

User's Guide

UT-450

TTL To TCP/IP Converter Module

2003

[Table of Content]

 1. Getting to Know your UT-450 1.1 Introduction 1.2 Main features
1.3 Applications for UT-4502
2. Hardware Installation & Initial Setup
2.1 Hardware Installation
2.2 LED status4
2.3 Initial Setup
2.3.1 Installing the TCP/IP Protocol
2.3.2 Fixed IP Addresses Configuration
2.3.3 Configure your UT-4509
3. UT-450 Configuration Setup10
3.1 Operation mode
3.2 IP Configuration12
3.3 Serial Type14
3.4 Dynamic DNS15
4. UT-450 Management Setup
4.1 Device Admin
4.2 Device Status
4.3 E-Mail Alert18
4.4 Backup and Restore19
4.5 Upgrade Firmware
4.6 Ping20
5. Troubleshooting2 ²
Appendix B: DDNS
Appendix C: Glossary
Appendix D: Finding the MAC Address and IP Address
for Your Ethernet
Adapter31

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1. Getting to Know your UT-450

1.1 Introduction

The UT-450 is a TTL to TCP/IP converter integrated with a robust system and network management features designed for industrial equipment to be accessed and controlled via Intranet or Internet.

By integrating RTOS (Real Time Operating System) and complete TCP/IP protocol stack capability, UTEK's UT-450 provides not only a robust and high performance system to make your device connecting to Network, but also ease installation and Internet access.

The UT-450 Web Configurator is a breeze to operate and totally independent of the operating system platform you use.

1.2 Main features

The following are the main features of UT-450

TCP/UDP server/client support

The UT-450 support four types of connection: TCP server, UDP server, TCP client and UDP client, user can select one of types to meet application requirement.

DHCP Client

DHCP (Dynamic Host Configuration Protocol) client obtains the TCP/IP configuration at start-up from a centralized DHCP server, which means it can get IP address, an IP default gateway and DNS server.

PPP Over Ethernet

PPPoE is a protocol for connecting remote hosts to the Internet over DSL connection by simulating dial-up connection.

Dynamic DNS

With dynamic DNS support, you can have a static hostname alias for a dynamic IP address, allowing the host to be more easily accessible from various locations on the Internet.

Auto-negotiating 10/100Mbps Ethernet

The Ethernet interface automatically detects if it is on a 10 or a 100 Mbps Ethernet.

Full Network Management via Web

This feature allows you to access or manage device through IE or Netscape on any platform. The firmware also can be upgraded via Web browser.

Backup and Restore configuration

This feature allows you to backup system configuration to a file and restores it, for the security issue, the file which backup from system is an encryption format.

IO Controller

The UT-450 supports 3 DI/3 DO totally; 3 DI with any combination rule can trigger each DO. By providing a smart and easily setup way via Web, user doesn't need to have any programmer background.

Alarm Generation

With SMTP client support, you can set system to trigger alarm message via e-mail or SMS (Short Message System) to your mobile phone.



Figure 1 Standalone UT-450's application through Internet



Figure 2 Socket-Type UT-450's application through Internet

2. Hardware Installation & Initial Setup

2.1 Hardware Installation







2.3 Initial Setup

Use this section to set up your computer to assign it a static IP address in the 192.168.168.1 to 192.168.168.254 range with a subnet mask of 255.255.255.0. This is necessary to ensure that your computer can communicate with your UT-450.

Your computer must have an Ethernet card and TCP/IP installed. TCP/IP should already be installed on computer using Windows 98/2000/XP and later operating systems.

Note: Connect a computer to UT-450 Ethernet port directly should be with crossover Ethernet cable, if both connect to hub/switch should be with straight-through Ethernet cable.

2.3.1 Installing the TCP/IP Protocol

If you are not sure whether the TCP/IP Protocol has been installed, follow these steps to check, and if necessary, install TCP/IP onto your PCs.

Step 1: Click the "**Start**" button. Choose "**Settings**", then "**Control Panel**". Double-click the "**Network Connections**" icon. Your Network window should appear as follows:



Step 2:

For Windows 98 and Millennium On the "Configuration" tab (if using Windows 98 and Millennium PCs), select the TCP/IP line for the applicable Ethernet adapter. Do not choose a TCP/IP entry whose name mentions PPPoE, VPN. If the word TCP/IP appears by itself, select that line. Click the **Properties** button.

The renorming Lettront comp	onents are ins	talled:	
Sclient for Microsoft Netw	iorks		
Dial-Up Adapter Linksys LNE100TX Fast	Ethomatical	AND NET	00754.00
TCP/IP -> Dial-Up Adap		pretiume i	001/2 (44)
TCP/IP > Linksys LNE1	74354	hemet Ada	pter(LNE -
آ			•
Add	Remove	P	operties
Primary Network Logon:			
Client for Microsoft Network	\$		
10010000000000000000000000000000000000			12.
File and Print Sharing			
Description	-		
	use to conne	ct to the Ir	ternet and
TCP/IP is the protocol you wide-area networks.			

Important:

For Windows 2000 & Windows XP Setting, you will find that they differ with Windows 98/ME/NT slightly. See the following for reference.

For Windows XP and Windows 2000

Click the "Local Area Connection" icon on the lower right hand side of your desktop screen.



In the "Local Area Connection Status" window, click the "Properties" button then your Network window will appear.

	nnecti	on Propertie	5	?
General Authenta	cabon A	Advanced		
Connect using:				
D-Link DFE	-530TX	PCI Fast Ethern	et Adapte	r (rev.B)
			1	Configure.
This connection u	unan tha f	a louise korrer	_	Configure.
	100 C 100 C 100			
🗹 🛄 Client for				
🗹 🌉 File and	Printer SI	haring for Micros	oft Netwo	aks
🗹 📕 QoS Pac	ket Sch	eduler		
2 Tintemet	Protocol	(TCP/IP):		
		1		
Instal		Uninstall		Properties -
Instal		Unistal		Properties
Description Transmission C wide area netw	tork prote	Uninstall otocol/Internet f scol that provide nacted network.	s commu	he delaut
Description Transmission C wide area netw across diverse	rark proto intercon	otocol/Internet i scol that provide	s commu	he delaut
Description Transmission C wide area netw across diverse	rark proto intercon	otocol/Internet i iccl that provide nacted natwork:	s commu	he delaut

There are two tabs, "General" "Support", in the Network window.

Step 3: Check whether the TCP/IP Protocol has already been installed onto your computer's Ethernet card. Note that TCP/IP Protocol can be installed for a computer's Dial-Up Adapter as well as for the Ethernet card.

- * If yes, go to section 2.3.2.
- * If no, click the "Install" button.

Step 4: Double-click "**Protocol**" in the Select Network Component Type or highlight "**Protocol**" then click "**Add**".

ielect Network	Component Type	? 🗵
	twork component you war	nt to install:
Elient Service		
Protocol		
Description		
A protocol is a la	inguage your computer us thiother computers.	es to
	Add.	Cancel

Step 5: Highlight "Microsoft" under the list of manufacturers. Double-click "TCP/IP" from the list on the right or highlight "TCP/IP" then click "OK" to install TCP/IP.

	naccil the type vent to install, then click CK if you know as to device, of of Have Disk.
blonatosturera	Network Presocols
17 Dariyan 17 Dagital Espaperant (DEC) 17 BM	T PAUSPX compositive Protocol Microsoft 30-54 (DLC) With an and 10-54 (DLC) With a notification
T Novell T SurSoft	Sales Land
	06 09991

Step 6: After a few seconds, you will be returned to the Network window. The TCP/IP Protocol should now be on the list of installed network components (see 3 above).

2.3.2 Fixed IP Addresses Configuration

For Windows 98 and Millennium

Step 1: To set up computers with fixed IP Addresses, click the "**Properties**" button. The TCP/IP Properties window consists of several tabs. Choose the "**IP Address**" tab as shown below.

Step 2: Select **"Specify an IP address"** and enter **"192.168.168.xxx"** (the default value of 450M is 192.168.168.125) in the **"IP Address"** location (where xxx is a number between 1 and 254 used by the High-Performance UT-620 to identify each computer), and the default **"Subnet Mask" "255.255.255.0"**. Note that no two computers on the same LAN can have the same IP address.

	1212	240 12210	142
Bindings	Advanced	N	etā105
DNS Configuration G	ateway WINS Co	noteruging	IP Address
An IP address can be If your network does your network administ the space below.	not automatically as	tign IP adds	ecces, ask
C Obtain an IP ad	dress automatically		
- ○ Specily an IP at	klierr.		
(P Atteress)	192 165 1	58 25	
SLanet Vasic	255 255 2	55 0	
C Defect connect	on to reduce and	è.	

For Windows XP and Windows 2000

Step 1: Make sure the box next to Internet Protocol (TCP/IP) is checked. Highlight **Internet Protocol (TCP/IP)**, and click the **Properties** button

in the loss	Authentical	tion 4	Advanced		
Connex	grisu t				
-	Linksys UNE 1	OOTX	Fast Ethernet A	depter(LNE 1007)	(bv 3)
				Corfo	
This co	mection use	the l	olovina ketu:	Long	urb
	Client for M		A Mahunda		-
			n reeworks having for Micros	- H Malanda	
	and a supervised and a supervised as a supervi		Carlo Charlester Laborator	Off manyages	
- m - v	Internet Pa	plocol	(ICEMP)		
_					
	instal .		Unicidal	Propert	102
_	install . aplica		Inextal	Propert	1422
- Dear	aption	hotPr		Propert	53.52
- Decel Tran wide	splion unission Cor Larsa networ	k prote	otocol/Internet F icol lihet provide	iotocol. The del	ad
- Decel Tran wide	splion unission Cor Larsa networ	k prote	otocol/Internet F	iotocol. The del	ad
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- Dear Tran wide acto	aplion unicsion Cor Larsa networ es diverse int	k peolo lercom	otocol/Internet F icol lihet provide	Notocol. The dat	ad
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Step 2: Select **"Specify an IP address"** and enter **"192.168.168.xxx"** (the default value of 450M is 192.168.168.125) in the **"IP Address"** location (where xxx is a number between 1 and 254 used by the High-Performance UT-450 to identify each computer), and the default **"Subnet Mask" "255.255.255.0"**. Note that no two computers on the same LAN can have the same IP address.

lernet Protocol (TCP/IP)	
	id automatically if your network supports eed to ask your network administrator for
Obtain an IP address auto	nistically
() Use the following IP addre	95
IP address:	192 . 169 . 168 . 1
Subnet mask	255.255.255.0
Default galavray:	
C) Obtain DNS sature addres	a automatically
O Use the following DNS set	
Preferred DNS server:	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Click "OK". to complete the TCP/IP installation.

2.3.3 Configure your UT-450

Step 1: Open your web browser and type <u>http://192.168.168.125</u> in the browser's *address box*. This address is the factory set IP Address of your UT-450. Press "Enter".

Step 2: The **"Username and Password required"** prompt box will appear. Typing **"admin"** (default username) in the Username field and typing **"admin"** (default password) in the Password field. Click **"OK**". The setup screen will then appear.

Connect to 19	2.168.1.10	? 🛛
R		
CHIYUabcdefghh	·	
User name: Password:	1	~
	Bemember my pas	sivord
	ОК	Cancel

Step 3: It is highly recommended you change the default username and password when you login successfully first time.

E/ Drg./s ki bini ili zity			154 (P.I.)
	1 Devic	e Administration Setting	
Setup		1	
Costatica Mode	Device Management IP Address	192	
<u>IEConfiguration</u>	Device Hostname	jonwa	MTNY.
• tensiline	Device Location		
Immir DHI		UserHume	<u></u>
fanagement		Parmand Change	
Desire Admin	Administrator Password	Lanved Codes	(SPRCY)
Doteo:Rate			
Earling & Dattore	Block Ping Request	Sumrou Outocx	E.RHELY CO.
	MAC Address Change	00 00 00 00 00 00	14791Y
TransferEncose	Reset System to Factory Det	suit Excitory default	
aline .			

Step 4: Setup the Operation Mode for TCP/IP connection and Serial Type for connecting with your device.

Note: Don't forget click Apply button to save your changing when you complete your configuration setting each time, the UT-450 will restart automatically in 10 seconds with your new setting.

3. UT-450 Configuration Setup

This chapter will show you how to configure UT-450 to function in your network and gain access to your device through Intranet or Internet.

3.1 Operation mode

The UT-450 support four operation mode: TCP Server, TCP Client, UDP Server and UDP Client. These modes are listed in the drop-down menu for the Operation Mode setting. Each setup screen and available features will differ depending on what kind of operation mode you select. Default is TCP Server.

TCP Server

TCP/IP Converter	Operation	Mode Setup (TCP Server)
Main Menu		HDDE: TCP SERVER .
One Page Setup		
Advanced Setup	Local Listen Port Number	[60000]
 Operation Mode 	Close Connection When Remote Idle	10 {seconds}
 Serial Type 	Access Password	(maxien 31)
Dynamic DNS	Keep Alive Check	Ø Disable € Enable
Hanagement	Max TCP Connection	1.
Activity and a		
Management • Device Admin	Max TCP Connection	APPLY CANCEL BACK
ystem Status		
Backup & Restore		

Listen Port Number: default 50000, range 0 to 65535

If your device is acted as passive to accept commands from remote and the data be guaranteed to be received by peer is your concern, then you can set UT-450 as TCP Server. Be sure the value of item **Listen Port Number** is same as your remote control application using.

Close Connection When Remote Idle (second): default 300, range 0 to 32768

If you want to keep the connection between UT-450 and your remote control application always on, then set the value of item **Close Connection When Remote Idle** to 0, otherwise, when the idle time of no any traffic on line reach the setting value, UT-450 will terminate this connection.

TCP Client	TCP/IP Converter A Main Menu • One Page Setup	Operation	Mode Setup (TCP Client)	
	One Page Setup Advanced Setup Operation Mode	Remote Connection Port Number Remote Host IP Address	50000 (0 - 65535)	
	Serial Type	TCP Connection	Start Up @ Any Character	1
	Dynamic DNS	[APPLY CANCEL BACK	
	Management			
	Device Admin			
	 Bystem Status 			
	Backup & Restore			
	Upgrade Firmware			
	A Bros			
		-10-		

Remote Connection Port Number: default **50000**, range **0** to **65535** Remote Host IP Address: default **0.0.0**

If your device is acted as active to report real-time status to remote and the data be guaranteed to be received by peer is your concern, then you can set UT-450 as TCP Client. Be sure the value of item **Remote Connection Port Number** is same as your remote control application using and set the correct value of **Remote Host IP Address**.

UDP Server

	Operation Mode Setup (UDP Server)			
TCP/IP Converter	PROF: DOW SERVER			
Main Menu • One Page Setup	Local Listen Port Number (5000 (p - 52535)			
Advanced Setup	APPEN CANCEL BACK			
• Seciel Type				
• Demannic DNE				
Management				
Dession Admin				
• System Status				
Backuz-&Reetore				
 Upgrade Financiae 				
• Ena				

Listen Port Number: default 50000, range 0 to 65535

If your device is acted as passive to accept commands from remote and the data be guaranteed to be received by peer is *not* your concern, then you can set UT-450 as UDP Server. Be sure the value of item **Listen Port Number** is same as your remote control application using.

UDP Client

	Operation	Mode Setup (UDP Client)		
TCP/IP Converter		SUBC: USP GLIENT -		
Nain Henu • One Page Setup	Remote Connection Port Number	90000 (o - 65535)		
Advanced Setup	Remote Host IP Address	a , a , b		
 Operation Mode 	1	APPLY CANCEL BACK		
- Secial Tree				
Dynamic DNB				
Management				
• Device Admin				
• System Status				
Backup & Restore	2			
Operade l'immeare				
• <u>Ping</u>				

Remote Connection Port Number: default **50000**, range **0** to **65535** Remote Host IP Address: default **0.0.0**

If your device is acted as active to report real-time status to remote and the data be guaranteed to be received by peer is *not* your concern, then you can set UT-450 as TCP Client. Be sure the value of item **Remote Connection Port Number** is same as your remote control application using and set the correct value of **Remote Host IP Address**.

3.2 IP Configuration

The UT-450 support three IP connection types: Static IP, DHCP and PPPoE. These types are listed in the drop-down menu for the IP Configuration setting. Each setup screen and available features will differ depending on what kind of IP connection types you select. Default is Static IP

	TYPS: STAT	10 IP -
CP/IP Converter	IP Address	102 (108 (108 () 25
Doe Page Setup	Subnet mask	[265 [265]0
dvanced Setup	Gateway	102 108 108 255
Operation Mode	Primary DNS	188 (96 (1 (1
SecialTrue	Serial Po	rt Mode
Dynamic DNi	Serial Type	R5232 -
lanagement	Baud Rate	15280 -
<u>Device Admin</u>	Operatio	0 (User Defined)
System States	Connection Mode	TEP SERVER +
Backso & Eastors	Connection Port Number	5000
Ungrade Firmware	Remote Host IP Address (For Client Only)	0.0.0

Static (or Fixed) IP

IP Address: default **192.168.168.125** Subnet mask: default **255.255.255.0** Gateway: default **192.168.168.254** Primary DNS: default **168.95.1.1**

If you are connecting through a static or fixed IP from your network environment, perform these steps:

Step 1: Enter IP address

Step 2: Enter Subnet mask

Step 3: Enter Gateway IP address

Step 4: Enter Primary DNS IP address

Step 5: click Apply button

DHCP

	One Page Quick Set	
TCP/IP Converter	Host Nance (eptiens)	UT-620
Nain Nenu - One Page Satup	Serial Port	Mode
Advanced Setup	Serial Type	KS700 -
• Caererise Made	Beud Rate	19208 -
- SerialType		n (User Defined)
• EmandoEMS	Operation	Mode
diama dia amin'ny fisiana amin'ny fisiana amin'ny fisiana amin'ny fisiana amin'ny fisiana amin'ny fisiana amin'	Connection Mode	TOP SERVER -
Nanagement	Connection Port Number	jamance in the second s
+ Devise Admin	Remote Host IP Address (For Client Only)	a
- Oyarau, Dietra		de de de de
• Jack.ofs Restory	ALC: CARE	L 0403
• <u>Propuda Transman</u>		
• Ping		

Host Name (Optional): default UTEK, maximum length 15 characters

If there is a DHCP Server existing in your network environment or you subscribe a CABLE service from your ISP, you can set IP configuration to DHCP to get a dynamic IP address. The **Host Name** is an *optional* item, depending on your DHCP Server setting.

Note 1: to gain CABLE service, you also need to change the MAC address of UT-450 to the MAC address of register in ISP. Please refer to Chapter 4 Device Admin/Mac Address Change



PPPoE

User Name: no default, maximum length 47 characters

Password: no default, maximum length 35 characters

Service Name (optional): no default, maximum length 47 characters

Close Connection when Idle Time Over (second): default 0, range 0 to 4294967295

PPPoE with Fixed IP Address: default **DISABLE**

If you subscribe a DSL service with PPPoE connection from ISP, you can set IP configuration to PPPoE to get a dynamic IP address. Your ISP will provide you the **User Name** and **Password**, some ISP will also need the **Service Name** to authenticate. But this item is optional and depending on your ISP.

If you want to keep the connection always on between UT-450 and your ISP, then set the value of item **Close Connection When Idle Time Over** to 0, otherwise, when the idle time of no any traffic on line is over the setting value, UT-450 will terminate this PPPoE connection.

If your ISP can provide you fixed IP address when PPPoE connection established each time, you can select **PPPoE with Fixed IP Address** as ENABLE and enter the IP address given from ISP.

3.3 Serial Type

The UT-450 support three serial types: RS232, and RS485, These types are listed in the drop-down menu for the Serial Type setting. Each setup screen and available features will differ depending on what kind of Serial Types you select and UT-450 product model you buy. Default is RS232

RS232

CP/IP Converter	Serial Port Setup			
lain Menu	Serial Type	R5292 -		
One Page Setup	Baud Rate	19288 💌		
dvanced Setup		0 (User Defined)		
Operation Mode	Data Bits	8 -		
Secial Type	Parity Check	Space 💌		
 Dynamic DNS 	Stop Bits	1.		
Management	Flow Control	Mone		
Device Admin	Force Packet Transmit Time	0 (0 - 65535)ms		
• System Status	Force Packet Transmit Length	0 (0 - 65535)bytes		
Eachup & Restore	Delimiter 1	0x00 (HEX) C Enable @ Disable		
- Cartery of Partone	Delimiter 2	0x 00 (HEX) C Enable @ Disable		
 Upgrade Firmware 	RS485 Transmission Delay Time	0 (0 - 65535)us Note: for RS485 only		
• Ping	APPLY	CANCEL BACK		

Baud Rate: default 115200, range 1200bps to 230.4Kbps

Data Bits: 5, 6, 7, 8 (default)

Parity Check: None (default), even, odd

Stop Bits: 1 (default), 2

Flow Control: None (default), CTS/RTS (or Hardware), XON/XOFF (or Software)

Force Packet Transmit Time (ms): default 40, range 20 to 65535

The timing of transmitting an Ethernet packet, in order to get the whole data in on packet, you can tune this setting value to fit the data length of your device per transmission. The more small value be set will get more less data in one packet.

RS422

The settings are similar with RS232.

RS485

RS485 Transmission Delay Time (ms): default 0, range 0 to 65535

Due to different device has different capability in handling data received from serial port. So you can tune this setting value to slow down the speed of UT-450 to fit the speed of your device handling.

3.4Dynamic DNS

The UT-450 offers a Dynamic Domain Name System (DDNS) feature. DDNS lets you assign a fixed host and domain name to a dynamic Internet IP address. It is useful when you want to access your device through Internet without static IP address. Before you can use this feature, you need to sign up for DDNS service at <u>www.dyndns.org</u> or <u>www.tzo.com</u>, two DDNS service provider. This service default is disabled.

If your DDNS service is provided by DynDNS.org, then select **DynDNS** in the drop-down menu. If your DDNS service is provided by TZO, then select **TZO**. The features available on the DDNS screen will vary, depending on which DDNS service provider you use. (Detail sees Appendix B)

rid To Diseast		DDNS Setup	۲
CP/IP Converter		DONS Services: Byndes	
lain Nenu One Page Setup	Username:	¢ucium iti	
dvanced Setup	Password:	Bullets II	
• Operation Mode • Sacial Type	Device DNS Name:	kostaans dyndas argi	
Dynamic DWi	Registry IP Address :	192,168,168,125	
lanagenent Descentia			
<u>Opstem Status</u>	Status :	DON'S function in disabled	
Eachap & Restore		APPLY CANCEL DROK	
Upgrade Piraweare			
• Fing			

User Name: no default, maximum length **31** characters Password: no default, maximum length **31** characters

Device DNS Name: no default, maximum 47 characters

Enter the **User Name, Password, and Device DNS Name** of the account you set up with DynDNS.org. Registry IP Address. The UT-450's current Internet IP Address is displayed here. Because it is dynamic, it will change.

Status. The status of the DDNS service connection is displayed here.

Tzo.com

Î		DDNS Setup DDNS Services: 128
TCP/IP Converter		Duris on wies. 1
Main Menu	Email Address:	Bactores 40
One Page Setup	Password key:	Beccheme (I)
Advanced Setup	r asserting key.	PACOBAR ND
• Operation Mode	Device DNS Name:	(ex.
• Serial Type		
• Dynamic DFE	Registry IP Address :	192.168.168.125
Management		
• Denica Admin	Status :	DDWS function is disabled
System Status		APPLY CANCEL BACK
Baciliup & Restore		associated advantation associated
Opgrade Finansee		
• Bag		

Email Address: no default, maximum length **47** characters Password key: no default, maximum length **31** characters Device DNS Name: no default, maximum **47** characters

Enter the **Email Address, Password Key,** and **Device DNS Name** of the service you set up with TZO. Registry IP Address. The UT-450's current Internet IP Address is displayed here. Because it is dynamic, this will change.

Status. The status of the DDNS service connection is displayed here.

4. UT-450 Management Setup

This chapter will show you how to manage UT-450's access setting as well as configure E-mail alert and firmware upgrade.

4.1 Device Admin

	Devic	e Administration Setting	<u></u>
TCP/IP Converter Main Menu • One Page Setup Advanced Setup • Operation Mode	Block Standard Http Port(80) Management Device Management IP Address Device Hostname Device Location	PUNBLOCK PBLOCK 1920 FEB 2000 2001 UTBK	1294.V
• Secial Type • Dynamic DN8	Administrator Password	User Name Password Change	APPLY
Management • Device Admin			
Enstein Blatus	Block Ping Request	P UNDLOCK C DLOCK	ATLY
	MAC Address Change	00 (00 (00 00) 00	APPLY
 Backup & Rentore Ubgrade Futureses 	Reset System to Factory Default	FACTORYDERMAT	
• <u>Birs</u>			

Block Standard HTTP Port(80) Management: default UNBLOCK

If for some reason, the HTTP (80) service is blocked in your network environment and result to fail to configure or manage UT-450, then you select **BLOCK** this function with using port **8080**, instead of standard port 80. So you should enter: <u>http://192.168.168.125:8080</u> in your browser.

Device Management IP Address: default 192.168.1.10

In case, you forgot the UT-450's IP address you ever set, this management IP can be used to connect to UT-450 to figure out what's the current IP address be used.

In case, you set UT-450's IP Configuration as DHCP or PPPoE which will assign dynamic IP address to UT-450, you also can use this management IP address to find what's the current working IP address in Intranet.

Note: If you forgot the IP address setting even management IP address, please use the broadcast utility we offer in CD to search it.

Device Hostname: default **UTEK**, maximum length **15** characters To describe the name of UT-450 for manage purpose.

Device Location: no default, maximum length **15** characters To describe the location of UT-450 for manage purpose. **Administrator Password** User Name: default **admin** Password: default **admin** To ensure the UT-450's security, you will be asked for your password when you access the UT-450's Web-based Utility. **User Name:** Enter the user name to one of your choice.

Password: It is recommended that you change the default password to one of your choice. **Password Confirm** Re-enter theUT-450's new Password to confirm it.

Block Ping Request: default UNBOCK

To prevent hacker intruding your network, check the **BLOCK** option to enable this function to reject the PING requests from Internet.

MAC Address Change

The UT-450's MAC address can be changed from the original values if necessary. Some ISPs require users to change the MAC address to a registered one when users change their access equipment. (Detail sees Appendix B)

Reset System to Factory Default

Click "**Apply**", if you want to return all the UT-450's current settings to its factory default. *Note: do not restore the factory defaults unless it is absolutely necessary.*

Reboot System

Click "**Apply**", if you want to clear a connection, reboot, and re-initialize the unit without affecting any of your configuration setting.

4.2 Device Status

This screen shows the UT-450's current status. All of the information provided is read-only.

	System S	Status Monitor	
	Sy.	atom Status	
CP/IP Converter	Product Name:	232485 To TCPSP Converter	
lain Henu	Firmware Version:	1 04 05 Aug 30 2005	
Cue Page Setup	System Up Time:	4H/50M(27)8	
Che Page Setup		ernet Statue	
dvanced Setup	IP Configuration Mode:	STATIC IP	
	Operation Mode:	TOPSERVER	
Operation Mode	Connection Port:	60000	
	MAC Address:	00/06/65/00/13/66	
Serial Type	IP Address:	192.168.150.125	
2022/2022/11	Subnet mask:	295.255.255.0	
Dynamic DMS	Default Goteway:	192.168.168.264	
and the second states	Primary DNS:	168.95.1.1	
lanagement	STATUS	Up	
Device Admin	Second Second	crief Status	
124304000000	Serial Type:	R8232	
Speters Status	Baud Rate:	19200	
	Data Bits:	0	
becing to Bestore	Parity Check:	none	
	Stop Bits:	21 No. 21	
Upprade Firmeare	Flow Control:	None	
239222222422		Statistic	
224.22 C		TCBysec 400000 bytes	
Eat	Ethernet :	TX Packets: 84 peekots	
	Lithernet :	RX Bytes 099550 bytes	
		Rt Padots 4487 packets	
		TX Bytes 0 bytes	
	Secial:	REByter D bytes	

Product Name: the product model name of this UT-450.Firmware Version: the installed version of the firmware.System up Time: the time of system from start up to current.Management IP Address: the current setting of management IP.

Ethernet Status: the UT-450's IP Configuration, MAC address, IP address, subnet mask, default gateway IP address, primary DNS IP address and current connection status.

Serial Status: the UT-450's setting in serial type

Statistic: the transmission and receive bytes and packets count in Ethernet and Serial port separately.

4.3 E-Mail Alert

The UT-450 allows you send E-Mail to alert the event of I/O state changing. This service default is disabled.

Setup	2	Alert Event via E-Mail			
Operation Mode	E-mail Alert :				
29 Configuration	Domain Name :				
Sicial Type		predome 70)			
1/O State Setup	SMTP Mail Server :	Backson Pl			
1/0 Mapping Serap	E-mail Alerta To :	manhores ify			
Dynamic DNE	Return Address :	Backson 27			
anagement	-				
Demos Admin		ROPLY CHINCEL BACK			
System Slatur					
EMail Alect					
Banbap & Rostone					

E-mail Alert: default **DISABLE** Domain Name (optional): no default, maximum length **59** characters SMTP Mail Server: no default, maximum length **27** characters E-mail Alerts To: no default, maximum length **27** characters Return Address: no default, maximum length **27** characters Select ENABLE in **E-mail Alert** Enter the **Domain Name** in this field if needed. **(this is optional)** Enter the **SMTP Mail Server** in the field. Enter the e-mail account you want to reach or notice in the field of **E-mail Alerts To**. Enter the e-mail account you want to return in the field of **Return Address**.

4.4 Backup and Restore

This function allows you to save UT-450's configuration as backup, or retrieve the configuration file you saved before to turn the setting back.

Serial To Etherat		0.00
^	Backup & Restore Configuration	on
	Backup	
TCP/IP Converter	Backup	
Main Menu		
 One Page Setup 	Restore	
Advanced Setup	Please select a configuration file to restore :	
Operation Mode	Restore	
 Serial Type 		
Dynamic DNB	BMCK	
Management		
- Device Admin		
• System Status		
Backup & Restore		

Backup: Click "Backup" button save the current configuration as a backup file in your hard disk. **Restore:** Enter path of the configuration file you saved on the PC. You can click "Browse" to view the folders and select the file. Click "Restore" to retrieve it.

Note: the sub-name of file you retrieve must be ".cfg"

4.5 Upgrade Firmware

This function allows you to upgrade the latest version firmware to keep your UT-450 up-to-date. Before you upgrade the firmware, you have to get the latest firmware and save it on the PC you use to configure the UT-450.

al Israal To Ribernet					0000
0	Firmy	ware Upgr	ade		
TCP/IP Converter					
Main Menu	Warning: Upgra	ide must NOT b	e interrupted		
One Page Setup	Please select a file to upgrade		ə15i	URGINADE	
Advanced Setup					1
Operation Mode					
Secial Type					
• Dynamic DRS		BACK			
Management					
- Device Admin					
System Status					
Backup & Restore					
Upgrøde Finnware					
<					

Browse: To select a file to upgrade, you have to enter path of the latest firmware you saved on the PC. You can choose "**Browse**" to view the folders and select the firmware.

Upgrade: After you enter or select the path, click "Upgrade" to start the firmware upgrade process.

Note: don't power off the router during the firmware upgrading, otherwise the incompletion of firmware upgrading will cause serious damage to the integrity of the UT-450's firmware that will lead to fail to boot the UT-450 again.

4.6 Ping

This function allows you to test the connection between UT-450 and LAN or between UT-450 and Internet.
TCP/IP Converter
Networking Diagnostic (PING)

Main Menu		
 One Page Setup 	Source IP Address :	192.168.168.125
Advanced Setup	Destination IP Address :	0, 0, 0, 0
 Operation Mode 	Packet Number :	4 a ~ 4
 Serial Type 		17 U ~ 4)
	Packet Size :	60 (maximum 1460 Bytes)
 Dynamic DNS 	Ping Result :	
Management		Sent Request: 0
• Device Admin		Receive Reply: 0
System Status		
• Backup & Restore		
• Upgrade Firmware		
• Ping		

Source IP Address: the current UT-450's IP address (Read Only).

Destination IP Address: the IP Address of destination device you want to ping.

Packet Number: the packet numbers you wish to use to ping the destination device. The maximum numbers are **4**.

Packet Size: the numbers of packet size you wish to use to ping the destination device. The maximum packet sizes are **1400**.

Ping Result: The result will show the numbers of sending packet, numbers of packet receiving (Read Only).

5. Troubleshooting

PROBLEM	CORRECTIVE ACTION
None of the LEDs turn on when you turn on the UT-450	Make sure that you have correct power connected to UT-450 and plugged in to an appropriate power source. Check all cables connections.
	If the LEDs still do not turn on, you may have a hardware problem. In this case, you should contact your local vendor.
Can not access UT-450 from Ethernet	Check cable connection between UT-450 and computer or hub. Ping UT-450 from computer. Make sure your computer Ethernet card is installed and functioning properly.
Can not ping any computer on the LAN	If the 10/100M LED are off, check the cable connection between UT-450 and your computer.
	Verify that the IP address and subnet mask of the B-450M and computer are in the same IP address range.
Can not access UT-450 from	Check the Serial cable connection between UT-450 and your device.
Serial	Verify that the UT 450 patting of Oprial type is some as your device and each
	Verify that the UT-450 setting of Serial type is same as your device and make sure the hardware jumper is in the correction position.

Appendix B: DDNS

Internet actually runs on IP Addresses which are numerical order, for example "63.208.196.100". These IP Address identify the location of each device connected to Internet. However, the human brain does not easily remember this numbering system, so a system that allocate domain name such as "<u>www.dyndns.org</u>" provides an easier method. If you type "63.208.196.100" or "<u>www.dyndns.org</u>" in the web browser's address bar, the browser will show the same web page. This is because both methods relate to the same web server. The "**Domain Name Servers**" used to manage the Internet will translate "<u>www.dyndns.org</u>" into the IP Address "63.208.196.100" in order to allow your browser to find the web server and display the correct web page in your browser.

If your "IP Configuration", as shown in 3.2 section, is "PPPoE", or "DHCP" with dynamic IP address assigned by ISP, your IP address may change each time you initiate the connection to your ISP. The DDNS function will help to map your IP address to your domain name when your ISP assigns a new dynamic IP Address.

Note that this DDNS function acts as the client appliance of DDNS service and is only able to be use in conjunction with the service provided by DynDNS.org and TZO.com. Before you begin using this function, you will need to apply to DynDNS.org or TZO.com to be able to use the service. Please visit www.dyndns.org or www.tzo.com for further information.

How to register from Dyndns.org

Step 1: Enter the web side <u>www.dyndns.org</u> in Browser, click the tab of Account.



Step 2: click Create Account.



Step 3: Fill the field of Username , E-mail and Password. You will receive an e-mail containing instructions to activate your account.



Step 4: Once you receive the confirmed e-mail, login with your Username and Password.



Step 5: Click the tab of Services, then click Dynamic DNS.



Step 6: select Add Host in the left side of screen.

and Account of Street,	sees Dynamic DNS Microsoft late	None Contract of C	- @ x
CTO RED HI	the second second second second		
HALLO BE La share d	Downloads + vitilitation	* G. Mate View - "Popopulations + Other	· · · · · · · · · · · · · · · · · · ·
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DynDNS.	org	Lini Passeur 6 1 Sup und	and the second se
	ADDE DENCES AC	court Support Solutions Developers News	
Custom DHS Socientiany DHS	Dynamic DNS		
Marito Decole Forgalisten Marital Discover Forgalisten Davantic Dis Davantic Dis Davantic Dis Davantic Dis Davanti Dis Davanti Fall Cistophine Arteriori Matring Matring Matring Matring Matring	in any of the <u>inany donal</u> from various locations on hostnames, free to the in The Dynamic DNS service back to your home PC so work. Using one of the an always pointing to your IF fumbling to find that piece all your friends every time If you would like to use yo <u>Custom DNS</u> service, whi	e is ideal for a home website, file server, or just to you can access those important documents whi mitable third-party update clearly you can keep yo P address, no matter how often your ISP changer of paper where you wrote down your ISP addres e it changes. Just tell them to visit yourname dync our own domain name such as yourname.com, yo ich also provides full dynamic and static IP addres	easily accessed ve (5) to keep a pointer le you're at our hostname s it, No more s it, No more s it, No more s, or e-mailing dns.org instead! ou need our
		862001 Oynamii Diri Hosaini Sonicac (1.5 Auceptakis Uni Policy Trakmint Bolices	
前方成		3.	-

Step 7: Login again with your Username and Password.



Step 8: Enter the **Hostname** you want to use and select **dyndns.org** from the drop-down menu, click the button of **Add Host** to finish register.

	anna DNS - Add Host - Microsoft Internet England	- 0 ×
and some of the second s	40 98850 IRI 9998 4988 498	
MALIE Mar Sterrer	inda anderske Sectario Ban Blownioch * Mitgians 🕐 🕞 Brink Vans "Physios Sectario Reprint Res	
Container 186 Bersonier (196) Marithe Marithe Demok Regentration Papelle Mito Scotte S	New Dynamic DNS Host Hottname: Drivurse Por your own domain (eg. yourname conto cals Custom IP Address: B1 59 72 195 Enable Wilkscard: I Mail Exchanger (optional): If Backup MX?	202
	Coonset © 1000-2001 Dynamic DVR Holwyd Ganesa, U.C. Prinsy Policy I Acceptable Use Policy I Tradinawi Rations	
0		M053935

Step 9: now you should enter the Username, Password and Hostname (named Device DNS Name in UT-450) into UT-450 to enable this function.

How to register from TZO.com Step 1: Enter the web side <u>www.tzo.com</u> in Browser, select the **Order/Renew** from top screen.



Step 2: You can choice what's kind of service you need, here we suggest the Standard TZO with 1 year of service

	Order/Renew			
	Corder / Remaining a T2D Service online Non of our database parket to order on loss theory is access secondary. Shoose the 10th service counts to only from the for bases and duty at the appropriate link to give our			
SWHY USE TZO ?	weller: (<u>Die van aller einter bis steam, bez. er meil.</u>) If yes anantis have a T20 service and navel to service year solvenperer, simply service the service Plasse total that we offer some <u>periodicipation and case</u>			
- II's Beliable - Doesn't use BIND - Eres Supperi	• Marclard 200 The Oxed of XID factors provider you with an unchanging sub-determining within Str. 700 december 30 or second VSDRAME 770, 2000 which is finished a direction of address.			
> T2O Awards/Reviews	an Annihim			
- TZO Awards - Editorial reviews	A year of involve 424-15 Bedie: Involve discounting			
- Customer Comments	2 years of service 123/05 Dedectment for service			
I Amerita can that the T20 polyage is the most coverful and thereign protocols. These mayor have rate, of Stans mayor have rate, and stans any and have rate of the mayor have rate.	Prenser 730 The Develop TO Events provides non-oth-an undergrap device research (be an area for the second secon			

Step 3: Select the first radio button, click Continue button.



Step 4: Enter the TZO name you want to register, such as UTEK.tzo.com, and your E-mail address which can reach you. If you don't have a TZO name yet, please check the box under the field of E-mail address, click **Continue with order**



Step 5: complete the form with your information TZO want.

A 390	Order/Renew			11		
	TZO secure order system	bobal	\$24.95	number of items	1	
	Please complete the first step by	/ telling	us the fo	lowing information		
> WHY USE TZO 7	Next, please tell us about sourcelf, an nothing more then shat's necessary fo	d plaare rus to p	indude all t	he information. We as order:	k yau	
- It's Reliable - Doesn't use BIND - Free Support	For your address please use your ourre where your credit card or bank stateme Your first names laric	nt osdit Into ani	sard or ban sant each m	k biling eddress. (The onth)	eddrezz	
> TZO Awards/Reviews	a contract of the second se					
- <u>TZO Awards</u> - Editorial reviews	Your last name: Chang	v.sz				
- Customer Comments	Your company name: (if applicable)					
	CHIYU Technology Co.,Ltd					
	Street address: (the billing add	ecc of t	he credit car	-0		
	No.26, Renai Road					
	Address 2: (the billing address o	of the on	edit card)			
	City: (the billing address of the Chiavi	credit ca	erd)			
	Num					

Step 6: TZO will send an e-mail letter to inform your TZO key, please enter these information including E-mail address, TZO key and TZO name (named Device DNS Name in UT-450) into UT-450 to enable this service.

Appendix C: Glossary

10BaseT - An Ethernet standard that uses twisted wire pairs.

100BaseTX - IEEE physical layer specification for 100 Mbps over two pairs of Category 5 UTP or STP wire.

Adapter - Printed circuit board that plugs into a PC to add to capabilities or connectivity to a PC. In a networked environment, a network interface card (NIC) is the typical adapter that allows the PC or server to connect to the intranet and/or Internet.

Auto-MDI/MDIX - On a network hub or switch, an auto-MDI/MDIX port automatically senses if it needs to act as a MDI or MDIX port. The auto-MDI/MDIX capability eliminates the need for crossover cables.

Auto-negotiate - To automatically determine the correct settings. The term is often used with communications and networking. For example, Ethernet 10/100 cards, hubs, and switches can determine the highest speed of the node they are connected to and adjust their transmission rate accordingly.

Browser - A browser is an application program that provides a way to look at and interact with all the information on the World Wide Web or PC. The word "browser" seems to have originated prior to the Web as a generic term for user interfaces that let you browse text files online.

Cable Modem - A device that connects a computer to the cable television network, which in turn connects to the Internet. Once connected, cable modem users have a continuous connection to the Internet. Cable modems feature asymmetric transfer rates: around 36 Mbps downstream (from the Internet to the computer), and from 200 Kbps to 2 Mbps upstream (from the computer to the Internet).

CAT 5 - ANSI/EIA (American National Standards Institute/Electronic Industries Association) Standard 568 is one of several standards that specify "categories" (the singular is commonly referred to as "CAT") of twisted pair cabling systems (wires, junctions, and connectors) in terms of the data rates that they can sustain. CAT 5 cable has a maximum throughput of 100 Mbps and is usually utilized for 100BaseTX networks.

CTS (Clear To Send) - An RS-232 signal sent from the receiving station to the transmitting station that indicates it is ready to accept data.

Data Packet - One frame in a packet-switched message. Most data communications is based on dividing the transmitted message into packets. For example, an Ethernet packet can be from 64 to 1518 bytes in length.

Default Gateway - The routing device used to forward all traffic that is not addressed to a station within the local subnet.

Download - To receive a file transmitted over a network. In a communications session, download means receive, and upload means transmit.

Dynamic IP Address - An IP address that is automatically assigned to a client station in a TCP/IP network, typically by a DHCP server. Network devices that serve multiple users, such as servers and printers, are usually assigned static IP addresses.

Ethernet - IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium. Has a transfer rate of 10 Mbps. Forms the underlying transport vehicle used by several upper-level protocols, including TCP/IP and XNS.

DDNS (Dynamic Domain Name System) - Allows a network device with a dynamic Internet IP address to have a fixed host and domain name, such as *myhostname.mydomainname.com*. It is useful when you are hosting your own website, FTP server, or other server behind a router, so people can find your site no matter how often the Internet IP address changes. Using DDNS requires registering with a DDNS service provider on the Internet.

DHCP (Dynamic Host Configuration Protocol) - A protocol that lets network administrators centrally manage and automate the assignment of Internet Protocol (IP) addresses in an organization's network. Using the Internet's set of protocol (TCP/IP), each machine that can connect to the Internet needs a unique IP address. When an organization sets up its computer users with a connection to the Internet, an IP address must be assigned to each machine. Without DHCP, the IP address must be entered manually at each computer and, if computers move to another location in another part of the network, a new IP address must be entered. DHCP lets a network administrator supervise and distribute IP addresses from a central point and automatically sends a new IP address when a computer is plugged into a different place in the network. DHCP uses the concept of a "lease" or amount of time that a given IP address

will be valid for a computer. The lease time can vary depending on how long a user is likely to require the Internet connection at a particular location. It's especially useful in education and other environments where users change frequently. Using very short leases, DHCP can dynamically reconfigure networks in which there are more computers than there are available IP addresses. DHCP supports static addresses for computers containing Web servers that

need a permanent IP address.

DNS - The Domain Name System (DNS) is the way that Internet domain names are located and translated into Internet Protocol (IP) addresses. A domain name is a meaningful and easy-to-remember "handle" for an Internet address.

Domain - A sub network comprised of a group of clients and servers under the control of one security database. Dividing LANs into domains improves performance and security.

Firmware - Code that is written onto read-only memory (ROM) or programmable read-only memory (PROM). Once firmware has been written onto the ROM or PROM, it is retained even when the device is turned off.

Full Duplex - The ability of a device or line to transmit data simultaneously in both directions.

Gateway – A device that interconnects networks with different, incompatible communications protocols.

Half Duplex - Data transmission that can occur in two directions over a single line, but only one direction at a time.

Hardware - Hardware is the physical aspect of computers, telecommunications, and other information technology devices. The term arose as a way to distinguish the "box" and the electronic circuitry and components of a computer from the program you put in it to make it do things. The program came to be known as the software.

Hub - The device that serves as the central location for attaching wires from workstations. Can be passive, where there is no amplification of the signals; or active, where the hubs are used like repeaters to provide an extension of the cable that connects to a workstation.

HTTP (HyperText Transport Protocol) - The communications protocol used to connect to servers on the World Wide Web. Its primary function is to establish a connection with a Web server and transmit HTML pages to the client browser.

MAC Address - The MAC (Media Access Control) address is a unique number assigned by the manufacturer to any Ethernet networking device, such as a network adapter, that allows the network to identify it at the hardware level.

Mbps (MegaBits Per Second) - One million bits per second; unit of measurement for data transmission.

IP Address - In the most widely installed level of the Internet Protocol (IP) today, an IP address is a 32-binary digit number that identifies each sender or receiver of information that is sent in packets across the Internet. When you request an HTML page or send e-mail, the Internet Protocol part of TCP/IP includes your IP address in the message (actually, in each of the packets if more than one is required) and sends it to the IP address that is obtained by looking up the domain name in the Uniform Resource Locator you requested or in the e-mail address you're sending a note to. At the other end, the recipient can see the IP address of the Web page requestor or the e-mail sender and can respond by sending another message using the IP address it received.

IPCONFIG - A utility that provides for querying, defining and managing IP addresses within a network. A commonly used utility, under Windows NT and 2000, for configuring networks with static IP addresses.

ISP - An ISP (Internet service provider) is a company that provides individuals and companies access to the Internet and other related services such as website building and virtual hosting.

Packet - A unit of data routed between an origin and a destination in a network.

Network Mask - Also known as the "Subnet Mask."

NIC (Network Interface Card) - A board installed in a computer system, usually a PC, to provide network communication capabilities to and from that computer system. Also called an adapter.

RJ-45 - A connector similar to a telephone connector that holds up to eight wires, used for connecting Ethernet devices.

Server - Any computer whose function in a network is to provide user access to files, printing, communications, and other services.

SMTP (Simple Mail Transfer Protocol) - The standard e-mail protocol on the Internet. It is a TCP/IP protocol that defines the message format and the message transfer agent (MTA), which stores and forwards the mail.

Ping (Packet **IN**ternet **G**roper) - An Internet utility used to determine whether a particular IP address is online. It is used to test and debug a network by sending out a packet and waiting for a response.

Port - A pathway into and out of the computer or a network device such as a switch or router. For example, the serial and parallel ports on a personal computer are external sockets for plugging in communications lines, modems, and printers.

PPPoE (Point to Point Protocol over Ethernet) - PPPoE is a method for the encapsulation of PPP packets over Ethernet frames from the user to the ISP over the Internet. One reason PPPoE is preferred by ISPs is because it provides authentication (username and password) in addition to data transport. A PPPoE session can be initiated by either a client application residing on a PC, or by client firmware residing on a modem or router.

Subnet Mask - The method used for splitting IP networks into a series of subgroups, or subnets. The mask is a binary pattern that is matched up with the IP address to turn part of the host ID address field into a field for subnets.

TCP (Transmission Control Protocol) - A method (protocol) used along with the IP (Internet Protocol) to send data in the form of message units (datagram) between network devices over a LAN or WAN. While IP takes care of handling the actual delivery of the data (routing), TCP takes care of keeping track of the individual units of data (called packets) that a message is divided into for efficient delivery over the network. TCP is known as a "connection oriented" protocol due to requiring the receiver of a packet to return an acknowledgment of receipt to the sender of the packet resulting in transmission control.

TCP/IP (Transmission Control Protocol/Internet Protocol) - The basic communication language or set of protocols for communications over a network (developed specifically for the Internet). TCP/IP defines a suite or group of protocols and not only TCP and IP.

Telnet - A terminal emulation protocol commonly used on the Internet and TCP/IP-based networks. It allows a user at a terminal or computer to log onto a remote device and run a program.

TFTP (Trivial File Transfer Protocol) - A version of the TCP/IP FTP protocol that has no directory or password capability.

Static IP Address - A permanent IP address that is assigned to a node in a TCP/IP network.

Appendix D: Finding the MAC Address and IP Address for Your Ethernet Adapter

This section describes how to find the MAC address for your computer's Ethernet adapter so you can use the MAC address change feature of the UT-450. You can also find the IP address of your computer's Ethernet adapter. This IP address is used for the UT-450's configuration. Follow the steps in this appendix to find the adapter's MAC or IP address in Windows 98, Me, 2000, or XP.

1. Click Start and Run. In the Open field, enter cmd. Press the Enter key or click the OK button.

2. At the command prompt, enter ipconfig /all. Then press the Enter key.

3. Write down the Physical Address as shown on your computer screen (Figure D-1); it is the MAC address for your Ethernet adapter. This appears as a series of numbers and letters.

The MAC address/Physical Address is what you will use for MAC address changing.

The example in Figure D-1 shows the Ethernet adapter's IP address as 192.168.168.100. Your computer may show something different.

正命令提示字元	
1 \Decuments and Settings\Chang>	
InDecements and Settings/Chang)	
InDecements and Settings Chang)	
Chacaments and Settings\Chang)ipconfig /all	
Findows IP Configuration	
Nost Name	
Primary Dn: Suffix	
Node Type	
IP Routing Enabled	
WINS Proxy Enabled Tes	
thernet adapter 蓝球連線:	
Connection-specific DNS Suffix . (
Description National Semiconductor DP83815-Bas	eđ
PGI Fast Ethernet Adapter	
Physical Address	
Dhop Enabled, No	
IP #deress 192.168.168.180	
Subset Mask	
Default Gateway	

Figure E-1 MAC Address/Physical Address