



Customer Interface Publication: KCOM (Hull) CIP012

Technical Characteristics of the 155520 kbit/s (155Mbit/s) & 622080 kbit/s (622Mbit/s) digital interfaces (ATM)

Issue: 1.2

April 2016

The information in this document is provided in accordance with the requirements of the Radio Equipment and Telecommunications Terminal Equipment Regulations 2000 (Statutory Instrument 2000 No. 730) to publish (in accordance with the EC Radio and Telecommunications Terminal Equipment Directive 99/05/EC) technical characteristics of interfaces to the public fixed telephone network.

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 networks of KCOM Group PLC.

This document does not form a part of any contract with KCOM Group PLC customers or suppliers. KCOM Group PLC 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.

Publication of this Customer Interface Information Document does not give or imply any licence to any intellectual property rights belonging to KCOM Group PLC or others

© KCOM Group PLC
37 Carr Lane
Kingston Upon Hull
HU1 3RE

Contents

1. Scope
2. General
3. The Network Termination Point
4. Electrical / Optical Characteristics of the Interface
5. Safety and EMC information
6. Terminal equipment specifications
7. Glossary
8. References
9. History

Note: this publication replaces and supercedes Torch Communications Ltd CIP009 on the same subject – See document history.

1. Scope

This document specifies the technical characteristics of the 155520 kbit/s (155Mbit/s) and 622080 kbit/s digital line interfaces operated by KCOM Group PLC delivered to a customer at the Network Terminating Point (NTP).

Much of the information contained in this document has been published previously in various documents such as ITU-T, ETSI and BSI standards.

Changes to the network that affect the correct working of approved terminal equipment will be published by KCOM Group PLC in various documents made available from the address below. If the changes impact on this document then it will be updated.

Enquiries relating to the technical content of this document and the availability of other publications should be directed to:

- KCOM Group PLC
Regulatory Affairs and Technology Development
Carr Lane
Kingston Upon Hull
HU1 3RE
- Telephone: 01482 602100
- E-mail: regulatory@kcom.com

2. General

The KCOM Group PLC ATM 155520 kbit/s (155Mbit/s) digital interface is presented to the customer via both the ITU-T recommendation G.703 (75ohm)[1] interface and the ITU-T recommendation G.957 [2] interface.

The KCOM Group PLC ATM 622080 kbit/s digital interface is presented to the customer via an ITU-T recommendation G.957 [2] interface.

This specification does not exhaustively cover the ATM service aspects. The reader is referred to the ATM Forum document for the User-Network Interface Specification Version 3.1 [3] for the full specification. However, the Version 3.1. document does not define the physical aspects of the above interfaces in terms of ITU-T documents. The 622 Mbit/s interface was subsequently specified in an additional document which is referred to below.

3 The Network Termination Point

3.1 ITU-T recommendation G.703

The network termination point shall be two unbalanced 75ohm BNC sockets labelled TFC IN and TFC OUT. The sockets shall be mounted on the Network Terminating and Test Apparatus (NTTA) / Network Terminating Equipment (NTE).

3.2 ITU-T recommendation G.957

The network termination point shall be a FC type optical connector conforming with BSEN 186110:1994 [4] mounted on the Network Terminating and Test Apparatus (NTTA)/Network Terminating Equipment (NTE) based on the customer premises. The connector is Physical Contact polished (PC).

4. Electrical / Optical Characteristics of the Interface

4.1 155520 kbit/s Interface

4.1.1 ITU-T recommendation G.703

The 155520 kbit/s (155 Mbit/s) STM-1 digital line interface G.703 service is delivered using a digital bearer in accordance with clause 15 of ITU-T recommendation G.703 [1].

Other characteristics of the interface are in accordance with ITU-T G.707 [5] and the ATM Forum document User-Network Interface Specification Version 3.1 [3].

4.1.2 ITU-T recommendation G.957

The 155520 kbit/s (155Mbit/s) STM-1 digital line interface G.957 [2] service is delivered using an optical presentation via an optical single-mode fibre connection conforming with ITU-T recommendation G.957 [2].

Other characteristics of the interface are in accordance with ITU-T G.707 [5] and the ATM Forum document User-Network Interface Specification Version 3.1 [3].

4.2 622080 kbit/s Interface

The 622080 kbit/s (622Mbit/s) STM-4 digital line interface G.957 [2] service is delivered using an optical presentation via an optical single-mode fibre connection conforming with ITU-T recommendation G.957 [2].

Full details of the interface characteristics are specified in the ATM Forum document for the 622.08 Mbps Physical Layer Specification [6].

Other characteristics of the interface are in accordance with ITU-T G.707 and the ATM Forum document User-Network Interface Specification Version 3.1 [3].

5. Safety & EMC Information

5.1 Safety

The normal working voltages of the ITU-T recommendation G.703 [1] 155,520 kbit/s (155Mbit/s) digital leased line interface are defined in clause 15 of ITU-T recommendation G.703 [1].

The interfaces presented to the customer is classified as unexposed as defined in the CENELEC Report/ETSI Guide ROBT-002/EG 201 212 [7] .

5.2 EMC

The network equipment and network terminating equipment related to the provision of the interface comply with the current EMC regulations.

Whilst predominantly installed in commercial and light industrial environments, this does not preclude the interface being installed in other environments e.g. residential , industrial. This should be taken into account by the terminal equipment manufacturer when determining the limits of compliance relevant to their equipment in relation to the protection requirements of the EMC directive.

6. Terminal Equipment Specifications

No terminal equipment performance specifications are specified. See the relevant ITU-T and ATM Forum specifications.

The minimum recommended terminal equipment EMC specifications are listed in the Official Journal of the European Communities for use under the Electromagnetic Compatibility Directive (89/336). The lists are updated regularly and the terminal manufacturer is recommended to comply with the listed standards applicable to their equipment and the target electromagnetic environment.

The minimum recommended terminal equipment electrical safety specifications are listed in the Official Journal of the European Communities for use under the Low Voltage Directive (73/23/EEC). The lists are updated regularly and the terminal manufacturer is recommended to comply with the listed standards applicable to their equipment.

7. Glossary

ATM	Asynchronous Transfer Mode
BS	British Standard
BSI	British Standards Institute
EC	European Community
EMC	Electromagnetic Compatibility
ETS	European Telecommunication Standard
ETSI	European Telecommunications Standards Institute
ITU-T	International Telecommunications Union – Telecommunications Sector
NTE	Network Termination Equipment
NTP	Network Terminating Point
NTTA	Network Terminating and Test Apparatus
TE	Terminal equipment
TFC IN	Traffic In
ATM	Asynchronous Transfer Mode
BS	British Standard
TFC OUT	Traffic Out

8. References

Ref	Standard	Title	Date
[1]	ITU-T Recommendation G.703	Physical/Electrical Characteristics of hierarchical digital interfaces	2001
[2]	ITU-T G.957	Optical interfaces for equipments and systems relating to the synchronous digital hierarchy	1999
[3]	ATM Forum UNI Version 3.1	ATM Forum User-Network Interface Specification Version 3.1`	1994
[4]	BSEN 186110	Sectional Specification. Connector Sets for Optical Fibre and Cables Type FC.	1994
[5]	ITU-T Recommendation G.707	Synchronous Frame Structures Used at Primary and Secondary Hierarchical Levels	1996
[6]	ATM Forum af-phy-0046.000	ATM Forum 622.08 Mbps Physical Interface Specification	1996
[7]	R0BT-002/EG 201 212 V.1.2.1 (1998-11)	Electrical Safety ; Classification of interfaces for equipment to be connected to telecommunications networks	1998

The above documents may be obtained from:

- British Standards Institution
 - Customer Services, Sales Department
 - 389
Chiswick
High Road,
London W4
4AL
- Telephone: 0208 996 9001
- Facsimile: 0208 996 7001

The ATM Forum documents can be obtained from the following URL :

<http://www.atmforum.com/>

9. History

Date	Issue	Comments	Author
		Precursor document Technical Characteristics of the 155Mbit/s and 622Mbit/s digital interfaces (ATM) [Issue 1.0 May 2000] TCH CIP009	M. Budd
December 2003	Issue 1.0	KCOM Group PLC publication to replace the above	M. D. Crowther
August 2007	Issue 1.1	KCOM Group PLC publication to replace the above	M. D. Crowther
April 2016	Issue 1.2	KC name change to KCOM and document formatted	Amanda Woodard