Byte] is a parameter which can decide the point of time when ezTCP try to request connection with TCP server. If the amount of data is received from serial port, ezTCP send its server a segment about request of TCP connection. In U2S mode, this item will be changed as [Block Size].

3.3.5 Peer Port

When user's ezTCP is in TCP client mode (COD), the server's local port which is listening

should be set in this box. In U2S mode, it means local port of the destinations of data which will be sent.

3.3.6 **Password**

This box is for typing the password set by users. If the password mismatched, the modification will be ignored. When you forgot the password, please refer to FAQ No.69 on our web site.

3.3.7 Block Interval

Set a time to gathering data of a frame which is sent at once. The unit is 10ms.

3.3.8 Block Size

Set a number of bytes of a frame to send at once.

3.4 Serial Port



Fig 3-4 Active (right) and Inactive (left) status of Serial Port Section

3.4.1 Serial Type

Select a type of serial port. Available types are RS-232, RS-422 and RS485.

3.4.2 Baud rate

Select a Baud rate for serial data communication rate. The unit is bits/sec. (1200 bps \sim 115200bps)

3.4.3 **Parity**

Select a type of parity bit. (None, Even, Odd, Mark, Space)

Name	Description
None	Don't use any parity bit
Even	Make the parity bit 1 when an even number of 1 bits are in the byte
Odd	Make the parity bit 1 when an odd number of 1 bits are in the byte
Mark	Make the parity bit 1
Space	Make the parity bit 0

Table 3-1 Type of Parity bit

3.4.4 Data Bits

Make decision about length of data bits. The options are 7 and 8 bits. The default value is 8.

3.4.5 **Stop Bits**

Choose the length of stop bit. The options are 1 or 2 bit. The default value is 1.

3.4.6 Flow Control

Decide a way of flow control. (NONE, RTS/CTS, Xon/Xoff)

 Table 3-2 Options for Flow Control

Name	Description
None	Don't use any Flow Control
RTS/CTS	Using RTS/CTS pins for Flow Control(Hardware)
Xon/Xoff	Using Xon/Xoff signals for Flow Control(Software)

3.5 Wireless LAN

Wireless LAN	Wireless LAN
WLAN Topology	WLAN Topology
Infrastructure 🔻	Infrastructure 💌
SSID	SSID
	sollae
Channel	Channel
0 🔻	0 💌
WEP	WEP
None 🔻	None
UEP Key	WEP Key
Authentication	Authentication
Open System 🔻	Open System 💌
ULAN Start Option	WLAN Start Option

Fig 3-5 Active (right) and Inactive (left) status of Wireless LAN Section

Wireless LAN products like EZL-80 series can be set by ezConfig.

3.5.1 WLAN Topology

There are two topologies in wireless LAN. The one is Ad-Hoc mode which linked each wireless device without Access Point (AP). The other one is Infrastructure mode which linked by AP. Wireless devices can be connected with Ethernet through AP.

3.5.2 **SSID**

For classification of wireless networks, Service Set Identifier (SSID) is used. It is like a name of wireless LAN.

3.5.3 Channel

This means a logical wireless path and they are divided as a range of frequency. In Ad-hoc mode, select a channel where the wireless link will be formed. If you have to set two or more network in a space, we recommend that you keep the gap over 4 channels between each channel. This is for minimizing the interference.

3.5.4 WEP (Wired Equipment Privacy)

Use WEP for security. The length of key should be chosen as 64 bits or 128 bits.

3.5.5 **WEP Key**

8Bit				
Keyl	abcde	ASCII	•	Key ID
Key2	6162636465	HEX	•	Keyl 💌
КеуЗ	000000000000000000000000000000000000000	HEX	•	OK
Key4	000000000000000000000000000000000000000	HEX	-	Cancel

Fig 3-6 Setting window of WEP keys

4 keys can be set as a maximum values and each of keys are presented as ASCII or Hexadecimal.

3.5.6 Authentication

The authentication could be divided as two big parts. The one is Open-System Authentication, the other one is Shared-Key Authentication. The first one is consist of two frames which are request and response. The second one uses shared key for the authentication.

3.5.7 WLAN Start Option

Set the start option when ezTCP boots up. Below window will be created.



Fig 3-7 WLAN start options



3.6 Options and Comment

Option Ø Obtain an IP From The First Received Packet MAC Address Search Telnet Obtain an IP Automatically(DHCP) IP Address Search E&Power Down Telnet CON Port Control(RFC2217) SSL Multiple Connection Disable TCP Transmission Delay Send MAC Address Comment						
	Write	Export Variables	Reset ezTCP	Change Firmware		
George All	Factory Reset	Import Variables	Close TCP/IP	PING / ARP		
Search All Set Password Hulti Write Create an ezVSP Port Windows Firewal						
	PPPoE ID Status Simple Test Exit					
Option Obtain an IP From The First Received Packet V MAC Address Search Telnet Obtain an IP Automatically(DHCP) V IP Address Search EAPpL Obtain an IP Automatically(PPPoE) Set VLAN Variables Power Down Telnet COM Port Control(RFC2217) SSL Multiple Connection Disable TCP Transmission Delay Send MAC Address Drop SIO RX Data						
Comment						
Write Export Variables Reset ezTCP Change Firmware						
Search All	Factory Reset	Import Variables	Close TCP/IP	PING / ARP		
build All	Set Password	Multi Write	Create an ezVSP Port	Windows Firewall		
PPPOE ID Status Simple Test Exit						

Fig 3-8 Active (bottom) and Inactive (top) status of Options & Buttons Section

3.6.1 **Obtain an IP from the First Received Packet**

Set a temporary IP address from the first received packet. When this parameter is set, ezTCP use the destination address of the first packet which received from network to its IP address.

3.6.2 **Obtain an IP Automatically (DHCP)**

Receive its IP address from Dynamic Host Configuration Protocol (DHCP) server automatically.

3.6.3 **Obtain an IP Automatically (PPPoE)**

Receive its IP address from Point to Point Protocol over Ethernet (PPPoE) server automatically.

3.6.4 Telnet COM Port Control (RFC2217)

This option is defined in the RFC2217. If this option is set, ezTCP transmits serial input signals (CTS, DSR) to the peer host and set values (RTS, DTR, Baud rate, Data bits, Parity, Stop bit) into its serial ports from the peer host. The configuration is only available on telnet (console mode). ezConfig just shows if it is checked or not.

3.6.5 MAC Address Search

This is an option for using UDP broadcast by using MAC address when searching ezTCP in local network. If this option is disabled, it will not work to search ezTCP by [Search All] button on [MAC Address] tab. So, we recommended that this option keep checked.

^{ce} If you unchecked this option and couldn't access to your ezTCP, please refer to related FAQ on our website for solving this problem. (FAQ No.69)

3.6.6 **IP Address Search**

This is an option for using UDP unicast in [IP Address] tab. If this option is disabled, it will not work to search ezTCP by [Read] button. So, we recommended that this option keep checked.

3.6.7 Set WLAN Variables

Activate the WLAN section to configure the parameters.

3.6.8 SSL

Use Secure Socket Layer (SSL) as a security protocol. This option can't be set on ezConfig. The configuration is only available on telnet (console mode). ezConfig just shows if it is checked or not.

3.6.9 **Telnet**

This option lets you log in the ezTCP through telnet client and you can monitor the status of the ezTCP.

3.6.10 EAPoL

Use Extensible Authentication Protocol over LAN (EAPoL) for authentication.

3.6.11 **Power Down**

Use Power Down mode for saving power. The default value is off.

3.6.12 Multiple Connection

When using this option, a multiple connection is allowed in T2S mode. EZL-200F supports this option and the maximum value is 8.

For more information about this option, we've offered a technical document on our web site and users can refer to it.

3.6.13 TX Delay

Give delay for 200^{µS} between each byte which is sent to serial port. If your serial device doesn't have buffer or its processing speed is too late, this option will be helpful. [TX Delay] is only available when the baud rate is equal or lower than 19,200bps.

3.6.14 Disable TCP Transmission Delay

Normally, ezTCP do not send immediately after receiving data from its serial port. ezTCP check the serial buffer at regular intervals. At that time, it sends the data to the network side, if there are data. However, when you use this option, ezTCP send data from serial port to the network immediately. Because of this, it may cause inefficiency with each TCP header when the data comes frequently.

3.6.15 Send MAC Address

This option is for identifying multiple ezTCP using MAC address. A MAC address is unique ID which is allowed only one network device. By using this option, ezTCP sends its MAC address to the remote host right after the connection is established. Therefore, the server can distinguish each ezTCP using that information.

For the details of this option, please refer to the document which is named "Sending MAC Address Function" on our website.

3.6.16 Drop SIO RX Data

When ezTCP is set TCP client mode, the data which is received from serial port before the connection is made will be transmitted to the network. Users can ignore these data by using this option. If this option is checked and [Event Byte] is set to zero (0), ezTCP drops the data which is received before the connection. This means ezTCP sends serial data after the connection is established.

3.6.17 Comment

Users are allowed to give a comment on each ezTCP by this text box. This helps discerning ezTCP to users. The maximum length of comments is 32 bytes.

3.7 Buttons

3.7.1 Read

After input MAC address to input box and press this button. A ezTCP which has the MAC address on your network will be founded. This button is usful when refresh the setting istead of [Search All] button and find an ezTCP what you want to configure setting if there are a lot of ezTCP on your network.

Read

3.7.2 Search All



ezConfig searches all ezTCP on user's local networks via UDP broadcast. MAC addresses of searched ezTCP are displayed on the [Search Results] box. When you select one of them, parameters of the selected ezTCP are displayed on the right side of window.

3.7.3 Write



ezConfig Saves the modified parameters to the ezTCP by pressing the [Write] button. The ezTCP resets automatically if the [Write] button is pressed.

3.7.4 Factory Reset

Factory Reset

All the parameters of selected ezTCP will be initialized.

ezConfig	v4.4e (2009/07/30)
♪	Are you sure to initialize the environment variables of the ezTCP?
	<u>Yes</u> <u>N</u> o

Fig 3-9 Factory Reset

3.7.5 Set Password

Set Password

This button is for setting or modifying the password of ezTCP. If the product has a password, you have to input the password in the [Password] text box on ezConfig to set or modify all the parameters.

If you want to access via telnet, you should input the stored password to log in.

Set Password 🛛 🔀				
New Passwo	rd			
••••				
Retype				
••••				
🗌 Clear				
OK	Cancel			

Fig 3-10 Set Password

3.7.6 **PPPoE ID**

PPPoE ID

When using PPPoE, ID and password of the account should be set by this button. This button is activated when the [Obtain an IP Automatically (PPPoE)] option is checked.

A	ccount	×
	ID	
	Password Retype	
	0K 0	ancel

Fig 3-11 Account of PPPoE

3.7.7 Export to file

Export Variables

Store the present setting as a form of file. The file extension is "Name.ezc".

3.7.8 Import from file

Import Variables

Load a file made by [Export to file] to the present window.

3.7.9 Multi Write

Multi Write

This button let you copy a set of parameters which is shown on present screen. It is useful when users want to set their products to the same parameters.



3.7.10 Status

Status

Users can read the current status of their ezTCP by pressing this button. When users press this button, a new window is appeared and some information will be shown. The information includes system uptime, IP address, and the amount of data which is received or sent)

Status		
ezTCP/LAN Rev. 1.4G 8MHz UPTIME: 0 days, 00:11:45		<u> </u>
MAC ADDRESS: 00:30:f9:04:19:98 IP ADDRESS: 10.1.0.1 SUENET MASK: 255.0.0.0 GATEWAY: 0.0.0.0 [TCP LISTEN 1470]		
Serial RX bytes: 0 Serial TX bytes: 0		
ssid: buffalo_ap, channel-6 Quality-100%, Signal-100%, Noise-3%		
		~
Refresh Every 1 Second.	Close	

Fig 3-12 Status Window

When checking the [Refresh every 1 second] option, you will get the renewed status in every second.

3.7.11 Reset ezTCP

Reset ezTCP

Users can reset ezTCP with this button. This button is only available with setting password.

3.7.12 Close TCP/IP

Close TCP/IP

If you press this button, an established TCP connection will be disconnected. This one also available with password.

3.7.13 Create an ezVSP Port

Create an ezVSP Port

This button is for creating new virtual COM port on your PC. This button is available on circumstance that the ezVSP is running.

📴 ezConfig v4.4f (2009/09/04)	X
ezVSP Port : COM3 ezVSP Port Option	
☐ Autostart ☐ Keep Alive	
Are you sure to make an ezVSP port with the options?	
OK Cancel	

Fig 3-13 Create an ezVSP Port

The By using ezVSP, users allowed to use their serial communication program, which have been used, without modification. That means ezVSP is another ezTCP which is installed and operated on your PC. For more information you want to know, refer to the technical document on our website.

3.7.14 Simple Test

Simple Test

Run the test program which verify data communication between LAN and Serial Port. The details are followed in next chapter.

3.7.15 PING / ARP

PING / ARP

This is for PING test and managing ARP table.

PING / ARP
Pinging 10.1.0.1 with 32 bytes of data Reply from 10.1.0.1 : bytes=32 time=10lms TTL=128 Reply from 10.1.0.1 : bytes=32 time=10ms TTL=128 Reply from 10.1.0.1 : bytes=32 time <lms ttl="128<br">Reply from 10.1.0.1 : bytes=32 time<lms ttl="128<br">Reply from 10.1.0.1 : bytes=32 time</lms>Reply from 10.1.0.1 : bytes=32 time<lms ttl="128<br">Reply from 10.1.0.1 : bytes=32 time</lms>Reply from 10.1.0.1 : bytes=32 time</lms></lms></lms></lms></lms></lms></lms></lms></lms></lms></lms></lms></lms></lms></lms></lms></lms></lms></lms></lms>
Packets: Send = 5, Received = 5, Lost = 0
PING Host Address 10.1.0.1 PING
Display ARP Table Delete ARP Table

Fig 3-14 PING / ARP window

- Host address: Destination where PING request packet will be sent.
- Display ARP Table

Display ARP Table

Show ARP table on the screen.

• Delete ARP Table

Delete ARP Table

Delete all list of ARP table

3.7.16 Setting Windows Firewall

Windows Firewall

ezConfig sends UDP broadcast packet when you search ezTCP with [Search All] button on [MAC Address] tap. However, most of firewall does not allow the broadcast packets to pass by it. So, the ezConfig would not work if any Firewall functions are working. For users who are using Windows, ezConfig offers easy way to configure their firewall option with this option.

3.7.17 Exit

Exit

Exit ezConfig with this button. You can also use ESC key on your key board.



Fig 3-15 Exit ezConfig



4 Simple Test with ezConfig

4.1 Communication Test

This test could make you sure that the operation of ezTCP about the data communication is fine. When you press the [Simple Test] button, below window will be created.

🚱 Simple Test				
LAN				
Send		Receive		
30 31 32 33 34 35 36 37 101 38 39 89	234567			<u> </u>
Data Laurth 10	innly	Descived Date		
	mpp 13	Keceived Daca		o byce(s)
Save Load	Send Data		Save	Clear
TCP Client V Local F	ort Peer IP A	ddress Peer Port	Dis	nnect
Ready				
-RS232 Send		Receive		
30 31 32 33 34 35 36 37 101: 38 39 89	234567			A
Data Length 10 -	Apply	Received Data		0 Byte(s)
Save Load	Send Data		Save	Clear
COM Port Baudrate Ps COM1 V 19200 V	one 🔽 8	Bits Stop Bit Fl	ow Control	Open Close
, <u>, , , , , , , , , , , , , , , , , , </u>	Clo	ose		

Fig 4-1 Simple Test window on ezConfig

4.2 LAN Part

4.2.1 Send

This box is displaying data which will be sent from LAN to serial port.

• Data Length

Set the length of the data.

• Save

Save the data as a form of file.

• Load

Load a data file to send data to serial port



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• Send Data

Send serial port data which are displayed [Send] box.

4.2.2 Receive

This box is for displaying data which are received from serial port.

• Save

Save the received data as a form of file.

• Clear

Clear the all data in [Receive] box.

4.2.3 A Part of Communication Modes

Set the test program's mode in this part. There are three communication modes which are TCP server, TCP client and UDP.

• Local Port

This means the port number which will listen to a TCP connection in server mode. In case of UDP, [Local port] represents port number which will receive UDP packet from the network.

• Peer Address

In TCP client mode, the IP address or host name of the server should be set in this box. While this test program is being operated as a UDP mode, this is the address of peers which send and receive UDP packets.

• Peer Port

When this test program is in TCP client mode (COD), the server's local port which is listening should be configured at this box. In U2S mode, it means local port of the destinations of data which will be sent.

• Connect

Connect this program to the [Peer IP address] and [Peer Port] in client mode. In U2S mode, if the button is pressed, the program gets ready to send UDP packets.

• Listen

Test program get start listening TCP connection from clients with this button.

• Disconnect

Disconnect established TCP connection.

4.3 RS232 Part

4.3.1 **Send**

This box is displaying data which will be sent from RS232 port to the LAN.

• Data Length

Set the length of the data.

• Save

Save the data as a form of file.



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• Load

Load a data file to send data to serial port

• Send Data Send serial port data which are displayed [Send] box.

bend serial port data which are displayed

4.3.2 **Receive**

This box is for displaying data which are received from the LAN.

• Save

Save the received data as a form of file.

• Clear

Clear the all data in [Receive] box.

4.3.3 COM Port Part

This part is for configuration of COM Port of PC

• Open

Open the COM Port with this button.

• Close

Close the COM Port with this button.

4.4 Testing data transmission

4.4.1 **Preparation**

Connect both the serial port (RS232) and the LAN port with your computer. LAN connection is allowed to connect directly or with network hub. (If your device doesn't support Auto MDI/MDIX, you have to use cross cable when connecting directly with your PC.) If both sides are connected and ezTCP is supplied power, the preparation is done.



Fig 4-2 Preparation of test

4.4.2 TCP Connection via LAN

Make a TCP connection between ezTCP and the test program considering ezTCP mode (T2S, COD, ATC and U2S). For example, ezTCP is being operated as a T2S mode, set the program to TCP client. Then, input the ezTCP's IP address and local port number on the [Peer Address] and [Peer Port] boxes.

Simple Test				
Send			Receive	
30 31 32 33 3 38 39	4 35 36 37 	01234567 89		×
Data Length	10 +	Apply	Received Data	0 Byte(s)
Save	Load	Send Data		Save Clear
TCP Client Keep Alive	Local	l Port Peer IP A	ddress Peer Port	Connect
Ready	\sim		2	

Fig 4-3 TCP connection via LAN

4.4.3 **Opening COM Port**

Press the [Open] button after selecting the connected COM port. Check the all related parameters like [Baud Rate], [Parity], [Data Bits], [Stop Bit] and [Flow control].

RS232	
Send	Receive
30 31 32 33 34 35 36 37 01234567 38 39 89	
Data Length 10 Apply Save Load Send Data	Received Data 0 Byte(s)
COM Port Baudrate Parity Dat COM1 1 19200 V none V 8	a Bits Stop Bit Flow Control Open
4 5	
C	lose

Fig 4-4 Opening COM Port

4.4.4 Checking Conditions

Check if all the conditions are fine. When the TCP connection is correctly established, the [Connected] message will be shown.

Simple Test		
LAN-Send	Receive	
30 31 32 33 34 35 36 37 101234567 38 39 189	A	Ă
Data Length 10 📩 Apply	Received Data	0 Byte(s)
Save Load Send Data		Save Clear
TCP Client V Local Port Peer D	IP Address Peer Port	Connect
TCP Client V Local Port Peer D Keep Alive 0 10.1.	IP Address Peer Port 0.1 1470	Connect Disconnect

Fig 4-5 Checking TCP connection

Confirm the status of COM port. If the COM port is opened, the message like below figure will be printed on the bottom of the window.

R\$232	
Send	Receive
30 31 32 33 34 35 36 37 01234567 💌 38 39 89	
Pata Length 10 Anniv	Received Data 0 Byte(s)
Paca Bengen 10 _ Appry	
Save Load Send Data	Save Clear
COM Port Baudrate Parity Data COM1 V 19200 None 8	Bits Stop Bit Flow Control Open
OM1 The COM port has opened.	
C1	ose

Fig 4-6 Checking serial status

4.4.5 Sending and Receiving Data

When connections of both parts are ready, change the [Data Length] item and press the [Send Data] button. If the send data of LAN is printed on receive data of RS232 side ($(9 \rightarrow 10)$) and vice versa($(1) \rightarrow (2)$), it means the ezTCP works fine.

LAN					
Send		Receiv	7e		
30 31 32 33 34 35 3 38 39	6 37 01234567 89	A 30 31 38 39	32 33 34 3	5 36 37 0 8	01234567 39
		_			12
Data Length 10	Appl	y R	eceived Data	1	10 Byte(
Save Lo	ad Send D	ata 9	[Save	Clear
TCP Client 💌	Local Port Pee	r IP Address	Peer Port		Connect Disconnect
RS232 Send		Receiv	7e		
RS232 Send 30 31 32 33 34 35 3 38 39	6 37 01234567 89	Receiv 30 31 38 39	ve 32 33 34 3	5 36 37 (8	01234567 39 (10
RS232 Send 30 31 32 33 34 35 3 38 39 Data Length 10	6 37 01234567 89 * Appl:	Recei 30 31 38 39 y Recei	ve 32 33 34 3 acceived Data	5 36 37 0 8	01234567 39 ()) 10 Byte(
RS232 Send 30 31 32 33 34 35 3 38 39 Data Length 10 Save Lo	6 37 01234567 89 • Appl: ad Send D	Recei 30 31 38 39 y R ata (1)	ve 32 33 34 3 eceived Data	5 36 37 0 8 8	01234567 39 (1) 10 Byte(Clear
RS232- Send 30 31 32 33 34 35 3 38 39 Data Length 10 Save Lo COM Port Baudrate COM1 2 19200	6 37 01234567 89 ad Send D Parity	y Receiv	ve 32 33 34 3 eccived Data Stop Bit	5 36 37 10 18 A Save Flow Contr none	01234567 39 10 Byte (Clear rol Open Close
RS232- Send 30 31 32 33 34 35 3 38 39 Data Length 10 Save Lo COM Port Baudrate COM1 1 19200	6 37 01234567 89 ad <u>Send D</u> Parity none sopened.	y Rata II	ve 32 33 34 3 acceived Data Stop Bit	5 36 37 10 18 None The Contr None	01234567 39 10 Byte (Clear rol Open Close

Fig 4-7 Data transmission

5 Example

ezConfig can be used, when you want to change the network parameters like IP address or serial port values and communication mode. The followings are examples of using ezConfig. According to this document, try to change parameters of your ezTCP.

5.1 Basic Setting

5.1.1 Search ezTCP

If you press [Search All] button on [MAC Address] tab or [Read] button on [IP] tap, all the ezTCP on your network will be listed on the [Search Result] box.

🥝 ezConfig v4.4f (2009/09/0	4)			_ <u>_</u> X	
Search MAC Address IP Addre MAC Address 00 30 19 01 5b Read Search Results 00:30:19:00:00:04 00:30:19:01:70:22 00:30:19:01:75:22 00:30:19:02:75:22 00:30:19:02:75:23 00:30:19:09:27:23 00:30:19:09:22:3a	Product EZL-50L/200L/70 Version:1.2C Network Local IP Addres 10 . 1 . 0 Subnet Mask 255 . 0 . 0 Gateway IP Addr 0 . 0 . 0 Allowed IP Addr 0 . 0 . 0	TCP/IP Communication TCP Server - Local Port 1470 Timeout(s) 0 Event Byte 0 Event Byte 0 Peer Port 0 Password	Mode T2S V Baudrate 19200 V Parity NONE V Data Bits 8 V Stop Bit 1 bit V Flow Control NONE V TX Delay	Wireless LAN WLAN Topology Ad-hoc Y SSID Channel 0 Y WEP None Y UEP Key Authentication Open System Y ULAN Start Option	
Option Obtain an IP From The First Received Packet V HAC Address Search Telnet Obtain an IP Automatically(DHCP) V IP Address Search FAPOL Obtain an IP Automatically(PPPOR) Set VLAN Variables Power Down Telnet COM Port Control(RFC2217) SSL Hultiple Connection Disable TCP Transmission Delay Send HAC Address Drop SIO RX Data					
	Write	Export Variables	Reset ezTCP	Change Firmware	
Search All	Factory Reset	Import Variables	Close TCP/IP	PING / ARP	
	Set Password	Multi Write	Create an ezVSP Port	Windows Firewall	
	PPPoE ID	Status	Simple Test	Exit	

Fig 5-1 Searching and Selecting ezTCP

If you can't find you ezTCP, try below processes please.

1. Check the products if they can configured by ezConfig (Models started with 'CSE', 'CIE' or 'CSW' have to use another program like Manager)

- 2. Check the supplied power. (If the proper adapter is being used)
- 3. Check if the right cable is being used and the LINK led is on.
- 4. Check the firewalls including Windows Firewall. You can go to configuration window by

pressing [Windows Firewall] button on ezConfig. If you want to use firewall, add the ezConfig on the list of exception. You should do that to all firewall of the running vaccine programs on your PC.

5. Check if the [MAC Address] option is activated. When you are in this situation, change the mode the ezTCP to ISP mode. (In case of wireless products, the mode will be serial configuration mode.)

6. In case of wireless products, check all the authentication options like WEP.

^{cer} Although you have checked above items, if you can't found your ezTCP, please contact our support team.

Web site: http://www.sollae.co.kr E-mail: support@sollae.co.kr

5.1.2 Selection

If ezConfig has found one or more ezTCP, their MAC addresses will appear on [Search Result] box. Click MAC address of your ezTCP. Before changing parameters, please check if selected product is yours again. The MAC address of ezTCP can be identifying by sticker on your model's body. When your ezTCP is selected, its parameters could be configured right panel.

5.1.3 **Configuration**

After select your ezTCP, configure parameters which you want to change. By using below buttons, you can do saving parameters or storing variables and etc.

5.1.4 **Store**

After the configuration is done, you should store the environment variables with [Write] button. If the [Password] is set, input the password in the [Password] text box before pressing the button.



5.2 Changing F/W

Firmware can be downloaded with ezConfig because it contains TFTP client program. When you press [Change Firmware] button, a window for downloading F/W will be shown like below figure. Local IP Address is filled as value of selected ezTCP.

📴 Change Firmware					×
Firmware :					
CRC :					
Local IP Address :	10	. 1	. 0	1	
Firmware	Send	C	lose		

Fig 5-2 F/W changing window

Press the [Firmware] button to find and select the firmware file.

🙆 Change Firmware	×
Firmware : 50L12A.BIN	
CRC :	
Local IP Address : 10 . 1 . 0 . 1	
Firmware Send Close	

Fig 5-3 Selecting a F/W file

After checking the firmware name, press the [send] button. As you know, entering ISP mode has to be done before doing this. F/W download can be implemented in only ISP mode. If the transmitting is successfully completed, next message will appear.

		-
4.4f (2009/09/04)	×	
Downloading firmware has been successfully c	ompleted.	Π
	4.4f (2009/09/04) Downloading firmware has been successfully c	4.4f (2009/09/04)

Fig 5-4 Complete Message of F/W downloading

^{Ge} If you couldn't get this message or implement any of these steps, please check if the operation mode of ezTCP is ISP mode and LAN connection is fine.

The case of EZL-200, use "pf" command in console mode before these steps.

Tou can download released firmware files on our website.

6 Items

6.1 Items classified of types

Table 6-1 ezConfig components classified types

Туре	Name	Description			
	Mac Address	Searching via MAC address (Broadcast)			
Tab	IP Address	Searching via IP address(Unicast)			
List box	Search Results	List of searched ezTCP			
	MAC Address	Mac address of an ezTCP			
	Local IP Address	IP address of the selected ezTCP			
	Subnet Mask	Subnet Mask for classification of networks			
	Gateway IP Address	IP address of Gateway			
	Allowed IP Address	IP address possible to access			
	Peer IP Address	IP address of remote host			
	Local Port	Local port number of ezTCP			
Text box	Timeout	Time to wait for TCP disconnection			
	Event Byte	Number of bytes for trying TCP connection(COD mode)			
	Block Interval	Time to collect data for sending at once (UDP mode, 10ms unit)			
	Block Size	Size of each data block[Byte]			
	Peer Port	Port number of remote host			
	Password	Input box for configured password			
	Comment	Comment for each products			
	Communication Mode	Communication Mode (T2S, COD, ATC, U2S)			
	Serial Type	Serial Type (RS-232, RS-422, RS-485)			
	Baud rate	Baud rate (1200~115200bps)			
Combo	Parity	Parity bit (NONE, EVEN, ODD, MARK, SPACE)			
UOX	Data Bits	Length of data bits (7, 8)			
	Stop Bit	Length of stop bit (1, 2)			
	Flow Control	Flow Control(NONE, RTS/CTS, Xon/Xoff)			
Check box	Obtain an IP From The First Received Packet	Temporarily using IP address from the first received packet			
	Obtain an IP Automatically (DHCP)	Enabling DHCP(Dynamic Host Configuration Protocol)			
	Obtain an IP Automatically (PPPoE)	Enabling PPPoE(Peer to Peer Protocol over Ethernet)			



	Telnet COM Port Control(RFC2217)	Indicating if Telnet COM Port Control Option(RFC2217) is used		
	MAC Address Search	Allowing access through MAC address search		
	IP Address Search	Allowing access through IP address search		
	Set WLAN Variables	Enabling WLAN setting parameters		
	SSL	Indicating if SSL(Secure Socket Layer) is used		
	EAPoL	Indicating if EAPoL (Extensible Authentication Protocol) is used.		
	Power Down	Enabling Power Down mode		
	Multiple Connection	Allowing Multiple Connection		
	Disable TCP Transmission Delay	Send serial data immediately to the network		
	Send MAC Address	Send MAC address to the server		
	Drop SIO RS Data	Drop serial data before the TCP connection		
	Search All	Searching all the ezTCP with MAC address on the Local Network		
	Write	Store present setting to EEPROM		
	Factory Reset	Initializing all the parameters		
	Set Password	Setting password to the ezTCP		
	PPPoE ID	Inputting ID and Password of PPPoE Account		
	Export Variables	Store present setting as a form of file		
	Import Variables	Load a setting file made from [Export Variables]		
	Multi Write	Changing parameters of Multiple ezTCP to present setting.		
Buttons	Status	Showing the status window		
	Reset ezTCP	Products Reset (only available with setting password)		
	Close TCP/IP	Disconnecting TCP connection (only available with setting password)		
	Create an ezVSP Port	Make Virtual Serial Ports via ezVSP		
	Simple Test	Running test program (LAN \leftrightarrow Serial)		
	Change Firmware	Downloading Firmware to selected ezTCP		
	PING / ARP	PING test, managing ARP table		
	Windows Firewall	Setting Windows Firewall		
	Exit	Exit ezConfig		

Fach item will be shown with a little difference because some options are supported a limited products. For details about the options which are supported by your ezTCP, please refer to each user's manual.

7 Revision History

Date	Version	Comments
2009.04.07	1.0	Created
2009.08.21	1.1	 Modify some style option Modify all the Figures (ezConfig v4.4E) Modify table 1-1 Replace component figures to each parts Add description of F/W downloading Correct some expressions
2009.09.23	1.2	 Replaced Some Figures (ezConfig v4.4f) Add descriptions of three functions including Sending MAC Address Modified Simple Test processes Modified Revision History

