Installing & Testing the SmartModem

Chapter 2

INSTALLING AND TESTING THE SMARTMODEM

Unpacking the Modem

As you unpack your SmartModem package, check to make sure it contains these items:

- the NetComm SmartModem;
- this User & Reference manual;
- the telephone connection cable;
- the wall/floor mounted plug pack power supply;
- a form supplied by Telecom Australia - "Application for Connection or Attachment of Apparatus to the Telephone System", also known as the "TS72" form;
- Some models are supplied with a hand held push button phone.

If any items are missing, contact the dealer or sales representative from whom you purchased the SmartModem.

THE FRONT PANEL

Figure 2-1 shows a front view of a SmartModem with a telephone on top of it - notice the indicator lights on the front of your modem. They let you know what the SmartModem is doing. There is also a speaker inside which also keeps you informed.

NOTE: Before you try to connect your modem or turn it on, take a minute to look over it and become familiar with it.

DIFFERENT MODELS

As mentioned above there are different models in this family. Generally all models have a similar front and back panel.

Only the Synchronous models, those with the "SA" suffix, have a number of configuration switches on the front panel. These are described in detail in Chapter 5 below.

The operation and control of the modem is generally the same - the only exceptions are where certain commands and features are oriented to one particular model. Where commands and features are specific, this manual will tell you.

NOTE: If your model has switches on the front panel, you will need to read Chapter 5.

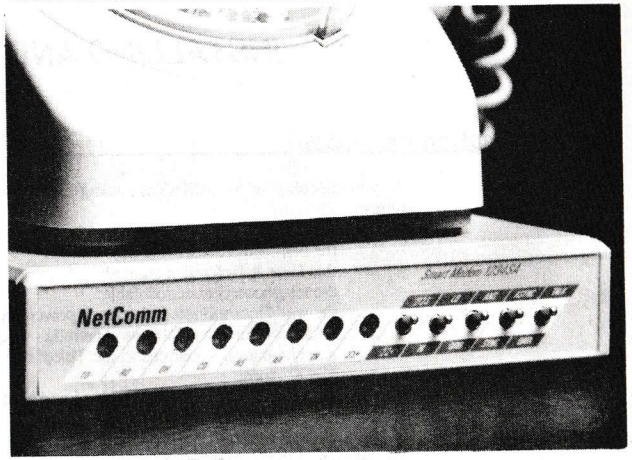

Figure 2-1. Front View of SmartModem ("SA" model).

WHAT THE LIGHTS MEAN

As you can see, there are eight (8) indicator lights on the front of your SmartModem. They indicate the state of the Modem, and they mean the following:

TD **Transmit Data:**
The modem is transmitting data. This indicator flashes as data is sent.

RD **Receive Data:**
The modem is receiving data. Each flash of the indicator represents data being received.

OH **Off Hook:**
When on, the modem has 'lifted up the handset' and is using the phone connection. Don't try to use the handset at the same time - you will corrupt the data.

CD **Carrier Detect:**
The modem has recognised a carrier signal on the line and has connected to it.

HS **High Speed: (except 21/23 models)**
This indicator is read in conjunction with the 22/22+ light, ie:
If the 22/22+ light is ON while the:

i) HS light is ON then the SmartModem is in V22 bis or Bell 2400 mode. ie: 2400 bps
ii) HS light is OFF then the SmartModem is in V22 mode or Bell 212A mode ie: 1200 bps

If the 22/22+ light is OFF while the:

i) HS light is ON then the SmartModem is in V23 mode, ie: 1200/75 or 1200 bps half duplex.

ii) HS light is OFF then the SmartModem is in V21 or Bell 103 mode ie: 300 bps.

HS **High Speed: (21/23 model only)**

i) HS light is ON then the SmartModem is in V23 mode, ie: 1200/75 or 1200 bps half duplex.

ii) HS light is OFF then the SmartModem is in V21 or Bell 103 mode ie: 300 bps.

AA **Auto Answer: (except 21/23)**
This light, if on, shows the modem is waiting idle, but will answer the phone if it rings. See the Section in Chapter 4 - "Answering Calls Automatically". This light flashes for the Self Test (see below).

NOTE: The AA light will be off if ATS0 = 0.

RI **Ring Indicate: (21/23 models)**
This light is normally off and flashes when the phone line is ringing. some 21/23 modems have this light marked as "AA"

TR **Terminal Ready:**
This light indicates that the computer or terminal is ready. (DTR is raised.) The modem will raise DSR to the terminal when a connection to a remote modem has been established.

NOTE: RD and TR may be on even if the power is off.

22+ **Mode: (except 21/23 models)**
Refer to "HS" light description for details.

The "22+" light is only called "22" on 123A & SA models.

or...

MR **Modem Ready:**
This light is called "MR" on the 21/23 units; this means "Modem Ready".

NOTE: Read the section in Chapter 5 on synchronous operation for details on how to configure the front panel switches if your model has them. The front panel switches are only applicable to the "SA" versions of the SmartModem.

The Rear Panel

Now turn your modem around and look at the back. This is where the action is:

* Two modular telephone jacks
* RS232 Data Cable Connector
* Eight DIP Switches
* Power Cable Connector
* ON/OFF Switch

NOTE: *The volume control for the speaker in your SmartModem is located underneath. You can change the volume with a small screwdriver. Turn clockwise or counterclockwise to increase or decrease the volume.*

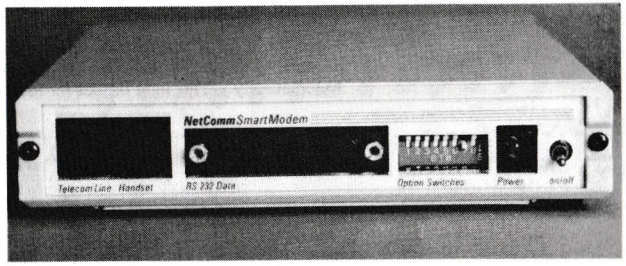

Figure 2-2. The Rear Panel

The Dip Switches

NOTE: *This section is for advanced users. Skip it if you aren't sure and come back to it later.*

DIP' means Dual In-line Package

The eight position DIP switch allows you to override certain aspects of the modem ability. This means when you turn it off and on again, the DIP switches dictate certain settings must remain.

NOTE: *The DIP switches ALWAYS override the software status of the SmartModem.*

There are eight switches and they are preset in the factory. The factory (standard or default) settings are shown '*' thus below:

The DIP switches are operational in synchronous mode as well as asynchronous mode.

The first four switches control and support attributes of the terminal when it is attached to the SmartModem.

Switch Number	Name	Setting	Meaning
1	DCD Override	Up*	Modem supplies DCD on Connection.
		Down	DCD permanently on.
2	RTS/CTS Loop	Up *	CTS always from modem.
		Down	CTS in response to RTS only.
3	DTR Override	Up *	Terminal must supply DTR.
		Down	DTR permanently on (supplied by modem).
4	DTR/DSR Loop	Up *	DSR always supplied by modem.
		Down	DSR is raised in response to DTR being raised.

Switches 5 and 6 control the level of intelligence supported by the SmartModem.

5	Auto Answer	Up *	Auto answer is enabled. The modem will go on-line in answer mode.
		Down	Answering incoming calls and dialling is done manually. The modem will go on-line in originate mode.

NOTE: *Switch 5 only used if Switch 6 DOWN (DUMB).*

NOTE: *Switches 5 and 6 are only read by the modem when it is turned off then turned on again.*

6	Dumb Mode **	Up *	"Smart" Mode: The SmartModem recognises and responds to"AT" commands.
		Down	"Dumb" Mode: The SmartModem is controlled by the front switches or by the stored settings.

NOTE: Read Chapters 3 & 4 on the meaning and use of the "AT" commands.

** This switch is known as the "Dumb Mode" switch, because if the switch is down then the SmartModem no longer recognises "AT" commands. The operation of the SmartModem is governed by the position of the front panel switches (SA models) or previously saved parameters(A models).

7 & 8	Unassigned

DUMB MODE

The SmartModem "SA" models are able to be controlled using both the intelligent "AT" commands and/or using the front panel switches.

Setting the rear DIP switch 6 down disables the "AT" command recognition ability of the SmartModem, and therefore the modem will no longer recognise these commands. It is said to be in "Dumb Mode".

Dumb mode allows the "SA" SmartModem to be operated as a conventional manual modem. The switches on the front panel determine the required configuration.

In this mode the SmartModem can operate synchronously or asynchronously, at various speeds and in originate or answer modes. Refer to the appropriate sections below in this chapter to ensure that your modem is correctly configured.

NOTE: For Dumb Mode operation, QUIET MODE ON "(Q1)" and ECHO OFF "(E0)" may also be required. This can be achieved and permanently stored away in non-volatile RAM by performing "ATQ1E0&W<CR> ". (See note on Quiet Mode below.)

Installing The Modem

Setting up your SmartModem and connecting it to your computer or terminal is not difficult. The following list summarises the installation process described in some detail below:

1. You may notify Telecom that you are connecting a modem to their lines. You may need to order a dedicated telephone line.
2. Connect the modem to your computer or terminal with an RS232 cable.
3. Connect the power supply and switch power on (switch up).
4. Double-check your completed installation.
5. Run the built-in test to see that the modem is working properly.
6. Then go on-line to your host or service.

NOTIFY TELECOM

Fill out the TS72 form and lodge it at any Telecom Business Office. This form once completed by you and then returned to you by Telecom is your permission for the connection or attachment of your SmartModem to the telephone system. Fill out the warranty page in this manual and mail it in too.

NOTE: We strongly advise you install a direct outside line for your SmartModem. If you wish to use an existing line we advise you get Telecom to install a "modem piggyback plug" (that's what Telecom call it).
Read Appendix F about PABX Switchboards and Commanders.

ELECTRICAL CONNECTIONS

You need to make three electrical connections to finish installing your modem:

* Telephone connection to your modem.
* RS232 connection to your computer or terminal.
* Power connection.

Telephone Connection

In order for your SmartModem to communicate across the telephone lines, it must be properly connected:

Plug the telephone connection cable into the modem. Use the modular jack (the RJ11 plug). Now insert the Telecom 605 plug into the Telecom wall outlet you have selected.

Including a telephone in the circuit is optional. If you are using a phone line exclusively for modem communication, you may operate without a telephone connected.