
# appendix

# APPENDIX

## TIA/EIA-568-B COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING STANDARD

Purpose: This standard outlines specifications for generic cabling systems. It provides a guideline for the planning and installation of telecommunications cabling topologies, distances, channel media and connectors. The standard addresses the following elements of building cabling: Horizontal cabling, backbone cabling, telecommunications room, equipment room, work area and entrance facilities.

This standard supersedes and incorporates the following previous standards:

**TIA/EIA-568-A**

**TIA/EIA TSB67**

**TIA/EIA TSB72**

**TIA/EIA TSB75**

**ANSI/TIA/EIA – 568-A.1, DELAY AND DELAY SKEW**

**ANSI/TIA/EIA – 568-A.2, MISCELLANEOUS CHANGES**

**ANSI/TIA/EIA – 568-A.3, HYBRID AND BUNDLED CABLES**

**ANSI/TIA/EIA – 568-A.4, PATCH CORDS**

**ANSI/TIA/EIA – 568-A.5, CATEGORY 5e**

**TIA/EIA-IS-729 – TECHNICAL SPECIFICATIONS FOR 100 OHM TWISTED-PAIR CABLING**

The new standard is divided into 3 separate standards:

**TIA/EIA – 568-B.1 – COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING STANDARD – GENERAL REQUIREMENTS**

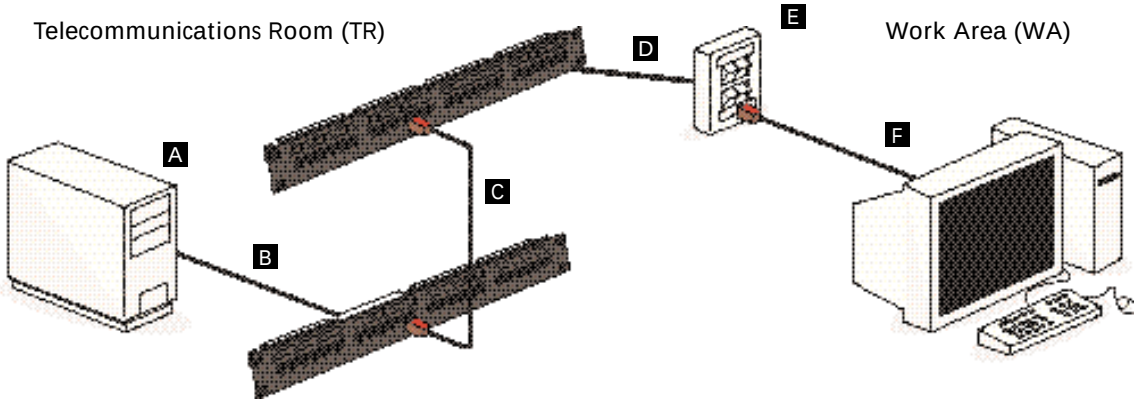
**TIA/EIA – 568-B.2 – 100 OHM BALANCED TWISTED-PAIR CABLING**

**TIA/EIA – 568-B.3 – OPTIONAL FIBER CABLING STANDARD**

## Horizontal Cabling

Extends from the telecommunications outlet/connector (TO) to the horizontal cross connect (HC).

## HORIZONTAL CABLING SYSTEM STRUCTURE




- **A** Customer premises equipment
- **B** HC equipment cord
- **C** Patch cords/cross connect jumpers used in the HC including equipment cables/cords, should not exceed 5m (16 ft.)
- **D** Horizontal cable 90m (295 ft.) max. total
- **E** Telecommunications outlet/connector (TO)
- **F** WA equipment cord not to exceed 5m (16 ft.)

Recognized media:

4-pair 100 unshielded twisted pair (UTP)

2-pair 150 shielded twisted pair (STP-A)

2-fiber 62.5/125 µm or 50/125 µm multimode optical fiber

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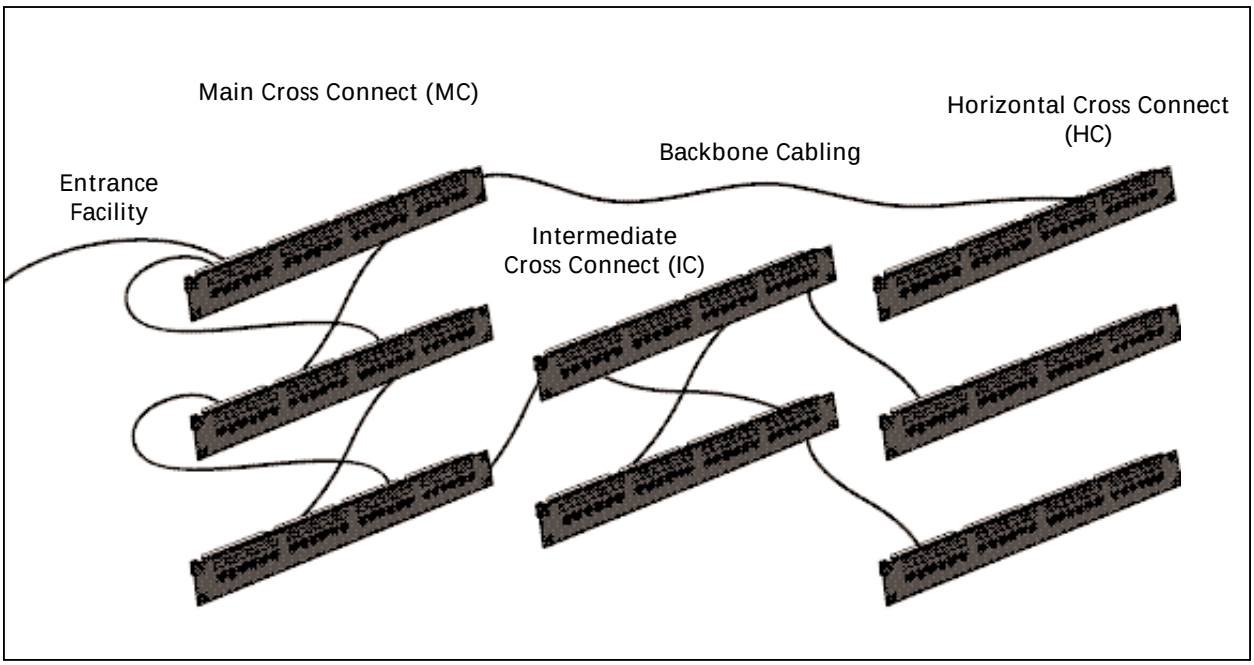
## Backbone Cabling

Provides interconnection between telecommunications rooms, equipment rooms, and entrance facilities.

### BACKBONE CABLING SYSTEM STRUCTURE




| Recognized media: | Max Distance (MC to HC) |
|---|---|
| 100 unshielded twisted pair (UTP) | 90 m (295 ft.) |
| 150 shielded twisted pair (STP-A) | 800 m (2624 ft.) |
| 62.5/125 µm or 50/125 µm multimode optical fiber | 2000 m (6560 ft.) |
| Singlemode optical fiber | 3000 m (9840 ft.) |

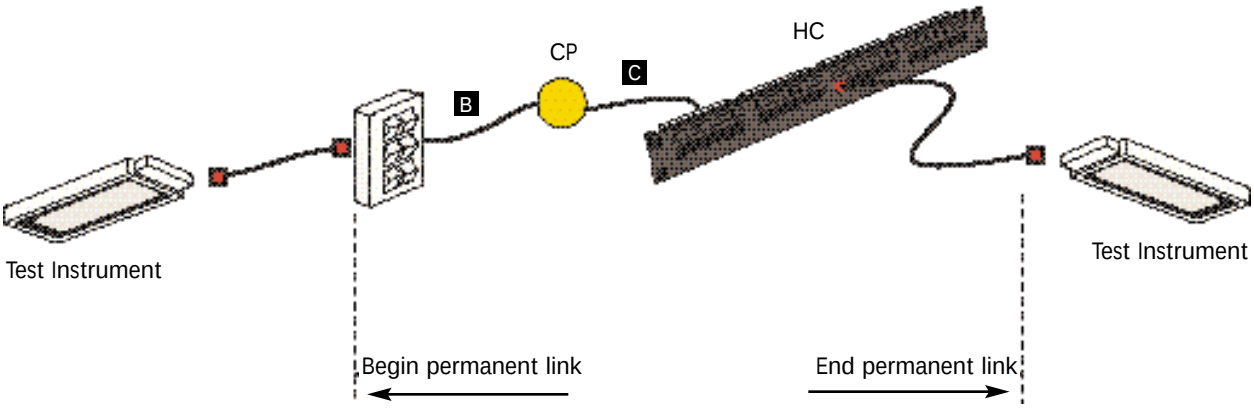
Note:

- Patch cords and jumpers at the main cross connect (MC) and the intermediate cross connect (IC) should not exceed 20 m (66 ft.)

# TRANSMISSION PERFORMANCE SPECIFICATIONS FOR FIELD TESTING OF UTP CABLING SYSTEMS

## Permanent Link Configuration

- Up to 90 meters (295 ft.) of horizontal cable (B,C)
- A telecommunications/outlet connector
- A horizontal cross connect (HC)
- An optional transition/consolidation point (CP)




**Maximum Length of B + C = 90 m (295 ft.)**

### Permanent Link Requirements

| CABLING TYPE | FREQUENCY (MHz) | INSERTION LOSS (ATTENUATION) (dB) | NEXT (dB) | PSNEXT (dB) | ELFEXT (dB) | RETURN LOSS (dB) |
|---|---|---|---|---|---|---|
| CATEGORY 5e | 100 | 20.4 | 32.3 | 29.3 | 18.6 | 12.0 |
| CATEGORY 6 | 100 | 18.5 | 41.8 | 39.3 | 24.2 | 14.0 |
| CATEGORY 6 | 250 | 30.7 | 35.3 | 32.7 | 16.2 | 9.0 |

Performance as specified in:

CATEGORY 5e: TIA/EIA-568-B.1
CATEGORY 6: proposed TIA/EIA-568-B.2-1, draft 7

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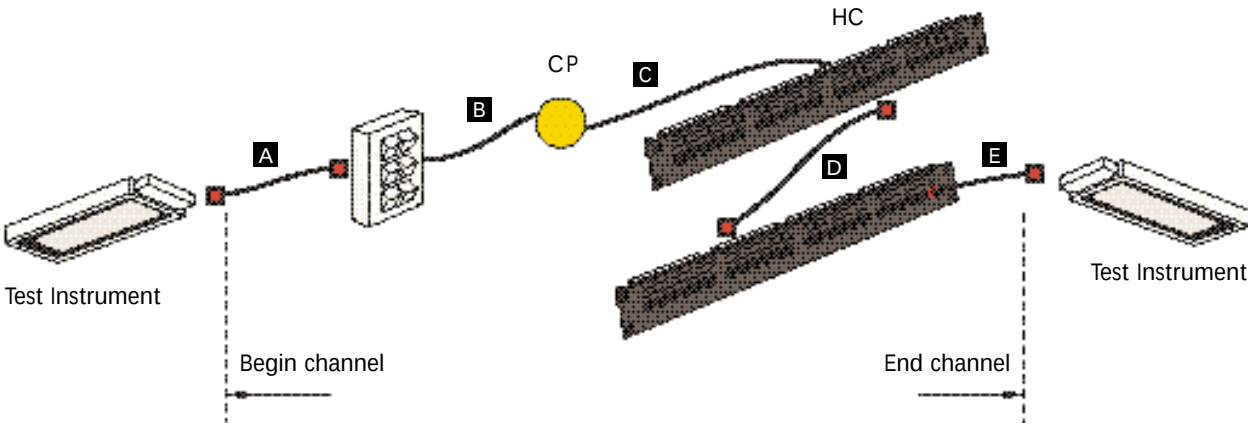
## Channel Configuration

- Up to 90 meters (295 ft.) of horizontal cable (B,C)
- A telecommunications/outlet connector
- Up to 2 horizontal cross connect connections in the telecommunications room (HC)
- A patch cord or jumper (D)
- A work area cord (A)
- A telecommunications room equipment cord (E)
- An optional transition/consolidation point connector (CP)

Note: When a maximum horizontal length of 90 meters is used, then the total length of the equipment cord, patch cord or jumper, and work area cord shall not exceed 10 meters (33 ft.).




## Maximum Lengths

**B+ C = 90 m (295 ft.)**

**A + B + C + D + E = 100 m (328 ft.)**

### Channel Requirements

| CABLING TYPE | FREQUENCY (MHz) | INSERTION LOSS (ATTENUATION) (dB) | NEXT (dB) | PSNEXT (dB) | ELFEXT (dB) | RETURN LOSS (dB) |
|---|---|---|---|---|---|---|
| CATEGORY 5e | 100 | 24.0 | 30.1 | 27.1 | 17.4 | 10.0 |
| CATEGORY 6 | 100 | 21.3 | 39.9 | 37.1 | 23.3 | 12.0 |
| CATEGORY 6 | 250 | 36.0 | 33.1 | 30.2 | 15.3 | 8.0 |

Performance as specified in:

CATEGORY 5e: TIA/EIA-568-B.1
CATEGORY 6: proposed TIA/EIA-568-B.2-1, draft 7

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## UTP CONNECTOR TERMINATIONS

Strip back only as much cable jacket as is required for termination and maintain pair twists as close as possible to the point of mechanical termination.

- CAT3 maximum allowed untwisting: 3" (75 mm)
- CAT5e maximum allowed untwisting: 1/2" (13 mm)
- CAT6 maximum allowed untwisting: 1/2" (13 mm)

## CABLE MANAGEMENT

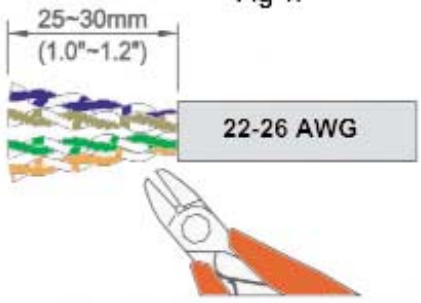
- Maintain a minimum bend radius of 4 times the cable diameter (UTP max dia=0.25", 4 x .25"=1.0")
- Apply cable ties or grip ties loosely and at random intervals
- Avoid stretching cable
- Use appropriate methods for dressing and securing cables:

  Wire Management Brackets — Cable Ties
  Cable Management Panels — Grip Ties
- Do not exceed more than 25 lbs. of pulling tension on 4-pair cables
- Never bend cables more than 90 degrees
- Do not use a staple gun to position cables

## Keystone Installation Instructions

Prepare cable, cut back sheath to the appropriate length (*fig 1*).

Fig 1.




Lay cable onto outlet and secure with cable tie (*fig 2*).

Fig 2.

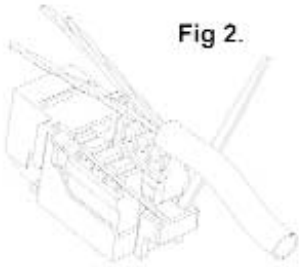
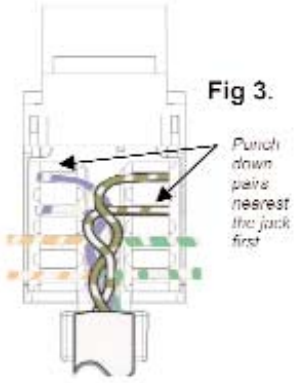
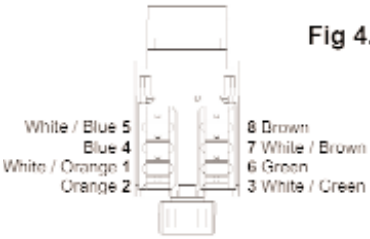


Fig 3.



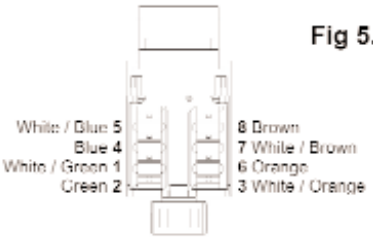

**568B**

Fig 4.




**568A**

Fig 5.




**Cat 3 (*USOC*)**

Fig 6.

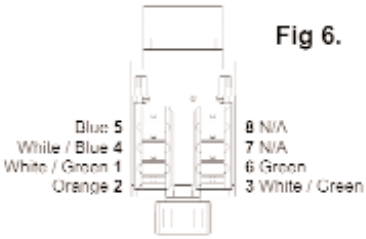



Fig 7.

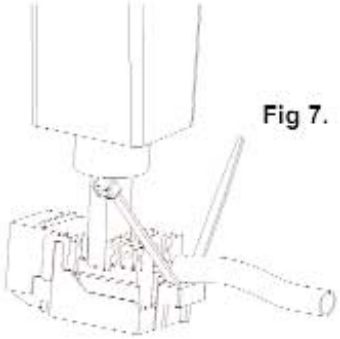


Fig 8.

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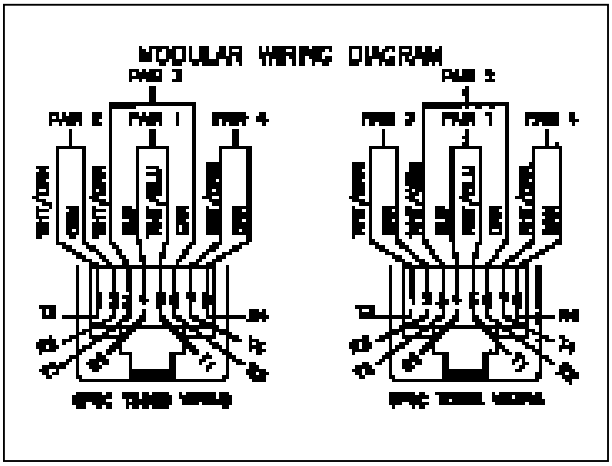
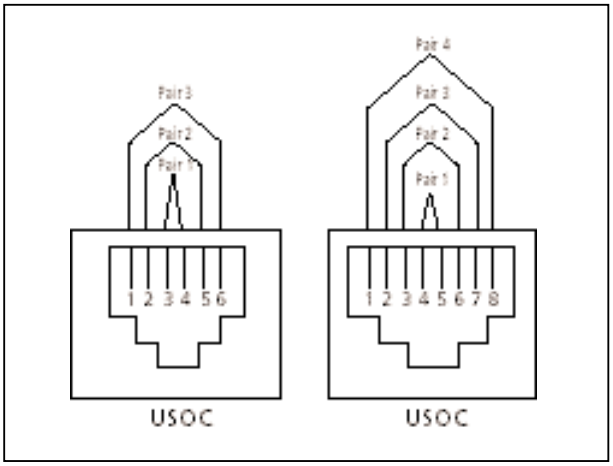
## CATEGORY 5e / CATEGORY 6



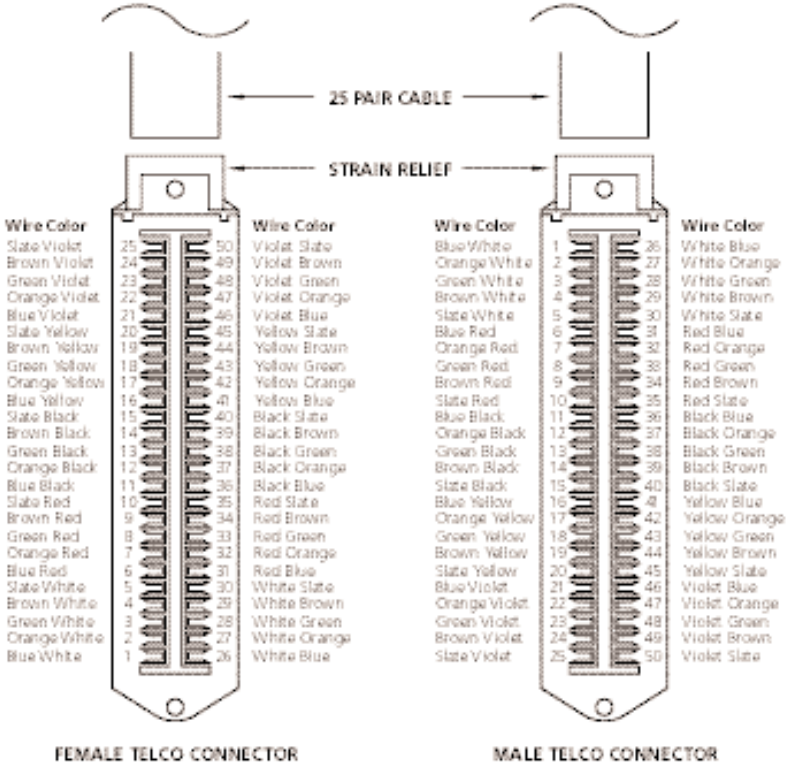

## CATEGORY 3




## Standard 4 Pair Wire Color Codes

| PAIRS | COLOR/CODE | PAIR ID | 66 OR 110 POSITION | T568B | T568A | 6 CONDUCTOR USOC | 8 CONDUCTOR USOC |
|---|---|---|---|---|---|---|---|
| Pair 1 | White/Blue | T1 | 1 | 5 | 5 | 4 | 4 |
| | Blue/White | R1 | 2 | 4 | 4 | 3 | 3 |
| Pair 2 | White/Orange | T2 | 3 | 1 | 3 | 2 | 4 |
| | Orange/White | R2 | 4 | 2 | 6 | 5 | 3 |
| Pair 3 | White/Green | T3 | 5 | 3 | 1 | 1 | 4 |
| | Green/White | R3 | 6 | 6 | 2 | 6 | 3 |
| Pair 4 | White/Brown | T4 | 7 | 7 | 7 | – | 4 |
| | Brown/White | R4 | 8 | 8 | 8 | – | 3 |

## TELCO CONNECTOR PIN & COLOR CODING (RJ21X) DESIGN



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The new ANSI/TIA/EIA-606-A standard will have several new requirements and recommendations for administration. The new standard will have 4 classes of administration:

## ADMINISTRATION

Modern buildings require an effective telecommunications infrastructure to support the wide variety of services that rely on the electronic transport of information. This infrastructure can be thought of as the collection of those components (telecommunications spaces, cable pathways, grounding, wiring and termination hardware) that provide the basic support for the distribution of all information within a building or campus. Administration of the telecom-munications infrastructure include documentation (labels, records, drawings, reports, and work orders) of cables, termina-tion hardware, patching and cross connect facilities, conduits, and other pathways, telecom-munications rooms, and other telecommunications spaces. TIA/EIA606 Administration Standard for the telecom-munications infrastructure of commercial buildings was released in August, 1993. This document sets the guidelines for administration of the telecom-munications wiring system.

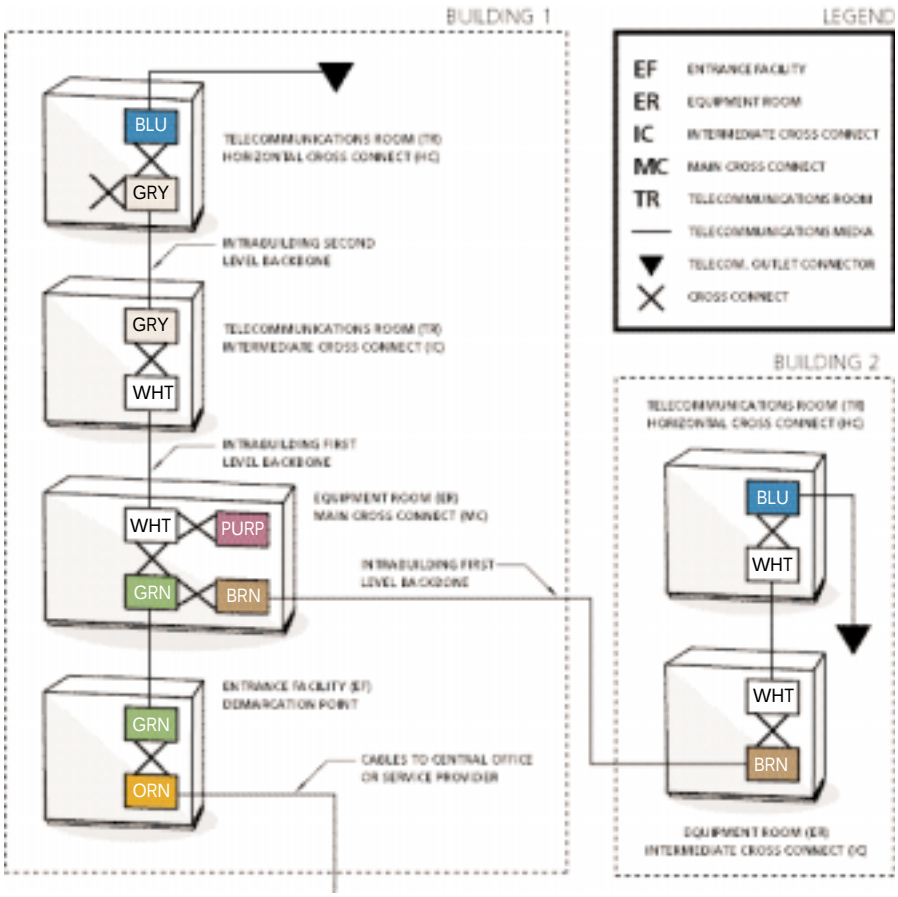
### CLASS 1
Fewer than 100 users and 1 TR

### CLASS 2
100s of users and multiple TRs in a single building

### CLASS 3
Campus environment – 1000s of users, multiple buildings, multiple TRs in each building

### CLASS 4
Connecting multiple Class 3 installations at different geographic locations

The new standard is designed to accommodate all types of installations. For each Class, there are different labeling requirements and recommendations.




### 606 Standard Color Chart

| TERMINATION TYPE | COLOR | COMMENTS |
|---|---|---|
| Demarcation point | Orange | Central office connection |
| Network connections | Green | Network connections or auxiliary circuit termination |
| Common equipment | Purple/Violet | Connections to PBX, mainframe, LAN, multiplexer |
| First level backbone | White | MC-IC cable terminations |
| Second level backbone | Gray | IC-TR cable terminations |
| Horizontal | Blue | Horizontal cable terminations in TRs |
| Interbuilding backbone | Brown | Campus cable terminations |
| Other | Yellow | Auxiliary, maintenance, alarms, security, etc. |
| Key telephone systems | Red | Connections to key telephone systems |

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## GLOSSARY OF TERMS

### A

**Asynchronous Transfer Mode (ATM)** Technology selected by the International Telecommunications Union (ITU, formerly CCITT) for broadband ISDN. This communications protocol is also specified by the ATM Forum (Foster City, CA) for 155 Mb/s transmission over twisted pair cable and various bit rate optical fiber cabling applications.

**Attenuation** A reduction in power or amplitude of the transmitted signal. In cables, it is generally expressed in decibels per unit length.

**Attenuation to Crosstalk Ratio (ACR)** The difference between attenuation and crosstalk measured in decibels.

### B

**Backbone Cabling** Cable and connecting hardware that comprise the main and intermediate cross connects, as well as cable runs that extend between telecommunications rooms, equipment rooms and entrance facilities.

**Balance** An indication of signal voltage equality and phase polarity on a conductor pair. Perfect balance occurs when the signals across a twisted pair are equal in magnitude and opposite in phase with respect to ground.

**Balanced Signal Transmission** Two voltages, equal and opposite in phase with respect to each other, across the conductors of a twisted pair (commonly referred to as tip and ring).

**Balun** An impedance matching transformer used to convert unbalanced coaxial signals to balanced signals.

**Bandwidth** A range of frequencies, usually the difference between the upper and lower limits of the range, typically expressed in mega hertz (MHz). It is used to describe the information-carrying capacity of a medium. In copper and optical fibers, the bandwidth decreases with increasing length. Optical fiber bandwidth is specified in megahertz kilometers (MHz-km).

**Basic Link Test Configuration** Horizontal cable of up to 90 m (295 ft) plus up to 2 m (6.5 ft) of test equipment cord from the main unit of the tester to the local connection, and up to 2 m (6.5 ft) of test equipment cord from the remote connection to the remote unit of the tester. Maximum length is 94 m (308 ft).

**Bundled Cable** An assembly of two or more cables continuously bound together to form a single unit prior to installation (sometimes referred to as loomed, speed-wrap or whip cable constructions).

**Bus Topology** A linear configuration where all network devices are placed on a single length of cable. It requires one backbone cable to which all network devices are connected.

### C

**Cabling** A combination of cables, wire, cords and connecting hardware used in the telecommunications infrastructure.

**Campus Backbone** Cabling between buildings that share telecommunications facilities.

**Campus Distributor (CD)** The international term for main cross connect the distributor from which the campus backbone cable emanates.

**Category**

1. ANSI/TIA/EIA-568-B series of documents, the North American standards for cabling describes mechanical properties and transmission characteristics of unshielded twisted pair (UTP) cables and screened twisted pair (SCTP) cables and assigns a unique number classification (Category 3, Category 5, Category 5e, Category 6 and Category 7).
2. ISO/IEC IS 11801 2nd edition, the international standard for cabling and local standardization documents define cabling component categories based on transmission performance parameters such as attenuation and NEXT loss, over a specified frequency range.

**Channel** The end-to-end transmission path connecting any two points at which application specific equipment is connected. Equipment and work area cables are included in the channel.

**Common Mode Transmission** A transmission scheme where voltages appear equal in magnitude and phase across a conductor pair with respect to ground. May also be referred to as longitudinal mode.

**Consolidation Point (CP)** A location for interconnection between horizontal cables that extend from building pathways and horizontal cables that extend into work area pathways.

**Cross connect** A facility enabling the termination of cables as well as their interconnection or cross connection

with other cabling or equipment. Also known as a distributor.

**Cross connection** A connection scheme between cabling runs, subsystems and. equipment using patch cords or jumpers that attach to connecting hardware on each end.

**Crosstalk** Noise or interference caused-by electro-magnetic coupling from one signal path to another. Crosstalk performance is generally expressed in decibels.

## D

**Decibel (dB)** A standard unit for expressing transmission gain or loss as derived from a ratio of signal voltages or power.

**Delay Skew** The difference in propagation delay between the fastest and slowest pair in cable or cabling system.

**Demarcation Point (DP)** A point at which two services may interface and identify the division of responsibility.

**Differential Mode Transmission** A transmission scheme where voltages appear equal in magnitude and opposite in phase across a twisted pair with respect to ground. May also be referred to as balanced mode.

## E

**Electromagnetic Interference (EMI)** The interference in signal transmission or reception caused by the radiation of electrical and magnetic fields.

**Electronic Industries Alliance (EIA)** An organization that sets standards for interfaces to ensure compatibility between data communications equipment and data terminal equipment.

**Entrance Facility (EF)** An entrance to a building for both public and private network service cables (including antennae) including the entrance point at the building wall and continuing to the entrance room or space. Entrance facilities are often used to house electrical protection equipment and connecting hardware for the transition between outdoor and indoor cable.

**Entrance Facility, Telecommunications** An entrance to a building for both public and private network service cables (including antennae) beginning with the entrance point at the building wall and continuing to the entrance room or space.

**Entrance Point, Telecommunications** The point of emergence of telecommunications conductors through an exterior wall, a concrete floor slab, or from a rigid metal conduit or intermediate metal conduit.

**Equal Level Far-end Crosstalk (ELFEXT)** Crosstalk measured at the opposite end from which the disturbing signal is transmitted normalized by the attenuation contribution of the cable or cabling.

**Equipment Cable** A cable or cable assembly used to connect telecommunications equipment to horizontal or backbone cabling.

**Equipment Room (ER)** A centralized space for telecommunications equipment that serves the occupants of the building or multiple buildings in a campus environment. An equipment room is considered distinct from a telecommunications room because it is considered to be a building or campus serving (as opposed to floor serving) facility and because of the nature or complexity of the equipment that it contains.

## F

**Far-end Crosstalk (FEXT)** Crosstalk measured at the opposite end from which the disturbing signal is transmitted.

**Firestop** A material, device, or assembly of parts installed in a cable pathway at a fire-rated wall or floor to prevent passage of flame, smoke or gases through the rated barrier (e.g. between cubicles or separated rooms or spaces).

## G

**Ground** A conducting connection, whether intentional or accidental, between an electrical circuit (telecommunications) or equipment and earth, or to some conducting body that serves in place of the earth.

## H

**Hertz (Hz)** A measure of frequency as defined in units of cycles per second.

**Home-run Cabling** A distribution method in which individual cables are run directly from the horizontal cross connect to each telecommunications outlet. This configuration is also known as star topology.

**Horizontal Cabling** The cabling between and including the telecommunications outlet and the horizontal cross-connect.

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**Horizontal Cross-connect (HC)** A cross connect of horizontal cabling to other cabling, e.g., horizontal, backbone, or equipment.

**Hub** Equipment that serves as the centralized connection point for a network or portion thereof. Hubs are used for multiplexing, multi-port bridging functions, switching and test access. They can be either passive or active and are not considered to be part of the cabling infrastructure.

**Hybrid Cable** An assembly of two or more cables, of the same or different types or categories, covered by one overall sheath.

## I

**Insertion loss**

1. The loss resulting from the insertion of a device in a transmission line, expressed as the reciprocal of the ratio of the signal power delivered to that part of the line following the device to the signal power delivered to that same part before insertion.
2. In an optical fiber system, the loss of optical power caused by inserting a component, such as a connector, coupler or splice, into a previously continuous optical path.

**Insulation Displacement Connection (IDC)** A wire connection device that penetrates the insulation of a copper wire when it is being inserted (punched down) into a metal contact, allowing the electrical connection to be made.

**Intelligent Hub** A hub that performs bridging and routing functions in a collapsed backbone environment.

**Interbuilding Backbone** Telecommunications cable(s) that are part of the campus subsystem that connect one building to another.

**Interconnection** A connection scheme that provides direct access to the cabling infrastructure and the ability to make cabling system changes using equipment cords.

**Intermediate Cross-Connect (IC)** The connection point between a backbone cable that extends from the main cross connect (first-level backbone) and the backbone cable from the horizontal cross-connect (second-level backbone).

**Intermediate Distribution Frame (IDF)** In a central office or customer premises, a frame that (a) cross connects the user cable media to individual user line circuits and b) may serve as a distribution point for multipair cables from the main distribution frame (MDF) to individual cables connected to equipment in areas remote from these frames.

**Intrabuilding Backbone** Telecommunications cable(s) that are part of the building subsystem that connect one equipment room to another.

## J

**Jumper Wire** An assembly of twisted pairs without connectors on either end used to join telecommunications links at a cross connect.

## L

**Link** An end-to-end transmission path provided by the cabling infrastructure. Cabling links include all cables and connecting hardware that comprise the horizontal or backbone subsystems. Equipment and work area cables are not included as part of a link.

**Local Area Network (LAN)** A geographically limited data communications system for a specific user group consisting of a group of interconnected computers, sharing applications, data and peripheral devices such as printers and CD-ROM drives intended for the local transport of data, video, and voice.

**Local Exchange Carrier (LEC)** The local regulated provider of public switched telecommunications services.

**Longitudinal Conversion Loss (LCL)** A measure (in dB) of the differential voltage induced on a conductor pair as a result of subjecting that pair to longitudinal voltage. LCL is considered to be a measure of circuit balance.

## M

**Main Cross-connect(MC)** A cross connect for first level backbone cables, entrance cables, and equipment cables.

**Modular Jack** A telecommunications outlet/connector for wire or cords as defined in the FCC Part 68 Subpart F Modular jacks can have 4, 6 or 8 contact positions, but not all the positions need be equipped with contacts.

**Modular Plug** A telecommunications connector for wire or cords as defined in the FCC Part 68 Subpart F. Modular plugs can have 4, 6 or 8 contact positions, but not all the positions need be equipped with contacts.

**Multimedia**

1. An application that communicates to more than one of the human sensory receptors.
2. Applications that communicate information by more than one means or cabling media.

**Multimode Optical Fiber** An optical fiber that will allow many bound modes to propagate. The fiber may be either a graded index or step index fiber. Multimode optical fibers have a much larger core than single mode fibers.

**Multi-user Telecommunications Outlet Assembly (MUTOA)** A grouping in one location of several telecommunications/outlet connectors.

## N

**Nanosecond (ns)** One billionth of a second (10 seconds).

**Near-and Crosstalk (NEXT Loss)** The undesired coupling of a signal from one pair of wires to another. Signal distortion as a result of signal coupling from one pair to another at various frequencies.

**Network Demarcation Point** The point of interconnection between the local exchange carrier's telecommunication facilities and the telecommunications systems wiring and equipment as the end user's facility. This point shall be located on the subscriber side of the telephone company's protector or the equivalent thereof in cases where a protector is not required.

## O

**Open Office Cabling** The cabling that distributes from the telecommunications closet to the open office area utilizing a consolidation point or multi-user telecommunications outlet assembly.

**Outlet, Telecommunications** A fixed connecting device where the horizontal cable terminates. The telecommunications outlet provides the interface to the work area cabling. Sometimes referred to as a telecommunications outlet/connector.

## P

**Patch Cord** A length of cable with connectors on one or both ends used to join telecommunications links at a cross connect.

**Patch Panel** Connecting hardware that typically provides means to connect horizontal or backbone cables to an arrangement of fixed connectors that may be accessed using patch cords or equipment cords to form cross connections or interconnections.

**Pathway** A facility (i.e. conduit) for the placement and protection of telecommunications cables. Same as raceway or ducting.

**Plenum** A compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system.

**Private Branch Exchange (PBX)** A private switching system usually serving an organization, such as a business, located on the customer's premises. It switches calls both inside a building or premises and outside to the telephone network, and can sometimes provide access to a computer from a data terminal.

**Propagation Delay** The amount of time that passes between when a signal is transmitted and when it is received at the opposite end of a cable or cabling.

**Punch Down** A method for securing wire to a quick clip in which the insulated wire is placed in the terminal groove and pushed down with a special tool. As the wire is seated, the terminal displaces the wire insulation to make an electrical connection. The punch down operation may also trim the wire as it terminates. Also called cut down.

## Q

**Quick Clip** An electrical contact used to provide an insulation displacement connection to telecommunications cables.

## R

**Raceway** See Pathway

**Return Loss** Noise or interference caused by impedance discontinuities along the transmission line at various frequencies. Return loss is expressed in decibels.

**Ring Conductor** A telephony term used to describe one of the two conductors in a cable pair used to provide telephone service. This term was originally coined from its position as the second (ring) conductor of a tip-ring-sleeve switchboard plug.

## S

**Star Topology**

1. A method of cabling each telecommunications outlet/connector directly to a cross connect in a horizontal cabling subsystem.
2. A method of cabling each cross connect (HC and IC) to the main cross connect (MC) in a backbone cabling subsystem.

**Surge** A rapid rise in current or voltage usually followed by a fall back to a normal level. Also referred to as transient.

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## T

**Telecommunications** Any transmission, emission or reception of signs, signals, writings, images, sounds or information of any nature by cable, radio, visual, optical or other electromagnetic systems.

**Telecommunications Room (TR)** An enclosed space for housing telecommunications equipment, cable terminations and cross-connect cabling used to serve work areas located on the same floor. The telecommunications room is the typical location of the horizontal cross-connect and is considered distinct from an equipment room because it is considered to be a floor serving (as opposed to building or campus serving) facility.

**Telecommunications Industry Association (TIA)** An organization that sets standards for cabling, pathways, spaces, grounding, bonding, administration, field testing and other aspects of the telecommunications industry.

**Tip Conductor** A telephony term used to describe the conductor of a pair that is grounded at the central office when the line is idle. This term was originally coined from its position as the first (tip) conductor of a tip-ring-sleeve switchboard plug.

**Topology** The physical or logical layout of links and nodes in a network. These include star, ring and bus configurations.

**Transfer Impedance** A measure (in 12) of shield effectiveness.

**Transition Point (TP)** A location in the horizontal cabling subsystem where flat undercarpet cabling connects to round cabling.

**Trunk** A communication line between two switching systems. The term 'switching systems' typically includes equipment in a central office (the telephone company) and PBXS. A tie trunk connects PBXS. Central office trunks connect a PBX to the switching system at the central office.

## U

**Unshielded Twisted Pair (UTP)** A cable with multiple pairs of twisted insulated copper conductors bound in a single sheath.

## W

**Work Area** The area where horizontal cabling is connected to the work area equipment by means of a telecommunication outlet. A station/desk which is served by a telecommunications outlet. Sometimes referred to as a work station.

**Work Area Cable** A cable assembly used to connect equipment to the telecommunications outlet in the work area. Work area cables are considered to be outside the scope of cabling standards.

# APPENDIX

## ACRONYMS & ABBREVIATIONS

ACR . . . . . .Attenuation to crosstalk ratio

ANSI . . . . . .American National Standards Institute

ATM . . . . . .Asynchronous transfer mode

AWG . . . . . .American wire gauge

BER . . . . . .Bit Error Rate

b/s . . . . . .Bits per second

CM . . . . . .Common mode

CP . . . . . .Consolidation point

CPE . . . . . .Customer premises equipment

CSA . . . . . .Canadian Standards Association

dB . . . . . .Decibel

DD . . . . . .Distribution device

EF . . . . . .Entrance facility

EIA . . . . . .Electronic Industries Alliance

ELFEXT . . . . . .Equal level far end crosstalk

EMI . . . . . .Electromagnetic interference

ER . . . . . .Equipment room

FCC . . . . . .Federal Communications Commission

ft . . . . . .Feet

FEXT . . . . . .Far end crosstalk

Gb/s . . . . . .Gigabits per second

GHz . . . . . .Gigahertz

HC . . . . . .Horizontal cross connect

HVAC . . . . . .Heating, ventilation and air conditioning

Hz . . . . . .Hertz

IC . . . . . .Intermediate cross connect

IDC . . . . . .Insulation displacement connection

IDF . . . . . .Intermediate Distribution Frame

IEC . . . . . .International Electrotechnical Commission

IEEE . . . . . .Institute of Electrical and Electronic Engineers

ISDN . . . . . .Integrated Services Digital Network

ISO . . . . . .International Standards Organization

Kb/s . . . . . .Kilobit per second

Km . . . . . .Kilometer

LAN . . . . . .Local area network

LEC . . . . . .Local exchange carrier

m . . . . . .Meter

µm . . . . . .Micron, one millionth of meter (0.000001); also micrometer

Mb/s . . . . . .Megabits per second

MC . . . . . .Main cross connect

MDF . . . . . .Main distribution frame

MHz . . . . . .Megahertz

mm . . . . . .Millimeter

MuTOA . . . . . .Multi-user Telecommunications Outlet Assembly

NEC . . . . . .National Electrical Code

NEMA . . . . . .National Electrical Manufacturers Association

NEXT . . . . . .Near end crosstalk

NFPA . . . . . .National Fire Protection Association

. . . . . .Ohm

nm . . . . . .Nanometer

PBX . . . . . .Private branch exchange

PVC . . . . . .Polyvinyl chloride

TIA . . . . . .Telecommunications Industry Association

TO . . . . . .Telecommunications outlet

TP . . . . . .Transition point

UL . . . . . .Underwriters Laboratories Inc.

USOC . . . . . .Universal Service Order Code

UTP . . . . . .Unshielded twisted pair

WA . . . . . .Work area

**Glossary Reference: Newton's Telecom Dictionary, published by Telecom Library, Inc.**