## AT-commands

A telecom modem works in two modes:

- Command mode.
- Communication mode.

In command mode you can configure your modem so that it works with your application. Communication mode is the mode when the modem is connected to another modem and is exchanging data.

As previously mentioned, Hayes Microcomputer Products developed a command set that has become the de-facto standard, a.k.a. the Hayes®-commands. These commands are used partly to configure the modem and partly to initiate a connection.

As the AT-commands have become a standard for telecom modems, there are great similarities in how these are used. Nevertheless, you should be aware that there are differences depending on how advanced a modem is in relation to another modem. Some of the most important commands for our modems are presented below, for detailed description of these please refer to respective installation manuals.

ATA – **A**nswer

Forces a modem in command mode to answer a current incoming call. The modems perform handshaking to establish a connection. Once the connection is established the modems switch to communication mode.

ATDn – **D**ial

Makes a modem in command mode initiate a call. (n) is usually the telephone number but there are various other codes for example, to generate a pause during the dialling of the number if the modem needs to wait for a dial tone through a switchboard. Once the connection is established the modems switch to communication mode.

ATH – **H**ang-Up

The modem terminates the connection and hangs up. In order to use this command it is necessary for the modem to be switched from communication mode to command mode normally using the code +++.

AT&Fn – Restore **F**actory Configuration

Resets the modem to the factory default settings, or configuration profile 0 or 1.

ATQn – **Q**uiet Result Code Control

The result codes sent from the modem are activated or deactivated, some applications require the modem to be set so no characters are sent.

ATEn – Echo on/off

Turns echo on/off to a connected terminal. This is required by some applications and can also cause confusion when attempting to enter commands.

AT&V – Display Current configuration and Stored Profiles

The command lists the contents of the profiles and S-registers stored in the modem, which in turn are used for function configuration. See the example on page 80.

AT&Wn – Store Current Configuration

Saves the current configuration in the modem to profile 0 or 1.

ATZn – Soft Reset and Restore Profile

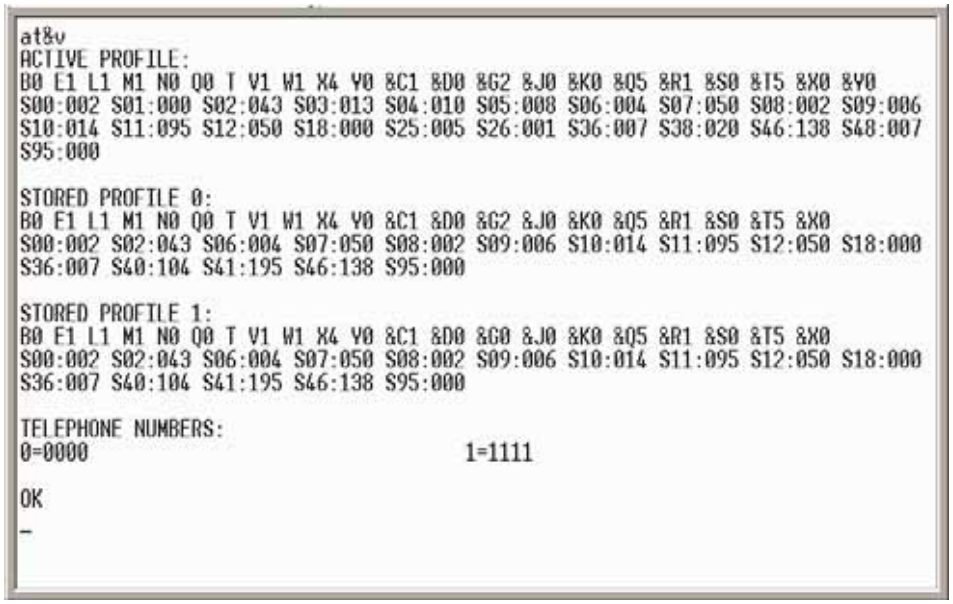
A software reset is made on the modem, resets to the configured profile.

ATO – On Line Data Mode

The modem switches to data mode.

+++ Switches from On Line Data Mode to command mode.

The screen shot showing the content of the modem's registers, a complete specification of the registers can be found in the manual for the modem. The example below describes some of the functions in the S-registers




| Register | Functionality |
|---|---|
| S00 | The content of the register tells the modem after how many ring signals the modem should answer. In this example the modem answers on the second ring signal as the value is set to 002. |
| S01 | Counts the number of incoming ring signals. |
| S02 | Describes which character should be used for the Escape sequence. |
| S03 | Describes which character should be used for the Carriage return. |
| S04 | Describes which character should be used for the Line Feed. |
| S05 | Describes which character should be used for the Backspace. |
| S07 | Describes how many seconds the modem should wait for the carrier before hanging up. |
| S10 | Describes how long the modem should wait before hanging up when the carrier has been lost. |