



SIN 290

Issue 2.3

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Suppliers' Information Note

For The BT Network

BT MusicLine One Service Description

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1. Introduction

This Suppliers' Information Note (SIN) describes the BT MusicLine One service and provides technical information for terminal equipment manufacturers and suppliers.

2. Service Outline

2.1 Application

This service provides a mono audio circuit with a nominal bandwidth of 20Hz to 7.5kHz and a loss/frequency response of: $\pm 1.0\text{dB}$ across the frequency range. Typical uses would be high quality speech contribution and AM/ MW transmitter feeds.

2.2 Topology

The service is a transmission path connecting two customer points within the UK. The basic service provides a high quality audio path in one direction and a monitor path of identical quality in the reverse direction. The audio service is analogue presented to the customer via female XLR-3 connectors and uses digital compression technology.

NOTE: XLR is an ITT Cannon Standard which has become the defacto standard for the professional audio industry.

2.3 Line Monitoring

The signal is transmitted from the 'A' end to the 'B' end of the circuit, at the 'B' end (the far end) the analogue signal is presented to the customer for their use.

The monitoring circuit monitors the output of the NTP at the 'B' end and returns the monitored signal to the 'A' end of the circuit. The round trip delay from the signal being sent at the 'A' end and the monitored signal being returned to the 'A' end should not exceed 37ms.

2.4 RS232 Option

The equipment can supply a duplex RS232 at 2400 Baud. The RS232 interface is an optional addition to the basic service. This option is presented as an 9-way D type female connector.

2.5 Customer Accommodation

The service requires the customer to provide accommodation (including space, power, security, and environmental control) for terminating equipment.

The MusicLine One NTE can be mounted within equipment cabinets capable of accommodating standard 19 inch mounting practice. Alternatively, the MusicLine One NTE equipment can be positioned on a suitable horizontal, non-slip surface.

3. Service Availability

This product is available within the UK where network capacity exists.

4. Technical Specification

4.1 Interface Presentation

The following interfaces are provided by the Network Terminating Equipment (NTE):

Interfaces at the NTE	Electrical presentation	Physical presentation
Audio Programme Input (A end only)	Balanced Audio (Mono) 10k Ohms Impedance Max Level + 18dBu (note1)	XLR-3 Female (BT Equipment) XLR-3 Male (Customer Cable)
Audio Programme Output (B end only)	Balanced Audio (Mono) 10 Ohms Impedance Max Level + 18dBu (note1)	XLR-3 Female (BT Equipment) XLR-3 Male (Customer Cable)
Monitor Output (A end only)	Balanced Audio (Mono) 10 Ohms Impedance Max Level + 18dBu (note1)	XLR-3 Female (BT Equipment) XLR-3 Male (Customer Cable)
RS 232 (A and B ends)	RS 232 Serial Binary Data Duplex Asynchronous @ 2400 Baud conforming to ITU-T V.24 ^[1]	9 way D-type Female (BT Equipment) Male (Customer Cable)

Table 1

The audio circuit offers

20Hz to 7.5kHz nominal bandwidth

a loss/frequency response for any single frequency of:-

±1.0dB over the frequency range 20Hz to 40Hz;

±0.5dB over the frequency range 40Hz to 6.3kHz;

±1.0dB over the frequency range 6.3kHz to 7.5kHz.

Note 1:-

Maximum level - total power level over the range 20Hz to 7.5kHz is not to exceed + 18dBu.

The 0 dBu reference level is given by 1 kHz tone at 775 mV applied to the input.

4.2 Connection Details

4.2.1 XLR-3 Audio Connections

Pin No.	Description
1	Screen/Signal Common
2	+ve signal leg of balanced pair
3	-ve signal leg of balanced pair

Table 2

4.2.2 RS232 Data Connections

Pin No.	Signal	Description
2	TXD	Transmit Data
3	RXD	Receive Data
5	GND	Ground

Table 3

Transmit is the direction in which an electrical signal originating in the terminal equipment passes to the MusicLine circuit.

4.3 Network Terminating Equipment (NTE)

4.3.1 A.C. Power Requirements

- The NTE is locally powered and will require a local mains 50 Hz AC supply within 2 metres of the NTE. The power consumption of the NTE will be approximately 25 watts.

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

4.3.2 Earthing Arrangements

- A quiet earth will be required for the equipment.
- The normal mains supply earth should not be connected to the BT rack/cabinet in addition to the Quiet (Technical) Earth.
- Inter-Rack earthing (ie: between the BT rack and any customer rack). Customer rack earth must not be mains earth. The resistance between the BT rack and the Customer rack, must be less than 0.25 Ohms.
- The mains safety earth should not be connected to the quiet / technical earth as this will compromise noise performance and introduce earth loops.

5. Further Information

For further information please go to: <http://www.broadcast.bt.com/contact-us.html>

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

6. References

[1]	ITU-T Recommendation V.24 - List of Definitions for interchange circuits between data terminal equipment (DTE) and data circuit-terminating equipment (DCE)
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For further information or copies of referenced sources, please see document sources at <http://www.sinet.bt.com/usenum.htm#docsources>

7. Glossary

D-type	“Computer / Broadcast Industry” standard connector
ITU-T	International Telecommunications Union for Telecommunications
NTE	Network Termination Equipment
NTP	Network Termination Point
RS 232	Physical Interface allowing data exchange to ITU-T V.24
SIN	Suppliers’ Information Note
XLR-3	“Broadcast Industry” standard audio connector

8. History

Issue 1	March 1998	First Issued..
Issue 2	February 2000	New front page Section 4.1 Max levels in table raised from +9dBm to +18dBu Section 4.1 Note 1 amended to +18dBu and 0 dBu ref. stated Section 5 Approvals requirements now points to SIN 325 Section 8 BABT deleted from Glossary of terms
Issue 2.1	April 2001	Editorial changes.
Issue 2.2	February 2004	Contact Details updated. Approval Requirements statement removed, information available via SINet Useful Contacts page. Document re-formatted, section numbering revised.
Issue 2.3	April 2008	“Further Information” section updated.

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