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.

KNOW YOUR BROADBAND

1. **Check the Wires**
The leading-in cable (dropwire) from the 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. In some modems, you might be able to see the SNR in the home page itself. The SNR will be shown only when the DSL (ADSL / Link) light of the modem is stable. 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 (network connection) 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 always. 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

5. **Check Your Account usage**
For checking your Broadband usage (current or previous months), Telephone call details, To view bill etc.. , you can visit our Selfcare website http://selfcare.sdc.bsnl.co.in. A one-time registration is required for creating your own user-id and password to login to the website. Kindly click the "User Registration" link provided in the Selfcare website and create your user-id and password by providing your "Customer Id" which is a unique ID starting with number 4 (this ID will be available in your telephone bill or you can enquire with our Helpline) and your broadband user-id. After successful creation of the user-id, you can login to the selfcare portal and click the tab "Services" and try the options given there.

Besides, giving the usage details session wise, the usage records will also reveal possibilities of your computer sending information to outside world without your knowledge due to cookies or spyware or Virus attacks. Normally the upload usage will be much less than the download usage if you don't use chat (text/audio/video) or VoIP service like Skype or upload files. If you find more upload usage even without these, 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. Software like Torrent are very useful for automatic downloading but running of this software must be checked whether it is running with your consent and knowledge as it might over shoot your usage.

6. **DNS Servers**
DNS servers are used to resolve the URL like www.google.co.in into an IP Address like 173.194.36.63 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 computer will be getting the DNS IP automatically and you may check it by giving the command ipconfig /all in the command prompt. It will be always better to assign an IP address to your Ethernet /USB/Wireless adapter (Icon) 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 computer to effect the settings. Use different IP addresses like 192.168.1.11 or 12 to each NIC, USB & Wireless adapter.

7. **Watch-out for bandwidth overhead:**
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 by using the speed tester provided under "Customer Zone" of our website www.dataone.in. Some people are also using public speed testers like http://www.speedtest.net. But as speed test depend upon many parameters including connectivity, capacity, location of the speedtest server, number of hits etc.., one cannot always expect the "plan bandwidth" by testing with these servers.

8. **The Nuisance & Danger of Virus**
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 computer. Adwares, spywares too will affect the 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. Be careful in selecting free software and tools as some of these software will overload your operating system, some may act as spyware, and some may eat away your bandwidth

9. **Wi-Fi Connectivity:**
Connecting your Laptop having wi-fi capability with wireless ADSL modem is very simple. At the very first time, you switch on both the modem 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.

10. **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 as possible from the cordless phone or choose cordless phones that use different frequencies.

11. **Wi-Fi Security :**
The security options of wireless router (modem) should fully be utilized to avoid someone from your neighborhood accessing your modem and 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 wireless security options by visiting the modem web-page http://192.168.1.1. The first and foremost 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 is 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 wireless 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.

12. **Windows Vista / 7**
Specifically no extra settings are required for Vista / Windows 7 Operating systems. The "Local Area Connection", "Wireless Network Connection" Icons will be found under Control Panel → Network and Internet → Network and Sharing Center → Change Adapter Settings (Manage Network Connections in Vista). You may see something like "Unidentified Network" (mostly when connected through wi-fi) and hence may have to assign the IP address, gateway, DNS for the Wireless Network Connection Icon (or Local Area Connection Icon if connected to Ethernet port of modem). Right click on the Icon → Properties → Internet Protocol Version 4(TCP/IPv4) → Properties and then, assign IP address, Gateway & Preferred DNS as detailed in Para 6 above.

13. **Why I am not getting assured speed**
If you are in a ULD (Differential Speed) plan, you might have crossed the usage limit set for the high speed. Check your usage in selfcare portal http://selfcare.sdc.bsnl.co.in. For higher speed plans (more than 2Mbps), you should have atleast a middle-end computer like Core-to-duo, i3, i5 etc.. with RAM capacity of more than 2GB and preferably with Windows-7 OS. Low SNR would also reduce the speed. If the computer is infected with Virus, the speed would drastically decrease. Some windows updates/ software updates or Torrent type of software might be running in your computer without your knowledge which will have heavy impact on speed. If you connect more than one computer to the modem, the bandwidth would get divided. The points mentioned in Para 7 & 8 may also be kept in mind.

14. Trouble Shooting

Sl No	Indications / observation	Suggested Action
1	DSL (ADSL or Link) light of the modem is not glowing or it is blinking and going off	Check for any loose connection and condition of wires in splitter and modem. Ensure that ADSL/Modem port of Splitter is connected to DSL port of the modem
2	Getting error 691 (in Bridge mode)	Check your user-id and password. Or your account could have been suspended
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 ?. Assign IP, DNS as detailed in Para 6 above. 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 computer 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	Assign IP & DNS as detailed in Para 6 above Check & remove any proxy settings in browser. Reboot PC and try. Still no browsing? Then 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 computer/modem, call 1504.
7	Modem & PC connected via USB but USB light of modem is not glowing	Check the USB cable for loose connection & its condition. Reinstall Modem's USB driver. Still problem ? USB port of Modem or PC is faulty.
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. Change the Ethernet cable. Still problem? Then Ethernet port of Modem or PC is faulty.
9	Unable to browse in Laptop thro 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" Ensure your Wireless adapter (icon) in Network connections (under Control panel) is in enabled state. Remove Ethernet cable & ping 192.168.1.1 to check whether modem is communicating with your Laptop thro wireless Assign IP & DNS as detailed in Para 6 above
10	Unable to open the modem webpage (homepage) http://192.168.1.1	Ensure IP assigned as detailed in Para 6 Disable anti-virus in your computer for a few minutes and try. Still issue? Take the Modem to your area BSNL External office for testing