Part IV: Glossary of Terms
The following glossary of terms is included to avoid misunderstanding in the interpretation of technical terms used in this document.

The definitions given herein supersede those found in previous issues. Terms not included in this glossary, but appearing in the document, are to be construed within the meaning given them in the "Institute of Electrical and Electronic Engineers Specification-New Dictionary of Electrical and Electronics Terms" (IEEE Specification No. 100-1992) published by the Institute of Electrical and Electronic Engineers, 345 East 47th Street, New York, NY, USA.

**Alerting Detection Circuit**

Electrical circuitry for the purpose of detecting the presence of valid alerting signals.

**Answer Supervision/Answer Signal**

A signal returned to the originating end indicating that the call is answered.

**Attendant Position**

A station apparatus for the primary purpose of answering and re-routing incoming telephone calls.

**Automatic Dialler**

A dialler which can be programmed with a repertory of frequently called telephone numbers, which when activated will automatically dial a preselected number. Automatic diallers include single number diallers, with or without last number recall capability.

**Automatic Redialling**

The process of repetitively and automatically dialling the last number called.

**Bipolar Signal with AMI (Alternate Mark Inversion) Code**

A line code that employs a ternary signal to convey binary digits in which successive binary ones are represented by signal elements that are normally of alternating positive and negative polarity but equal in amplitude and in which binary zeros are represented by signal elements that have zero amplitude.

**Bipolar Violation**

This occurs when a non-zero signal element in an alternate mark inversion signal has the same polarity as the previous non-zero element.
Central Office (CO)

A switching system that provides public switched telecommunications service.

Capture Level

Equipment with AGC (Automatic Gain Control) signal power limiting has virtually no output signal for input levels below a certain value. At some input signal power, the output signal level will become significant (usually corresponding to the expected output level for service application. The input level at which this occurs is defined as the capture level. The overload point of the equipment is the value of the input level that is 15 dB greater than the capture level.

Channel

A path provided by a physical conductor or otherwise for the transmission of telecommunication signals.

Cordless Telephone

A telephone set consisting of a base unit which is connected to the PSTN, and a portable handset. Communication between the base unit and the handset is achieved by means of low-power RF transceivers.

Dialler

A device which can generate either dial pulse or DTMF control signals or both.

Digital Milliwatt

A digital signal that is the coded representation of a 0 dBm 1000 Hz sine wave.

Dual Tone Multi Frequency - (DTMF)

A method of network control signalling using the voice transmission path. This method employs sixteen (16) distinct signals each composed of two (2) geometrically spaced frequencies.

Encoder

A device that generates a code word to represent a quantized value.

Encoded Analogue Content

The analogue signal contained in coded form within a digital signal.
E & M Leads

Terminal Equipment leads at the interface, other than telephone connections or auxiliary leads, which are to be connected to channel equipment solely for the purposes of transferring supervisory signals.

Equivalent Power

The power of the analogue signal at the output of a zero level decoder, obtained when a digital signal is the input to the decoder.

Fail Safe

A state of TE that has failed to be fully operational in accordance with the manufacturers manual following the application of the electrical stress but is deemed not to cause network harm.

Limited Distance Modems (LDM)

These are limited distance digital line drivers for metallic channels, also referred to as Limited Distance Data Sets (LDDS).

Line Rate

The rate of transmission of digital line signals.

Local Loop/Subscriber's Loop/Subscriber's Line

A link between the equipment in a subscriber's premises and the local telecommunication centre providing required services.

Longitudinal Voltage

A voltage existing between individual conductors and ground.

Measurement Axis (CS-03 Part V)

The axis parallel to the reference axis but may be displaced from the axis by a maximum of 16 mm. Within this constraint, the measurement axis may be located where the radial and axial field intensity measurements are optimum with regard to the requirements. For a handset with a centred receiver and a circular symmetric magnetic field, the reference axis and the measurement axis coincide.

Measurement Plane (CS-03 Part V)

The planar area parallel to, and 10 mm in front of, the reference plane.
Metallic Channel

(1) An electrical path provided by metallic conductors for point-to-point transmission.

(2) An electrical path provided by metallic conductors between TE and a network termination.

Metallic Voltage

The potential difference between the tip and ring connections for the tip and ring pair of 2-wire and 4-wire connections; additionally for 4-wire connections between the tip 1 and ring 1 connections for the tip 1, ring 1 pair (where tip 1 and ring 1 are the receive pair).

Multi-port Equipment

Equipment that has more than one telephone connection with provisions internal to the equipment for establishing transmission paths among two or more telephone connections.

Network

The public switched network together with any facilities that provide for the connection of TE.

Network Interface (Point of Connection)

The point at which TE is connected to the network.

Non-network Interface

A TE interface other than a network interface.

Off-hook State

A TE operating state that is recognized as:

(1) a request for service, when the TE originates a call; or

(2) an answer signal, when the TE responds to an incoming call, which is maintained for the duration of the call.

Off-premises Station (Ops) Interface

The point of connection between PBX telephone systems (or similar systems) and carrier facilities used to access station equipment located off the premises.
On-hook State

A TE operating state that is recognized as readiness to originate or receive a call, or a call disconnect signal.

Overload Point

(1) For signal power limiting circuits incorporating the automatic gain control method, the overload point is the value of the input signal that is 15 dB greater than the capture level.

(2) For signal power limiting circuits incorporating peak limiting methods, the overload point is defined as the input level at which the equipment's through gain decreases by 0.4 dB from its nominal constant gain.

Power Connections

The connections between commercial power and any transformer, power supply rectifier, converter or other circuitry associated with Terminal Equipment or protective circuitry. The following are not power connections:

(1) connections between Terminal Equipment and protective circuitry and sources of non-hazardous voltages;

(2) conductors which distribute any power within Terminal Equipment or within protective circuitry; and

(3) green wire ground (the grounded conductor of a commercial power circuit).

Protective Circuitry

Separate, identifiable, and discrete electrical circuitry that allows the connection on non-registered equipment to the network.

Public Switched Telephone Network (PSTN)

The part of the network that provides telecommunications service to the general public.

Pulse Template

A template which defines the permissible variations in pulse width (time) and pulse height (voltage).

Reference Axis (CS-03 Part V)

The axis normal to the reference plane and passing through the centre of the receiver cap (or the centre of the hole array, for handset types that do not have receiver caps).
Reference Plane (CS-03 Part V)

The planar area containing points of the receiver-end of the handset that, in normal handset use, rests against the ear.

Ringer Equivalence Number (REN)

A number that denotes that portion of the permissible on-hook load that a TE puts on the network.

Reverse Battery Trunk Interface

A trunk interface which uses a protocol by which battery and ground are reversed on the tip and ring leads to indicate to the CO from on-hook to off-hook.

Ring Down Private Line Interface

The point of connection between ringdown voice band private line service and Terminal Equipment which provide ringing in either direction for alerting only. All tip and ring leads shall be treated as telephone connections for the purpose of fulfilling registration conditions. On 2-wire circuits the ringing voltage is applied to the ring conductor with the tip conductor grounded. On 4-wire circuits the ringing voltage is simplexed on the tip and ring conductors with ground simplexed on the tip (1) and ring (1) conductors.

Ring Trip

The function, in serving switching equipment, of detecting that a TE that has been alerted to an incoming call and has changed from the on-hook state to the off-hook state. This causes the serving switching equipment to remove the alerting signal from the line.

Secure Terminal Equipment

Terminal Equipment (TE) which is capable of duplex encoded analogue operation in conjunction with identically encoded TE and which cannot be decoded by other TE.

Stuttered Dial Tone

A service function offered by telephone companies which alerts customers of pending voice messages.

Stuttered Dial Tone Detection Equipment

A stuttered dial tone detector takes the telephone off-hook, and, if it detects stuttered dial tone, alerts the called party of the presence of voice messages.
Subrate Digital Services

A digital service providing for the full-time simultaneous two-way transmission of digital signals at synchronous speeds of 2.4, 4.8, 9.6, 19.2, 38.4, 56, or 64 kbps.

Test Equipment

Equipment connected in order to:

(1) measure characteristics of a network; or

(2) detect and/or isolate a communications fault.

Through Transmission Path

A transmission medium between any combination of network and non-network interfaces.

Tie Trunk

A communication channel between two or more multi-line ports that may be used for switching or multiplexing functions, and may access the PSTN. (Tie trunks are distinguished by types of transmission and signalling interfaces).

Tie Trunk Interfaces

(1) 2-wire Interface: A 2-wire transmission interface with a path that is essentially lossless (except for 2 dB switched pad operation, or equivalent) between the interface and the 2-wire or 4-wire transmission reference point of the Terminal Equipment.

(2) 4-wire Lossless Interface: A 4-wire transmission interface with a path that is essentially lossless (except for 2 dB switched pad operation, or equivalent) between the interface and the 2-wire or 4-wire transmission reference point of the Terminal Equipment.

(3) Direct Digital Interface: An interface between a digital PBX and digital transmission facility.

(4) Digital Tandem 4-wire Interface: A 4-wire digital interface between digital Terminal Equipment and a digital transmission facility operating at 1.544 Mbps or subrate connecting Terminal Equipment that provide tandem connections to other digital equipment.

(5) Digital Satellite 4-wire Interface: A 4-wire digital interface between digital Terminal Equipment and a digital transmission facility operating at 1.544 Mbps or subrate connecting Terminal Equipment that does not provide tandem connections to other digital Terminal Equipment.
(6) E&M Interfaces:

(a) **E&M Lead Signalling - Type I**
   This type of signalling is used where current return through the grounding system, with its attendant noise interference, can be tolerated by the PBX.

(b) **E&M Lead Signalling - Type II**
   This type of signalling is used in cases, such as electronic PBX's, where current return through paired leads is required to minimize interference with other circuitry. It also provides for direct back-to-back operation of E&M trunk circuits.

(7) **Type “A” tie trunk interface** is a tie trunk interface that provides both a 2-wire transmission path and E&M signalling leads.

(8) **Type “B” tie trunk interface** is a tie trunk interface that provides both a 4-wire transmission path and E&M signalling leads.

**Time Compression Multiplex (TCM) Systems**

A system that transmits digital signals over 2-wire channels by alternating the direction of transmission between two end points. This is also commonly referred to as ping-pong or burst-mode operation.

**Tip and Ring Leads**

A designation of a pair of conductors at the point of connection to the local loop.

**Transfer Function F/4000**

A weighing network for longitudinal AC signals for voice band frequencies consisting of a high-pass filter with a slope of 6 dB per octave.

**µ255 PCM Encoding Law**

The analogue to digital conversion process which is based on the use of 8 binary digits per sample and which is defined in ITU-T (CCITT) Recommendation G.711.

**Voice Band**

The voice band for analogue interfaces is the frequency band from 200 Hz to 3995 Hz.

**Voice Band Metallic Private Line Channel Interface**

The point of connection between a voice band metallic private line channel and Terminal Equipment or systems where the network does not provide any signalling or transmission enhancement. Terminal Equipment may use convenient signalling methods so long as the signals are provided in such a manner that they do not interfere with adjacent network channels.
Zero Level Decoder

A decoder that yields an analogue level of 0 dBm at its output when the input is the digital milliwatt signal. The zero level decoder shall comply with the μ255 PCM encoding law as specified in ITU-T (CCITT) Rec. G.711 for voice band encoding and decoding.