TECHNICAL SPECIFICATIONS

This document describes standards used in public telecommunication networks. These standards and guidelines may be based on other standards or describe national additions or exceptions to international standards.

List of abbreviations of standards and authorities:

ANSI	The American National Standards Institute
ETSI	The European Telecommunications Standards Institute
FICORA	The Finnish Communications Regulatory Authority
GFI	Guidelines for implementation
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc
ISO	International Organization for Standardization
ITU	The International Telecommunication Union
RFC	Request for comments
SFS	The Finnish Standards Association

VOICE

This section specifies legacy voice services over switched circuit networks.

ANALOGUE TERMINATIONS

The following national standards and guidelines apply to analogue terminations for voice services. These services are referred as Plain Old Telephone Service (POTS).

GFI 9702	Public Switched Telephone Network (PSTN); Subscriber line protocol over the local loop for display (and related) services February 1998. http://www.ficora.fi/suomi/tele/gfi/gfi9702.htm
GFI 9802	Kansalliset tilaajatoiminteet (National subscriber services and facilities); September 1998 (5. ed.). http://www.ficora.fi/suomi/document/GFI_9802.ZIP (FIN)
GFI 9803	Kansalliset tilaajatoiminteet (National subscriber services and facilities); Yhteistoiminta toiminteiden kesken (co-operation of services) May 2001 (2. ed.). http://www.ficora.fi/suomi/document/gfi9803ed2.pdf (FIN)
SFS 5664	Telecommunication network exchanges; Transmission characteristics May 1998. http://www.sfs.fi/luettelo/ryhma33.080.html
SFS 5665	Telecommunication network exchanges; Interfaces May 1998. http://www.sfs.fi/luettelo/ryhma33.080.html
SFS 5876	Telecommunications network exchanges; Tones and ringing signals May 2000. http://www.sfs.fi/luettelo/ryhma33.050.html

The following international and national standards and guidelines apply to digital terminations for voice services. These services are referred as Integrated Services Digital Network (ISDN).

ETSI EN 300 011-1	Integrated Services Digital Network (ISDN); Primary rate User Network Interface (UNI), Part 1: Layer 1 specification May 2000. http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=9891
GFI 9301	ISDN Access Signalling; Basic Call Control Procedures November 1999 (3. ed.). http://www.ficora.fi/suomi/document/gfi9301ed3.doc
GFI 9302	ISDN Supplementary Services; Functional Protocol May 2001 (4. ed). http://www.ficora.fi/suomi/document/gfi9302ed4.pdf
GFI 9303	ISDN supplementary services; Keypad protocol November 1998 (2. ed.). http://www.ficora.fi/suomi/document/gfi9303.doc
GFI 9403	ISDN Basic rate user access; Physical layer characteristics September 1994. http://www.ficora.fi/suomi/document/GFI9403.doc
GFI 9801	Characteristics of analogue interface (R-interface) of ISDN terminal adapter; November 2000 (2. ed.). http://www.ficora.fi/suomi/document/gfi9801ed2.pdf

DATA

This section specifies public data services over packet networks. These services can also be based on vendor specific (proprietary) modifications of the following standards and those are not mentioned in this document.

BROADBAND DIGITAL SUBSCRIBER LINES (XDSL)

These standards define digital terminations for data services over public telephone network.
http://portal.etsi.org/tm/kta/xDSL/xdsl.asp

SERVICE PROVIDER INTERFACE

The following standards apply to network terminations to service provider over local loop in customer premises.

ANSI T1.413 Issue 2	Telecommunications - Interface between Networks and Customer Installation; Asymmetric Digital Subscriber Line (ADSL) Metallic Interface.
ETSI TS 101 135	High bit-rate Digital Subscriber Line (HDSL) transmission systems on metallic local lines; HDSL core specification and applications for combined ISDN-BA and 2 048 kbits/s transmission September 2000. http://webapp.etsi.org/WorkProgram/Report_WorkItem.asp?WKI_ID=11603
ETSI TS 101 270-1	Access transmission systems on metallic access cables; Very high speed Digital Subscriber Line (VDSL), Part 1: Functional requirements October 1999. http://webapp.etsi.org/WorkProgram/Report_WorkItem.asp?WKI_ID=6915
ETSI TS 101 270-2	Access transmission systems on metallic access cables; Very high speed Digital Subscriber Line (VDSL), Part 2: Transceiver specification October 1999. http://webapp.etsi.org/WorkProgram/Report_WorkItem.asp?WKI_ID=6391
ETSI TS 101	Access transmission system on metallic access cables;

524	Symmetrical single pair high bitrate Digital Subscriber Line (SDSL) November 2001. http://webapp.etsi.org/WorkProgram/Report_WorkItem.asp?WKI_ID=14939
ETSI TS 102 080	Integrated Services Digital Network basic rate access (ISDN-BA); Digital transmission system on metallic local lines November 1998. http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=4862
ISO/IEC 11801	logy - cabling for customer premises; Registered Jack 11 (RJ-11) six-position jack pin/pair assignments. 2002. http://www.iso.org Also defined in standards ANSI/TIA/EIA-568 (USA) and EN 50173 (Europe).
ITU G.992.1	Asymmetrical digital subscriber line (ADSL) transceivers; G.dmt Annex A
RFC 1483 LLC	Multiprotocol Encapsulation over ATM Adaptation Layer 5 (MPoA); (IEEE 802.2 Logical Link Control) header Encapsulation. J. Heinänen. July 1993. http://www.ietf.org/rfc/rfc1483.txt

CUSTOMER INTERFACE

The following standards specify the customer interface to data services. This interface can be implemented in network terminating equipment or other customer premises equipment (CPE).

IEEE 802.3	Ethernet CSMA/CD LAN over unshielded twisted pair cable; 10BASE-T. 2002. http://standards.ieee.org/getieee802/802.3.html
IEEE 802.3u	Ethernet specification for 100 Mb/s transmissions over two-pair Category 5, or better, unshielded twisted pair cable; 100BASE-T(X).
ISO/IEC 11801	Information technology -- Generic cabling for customer premises; Registered Jack 45 (RJ-45) eight-position jack pin/pair assignments. 2002. http://www.iso.org Also defined in standards ANSI/TIA/EIA-568 (USA) and EN 50173 (Europe).

WIRELESS ACCESS

The following standards and regulations specify transceiver units for broadband wireless data service interface.

IEEE 802.11b	Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications in the 2.4 GHz band; February 2000. http://standards.ieee.org/wireless/overview.html
FICORA 15T	Regulation on collective frequencies for licence-exempt radio transmitters and on their use; May 2003. http://www.ficora.fi/englanti/document/FICORA15T2003M.pdf
ETSI EN 300 328-1	Electromagnetic compatibility and Radio Spectrum Matters (ERM) - Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques. December 2001. http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=9863

RESIDENTIAL GATEWAYS

The following standards specify the connection method from customer premises to demarcation point when data services are provided via shared interconnection.

ITU G.989.1	Phoneline Networking Transceivers – Foundation.
HomePNA 1.0	Home Phoneline Networking Alliance (HPNA); December 1998.
ISO/IEC 11801	Information technology - Generic cabling for customer premises; Registered Jack 11 (RJ-11) six-position jack pin/pair assignments. 2002. http://www.iso.org Also defined in standards ANSI/TIA/EIA-568 (USA) and EN 50173 (Europe).