

Orion 1 Synchronous Serial Low Speed Application Note

About Orion 1

Orion1 Modems from FlexDSL have always some more features than corresponding products from competitors. Here again the most important points, that are of prime importance:

- Components have industrial temperature range (-40°C to +85°C)
- Components never run on the limit because of better specification
- Programmable, flexible and intelligent design, using High-class chipsets
- Complete solution design, including repeaters, including remote power
- Best performance and low power, long life, high quality design

The **FlexDSL** Orion1 DSL modems and systems are based on the G.SHDSL standard (ITU Rec. G.991.2), what represents the best of several symmetric DSL technologies that have been combined into a single industry standard providing rate adaptation, greater reach and performance, spectral compatibility, lower power and application flexibility.

Serial Interface (Nx64) on Orion1

The today serial interface on the Orion1 product line is very flexible and fulfill several standards. Today any user can configure this serial interface as:

- V.35 Interface
- V.36 Interface with/without termination
- X.21 Interface with/without termination
- V.28 Synchronous Serial Interface with 64kbit/s or 128kbit/s
- RS-232 Asynchronous Serial Interface with 110 bit/s to 115kbit/s

New Speed for the Synchronous Serial Interface

With the introduction of new regulations such as RoHS by July 1st 2006, most low speed synchronous serial modems are discontinued by their manufacturers. Because of non availability of some old type modems (for example V.22, V.32, V33 and many more) there is a new software available for low speed synchronous serial data transmission. The V.28 interface can be configured as:

- 110/150/300/600/1200/2400/4800/9600/14400/19200/28800/38400 bit/s
- Especially the synchronous serial data speed of 1200 and 2400 baud is important
- Full Duplex

Type of Orion1 Modem Supporting Low Speed Synchronous Serial Transmission

FG-PAM-SAN-E1B/N64,V32

FlexDSL standalone modem (NTU),
1x SHDSL (TC-PAM16), Master/Slave,
Multi-Service: 1x E1 and 1x Nx64,
accepts Local or Remote Power



FG-PAM-SRL-E1B/N64/Eth/FXO-RP,V39RP

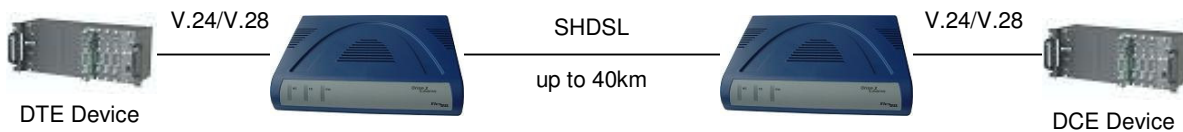
FlexDSL sub rack module (LTU), 1x SHDSL (TC-PAM16),
Master/Slave, Multi-Service: 1x E1 and 1x Nx64 and 1x
Ethernet (10/100BT Bridge), Remote Power Source



Pin out of the Orion1 Nx64 Connector (Dsub 25-Pin, Female)

There is a special pin out for this low speed synchronous serial interface:

RS-232 (Async) / V28 (Sync) Serial Transmission Interface				
	DTE cable		DCE cable	
	DTE device	FlexDSL Modem V32 or V39	DCE device	FlexDSL Modem V32 or V39
GRN	7	7	7	7
TX	2	21 <-	2	5 ->
RX	3	5 ->	3	21 <-
RTS	4	4 <-	4	6 ->
CTS	5	6 ->	5	4 <-
DTR	20	20 <-	6	20 <-
DSR	N/A	N/A	N/A	N/A
RC	17	8 ->	17	18 <-
TC	15	25 ->	N/A	N/A
TCC	N/A	N/A	N/A	N/A
DCD	N/A	N/A	N/A	N/A



Orion1 Nx64 Synchronous Serial Transmission Configuration

```

CP_CM>CONFIG
-----
Configuration Mode : Normal          Service           : N
-----
Nx64 interface,      Interface Type : V.28
  Bitrate            : 1200 bit/s      Clock Mode         : remote
  V.54 Loops         : disabled        Clock Direction    : contradirectional
  RTS pass through   : enabled         TC polarity        : normal
  RC polarity        : normal
xDSL interface,     Master/Slave : Slave
  Base Rate          : adapt           Autorestart        : on
  Annex              : B               PLL                : off
  TX Power Offset    : +00.0 dB        Use Timeslot 0    : no
-----
CP_CM>

```

CP_CM>H TYPE
SYNTAX: TYPE [n] or TP [n]
This command sets the Nx64 interface type.
0: V.35
1: V.11 (V.36/X.21) without termination
2: V.11 (V.36/X.21) with termination
3: V.28 synchronous
4: RS-232 asynchronous
CP_CM>

CP_CM>H BITRATE
SYNTAX: BITRATE [n] or BTR [n]
This command sets the Nx64 payload bit rate to [1..36] x 64 kbit/s for V.35
and V.11 or 110/150/300/600/1200/2400/4800/9600/14400/19200/28800/38400
bit/s or 64/128 kbit/s for V.28.
CP_CM>

For details about special housings and optional accessories such as adapter cable, power supplies, and lightning protection please refer to your FlexDSL representative, or call FlexDSL on +41 44 741 5290, or send an e-mail to info@flexdsl.ch.