

# Data Cable Requirements

## Definitions:

**Category 5 Cable (UTP-Unshielded Twisted Pair)-** A 4 pair high performance cable that consists of twisted pair conductors, used mainly for data transmission. Basic CAT-5 cable was designed for characteristics of up to 100 MHz. NOTE: The twisting of the pairs gives the cable a certain amount of immunity from the infiltration of unwanted interference.

**Category 5E Cable (Enhanced)-** Same as Category 5, except that it is made to somewhat more stringent standards (see comparison chart below). The Category 5E standard is now officially part of the 568A standard. Category 5 E is recommended for all new installations, and was designed for transmission speeds of up to 1 gigabit per second.

Below you will find a list of the required properties your selected cable must meet. You will also find a list of cables, which meet these criteria from several different manufacturers. At your option you may utilize one of the below-suggested cables or have your cable supplier provide you with a suitable alternative, which meets the listed criteria.

**Category 6 Cable-** Same as Category 5E, except that it is made to a higher standard (see comparison chart below). Category 6 is now part of the 568A standard.

## Standard 24-gauge Data Cable Performance Specification Chart:

Parameter	Category 5	Category 5E	Category 6
Specified frequency range	1-100 MHz	1-100 MHz	1-250 MHz
Attenuation	24 dB	24 dB	36 dB
NEXT	27.1 dB	30.1 dB	33.1 dB
Power-sum NEXT	N/A	27.1 dB	30.2 dB
ACR	3.1 dB	6.1 dB	-2.9 dB
Power-sum ACR	N/A	3.1 dB	-5.8 dB
ELFEXT	17 dB	17.4 dB	15.3 dB
Power-sum ELFEXT	14.4 dB	14.4 dB	12.3 dB
Return loss	8 dB	10 dB	8 dB
Propagation delay	548 nsec	548 nsec	546 nsec
Delay Skew	50 nsec	50 nsec	50 nsec

## Suggested Manufacturers and Data Cables:

Manufacturer	Part Number	Cable Type	Phone
Belden	7854A	CAT-5 non-plenum	800 235 3361
	1583A	CAT-5E non-plenum	
	7811A	CAT-5 plenum	
	1585A	CAT-5E plenum	
General	2137113	CAT-5 non-plenum	Contact Cassidey Technolgies (800 464 9473), manufacturer, or local distributor
	5133299E	CAT-5E non-plenum	
	5131413	CAT-5 plenum	
	6131278	CAT-5E plenum	
Hitachi	38696-8	CAT-5 non-plenum	
	38993-8	CAT-5E non-plenum	
	39419-8	CAT-5 plenum	
	38891-8	CAT-5E plenum	

If you have any questions or would like our engineers to approve your cable selection please feel free to contact our applications department at 1-800-922-8004.