

**Specification**  
**For**  
**SMS Contact Server**

**1 and 2  
module version  
"Mobile to Mobile"**

**"SMS Contact Server", 1 and 2 module version "Mobile to Mobile"**

- "SMS Contact Server" 1 and 2 module version is the SMS software for "Mobile to Mobile" SMS communication.
- SMS is Short Message Service
- External application means an application and database in the LAN/WAN/INTRANET that sends and receives SMS through the "SMS Contact Server" 1 and 2 module's version.
- Mobile client means any type of GSM phone, or hand-held computer that can connect to a GSM mobile phone or has the GSM mobile phone built-in.
- SMSC is the Short Message Service Center in the GSM network

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Content

<b>Date</b>	<b>Version</b>	<b>Language</b>	<b>Pages</b>
2002-03-01	1.3 Mobile to Mobile	English	19
	1+2 module version		

### 1.1 General information

The "SMS Contact Server" 1 or 2 module's version is a SMS (Short Message Service) software for the interactive communication of SMS messages within the GSM 900 networks worldwide. The software is based on an open interface for external applications to send and receive SMS messages through the "SMS Contact Server" software.

**Table 1, "SMS Contact Server" folders**

Folders	Description
<b>M:\LOGFILES\NORMAL\</b>	Is where all logfiles of successfully sent and received SMS are stored.
<b>M:\LOGFILES\ABNORMAL\</b>	Is where all logfiles of unsuccessfully sent or received SMS are stored.
<b>M:\QUERY\</b>	Is where all the successfully received SMS are stored. The generated filename is "SMS_IN.TXT".
<b>M:\QUERY\TEST\</b>	Is where all the successfully received SMS (when the sender are listed in "EDUCATE.TXT") are stored. The generated filename is "SMS_IN.TXT".
<b>M:\RESULT\</b>	Is where the external application puts the file "SMS_SEND.TXT"
<b>M:\SETTINGS\</b>	Contain "LEGALIN.TXT", "EDUCATE.TXT" and "CONTACTS.TXT".  "LEGALIN.TXT" contains the GSM numbers allowed to be sent in SMS to the system.  "EDUCATE.TXT" contains the GSM numbers sent in SMS that will be placed in the "M:\QUERY\TEST" folder.  "CONTACTS.TXT" contains the GSM numbers used in the SMS Manager Contact List.

**Table 2, The 2 modules version**

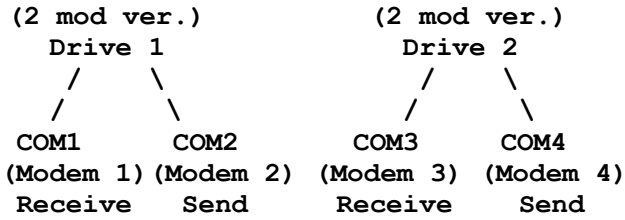
GSM Network	>>>	GSM Module	>>>	SMS Receive	>>>	M:\QUERY\SMS_IN.TXT
GSM Network	<<<	GSM Module	<<<	SMS Send	<<<	M:\RESULT\SMS_SEND.TXT

**Table 3, The 1 module version**

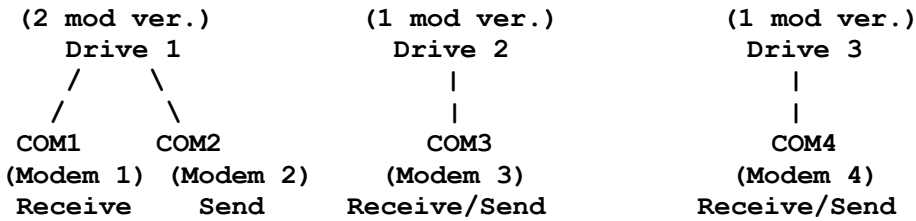
GSM Network	>>>	GSM Module	>>>	SMS Receive	>>>	M:\QUERY\SMS_IN.TXT
GSM Network	<<<	GSM Module	<<<	SMS Send	<<<	M:\RESULT\SMS_SEND.TXT

**Table 4, Example of custom design**

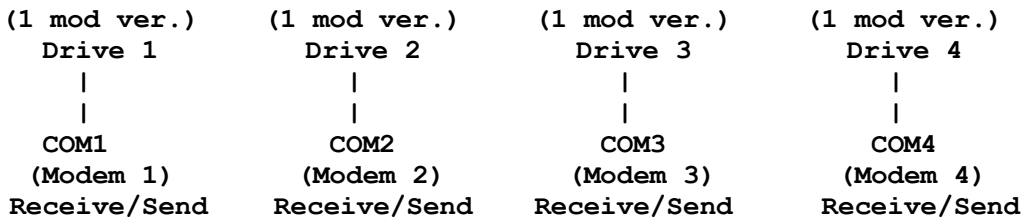
Two "2 module version" (with separate modems for sending and receiving).



Or one "2 module version" (with separate modems for sending and receiving) and one or two "1 module versions" (with one modem for sending and receiving).



Or one to four "1 module version" (using the same modem for sending and receiving).



The "2 module version" uses separate batch-files for send and receive, while the "1 modem version" uses only one ("SMS-GET.BAT").

### 1.1.1 Installation

Installation can be performed either in a stand alone PC with the external application, a dedicated PC for the SMS communication, or integrated in the same LAN/WAN/Intranet PC with the external application.

### 1.1.2 Differences between the 1 and 2 module version's

The differences between the 1 and 2 module versions are that the 1 module version sends and receives SMS messages using the same GSM module, and the 2 module version has one GSM module dedicated for sending and one GSM module dedicated for receiving SMS messages. The 2 module version has a higher capacity and can send and receive simultaneously.

The 1 module version looks for incoming messages as a default. If an outgoing SMS message is generated, it stops looking for incoming messages and sends the outgoing SMS message until the outgoing message queue is empty.

**Table 5, Capacity**

<b>1 module version</b>	<b>2 module's version</b>
Send: 1 SMS per 3,2 second	Send: 1 SMS per 3,2 second
Receive: 1,5 SMS per second	Receive: 1,5 SMS per second

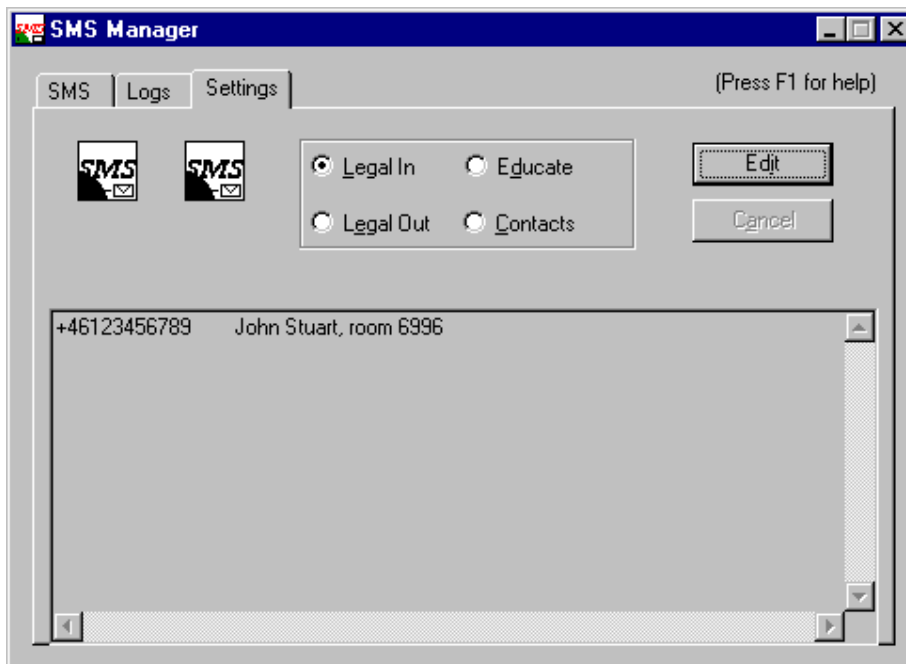
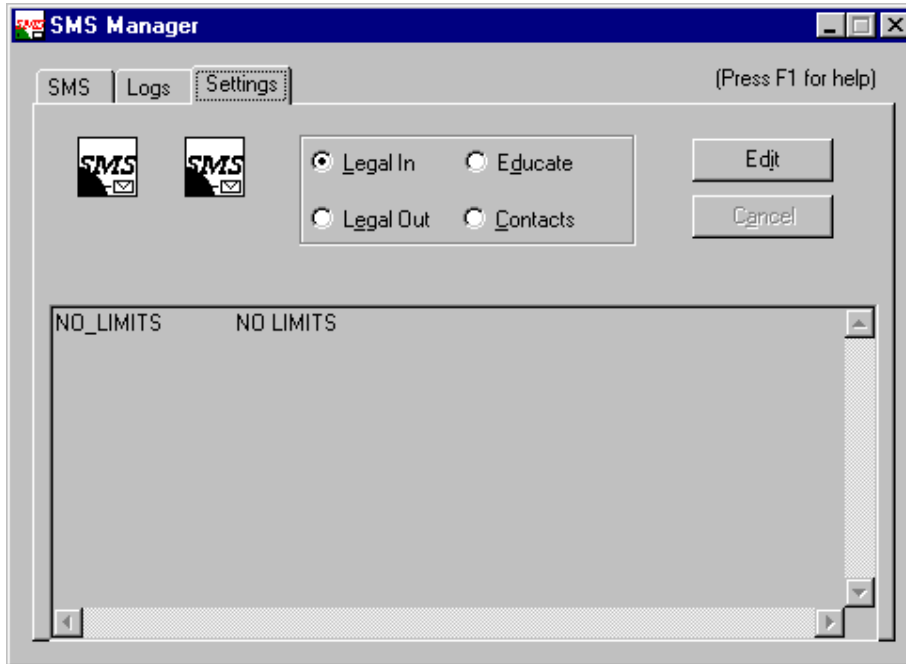
**Note: The 1 module version does not send and receive simultaneously. The capacity is the technical level. The performance of the local GSM network and SMSC can influence the capacity.**

## 1.2 Access list, LEGALIN.TXT

The default setting is NO\_LIMITS meaning all incoming SMS have access to the system. The access list is named "LEGALIN.TXT" and is located in "M:\SETTINGS\". The list should contain all GSM numbers which are allowed to be sent in SMS through the SMS software, or NO\_LIMITS in capital characters. "LEGALIN.TXT" can either have NO\_LIMITS or GSM numbers set.

**Note: Use the SMS Manager to edit "LEGALIN.TXT".**

**If "LEGALIN.TXT" does not exist all incoming SMS will be deleted. The event will be logged in the "M:\LOGFILES\ABNORMAL" folder.**



**Table 6, File formats for LEGALIN.TXT**

<b>Contents</b>	GSM number typed as international format followed by a TAB separator, text description and ended with CR+LF.
<b>String example</b>	+46123456789#9John Stuart, room 6996#13#10
<b>File format</b>	The file must be saved in OEM ASCII text format
<b>Wild Card</b>	If the administrator excludes some positions at the end of the GSM number, this will allow anybody in that number series to access the system. <b>Example:</b> +46#9All GSM phones in Sweden#13#10

**1.3 Educate, EDUCATE.TXT**

Educate is a feature for receiving SMS as a test receiving message. For example; if the system is set up and running with the external application and database, and SMS is to be used for education purposes.

It is possible to do a parallel communication to the existing SMS communication. If a GSM number is set up in the "EDUCATE.TXT" list, then all SMS sent from that number is going to be placed in the "TEST" folder under "M:\QUERY". The GSM number that is set in "EDUCATE.TXT" does not affect any of the other numbers set up in the "LEGALIN.TXT". If the GSM number is set in both the files: "LEGALIN.TXT" and "EDUCATE.TXT", the received SMS will be placed in the "TEST" folder under "M:\QUERY".

**Use the SMS Manager to edit "EDUCATE.TXT".**

**Table 7, File formats for Educate.txt**

<b>Contents</b>	GSM number internationally typed followed by a TAB separator, text description and ended with CR+LF.
<b>String example</b>	+46123456789#9John Stuart, room 6996#13#10
<b>File format</b>	The file must be saved in OEM ASCII text format
<b>Wild Card</b>	If the administrator exclude some positions at the end of the GSM number will place all incoming SMS in the "Test" folder under "M:\QUERY". <b>Example:</b> +46#9All GSM phones in Sweden#13#10

### 1.4 Reading incoming SMS by external application file exchange

The file exchange interface for incoming SMS is executed in the "QUERY" folder. An incoming SMS is placed in "M:\QUERY\" with the file name "SMS\_IN.TXT". The "SMS Contact Server" automatically generates the file "SMS\_IN.TXT" when a SMS is received. The external application can check "M:\QUERY\" for "SMS\_IN.TXT" and copy the file to its own area and delete the file after copying it, or remove it immediately.

If the file "SMS\_IN.TXT" exists and a new SMS is being received, a temporary "~SMS\_IN.TXT" file is created. When the "SMS\_IN.TXT" file is deleted by the external application, "~SMS\_IN.TXT" changes its name to "SMS\_IN.TXT". This means that "SMS\_IN.TXT" can contain more than one SMS. Each SMS message is ended by a CR.

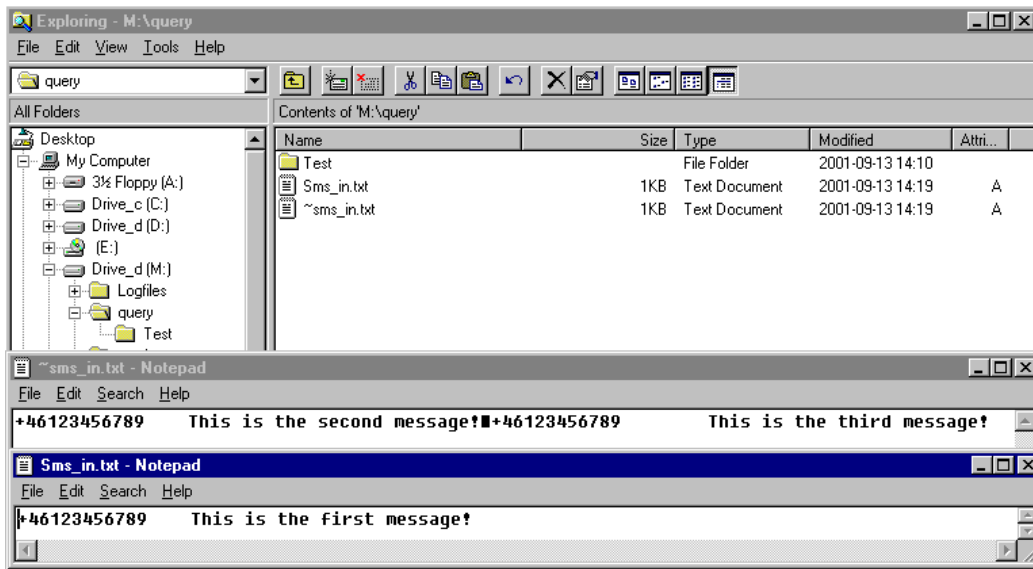
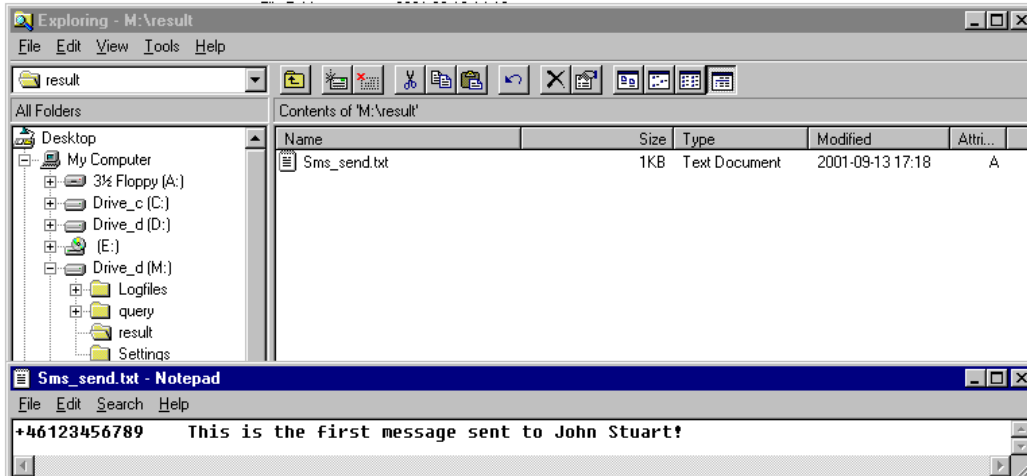


Table 8, Incoming file

GSM number	Separator	Message	End of message
International set	TAB	OEM ASCII	CR
+46123456789	#9	This is the first message!	#13

## 1.5 Send SMS by external application file exchange

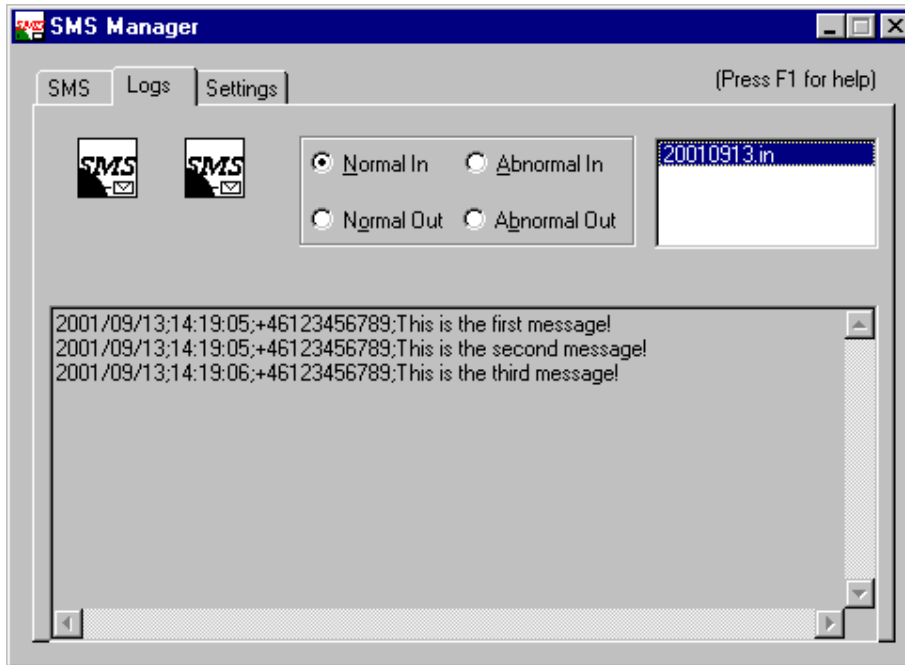
The file exchange interface for outgoing SMS is executed in the "RESULT" folder. Outgoing SMS generated by the external application is placed in "M:\RESULT\". It must contain the GSM number internationally typed as the first part followed by a TAB, then the text, and ended with a CR . When the outgoing SMS is placed in the file "M:\RESULT\SMS\_SEND.TXT", the SMS software for sending SMS starts, and sends the SMS to the addressed number. When the SMS is sent, the file "SMS\_SEND.TXT" is deleted and a new file can be placed in the "RESULT" folder. **Appending the "sms\_send.txt" file is not allowed.** The file "SMS\_SEND.TXT" can contain one or more SMS. The external application must contain its own queue for outgoing messages.



**Table 9, Outgoing file**

GSM number	Separator	Message	End of line
International set	TAB	OEM ASCII	CR
+46123456789	#9	This is the first message sent to John Stuart!	#13

## 1.6 Incomming log list

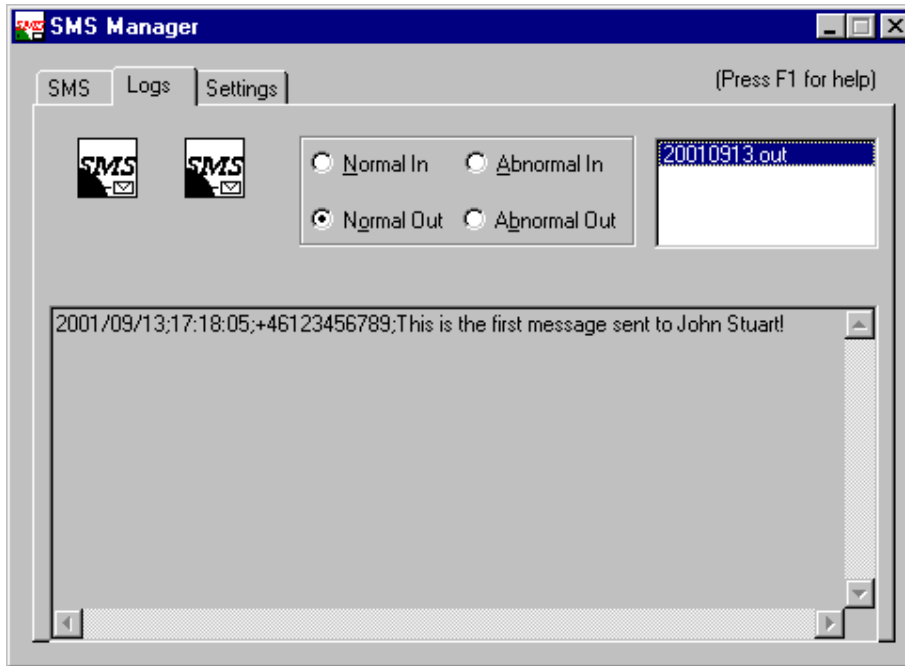


When a SMS is received by the SMS software, the SMS message is automatically logged in "M:\LOGFILES\NORMAL" with the filename as the date for example "20010913.IN". When a SMS is received from a GSM number that is not in the access list, it will be logged in "M:\LOGFILES\ABNORMAL" with its filename as the date i.e. " 20010913.IN". Note that the date- and time stamp is taken from the GSM Network.

**Table 10, Example incoming log list**

2001/09/13;14:19:05;+46123456789;This is the first message!
---

## 1.7 Outgoing log list



When a SMS is confirmed as received by the SMSC by the GSM network, an outgoing log is created in "M:\LOGFILES\NORMAL" with its filename as the date i.e. "20010913.OUT". If, for some reason, the SMS software cannot send the SMS, it will be logged in "M:\LOGFILES\ABNORMAL" with its filename as the date i.e. "20010913.OUT". Note that the time- and date stamp is from the operating system.

**Table 11, Example outgoing log list**

2001/09/13;17:18:05;+46123456789;This is the first message sent to John Stuart!
---

## 2.0 SMS Manager

The SMS Manager is the management software that is used for administration of legalin, legalout, educate files, and viewing log files. A shortcut to SMS Manager (Programs\SMS Contact Server\SMS Manager) is automatically created when the "SMS Contact Server" software is installed. SMS Manager can also be used for writing/reading SMS. More detailed information can be obtained by pressing the F1-button when running the SMS Manager.

## 3.0 Installation of GSM module(s) and software into the PC

Hardware requirements:

- Intel Pentium, Celeron (or better ....) running Microsoft NT4 Workstation, Server or 2000 Pro.
- 1 MB free hard disk space for the SMS software.
- Free hard disk space for log files, legal and educate files.
- Memory 128MB, (recommended).
- 1 or 2 (... or more) available serial RS232 port(s).

Operating system requirements:

- Microsoft NT4 Workstation or Server, SP5 or Windows 2000 Professional, SP1.

**Make sure you connect the GSM module(s) to the PC before starting up and that the serial port(s) do not interact with any other application and function already running in the PC.**

Before you start to use the "SMS Contact Server" 1 and 2 module version(s) you must first connect the GSM module(s) to the serial port(s) on the PC, and connect the external antenna to the power supply. To be sure that you have a GSM signal, take an ordinary GSM phone and the SIM card that will be used in the GSM module and check the signal strength.

Make sure you have **switched off the password (PIN) for the SIM card**. If not, it will affect the functions for sending and receiving SMS. Use your ordinary phone to switch the password off.

Now you can start the PC....

Install the SMS software from the CD and follow the instructions.

Test of sending SMS messages.

- Use the SMS Manager to create a message.

Test of receiving SMS messages.

- Use the SMS Manager to read a message.

#### 4.0 Start "SMS Contact Server" as a service

To start "SMS Contact Server" as a service under NT 4 Workstation, Server or 2000 Pro, requires that "Autoexnt" from "NT Resource Kit"/"2000 Resource Kit" CD is installed on the PC. To install "Autoexnt" just follow instructions on "NT Resource Kit" /"2000 Resource Kit" CD.

Make sure to enable "Allow service to interact with desktop".

After installation just add following lines of code to the file "Autoexnt.bat"

One module:

```
CMD /x /c START M:\SMS-GET.BAT
```

Two modules:

```
CMD /x /c START M:\SMS-GET.BAT
```

```
CMD /x /c START M:\SMS-PUT.BAT
```

Where M: is the drive where "SMS Contact Server is installed.

#### **!IMPORTANT!**

When the "SMS Contact Server" is started via Autoexnt and a user log on, an attempt to log off by the user will shutdown the "SMS Contact Server" session. Use CTRL-ALT-DELETE and choose "Lock Workstation" to lock the computer instead.

## 5.0 Database Plug-in

The database plug-in (smsdb.exe) makes it possible to use an ODBC data source for the SMS message exchange instead of file exchange.

To use the plug-in, first create a database containing the tables specified below, then create an ODBC data source on the computer where "SMS Contact Server" is installed, and execute the plug-in either with "Scheduled Tasks" or with batch-file.

Databases tested are MS SQL, MySQL and MS Access.

### 5.1 Database and tables

#### Table name: smsin

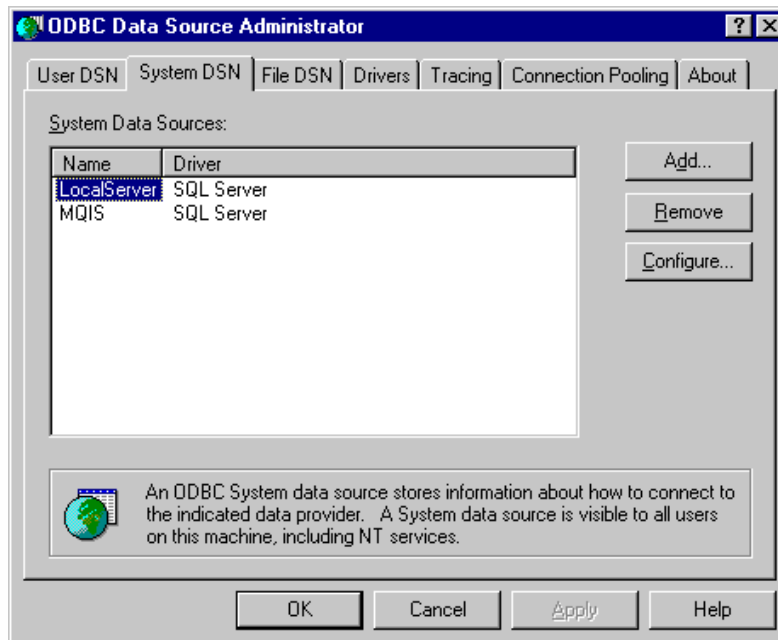
Field name	Format	Comments
Smsid	BIGINT (8) (MS Access: Autonumber (4))	Counter (unique index) Primary key.
Telnr	Varchar (25)	Originating GSM number
Smstext	Varchar (160)	SMS message
Status	Integer	The database plug-in sets this value to 10 when a new SMS is received. The external application should set it to 90 or delete the record when handled.
Date_created	Date (YYYY-MM-DD hh:mm:ss)	Timestamp from GSM network or local time when record was created.

#### Table name: smsout

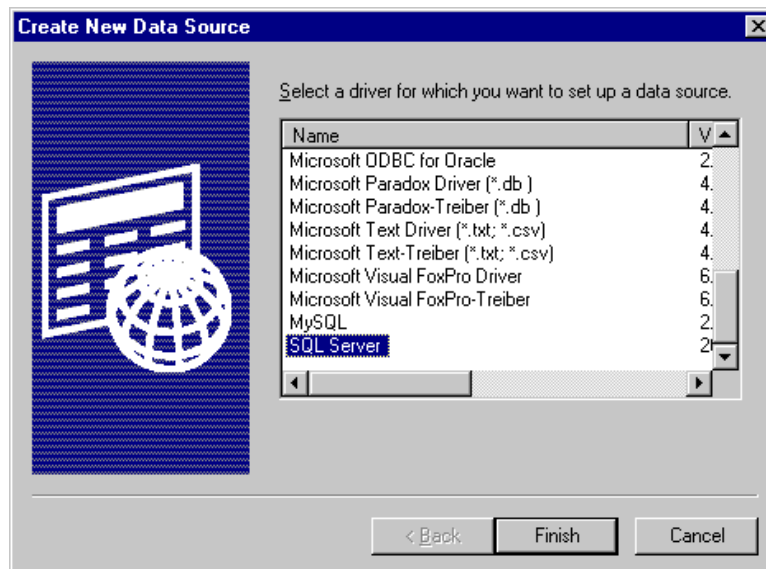
Field Name	Format	Comments
Smsid	BIGINT (8) (MS Access: Autonumber (4))	Counter (unique index) Primary key.
Telnr	Varchar (25)	Recipient's GSM number
Smstext	Varchar (160)	SMS message
Status	Integer	External application should initially set this value to 10. The database plug-in set this value to 90 when received.
Date_created	Date (YYYY-MM-DD hh:mm:ss)	Local time when created

**Note:** The database plug-in does not delete records. It adds record's to the table "smsin" and changes the "Status" field in the table "smsout". User is responsible for managing the database and delete records when handled.

## 5.2 ODBC source (example shows ODBC source for MS SQL)

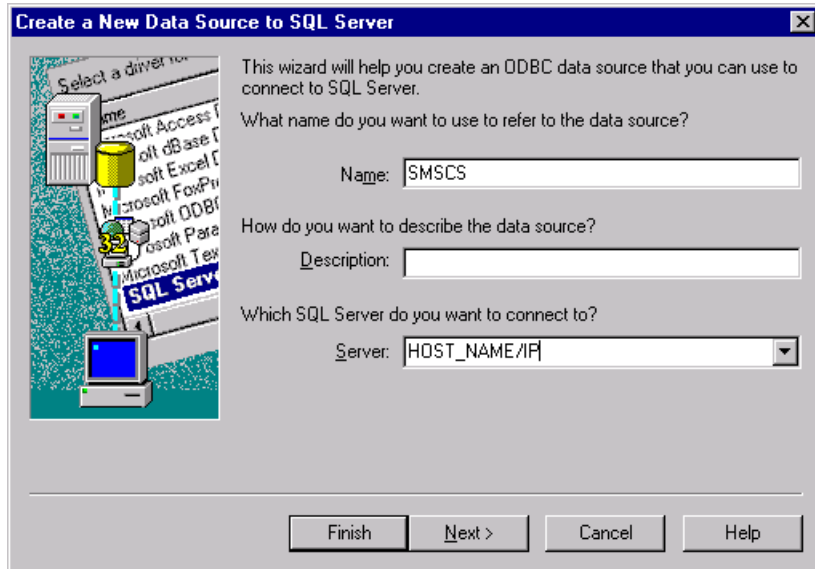


1. Open "Data Sources (ODBC)" in control Panel and press "System DSN". Then press "Add".

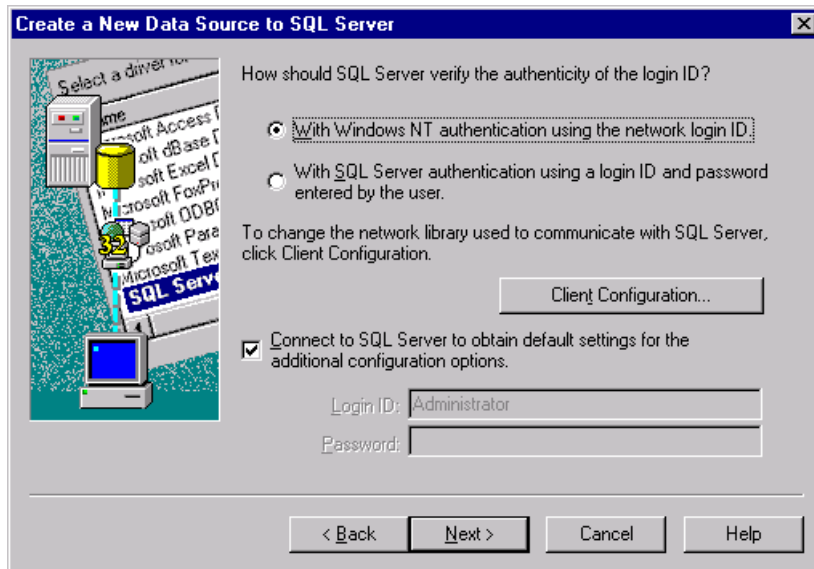


2. Select driver.

## SMS Contact Server

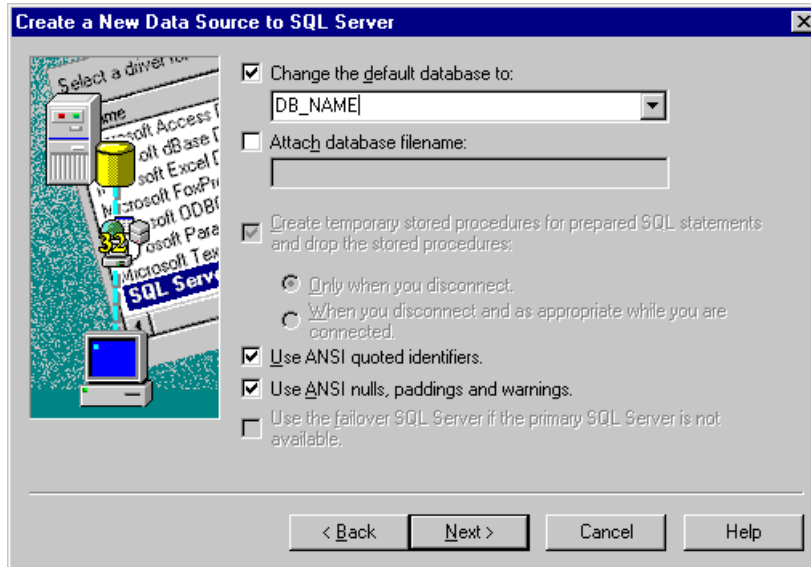


3. Set name as shown in picture and change Server to name or IP of server where your database is set. Then press "Next".

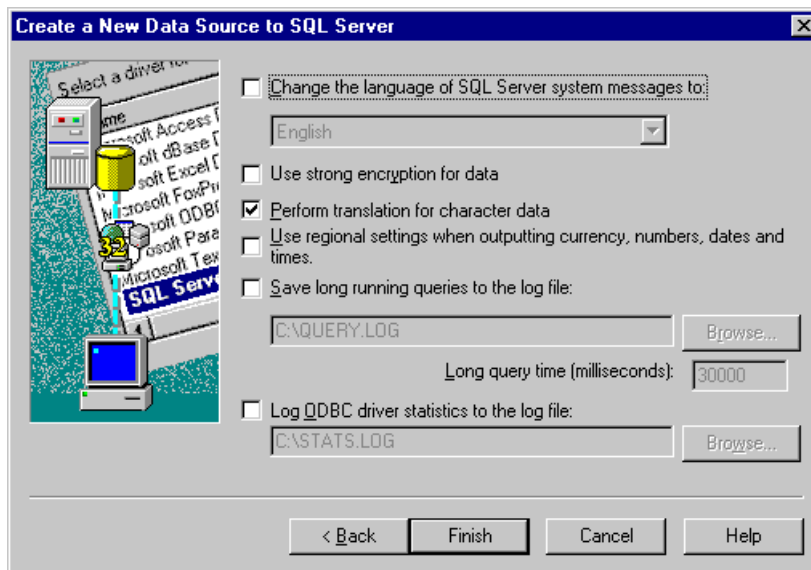


4. Set authentication and Client Configuration according to your database settings. Then press "Next".

## SMS Contact Server



5. Change the Default Database to the name you named your database. Then press "Next".

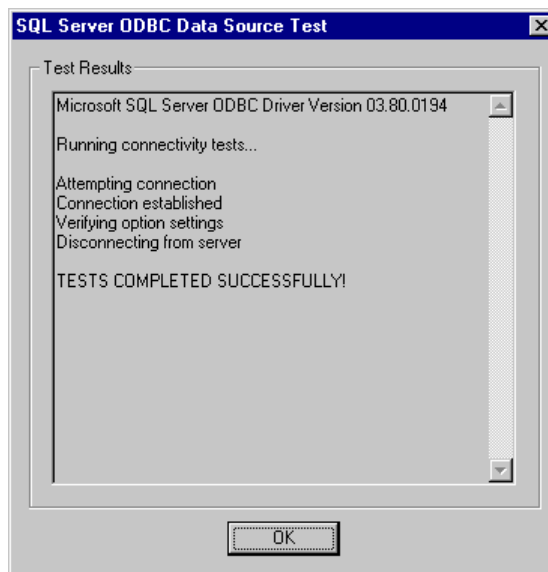


6. Press "Finish".

## SMS Contact Server

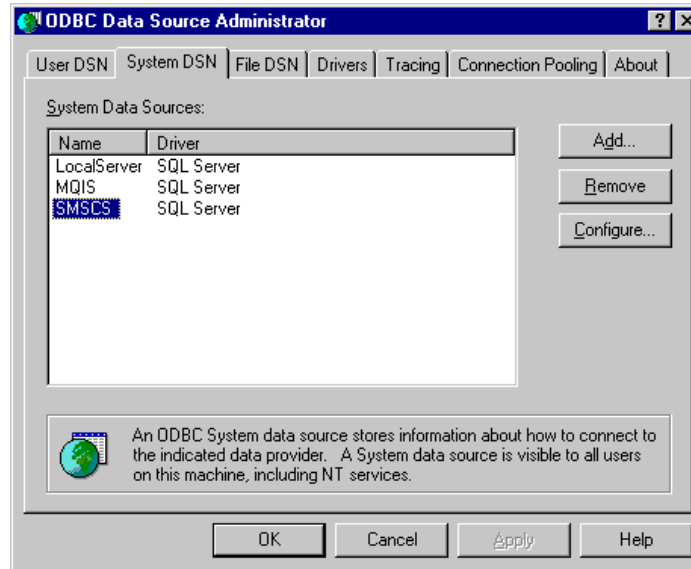


7. Press "Test Data Source" to check that all settings are correct.



8. If all settings are correct the message "TESTS COMPLETED SUCCESSFULLY!" is displayed. Then press "OK"

## SMS Contact Server



9. The new System DSN is shown.

### 5.3 Executing smsdb.exe with "Scheduled Tasks"

Use the "Scheduled Tasks Wizard" to set up a new task. Set the task to run smsdb.exe at preferred intervals.

### 5.4 Executing smsdb.exe with Batch-file

Create a file named smsdb.bat and add the following four lines to the file:

```
@M:  
@CD \  
@smsdb.exe /h 60  
@smsdb.bat
```

**Note: M: is to be replaced with the drive where "SMS Contact Server" is installed. The switch /h sets a sleep timer in seconds.**