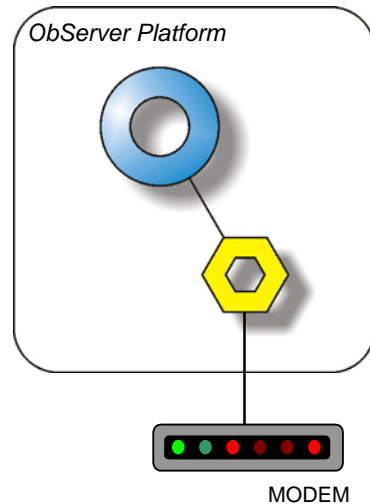# Product Engineering Guide

OSM v20 TAP v13

Introduction

The TAP OSM links any pager or mobile phone SMS message bureau supporting TAP (Telocator Alphanumeric Protocol) v1.8 to ObServer.

Many mobile phone and paging networks world-wide support the TAP standard including, in the UK: BT Cellnet, Vodafone, One2One, BT paging, Orange, and PageOne.

ObServer Platform

MODEM

Modem Requirements

The TAP driver requires a modem with the following features:
  Hayes™ AT Command Set
  Fixed computer(DTE)-to-modem(DCE) baud rate, irrespective of the modem-to-modem link baud rate.

The TAP driver can operate with modem with the following features:
  Data Compression
  Error Correction

Character Sequences

TAP sends the following sequences to the modem:

Action	Character Sequence
Reset	ATZ[cr]
Initialise	AT<initialisestring> E0Q0V1TS0=0[cr]
Dial <telno>	ATD<telno>[cr]
Go To Command State	<1secondpause>+++<1secondpause>
Drop Line	ATH[cr]

TAP expects the modem to send the following sequences:

Character Sequence	Meaning
[cr][lf]OK[cr][lf]	Modem OK and ready to receive next Command
[cr][lf]ERROR[cr][lf]	Command was invalid
[cr][lf]CONNECT[cr][lf]	Modem connected, and going on-line
[cr][lf]CONNECT <info>[cr][lf]	Modem connected, and going on-line
[cr][lf]NO DIAL TONE[cr][lf]	Modem cannot connect, as it cannot sense dial tone
[cr][lf]BUSY[cr][lf]	Modem cannot connect, as remote modem is busy
[cr][lf]NO CARRIER[cr][lf]	Modem cannot connect, as it cannot sense carrier from modem

[cr] means the ASCII char CR code 13$_d$
[lf] means the ASCII char LF code 10$_d$

Engineering

Step 1 – Install OSM

The TAP OSM is installed automatically with all ObSys editions. Refer to the 'ObSys CD sleeve' for details on how to install ObSys.

Step 2 – Connect COM Port to Modem

Using cable, connect the Modem to a COM port of the PC. Refer to the section 'Cable' below for details of the cable.

Step 3 – Plug in TAP OSM to ObServer

Use object engineering software to locate the ObServer Setup object. Assign the TAP OSM to an available channel. Refer to '*ObServer v20 Application Engineering Guide*'.

Note: After inserting the OSM, your engineering software may need to re-scan the ObServer object in order to view the OSM.

Step 4 – Configure TAP OSM

The modem initialisation, baud rate, and bureau settings are configured using objects. Use object engineering software to view and modify the objects within the OSM.

The modem initialisation string should fix the computer (DTE) to modem (DCE) baud rate, irrespective of modem-to-modem link baud rate. **Refer to your modem user guide for the correct settings required**.
Example: For a Hayes Accura™ or Optima™ the initialisation string '&D0&K0&Q6' has been used, where
    &D0 - DTR option, hangup if DTR dropped
    &K0 - Flow control option, disable all flow control
    &Q6 - Asynchronous transmission at a fixed DTE-modem baud rate

Refer to the *[OSM v20\TAP v13\Bureau]* object for details of bureau settings.

Step 5 – Access Objects within the TAP System

Values from the TAP system are made available as objects from ObServer. Any object software that is connected to ObServer can access these objects.

Objects are available to
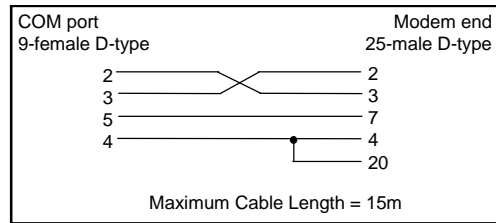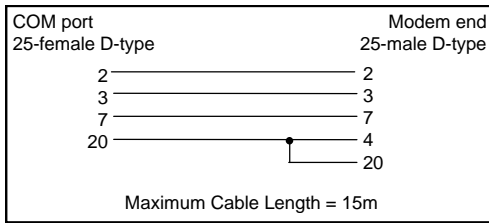   Receive alarms from ObServer and send them to a pager
    Convert an on/off status to trigger a message, or
    Send a message directly to a pager

Engineering Reference

Cable Specification

The cable between COM port and the Modem as follows:

COM port 25-female D-type		Modem end 25-male D-type
2	——————	2
3	——————	3
7	——————	7
20	—————•————	4
	└————	20

Maximum Cable Length = 15m

COM port 9-female D-type		Modem end 25-male D-type
2	——╳——	2
3	——╳——	3
5	——————	7
4	—————•————	4
	└————	20

Maximum Cable Length = 15m

Objects

When the OSM is loaded the following objects are created within ObServer, use object software to access these objects.

Object[1]	Label	R/W	Type
S*c*	TAP System connected to channel *c*	-	*[TAP v13]*[2]
M*c*	TAP Module connected to channel *c*	-	*[OSM v20\TAP v13]*

Notes

[1]   The ObServer channel number, *c*, is a number in the range 1…40.

[2]   This object has a variable content and as such requires scanning.