



# SIN 292

Issue 1.3

February 2016

## Suppliers' Information Note

*For The BT Network*

---

### **BT National MegaStream<sup>®</sup> 45** 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.

Those BT services marked ® indicates it is a registered trade mark of British Telecommunications plc.

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

Enquiries relating to this document should be directed to: [sinet.helpdesk@bt.com](mailto:sinet.helpdesk@bt.com)

## CONTENTS

<b>1. INTRODUCTION.....</b>	<b>3</b>
<b>2. SERVICE AVAILABILITY .....</b>	<b>3</b>
<b>3. SERVICE OUTLINE .....</b>	<b>3</b>
<b>4. TECHNICAL SPECIFICATION.....</b>	<b>3</b>
4.1 PHYSICAL.....	3
4.2 ELECTRICAL.....	3
4.3 FRAME STRUCTURE.....	3
4.4 TIMING.....	3
4.5 JITTER .....	3
4.5.1 From the Terminal to the Network.....	3
4.5.2 From the Network to the Terminal.....	3
4.6 NETWORK TERMINATING EQUIPMENT (NTE) POWER .....	4
<b>5. SERVICE MAINTENANCE .....</b>	<b>4</b>
<b>6. CONTACT INFORMATION.....</b>	<b>4</b>
<b>7. REFERENCES.....</b>	<b>4</b>
<b>8. ABBREVIATIONS .....</b>	<b>5</b>
<b>9. HISTORY .....</b>	<b>5</b>

## **1. Introduction**

This Suppliers' Information Note (SIN) describes the BT National MegaStream<sup>®</sup> 45 Service and provides technical information for terminal equipment (TE) manufacturers and suppliers.

## **2. Service Availability**

The BT National MegaStream<sup>®</sup> 45 service covers (where capacity exists) mainland Britain and Northern Ireland (The UK licence area).

## **3. Service Outline**

The BT National MegaStream<sup>®</sup> 45 is an inland unstructured point to point leased high speed digital service operating at 44.736Mbit/s. The Service is presented to the customer via an ITU-T Recommendation G.703<sup>[1]</sup> interface using the Bipolar with Three-Zero Substitution (B3ZS) line code.

*Note. The Open Network Provision (ONP) Services do not currently include the rate of 44.736 Mbit/s.*

## **4. Technical Specification**

### **4.1 Physical**

The physical presentation of the services 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<sup>[2]</sup> with the mating dimensions specified in annex B of BS ISO/IEC 10173 : 1991<sup>[3]</sup>.

The digital distribution frame (DDF) mentioned in clause 5 of G.703<sup>[1]</sup> is not included in the network terminating equipment (NTE). The DDF allowance of 0.6dB can be used by the customers equipment and cabling, however, BT would advise that this allowance is reserved for losses in the connectors.

### **4.2 Electrical**

Electrically, the presentation conforms to clause 5 of G.703<sup>[1]</sup>. The line code is B3ZS as defined in G.703<sup>[1]</sup> Annex A.

### **4.3 Frame Structure**

The service is unstructured, i.e. there are no constraints on the use or format of the bit pattern/frame structure other than those of the line code.

### **4.4 Timing**

The service will support customers transmit signal timing within the limits of 44 736 kbit/s  $\pm$  20 ppm which is in accordance with subclause 5.2 of G.703<sup>[1]</sup>.

### **4.5 Jitter**

#### **4.5.1 From the Terminal to the Network**

The BT network will accept jitter in accordance with ITU-T Recommendation G.824<sup>[4]</sup>.

#### **4.5.2 From the Network to the Terminal**

The level of Jitter from the network to the terminal will be in accordance with ITU-T Recommendation G.824<sup>[4]</sup>.

## 4.6 Network Terminating Equipment (NTE) Power

The NTE is locally powered and will require a local mains 50 Hz AC supply. It will be mounted in accordance with standard BT practices in agreement with the customer.

Where the NTE is powered by a customer provided -50Volts, the NTE will be supplied with a connection lead which will be presented as wires only. As power supplies can vary slightly in output voltage and characteristics, the NTE will function with customer provided power supplies which are in accordance with the British Telecom Network Requirement, (BTNR) 2511<sup>[5]</sup>.

*Note. Customer provided power supplies for connection to this service shall conform with relevant safety standards.*

## 5. Service Maintenance

There are no mandatory maintenance facilities associated with this service.

## 6. Contact Information

For information about this service please telephone:

- Your Company's BT account manager
- For business customers, BT sales on 0800 800152 for product and service information, sales and rental enquiries.

If you have enquiries relating to this document please contact us at: [sinet.helpdesk@bt.com](mailto:sinet.helpdesk@bt.com)

## 7. References

### ITU-T / CCITT Recommendation:

[1]	G.703	Physical/Electrical characteristics of hierarchical digital interfaces.	1991
[4]	G.824	The control of jitter and wander within digital networks which are based on the 1544 kbit/s hierarchy.	1993

### British Standards:

[2]	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
[3]	BS ISO/IEC 10173	Integrated Services Digital Network (ISDN) Primary Access Connector at Reference Points S and T.	1991

### British Telecommunications Network Requirements (BTNR):

[5]	BTNR 2511	Interface of telecomms equipment with a nominal 48v negative dc power supply.	Latest Issue
-----	-----------	---	--------------

For further information or copies of referenced sources, please see document sources at <http://www.btplc.com/sinet/>

## 8. Abbreviations

<b>B3ZS</b>	Bipolar with three-zero substitution
<b>BTNR</b>	British Telecom Network Requirement
<b>DDF</b>	Digital distribution frame
<b>ITU-T</b>	International Telecommunications Union For Telecommunications (formerly CCITT)
<b>NTE</b>	Network Terminating Equipment
<b>ONP</b>	Open Network Provision
<b>SIN</b>	Suppliers' Information Note
<b>TE</b>	Terminal Equipment

## 9. History

Issue 1.0	Oct 1997	First Issued.
Issue 1.1	Feb 2001	Editorial changes.
Issue 1.2	May 2003	Approval Requirements statement removed, information available via SINet Useful Contacts page. Reference numbering amended.
Issue 1.3	February 2016	Change SINet site references from <a href="http://www.sinet.bt.com">http://www.sinet.bt.com</a> to <a href="http://www.btplc.com/sinet/">http://www.btplc.com/sinet/</a>

-END-