

What To Ask When Selling Category Patch Cables

What kind of cable?	
<input type="checkbox"/> Stranded (Most popular)	The most common wire used for Patch cables where flexibility is important.
<input type="checkbox"/> Solid	Not generally used for Patch Cables shorter than 25 feet due to the inflexibility of solid cable although performance characteristics are better with solid wire.

How will it be wired?	
<input type="checkbox"/> Straight-thru (Most popular)	The straight-thru or pin-to-pin wiring method is the most common way to terminate Patch Cables. (See wiring reference)
<input type="checkbox"/> Crossover	This method of wiring is used in device to device applications such as 10/100BASE-T Hub to Hub, or peer-to-peer connections.

What is the data rate?	
<input type="checkbox"/> Category 7	Proposed new STP standard with extended frequency requirements
<input type="checkbox"/> Category 6	Proposed new UTP standard with extended frequency requirements
<input type="checkbox"/> Category 5E	Data rates to 1 GBPS at 100MHz. Enhanced Cat5E TIA/EIA standard.
<input type="checkbox"/> Category 5	Data rates to 100MBPS at 100MHz. 4 pair 100Ω 24 AWG UTP cable.
<input type="checkbox"/> Category 4 obsolete	Data rates to 20MBPS; now
<input type="checkbox"/> Category 3	Data rates to 16MBPS.

What kind of jacket?	
<input type="checkbox"/> PVC	For Patch Cords in non-plenum areas. Generally feels more flexible and is slightly thicker than Plenum jacket.
<input type="checkbox"/> Plenum	Low-smoke, fire resistant outer jacket and conductor insulation material used in plenum areas such as in false ceilings or air return handling areas. Not generally used for Patch Cables.

What gauge wire?	
Wire gauge determines the diameter of the conductor. The larger the diameter, or gauge, the more capacity (amperage) the wire has for carrying current. For telco/data applications, current carrying capacity (amperage) is not an important consideration. The standard is 24 AWG.	
<input type="checkbox"/> 22 AWG	<input type="checkbox"/> 26 AWG
<input type="checkbox"/> 24 AWG Most common	<input type="checkbox"/> 28 AWG (Silver Satin)

Do you need shielded or unshielded?	
<input type="checkbox"/> UTP	Unshielded Twisted Pair cable is most common in North America and relatively inexpensive. UTP is 100Ω impedance.
<input type="checkbox"/> ScTP	Screened Twisted Pair cable provides EMI/RFI protection via an overall foil and/or braided shield. Popular in Europe and more expensive than UTP. ScTP is 100Ω impedance.
<input type="checkbox"/> STP	Shielded Twisted Pair has individually shielded twisted pairs and an overall foil/braid shield.

Glossary of Terms	
568B	A cabling wiring standard also known as ATT 258A. Electrically, pairing between 568A and 568B is identical so either can be used in place of the other. The difference is the orange and green pairs are switched between the two.
568A	A cabling standard also known as EIA.
Attenuation	A reduction in power or amplitude which is expressed in decibels per unit length in cables.
Backbone Cabling	Cable and connecting hardware and runs between wiring closets, equipment rooms, and demarcation points. HINT - Usually multiconductor large cable.
Decibel	A unit of measurement expressing transmission gain or loss as derived from a ratio of signal amplitudes or power.
Horizontal Cabling	Cabling between workstations, wall outlets, and patching products.
Impedance	A measurement for AC resistance. UTP = 100 Ohm IBM STP = 150 Ohm
Meter	One meter equals 3.28 feet.
Modular Jack	A female connector typically mounted in a fixed location and may have 2, 4, 6, 8, or 10 positions.
Modular Plug	A male telecommunications connector most commonly terminated onto cable and may have 2, 4, 6, 8, or 10 positions.
MMJ	Digital Equipment Corporation exclusive. MMJ stands for Modified Modular Jack which incorporates an offset design preventing the accidental connection of telco cables into data wall plates or jacks.
Near-end Crosstalk	Data "bleed over" from an adjacent pair. An undesirable component measured at the end from which the disturbing signal is transmitted.
Return Loss	Noise or interference caused by impedance discontinuities along the transmission line at various frequencies expressed in dB.
Token Ring	Originally designed for IBM using 150 Ohm shielded twisted pair cable. The higher cost and lower performance of this type of cabling have made it increasingly less popular than Category 5 UTP.
Trunk	A communication line between two Switching Systems.
MBPS	Million Bits Per Second (MBPS). A term related to a measurement of the amount of data transferred in bits over a medium.
USOC	Stands for Universal Service Ordering Code. Its origins are in the telephone wiring world and it has been adapted in recent years for data applications.
UTP	Unshielded Twisted Pair (UTP) cabling products incorporate twisted pair cabling for high speed data transmission over unbalanced lines.

If the customer experiences problems with cables	
<input type="checkbox"/> No Signal	- The most common reason for signal loss in a modular cable is crimp problems. Either the crimp pins did not penetrate the wire jacket properly, or the crimp operation was not properly performed. Problems of this nature usually are discovered in final test, but occasionally the problem exhibits itself in the field. Re-crimping with a quality crimp tool usually resolves this type of failure. - Another possible reason for failure of this type is a break in the cable somewhere. Complete replacement is the simplest solution.
<input type="checkbox"/> Intermittent Signal	- These failures are most common since intermittent failure may not have been duplicated during final test. If the location of the intermittent connection is isolated to the modular plug area, re-crimping may resolve the problem. - Call for technical support - Gruber 800 658-5883 (Email - support@gruber.com)

Modular Wiring Reference

10BASE-T (802.3)
This 2 Pair wiring method is also imbedded in the 568B wiring method.

568B Wiring
Also known as ATT 258A wiring. This termination method is used with Category cable products.

568A Wiring
Also known as EIA wiring. This termination method is also used with Category cable products.

MMJ Wiring
A Digital Equipment Corp. exclusive. MMJ stands for Modified Modular Jack.

Token Ring (802.5)
An IBM standard. Can be either a 6 or 8 position jack.

TP-PMD (X3T9.5)
This ANSI wiring method uses the outer two pairs of an 8 position jack.

USOC 3 Pair
USOC wiring is available in 1, 2, 3, or 4 pair configurations.

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Modular Plug Wiring Reference

Handset 4P x 4W

RJ11 6P x 4W

RJ12 6P x 6W

RJ12 DEC 6P x 6W

RJ45 8P x 8W

RJ45 Keyed 8P x 8W

10 Position 10P x 10W

Rear Cable Opening Flat

Rear Cable Opening Radiaused