



SIN 379

Issue 1.3

May 2010

Suppliers' Information Note

For The BT Network

BT NetStream 16 Longline Service Description

Each SIN is the copyright of British Telecommunications plc. Reproduction of the SIN is permitted only in its entirety, to disseminate information on the BT Network within your organisation. You must not edit or amend any SIN or reproduce extracts. You must not remove BT trade marks, notices, headings or copyright markings.

This document does not form a part of any contract with BT customers or suppliers.

Users of this document should not rely solely on the information in this document, but should carry out their own tests to satisfy themselves that terminal equipment will work with the BT network.

BT reserves the right to amend or replace any or all of the information in this document.

BT shall have no liability in contract, tort or otherwise for any loss or damage, howsoever arising from use of, or reliance upon, the information in this document by any person.

Due to technological limitations a very small percentage of customer interfaces may not comply with some of the individual characteristics which may be defined in this document.

Publication of this Suppliers' Information Note does not give or imply any licence to any intellectual property rights belonging to British Telecommunications plc or others. It is your sole responsibility to obtain any licences, permissions or consents which may be necessary if you choose to act on the information supplied in the SIN.

This SIN is available in Portable Document Format (pdf) from: <http://www.sinet.bt.com/index.htm>

Enquiries relating to this document should be directed to: help@sinet.bt.com

CONTENTS

1.	INTRODUCTION	3
2.	SERVICE OUTLINE	3
	ERROR! BOOKMARK NOT DEFINED.
2.1	NETSTREAM 16 LONGLINE.....	3
3.	SERVICE AVAILABILITY	3
4.	TECHNICAL SPECIFICATION - NETSTREAM 16 MAJOR CUSTOMER SITE	3
4.1	ELECTRICAL INTERFACE.....	3
4.1.1	<i>Presentation</i>	3
4.2	OPTICAL INTERFACE	3
4.2.1	<i>Presentation</i>	4
4.3	CONNECTION CHARACTERISTICS.....	4
4.4	MULTIPLEX SECTION PROTECTION (MSP)	4
5.	TECHNICAL SPECIFICATION - NETSTREAM 16 LONGLINE SATELLITE SITE	5
6.	FURTHER INFORMATION CONTACT POINT	5
8.	REFERENCES	5
9.	ABBREVIATIONS	6
10.	HISTORY	6

1. Introduction

This Suppliers' Information Note (SIN) describes the BT NetStream 16 services and provides technical information for terminal equipment (TE) manufacturers and suppliers. It should be read in conjunction with SIN 333 ^[1] 'SDH Customer Interfaces at the STM-N level (where N=1,4,16)', and SINs associated with BT's MegaStream portfolio of digital leased line services.

2. Service Outline

2.1 NetStream 16 Longline

NetStream 16 Longline enables digital leased lines from a number of satellite sites within an area to be aggregated for onward delivery to an SDH Mux at a common major customer site and presented as a structured VC4 via an STM-N interface (where N = 1,4,16). NetStream 16 Longline circuits linking satellite site(s) to the major site may be 2Mbit/s, 34Mbit/s, 45Mbit/s, or 155Mbit/s or multiples of such capacities -

- A maximum of 63 x 2Mbit/s capacity OR
- Up to 3 x 34 / 45Mbit/s circuits OR
- A single 155Mbit/s circuit

3. Service Availability

The NetStream 16 Longline services are available throughout the UK where network capacity exists.

4. Technical Specification - NetStream 16 Major Customer Site

The technical presentation is described in SIN 333 ^[1], 'SDH Customer Interfaces at the STM-N level (where N=1,4,16)', and SIN 289 ^[6], 'BT MegaStream 155 & MegaStream Aggregate'.

4.1 Electrical Interface

The electrical signal interfaces at STM-1 SDH level and conforms to the requirements of Recommendation ETS 300 166 ^[7].

4.1.1 Presentation

The physical presentation is via a pair of BNC unbalanced 75 Ohm sockets, one for each direction of transmission. The sockets conform to the general requirements of IEC 169-8 ^[8] with the mating dimensions specified in annex B of BS ISO/IEC 10173: 1991 ^[9].

4.2 Optical Interface

The service is presented as an optical Single-Mode fibre connection conforming to ITU-T Recommendation G.957 ^[5] for SDH optical requirements. The optical fibre presentation at

the User Network Interface (UNI) is conformant to BS EN 60825-1 ^[10] and BS EN 60825-2 ^[11] as a Class 1 Laser Product.

4.2.1 Presentation

The physical presentation is via an FC type optical connector conforming to BS EN 186110:1994 ^[12]. The connector is Physical Contact (PC) polished. Non Return to Zero (NRZ) line coding is used as specified in ITU-T Recommendation G.957 ^[5].

The signal transmitted from the BT Network Termination Equipment (NTE) is derived from a 1310nm wavelength Short-haul SDH class interface (S-1.1, S-4.1, S-16.1 as specified in ITU-T Recommendation G.957 ^[5]). Where necessary deployment may be via a 1310nm wavelength Long-haul SDH class (L-1.1, L-4.1, L-16.1 as specified in ITU-T Recommendation G.957 ^[5]) optical transmitter which has been attenuated by 10dB to provide a transmitted power range of between -10dBm and -15dBm. BT provides the 10dB attenuation at the NTE transmitter to ensure that the Customer Premises Equipment (CPE) receiver is not saturated. The NTE receiver power range is between -10dBm and -34dBm.

The recommended configuration of the SDH Section and Path Overheads is given in SIN 333 ^[1].

4.3 Connection Characteristics

Connection characteristics are described in SIN 333 ^[1], 'SDH Customer Interfaces At the STM-N level (where N=1,4,16)'.

4.4 Multiplex Section Protection (MSP)

The option of Multiplex Section Protection (MSP) will provide a standby connection within the customer's premises. This connection may be STM-1 electrical, STM-1 optical, STM-4 optical, or STM-16 optical. See SIN 333 ^[1] for technical details.

5. Technical Specification - NetStream 16 Longline Satellite Site

The technical presentation for the NetStream 16 Longline circuits is as described in the following BT MegaStream Service Descriptions:

2Mbit/s	SIN 223	^[13] 'BT MegaStream 1, 2, & 8'
34Mbit/s	SIN 218	^[14] 'BT MegaStream 34 and MegaStream Aggregate'
45Mbit/s	SIN 292	^[15] 'BT MegaStream 45'
155Mbit/s	SIN 289	^[6] 'BT MegaStream 155 and MegaStream Aggregate'

6. Further Information Contact Point

For further service information, please see contact detail and document sources at:

<http://www.sinet.bt.com/usenum.htm#docsources>

If you have enquiries relating to this document then please contact us at: help@sinet.bt.com

8. References

[1]	SIN 333	SDH Customer Interfaces At the STM-N level (where N=1,4,16) Interface Characteristics.	
[2]	G.707	Network node interface for the Synchronous Digital Hierarchy (SDH).	2000
[3]	ETS 300 147	Transmission and Multiplexing (TM); Synchronous Digital Hierarchy (SDH); Multiplexing Structure.	1997
[4]	G.703	Physical/Electrical characteristics of hierarchical digital interfaces.	1991
[5]	G.957	Optical interfaces for equipment's and systems relating to the synchronous digital hierarchy.	1995
[6]	SIN 289	BT MegaStream 155 & BT MegaStream Aggregate Service Description.	
[7]	ETS 300 166	Physical and electrical characteristics of hierarchical digital interfaces for equipment using the 2048K bit/s based plesiochronous or synchronous digital hierarchies.	1993
[8]	IEC 169-8	Radio-frequency connectors - Part 8 : R.F. coaxial connectors with inner diameter of outer conductor 6.5 mm (0.256 in) with bayonet lock - Characteristic impedance 50 ohms (Type BNC).	1978
[9]	BS ISO/IEC 10173	Integrated Services Digital Network (ISDN) Primary Access Connector at Reference Points S and T.	1991
[10]	BS EN 60825-1	Safety of Laser Products Part 1 Equipment classification.	1994
[11]	BS EN 60825-2	Safety of Laser Products Part 2 Safety of Optical fibre communications systems.	1995
[12]	BS EN 186110	Sectional Specification. Connector sets for optical fibre and cables Type FC.	1994
[13]	SIN 223	BT MegaStream 1, 2, & 8 Service Description.	
[14]	SIN 218	BT MegaStream 34 & BT MegaStream Aggregate Service Description.	
[15]	SIN 292	BT National MegaStream 45 Service Description.	

For further information or copies of referenced sources, please see document sources at:

<http://www.sinet.bt.com/usenum.htm#docsources>

9. Abbreviations

CPE	Customer Premises Equipment
ETS	European Telecommunication Standard
ETSI	European Telecommunications Standards Institute
ITU-T	International Telecommunication Union For Telecommunications
MSP	Multiplex Section Protection
NRZ	Non Return to Zero
NTE	Network Termination Equipment
PC	Physical Contact
SDH	Synchronous Digital Hierarchy
SIN	Suppliers' Information Note
TE	Terminal Equipment
UNI	User Network Interface
VC	Virtual Container

10. History

Issue 1.0	March 2001	First Issue.
Issue 1.1	September 2002	STM-16 customer interface option added.
Issue 1.2	September 2003	STM-1 (optical) customer interface option added. Approval Requirements statement removed, information available via SINet Useful Contacts page.
Issue 1.3	May 2010	Removal of all references to NetStream 16 following it's removal from the portfolio

-END-

***WE WOULD BE GRATEFUL IF YOU WOULD SPEND A FEW MINUTES TO
COMPLETE AN ONLINE CUSTOMER SATISFACTION FORM AT
WWW.SINET.BT.COM/HAPPY.HTM***