



Installation & Configuration manual

Socket Server

OpenAT application

! CAUTION !

ELECTRIC SHOCK HAZARD IF COVER REMOVED

SERVICE BY QUALIFIED PERSONEL ONLY

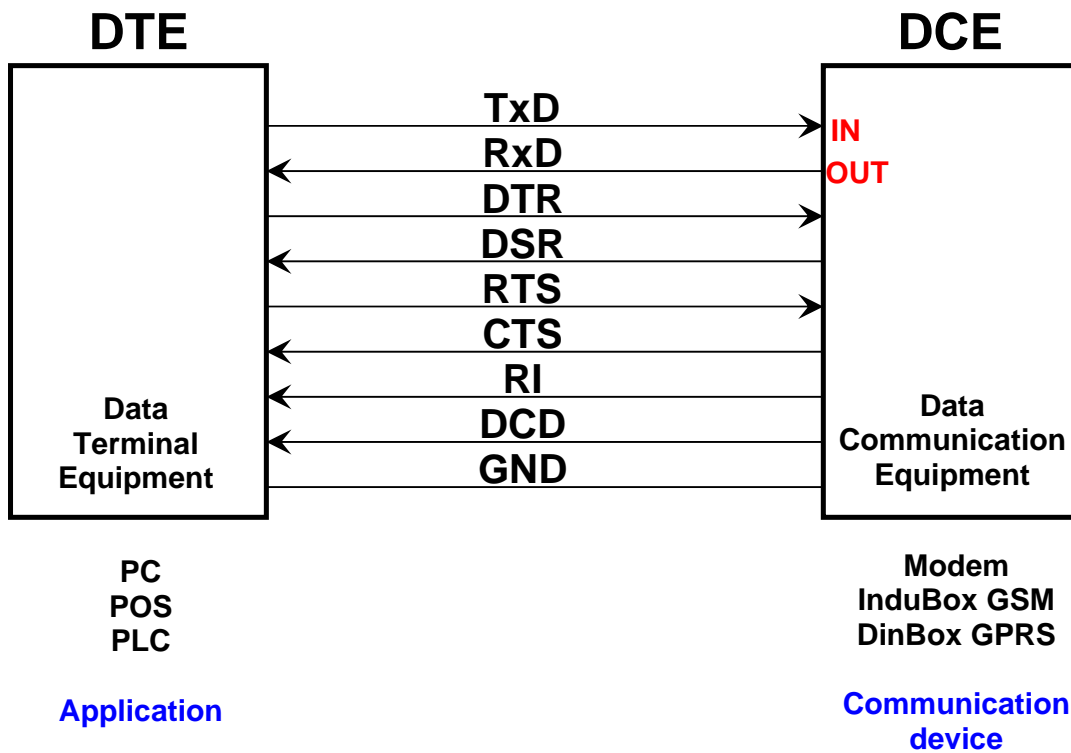
Document History

Date	Version		Auteur	
29/05/2009	V1.0	Preliminary	Filip Lavaerts	Creation

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Serial flow as used in this manual :



1. Introduction

This manual is the reference manual for configuring the *Socket Server OpenAT*(*) application.

This application is created for the Bausch Datacom nv *DinBox GSM/GPRS* and *InduBox GSM IV* modems. Both modems are using the Wavecom Q24Plus GSM/GPRS modem module.

Thanks to the *Socket Server OpenAT*(*) application, a non IP enabled device, connected to the *DinBox* or *Indubox* modem, will be accessible over a GPRS link.

(*) OpenAT is a trademark of Wavecom

2. General Description

CSD (Circuit Switched Data) data communication with GSM modems has a similar behavior as connections with standard PSTN modems over a POTS (Plain Old Telephone System) line.

In CSD answering mode (autoanswer active s0=1), the *DinBox* or *Indubox* modem will send the unsolicited **CONNECT 9600** respons a successful connection is established with a remote originating modem. When the remote modem is disconnecting the connection, the respons **NO CARRIER** will be transmitted.

When using GPRS the situation is complete different. TCP/IP is used, all data will be sent in packets and routed over an IP packet switched network.

Thanks to the *Socket Server* OpenAT application a CSD answering mode will be simulated when using communication over a GPRS link. When the OpenAT application is started in SCKserv mode, a GPRS/APN connection will be automatically established and maintained. After a successful GPRS/APN connection the *DinBox* or *InduBox* modem will be part of an IP network (Internet or Intranet) and will have an IP number. The OpenAT application will start a TCP socket server (listener) service and will listen to a predefined PORT.

When a remote TCP client establishes a connection with the *DinBox* or *InduBox* modem, the unsolicited respons **CONNECT 9600** will be transmitted. When the TCP client is disconnecting the connection, the respons **NO CARRIER** will be transmitted.

More information about the different modes of the *Socket Server* OpenAT are described in the following sections.

3. Basic Setup

When using the *Socket Server* OpenAT application the serial port of the *DinBox* or *InduBox* modem can only be used with the following parameters :

Speed : 9600 bps
Async format : 8N1
Flow control : none (no RTS needed from DTE)
V.24 DTR signal : none (no DTR needed from DTE)

Basically only RXD/TXD and GND are needed to use the OpenAT application. It's possible to use the isolated 3-wire RS-232 and 2-wire RS-485 interfaces of the *InduBox* GSM IV modem.

4. Possible Modes

There are 3 possible working modes into the *Socket Server Open AT* application :

4.1 CSD

The modem is acting like a normal GSM CSD data modem in autoanswer mode (s0=1). When a remote modem dials-in the unsolicited respons **CONNECT 9600** is sent. When the connection is disconnected **NO CARRIER** will be sent. During CSD “data mode” the modem is 100% transparant.

During “idle state mode” the modem is able to receive a SMS message and check the message content. More info on the SMS message content info below.

4.2 GPRS

Same function as CSD described above, but the modem has received APN GPRS parameters via a SMS message. APN server name, username, password and DNS info is entered, but there is no GPRS attachment or APN connection.

This mode is implemented to allow DOTA (Download Over The Air) upgrade via a FTP host. This function is described below.

During “idle state mode” the modem is able to receive a SMS message and check the message content. More info on the SMS message content info below.

4.3 SCKserv

In this mode, the modem will automatically be connected to GPRS/APN and a TCP socket server (listen) service will be started. The APN connection and the socket listen mode will be checked regularly (60 seconds) so that the modem is always ready to for a TCP socket client.

When a remote TCP client establishes a connection with the DinBox or InduBox modem, the unsolicited respons **CONNECT 9600** will be transmitted. When the TCP client is disconnecting the connection, the respons **NO CARRIER** will be transmitted. During “data mode” the modem is 100% transparant.

During “idle state mode” the modem is able to receive a SMS message and check the message content. More info on the SMS message content info below.

5. How to Switch Between the 3 Modes

Switching between the modes described above is done via (text) SMS messages.

Note:

- Each line must be terminated with a <CR><LF>.
- Each character is case sensitive.

In a default state CSD mode is selected. No GPRS parameters are saved.

5.1 Switch to GPRS mode

A SMS with the following content must be sent to the modem;

```
InduBox startup.ini  
Link : GPRS  
APN : "proximus.internet.be"  
APNUN : "username"  
APNPW : "password"  
DNS1 : ""  
DNS2 : ""  
End
```

When the modem receives the SMS message as described above, the modem will save all the received parameters, restart and enter the GPRS mode. As explained above; this mode acts the same as CSD but all APN parameters are know and programmed. This mode exists to do an FTP upgrade as explained in next chapter.

5.2 Switch to SCKserv mode

A SMS with the following content must be sent to the modem;

```
InduBox startup.ini  
Link : SCKserv  
APN : "proximus.internet.be"  
APNUN : "username"  
APNPW : "password"  
DNS1 : ""  
DNS2 : ""  
Port : 404  
End
```

When the modem receives an SMS message as described above, the modem will save all the received parameters, restart and enter the SCKserv mode. After the GSM registration the modem will automatically establish a connection to the GPRS network and the APN. The received IP address will be sent onto the serial port as an unsolicited respons and the socket server service will start automatically.

5.3 Switch to CSD mode

It's always possible to go back to the default CSD mode via the following SMS;

InduBox startup.ini
Link : CSD
End

When the modem receives an SMS message as described above, the modem will restart, and enter the CSD mode.

6. DOTA upgrade (optional)

DOTA upgrade is done via FTP.
A SMS with the following content must be sent to the modem;

InduBox FTP upgreade
FTP : 213.219.182.110:21
User : username
Pwd : password
File : filename.ext
Size : 15124
End

After receiving the SMS the modem will try to make a connection to a FTP server:port.

When in

CSD mode:	nothing will be done (no GPRS parameters)
GPRS mode:	the modem will do a GPRS attach, APN connection, ...
SCKserv mode:	stop socket listen service, the modem was already connected to GPRS, APN, ...

After downloading the file, the size will be verified.

If not equal

The upgrade process stops and the modem will restart as nothing has happened.

If equal

The new OpenAT application will be loaded and the modem will restart.