

Important Router Information

Dear Valued Customer:

This packet includes **important information about your equipment** which should be reviewed by you prior to speaking with our Installations Group.

It is not a replacement for our Technical Support but is designed to help us help you get your internet connection up and running as quickly as possible.

Our Installations Group will work with you via one hour appointments. **Please review this packet and follow the setup flowchart prior to your initial appointment with your Installations Representative**

Thank you very much and welcome to the Internet.

Technical Support: (888) 774-4206

Enclosed are the following documents regarding your Internet equipment:

- **Router Setup Flowchart**
- **Connectivity Flowchart**
- **Configuration Print Out**
- **Configuration Instructions**

Additional documents for Leased Line Customers:

- **Astrocom CSU/DSU Diagram**
- **Important Circuit Information**

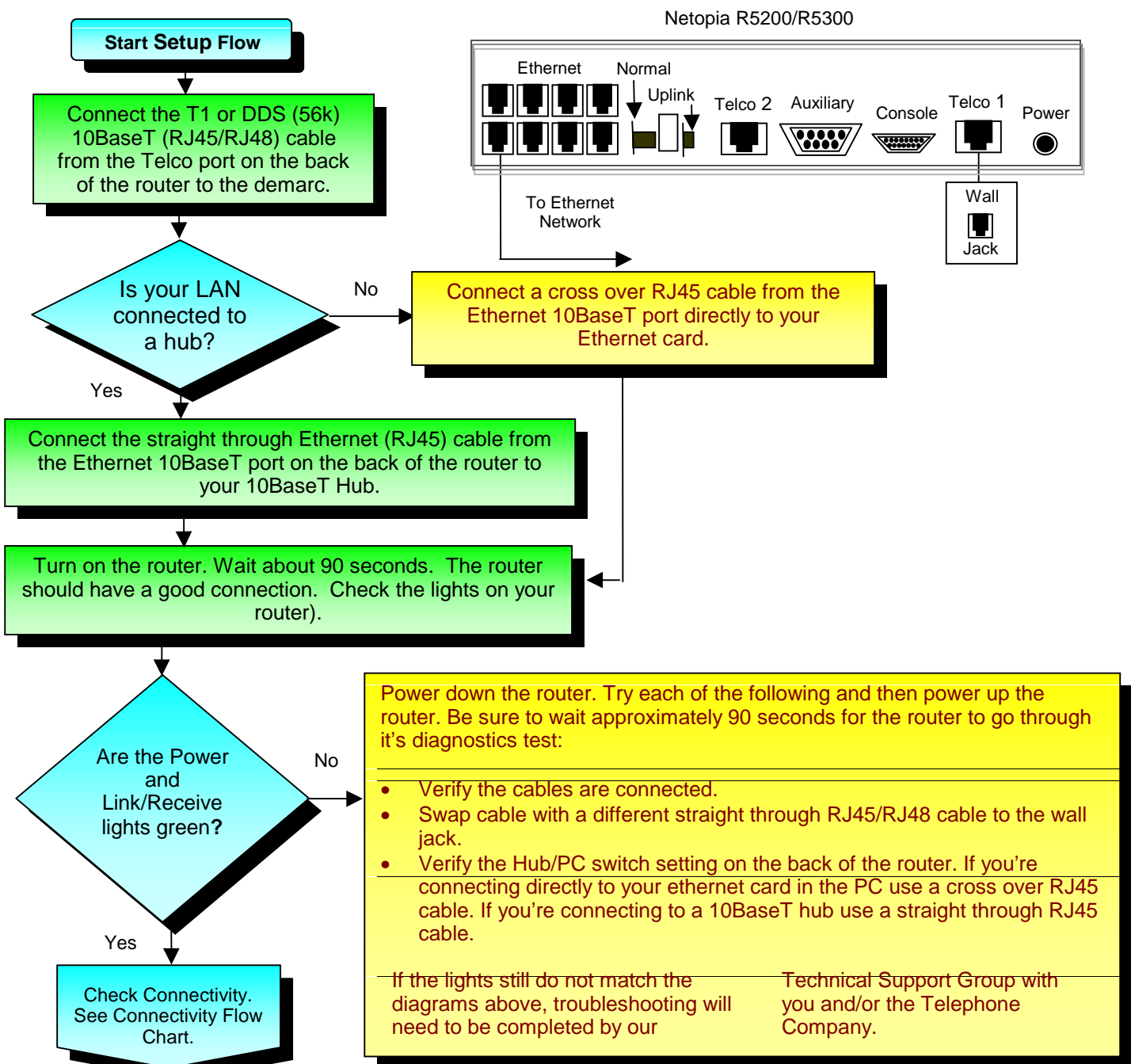
Setup: Netopia R5200/R5300 – Leased Line

Instructions for connecting your Netopia R5200/R5300 Router for your leased line account:

Prerequisites: Please run through the following flowchart to connect your equipment prior to scheduling your initial appointment with our Installations Group.

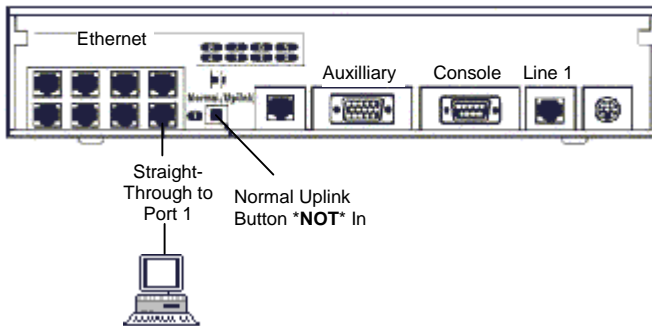
- Local Area Network (LAN) already setup
- TCP/IP configured on the individual workstations
- Circuit installed and tested - you will receive a message from us asking you to call for your installation appointment. Equipment should not be connected until this message is received.

Your router has been shipped to you preconfigured. Please check the configuration print out to verify that your Serial IP address and the DLCI number for your connection has been included. Also, when the connection is up and running, don't forget to change the router password.

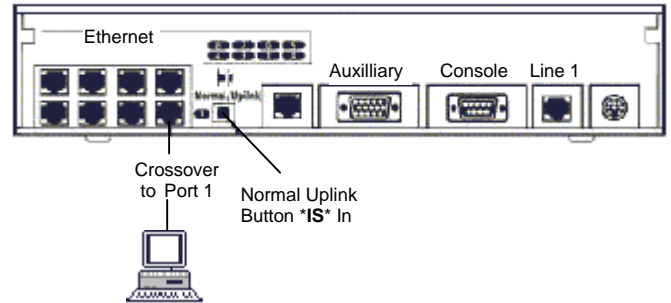


Ethernet Hook-up Scenarios

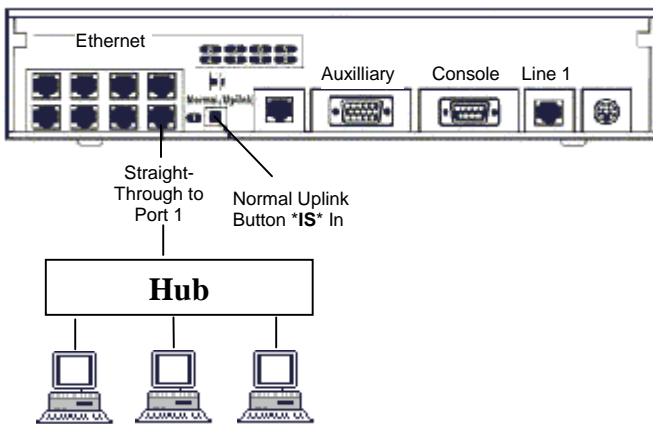
PC to Router (Port 1)



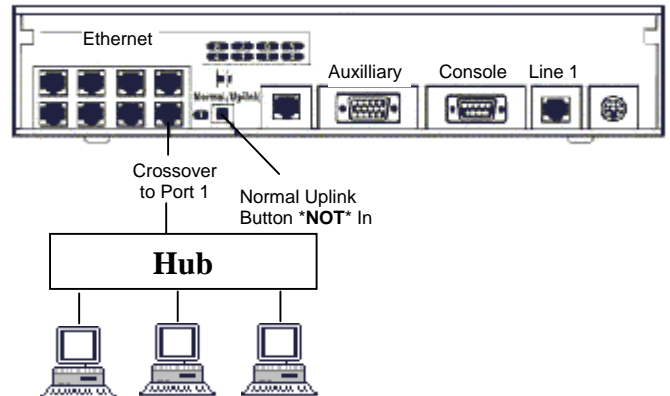
PC to Router (Port 1)



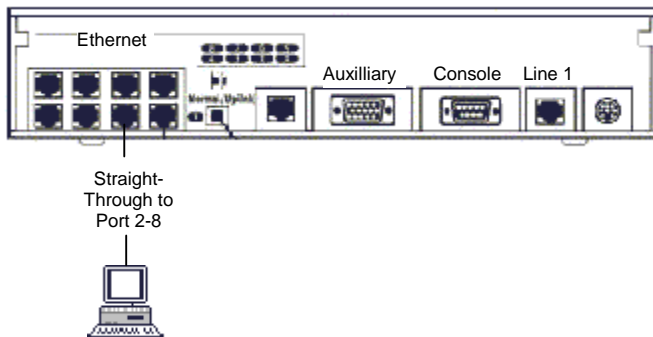
Hub to Router (Port 1)



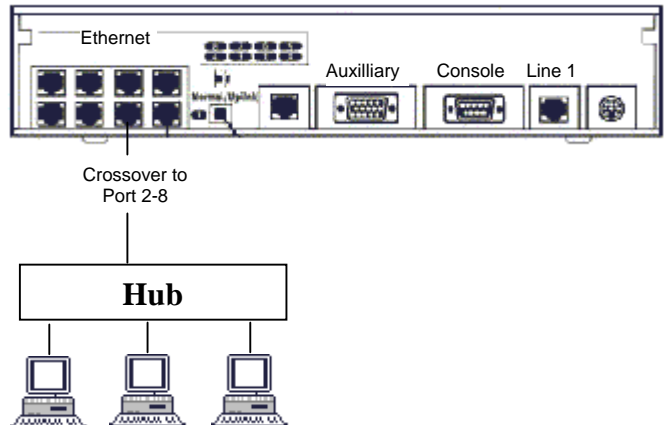
Hub to Router (Port 1)



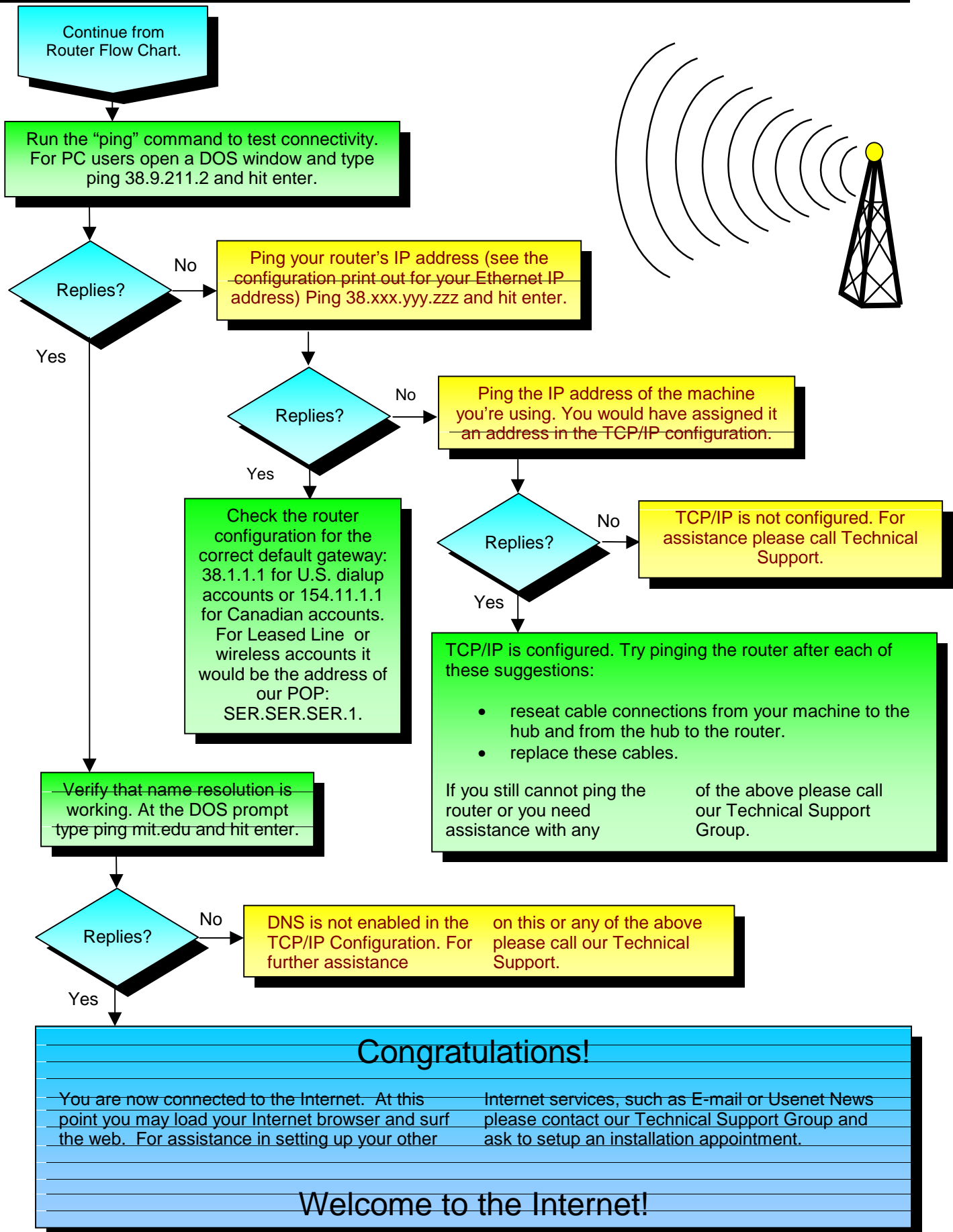
PC to Router (Port Other Than 1)



Hub to Router (Port Other Than 1)



Connectivity:



Configuring the Netopia R5200/R5300 for Leased Line

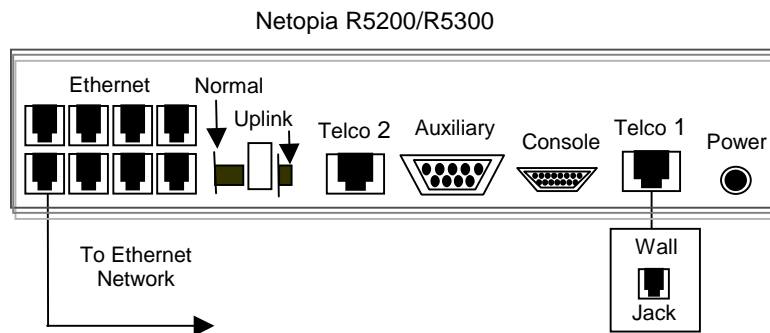
Setup:

The Netopia R5200 for 56k and R5300 for T1 has an internal CSU/DSU along with an auxiliary port to connect a modem for backup service. To access the internet your router requires only 3 connections:

1. Connect the Ethernet Cable (RJ45) from one of the Ethernet ports on the back of the router to your LAN. Use a straight through RJ45 cable if you're connecting to a hub or a cross over RJ45 if you're connecting directly to an Ethernet card in your PC.
2. Connect your 10BaseT cable (RJ45/RJ48) from the Telco port on the back of the router to the wall jack.
3. Connect the power cord and wait a few minutes while the router completes its bootup process. Then check the link lights on the front panel.

Hooking up a Console to the Netopia:

To connect a terminal to the Netopia, use the mini-DIN-8 to DB-9 cable, connecting one end to the Netopia's Console port and the other end to a machine's serial port or modem port, whichever is applicable. A converter may be required if the only available COM port is DB25. Be sure to set the emulation software to VT100, 9600 Baud, 8 Bits, 1 Stop Bit, No Parity and Flow Control to None.



Configuration: (select Next Screen, Previous Screen or Esc for menu navigation)

Telnet to the Netopia and choose **Easy Setup...**

For full T1 or fractional T1 service complete the following Line Configuration information including the appropriate number of DSO Channels for your service (256k = 4 channels, full T1 = 24 channels):

Netopia R5300

Line Encoding...	B8ZS	
Framing Mode...	ESF	
Number of DSO Channels...	6	(6 x 64 = 384k service)
First DSO Channel...	1	
Contiguous Channels...	Yes	
Channel Data Rate...	Nx64k	
Data Link Encapsulation...	Frame Relay	

For 56k service complete the following Line Configuration information:

Configuring the Netopia R5200/R5300 Leased Line (con't)

Netopia R5200

Data Rate (kbps)...	56
Data Link Encapsulation...	Frame Relay
First DSO Channel:	1

Choose **"Next Screen"**: Connection Profile 1: Internet

Connection Profile Name:	Internet
Address Translation Enabled:	No
IP Addressing...	Numbered
Local WAN IP Address:	38.xxx.yyy.zzz (Serial IP Address)
Local WAN IP Mask:	255.255.255.0
Frame Relay Management Type...	ANSI (Annex D)

Choose **"Next Screen"**: IP Easy Setup

Ethernet IP Address:	38.aaa.bbb.1	(from assigned network)
Ethernet IP Subnet Mask:	255.255.255.0	(use assigned mask)
Default Gateway IP Address:	38.xxx.yyy.1	
Domain Name Server IP Address:	38.9.211.2	
IP Address Serving:	Off	

Choose **"Next Screen"**: Easy Setup Security Configuration

Enter a user name and password for future access to your router configuration.

Write Access Name:
Write Access Password:

Select **"Restart Device"** to save the configuration. You will be prompted with the option to cancel or continue with the restart. Select **Continue**.

Telnet back into the router and choose **Advanced Configuration...**

Choose **WAN (Wide Area Network) Setup...**

Select **Frame Relay DLCI Configuration...**

Choose **Add DLCI...**

DLCI Name:	Internet	
DLCI Enabled:	Yes	
DLCI Number (16-991):	xxx	(assigned DLCI number)
Remote IP Address:	38.xxx.yyy.1	(from assigned network)

Choose **ADD DLCI NOW**

Configuring the Netopia R5200/R5300 Leased Line (con't)

Add the Backup Configuration:

Select **Add Connection Profile...**

Profile Name:	Backup
Profile Enabled:	Yes
IP Enabled:	Yes
IP Profile Parameters...	
IPX Enabled:	No
Data Link Encapsulation...	PPP
Data Link Options...	
Interface Group...	Backup
Telco Options...	

Choose **ADD PROFILE NOW**

Select **Data Link Options...**

Data Compression...	None
Send Authentication:	PAP
Send User Name:	username
Send Password:	*****
Receive User Name:	-

Esc back to **Add Connection Profile** Menu and select **Telco Options...**

Dial...	Dial Out Only
Number to Dial:	Access Number
Alternate Site to Dial:	
Dial on Demand:	Yes
Idle Timeout (seconds):	300

Esc back to **Add Connection Profile** Menu and select **IP Profile Parameters...**

Address Translation Enabled:	No
IP Addressing...	Unnumbered
Remote IP Address	38.1.1.1
Remote IP Mask	255.255.255.0
Receive RIP	Off
Transmit RIP	Off

Configuring the Netopia R5200/R5300 Leased Line (con't)

Press Escape to return to the **Add Connection Profile** Menu then select **Add Profile Now**. The **WAN Configuration** Menu will appear. Select **Backup Configuration**.

Backup Parameters:	
Backup to Auxiliary Port...	Automatic
Requires Data Link Failure of...	2 Min
Ping Host Name or IP Address:	
Recovery to DDS...	Automatic
Requires Recovery of...	1 Min
Auto-Recovery on loss of Layer 2:	No
Auxiliary Port Setup:	
Data Rate (kbps)...	115.2
Modem Initialization String:	User Defined
Modem Dialing Prefix:	ATDT
Exported Services...	
Data Link Encapsulation is	Asynch PPP

Esc to **Main Menu** and select **Statistics, Utilities, Tests...** and **Restart System...**

Important Circuit Information

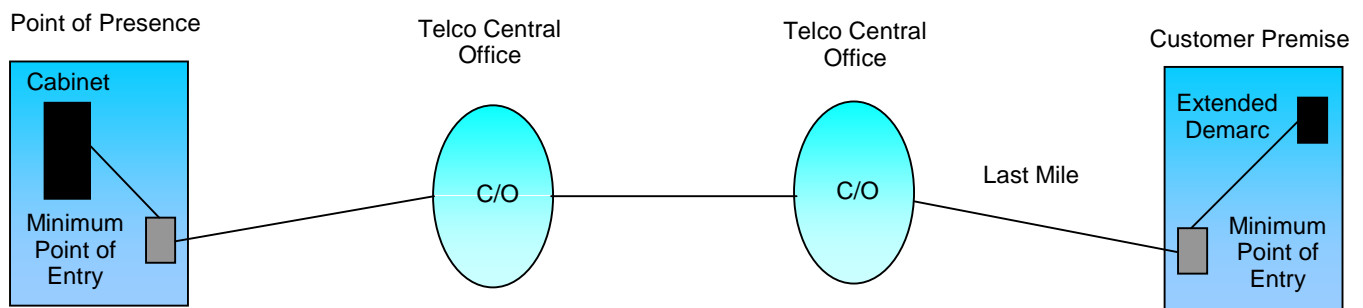
This document is designed to give you a general idea of what is involved in building a circuit for your Internet use.

You will be receiving weekly status updates which include the following dates concerning your Leased Line Circuit:

- Date the circuit was ordered by us.
- Estimated date of circuit installation (unconfirmed)
- Scheduled date of circuit installation (if provided by the telco)
- Date circuit turn up was accepted by our Network Operations Group

Once the circuit has been accepted by NOPs you will receive an “available” message indicating that the circuit is ready and to call our Corporate Installations Group to setup your initial appointment.


Please be aware that the circuit is not ready until you receive this message. It is often thought that when the circuit is installed at your site that all is ready to go. Sometimes it is, sometimes it is not. The following is a simple diagram of a circuit:



General Process:

1. The circuit is ordered by us with the telco. The telco “designs” the circuit from our Point of Presence (POP) to your site’s Minimum Point of Entry (MPOE).
2. The telco completes the circuit from our POP, through the Central Office(s), to your MPOE. An extended demarc needs to be run from the MPOE to your equipment room which is usually handled by the telco.
3. When the telco is done they will contact us to test the line. When test is complete and satisfactory you will be sent a message asking you to setup your initial appointment.

Some Pitfalls:

1. Due to timing, design changes may be required at one or more Telco Central Office.
2. Facilities problems occur, usually in the “Last Mile.” For example, construction requirements, repeaters required to “clean up” the signal. 
3. All looks ready to go but you still cannot get a good connection. It may be that a loop has been left at one of the Telco Central Offices not allowing the signal to reach your site. We have no way of knowing this at the time of testing but our Operations Group will work with the Telco to resolve.