

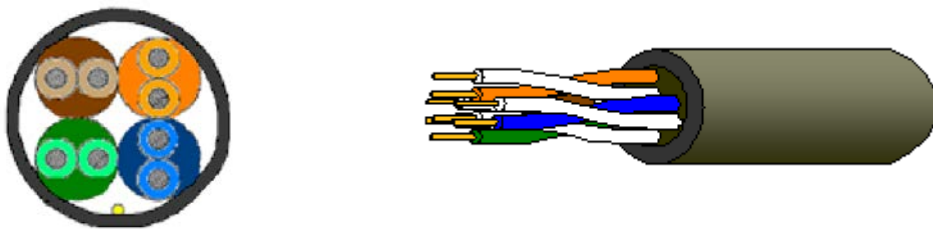
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<b>Category 5e</b>	<b>4 X 24AWG – 100MHz U-UTP PVC Cable</b>	<b>65504A</b>
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**A - APPLICATION :**

For horizontal network and voice application in a structured cabling system, including digital video, broadband & baseband analog video.

**B – CONSTRUCTION :**



Solid bare copper conductors insulated with polyolefin. Two insulated conductors twisted together to form a pair and four such pairs cabled to form the basic unit. Overall jacket with PVC compound.

**C - REFERENCE STANDARDS :**

International: IEC 61156-5 edit 2.0  
North American: TIA-568-C.2 Cat.5e

**D - CERTIFICATION :**

Delta EC , ETL

**E - CABLE DESCRIPTION :**

<b><u>1 – CONDUCTOR</u></b>	
Size	24AWG
Type	Solid bare copper
Diameter (mm)	0.49 ± 0.01
<b><u>2 – INSULATION</u></b>	
Type	PE
Diameter (mm)	0.86 ± 0.05
Min. thickness (mm)	0.15

<b>Design :</b> Will Huang	<b>Checked :</b> Ken Chao	<b>Approved :</b> Jim Fan	<b>App. Date :</b> 2010/10
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E. CABLE DESCRIPTION :		
<b>3 – PAIRS</b>		
<b>Color code</b>		
	<b>Pair 1 -</b>	Blue / White – blue strip
	<b>Pair 2 -</b>	Orange / White – orange strip
	<b>Pair 3 -</b>	Green / White – green strip
	<b>Pair 4 -</b>	Brown / White –brown strip
<b>4 – JACKET</b>		
	<b>Type</b>	PVC
	<b>Overall Diameter (mm)</b>	4.98 ± 0.3
F. TECHNICAL DATA – PHYSICAL :		
1. Cold bend test	-20 ± 2°C X 4hrs no. crack	
2. Dielectric strength	AC 1.2 KV/min.	
3. Insulation	<b>Before Aging</b>	<b>After aging</b>
Min. Tension strength (psi)	2400	75% before aging (100°C X 48hrs)
Min elongation (%)	300	75% before aging (100°C X 48hrs)
4. Jacket		
Min. Tension strength (psi)	2000	85% before aging (100°C X 240hrs)
Min elongation (%)	100	50% before aging (100°C X 240hrs)
5. Min. bending radius (mm)	40	
6. Max. pulling tension (lbs)	25	
7. Installation temperature	-10°C to +60°C	
8. Operating temperature	-10°C to +60°C	
G. PACKING :		
305/500/1000m on a wooden drum overall wrapped over by PE film		

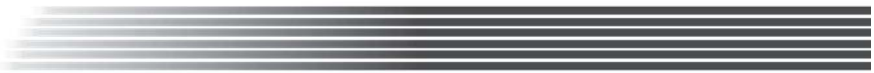
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H. TECHNICAL DATA - ELECTRICAL			
1. Conductor resistance ( $\Omega/100m @ 20^\circ C$ )	Max.	9.5	
2. DC resistance unbalance (%)	Max.	4	
3. Pair-to-ground capacitance unbalance (pF/km)	Max.	1600	
4. Delay skew (ns/100m)	Max.	45	$4 \leq f \leq 100MHz$
5. Insertion Loss (dB/100m)	Max.	$1.967 * \sqrt{f} + 0.023 * f + 0.1/\sqrt{f}$	$1 \leq f \leq 100MHz$
6. Pair to Pair NEXT (dB/100m)	Min.	$65.3 - 15 * \log(f)$	$1 \leq f \leq 100MHz$
7. PowerSum pr-pr NEXT (dB/100m)	Min.	$62.3 - 15 * \log(f)$	$1 \leq f \leq 100MHz$
8. ELFEXT (dB/100m)	Min.	$64 - 20 * \log(f)$	$1 \leq f \leq 100MHz$
9. PowerSum ELFEXT (dB/100m)	Min.	$61 - 20 * \log(f)$	$1 \leq f \leq 100MHz$
10. Return Loss (dB)	Min.	$20 + 5 * \log(f)$	$1 \leq f < 10MHz$
		25	$10 \leq f < 20MHz$
		$25 - 7 * \log(f / 20)$	$20 \leq f \leq 100MHz$
11. Propagation Delay (ns/100m)	Max.	$534 + 36 / \sqrt{f}$	$1 \leq f \leq 100MHz$
12. Input Impedance ( $\Omega$ )		$100 \pm 15\%$	$1 \leq f \leq 100MHz$

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IEC 61156-5 ed2.0 Category 5e horizontal cable parameters							
Freq. (MHz)	Ins. Loss (dB/100m)	RL (dB)	Pair to Pair		Power Sum		Po. Delay (ns/100)
			NEXT	ELFEXT	NEXT	ELFEXT	
			(dB/100m)		(dB/100m)		
	Max.	Min.	Min.	Min.	Min.	Min.	Max.
1	2.1	20.0	65.3	64.0	62.3	61.0	570.0
4	4.1	23.0	56.3	52.0	53.3	49.0	552.0
10	6.5	25.0	50.3	44.0	47.3	41.0	545.4
16	8.3	25.0	47.2	39.9	44.2	36.9	543.0
20	9.3	25.0	45.8	38.0	42.8	35.0	542.0
31.25	11.7	23.6	42.9	34.1	39.9	31.1	540.4
62.5	17.0	21.5	38.4	28.1	35.4	25.1	538.6
100	22.0	20.1	35.3	24.0	32.3	21.0	537.6

Note1: All tests include 401 points swept frequency measurements.

Note2: All electrical characteristics are given at 20°C

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