
RECSPEED-8050E

**ADSL Ethernet
Bridge Modem
*Installation Guide***

January of 2001

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measure:

- ✓ Reorient or relocated the receiving antenna.
- ✓ Increase the separation between the equipment and receiver.
- ✓ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ✓ Consult the dealer or an experienced radio/TV technician for help.
- ✓ Shielded cables must be used to comply with FCC regulations.

WARNING (Part 15, Section 15.21)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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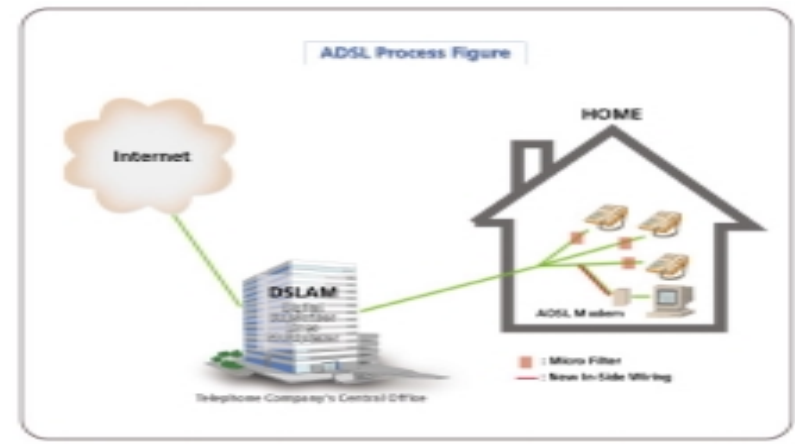
CHAPTER 1. Definition

1. What is ADSL?

ADSL (asymmetric digital subscriber line) is called "asymmetric" because most of its two-way or duplex bandwidth is devoted to the downstream direction, sending data to the user. Only a small portion of bandwidth is available for upstream or user-interaction messages. Using ADSL, up to 6.1 Mbps of data can be sent downstream and up to 640 Kbps upstream.

2. ADSL Features.

- High Speed Access
- "Always On" Connection
- Voice and Internet At The Same Time
- Security



1. Power Adaptor

The RECSPEED-8050E using 9V/1A DC power adaptor. And inside of the plug is positive polarity and outside of the plug is negative polarity. If you didn't get a power adaptor with the modem, please find a power adaptor meet above spec.

2. LED definition

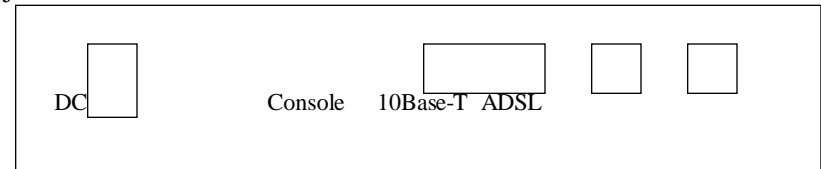
The RECSPEED-8050E, ADSL Bridge/Router has five status LEDs for diagnostics. You can monitor the LEDs during operation. Following table shows RECSPEED-8050E ADSL Bridge/Router status LEDs and identifies what each LED light means.

There are 5 LEDs in front panel of ADSL modem.

PWR	Dark for power off Light for power on
ADSL	Flashing slowly for ADSL training in progress Light for the ADSL link is establish and ready to Transfer data
PC	Dark for no Ethernet link present of Power off Light for Ethernet link present
RX	Dark for no user data received through the Bridge/Router Flashing for user data received through the Bridge/Router
TX	Dark for no user data transmitted through the Bridge/Router Flashing for user data transmitted through the Bridge/Router

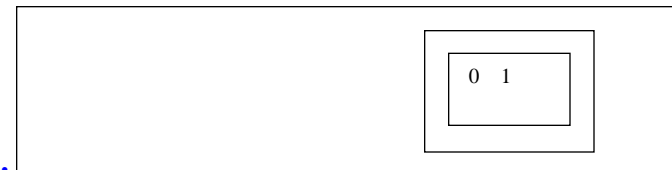
3. Real Panel

The rear panel of RECSPEED-8050E ADSL Bridge/Router consist of power jack, Console Port connector, Ethernet connect and ADSL like jack as shown below:



4. Right side of cabinet

The power switch is located in the right side of RECSPEED-8050E as shown below:



5.

The ADSL modem support a console port for setup the configuration of ADSL modem. You can use any terminal software to communicate

the ADSL modem with following parameter :

6. TELNET Console Port Setup

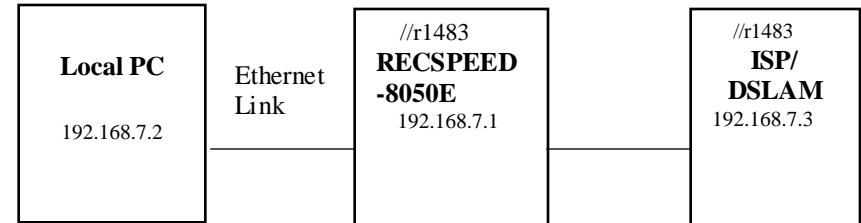
The ADSL modem also allows be configured through the TELNET session. The default IP of the Ethernet port in ADSL modem is pre-configured to **192.168.7.1**. And it required a password to login the TELNET session. The default password is “**EA-700**” and case sensitive.

7. Specification

Description	Specification
Size	Size : 200mm (width) x 135mm (length) x 35mm (height) Weight : 1.1kg (Including Body, Power supply system, cable)
Temperature	0 ~ 45°C
Power	Voltage : Direct Current 9V/1A Dissipation Power : Max. 8W
Standard	ANSI T1.413, ITU-T G. dmt & G. lit e (Category 1)
Frequency	30 ~ 110KHz (up channel) / 110 ~ 1,100KHz (down channel)
Modulation	DMT (Discrete Multi-Tone)
Speed Rate	Down stream : 8Mbps / Up stream : 800Kbps
Bandwidth	4.3125 KHz
Error Check	Reed Solomon Coding 9600
Multi-channel	FDM (Frequency Discrete Multiplex) Method Parity None
Stream Power	12dBm (up channel) / 20dBm (down channel) Flow Control None
PC Interface	Ethernet 10Base-T
Homologation	Domestic Homologation , CUL, FCC PART-15, ICES-003, CS-03

8. Configuration example : RFC 1483 Bridging Mode

[System configuration]



[ISP/DSLAM configuration]

IP address : 192.168.7.3
Subnet mask : 255.255.255.0
Gateway : None

[Local PC configuration]

IP address : 192.168.7.2
Subnet mask : 255.255.255.0
Gateway : None

The modem already default to support the RFC 1483. However, you can use following procedure to reconfigure the modem to support the RFC 1483 again.

For the product with firmware version 1.x.x.x or later (you can get firmware number by issue 'system' command at the root prompt). The RFC1483 mode only support LLC/SNAP bridged encapsulation. And this method still be supported in later version for backward compatibility.

- ip device flush
- bridge device add edd
- bridge device add r1483
- r1483 pvc 0/32 *(you can change 0/32 to any other VPI/VCI value)*
- config save

-
-
- restart

For the product with firmware version 2.x.x.x or later. The RFC1483 mode can support LLC/SNAP bridged, VC MUX bridged, LLC/SNAP routed and VC MUX routed encapsulation.

- ip device flush
- bridge device add edd
- bridge device add
bun/port=r1483/rfc1483=true/mode=<x>/txvpi=<y>/txvci=<z>/rx
vpi=<y>/rxvci=<z>
(<x> is the encapsulation mode of RFC1483, it can be one of LlcBridged, VcMuxBridged, LlcRouted and VcMuxRouted, and the setting of encapsulation mode is case sensitivity. <y> is the VPI value, and <z> is the VCI value)
- config save
- restart

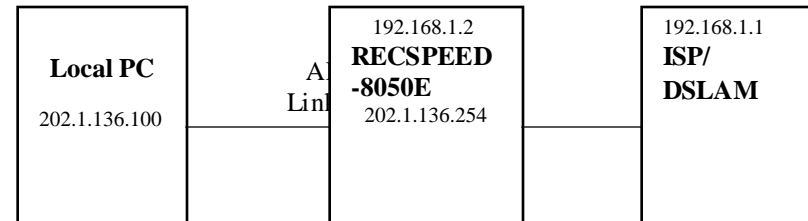
You can use following procedure to remove existing RFC 1483 setting.

- config reset bridge
- r1483 pvc none
- config save
- restart

- ip device flush
- config save
- restart

9. Configuration example : RFC 1577 Routing Mode

[System configuration]



[ISP/DSLAM Configuration]

IP Address : 192.168.1.1
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.1.2

[Local PC Configuration]

IP Address : 202.1.136.100
Subnet Mask : 255.255.255.0
Default Gateway : 202.1.136.254

The ADSL modem also can be setup to support RFC 1577 with following procedure. Before setup RFC 1577, you have to ensure remove existing RFC 1483 configuration with above procedure.

- ip device add Ethernet ether //edd 202.1.136.254
(this is the IP of Ethernet port of ADSL modem)
- ip device add ipoa atm //atm 192.168.1.2
(this is the gateway IP of DSLAM)
- config save
- restart

- ip relay all
- ip ipatm pvc add ipoa atm 0/32
(you can change 0/32 to any other VPI/VCI)
- remoteip 192.168.1.1 *(this is the IP of DSLAM system)*
- config save

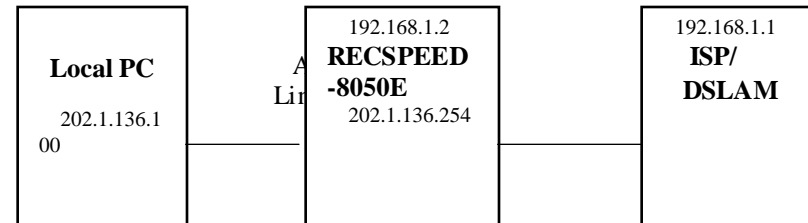
-
-
- restart

The RFC 1577 configuration also can be removed by following procedure. Please ensure to remove the RFC 1577 configuration before set the ADSL modem back to RFC 1483

- ip device flush
- ip norelay
- ip ipatm pvc delete ipoa atm 0/32
(use the same VPI/VCI of RFC 1577 setting)
- *config save*
- *restart*

10. Configuration example : RFC 2364 Routing Mode

[System configuration]



[ISP/DSLAM Configuration]

IP Address : 192.168.1.1
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.1.2

[Local PC Configuration]

IP Address : 202.1.136.100
Subnet Mask : 255.255.255.0
Default Gateway : 202.1.136.254

The ADSL modem also can be setup to support RFC 2364(PPP over ATM) with following procedure. Before setup RFC 2364, you have to ensure remove existing RFC 1483 or RFC 1577 configuration with the procedure mentioned above.

- ip device add Ethernet ether //edd 202.1.136.254
(this is the IP of Ethernet port of ADSL modem)
- ip device add ppp_device ether //ppp/DEVICE=1
- config save
- restart

-
-
- ppp 1 pvc 0 32 (*Set channel 1 to VPI=0, VCI=32*)
 - ppp 1 welogin <name> <password>
(*This is the login name and password of PPP server*)
 - ppp 1 enable
 - config save
 - restart

 - ip relay all
 - config save
 - restart

The RFC 2364 configuration also can be removed by following procedure. Please ensure to remove the RFC 2364 configuration before set the ADSL modem to other configuration

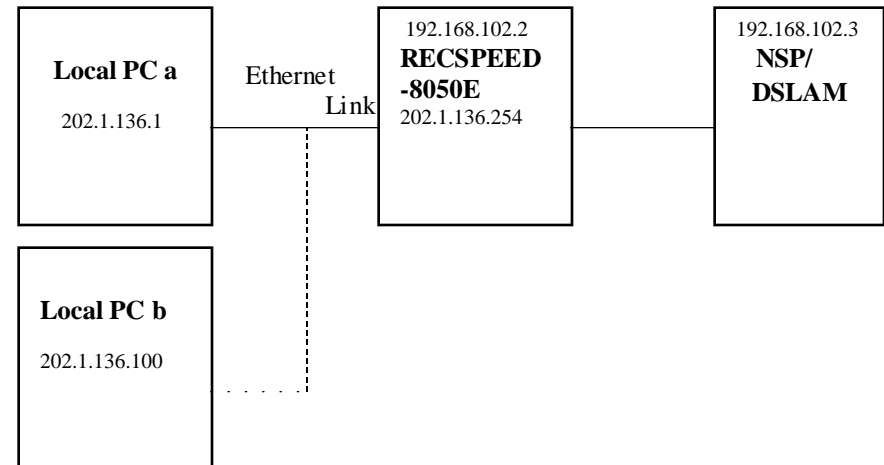
- ip device flush
- config save
- restart

- ppp 1 pvc none
- ppp 1 welogin none
- ppp 1 interface 0
- ppp 1 disable
- restart

-
- ip norelay
 - config save
 - restart

11. Configuration example : Enables NAT to RFC1483, RFC 1577 or RFC 2364 Routing Mode

[System configuration]



[ISP/DSLAM configuration]

IP address : 192.168.102.3
Subnet mask : 255.255.255.0
Gateway : 192.168.102.2

[Local PC a configuration]

IP address : 202.1.136.1
Subnet mask : 255.255.255.0
Gateway : 202.1.136.254

[Local PC b configuration]

IP address : 202.1.136.100
Subnet mask : 255.255.255.0
Gateway : 202.1.136.254

The ADSL modem can be setup to adding NAT protocol to a Routing Mode configuration like RFC 1577 or RFC 2364 with following

procedure. The following procedure must be typed after the “ip

device add” command(in RFC 1577 or RFC 2364 configure procedure) have been given and the ADSL modem restarted.

Add NAT to RFC 1577 to above RFC 1577 Routing Mode example

- ip nat add ipoa (*ipoa is the device name same as you configure in RFC 1577 example*)

Remove NAT to RFC 1577 to above RFC 1577 Routing Mode example

- ip nat delete ipoa

#Add NAT to RFC 2364 to above RFC 2364 Routing Mode example

- ip nat add ppp_device (*ppp_device is the device name same as you configure in RFC 2364 example*)

Remove NAT to RFC 2364 to above RFC 2364 Routing Mode example

- ip nat delete ppp_device

CHAPTER 3. Appendix

1. Other Commands

Check ADSL Link rate with following command.

- `adsl show rate`

Check ADSL performance with following command.

- `adsl show perf`

Check ADSL Link error state with following command.

- `adsl show error`

2. Hyperterminal Installation

If Hyperterminal program in your PC(ex..Windows 98) is not installed

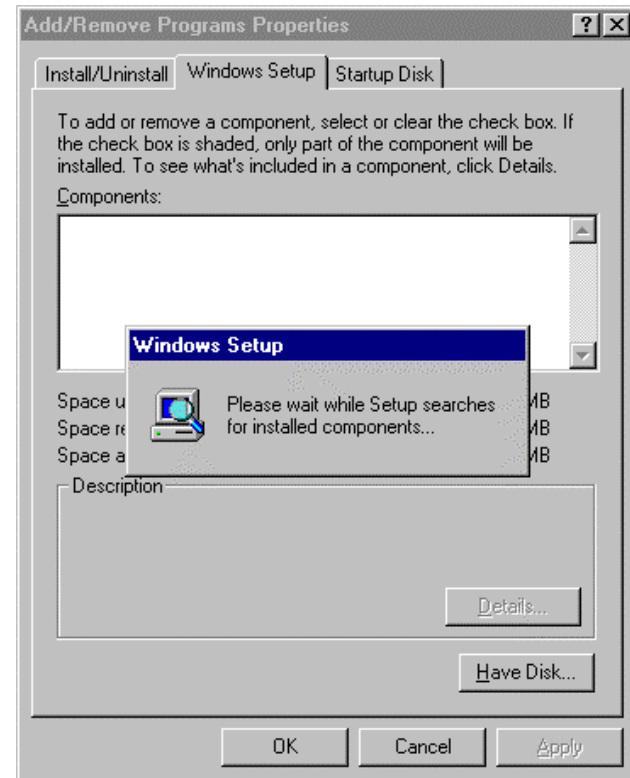
- 1) At the task bar Click “Start” -> “Setting” -> “Control Panel” -> “Add/Remove Programs”



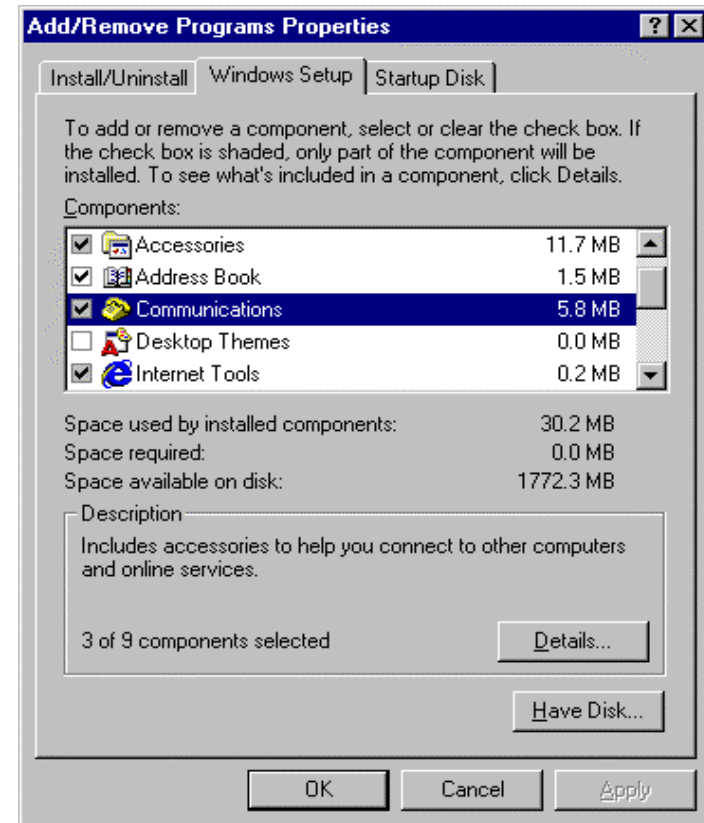
2) Click “Add/Remove Programs”



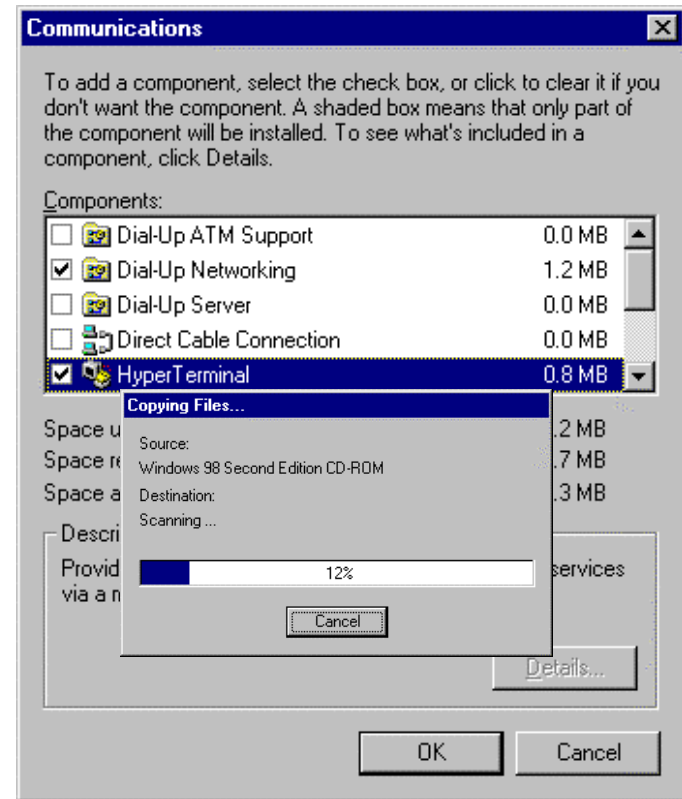
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- 3) In “Add/Remove Programs Properties”, Choose the “Windows Setup” Tab and wait for Setup to complete the search for all installed components.



4) Select the “Communications” component and “Details”



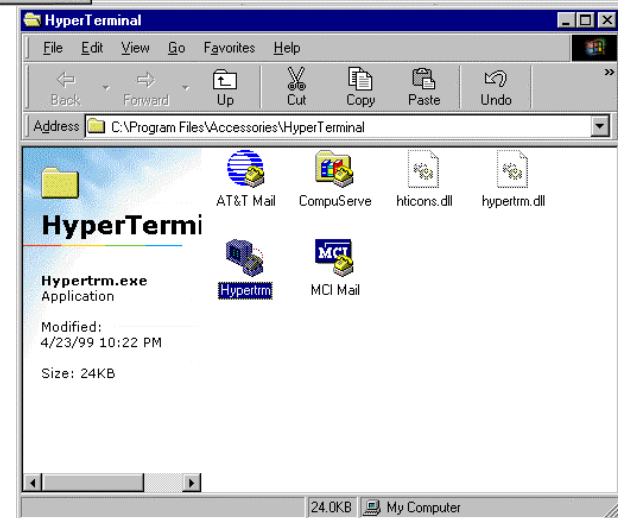
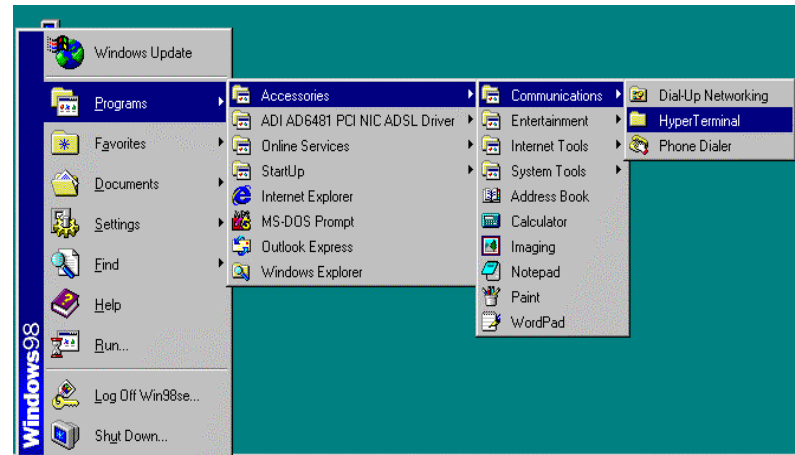
5) To select “Hyperterminal”, place a check mark next to the “Hyperterminal” component, Click “OK”



6) You must now restart your PC system

3. Command in Hyperterminal program for Modem control

- 1) Select “Start” -> “Programs” -> “Accessories” -> “Hyperterminal”



2) Enter a connection name and click “OK”

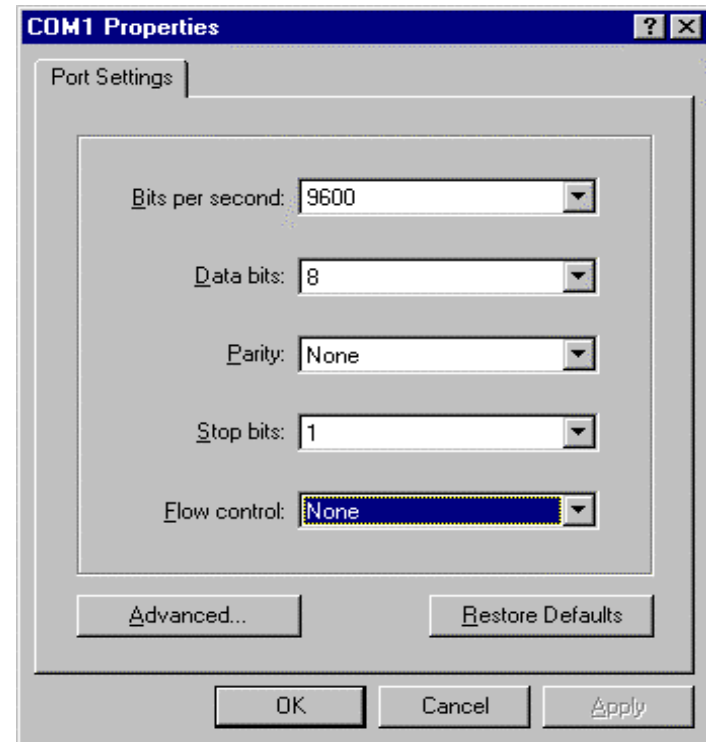


3) Select properly COM port and click “OK”



4) Enter the following parameter

Bits per second : 9600
Data bits : 8
Parity : None
Stop bits : 1
Flow Control : None



hen
click
"OK"

5)
When
the
Hyper
termin
al
windo
ws
appear
s, you
must
press

he

enter key several time to get the following command
prompt for the Bridge command line interface.

