Dear Customer

In our endeavor, to improve customer satisfaction and serve you better, one more value addition in the form of "Know Your Broadband" Brochure is being presented to you. This brochure enables you to know the common and vital information about broadband in a simple way. This is an attempt to educate all our esteemed Broadband customers and we hope it will certainly imbibe more confidence of our customers in BB service. This brochure may be preserved for repeated readings as and when required. Updated e-Copy of this brochure would also be made available in our website www.chennai.bsnl.co.in. We invite your valuable comments and suggestions which may kindly be mailed to denibchn@dataone.in.

In our endeavor towards the customer delight and to keep continuous contact with customers, we would like to send SMS regarding Usage, Bill details, New discounts and schemes etc… We request you to kindly register your mobile number in our website www.chennai.bsnl.co.in   (http://chennai.bsnl.co.in:7777/custinfo.aspx) to get these details continuously.

KNOW   YOUR BROADBAND

1. **Check the Wires**
   The leading-in cable (dropwire) from the junction box (DP box) to your house should be as straight as possible, should be a single length without any joints. The wires should not be coiled anywhere and should be away from electrical lines. With these types of irregularities (i.e with joints or coiled or near power cables) your phone might work fine but the DSL link may not hold and work satisfactorily.

2. **Splitters and Parallel telephones**
   Never by-pass the splitter. The splitter does the job of separating the high frequency ADSL signals from low frequency telephone signals. If the splitter is not installed correctly, the broadband connection will go down every time the phone rings. Any parallel phone connections should be after the splitter and not before. The line from the exchange should first enter into the splitter's Line jack. The ADSL Modem should be connected to Modem/DSD jack of the splitter and the phone should be connected to the phone jack of the splitter. A two way jack may be connected to this phone jack to install your parallel telephones. The wire leading into the modem should not be running parallel or close to electrical wiring.

3. **Signal to Noise Ratio (SNR)**
   Check your line SNR. To do this, first you need to enter into the Modem's web page by typing http://192.168.1.1 in your browser. The modem might ask for user-name and password. The default user-name / password is admin / admin (except for the modem Utstar300R where it is admin / utstar). Under the heading Device Info → Statistics → ADSL, you will be able to see the SNR Margin and Attenuation. This is the typical way to see the SNR in Modems. However the procedure might vary with modems and you need to look for words like ADSL, Statistics, Summary etc.. to see the SNR. The SNR should be higher than 20 though anything above 10 is just enough. The Attenuation should be as low as possible. But if the attenuation starts going higher than 40 and SNR going down below 10, it is time to complain about the line condition to our Helpline 1500.

4. **Know about your mode of working**

    You should be aware of whether you are using the Broadband in Bridge mode or PPPoE (Point to Point Protocol Over Ethernet) mode. For the Bridge mode, a network dialer icon will contain your user-id and password and you need to click the icon to get connected to broadband and thereafter you will open your browser to view web-sites. The other method which is widely used is PPPoE mode, where your user-id and password will be available (configured) in the modem itself. In this case, after switching-on the modem and when DSL (Link) light is glowing steadily, you can start browsing straight-away. We recommend you to first switch on your modem and then switch on your PC/Laptop.

5. **Check Your Account usage**

    It is always advisable especially for users not in unlimited plans to check their account usage periodically. You may visit our website www.dataone.in and click the appropriate link "Check Your Account Usage" (for user-id in dataone domain) or "Usage Detail Portal" (for user-id in bsnl.in domain & provided with portal-id) to check your usage, change your password etc.. You can change your password but please remember that whenever you change the password using the web-site, the same password-change must be carried-out in modem (for PPPoE mode) or in the dialer (for Bridge mode) also. Besides, giving the usage details session wise, the usage records will also reveal possibilities of your machine sending information without your knowledge due to cookies or spyware or virus attacks. Normally the upload will be much less than the download for browsing related activities. If you use chat (text/audio/video) like skype or any VoIP service, then the upload will be equal or more than the download for these sessions. But if you donot use such chatting mechanism still find the uploads more, then it is surely due to some unwanted cookies or spyware/virus attacks. Better format and reload your operating system if your anti-virus is outdated or infected or unable to remove the virus

6. **DNS Servers**

    DNS servers are used to resolve the URL like www.google.co.in into an IP Address like 209.85.153.103 which is required by routers to take you to the website. The DNS server IP will automatically be available in the Modem for PPPoE mode of working. Ensure to keep the modem settings to acquire the DNS IP automatically please. For Bridge mode of working, your machine will be getting the DNS IP automatically. You may check it by giving the command ipconfig /all in the command prompt. It will always be better to assign an IP address to your Ethernet/USB/Wireless adapter to which the modem is connected. To set this, go to control panel, click Network connections and under the "LAN or High-Speed Internet " there will be icons like Local Area connection, Wireless Network Connection showing the NIC card , USB port, Wireless adapter to which your modem is connected. Right click on the icon, select Properties, click on Internet Protocol(TCP/IP), click on Properties, click on "Use the following IP address" put the IP address as 192.168.1.10, subnet mask as 255.255.255.0 and default gateway as 192.168.1.1 and Preferred DNS as 192.168.1.1. Click OK and then click Close, reboot your machine to effect the settings Use different IP address like 192.168.1.11 or 12 to each NIC, USB & Wireless adapter. One can also use the public DNS like 208.67.222.222 or 208.67.220.220 as preferred DNS but if some sites are not opening using this DNS, BSNL cannot take the responsibility. On the contrary, if some sites are not opening with BSNL DNS but opening with the public DNS, the matter may be reported to our helpline so as to analyse & resolve the case by contacting the website administrators.

7. **Wi-Fi Connectivity:**

Connecting your Laptop having wi-fi capability with wireless ADSL modems (Type II and Type –IV) is very simple. At the very first time, you switch on both the modems and Laptop, the wireless icon on the taskbar of the Laptop would say "Wireless Networks Found". Just double click on the icon and follow the instructions, selecting Network Authentication as WPA-PSK (or WPA-Personal), Encryption as TKIP and providing the Wireless security password (Key) given by BSNL. In some Laptops, you need to right click on the "wireless network connection" icon either in the task bar or in Network connections under Control panel and select View Available Wireless Networks → select the Wireless Network Name or modem's SSID (Service Set Identifier) and proceed as given above. If you get some error message like "Limited Connectivity" on the "wireless icon" of the taskbar, you need to assign an IP address to your Wireless Adapter as detailed in the para 6 above. If your modem is working in PPPoE mode, you can even connect your Laptop through wireless and PC through Ethernet and simultaneously access the net through both PC and Laptop.

8. **Positioning of Wi-Fi Router**

Though the wireless signals from the wi-fi router (modem) can reach wi-fi enabled laptop within the range of around 50 meters, the brick walls and reflective surfaces will weaken and bounce the signals respectively. It will be better to place the Wi-Fi Modem on a higher place to avoid physical obstructions. Another main source of interference is the cordless phone. Keep the router as far away from the cordless phone or choose cordless phones that use different frequencies. To increase the wireless range, one can also use a wireless repeater purchased from local market. Before purchasing, ensure from the vendor, it supports the wi-fi router you have.

9. **Wi-Fi Security :**

The security options of wireless router should fully be utilized to avoid someone from your neighborhood accessing your modem. The wireless signals might reach the neighboring houses, and if the security options are not enabled, there is every chance of mis-use of your broadband connection. By default, BSNL gives your wireless modem with security enabled. But by some chance, if the modem gets reset, the settings might be lost. Hence it is advised to check the security options are enabled. Customers can visit the modem webpage as stated earlier and check the wireless security options. The very basic level of security is by giving the wireless key, which will be asked by the modem when a Laptop is trying to access the modem for the first time. There are two types security key algorithm. One is WEP (Wired Equivalent Privacy) and another WPA (Wi-fi Protected Access). The WPA is more secured and recommended by BSNL. The next (advanced) level of security is – MAC Filtering by which only your Laptop/PC will be permitted to access the modem, even if someone knows your security key. The detailed procedure for the above two levels of wireless security is published in our website www.chennai.bsnl.co.in under the heading Broadband → Wireless Security. The default SSID of the modem may also be changed as per your desire and it may also be made hidden (turn-off SSID broadcasting or Hide Access Point) so that others will not even know about your wireless modem. In this case of Hidden SSID, your Laptop will be connected to the modem as you have already configured for the connection in your machine.

10. **Watch-out for bandwidth overhead:**

Many applications like Windows updates, anti-virus updates and other software updates will be using the broadband connection in the background. Some of these updates might ask for confirmation before downloading, many may not even ask and will be simply

running in the background which will affect your browsing / download speed. One can find-out the applications which are running, by going to the Task Manager (Press Ctrl-Alt-Del keys together to get into the Task Manager). You may shut down such of those applications which are running without your consent. But beware that shutting down some vital applications required by your operating system inadvertently will cause hanging of your system. Windows updates, Anti-virus updates etc.. could be scheduled to run when your system is free and you are not browsing. This will help in utilizing the bandwidth effectively. You can check your broadband speed using the links provided in our website www.dataone.in

11. <u>The Nuisance & Danger of Virus</u>

You might some time feel that your broadband was quite good some time back but it is slow now a days. One of the major reasons for this is the infection of Virus into your machine. Adwares, spywares too will affect your speed. Hence it is very important to have a good anti-virus software and spyware, adware detectors in your system. Regular updates to these software and Windows updates are also a must. Use only legal version of Windows.

12. <u>Aware of free wares</u>

Many free software and tools are offered by many websites. But be careful in selecting these software as some of these software will overload your operating system, some may act as spyware, and some may eat away your bandwidth. A browser like Opera or Firefox lets you switch off images, flash banners, javascripts etc.. which will cause your browsing speed high. But if you overdo things, many websites which require these settings will not open for you. Keep always an unmodified copy of Internet explorer in such cases so as to use it when some websites are not opening with your other browsers. Software like Torrent are very useful for automatic downloading. But when the users of certain plans who are entitled for free usage between 02:00 and 08:00 hours, are using this type of software for downloading, should check whether it is running during the other periods also. Whenever you connect to net or reboot/switch on your machine, running of this software should be checked and must be turned-off if not required.

13. <u>Windows Vista / 7</u>

Specifically no extra settings are required for Vista / Windows 7 Operating systems. You may see something like "Unidentified Network" (mostly when connected through wi-fi) and hence may have to assign the IP address, gateway, DNS server as detailed in para 6 above. Typically Control Panel → Network and Internet → Network and Sharing Center→ Change adapter settings (Manage Network Connections in Vista) → Right click on Wireless Network connection → Properties → Internet Protocol Version 4(TCP/IPv4) → Properties and then, assign IP, gateway & DNS. You may remove the tick mark of Internet Protocol Version6(TCP/IPv6), if face any browsing problem.

14. <u>SMS Facility</u>

You can get your usage through SMS by sending **BBU<space>044<broadband telephone number** > whenever you want. For example BBU 04424700033. You can also register to get the ALERT when your broadband usage exceeds the monthly limit. For this facility you can send SMS as **REG<space>044<broadband telephone number>** (one time). eg. REG 04424700033. You have to send the SMS to 52295 from BSNL Network or to 9448077777 from other network. Similarly, you can also register your broadband complaint by sending **BBF<space><broadband telephone number>** eg BBF 24700033 to 53576 from BSNL network or to 9444599999 from other network.

15. <u>Trouble Shooting</u>

Kindly switch-off your modem when not browsing even if you are in unlimited plan. If the modem has been purchased from BSNL, never change the power adapter of the modem with local one.

Sl No	Indications / observation	Suggested Action
1	DSL (ADSL) Link light is not glowing or it is blinking and goes off	Check for any loose connection in splitter and modem. Ensure that ADSL/Modem port of Splitter connected to DSL port of the modem
2	Getting error 691 (in Bridge mode)	Check your user-id and password
3	Getting error 678 or 769 (in Bridge mode)	Check whether your Ethernet/USB/Wifi port is in Disabled state. If so, enable it. Problem not solved ?. Carry-out remedy of sl no: 10, Still problem ? …. call our helpline
4	DSL is steady but no browsing (in PPPoE mode)	Go to modem webpage & check the WAN status of your Modem for possible "Authentication failure"
5	DSL is steady & no Authentication failure but still no browsing	Check whether your modem is having your user-id. If it is showing something like "multiplay", change it with your user-id, put password, save and reboot the modem and try. Check whether Ethernet/USB/Wifi port of your machine is in Disabled state. If so, enable it.
6	DSL is steady, no authentication failure, modem is having your user-id, but still no browsing	Go to command prompt (Start → Run→ type cmd → Press Enter) Give the command ping www.google.co.in and press Enter. If getting 4 successful replies, then problem is in your browser. Re-install it or re-install O/s. If getting "Could not find host", there is DNS issue with your machine/modem, call 1504.
7	Modem & PC connected via USB but USB light is not glowing	Check the USB cable for loose connection. Reinstall Modem's USB driver. Still problem ? call our helpline
8	Modem & PC connected via Ethernet but Ethernet/LAN light not glowing	Check the Ethernet cable for loose connection. Check whether Local Area Connection icon is available under Network Connections in Control Panel. If not available, reinstall driver of the Ethernet card.
9	Unable to browse in Laptop via wireless	Check whether "Wireless is turned ON" in your laptop. You may have to press Func & F2 or F5 (having wireless symbol) keys or Wireless button or Blue tooth button of your Laptop to Turn ON/OFF the "wifi" Check whether your Wireless adapter is in enabled state. Remove Ethernet cable & ping 192.168.1.1 to check whether modem is communicating with your Laptop thro wireless
10	Unable to open the modem webpage http://192.168.1.1	Assign IP address, subnet mask, gateway as detailed in Para :6. Reboot and try again