

User Manual

--for YHM series Modem



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1 Introduction

This document is used to help you to operate the YHM series modem easily. If any questions, please send email to support@yinghuatn.com. Our team will be pleased to offer a hand. It suits for the following model:

Model	Description
M21Z1	GPRS Modem,RS232
M31Z1	GPRS Modem,RS485
M22Z3	CDMA Modem,RS232
M32Z3	CDMA Modem,RS485

1.1 Abbreviations

APN	Access Point Name
DAC	Digital Analog Converter
GGSN	Gateway GPRS Support Node
GPRS	General Packet Radio Service
IP	Internet Protocol
KB	Kilobyte
MCC	Mobile Country Code
MNC	Mobile Network Codes
MS	Mobile Station
PDU	Protocol Data Unit
PLMN	Public Land Mobile Network
RSSI	Received Signal Strength Indication
SMA	Small Adapter
SMS	Short Message Services

1.2 LED Status

LED	Description
Power	Normally ON: boot
	FLASH: running
Ring	Normally ON: boot
	FLASH: incoming call
Data	Normally ON: boot
	FLASH: data transfer



2 Install

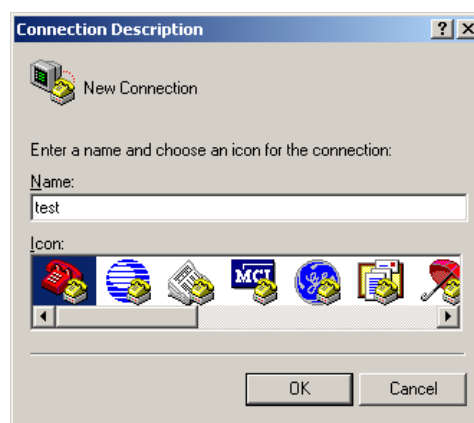
Note: Please Power On after you install SIM Card, Antenna, and Cable.

2.1 Open the Hyper Terminal

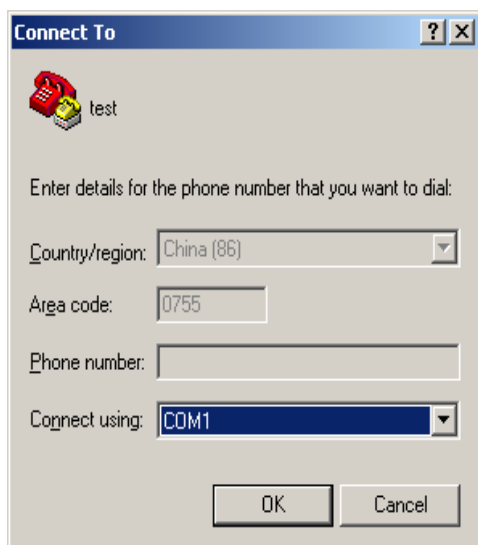
Windows **Start** menu→**All programs**→**Accessories**→**Communications**→**Hyper Terminal**



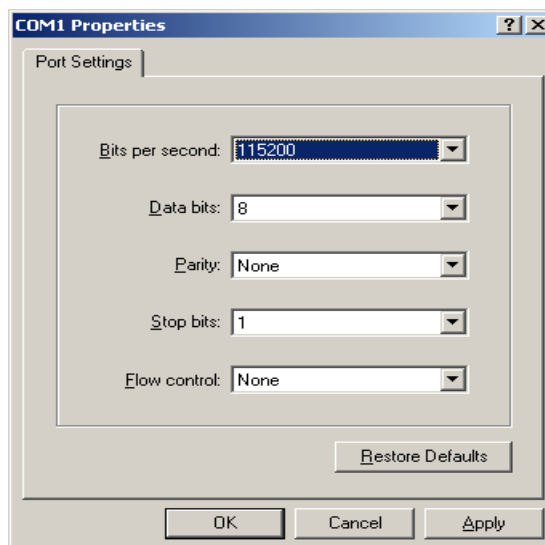
(Chart 1) Hyper Terminal



(Chart 2) Enter a name

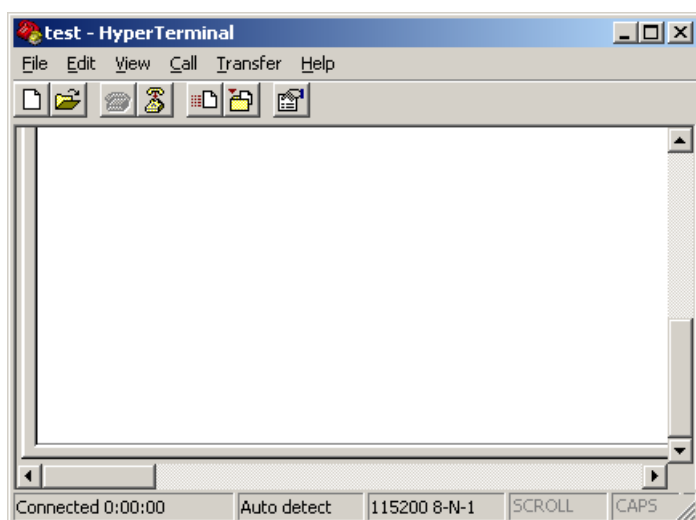


(chart 3) Choose communication port



(chart 4) port settings, the Modem's default value is 115200/8/None/1/None

Then Hyper Terminal will show like this:



(chart 5) Hyper Terminal is ready for test

If the port parameters is different to your setting, click **disconnect**, and set again.

3 At Commands

This chapter will introduce some At commands which will be used in testing.

3.1 AT Command Rule

AT<cr>	// Return Ok
AT+XXX=YYY<cr>	// Setting parameter
AT+XXX? <cr>	// Inquire the current parameter
AT&F<cr>	//Factory Default
AT&W<cr>	// Save parameters

*Note: the AT commands are not case-sensitive, prefix by **at** and terminate by **<cr>***

3.2 Common Command

AT+CSQ<cr>	// Check signal strength
AT+IPR? <cr>	// Inquire current Baud rate
AT+IPR=115200<cr>	// Set baud rate, support 115200/57600/38400/19200/9600/4800/2400/1200
ATD13612345678 ; <cr>	// Make a voice call
ATD13612345678 <cr>	// Make a data call(for CSD function)
ATA<cr>	// Answer incoming call
+++	// Switch data mode to command mode
ATO<cr>	// switch command mode back to data mode
ATH<cr>	// Hang up

4 SMS

Note: There are some different AT commands between GPRS and CDMA modem. So we introduce them separately.

4.1 M21Z1/M31Z1 GPRS Modem

AT+CMGF=1<cr>	// Set ASCII mode
AT+CMGL="ALL"<cr>	// Inquire the SMS list
AT+CMGR=n<cr>	// Read the (n)th SMS
AT+CMGD=n<cr>	// Delete the (n)th SMS

4.1.1 Send SMS

```
AT+CMGF=1<cr>           // Set ASCII mode
OK

AT+CMGS="18665329707"<cr> //Set destination number
>Hello→                 // Input message, "→" means Ctrl+Z(0X1A)
+CMGS: nnn              // message stamp
OK
```

Note: if no message stamp return, please resend the message again

4.1.2 Receive SMS

```
AT+CPMS=MT,MT,MT<cr>    // Preferred SMS message storage

AT+CSMS=1<cr>           // Select Message Service
+CSMS: 1, 1, 1
OK

AT+CNMI=1,1<cr>         // Set new SMS message indications
OK
+CMTI : "MT",1          // New SMS message indication

AT+CMGR=1<cr>           // read SMS
+CMGR: 0, 23
hello

AT+CSMS=1<cr>           // Select Message Service
+CSMS: 1, 1, 1
OK

AT+CNMI=2,2<cr>         //Set New SMS message indications
OK
+CMT : "+86138*****", "04/06/26" // auto display the new SMS
Hello

AT+CNMA<cr>             // new SMS acknowledge
OK
```

Note: in the auto display mode, the AT+CNMA must be sent after received the new SMS

4.2 M22Z3/M32Z3 CDMA Modem

AT+ZMSGL=1,2<cr>	// Set ASCII mode
AT+CMGL="ALL"<cr>	// Inquire the SMS list
AT+CMGR=n<cr>	// Read the (n)th SMS
AT+CMGD=n<cr>	// Delete the (n)th SMS

4.2.1 Send SMS

AT+ZMSGL=1,2<cr>	// Set ASCII mode
OK	
AT+CMGS="13691978232"<cr>	// Sset destination mobile number
>Hello→	// SMS content, "→" means Ctrl+Z(0X1A)
+CMGS:1	
OK	
+CDS: 2,1,"18665329707",129,"07/08/02,11:28:40","09/08/02,11:28:45",32768	

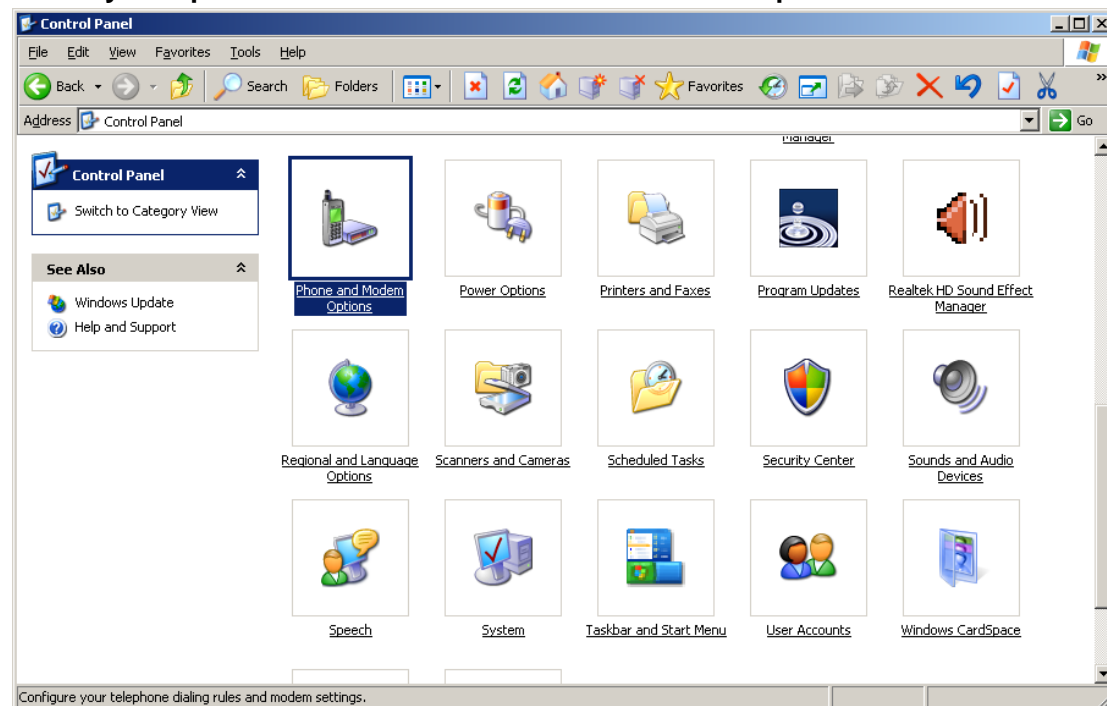
4.2.2 Receive SMS

AT+CNMI=2,1,1,1,0	// Set new SMS notification
OK	
+ZCANS:3	
+ZCCNT:3,14	
+CMTI: "MT",0	
+ZCEND:25	
AT+CNMI=2,2,1,1,0	// Set new SMS auto display
OK	
+ZCANS:3	
+ZCCNT:3,14	
+CMT: "13360504647", "07/08/02,03:02:00",129,1,2,0,5 ABCD	
+ZCEND:25	

5 Dial up

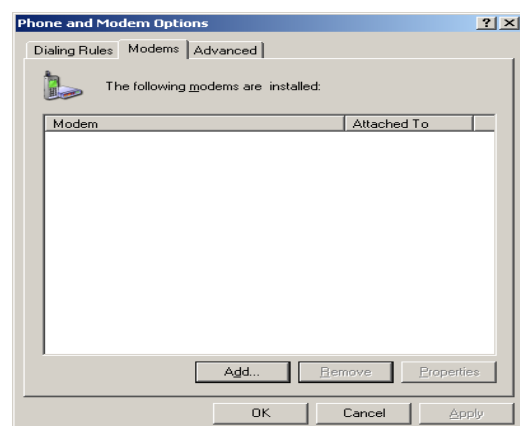
This chapter introduces how to use the modem to dial up in Windows XP environment.

Click **My Computer**→**Control Panel**→**Phone and Modem Options**

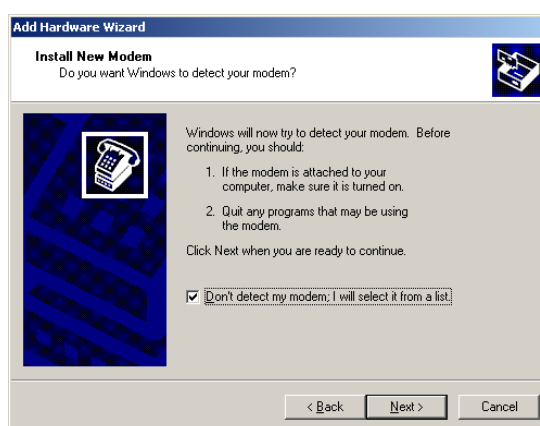


(chart 6) Open **Phone and Modem Options**

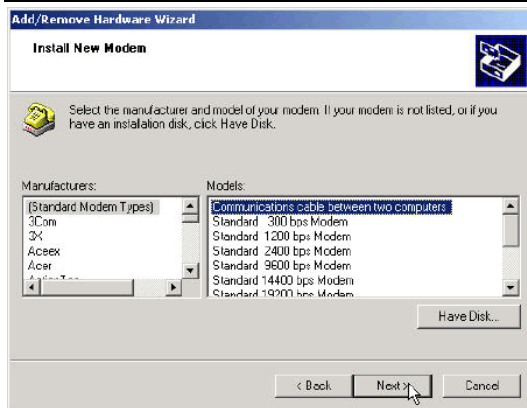
5.1 Add Modem



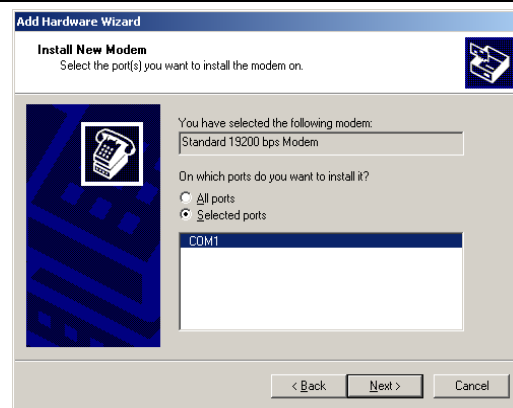
(chart 7) Click **Add**



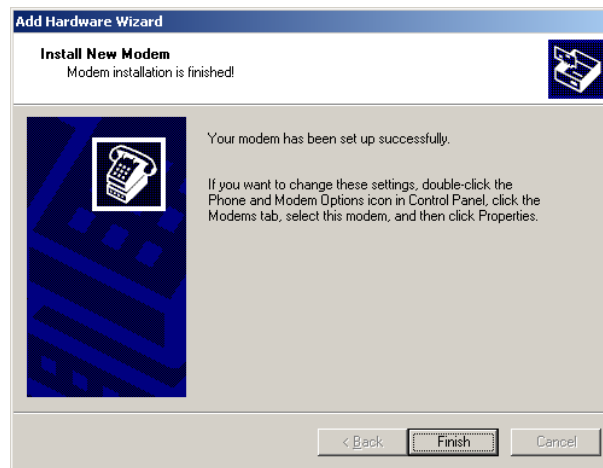
(chart 8) choose **“Don’t detect my modem, I will select it from a list”**



(chart 9) Select **Standard 19200 bps Modem**

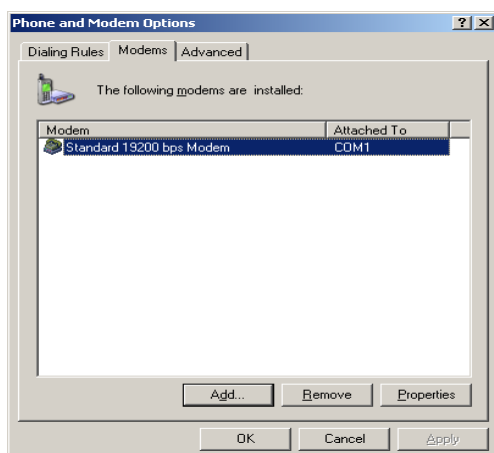


(chart 10) Select port **COM1**

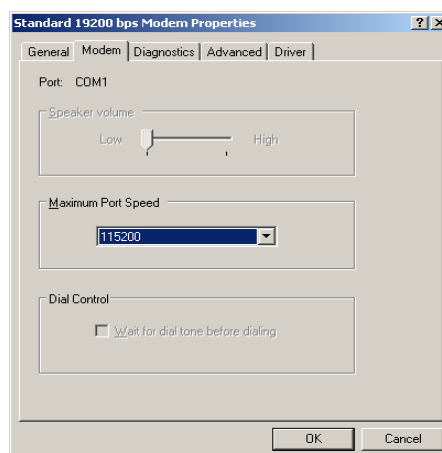


(chart 11) Click **Finish**

5.2 Set parameters

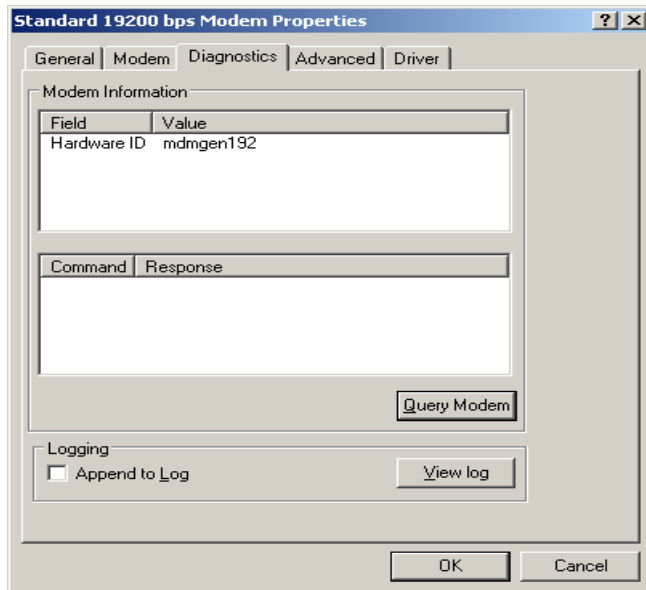


(chart 12) Click **Properties**



(chart 13) Choose **115200**

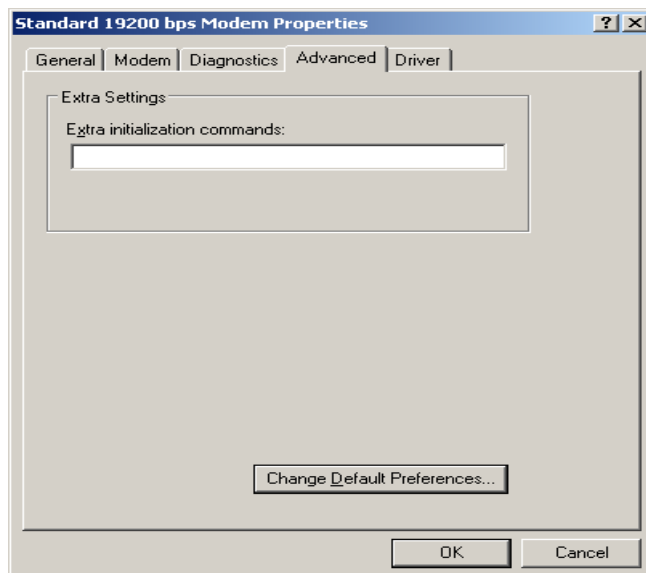
Open tab “Diagnostics”, **Query Modem** for check the modem status.



(chart 14 Check modem status)

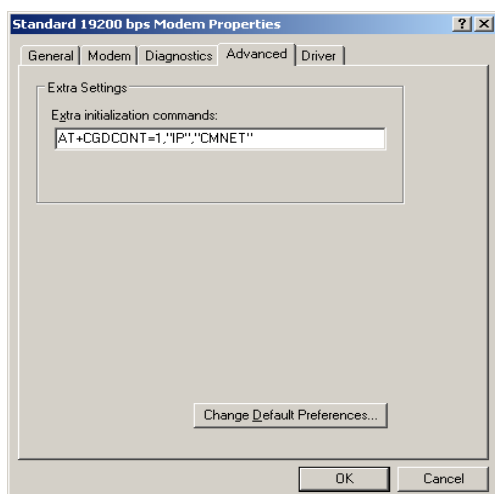
5.3 Set Initialization commands (APN/VPDN)

Open tab “Advanced”, fill the extra initialization commands

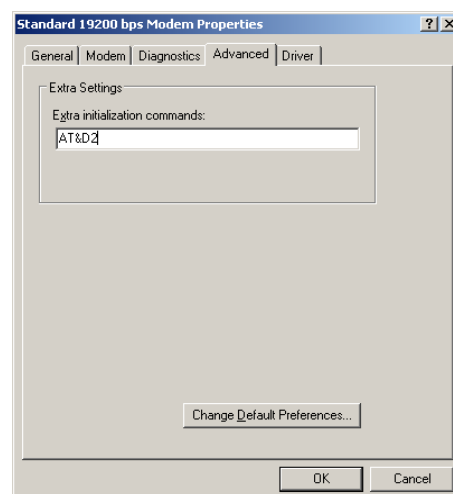


(chart 15) Extra initialization commands

Model	Extra initialization commands
M21Z1/M31Z1 GPRS Modem	AT+CGDCONT=1,"IP","APN" (APN is offered by local ISP)
M22Z3/M32Z3 CDMA Modem	AT&D2

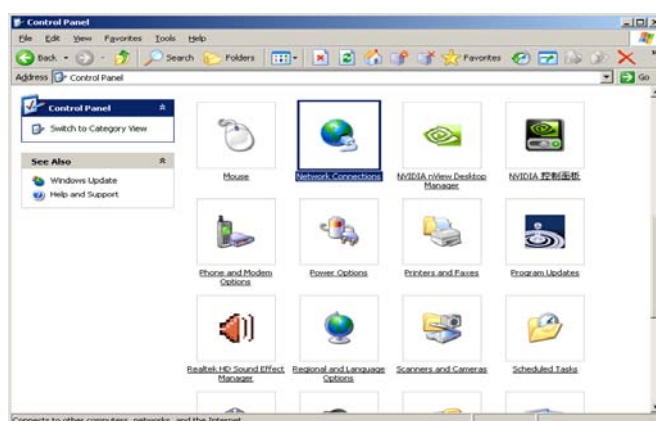


(chart 16) APN for GPRS Modem

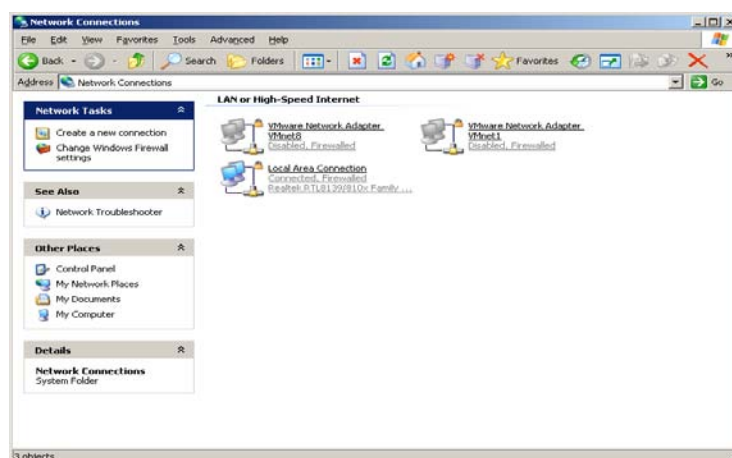


(chart 17) VPDN for CDMA Modem

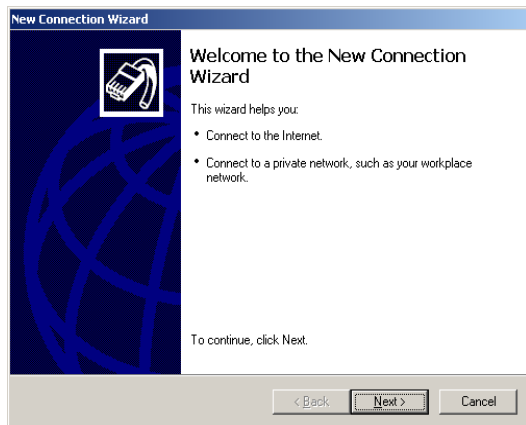
5.4 Add connection



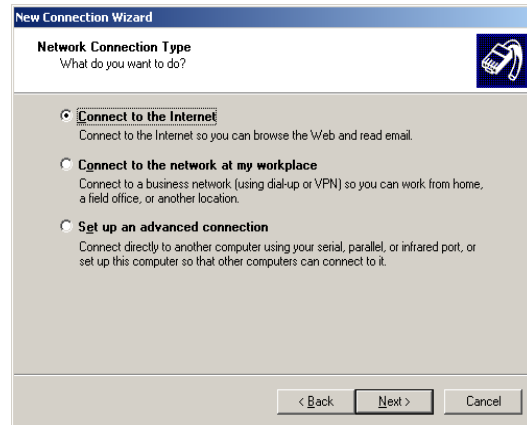
(chart 18) Open the Network Connections



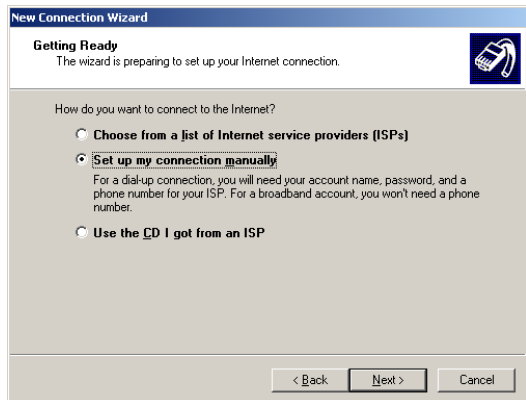
(chart 19) Create a new connection



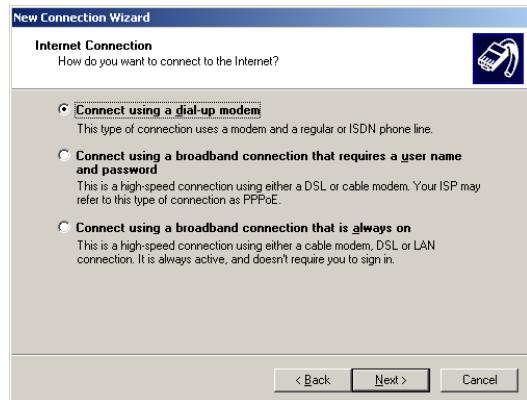
(chart 20) Click **Next**



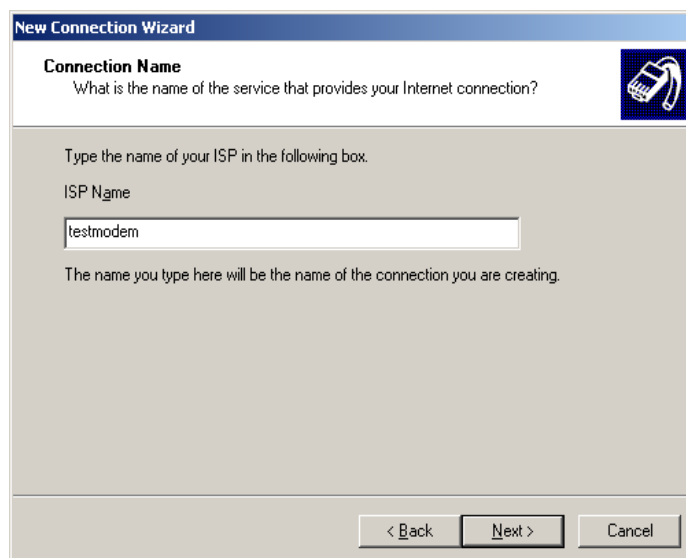
(chart 21) Choose **Connect to the internet**



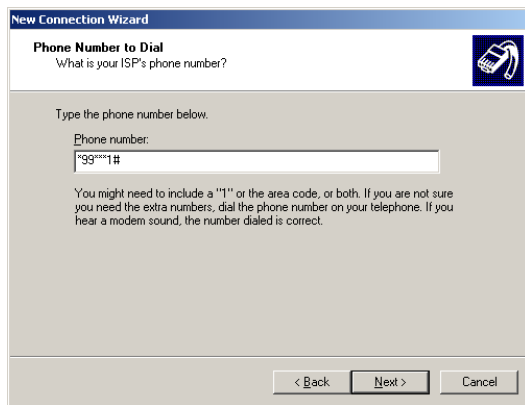
(chart 22) **Set up my connection manually**



(chart23) **Connect using a dial-up modem**



(chart 24) **Type a connection name**



New Connection Wizard

Phone Number to Dial
What is your ISP's phone number?

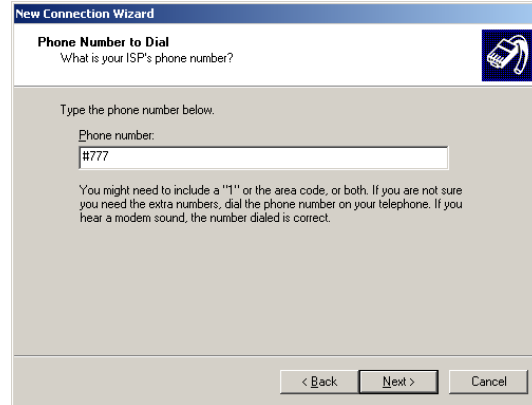
Type the phone number below.

Phone number:

You might need to include a "1" or the area code, or both. If you are not sure you need the extra numbers, dial the phone number on your telephone. If you hear a modem sound, the number dialed is correct.

< Back Next > Cancel

(chart 25) Input ISP Phone number



New Connection Wizard

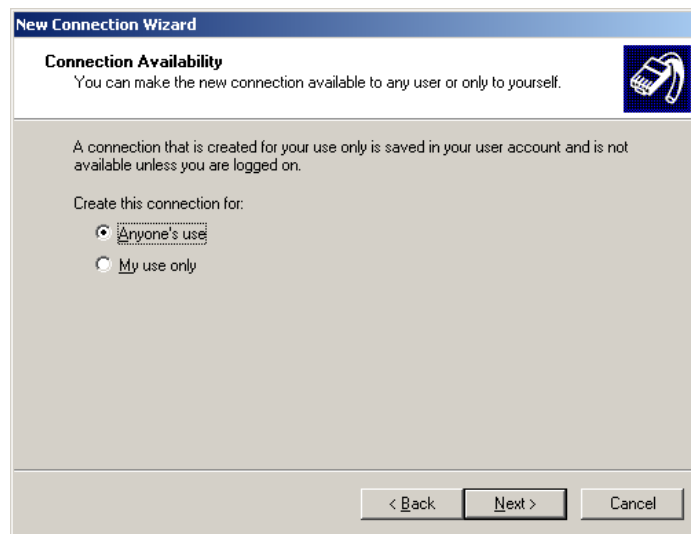
Phone Number to Dial
What is your ISP's phone number?

Type the phone number below.

Phone number:

You might need to include a "1" or the area code, or both. If you are not sure you need the extra numbers, dial the phone number on your telephone. If you hear a modem sound, the number dialed is correct.

< Back Next > Cancel



New Connection Wizard

Connection Availability
You can make the new connection available to any user or only to yourself.

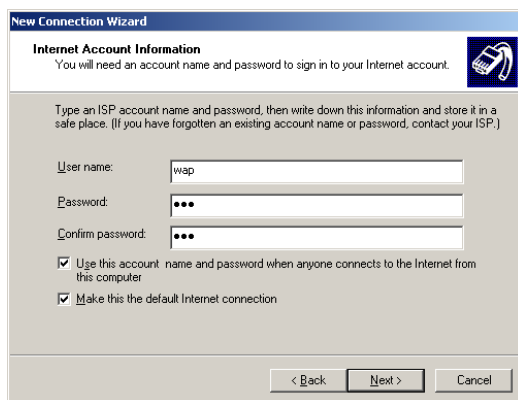
A connection that is created for your use only is saved in your user account and is not available unless you are logged on.

Create this connection for:

☒ Anyone's use
☐ My use only

< Back Next > Cancel

(chart 26) choose user



New Connection Wizard

Internet Account Information
You will need an account name and password to sign in to your Internet account.

Type an ISP account name and password, then write down this information and store it in a safe place. (If you have forgotten an existing account name or password, contact your ISP.)

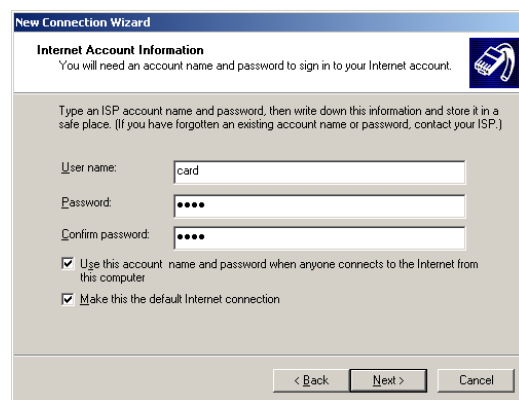
User name:

Password:

Confirm password:

☒ Use this account name and password when anyone connects to the Internet from this computer
☒ Make this the default Internet connection

< Back Next > Cancel



New Connection Wizard

Internet Account Information
You will need an account name and password to sign in to your Internet account.

Type an ISP account name and password, then write down this information and store it in a safe place. (If you have forgotten an existing account name or password, contact your ISP.)

User name:

Password:

Confirm password:

☒ Use this account name and password when anyone connects to the Internet from this computer
☒ Make this the default Internet connection

< Back Next > Cancel

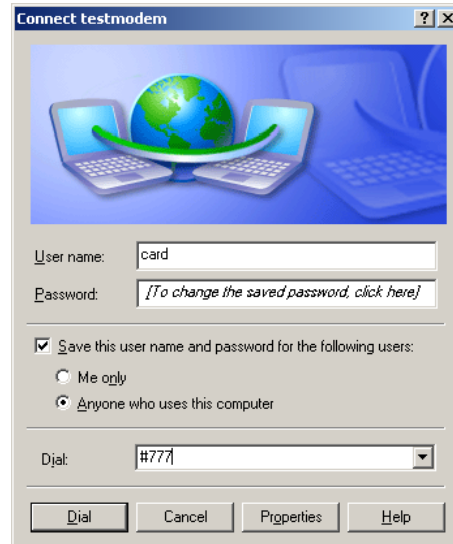
(chart 27) Input the username and password offered by local ISP



(chart 28) Click **Finish**

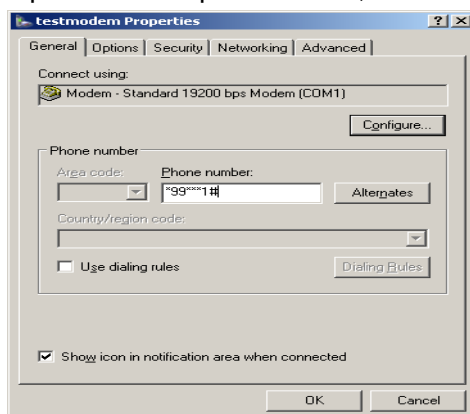


(chart 29) GPRS Modem

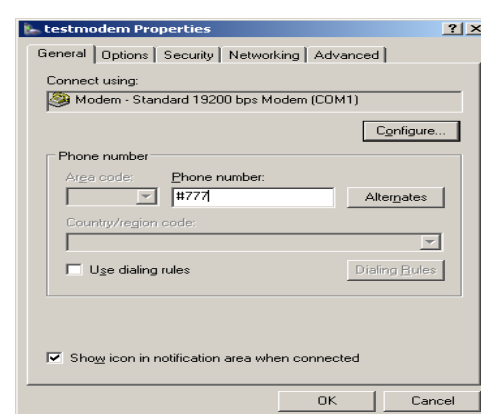


(chart 30) CDMA Modem

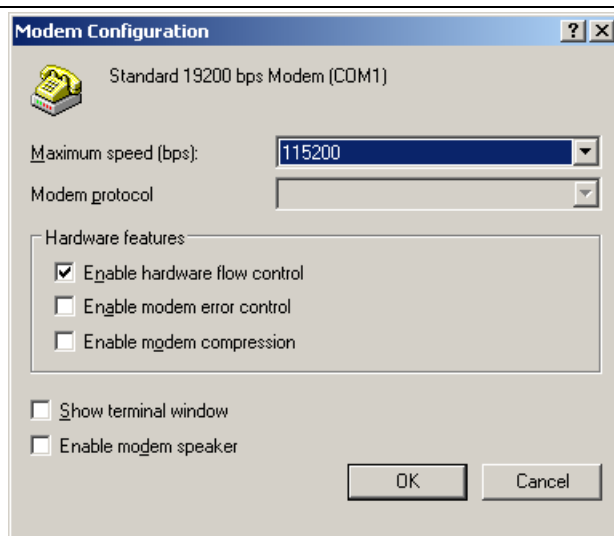
Open the dial-up connection, click **Properties**.



(chart 31) GPRS Modem



(chart 32) CDMA Modem

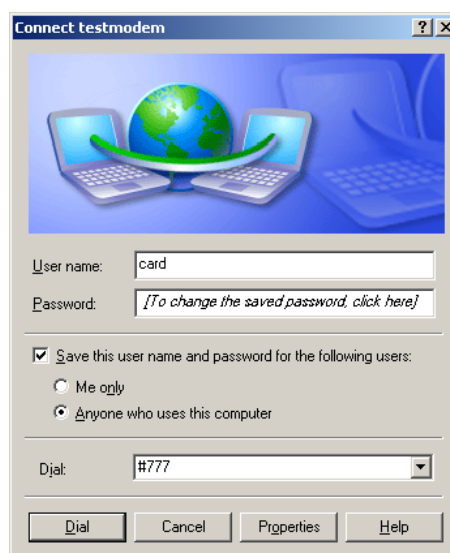


(chart 33) Change the Maximum speed to 115200

Click **Dial**, then the connection will establish automatically.



(chart 34) GPRS Modem



(chart 35) CDMA Modem

6 CSD

ATD[dn]<cr> // Make a data call. Data call doesn't need ";", and [dn] is the CSD server number

ATA<cr> //Answer the call manually

ATS0=2<cr> //Answer the call automatically after 2 ring received

+++ // Terminate data transfer, back to the command mode

ATO<cr> // Switch command mode to data transfer mode

ATH<cr> // Hang up