

P A C K A G I N G & S H I P P I N G

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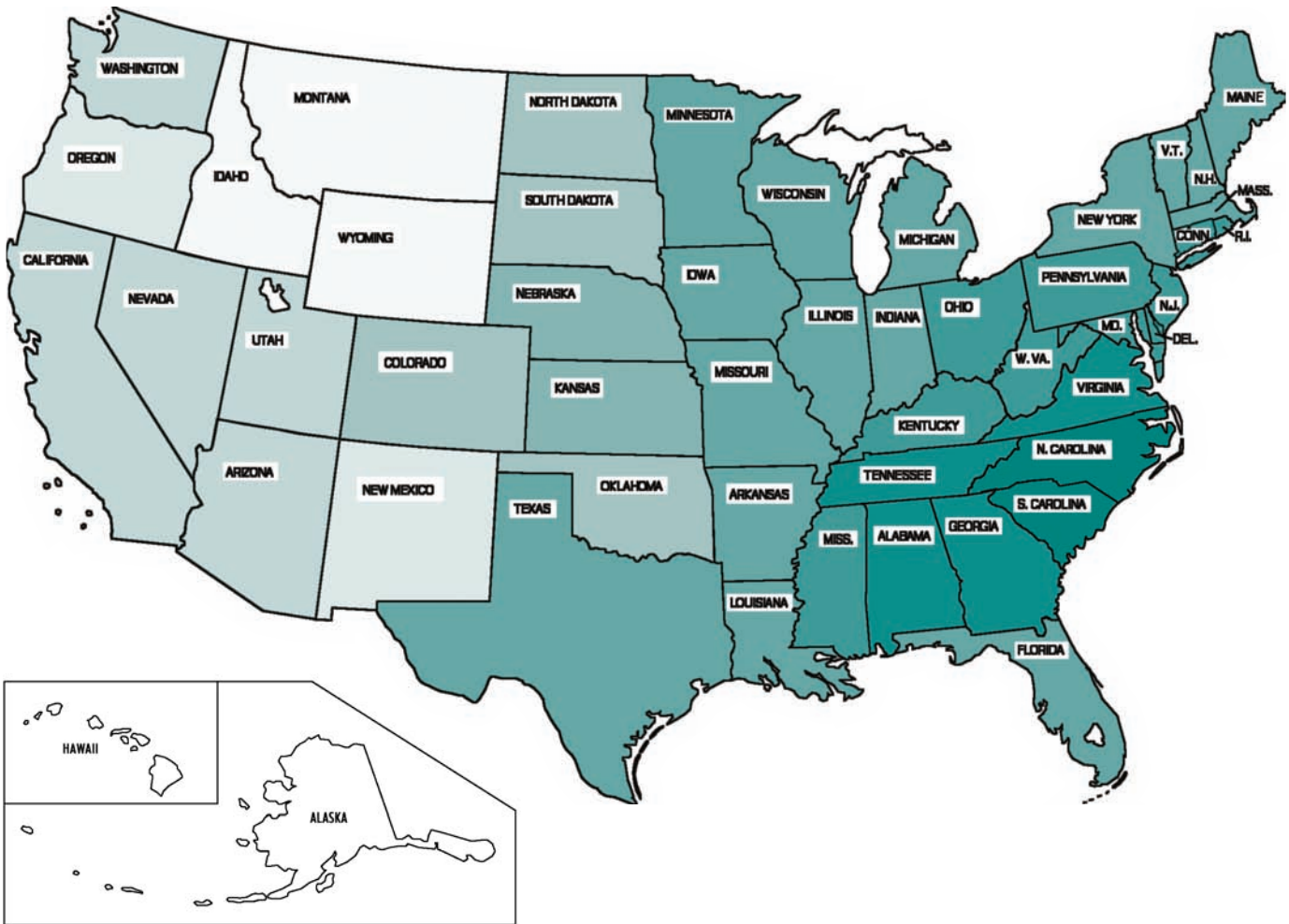
CommScope Shipping Policies



Packaging and Shipping

Shipping dates specified herein or otherwise communicated to Buyer are estimates given to the best of Seller's knowledge based upon conditions existing at the time of the order and upon information furnished by Buyer. Seller will, in good faith, endeavor to ship by the estimated shipping date, but shall not be responsible for any delay or any damage arising therefrom. Seller does not and shall not guarantee any shipping date unless such guarantee and the terms thereof are specifically stated in writing. Any such guarantee shall be strictly limited to the exact terms so stated.

International shipping policies available upon request.



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Fiber

Coax

Multi-Conductor

Conduit

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CommScope Shipping Policies



Destination	Transit
Alabama	.1-2 Days
Alaska	.6 Days
Arizona	.4-5 Days
Arkansas	.2-3 Days
California	.4-5 Days
Colorado	.3-4 Days
Connecticut	.2 Days
District of Columbia	.2 Days
Delaware	.2 Days
Florida	.2-3 Days
Georgia	.1-2 Days
Hawaii	.6 Days
Idaho	.5-6 Days
Illinois	.2-3 Days
Indiana	.2-3 Days
Iowa	.2-3 Days
Kansas	.3 Days
Kentucky	.2 Days
Louisiana	.2-3 Days
Maine	.2-3 Days
Maryland	.2 Days
Massachussetts	.2-3 Days
Michigan	.2-3 Days
Minnesota	.2-3 Days
Mississippi	.2 Days
Missouri	.2-3 Days

Destination	Transit
Montana	.5-6 Days
Nebraska	.3 Days
Nevada	.4-5 Days
New Hampshire	.2-3 Days
New Jersey	.2 Days
New Mexico	.5 Days
New York	.2-3 Days
North Carolina	.1 Day
North Dakota	.3-4 Days
Ohio	.2 Days
Oklahoma	.3-4 Days
Oregon	.5 Days
Pennsylvania	.2 Days
Rhode Island	.2 Days
South Carolina	.1 Day
South Dakota	.3-4 Days
Tennesse	.1-2 Days
Texas	.2-3 Days
Utah	.4-5 Days
Vermont	.2-3 Days
Virginia	.1-2 Days
Washington	.4-5 Days
West Virginia	.2 Days
Wisconsin	.2-3 Days
Wyoming	.5-6 Days

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P A C K A G I N G & S H I P P I N G

Packaging

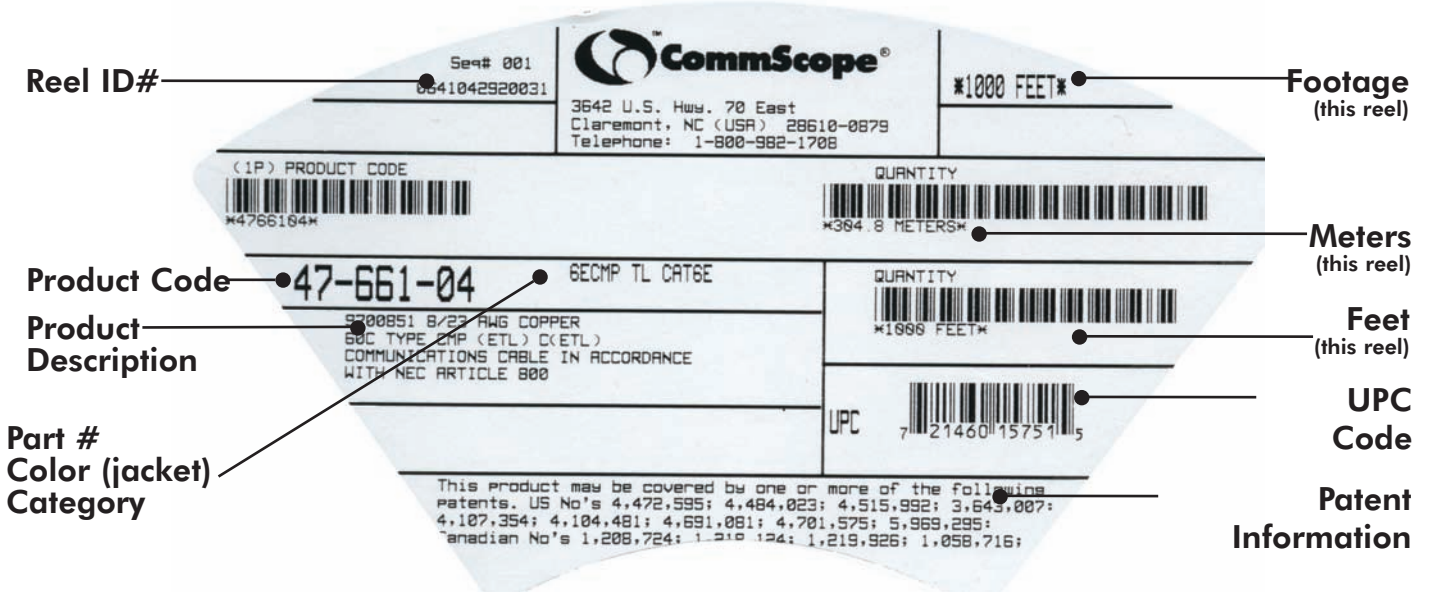
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Twisted Pair Packaging & Shipping



Packaging Identification System

Reel Label Description



Color Identification System

- UltraPipe Teal (TL)
- UltraMedia Blue (BL)
- Media 6 Black (BK)
- Ultra II Red (RD)
- DataPipe Purple (PU)



Plenum: White Box
Non-Plenum: Kraft Box

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Twisted Pair Packaging & Shipping



LAN Packaging Matrix - Standard 1,000 ft Put-Ups

Category	Product Family	Catalog Number	Plenum/ Non-Plenum	Rating	Wooden Reels Box/Pallet	Plastic Reels Box/Pallet Pallet Size: 48x40x4 Package Color: Black	Plastic Reels Box/Pallet Pallet Size: 42x42x4 Package Color: Black	CommPak		Reel-In-Box	
								Box/Pallet 275lb. rated Corrugated Pallet Size 42x42	Package Color	Box/Pallet 275lb. rated Corrugated Pallet Size 48x40	Package Color
Category 6e	UltraPipe	6ECMP	Plenum	CMP		12x5x12				12.5x11.5x11.5	White
	UltraPipe	6ECMR	Non-Plenum	CMR		12x5x12				12.5x11.5x11.5	Kraft
Category 6	UltraMedia	7504	Plenum	CMP		12x5x12		14x10x14	White	12.5x11.5x11.5	White
	UltraMedia	75N4	Non-Plenum	CMR		12x5x12		14x10x14	Kraft	12.5x11.5x11.5	Kraft
Category 6	Media 6	6504+	Plenum	CMP		12x5x12		14x10x14	White	12.5x11.5x11.5	White
	Media 6	65N4+	Non-Plenum	CMR		12x5x12		14x10x14	Kraft	12.5x11.5x11.5	Kraft
	Media 6	6NF4+	N/A Outdoor	Outdoor		12x5x12					
Category 5e+	Ultra II	5504M	Plenum	CMP			10.5x3.5x9.5			12.5x11.5x11.5	White
	Ultra II	5524M	Plenum	CMP	14.5x6x1						
	Ultra II	55N4R	Non-Plenum	CMR			10.5x3.5x9.5			12.5x11.5x11.5	Kraft
	Ultra II	5N54	Non-Plenum	CMR	14.5x6x13						
Category 5e	Ultra II	5NF4	N/A Outdoor	Outdoor		12x5x12					
	DataPipe	5E55	Plenum	CMP			10.5x3.5x9.5	14x10x14	White	12.5x11.5x11.5	White
	DataPipe	5E40	Plenum	CMP			10.5x3.5x9.5			12.5x11.5x11.5	White
	DataPipe	5EN5	Non-Plenum	CMR			10.5x3.5x9.5	14x10x14	Kraft	12.5x11.5x11.5	Kraft
	DataPipe	5ES4	Plenum	CMP		12x5x12					
	DataPipe	5E25	Plenum	CMP	30x12x12						
	DataPipe	5EN25	Non-Plenum	CMR	30x12x12						
	DataPipe	5EF4	N/A Outdoor			12x5x12					
Category 3	DataPipe	5ENS4	Non-Plenum	CMR		12x5x12					
	Category 3	3504	Plenum	CMP			10.5x3.5x9.5	14x10x14	White	12.5x11.5x11.5	White
	Category 3	35N4	Non-Plenum	CMR			10.5x3.5x9.5	14x10x14	Kraft	12.5x11.5x11.5	Kraft
	Category 3	3506	Plenum	CMP	14.5x6x13						
Category 3	35N6	Non-Plenum	CMR		10.5x3.5x9.5						

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Twisted Pair Packaging & Shipping

LAN Packaging Matrix - Custom 2,000, 3,000, 4,000 and 6,000 ft Put Ups (Reels Only)

Catalog Number	2K				3K				6K			
	Reel for 2K	Reel Weight	Reels/Pallet	Pallet for 2K	Reel for 3K	Reel Weight	Reels/Pallet	Pallet for 3K	Reel for 6K	Reel Weight	Reels/Pallet	Pallet for 6K
6ECMP	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
6ECMR	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
7504	14.5x4x11	4	27	44x44	18x6x11	6.5	15	44x44	30x12x12	23	3	30x30
75N4	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
6504+	14.5x4x11	4	27	44x44	18x6x11	6.5	15	44x44	30x12x12	23	3	30x30
65N4+	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
65S4+	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
6NF4+	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
65NS4+	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
5504M	14.5x4x11	4	27	44x44	18x6x11	6.5	15	44x44	30x12x12	23	3	30x30
5524M	30x12x12	23	3	30x30	30x12x12	23	3	30x30	35x16x18	65	1	36x36
55N4R	14.5x4x11	4	27	44x44	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44
5N54	30x12x12	23	3	30x30	35x16x18	65	1	36x36	42x24x24	99	1	42x42
5NF4	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	22x6x17	11.6	8	44x44
5E55	12x4x12	2.4	36	48x40	14.5x4x11	4	27	44x44	22x6x11	11	12	44x44
5EN5	14.5x4x11	4	27	44x44	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44
5ENS4	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
5E40	12x4x12	2.4	36	48x40	14.5x4x11	4	27	44x44	22x6x11	11	12	44x44
5EF4	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
5ES4	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
3504	12x4x12	2.4	36	48x40	14.5x4x11	4	27	44x44	22x6x11	11	12	44x44
35N4	12x4x12	2.4	36	48x40	14.5x4x11	4	27	44x44	22x6x11	11	12	44x44
3506	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30
35N6	18x6x11	6.5	15	44x44	22x6x11	11	12	44x44	30x12x12	23	3	30x30

*Full pallet quantities are required when ordering custom lengths.

Catalog Number	4K			
	Reel for 4K	Reel Weight	Reels/Pallet	Pallet for 4K
5E25	42.5x24x24	10.9	1	42x42
5EN25	42.5x24x24	10.9	1	42x42

*Tolerance of +/- 5% on all custom lengths.

Fiber Optic Packaging & Shipping



Shipping Information

Shipping Information

Packaging and Shipping

Fiber optic cable is packaged for shipment on wooden or composite reels. Each package contains only one continuous length of cable. The packaging is designed to prevent damage to the cable during shipping and handling. Fiber cable reels are protected with a "reel wrap", the highest technology available today. This wrap is stronger, lighter and more environmentally friendly than other methods of lagging. In addition, reel wrap is simple to remove from the reel and readily disposable. All reel sizes between 35 and 88 inches will be blocked and palletized to help ensure safe arrival to the customer. Reels larger than 88 inches are placed on the rolling edge and securely fastened to the trailer during shipment.

Each reel is plainly marked to indicate the direction in which it should be rolled to prevent loosening of the cable on the reel.

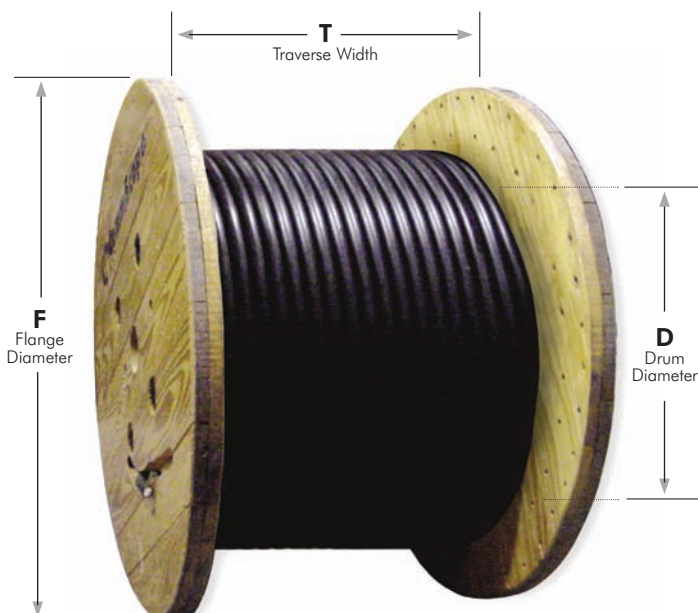
Method of Shipment

CommScope's customary method of shipment of fiber optic cable from Claremont, North Carolina to the purchaser's site will vary depending on factors such as the size and number of cable reels, and the destination location. Shipper options include Federal Express, UPS, BAX, LTL motor freight carriers and CommScope's own

fleet of trucks, "Cable Transport". Some trucks within CommScope's fleet are equipped with "Cargo Master" equipment for ease in unloading cable reels on location where no loading dock is available. CommScope has red arm Cargo Masters, which can lift anything 2,500 pounds or less. CommScope also has white arm Cargo Masters which will lift anything up to 8,000 pounds that is on an 84" reel or smaller. These specially equipped trucks are available by request.

International Packaging

Products shipped outside the continental United States are protected with reel wrap, lagged with wood, and blocked and palletized (for reel sizes between 35 and 88 inches) or placed on the rolling edge and securely fastened to international shipping containers.



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Fiber Optic Packaging

Shipping Information

Outside Plant All Dry Stranded Loose Tube Non-Armored (LN) Cables Gel-Free Buffer Tube

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1
35 x 16.5 x 18**	70	4,756	4,266	3,302	2,774	2,125	2,061	1,450
42 x 24 x 24**	109	8,757	7,971	6,181	4,686	3,873	3,790	2,721
42 x 22 x 29.75	118	11,231	10,207	7,968	6,298	4,709	4,728	3,375
48 x 22 x 32.5	176	18,238	16,719	13,027	10,704	7,974	7,961	6,073
54 x 24 x 28	370	20,913	19,466	14,803	11,514	9,005	8,854	6,520
60 x 30 x 32	433	27,909	25,764	19,637	15,543	11,888	11,710	8,594
66 x 30 x 32	506	37,565	33,798	25,652	20,932	15,795	15,571	11,227
72 x 36 x 36	627	47,366	42,863	32,593	26,521	20,332	20,078	14,486
78 x 36 x 36	758	58,728	53,702	40,711	32,579	25,701	25,397	19,043
84 x 40 x 40	913	60,000	60,000	51,818	41,707	33,087	31,419	23,636
88 x 40 x 40	958	NA	NA	58,744	47,916	37,217	35,456	27,128
96 x 44 x 46	984	NA	NA	NA	60,000	51,045	50,639	36,663

All Units in Feet 2" Flange Clearance **with flange ring

Outside Plant All Dry Stranded Loose Tube Armored (LA) Cables Gel-Free Buffer Tube

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1
35 x 16.5 x 18**	70	3,749	3,302	2,774	2,115	1,752	1,752	1,416
42 x 24 x 24**	109	6,365	6,181	4,686	3,859	3,203	3,203	2,280
42 x 22 x 29.75	118	8,903	7,968	6,298	5,266	3,997	3,997	3,261
48 x 22 x 32.5	176	14,224	13,027	10,704	8,695	6,369	6,369	5,300
54 x 24 x 28	370	15,868	14,803	11,514	9,540	7,246	7,246	5,383
60 x 30 x 32	433	21,280	19,637	15,543	12,822	9,706	9,706	7,752
66 x 30 x 32	506	28,649	25,652	20,932	16,857	13,258	13,258	10,279
72 x 36 x 36	627	36,198	32,593	26,521	21,628	16,947	16,947	13,050
78 x 36 x 36	758	44,704	40,711	32,579	27,141	20,824	20,824	16,475
84 x 40 x 40	913	57,164	51,818	41,707	33,424	25,671	25,671	20,655
88 x 40 x 40	958	NA	58,744	47,916	39,012	29,315	29,315	23,945
96 x 44 x 46	984	NA	NA	60,000	53,242	40,797	40,797	31,726

All Units in Feet 2" Flange Clearance **with flange ring

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Fiber Optic Packaging

Shipping Information

Outside Plant Stranded Loose Tube Armored (LA) Cables Arid Core

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1	290-432F 12@6@1
35 x 16.5 x 18**	70	3,249	2,774	2,061	1,699	1,365	1,635	NA	NA
42 x 24 x 24**	109	5,501	4,686	3,790	2,785	2,220	2,220	1,717	1,713
42 x 22 x 29.75	118	7,203	6,298	4,728	3,840	3,197	3,197	2,208	2,270
48 x 22 x 32.5	176	11,869	10,704	7,861	6,154	4,750	4,750	3,921	4,019
54 x 24 x 28	370	13,508	11,514	8,854	7,135	5,732	5,732	4,328	4,456
60 x 30 x 32	433	18,041	15,543	11,710	9,576	7,619	7,619	5,874	5,855
66 x 30 x 32	506	23,794	20,932	15,571	12,361	10,116	10,116	7,500	7,472
72 x 36 x 36	627	30,383	26,521	20,078	15,541	12,865	12,865	9,459	9,670
78 x 36 x 36	758	38,211	32,579	25,397	19,248	15,381	15,381	11,621	12,648
84 x 40 x 40	913	48,919	41,707	31,419	25,459	20,420	20,420	14,639	15,844
88 x 40 x 40	958	55,644	47,916	35,456	27,860	22,578	22,578	17,404	17,740
96 x 44 x 46	984	60,000	60,000	50,639	38,413	31,457	31,457	23,913	24,298

All Units in Feet 2" Flange Clearance **with flange ring

Outside Plant Stranded Loose Tube Non-Armored (LN) Cables Arid Core

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1	290-432F 12@6@1
36 x 22 x 29.75**	80	3,823	3,302	2,462	1,796	1,455	1,455	NA	NA
42 x 24 x 24**	109	6,989	6,181	4,513	3,261	2,649	2,649	2,110	2,099
42 x 22 x 29.75	118	8,994	7,968	6,122	4,582	3,387	3,387	2,647	2,709
48 x 22 x 32.5	176	14,329	13,027	9,798	7,101	5,464	5,464	4,070	4,585
54 x 24 x 28	370	16,800	14,803	10,781	8,036	6,378	6,378	4,946	5,059
60 x 30 x 32	433	22,463	19,637	14,344	10,691	8,628	8,628	6,649	6,781
66 x 30 x 32	506	28,856	25,652	19,541	14,401	11,279	11,279	8,370	9,145
72 x 36 x 36	627	36,908	32,593	24,853	18,322	14,249	14,249	10,499	11,427
78 x 36 x 36	758	47,051	40,711	30,736	22,336	17,807	17,807	13,559	13,778
84 x 40 x 40	913	59,221	51,818	39,551	29,119	23,743	23,743	17,278	17,518
88 x 40 x 40	958	NA	58,744	44,069	32,995	26,066	26,066	19,256	20,545
96 x 44 x 46	984	NA	60,000	60,000	45,289	36,252	36,252	26,116	27,682

All Units in Feet 2" Flange Clearance **with flange ring

Indoor/Outdoor Riser-Rated and Outside Plant Central Tube Cables

Flange x Drum x Traverse	Reel Weight (lbs)	RCN 2-24F	CN 2-24F	CN 26-48F	CN 50-96F	CA 2-24F	CA 26-48F	CA 50-96F
35 x 16.5 x 18*	70	4,756	5,305	3,302	2,462	4,266	3,249	2,408
42 x 24 x 24*	109	8,757	8,999	6,181	4,513	7,971	5,501	4,023
42 x 29 x 29.75	118	11,231	12,205	7,968	6,122	10,207	7,203	5,437
48 x 22 x 32.5	176	18,238	19,475	13,027	9,798	16,719	11,869	8,924
54 x 24 x 28	370	20,913	22,255	14,803	10,781	19,466	13,508	10,466
60 x 30 x 32	433	27,909	29,581	19,637	14,344	25,764	18,041	13,975
66 x 30 x 32	506	37,565	39,500	25,652	19,541	33,798	23,794	18,181
72 x 36 x 36	627	39,000	50,234	32,593	24,853	42,863	30,383	23,221
78 x 36 x 36	758	NA	61,977	39,000	30,736	53,702	38,211	28,922

*Denotes Composite Reel

All Units in Feet 2" Flange Clearance

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Shipping Information

Figure 8 Armored (M LA) Cables

Flange x Drum x Traverse	Reel Weight (lbs)	MLA 2-72F 6@1	MLA 74-144F 12@1	MLA 146-216F 12@6@1	MLA 218-288F 15@9@1
35 x 16.5 x 18**	70	1,560	1,117	1,117	NA
42 x 24 x 24**	109	2,604	1,791	1,791	1,590
42 x 22 x 29.75	118	3,382	1,987	1,987	1,518
48 x 22 x 32.5	176	5,806	3,088	3,088	2,689
54 x 24 x 28	370	6,448	3,603	3,603	2,886
60 x 30 x 32	433	8,575	4,762	4,762	3,860
66 x 30 x 32	506	11,549	6,322	6,322	4,928
72 x 36 x 36	627	14,689	8,291	8,291	6,306
78 x 36 x 36	758	18,044	9,912	9,912	7,747
84 x 40 x 40	913	23,170	13,069	13,069	9,873
88 x 40 x 40	958	26,620	14,450	14,450	12,952
96 x 44 x 46	984	NA	20,419	20,419	16,261

All Units in Feet 2" Flange Clearance **with flange ring

Figure 8 Armored Non-Armored (M LN) Cables

Flange x Drum x Traverse	Reel Weight (lbs)	MLN 2-60F 5@1	MLN 2-72F 6@1	MLN 74-144F 12@1	MLN 146-216F 12@6@1	MLN 218-288F 15@9@1
35 x 16.5 x 18**	70	1,956	1,743	1,152	1,152	NA
42 x 24 x 24**	109	3,489	3,151	2,087	2,087	1,892
42 x 22 x 29.75	118	4,488	4,117	2,117	2,117	1,713
48 x 22 x 32.5	176	7,767	6,711	3,431	3,431	2,750
54 x 24 x 28	370	8,659	7,531	3,965	3,965	3,246
60 x 30 x 32	433	11,370	10,272	5,217	5,217	4,313
66 x 30 x 32	506	15,170	13,418	6,820	6,820	5,429
72 x 36 x 36	627	19,599	16,966	8,905	8,905	6,914
78 x 36 x 36	758	24,070	21,192	11,129	11,129	8,929
84 x 40 x 40	913	30,229	26,869	14,509	14,509	11,268
88 x 40 x 40	958	34,000	30,460	15,929	15,929	13,814
96 x 44 x 46	984	NA	NA	22,219	22,219	17,246

All Units in Feet 2" Flange Clearance **with flange ring

Outside Plant Drop Cables

Flange x Drum x Traverse	Reel Weight (lbs)	DA 2-12F	DF 1-6F	DN 2-12F	M MN 1-6F	M DN 2-12
22 x 12 x 12	12	NA	2,450	1,500	1,161	1,500
30 x 12 x 12	18	NA	7,117	3,954	5,273	3,954
35 x 16.5 x 18	70	8,611	14,246	7,886	10,414	7,886
42 x 24 x 25	109	14,846	24,561	14,008	18,613	14,008
42 x 22 x 29.75	118	19,238	NA	19,138	24,997	19,138
48 x 22 x 32.5	176	32,199	NA	33,540	40,000	33,540
54 x 24 x 28	370	36,328	NA	39,240	NA	39,240
60 x 30 x 32	433	40,000	NA	40,000	NA	40,000
66 x 30 x 32	506	NA	NA	NA	NA	NA
72 x 36 x 36	627	NA	NA	NA	NA	NA
78 x 36 x 36	758	NA	NA	NA	NA	NA

All Units in Feet 2" Flange Clearance

Pavement Cables

Flange x Drum x Traverse	Reel Weight (lbs)	Feet
42 x 30 x 24	125	14,000

Uniprise

Copper

Fiber

Coax

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Fiber Optic Packaging

Shipping Information

Outside Plant Double Jacketed Single Armored (L2) Cables (All-Dry)

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1
35 x 16.5 x 18**	70	2,408	2,115	1,737	1,450	NA	NA	NA
42 x 24 x 24**	109	4,023	3,859	3,271	2,721	2,155	2,155	1,717
42 x 22 x 29.75	118	5,437	5,266	4,060	3,375	2,761	2,761	2,208
48 x 22 x 32.5	176	8,924	8,698	6,990	6,073	4,769	4,769	3,921
54 x 24 x 28	370	10,466	9,540	7,885	6,520	5,593	5,593	4,328
60 x 30 x 32	433	13,975	12,822	10,516	8,594	7,457	7,457	5,874
66 x 30 x 32	506	18,181	16,857	13,410	11,227	9,269	9,269	7,500
72 x 36 x 36	627	23,221	21,628	17,120	14,486	11,839	11,839	9,459
78 x 36 x 36	758	28,922	27,141	22,035	19,043	15,103	15,03	11,621
84 x 40 x 40	913	35,467	33,424	27,539	23,636	19,063	19,063	14,639
88 x 40 x 40	958	41,212	39,012	31,317	27,128	22,223	22,223	15,661
96 x 44 x 46	984	55,872	53,242	43,228	36,663	29,684	29,684	23,913

All Units in Feet 2" Flange Clearance *24 Fibers Per Tube **with flange ring

Outside Plant Triple Jacketed Double Armored (L3) Cables

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1
35 x 16.5 x 18**	70	1,191	NA	NA	NA	NA	NA	NA
42 x 24 x 24**	109	2,155	2,105	1,661	1,325	1,231	1,231	NA
42 x 22 x 29.75	118	2,761	2,717	2,150	1,770	1,676	1,676	NA
48 x 22 x 32.5	176	4,769	4,164	3,443	2,875	2,748	2,748	NA
54 x 24 x 28	370	5,593	4,926	3,968	3,330	2,827	2,827	NA
60 x 30 x 32	433	7,457	6,626	5,245	4,457	3,826	3,826	3,152
66 x 30 x 32	506	9,269	8,337	7,340	5,882	5,154	5,154	4,358
72 x 36 x 36	627	11,839	10,717	9,278	7,521	6,643	6,643	5,498
78 x 36 x 36	758	15,103	13,834	11,407	9,464	8,480	8,480	6,578
84 x 40 x 40	913	19,063	17,586	14,743	12,126	10,676	10,676	8,718
88 x 40 x 40	958	22,223	19,595	16,586	12,796	12,232	12,232	10,141
96 x 44 x 46	984	29,684	27,797	22,430	19,074	17,192	17,192	13,329

All Units in Feet 2" Flange Clearance

Plenum Loose Tube Non-Armored Interlock Armored Cable

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1
35 x 16.5 x 18**	70	1,405	1,191	NA	NA	NA
42 x 24 x 24**	109	2,584	2,155	2,110	1,673	1,280
42 x 22 x 29.75	118	3,324	2,761	2,647	2,098	1,725
48 x 22 x 32.5	176	5,383	4,769	4,070	3,376	2,816
54 x 24 x 28	370	6,263	5,593	4,946	3,877	3,249
60 x 30 x 32	433	8,495	7,457	6,649	5,138	4,362
66 x 30 x 32	506	10,000	9,269	8,370	6,662	5,768
72 x 36 x 36	627	14,066	10,000	10,000	8,458	7,174
78 x 36 x 36	758	17,596	15,103	13,559	10,000	8,401

All Units in Feet 2" Flange Clearance

Indoor/Outdoor Plenum-Rated Loose Tube Cables (All-Dry)

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F	62-72F
42 x 22 x 29.75	118	10,988	8,994
48 x 22 x 32.5	176	17,918	14,329
54 x 24 x 28	370	19,605	16,800
60 x 30 x 32	433	26,276	22,463
66 x 30 x 32	506	35,664	28,856
72 x 36 x 36	627	45,094	36,908
78 x 36 x 36	758	56,198	47,051

* Denotes Composite Reel All Units in Feet 2" Flange Clearance

Uniprise
Copper
Fiber
Coax
Multi-Conductor
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Fiber Optic Packaging



Shipping Information

Plenum-Rated Distribution Single Unit Cables

Fiber	18x12x12 FT	22x12x12 FT	30x12x12 FT	35x16.5x18 FT	42x20.5x21 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT
2	4,090	8,991	22,563	28,000	NA	NA	NA	NA	NA	NA	NA
4	3,050	6,998	17,584	28,000	NA	NA	NA	NA	NA	NA	NA
6	2,522	5,802	14,170	26,713	NA	28,000	NA	NA	NA	NA	NA
8	2,419	5,278	12,881	24,443	NA	28,000	NA	NA	NA	NA	NA
12	1,696	3,899	9,444	18,048	28,000	28,000	NA	NA	NA	NA	NA
18	NA	NA	NA	10,069	15,879	17,289	23,123	28,000	NA	NA	NA
24	NA	NA	NA	9,097	13,942	15,669	20,392	28,000	NA	NA	NA

Plenum-Rated Distribution Multi Unit Cables

Fiber	30x12x12 FT	35x16.5x18 FT	42x20.5x21 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
18	NA	NA	7,700	8,067	10,988	17,918	19,605	26,276	28,000	NA	NA
24	NA	NA	5,616	6,181	7,968	13,027	14,803	19,637	25,652	28,000	NA
36	NA	NA	4,481	4,772	6,385	10,820	12,337	16,589	21,158	26,779	28,000
48	NA	NA	3,780	4,023	5,437	8,924	10,466	13,975	18,181	23,227	28,000
60	NA	NA	2,858	3,193	3,982	6,878	7,926	10,562	13,478	16,872	20,721
72	NA	NA	2,378	2,657	3,313	5,488	6,408	8,461	11,067	14,307	17,888
96	NA	NA	1,668	1,717	2,208	3,921	4,328	5,874	7,500	9,459	11,621
144	NA	NA	1,405	1,612	2,104	3,387	3,757	4,998	6,483	8,484	10,545

Riser-Rated Distribution Single Unit Cables

Fiber	18x12x12 FT	22x12x12 FT	30x12x12 FT	35x16.5x18 FT	42x20.5x21 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT
2	3,553	8,168	20,028	28,000	NA	NA	NA	NA	NA	NA	NA
4	2,522	5,802	14,170	26,713	NA	28,000	NA	NA	NA	NA	NA
6	2,419	5,278	12,881	24,443	NA	28,000	NA	NA	NA	NA	NA
8	1,976	4,287	10,420	19,855	28,000	28,000	NA	NA	NA	NA	NA
12	1,640	3,525	8,866	16,947	27,859	28,000	NA	NA	NA	NA	NA
18	NA	NA	NA	10,820	16,918	18,657	24,907	28,000	NA	NA	NA
24	NA	NA	NA	9,097	13,890	15,669	20,392	28,000	NA	NA	NA

Riser-Rated Distribution Multi Unit Cables

Fiber	30x12x12 FT	35x16.5x18 FT	42x20.5x21 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
18	NA	NA	5,610	6,273	8,058	13,136	15,714	20,784	26,930	28,000	NA
24	NA	NA	4,396	4,600	6,211	9,912	11,586	15,357	19,768	25,111	28,000
36	NA	NA	3,970	4,531	5,522	9,036	10,625	14,161	18,409	23,479	28,000
48	NA	NA	3,303	3,790	4,728	7,861	8,854	11,710	15,571	20,078	25,397
60	NA	NA	2,517	2,785	3,840	6,154	7,135	9,576	12,361	15,541	19,248
72	NA	NA	2,063	2,215	3,186	4,849	5,707	7,591	10,072	12,815	16,187
96	NA	NA	1,608	1,661	2,150	3,443	3,968	5,245	7,340	9,278	11,407
144	NA	NA	1,300	1,327	1,713	2,883	3,341	4,469	5,902	7,327	9,224

Reel Weights (lbs.)

18x12x12	22x12x12	30x12x12	35x16.5x18	42x24x24	42x22x29.75	48x22x32.5	54x24x28	60x30x32	66x30x32	72x36x36	78x36x36	84x40x40	88x40x40
8.5	12	18	70	109	118	176	370	433	506	627	758	913	958

Fiber Optic Packaging



Shipping Information

LSZH Distribution Single Unit Cables

Fiber	18x12x12 FT	22x12x12 FT	30x12x12 FT	35x16.5x18 FT	42x20.5x21 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72x36x36 FT
2	4,090	8,991	22,563	28,000	NA	NA	NA	NA	NA	NA	NA	NA
4	2,419	5,278	12,881	24,443	NA	28,000	NA	NA	NA	NA	NA	NA
6	1,976	4,287	10,420	19,855	28,000	28,000	NA	NA	NA	NA	NA	NA
8	1,583	3,418	8,294	15,862	25,520	27,646	28,000	NA	NA	NA	NA	NA
12	1,228	2,626	6,326	12,375	20,194	21,514	28,000	NA	NA	NA	NA	NA
18	NA	NA	NA	10,069	15,863	17,289	23,123	28,000	NA	NA	NA	NA
24	NA	NA	NA	8,393	12,977	14,595	18,966	28,000	NA	NA	NA	NA

LSZH Distribution Multi Unit Cables

Fiber	30x12x12 FT	35x16.5x18 FT	42x20.5x21 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
18	NA	NA	3,469	3,859	5,266	8,695	9,540	12,822	16,857	21,628	27,141
24	NA	NA	2,942	3,271	4,060	6,990	7,885	10,516	13,410	17,120	22,035
36	NA	NA	2,444	3,125	3,919	6,262	7,282	9,536	12,302	15,784	20,524
48	NA	NA	2,066	2,220	3,197	4,750	5,732	7,619	10,116	12,865	15,381
60	NA	NA	1,718	2,043	2,655	4,085	4,547	5,963	8,176	10,536	12,816
72	NA	NA	1,402	1,669	2,162	3,466	3,864	5,122	6,639	8,431	11,188

Plenum-Rated Armored Distribution Single Unit Cables

Fiber	35x16.5x18 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
2-12	3,249	5,501	7,203	11,869	13,508	18,041	23,794	28,000	NA
18-24	1,752	3,203	3,997	6,369	7,246	9,706	13,258	16,947	20,824

Plenum-Rated Armored Distribution Multi Unit Cables

Fiber	35x16.5x18 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
18	NA	2,099	2,709	4,585	5,059	6,781	9,145	11,427	13,778
24	NA	1,773	2,264	4,004	4,439	5,836	7,443	9,638	13,778
36	NA	2,110	2,647	4,070	4,946	6,649	8,370	10,499	13,559
48	NA	1,717	2,208	3,921	4,328	5,874	7,500	9,459	12,600
60	NA	1,322	1,766	2,958	3,319	4,444	5,863	7,499	9,433
72	NA	NA	NA	NA	2,527	3,314	4,560	5,915	7,656
96	NA	NA	NA	NA	NA	2,706	3,445	4,386	5,898
144	NA	NA	NA	NA	NA	2,626	3,348	4,276	5,248

Reel Weights (lbs.)

18x12x12	22x12x12	30x12x12	35x16.5x18	42x24x24	42x22x29.75	48x22x32.5	54x24x28	60x30x32	66x30x32	72x36x36	78x36x36	84x40x40	88x40x40
8.5	12	18	70	109	118	176	370	433	506	627	758	913	958

- Uniprise
- Copper
- Fiber
- Coax
- Multi-Conductor
- Conduit
- Packaging
- Glossary/Index

Fiber Optic Packaging

Shipping Information

Riser-Rated Armored Distribution Single Unit Cables

Fiber	35x16.5x18 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
2-12	3,249	5,501	7,203	11,869	13,508	18,041	23,794	28,000	NA
18-24	2,115	3,859	5,266	8,695	9,540	12,822	16,857	21,628	27,141

Riser-Rated Armored Distribution Multi Unit Cables

Fiber	35x16.5x18 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
18	1,191	2,155	2,761	4,769	5,593	7,457	9,269	11,839	15,103
24	NA	1,717	2,208	3,921	4,328	5,874	7,500	9,459	11,621
36	NA	1,717	2,208	3,921	4,328	5,874	7,500	9,459	11,621
48	NA	1,717	2,208	3,921	4,328	5,874	7,500	9,459	11,621
60	NA	1,280	1,725	2,816	3,249	4,362	5,768	7,174	8,401
72	NA	NA	NA	2,429	2,527	3,314	4,560	5,915	7,656
96	NA	NA	NA	NA	NA	2,706	3,445	4,386	5,898
144	NA	NA	NA	NA	NA	2,215	3,249	4,162	5,115

LSZH Armored Distribution Single Unit Cables

Fiber	35x16.5x18 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
2-8	3,249	5,501	7,203	11,869	13,508	18,041	23,794	28,000	NA
12	2,529	4,600	6,211	9,912	11,586	15,357	19,768	25,111	28,000
18-24	2,115	3,859	5,266	8,695	9,540	12,822	16,857	21,628	27,141

LSZH Armored Distribution Multi Unit Cables

Fiber	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
18	1,673	2,098	3,376	3,877	5,138	6,662	8,458	10,508
24	1,322	1,766	2,958	3,319	4,444	5,863	7,499	9,433
36	1,280	1,725	2,816	3,249	4,362	5,768	7,174	8,401
48	1,236	1,621	2,429	2,844	3,713	5,007	6,477	8,274
60	NA	NA	NA	NA	3,152	4,358	5,498	6,578
72	NA	NA	NA	NA	2,706	3,445	4,386	5,898

Reel Weights (lbs.)

18x12x12	22x12x12	30x12x12	35x16.5x18	42x24x24	42x22x29.75	48x22x32.5	54x24x28	60x30x32	66x30x32	72x36x36	78x36x36	84x40x40	88x40x40
8.5	12	18	70	109	118	176	370	433	506	627	758	913	958

Uniprise

Copper

Fiber

Coax

Multi-Conductor

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Fiber Optic Packaging

Shipping Information

Riser, Plenum and LSZH* Simplex Cables

Fiber	Size	18x12x12 FT	22x12x12 FT	30x12x12 FT
1	1.6	19,602	28,000	NA
1	2.0	14,364	28,000	NA
1	2.5	9,363	20,848	28,000
1	2.9	6,897	15,824	28,000

* LSZH is only for the 1.6, 2.5 and 2.9 cables.

Riser, Plenum and LSZH* Zipcord Cables

Fiber	Size	30x12x12 FT	35x16.5x18 FT
2	1.6	28,000	NA
2	2.0	28,000	NA
2	2.5	21,983	28,000
2	2.9	15,965	28,000

* LSZH is only for the 1.6, 2.5 and 2.9 cables.

Riser, Plenum and LSZH Interconnect Cables

Fiber	Size	18x12x12 FT	22x12x12 FT	30x12x12 FT
2	2.9	6,897	15,824	28,000

All reels calculated using 2" flange clearance

Riser-Rated Loose Tube Non-Armored Cables (All-Dry)

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1
35 x 16.8 x 18**	70	3,302	2,829	2,125	1,752	1,416	NA	NA
42 x 24 x 24**	109	6,181	5,321	3,873	3,203	2,280	2,220	1,721
42 x 22 x 29.75	118	7,968	7,025	4,709	3,997	3,261	3,197	2,214
48 x 22 x 32.5	176	13,024	10,933	7,974	6,369	5,300	4,750	3,532
54 x 24 x 28	370	14,803	12,497	9,005	7,246	5,683	5,732	4,345
60 x 30 x 32	433	19,637	16,776	11,888	9,706	7,752	7,619	5,725
66 x 30 x 32	506	25,652	22,351	15,795	13,258	10,279	10,116	7,313
72 x 36 x 36	627	32,593	28,221	20,332	16,947	13,050	12,865	9,491
78 x 36 x 36	758	40,711	34,446	25,701	20,824	16,475	15,381	11,664

All Units in Feet 2" Flange Clearance **with flange ring

Riser Loose Tube Non-Armored Interlock Armored Cable

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1
35 x 16.5 x 18**	70	1,191	NA	NA	NA	NA	NA	NA
42 x 24 x 24**	109	2,155	2,110	1,673	1,322	1,236	1,191	NA
42 x 22 x 29.75	118	2,761	2,647	2,098	1,766	1,621	NA	NA
48 x 22 x 32.5	176	4,769	4,070	3,376	2,958	2,429	NA	NA
54 x 24 x 28	370	5,593	4,946	3,877	3,319	2,844	2,772	2,319
60 x 30 x 32	433	7,457	6,649	5,138	4,444	3,713	3,627	3,067
66 x 30 x 32	506	9,269	8,370	6,662	5,863	5,007	4,461	3,839
72 x 36 x 36	627	10,000	10,000	8,458	7,499	6,477	5,804	4,871
78 x 36 x 36	758	15,103	13,559	10,000	9,433	8,162	7,205	6,179

All Units in Feet 2" Flange Clearance

Riser-Rated Heavy Duty Cables

Flange x Drum x Traverse	Reel Weight (lbs)	2-60F 5@1	62-72F 6@1	74-96F 8@1	98-120F 10@1	122-144F 12@1	146-216F 12@6@1	218-288F 15@9@1
42 x 22 x 29.75	118	6,298	5,522	4,582	3,313	2,700	2,700	2,162
48 x 22 x 32.5	176	10,704	9,036	7,101	5,488	4,687	4,687	3,466
54 x 24 x 28	370	11,514	10,625	8,036	6,408	5,038	5,038	3,865
60 x 30 x 32	433	15,543	14,161	10,691	8,461	6,757	6,757	5,122
66 x 30 x 32	506	20,932	18,409	14,401	11,067	9,107	9,107	6,639
72 x 36 x 36	627	26,521	23,479	18,322	14,307	11,656	11,656	8,431
78 x 36 x 36	758	32,579	29,225	22,336	17,888	14,049	14,049	11,188

All Units in Feet 2" Flange Clearance

- Uniprise
- Copper
- Fiber
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Fiber Optic Packaging

Shipping Information

Plenum-Rated Indoor/Outdoor Distribution Single Unit Cables

Fiber	18x12x12 FT	22x12x12 FT	30x12x12 FT	35x16.5x18 FT	42x20.5x21 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT
2	3,050	6,998	10,000	NA	NA	NA	NA	NA	NA	NA	NA
4	2,522	5,802	10,000	NA	NA	NA	NA	NA	NA	NA	NA
6	2,073	4,772	10,000	NA	NA	NA	NA	NA	NA	NA	NA
8	1,696	3,899	9,444	10,000	NA	NA	NA	NA	NA	NA	NA
12	NA	NA	NA	10,000	NA	NA	NA	NA	NA	NA	NA
18	NA	NA	NA	10,000	NA	NA	NA	NA	NA	NA	NA
24	NA	NA	NA	10,000	NA	NA	NA	NA	NA	NA	NA

Plenum-Rated Indoor/Outdoor Distribution Multi Unit Cables

Fiber	30x12x12 FT	35x16.5x18 FT	42x20.5x21 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
36	NA	1,737	3,319	3,271	4,060	6,990	7,885	10,000	NA	NA	NA
48	NA	1,455	2,519	2,649	3,387	5,464	6,378	8,628	10,000	NA	NA
60	NA	NA	2,004	2,105	2,717	4,164	4,926	6,626	8,337	10,000	NA
72	NA	NA	1,663	1,661	2,150	3,443	3,968	5,245	7,340	9,278	10,000
96	NA	NA	1,066	1,236	NA	NA	2,844	3,713	5,007	6,477	8,274
144	NA	NA	1,026	NA	NA	NA	2,378	3,137	4,333	5,659	6,767

Plenum-Rated Indoor/Outdoor Distribution Armored Single Unit Cables

Fiber	18x12x12 FT	22x12x12 FT	30x12x12 FT	35x16.5x18 FT	42x20.5x21 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT
2-8	NA	NA	NA	3,249	4,479	5,501	7,203	10,000	NA	NA	NA
12	NA	NA	NA	2,529	3,877	4,600	6,211	9,912	10,000	NA	NA
18	NA	NA	NA	2,529	2,938	4,600	6,211	9,912	10,000	NA	NA
24	NA	NA	NA	2,115	2,519	3,859	5,266	8,695	9,540	10,000	NA

Plenum-Rated Indoor/Outdoor Distribution Armored Multi Unit Cables

Fiber	30x12x12 FT	35x16.5x18 FT	42x20.5x21 FT	42x24x25 FT	42x22x29.75 FT	48x22x32.5 FT	54x24x28 FT	60x30x32 FT	66x30x32 FT	72X36X36 FT	78X36X36 FT
36	NA	NA	1,347	1,322	1,766	2,958	3,319	4,444	5,863	7,499	9,433
48	NA	NA	1,297	1,280	1,725	2,816	3,249	4,362	5,768	7,174	8,401
60	NA	NA	1,079	1,191	NA	NA	2,772	3,627	4,461	5,804	7,205
72	NA	NA	NA	NA	NA	NA	NA	2,706	3,445	4,386	5,898
96-144	NA	NA	NA	NA	NA	NA	NA	NA	2,396	2,986	3,801

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Residential Cabling Packaging & Shipping



Color Options, Packaging, Purchasing and Shipping Terms and Conditions

- Minimum order of \$1,000.
- Shipments of \$5,000 or more are f.o.b. factory, freight allowed if destination is within the continental United States.
- Shipments of less than \$5,000 are f.o.b. factory.
- Standard lengths are 1,000 feet (304.8 meters) plus or minus 10% for reels and CommPak boxes. Standard length per coil varies by product.
- Not more than 5% of each shipment shall be other than standard lengths, with no lengths shorter than 500 feet (152 meters) on 1,000 foot (304.8 meters) reels. Orders for custom print may receive lengths down to 300 feet.
- Method of shipment at discretion of shipper.
- Inspection and final acceptance shall be made at factory prior to shipment. On approved credit, net 30 days from date of invoice; 1.5% finance charge equivalent to 18% per annum will be added after due date. All orders subject to acceptance at factory and will be billed at price in effect at time of shipment. Prices, discounts, terms conditions and specifications are subject to change without notice.

Catalog No.	Colors									Packaging			Lengths		Weight
	Black	White	Cream	Blue	Grey	Yellow	Orange	Purple	Red	ComPak	RIB	Reel	500ft.	1000ft.	
UH58100							x					x	x	x	55
UH58120							x					x	x	x	59
UH58130F	x											x	x	x	60
UH58140							x					x	x	x	75
UH58180							x					x	x	x	81
UH58320							x					x	x	x	137
UH58360							x					x	x	x	152
UH58380							x					x	x	x	163
5716	x	x			x							x		x	26
5729	x	x			x							x		x	32
5730	x	x			x							x		x	34
5743	x	x								x		x		x	36
5786	x	x			x							x		x	72
5783	x	x										x		x	30
5784	x	x										x		x	56
5781	x	x								x		x		x	36
5782	x	x										x		x	67
5731	x	x										x		x	45
5788	x	x										x		x	81
5916R	x	x										x		x	78
UH58760		x		x	x	x			x	x	x	x		x	27
UH58770		x		x	x	x			x			x		x	55
UH58820						x		x				x		x	30
UH58821						x		x				x		x	30
UH58840						x		x				x		x	57
UH58841						x		x				x		x	57
UH58860						x		x				x		x	37
UH58880						x		x				x		x	82
UH58890						x		x				x		x	83
UH58891						x		x				x		x	103
UH58892							x					x		x	72
R-002-IC-6F-FSDOR							x					x		x	9

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Coaxial Packaging & Shipping

Reel Size and Shipping Weights

Packaging

Reel lengths may vary +/-10%. Reels and boxes are palletized for shipment. Shipments are subject to full pallet quantities or full pallet layers as a minimum.

Method of Shipment

Method of shipment at discretion of shipper, unless specified in order.

Inspection

Final inspection shall be made at factory prior to shipment.

Terms and Conditions

On approved credit, net 30 days from date of invoice; 1.5% finance charge equivalent to 18% per annum will be added after due date. All orders subject to acceptance at factory and will be billed at price in effect at time of shipment. Prices, discounts, terms, conditions, and specifications are subject to change without notice.



Coaxial Packaging & Shipping



Shipping Weights

CommScope Catalog No.	Spool Length	Wt/Kft
0359V	1000	66
0467	1000	81
0653K	1000	32
0653V	1000	32
2020K	1000	19
2020V	1000	18
2022V	1000	25
2035	1000	15
203505	1000	14
2041K	1000	44
2045V	1000	41
2100V	1000	27
2104V	1000	29
2125K	1000	48
2210V	1000	53
2220V	1000	58
2227K	1000	30
2227V	1000	29
2229V	1000	35
2249V	1000	24
2250V	1000	40
2275K	1000	27
2275V	1000	26
2276V	1000	28
2279V	1000	47
2280K	1000	136
2282K	1000	113
2285K	1000	58
2287K	1000	63
2291K	1000	64
2312K	2400	127
2426K	1000	110
2427K	1000	113
3104	1000	27
3130	1000	33
3135	1000	36
3136	1000	24
3139	1000	31
3226	1000	102
3227	1000	102
3228	1000	112
3229	1000	112
3247	1000	120
3249	1000	116
3250	1000	115
5540	1000	29

CommScope Catalog No.	Spool Length	Wt/Kft
5555	1000	41
5560	1000	42
5563	1000	42
5565	1000	34
5571	1000	23
5572	1000	23
5572R	1000	23
5573	1000	24
5574	1000	20
5575	1000	28
5715	1000	34
5722	1000	38
5727	1000	29
5729	1000	32
5730	1000	34
5730V	1000	29
5731	1000	45
5732	1000	38
5741	1000	38
5743	1000	31
5750	1000	36
5765	1000	45
5772	1000	38
5773	1000	48
5774	1000	61
5781	1000	40
5782	1000	85
5786	1000	58
5787	1000	58
5796	1000	46
5901	1000	63
5906	1000	87
5912R	1000	56
5915	1000	57
5916	1000	78
5916R	1000	78
5918	1000	155
5940	1000	59
5950	1000	62
6609	1000	42
7501	1000	76
7505	1000	62
7530	1000	56
753603	1000	83
753604	1000	101
753605	1000	135

CommScope Catalog No.	Spool Length	Wt/Kft
7538	1000	17
7713	1000	122
7725	1000	40
7726	1000	44
7815	1000	140
7901	1000	81
8236	1000	130

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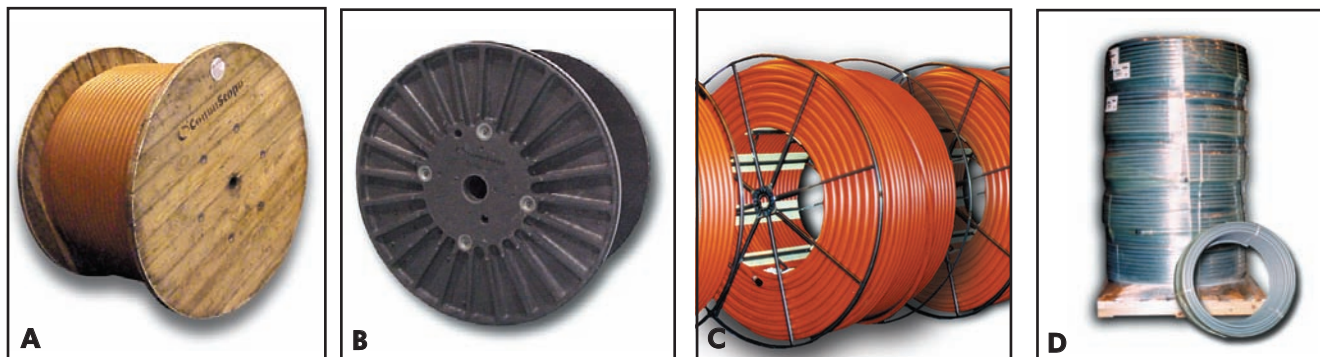
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Conduit Packaging & Shipping

Shipping Information



ConQuest products can be packaged and shipped on either wooden reels (A), ReelSmart® Composite Reels (B), or lightweight steel reels (C).

Drop conduit products can be packaged on "reel-less" coils (D), making them light weight and easier to handle.

ConQuest Reel Dimensions and Weight Chart (Standards in Bold)

Lengths*	13mm	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"
500									102x74x43 217 lbs.
1,000	24x12x18 16 lbs.	35x16 1/2x18 60 lbs.	42x24x24 130 lbs.	50 x 24 x 24 182 lbs.	54 x 28 x 43 106 lbs.			102x64x43 217 lbs.	
2,500							90x43x43 195 lbs.		
3,000			54 x 28 x 43 106 lbs.	63x28x43 121 lbs.	68x43x43 132 lbs.	80x43x43 174 lbs.			
4,000							102 x 43 x 43 217 lbs.		
5,000			63 x 28 x 43 121 lbs.	68 x 28 x 43 121 lbs.	80 x 28 x 43 174 lbs.	102 x 43 x 43 217 lbs.			

(Flange x Drum x Traverse)

*Longer lengths may be available upon request.

Reel Stenciling

All wood reel heads are to be stenciled "COMMSCOPE" and "MADE IN THE USA" (in black letters). All reel heads will be stenciled to identify reel size and date of reel manufacture, in 3/4" - 1" letters located below the arbor hole with diagram R-2 red roller system stencil ink or approved equivalent. All flanges (except 35" or smaller) cut with a start hole, must be stenciled with the warning "THIS SIDE UP" in 1 1/2" to 2" letters.

Reel Recycling

CommScope is equipped to serve cable companies like yours with Reel Recycling Centers on both sides of the country. Whether your load consists of reusable CommScope knocked down or assembled reels, wooden flanges, metal reels or a truckload of ReelSmart® composite reels, our Reel Recycling Coordinator can customize a program to fit your needs. Call the CommScope Reel Recycling Coordinator at 1.800.982.1708 for assistance in establishing a customized recycling program.

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Reel Size and Shipping Weights

Palletizing

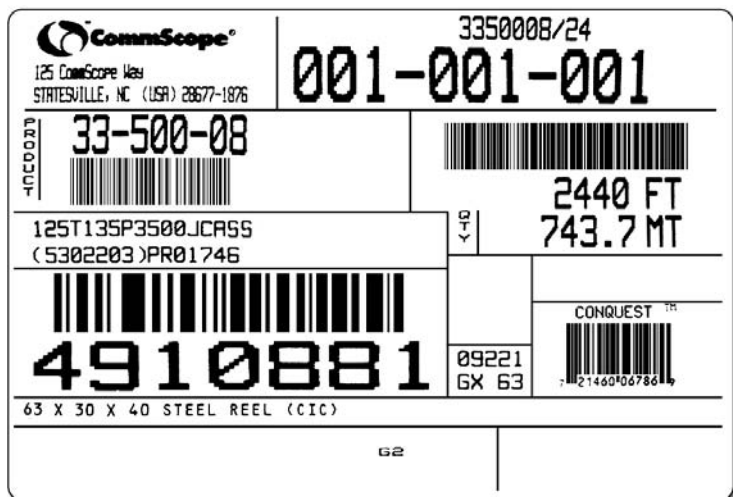
24" reels are palletized (standard 8 reels per pallet) and stretched wrapped. For substandard palletizing: 4 reels per pallet, 2 reels per pallet, or 1 reel per pallet, shall be used.

End Preparation

The cable ends are secured to the conduit by a nylon cord, or CommScope approved equivalent, to ensure that the cable does not draw back into the conduit prior to installation. Each end shall be tightly sealed by a conduit end cap to prevent contamination ingress. For wooden reels, the bottom end shall be secured into the start hole by a chess board "stayback" or a CommScope approved equivalent. The top end of the conduit shall be secured to the flange by a metal pipe band or sufficient cable ties.

Reel Identification

Each reel tag for CIC (as shown below) shall provide the following information and instructions:



- CommScope's Shipping Address
- CommScope's Product Code
- Length of the Cable inside the Conduit
- Product Description
- Tracer Color with Reel Number and Bar Code Testing
- Spectrum, Reel Size, and Manufacturing Date
- Special Comments (if needed)

Typical reel tag for CIC with P3 500 JCASS Product.

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μm See Micron (μm).

10BASE-FL An implementation of the Institute of Electrical and Electronic Engineers (IEEE) Ethernet standard on 62.5/125-μm fiber-optic cable, a baseband medium of 10 Mb/s.

10BASE-T An implementation of the Institute of Electrical and Electronic Engineers (IEEE) Ethernet standard on 24-AWG, unshielded, twisted-pair wiring, a baseband medium of 10 Mb/s.

10BASE2 An implementation of the Institute of Electrical and Electronic Engineers (IEEE) Ethernet standard on thin coaxial cable, a baseband medium of 10 Mb/s. The maximum segment length is just under 200 m (656 ft).

10BASE5 An implementation of the Institute of Electrical and Electronic Engineers (IEEE) Ethernet standard on twinaxial cable, a baseband medium of 10 Mb/s. The maximum segment length is 500 m (1,640 ft).

100BASE-T Official project name for 100 Mb/s Fast Ethernet.

100BASE-T4 100 Mb/s Fast Ethernet using 4-pair Category 3 cable.

100BASE-TX 100 Mb/s Fast Ethernet using 2-pair Category 5 cable.

100VG-ANY LAN 100 Mb/s LAN using Demand Priority Protocol originally developed by Hewlett Packard and AT&T for Category 3 cable.

100BASE-T A specification for Gigabit Ethernet over copper wire (IEEE Standard 802.3ab). The standard defines 1 Gb/s data transfer over distances of up to 100 meters using four pairs of Category 5e balanced copper cabling and a 5-level coding scheme.

100BASE-LX A specification for Gigabit Ethernet over fiber-optic cable (IEEE Standard 802.3 z) at 1300 nm wavelength.

100BASE-SX A specification for Gigabit Ethernet over fiber-optic cable (IEEE Standard 802.3 z) at 850 nm wavelength.

100BASE-TX A specification for Gigabit Ethernet over copper wire (TIA/EIA). The standard defines 1 Gb/s data transfer over distances of up to 100 meters using four pairs of Category 6 balanced copper cabling.

10GBASE-ER Serial 10 Gb/s Ethernet operating on single-mode fiber with longwave lasers (1550 nm). Intended for distances up to 40 Km.

10GBASE-EW WAN-capable serial 10 Gb/s Ethernet operating on single-mode fiber with longwave lasers (1550 nm), including a simplified SONET/SDH framer.

10GBASE-LR Serial 10 Gb/s Ethernet operating on single-mode fiber with longwave lasers (1300 nm). Intended for distances up to 10 Km.

10GBASE-LW WAN-capable serial 10 Gb/s Ethernet operating on single-mode fiber with longwave lasers (1300 nm), including a simplified SONET/SDH framer.

10GBASE-LX4 Coarse Wave Division Multiplexing (CWDM) 10 Gb/s Ethernet operating on multimode or single-mode fiber with long-wave lasers (1300 nm). This version is intended to support 10 Gb/s on the installed base of multimode fiber, but the complexity of CDWM and 1300 nm transmission places a significant premium on this optical implementation. It requires mode-conditioning patch cords for operation on multimode fiber.

10GBASE-SR Serial 10 Gb/s Ethernet operating on multimode fiber with shortwave lasers (850 nm). This is the lowest cost optical implementation of 10 Gigabit Ethernet, and supports up to 300 m on Laser Optimized Multimode Fiber.

10GBASE-SW WAN-capable Serial 10 Gb/s Ethernet operating on multimode fiber with sortwave lasers (850 nm), including a simplified SONET/SDH framer.

10 Gigabit Ethernet As specified in IEEE 802.3af, a range of Ethernet implementations supporting 10 Gb/s for LAN and WAN implementations.

802.3 Defined by the Institute of Electrical and Electronic Engineers (IEEE), these standards govern the use of the Carrier Sense Multiple Access/Collision Detection (CSMA/CD) network access method used by Ethernet networks.

802.5 Defined by the Institute of Electrical and Electronics Engineers (IEEE), these standards govern the use of the token ring network access method.

802.11 Defined by the Institute of Electrical and Electronics Engineers (IEEE), these standards govern the use of wireless LANs.

A See Ampere (A).

Abrasion Resistance Ability of a wire, cable or material to resist surface wear.

Accelerated Aging A test in which voltage, temperature, etc., are increased above normal operation values to obtain observable deterioration in a relatively short period of time. The plotted results give expected service life under normal conditions.

Access Provider Operator of facility used to convey telecommunications signals to and from a customer premises.

AD Cable In residential applications, the cable from the distribution device in a customer's premises to the point of demarcation.

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Adapter A device that (1) enables different sizes or types of plugs to mate with one another or to fit into an information outlet, (2) provides for the rearrangement of leads, (3) allows large cables with numerous wires to fan out into smaller groups of wires, or (4) makes interconnections between cables.

Ad Hoc Cabling Cabling scheme where different types of cabling components from different vendors are linked together to form a cabling system.

Administration Point A location at which communications circuits are administered; that is, rearranged or rerouted by means of cross connections, interconnection, or information outlets.

Administration Subsystem The part of a premises distribution system that includes the distribution hardware components where you can add or rearrange circuits. These components include cross-connects, interconnects, telecommunication outlets, and their associated patch cords and plugs. Also called "administration points." See also Cross-Connect and Telecommunications Outlet (TO).

Admittance The measure of the ease with which an alternating current flows in a circuit. The reciprocal of impedance.

Aerial Cable A cable suspended in the air on poles or other overhead structure.

Air-Dielectric Coaxial Cable One in which air is the essential dielectric material. A spirally wound synthetic filament or spacer may be used to center the conductor.

Alloy A metal formed by combining two or more different metals to obtain desirable properties.

Alternation Current Electric current that continually reverses its direction. It is expressed in cycles per second (Hertz or Hz).

Ambient Temperature The temperature of a medium (gas or liquid) surrounding an object.

American National Standards Institute (ANSI) Organization responsible for the definition and maintenance of the Fiber Distributed Data Interface (FDDI) standard. ANSI is the principal group in the United States for defining standards. ANSI represents the U.S. in the International Standards Organization (ISO).

American Wire Gauge (AWG) The standard gauge for measuring the diameter of copper, aluminum and other conductors.

Ampere (A) A standard unit of current. One ampere of current is produced by one coulomb of charge passing a point in one second.

Analog Signal A signal that represents information in a continuously variable and directly measurable physical

quantity, such as voltage. Shaped like a wave, analog signals, such as those transmitted over a telephone channel, vary in both frequency and amplitude proportionate to the voice or other signals initiating them. See also Digital Signal.

Analog Transmission A method of signal transmission in which the shape of the signal is a continuously variable and directly measurable physical quantity such as voltage.

Anneal Relief of mechanical stress through heat and gradual cooling. Annealing copper renders it less brittle.

ANSI/TIA/EIA 568A Commercial Building Telecommunications Standard. It gives guidelines on implementing structured cabling within a building. It also defines the minimum mechanical and transmission performance criteria for U/UTP, STP, ScTP, coax, and fiber optic cabling.

Application A system, with its associated transmission method which is supported by telecommunications cabling.

Application Layer The uppermost layer (layer 7) of the open systems interconnection (OSI) model. This layer is concerned with support to the user application and is responsible for managing the communication between applications, e.g. Email, File transfer, etc.

Armor A braid or wrapping of metal, usually steel, used for mechanical protection. Generally placed over the outer sheath.

ASCII The American Standard Code for Information Interchange. A widely-used 7 or 8-bit binary code used to represent alphabetic and numeric characters in computer understandable form.

ASTM Abbreviation for the American Society for Testing and Materials, a nonprofit industry-wide organization which publishes standards, methods of test, recommended practices, definitions and other related material.

Asynchronous Two or more signals sourced from independent clocks, therefore having different frequency and phase relations.

Asynchronous Data Transfer A method of data transfer in which each alphabetic or numeric character (represented by 7 or 8 bits) is preceded by 'start' and 'stop' bits to delineate the 7/8 bit pattern from the ideal pattern which otherwise occupies the (digital) transmission medium.

Asynchronous Transfer Mode (ATM) An information transmission technology that dynamically allocates bandwidth through a switching network. ATM can deliver voice, video and data without the latency problems normally associated with Ethernet.

Asynchronous Transmission A data transmission technique controlled by start and stop bits at each end of a character and characterized by an undetermined time interval between characters.

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ATM See Asynchronous Transfer Mode.

Attenuation The effect of signal reduction, experienced with accumulating line length or distance of radio transmission.

Attenuation to Crosstalk Ratio (ACR) Calculated as the crosstalk value (dB) minus the attenuation value (dB). Typically, ACR may be given for a cable, link or channel and is a key indicator of performance for U/UTP systems.

Audio Frequency The range of frequencies audible to the human ear. Usually 20-20,000 HZ.

Auxiliary Disconnect Outlet (ADO) Allows a disconnect point from the service provider. May be co-located at the NID or Distribution Device.

AWM Designation for Appliance Wiring Material.

AWG See American Wire Gauge (AWG).

Backbone(s) The part of a premises distribution system that includes a main cable route and facilities for supporting the cable from the equipment room to the upper floors, or along the same floor to the wiring closets.

Backbone/Riser Closet See Telecommunications Closet/Room.

Backbone/Riser Subsystem See Riser Backbone Subsystem.

Balanced Circuit A circuit where equal and opposite signals are generated and sent on to two conductors. The better the balance of a circuit, the lesser is its emissions and the greater is its noise immunity (hence the better is its EMC performance).

Balanced Transmission Refers to the transmission of equal but opposite voltages across each conductor of a pair. If each conductor is identical, with respect to each other and the environment, then the pair is said to be perfectly balanced and the transmission will be immune to ElectroMagnetic Interference (EMI).

Balanced Twisted Pair Cable A cable consisting of one or more metallic symmetrical cable elements (twisted pairs or quads).

Balun A device for matching impedance between a balanced to unbalanced line, usually twisted-pair and coaxial cable.

Bandwidth The range of frequencies that can be used for transmitting information on a channel. It indicates the transmission-carrying capacity of a channel. Thus, the larger the bandwidth, the greater the amount of information that can pass through the circuit. Measured in Hertz or b/s or MHz-km (for fiber).

Baseband A network in which the entire bandwidth of the transmission medium is used as a single digital signal. Unlike broadband, no modulation techniques are used.

Basic Rate Interface (BRI) The simplest form of network access available on the ISDN (integrated services digital network). The BRI comprises of 2B + D channels for carriage of signaling and user information.

Bend Radius The radius of curvature that fiber or copper can bend without breaking or causing excessive loss.

Bit Error Rate (BER) A measure of quality of a digital transmission line, either quoted as a percentage, or more usually as a ratio, typically 1 error in 10E8 or 10E9 bits carried. The lower the number of errors, the better the quality of the line.

BNC Connector The connector type used on many types of coaxial data communication equipment.

Bonding The connecting together of all building and equipment electrical grounds to eliminate differences in electrical ground potentials.

Braid A fibrous or metallic group of filaments interwoven in cylindrical form to form a covering over one or more wires.

Braid Angle The smaller of the two angles formed by the shielding strand and the axis of the cable being shielded.

Braid Carrier A spool or bobbin on a braider which holds one group of strands or filaments consisting of a specific number of ends. The carrier revolves during braiding operations.

Braid Ends The number of strands used to make up one carrier. The strands are wound side by side on the carrier bobbin and lie parallel in the finished braid.

Breakdown Voltage The voltage at which the insulation between two conductors breaks down.

BRI See Basic Rate Interface (BRI).

Bridge(s) A device used to link two subnetworks using the same communications method and sometimes the same kind of transmission medium.

Broadband A network in which the bandwidth can be shared by multiple simultaneous signals that are encoded with radio frequency modulations.

Building Backbone Cable A cable that connects the building distributor to a floor distributor. Building backbone cables may also connect floor distributors in the same building.

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Building Distributor A distributor in which the building backbone cable(s) terminate(s) and at which connections to the campus backbone cable(s) may be made.

Building Entrance Facility A facility that provides all necessary mechanical and electrical services, that complies with all relevant regulations, for the entry of telecommunications cables into a building.

Bunch Stranding A group of wires of the same diameter twisted together without a predetermined pattern.

Buried Cable A cable installed directly in the earth without use of underground conduit. Also called "direct burial cable."

BUS Consists of a common transmission path with a number of nodes attached to it. Sometimes referred to as linear network topology.

Bus Topology A local area network (LAN) topology in which endpoints connect to a single wire or fiber, or set of wires or fibers, at any point. The Ethernet LAN is one example.

Cable An insulated conductor, or group of individually insulated conductors in twisted or parallel configuration.

Cable Assembly A completed cable and its associated hardware ready to install.

Cable Fill The ratio of cable installed into a conduit/trunking against the theoretical maximum capacity of the conduit/trunking.

Cable Rack The vertical or horizontal supports, usually made of aluminum or steel, that are attached to a ceiling or wall. Cables are laid in and fastened to the rack. Sometimes called trays.

Cable Routing Diagram A detailed drawing showing the layout of the cable routes.

Cabling A system of telecommunications cables, cords and connecting hardware that can support the connection of information technology equipment.

Cabling Factor Used in the formula for calculation the diameter of an unshielded, unjacketed cable. $D = Kd$, where D is the cable diameter, K is the factor and d is the diameter of one insulated conductor.

CAD/CAM Computer-Aided Design/Computer-Aided Manufacturing.

Campus A premises containing more than one building adjacent or near to one another.

Campus Backbone Cable The communications cable that is part of the Campus Backbone Subsystem and runs between buildings. There are four methods of installing campus backbone cable: in-conduit (in underground

conduit), direct-buried (in trenches), aerial (on poles), and in-tunnel (in stream tunnels). A cable that connects the campus distributor to the building backbone distributor(s). Campus backbone cables may also connect building cabling distributors directly.

Campus Cable Entrance The point at which Campus Backbone Subsystem cabling (aerial, direct-buried, or underground) enters a building.

Capacitance The property in a system of conductors and dielectrics that permits the storage of electrically separated charges whenever a difference in potential exists between the conductors. Capacitance is undesirable in copper wire cable because it interferes with signals travelling on the wire by opposing the desired flow of current.

Capacitance Unbalance A measurement of a cable's impedance based on a curve fit equation using the cable's raw input impedance. Specified by ANSI/TIA/EIA 568A but not ISO/IEC 11801.

Characteristic Impedance The impedance that, when connected to the output terminals of a transmission line of any length, makes the line appear infinitely long. The ratio of voltage to current at every point along a transmission line on which there are no standing waves.

Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA) Network access method using contention similar to Carrier Sense Multiple Access/Collision Detection (CSMA/CD) used by Local Talk networks. Unlike CSMA/CD, in this method the sending node requests permission to transmit. It defines protocols for user or applications programs.

Carrier Sense Multiple Access/Collision Detection (CSMA/CD) Network access method in which nodes contend for the right to send data. If two or more nodes attempt to transmit at the same time, they abort their transmission until a random time period of microseconds has transpired and then attempts to resend.

Category 3 For cable and connecting hardware products with transmission characteristics specified to 16 MHz, typically used to support digital transmission of 10 Mb/s.

Category 5 For cable and connecting hardware products with transmission characteristics specified to 100 MHz, typically used to support digital transmission of 100 Mb/s and above.

Category 5e This is an enhanced version of Category 5, with additional parameters specified to enable parallel transmission with full duplex across the four pairs. Enhanced Category 5 specifications for cable and connecting hardware products with transmission characteristics specified to 100 MHz, intended to support digital transmission of 1000 Mb/s.

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Category 6 For cable and connecting hardware products with transmission characteristics specified to 250 MHz, used to support digital transmission of 1 Gb/s and above.

Category 7 For cable and connecting hardware products with transmission characteristics specified to 600 MHz. Category 7 is a cable standard only and will require a new connector standard to fully exploit transmission at the above frequencies.

Ceiling Distribution Distribution system that uses the space between the false or suspended ceiling and the structural ceiling for housing horizontal cable routes.

Cell Relay A fast packet switching technique which uses fixed-length cells. Generic name for ATM, SMDS and BISDN.

CENELEC European committee for electrotechnical standardization.

CENELEC EN 50173 The European standard for generic cabling for customer premises.

CENELEC EN 50174 A proposed European cabling systems planning & installation standard developed by CENELEC.

Central Processing Unit (CPU) A personal computer's (PC's) primary microprocessor chip.

Channel The end-to-end transmission path connecting any two pieces of application-specific equipment. Equipment cables and work area cables are included in the channel.

Characteristic Impedance A frequency-dependent resistance that quantifies the complex opposition to current flow offered by a transmission line.

Chromatic Dispersion Chromatic dispersion describes the tendency for different wavelengths to travel at different speeds in a fiber. If operated at wavelengths where chromatic dispersion is high, optical pulses tend to temporarily broaden, leading to intersymbol interference, which can produce an unacceptable bit error rate.

Churn The relocation of an individual or a group of individuals within a building such that the workspace or services to the workspace require change.

Circuit A two-way communications path between electronic devices.

Circular Mil The area of a circle one mil (.001") in diameter; 7.854×10^{-7} sq. in. Used in expressing wire cross sectional area.

Cladding The low refractive index material that surrounds the core of an optical fiber, usually pure silica.

Client A node that requests network services from a server.

Client-Server A technique by which processing can be distributed between nodes requesting information (clients) and those maintaining data (servers).

Closet A location for hardware, conduits, power panels, and electronics such as multiplexers and concentrators.

Coating A protective layer of material over the cladding of an optical fiber.

Coaxial Cable (Coax) A cable with a center conductor surrounded by a thick insulation, surrounded by an outer conductor made of metal braid. An outer jacket insulation is optional.

Collapsed Backbone This architecture is a backbone topology where wiring concentrators located at floor levels are attached in a star configuration to a central high performance switching concentrator.

Color Code A system for circuit identification through use of solid colors and contrasting tracers.

Composite Cable A cable construction technique that combines multiple cables or media in a single overjacket.

Concentric Stranding A central wire surrounded by one or more layers of helically wound strands in a fixed geometric arrangement.

Concentricity In a wire or cable, the measurement of the location of the center of the conductor with respect to the geometric center of the surrounding insulation.

Conductivity The capability of a material to carry electrical current—usually expressed as a percentage of copper conductivity (copper being 100%).

Conductor A medium such as copper wire that can carry electrical current.

Conduit A pipe, usually metal, that runs underground from floor to floor, or along a floor or ceiling to protect cables. In the Riser Backbone Subsystem when riser telecommunications closets are not aligned, conduit is used to protect cable and provide the means for pulling cable from floor to floor. In the Horizontal Subsystem, conduit may be used between a telecommunications closet and an information outlet in an office or other room. Conduit is also used for in-conduit campus distribution, where it is run underground between buildings and intermediate manholes and is made of plastic encased in concrete. Multiduct, clay-tile conduit may also be used.

Connecting Block A flame-retardant plastic block containing metal wiring terminal (quick clips) that establishes an electrically tight connection between the cable and the cross-connect wire.

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Connecting Hardware See Cross-Connect.

Connector A device that allows you physically to connect and disconnect copper wires or fibers to cable equipment or to other wires or fibers. Copper wire and fiber-optic connectors must often join transmission media to equipment or cross-connects.

Consolidation Point An interconnection point in horizontal cabling, typically used to support the re-arrangement of furniture closets.

Continuity Check A test to determine whether electrical current flows continuously throughout the length of a single wire or individual wires in a cable.

Copolymer A compound resulting from the polymerization of two different monomers.

Cords A short length of copper wire or fiber-optic cable with connectors on each end. Used to connect equipment to cabling, or to connect cabling segments (cross-connection).

Core The central transmission area of a fiber. The core always has a refractive index higher than that of the cladding.

Coulomb (C) A quantity of electricity transferred by a current of one ampere in one second.

Coverage The percent of completeness with which a metal braid covers the underlying surface.

CPU See Central Processing Unit (CPU).

CRC See Cyclic Redundancy Check (CRC).

Crazing The minute cracks on the surface of plastic materials.

Cross-Connect A component where communication circuits are administered (that is, added or rearranged using jumper wire or patch cords). In 110 Connector Systems, Hook-Up Wire or patch cords are used to make circuit connections. In fiber-optic connector systems, fiber-optic patch cords are used. The cross-connect is located in an equipment room or telecommunications closet/room. See also Jumper Wire and Patch Cord.

Cross-Connect Field Copper wire or fiber terminations grouped to provide cross-connect capability. The groups are identified by color-coded sections of back boards mounted on the wall in equipment rooms or telecommunications closet/room, or by designation strips or labels placed on the wiring block or unit. The color coding identifies the type of circuit that terminates at the field.

Crosstalk An electromagnetic coupling between two physically isolated circuits in a system. This coupling causes a signal on one circuit to induce a noise voltage on adjacent circuits, thereby causing signal interference.

CSA Canadian Standards Association.

CSMA/CA See Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA).

CSMA/CD See Carrier Sense Multiple Access/Collision Detection (CSMA/CD).

Customer Premises Equipment (CPE) Customer owned equipment used to terminate or process information from the public network e.g., Multiplexed or PABX.

Cut-Through Resistance The ability of a material to withstand mechanical pressure, usually a sharp edge or small radius, without separation.

Cyclic Redundancy Check (CRC) A coded sequence of information allowing error checking and correction.

Data Communications General terminology for data communications equipment such as

Equipment (DCE) modems. A device that terminates a data communications session and provides encoding or conversion if necessary. See also Data Terminating Equipment (DTE).

Data Link Layer Layer 2 of the Open Systems Interconnect (OSI) model; it defines protocols governing data packets, and transmission into and out of each node.

Data Terminating Equipment The term used to describe any type of computer or other equipment,

(DTE) when connected to a data communications network.

dB See Decibel (dB).

dB/km See Decibel/kilometer (dB/km).

DB9 A standardized connector with nine pins for token ring and serial connections.

DB15 A standardized connector with 15 pins for Ethernet transceivers.

DB25 A standardized connector with 25 pins for parallel or serial connections.

DCE See Data Communications Equipment (DCE).

DD Cord Telecommunications cord that extends between the distribution device and the auxiliary disconnect outlet.

Decibel (dB) A unit used to measure relative increase or decrease in power, voltage or current, using a logarithmic scale.

Decibel/kilometer (dB/km) A unit of measurement for fiber-optic attenuation.

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Delay Skew Delay Skew is the difference in propagation delay between any two pairs within the same cable sheath.

Demarcation Point A point where operational control or ownership changes.

Dielectric A nonconducting or insulating material that resists passage of electric current.

Dielectric Cable A nonconducting cable, such as fiber-optic cable, without metallic members.

Dielectric Constant The ratio of the capacitance of the insulated wire to that of the same wire uninsulated in air.

Dielectric Strength A measure of the maximum voltage that the insulation of a particular cable can withstand without breakdown.

Digital Signal A signal that represents information by a series of fixed, encoded, rectangular pulses, usually consisting of two possible voltage levels. Each voltage level indicates one of two possible values or logic states, such as on or off, open or closed, true or false. See also Analog Signal.

Digital Transmission A technique in which all information is converted into binary digits for transmission.

Direct Current Resistance (DCR) The resistance offered by any circuit to the flow of direct current.

Dispersion The tendency of a beam of light to spread out and lose its focus.

Dissipation Factor The tangent of the loss angle of the insulation material. (Also referred to as loss tangent, tan, and approximate power factor.)

Distribution Device (DD) Terminates and cross-connects cables. Central point of connection for all building cables.

Distributor The term used for the functions of a collection of components (for example, patch panels, patch cords) used to connect cables.

DIW See Network Communications Cable (NCC) and Twisted Pair.

Drain Wire In a cable, the uninsulated wire laid over the component or components and used as a ground connection.

DTE See Data Terminating Equipment (DTE) and also Data Communications Equipment (DCE).

Dual-Fiber Cable A type of fiber-optic cable that has two single-fiber cables enclosed in a jacket of extruded plastic.

Ducts The main feeder channels in which communication cable is routed between buildings in a campus environment. See also Campus Backbone Cable.

Eccentricity Like concentricity, a measure of the center of a conductor's location with respect to the circular cross section of the insulation. Expressed as a percentage of displacement of one circle within the other.

EIA See Electronics Industries Association (EIA).

EIA/TIA North American Standards organization.

EIA/TIA 568B North American commercial building telecommunications wiring standard.

EIA/TIA 569A North American commercial building standard for telecommunications pathways and spaces. Its purpose is to standardize specific design and construction practices within and between buildings which are in support of telecommunications media and equipment.

EIA/TIA 606 North American administration standard for the telecommunications infrastructure of commercial buildings. Its purpose is to provide guidelines for a uniform administration scheme for the cabling infrastructure.

Electromagnetic Compatibility (EMC) The ability of a system, equipment or device to operate satisfactorily in its environment without introducing unacceptable electromagnetic disturbance, or being affected by that environment.

Electromagnetic Interference (EMI) The interference in signal transmission resulting from the radiation of nearby electrical and/or magnetic fields. For U/UTP, EMI can be coupled onto a conducting pair and cause circuit noise. Crosstalk is one type of EMI.

Electronics Industries Association (EMA) North American Electronics Association.

Electromagnetic Flux Electric and magnetic fields (commonly referred to as emissions) generated by equipment or system.

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

ELFEXT See Equal Level Far End Crosstalk.

Elongation The fractional increase in length of a material stressed in tension.

EMC See Electromagnetic Compatibility.

EMI See Electromagnetic Interference.

EN 50173 The European standard for generic cabling for customer premises.

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EN 50174 European cabling systems planning and installation standard (CENELEC).

Ends In braiding, the number of essentially parallel wires or threads on a carrier.

Equal Level Far End Crosstalk (ELFEXT) Is the same as FEXT, except that the coupled signal at the remote end is relative to the attenuated signal at the remote end on the pair the signal was applied to at the local end.

Equipment Cable A cable connecting equipment to a distributor.

Equipment Cord Cable used to connect telecommunications equipment to horizontal or backbone cabling.

Equipment Room The room in which voice and data common equipment (for example, a DEFINITY® switch) is housed, protected, and maintained, and where circuit administration is done using the trunk and distribution cross-connects.

Equipment Subsystem The part of a premises distribution system that includes the cable and distribution components in an equipment room and that interconnects system-common equipment, other associated equipment, and cross-connects.

Ethernet A LAN transmission standard originally developed by IEEE 802.3. Ethernet is a shared bandwidth technology based on bus topology and CSMA/CD. Ethernet has evolved from its beginning as a 10 Mb/s coax network (10Base5) to include a 10 Mb/s twisted pair standard (10BaseT), a 100 Mb/s 4 pair/twisted pair standard (100BaseVG), 100 Mb/s over 2 pair/twisted pair standard (100Base - x) and a draft standard for gigabit transmission over twisted pair.

Farad (F) The standard unit of capacitance.

Far End Crosstalk (FEXT) Refers to the undesired coupling of signals from the transmit pair onto the receive pair at the other (=far) end. FEXT isolation is also expressed in dB. For some applications this is an important parameter, for most applications however, the NEXT values are more important.

Fast Ethernet A 100 Mb/s LAN based on CSMA/CD Protocol. See 100BASE-T.

Federal Communications Commission (FCC) A board of five commissioners, appointed by the President, that

regulates all electronic communications systems originating in the United States, including telephone systems.

FEXT See Far End Crosstalk.

FDDI See Fiber Distributed Data Interface.

Fiber Any filament or fiber, made of dielectric materials, that guides light. See also Fiber-Optics.

Fiber Channel This is an ANSI standard describing point to point and switched point to point physical interface, transmission protocol, signaling protocol, services and command set mapping of a high performance serial link for uses between mainframe computers and computer peripherals.

Fiber Distributed Data Interface (FDDI) An American National Standards Institute (ANSI) standard for a fiber-based token ring physical and data link protocol that operates at a 100 Mb/s data transfer rate.

Fiber-Optic A fiber-optic cable in which individual optical fibers are formed into a cable for primary use inside a building.

Fiber-Optics The technique of conveying lights or images through glass or plastic fibers. Incoherent fiber-optics will transmit light but not an image; coherent fiber-optics will transmit both and should actually be called "aligned fiber-optics" because the fibers are all the same length and are held in a constant spatial relationship.

Fiber-Optic Building Cable A fiber-optic cable in which individual optical fibers are formed into a cable for primary use in a side building.

Fiber-Optic Cable A transmission medium consisting of a core of glass or plastic surrounded by a protective cladding, strengthening material, and outer jacket. Signals are transmitted as light pulses, introduced into the fiber by a light transmitter (either a laser or light-emitting diode [LED]). Some of the advantages offered by fiber-optic cable are low data loss, high-speed transmission, large bandwidth, small physical size, light weight, and freedom from electromagnetic interference and grounding problems.

Fiber-Optic Connectors Connectors designed to connect and disconnect either single or multiple optical fibers repeatedly. Fiber-optic connectors are used to connect fiber cable to equipment and interconnect cables.

Fiber-Optic Cross-Connection Fiber-optic apparatus for terminating cable in couplings. Designed for high-density cross-connection fields. Cross-connections are handled with fiber-optic patch cords. See also Patch Cord.

Fiber-Optic Cross-Connect A component of fiber-optic cross-connect hardware.

Distribution System accommodates 24-216 fiber terminations. Also referred to as a shelf or frame.

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Fiber-Optic Interconnect An interconnection unit used for circuit administration and built from modular cabinets. It provides interconnection for individual optical fibers but, unlike the fiber-optic cross-connect panel, it does not use patch cords or jumpers. The fiber-optic interconnect provides some capability for routing and rerouting circuits, but is usually used where circuit rearrangements are infrequent.

Fiber-Optic Interconnection Unit A component of fiber patch cross-connect hardware. This component accommodates 12, 24 or 48-fiber terminations. Also referred to as an LIU.

Fiber-Optic Splice A fiber-optic cable splice is used to join together 2 or 24 fiber-optic cable ends, permanently.

Field See Cross-Connect Field.

Figure 8 Cable An aerial cable configuration in which the conductors and the steel strand which supports the cable are integrally jacketed. A cross section of the finished cable approximates the figure "eight."

File Server A computer that stores data centrally for network users and manages access to that data. File servers can be dedicated so that no processes other than network management can be executed while the network is available, or nondedicated so that standard user applications can be run while the network is available.

Fire Walls Walls that go from structural floor to structural ceiling and, therefore, help prevent fire from spreading from one area to another.

Flame Resistance The ability of a material not to propagate flame once the heat source is removed.

Flex Life The measurement of the ability of a conductor or cable to withstand repeated bending.

Flood Wiring The concept of wiring for future growth, by providing full coverage of information outlets.

Floor Distributor The distributor used to connect between the horizontal cable and other cabling subsystems or equipment (see telecommunications closet).

Foil Screened Twisted Pair Cable (F/UTP) A cable that uses a metallic Foil to surround the conductors in a Twisted Pair cable.

Frame A metallic structure for hanging switch hardware.

FR-1 A flammability rating established by Underwriters Laboratories for wires and cables that pass a specially designed vertical flame test. This designation has been replaced by VW-1.

Frequency The number of cycles completed by a signal in one second: measured in Hertz (Hz).

F/UTP See Foil Screened Twisting Pair Cable.

Full Duplex In contrast to half-duplex devices, full duplex ones allow permanent, simultaneous two-way transmission of information, without interaction or interference of receive and transmit signals.

Full Duplex Ethernet Full Duplex Ethernet will allow nodes to transmit and receive data at the same time, bringing aggregate throughput to 20 Mb/s. The CSMA/CD protocol may have to be disabled for the full duplex mechanism to function.

Gauge A measure of a conducting wire's physical size, usually referred to as AWG (American Wire Gauge). See also American Wire Gauge (AWG).

Generic Cabling A structured telecommunications cabling system, capable of supporting a wide range of applications. Generic cabling can be installed without prior knowledge of the required applications. Application specific hardware is not a part of generic cabling.

Giga A numerical prefix denoting one billion (10⁹).

Graded-Index Fiber An optical fiber with a refractive index that gets progressively lower away from the axis. This causes the light rays to be continually refocused by refraction in the core. It bends the rays inwards and allows them to travel faster in the lower index of refraction regions. This type of fiber provides high bandwidth capabilities.

Ground A conducting connection, intentional or accidental, between a circuit or equipment and the earth.

H See Henry.

Half Duplex A telecommunications device allowing two-way transmission of signals or other information, but only in one direction at a time. Thus a half-duplex device cannot simultaneously transmit and receive, though interspersed bursts in each direction are possible.

Hard Drawn Copper Wire Copper wire that has not been annealed after drawing. Sometimes called HD wire.

Henry (H) The standard unit of inductance. The inductance of a current is one Henry when a current variation of one ampere per second induces one volt.

Hertz (Hz) The standard unit of frequency; equal to one cycle per second.

Hi-Pot A test designed to determine the highest voltage that can be applied to a conductor without breaking through the insulation.

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Horizontal Cable A cable connecting the floor distributor to the telecommunications outlet(s).

Horizontal Length (HL) The cable distance from the information outlet to the blue field of the cross-connect.

Horizontal Runs The part of the premises distribution system installed on one floor that includes the cabling and distribution components connecting the riser backbone or equipment wiring to the information outlet. See Horizontal Subsystem.

Horizontal Subsystem The part of a premises distribution system installed on one floor that includes the cabling and distribution components connecting the Riser Backbone Subsystem to the information outlet via cross-connect components of the Administration Subsystem.

Hub(S) A concentrator or repeater in a star topology at which node connections meet.

Hybrid Cable An assembly of two or more different types of cable units, cables or categories covered by an overall sheath. It may be covered by an overall shield.

Hypalon* Dupont's trade name for their chlorosulfonated polyethylene, and ozone resistant synthetic rubber.*
*Hypalon is a registered trademark of E.I. Dupont de Nemours and Co.

Hz See Hertz (Hz).

IBM International Business Machines Corporation.

IEC 60332 The international standard covering fire performance of cables.

IEEE Institute of Electrical and Electronic Engineers in the USA. This organization is also involved in producing Local Area Network standards such as 10BASE-T and Token Ring.

Impedance The total opposition that a circuit offers to the flow of alternating current or any other varying current at a particular frequency. It is a combination of resistance R and reactance X, measured in ohms.

Individual Pair Screened Where each twisted pair in one overall cable has its own screen.

Inductance The property of a circuit or circuit element that opposes a change in current flow, thus causing current changes to lag behind voltage changes. It is measured in henrys.

Integrated Services Digital Network (ISDN) Integrated voice and data network based on digital communications technology and standards interfaces.

Intelligent Buildings Buildings that maximize the efficiency of its occupants and allow effective management of resources with minimum life-time costs. (Source: European Intelligent Building Group).

Interconnect Cables that connect telecommunications closets/rooms.

Interconnect A circuit administration point, other than a cross-connect or information outlet, that provides capability for routing and rerouting circuits. It does not use patch cords or jumpers. Typically it is a jack-and-plug device used in smaller distribution arrangements or to connect circuits in large cables to those in smaller cables.

Interface Cards See Network Interface Cards.

Interference A signal impairment caused by the interaction of another unwanted signal.

International Standards Organization (ISO) The organization responsible for the Open Systems Interconnect (OSI) standards.

International Telegraphy and Telephone Consultative Committee (CCITT) A standards organization that, among numerous other activities, specializes in the electrical and functional characteristics of switching equipment. The CCITT sets standards for interfaces to ensure compatibility between data communications equipment (DCE) and data terminating equipment (DTE).

Interoperability The ability to operate and exchange information in a heterogeneous network.

Insulation A material having high resistance to the flow of electric current. Often called a dielectric in radio frequency cable.

Insulation Displacement The type of wire terminals that require no wire stripping; when the wire is correctly attached, its insulation is displaced (pierced) to form a connection.

Insulation Resistance The ratio of the applied voltage to the total current between two electrodes in contact with a specific insulation, usually expressed in megaohms-M feet.

IO Information Outlets (IO) is a connector where the horizontal cable terminates.

ISDN See Integrated Services Digital Network (ISDN).

ISO See International Standards Organization (ISO).

ISO/IEC IS 11801 An international standard for generic cabling for customer premises.

ISO/IEC 14763-1 The international standard for basic administration of generic cabling.

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Isochronous Ethernet This is part of the IEEE 802.9 integrated services LAN standard. It is an extension of 10BASE-T which provides for the inclusion of a 6.144 Mb/s isochronous (real time and delay sensitive) data service in addition to the 10 Mb/s 10BASE-T packet service. It will provide multimedia capability.

ISO Seven Layer Model A 7 layer hierarchical reference structure developed by the ISO for defining, specifying and relating communications protocol.

ISP/IEC 11801 An international standard for generic cabling system. Very similar to the ANSI/TIA/EIA 568A.

J See Joule (J).

Jack A receptacle used with a plug to make electrical contact between communications circuits. Jacks and their associated plugs are used in a variety of connecting hardware applications including adapter, information outlets, and equipment connections.

Jacket The flexible covering of a cable, used to protect the color-coded conductors inside.

Joule (J) A unit of work or energy equal to 0.7375 foot-pounds.

Jumper A cable unit or cable element without connectors used to make a connection on a cross-connect.

Jumper Wire A short length of connectorized copper wire used to route a circuit by linking two cross-connect termination points.

Keying A mechanical feature of a connector system which guarantees correct orientation of a connection or prevents the connection to a jack or optical fiber adapter of the same type intended for another purpose.

Kilo A numerical prefix denoting 1000 (10^3).

LAN See Local Area Network (LAN).

Lay The length measured along the axis of a wire or cable required for a single strand (in stranded wire) or conductor (in cable) to make one complete turn about the axis of the conductor or cable.

LC Connector A high density connector for fiber-optic applications used in both public and private networks. This high performance connector is available in both single-mode and multimode.

Link The transmission path between any two interfaces of generic cabling. It excludes equipment cables and work area cables.

Link Budget Optical loss budget that determines the maximum distance allowable between stations. Loss and dispersion factors are included.

Local Area Network (LAN) A data communications network consisting of host computers or other equipment interconnected to terminal devices, such as personal computers, often via twisted-pair or coaxial cables. LANs allow users to share information and computer resources. Typically, a network is limited to a single premises.

Longitudinal Shield A tape shield, flat or corrugated, applied longitudinally with the axis of the core being shielded.

Loop Resistance Sum of conductor resistance and shield resistance (DCR).

Loss Energy dissipated without accomplishing useful work.

Low Loss Dielectric An insulating material that has a relatively low dielectric loss, such as polyethylene or Teflon.

MAC See Media Access Control (MAC).

MAU See Multistation Access Unit (MAU).

Mb See Megabit (Mb).

MB See Megabyte (MB).

Mbaud See Megabaud (Mbaud).

Media Access Control (MAC) Refers to both the media access portion of the Fiber Distributed Data Interface (FDDI) standard and the hardware and firmware (MAC entity) which implements this portion of the standard.

Media Interface Connector (MIC) A port connector also known as a "data connector" on a multistation access unit (MAU) in a token ring environment; also a dual-fiber connector for Fiber Distributed Data Interface (DFDI).

Megabaud (Mbaud) One million baud.

Megabit (Mb) One million binary bits.

Megabyte (MB) One million binary bytes.

MegaHertz (MHz) One million Hertz (cycles per seconds).

MegaHertz-kilometer (MHz-km) A bandwidth-length product rating for multimode fiber. Bandwidth of the fiber is found by multiplying its length by its bandwidth-length product.

MHz See MegaHertz (MHz).

MHz-km See MegaHertz-kilometer (MHz-km).

MIC See Media Interface Connector (MIC).

Microfarad (μF) One-millionth of a farad. This is the common unit for designating capacitance in electronics and communications.

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Micron (μm) A micrometer; one-millionth of a meter.

Mil A unit used in measuring diameter of a wire or thickness of insulation over a conductor. One one-thousandth of an inch (.001").

Modal Bandwidth Bandwidth limited by modal dispersion inherent in multimode fiber-optic cable.

Modal Dispersion In multimode fiber the dispersion is caused by modal dispersion. Modal dispersion exists because the different light rays (modes) have a different path length, therefore rays entering at the same time will not leave the fiber at the same time at the other end of the fiber.

Modem A modulator/demodulator unit used for data transmission. It converts digital data into analog tones when transmitting over standard voice-grade telephone lines and reverses this process when receiving.

Modulus of Elasticity The ratio of stress to strain in an elastic material.

Monomer The basic chemical unit used in building a polymer.

Multimedia A means of conveying information with components in different media such as voice, music, text, graphics, image and video.

Multimode Many light rays (modes) propagating through the fiber core.

Multimode Fiber Optical fibers that have a large core and that permit nonaxial rays or modes to propagate through the core. 62.5 micron is the common standard core size for premises cabling systems.

Multiplexing The process of combining multiple signals, usually by time-division multiplexing (TDM) on a high-frequency carrier, to optimize the use of available transmission media.

Multistation Access Unit (MAU) A concentrator or transceiver for attracting nodes to a transmission medium.

Mutual Capacitance Capacitance between two conductors when all other conductors including ground are connected together and then regarded as an ignored ground.

Nano A numerical prefix denoting one-billionth (10^{-9}).

Nanometer (nm) A unit of length in the metric system denoting one-billionth of a meter ($10 \mu\text{m}$).

National Electrical Code A consensus standard published by the National Fire Protection Association (NFPA) and incorporated in OSHA regulations.

NCC See Network Communications Cable (NCC).

Near End Crosstalk (NEXT) Crosstalk that occurs at the same end as the disturbed pair's receiver. Normally, this is the largest contributor of noise because the disturbing pair's transmitted signal is strongest at this point.

NEC See National Electrical Code (NEC).

Network The local and long-distance telecommunications capability provided by common carriers for switch and private line telecommunications services. A system of software and hardware connected in a manner to support data transmission.

Network Communications Cable (NCC) Network Communications Cable, often called NCC, is generally used in the Riser Backbone Subsystem in locations not involving plenums. The cable consists of 24-AWG, annealed-copper conductors insulated with color-coded polyvinyl chloride (PVC) in twisted pairs, encased in an outer PVC jacket whose frictional properties permit it to be pulled in conduit without the aid of lubricants. This type of cabling used to be referred to as Direct Inside Wire (DIW).

Network Interface The point of interconnection between building communications wiring and outside communications lines (telephone company facilities).

Network Interface Cards (NICs) The piece of equipment that is installed into the expansion port of a personal computer and allows communication between the PC and the network.

Network Interface Device (NID) Point of connection between networks.

Network Layer The network layer is layer 3 of the OSI model. This layer sets up an end-to-end connection across a network determining which permutation of individual links to be used. Thus the network layer performs overall routing functions.

NEXT See Near End Crosstalk (NEXT).

nm See Nanometer (nm).

Node(s) A piece of communications equipment on the network.

Noise The term used for spurious signals produced in a conductor by sources other than the transmitter to which it is connected. Noise can affect a legitimate signal to the extent that it is inaccurate or indecipherable when it reaches the receiver. The higher the speed of data transmission, the worse the effects of noise become.

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Numerical Aperture The size of the vertex angle of the largest core of rays that can enter or leave a multimode fiber-optic system, multiplied by the refractive index of the medium in which the vertex of the core is located.

OFHC Abbreviation for Oxygen-Free, High Conductivity copper. It has no residual deoxidant, 99.95% minimum copper content and an average annealed conductivity of 101%.

Ohm A unit of electrical resistance.

Open System Interconnection (OSI) A conceptual model specified by CCITT recommendations in the X200 series. The model describes the 7-layer process of communication between 'co-operating' computers. The model provides a standard for the development of communication protocols allowing for computers of different manufacturers to be interconnected.

Optical Connectors See Fiber-Optic Connectors.

Optical Cross-Connection See Fiber-Optic Cross-Connection.

Optical Fiber A transmission medium consisting of a core of glass or plastic surrounded by a protective cladding. Signals are transmitted as light pulses, introduced into the fiber by a light transmitter i.e. Laser or an LED.

Optical Interconnect See Fiber-Optic Interconnect.

Optical Splice See Fiber-Optic Splice.

Optical Time-Domain Reflectometer (OTDR) An instrument that characterizes cable loss by measuring the backscatter and reflecting of injected light as a function of time. It is useful for estimating attenuation and for locating splices, connections, and breaks.

OSI See Open System Interconnection (OSI).

OTDR See Optical Time-Domain Reflectometer (OTDR).

Outlet Cable Cable extending directly between the telecommunications outlet/connector and the distribution device.

Outlets A term used to describe the sockets provided in the work location of a Structured Cabling System. These are usually 8-pin modular sockets which can support a variety of services e.g., voice, video and data.

Oxygen Index Percentage of oxygen necessary to support combustion in a gas mixture.

PABX Private Automatic Branch Exchange. A private switching system that switches calls both internally within a building or premises and outside to the telephone network.

Packet-Switching A type of exchange or network which conveys a string of information from origin to destination by cutting it up into a number of packets and carrying each independently. A packet-switched effect could be achieved by sending individual pages of a book through the post separately. The receiving device reassembles the message. Thus a direct connection between origin and destination does not exist at any point.

Pair Two wires grouped (usually twisted) together and marked with reciprocal color coding. See also Twisted Pair.

Pair-to-Pair Crosstalk The crosstalk measurement of a single disturbing pair. It can be made for NEXT or FEXT.

Patch Cable A length of cable with connectors on one or both ends to join telecommunications links.

Patch Cord(s) A short length of copper wire or fiber-optic cable with connectors on each end used to join communications circuits as a cross-connect.

Patch Panel(s) A cross-connect designed to accommodate the use of patch cords. It facilitates administration for moves and changes.

Pathway(s) Designated cable routes and/or support structures in a false floor or ceiling.

PBX See Private Branch Exchange (PBX).

PDS See Premises Distribution System (PDS).

Percent Conductivity Conductivity of a material expressed as a percentage of that of copper.

Periodicity The uniformly spaced variations in the insulation diameter of a transmission cable that result in reflections of a signal, when its wavelength or a multiple thereof is equal to the distance between two diameter variations.

Peripheral(s) Additions to a system, a resource e.g., printer, scanner, etc.

Permanent Link The transmission path between two mated interfaces of generic cabling, excluding equipment cables, work area cables and cross-connections.

pF See Picofarad (pF).

PHY Physical layer of the Fiber Distributed Data Interface (FDDI) standard. Also used to refer to the actual hardware used to implement the physical layer (PHY entity).

Physical Layer Layer 1 of the open systems interconnection (OSI) model. The physical layer protocol is the hardware and software in the line terminating device which converts the databits needed by the datalink layer into the electrical pulses, modem tones, optical signals or other means which will transmit the data.

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Physical Topology Physical cabling layout i.e., ring, bus, star wired, etc.

Picofarad (pF) A unit of capacitance used to designate capacitance unbalance between pairs or capacitance unbalance of the two wires of a pair to ground. One picofarad equals one trillionth of a farad.

Pick Distance between two adjacent crossover points of braid filaments. The measurement in picks per inch indicates the degree of coverage.

Pico A numerical prefix denoting one-trillionth (10^{-12}).

Pin A conductor on a plug or connector.

Pitch In flat cable, the nominal distance between the index edges of two adjacent conductors.

Plasticizer A Chemical agent added to plastics to make them softer and more pliable.

Plenum Cable Cable specifically designed for use in a plenum, the space above a suspended ceiling used to circulate air back to the heating or cooling system in a building.

Plug A device used for connecting wires to a jack. It is typically used on one or both ends of equipment cords or on wiring for interconnects or cross-connects.

PMD Physical Medium Dependent part of the Fiber Distributed Data Interface (FDDI) standard. Determines the specifications for the fiber-optic transmitters and receivers, fiber-optic cable, fiber-optic connectors, and fiber-optic bypass switch.

Polymer A material of high molecular weight formed by the chemical union of monomers.

Polyolefin Any of the polymers and copolymers of the ethylene family of hydrocarbons.

Polyvinyl Chloride (PVC) A flame-retardant thermoplastic insulation material that is commonly used in jacks or building cables. Both plenum and riser.

Port The cable terminations in the equipment system at which various types of communications devices, switching equipment, and other devices are connected to the transmission network.

Ports A computer interface capable of transmitting and or receiving information.

Power Sum (or PSum) Crosstalk A crosstalk measurement where the crosstalk from all adjacent disturbing pairs in a cable are mathematically summed to give a combined crosstalk value. It simulates the effects of multiple signals in a multi-pair cable or parallel transmission in a 4 pair cable. It can be made for NEXT, FEXT, or ELFEXT.

Premises Distribution System (PDS) The transmission network inside a building or group of buildings that connects various types of voice and data communication devices, switching equipment, and information management systems together, as well as to outside communications networks. It includes the cabling and distribution hardware components and facilities between the point where building wiring connects to the outside network lines, back to the voice and data terminals into the office or other work locations. The system consists of all the transmissions media and electronics, administration points, connectors, adapters, plugs, and support hardware between the building's side of the network interface and the terminal equipment required to make the system operational.

Presentation Layer Layer 6 of the OSI model. Responsible for identifying the syntax of the data being transmitted.

PRI See Primary Rate Interface (PRI).

Primary Rate Interface (PRI) ISDN standard interface comprising 23 B + 1 D Channel for North America, and 30 B + 1 D Channel for Europe. See Basic Rate Interface (BRI) and Integrated Services Digital Network (ISDN). The North American 1.544 Mb/s T1 (23B + D) or European 2.048 interface (PRI) Mb/s E1 (30B+D) ISDN interface is typically used to connect ISDN PBXs to the public ISDN.

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

Propagation Delay A signal traveling from end to end of a simplex link is delayed in time by an amount equal to the length of cable divided by the velocity of propagation for that transmission medium. This delay is called Propagation Delay.

Proprietary Networks Networks that are not designed, or installed to any standard based guidelines and do not relate specifically to any relevant standards.

Proprietary Systems Systems that are not standards specific and therefore inoperable with standards based equipment.

Protocol(s) A rule of procedure by which computer devices intercommunicate. Thus a protocol is the equivalent of a human language, with punctuation and grammatical rules.

Public Network Interface A point of demarcation between public and private network. In many cases the public network interface is the point of connection between the network provider's facilities and the customer premises cabling.

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Pulling Tension The amount of pull, measured in pounds, placed on a cable during installation.

Punch-Down A method of securing a wire to a wiring terminal. The insulated wire is placed in the terminal groove and pushed down with a special tool. As the wire is seated, the terminal cuts through the insulation to make an electrical connection, and the spring-loaded blade of the tool trims the wire flush with the terminal.

PVC See Polyvinyl Chloride (PVC).

Quad Fiber Cable A type of fiber-optic cable that has four single cables enclosed in an extruded jacket of polyvinyl chloride (PVC), with a rip cord for pulling back the jacket to access the fibers.

Quad shield Four layers of shielding.

RG/U "RG" is the military designation for "Radio Grade" coaxial cable, and "U" stands for "general Utility."

Raceway Any distribution method designed for holding cables, e.g., conduit, metal or plastic trunking, cable trays, etc.

Rack A vertical or horizontal open support, usually made of aluminum or steel, that is attached to a ceiling or wall. Cables are laid in and fastened to the rack.

Rated Temperature The maximum temperature at which an electric component can operate for extended periods without loss of its basic properties.

Rated Voltage The maximum voltage at which an electric component can operate for extended periods without undue degradation or safety hazard.

Redundancy Risers A fail-safe method of splitting and routing riser/ backbone cables via two or more riser cores. Also known as diverse routing.

Reflection Loss The part of a signal which is lost due to reflection of power at a line discontinuity.

Resistance The property of a conductor that determines the current produced by a given potential difference. It impedes the flow of current and results in the dissipation of power as heat. Resistance is measured in ohms.

Return Loss A measure of reflected energy of a transmitted signal due to impedance variations along the length of the cable plus the mismatch of the cable's impedance from a 100 ohm termination. Signal reflections cause insertion loss and can add noise to the circuit.

RI See Ring In (RI).

Ribbon Fiber Cable A cable that accommodates 1 to 12 ribbons, each ribbon having 12 fibers for a cable size range of 12 to 216 fibers. Ribbon cables are designed for use in large distribution systems where small cable size and high pulling strength are important.

Ribbon Riser Cable An optical fiber, nonconductive, riser (OFNR)-rated premises cable containing optical fibers in ribbons.

Ring A closed loop network topology.

Ring In (RI) Port for connecting in multistation access units (MAUs) together.

Ring Out (RO) Port for connecting out multistation access units (MAUs) together.

Riser(s) The term used to describe a space utilized by backbone cabling to house communications cabling and other building services. This space should preferably be specified, or allowed for, at the time of the building design.

Riser Backbone Subsystem The part of a premises distribution system that includes a main cable route and structure for supporting the cable from an equipment room (often in the building basement) to the upper floors, or along the same floor, where it is terminated on a cross-connect in a riser telecommunications closet, at the network interface, or at distribution components of the Campus Backbone Subsystem.

RO See Ring Out (RO).

Rope Lay Conductor A conductor composed of a central core surrounded by one or more layers of helically laid groups of wires.

Router(s) A router can be used to connect networks with similar protocols (802.5 token ring local area networks [LANs]) or dissimilar Open Systems Interconnection (OSI) model protocols (802.5 token ring LANs and X.25 packet-switching networks). Routers are more sophisticated than bridges and can be used to prevent some of the speed mismatch, security, and reliability problems that occur in large networks. An intermediate system between two or more networks capable of forwarding data packets at the network layer (layer 3).

Satellite Cabinet Surface-mounted or flush-type wall cabinets for housing circuit administration hardware. Satellite cabinets, like satellite telecommunications closets/rooms, supplement riser telecommunications closets by providing additional facilities for connecting horizontal cables from information outlets in user work areas. Sometimes referred to as a "satellite location."

Satellite Telecommunications Closet/Room A walk-in or shallow wall closet that supplements a riser telecommunications closet by providing additional facilities for connecting riser backbone cables to horizontal cables from

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information outlets. Also referred to as a "satellite location." See also Telecommunications Closet/Room.

Scalable The ability to adapt to different bit rates.

Screened Cable See Foil Screened Twisted Pair Cable (F/UTP).

Screened Twisted Pair or ScTP A 100 ohm cable with an overall foil shield and drain wire.

Serial Communications See Serial Data Transmission.

Serial Data Transmission Data transmission between computer devices using only a single circuit path. Whole bytes of information (8 bits) are sent in sequential pattern. Compares with parallel transmission. Parallel transmission is often used internally within computing devices because of the higher processing speeds which are possible, but for long-distance telecommunication, serial transmission is more economic in terms of line plant.

Serial Port(s)/Transmission Normally a DB 9 pin connector located on the mother board of a PC. A technique in which each bit of information is sent sequentially on a single channel.

Server(s) Host Computer(s).

Service Entrance See Campus Cable Entrance.

Serving Closet See Satellite Telecommunications Closet/Room.

Session Layer Layer 5 of the OSI model. Responsible for establishment and control of dialogs between users on different machines. Synchronization for reliable data transfer and token management to control use of the connection are services provided by this layer.

Sheath The outer covering or jacket of a multiconductor cable.

Shield In cables, a metallic layer placed around a conductor or group of conductors to prevent electrostatic or electromagnetic interference between the enclosed wires and external fields.

Shield Effectiveness The relative ability of a shield to screen out undesirable radiation. Frequently confused with the term shield percentage, which it is not.

Signal To Noise Ratio (SNR) The ratio of the signal magnitude to the noise magnitude and is usually expressed in dB. The higher the SNR of a system, the better is its performance.

Simplex A transmission means allowing only one direction of transmission. (For example public broadcast radio).

Single-Fiber Cable A plastic-coated optical fiber surrounded by an extruded layer of plastic encased in a synthetic strengthening material, and enclosed in a plastic sheath.

Single-mode Optical fiber with a small core diameter in which only a single-mode is propagated. 8.3 micron is the standard core size.

Skin Effect The phenomenon in which the depth of penetration of electric currents into a conductor decreases as the frequency increases.

Sleeves Short lengths of rigid metal pipe, approximately 4 in (10.1 cm) in diameter, located in riser telecommunications closets/rooms, that allows cables to pass from floor to floor when closets are vertically aligned. Sleeves also provide for easy pulling of cable.

Slots Openings in the floor of riser telecommunications closets/rooms that allow cables to pass through from floor to floor when closets are vertically aligned. A slot accommodates more cables than an individual sleeve.

SNR See Signal to Noise Ratio SNR.

SONET Synchronous Optical Network; provides broadband connectivity for existing networks on a global scale.

Source Routing A bridge uses source routing when the route to be followed is carried within each frame by the source stations. The source station acquires and maintains information by a search process, allowing parallel bridges to exist and to share traffic between the same two rings.

Spark Test A test designed to locate pin-holes in the insulation of a wire or cable by application of a voltage for a very short period of time while the wire is being drawn through the electrode field.

Specific Gravity The ratio of the density (mass per unit volume) of a material to that of water.

Spiral Wrap The helical wrap of a tape or thread over a core.

Splice The physical joining of two or more copper wires or optical fibers to form a common connection.

Star A physical point to point network topology.

Star Physical Topology See Star.

Star Quad A cable element which comprises of four insulated conductors twisted together. Two diametrically facing conductors from a transmission pair.

Star Topology See Star.

ST Connector See Straight-Tip (ST) Connector.

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Storage Area Network (SAN) A high-speed network or subnetwork of shared storage devices.

Straight-Tip (ST) Connector A fiber-optic connector used to join single fibers together at interconnects or to connect them to fiber-optic cross-connects.

Strand A single uninsulated wire.

Stranded Cable A strong woven-copper-wire cable used to support cable in aerial distribution systems. The cable is lashed to the stranded cable during installation.

Stranded Conductor A conductor composed of groups of wires twisted together.

Strip Force The force required to remove a small section of insulation material from the conductor it covers. Usually measured in pounds.

Structured Cabling Flexible cabling scheme which allows rapid reconfiguration for office moves through patching.

Structural Return Loss (SRL) A measure of reflected energy of a transmitted signal due entirely to impedance variations along the length of the cable. Signal reflections cause insertion loss and can add noise to the circuit.

Stud Cable A short cable (usually 25 ft (7.6 m) or less) that extends from a cable terminal, protector, or block and is used to make connections to such devices.

Support Hardware The racks, clamps, cabinets, brackets, trays, tools, and other equipment that provide the physical means to attach the transmission media and connecting hardware to walls or ceilings.

Surface Resistivity The resistance of a material between two opposite sides of a unit square of its surface. It is usually expressed in ohms.

Surge A sudden voltage rise and fall in an electrical circuit.

Sweep Test Pertaining to cable, checking frequency response by generation of an rf voltage whose frequency is varied back and forth through a given frequency range at a rapid constant rate and observing the results of an oscilloscope.

Switching A function carried out by a switching hub, alleviating traffic by making virtual connections between transmitting and receiving nodes.

Synchronization The method by which the bit patterns appearing on digital line systems may be properly 'clocked' and interpreted — allowing the beginning of particular patterns and frame formats to be correctly identified.

Synchronous Signals that are sourced from the same timing reference and hence are identical in frequency.

Synchronous Data Transfer Data transfer employing a strictly regular pattern, rather than using start and stop bits to distinguish character patterns from idle line operation.

System-Common Equipment The equipment on a premises that provides functions common to terminal devices such as telephones, data terminals, integrated workstations terminals and personal computers. Typically, the system-common equipment is the private branch exchange (PBX) switch, data packet switch, or central host computer. Often called common equipment.

Tape Wrap A spirally applied tape over an insulated or uninsulated wire.

TCP/IP See Transport Control Protocol/Internet Protocol (TCP/IP).

Tear Strength The force required to initiate or continue a tear in a material under specified conditions.

Telecommunications A branch of technology concerned with the transmission, emission, and reception of signs, signals, writing, images and sounds; that is, information of any nature by cable, radio, optical or other electromagnetic systems.

Telecommunications Closet/Room An enclosed space for housing telecommunications equipment, cable terminations, and cross-connect cabling. The telecommunications closet/room is a recognized cross-connect point between the backbone and horizontal cabling subsystems. See also Satellite Telecommunications Closet/Room.

Telecommunication Outlet (TO) Point of connection for devices (TV, computer, fax, etc.) mounted within a wall, floor or ceiling.

Tensile Strength The pull stress required to break a wire/cable.

Terminal Block A protected or unprotected unit of wiring blocks, connecting blocks, and troughs that serves as a transition point between cable conductors.

Tetra A numerical prefix denoting one quadrillionth (10^{-15}).

Thermoplastic A plastic material that softens and flows when heated and becomes firm when cooled. This process can be repeated.

Thermoset A plastic material that is crosslinked by a heating process known as curing. Once cured, thermosets cannot be reshaped.

Thick Coax The transmission medium used for Ethernet or IEEE 802.3 10BASE5 LANs. It is a 50 ohm thick coax cable (commonly referred to as the thick yellow cable).

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Thin Coax The transmission medium used for IEEE 802.3 10BASE2 LANs (sometimes referred to as CheaperNet). It is a 50 ohm thin coax cable.

TIA/EIA North American Standards Organization.

TIA/EIA 568A or B North American Commercial Building Telecommunications Wiring Standard.

TIA/EIA 569 North American Commercial Building Standard for Telecommunications Pathways and Spaces. Its purpose is to standardize specific design and construction practices within and between buildings which are in support of telecommunications media and equipment.

TIA/EIA 606 North American Administration Standard for the Telecommunications Infrastructure of Commercial Buildings. Its purpose is to provide guidelines for a uniform administration scheme for the cabling infrastructure.

Token A special data sequence that is continuously sent around the ring. The term "token" represents permission to transmit from one station to its downstream neighbor.

Token Ring A data link protocol type which implements media access control (MAC) by the circulation of a token around a complete ring network. Each station in the ring sequentially receives the opportunity to send data on the network as the token is passed around the network.

Token Ring LAN A 4 or 16 Mb/s LAN standard based on token passing access protocol originally developed by IBM. Sometimes referred to as IEEE 802.5 or ISO 8802-5 standard.

Topology The physical or electrical configuration of a local communications network (that is, the shape or arrangement of the system). The most common distribution system topologies are the bus, ring, and star.

TP-PMD Twisted Pair Physical Medium Dependent. A twisted pair version of the FDDI standard that allows 100 Mb/s transmission over Category 5 copper cable.

Transducer A sensing device that converts a signal from one form to another e.g., mechanical to electrical.

Transition Point A location in the horizontal cabling where a change of cable form takes place.

Transmission Cable Two or more transmission lines. If the structure is flat, it is sometimes called Flat Transmission Cable to differentiate it from a round structure such as a jacketed group of coaxial cables.

Transmission Distance The actual length of the path from the transmitter of one node to the receiver of the next downstream node. The maximum transmission distance is determined by the maximum signal loss (attenuation limit) that can be withstood between any transmitter and receiver.

Transmission Media The various types of copper wire and fiber-optic cable used for transmitting voice, data, or video signals.

Transport Control Protocol/Internet Protocol (TCP/IP) A common network layer and transport layer data networking protocol.

Transport Layer Layer 4 of the OSI model. The transport layer provides for end-to-end data relaying service across any type of data network and is responsible for end-to-end reliability.

Tray A cable tray system is a unit or assembly of units or sections, and associated fittings, made of metal or other noncombustible materials forming a rigid structural system used to support cables. Cable tray systems (previously termed continuous rigid cable supports) including ladders, troughs, channels, solid bottom trays, and similar structures.

Triaxial Cable A cable construction having three coincident axes, such as conductor, first shield and second shield all insulated from one another.

Trunk A communication link between two switching systems. The term switching typically includes equipment in a central office (or the telephone company) and PBXs. A tie trunk connects PBXs. Central office trunks connect a PBX to the switching system at the central office. See also Private Branch Exchange (PBX).

Twinaxial Cable (TWINAX) Two insulated conductors inside a common insulator, covered by a metallic shield and enclosed in a cable sheath.

Twisted Pair(s) Two insulated copper wires twisted together. The twists, or lays, are varied in length to reduce the potential for signal interference between pairs. In cables greater than 25 pairs, the twisted pairs are grouped and bound together in a common sheath. Twisted pair is the most common type of transmission media.

Twisted Pair - Physical Media Dependent (TP-PMD) A Fiber Distributed Data Interface (FDDI) 100 Mb/s LAN standard that was adopted for twisted pair cable.

UHF Abbreviation for Ultra High Frequency, 300 to 3,000 MHz.

UL Abbreviation for Underwriters Laboratories, a nonprofit independent organization, which operates a listing service for electrical and electronic materials and equipment.

Unshielded Twisted Pair Cable Normal copper building cable, capable of high-speed data transmission. (U/UTP) Techniques exist to address the signal impairments due to the transmission characteristics of copper media and to limit the radiated emission of U/UTP media.

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U/UTP See Unshielded Twisted Pair (U/UTP).

Velocity of Propagation The speed of an electrical signal down a length of cable compared to speed in free space expressed as a percent. It is the reciprocal of the square root of the dielectric constant of the cable insulation.

VHF Abbreviation for Very High Frequency, 30 to 300 MHz.

VSAT Abbreviation for Very Small Aperture Terminal, a small data satellite dish.

Video Conferencing Real time communications via video between two or more users at separate locations.

Video Pair Cable A transmission cable containing low-loss pairs with an impedance of 125 ohms. Used for TV pick ups, closed circuit TV, telephone carrier circuits, etc.

Volt A unit of electromotive force.

Voltage Rating The highest voltage that may be continuously applied to a wire in conformance with standards or specifications.

Voltage Standing Wave Ratio (VSWR) The ratio of the maximum effective voltage to the minimum effective voltage measured along the length of a mis-matched radio frequency transmission line.

VSWR Abbreviation for voltage standing wave ratio.

VW-1 A flammability rating established by Underwriters Laboratories for wires and cables that pass a specially designed vertical flame test, formerly designed FR-1.

W See Watt (W).

Wall Thickness The thickness of the insulation or jacket.

WAN See Wide Area Network (WAN).

Watt A unit of power equal to one joule per second.

Wave Length The distance, measured in the direction of propagation, of a repetitive electrical pulse or waveform between two successive points that are characterized by the same phase of vibration.

Wide Area Network (WAN) Any physical network technology that spans large geographic distances. WANs usually operate at slower speeds and have higher delays than local area networks (LANs).

Windows Graphics based operating system developed by Microsoft.

Wire A conductor, either bare or insulated.

Wireless LANs Local area network that communicates using radio technology.

Wiring Block A molded plastic block that is designed in various pair configurations to terminate cable pairs and establish pair location on 110 Connector Systems.

Wiring Closet See Telecommunications Closet/Room.

Work Area A building space where the occupants interact with telecommunications terminal equipment. A user's work area which is typically 9 sq. meters or 100 sq. ft.

Work Area Cable A cable connecting the telecommunications outlet to the terminal equipment.

Work Area Subsystem The part of a distribution system that includes the equipment and extension cords from the information outlet to the terminal device.

X.25 A communication architecture developed by the International Telegraph and Telephone Consultative Committee (CCITT).

Zone Method A ceiling distribution method in which ceiling space is divided into sections or zones. Cable is then run to the center of each zone to serve the information outlets nearby.

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