

NETWORK SYSTEMS GROUP



Application/Specification Guide

PAN-WAY[™] Twin-70 Surface Raceway System

PAN-WAY[™] Twin-70 Surface Raceway is an aesthetically pleasing multi-channel raceway that provides separate covers for communications and power cabling channels. Fittings have been designed to maintain the TIA/EIA required 1[™] minimum bend radius of Category 5 and Fiber Optic cabling. The raceway is tamper resistant to the end user yet allows easy access to the installer for moves, adds and changes.

Twin-70 raceway is optimized for use with the **PAN-NET**[™] Network Cabling System to provide a totally integrated horizontal cabling solution for Category 5 UTP, ScTP, Coax, Fiber Optic and Power Cabling Systems.

FeaturesAdvantages &Benefit

Separate Covers Throughout the System (including the fittings)	Maintains complete separation of power and data cabling systems	Provides maximum safety during installation and for moves, adds, and changes
1" Bend Radius Control Fit- tings	Cables in the raceway won't exceed the minimum 1" bend radius requirement and degrade performance	Maximizes headroom of high performance cabling systems, such as Gigabit Ethernet, Fast Ethernet, Fiber, and ATM
	Meets TIA/EIA Standards	Meets many warranty requirements
Snap-on Faceplates NO BOXES REQUIRED	Faceplates snap directly onto the raceway base eliminat- ing the many parts (i.e. junction boxes, brackets, etc) normally required to mountcommunication connectors	Lowers the overall installed cost and the number of parts to inventory & buy
	Cabling can be quickly accessed by removing only one faceplate, unlike many current systems which require the removal of many parts	Speeds moves, adds, and changes. Requires less labor and lowers the cost of maintenance
Each channel has a 70mm opening	Accepts any NEMA standard power or communication faceplates	Works with other manufacturers' power and communication faceplates
UL-5A Listed	Meets the latest UL Listing requirements & can be used for power cabling up to 600V	Maximum safety for power systems, including tamper and impact resistance
Highly tamper resistant	Is very difficult for untrained personel to enter the race- way or remove faceplates	Provides maximum security for the communication cabling and maximum safety for the power cabling
Non-Metallic Construction	Lightweight	Reduces installer fatigue. Allows for one person installation, reducing labor required to install the raceway
	Solid Color throughout	Will not chip, peel, rust or corrode. Masks scratches
	Easy to cut with standard saws and saw blades	Reduces installed cost and the need for special cutting devices
	High impact resistance	Extremely durable for a long life
	Easy to cut with standard saws and saw blades	Reduces installed cost and the need for special cutting devices
Designer Profile	Aesthically pleasing	Applications vary from the classroom to the executive office
Available in 4 standard colors	Matches a wide variety of decors	1

PANDUIT[°] *PAN-WAY*[™] Twin-70 Surface Raceway Components

Drawing / Dimensions	Part Number	Color	Description
Twin-70 Raceway Base x = 7.23" (183.6mm) y = 1.77" (45.0mm)	T702BIW8 T702BEI8 T702BIG8 T702BWH8	Off White Elec. Ivory Light Gray White	Raceway base for Twin-70 raceway. Supplied in eight (8) foot lengths. NOTE: When ordering ten (10) foot lengths insert 10 instead of 8 in the part number.
x Twin-70 Raceway Cover x = 2.76" (70.0mm)	T702CIW8 T702CEI8 T702CIG8 T702CWH8	Off White Elec. Ivory Light Gray White	Tamper resistant raceway cover for use with Twin- 70 raceway base. Supplied in eight (8) foot lengths. Two (2) feet of cover is required per one (1) foot of base. NOTE: When ordering ten (10) foot lengths insert 10 instead of 8 in the part number.
Twin-70 Base Coupling	T70BCIW-X T70BCEI-X T70BCIG-X T70BCWH-X	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway base. Used to join two pieces of Twin-70 base together. Standard package quantity of 10.
T-70 Cover Coupler	T70CCIW-X T70CCEI-X T70CCIG-X T70CCWH-X	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway cover. Used to join two pieces of Twin-70 cover together. Standard package quantity of 10.
a = 3.74° (95.0mm) b = 1.87° (47.5mm) c = 7.51° (190.8mm) d = 3.00° (76.2mm) e = 3.00° (76.2mm)	T702ICIW T702ICEI T702ICIG T702ICWH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to join Twin-70 raceway at inside corners. Maintains minimum 1" bend radius of cabling. Standard package quantity of 1.
Outside Corner Fitting a = 7.51* (190.8mm) b = 4.80* (121.9mm) c = 3.88* (98.6mm)	T7020CIW T7020CEI T7020CIG T7020CWH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to join Twin-70 raceway at outside corners. Maintains minimum 1" bend radius of cabling. Standard package quantity of 1.
a Right Angle Fitting a = 9.46" (240.3mm) b = 8.48" (215.4mm)	T702RAIW T702RAEI T702RAIG T702RAWH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to join sec- tions of Twin-70 raceway to make horizontal 90° right angles. Maintains minimum 1" bend radius of cabling. Standard package quantity of 1.
a = 1.97° (50.0mm) b = 1.25° (31.8mm) c = 1.86° (47.2mm)	T702ECIW T702ECEI T702ECIG T702ECWH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to terminate or to enter the raceway. Includes breakouts for ½" conduit. Standard package quantity of 1.
a = 3.28° (83.8mm) b = 6.66° (169.2mm) c = 5.56° (141.2mm)	T702EEIW T702EEEI T702EEIG T702EEWH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to enter the raceway through conduit. Includes ½", ¾", 1", 114" and 1½" concentric conduit breakouts. Maintains minimum 1" bend radius of cabling. Standard package quantity of 1.

PANDUIT[®] **PAN-WAY**[™] Twin-70 Surface Raceway Components

Drawing / D	imensions	Part Number	Color	Description
	Tee Fitting a = 11.95" (303.5mm) b = 9.91" (251.7mm) c = 9.79" (248.7mm) d = 5.07" (128.8mm) e = 9.82" (249.4mm) f = 8.68" (220.5mm)	T702TIW T702TEI T702TIG T702TWH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to join sections of Twin-70 raceway to form a "tee" junction. Main- tains minimum 1" bend radius of cabling. Standard package quantity of 1.
	Transition Fitting a = 6.98" (177.3mm) b = 7.22" (183.4mm) c = 9.00" (228.6mm)	T702TRIW T702TREI T702TRIG T702TRWH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to transition from Twin-70 raceway to an undivided T-70 raceway. Standard package quantity of 1.
	Transition Fitting a = 9.00" (228.6mm) b = 6.98" (177.3mm) c = 7.22" (183.4mm)	T702TRLIW T702TRLEI T702TRLIG T702TRLWH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to transition from Twin-70 raceway to an undivided LD Profile raceway. Standard package quantity of 1.
a a b	Transition Fitting Insert a = 6.95" (176.5mm) b = 3.62" (91.9mm)	T702TRI	Light Gray	For use with T702TR or T702TRL fittings. Used to transition from Twin-70 raceway to divided T-70 or LD2P10 raceway. Standard package quantity of 1.
y x	Divider Wall x = 0.75° (19.1mm) y = 1.34° (34.0mm)	T70DW8	Light Gray	Snaps onto rails in raceway base to create separate channels. Supplied in eight (8) foot lengths.
the second se	Wire Retainer	T70WR-X	Light Gray	Holds wires in place. Will not interfere with cover installation. To add wire or cable, simply remove cover and loosen one side of retainer. Standard package quantity of 10.
	Device Bracket	T70DB-X	Light Gray	Used to quickly mount NEMA standard electrical receptacles (including GFCI) and screw mount com- munications faceplates inTwin-70 raceway. Standard packagequantity of 10.

	PAN-WAY ™ Tw	in-	70 F	Raceway — Technical Data
Material	Rigid PVC	CO	LOR	CHOICES: Colors shown are approximate.
Flammability	UL94V-0	Off \	IW White	Off White (IW) —Matches International White color standard RAL9001
Voltage Rating	UL-5A 600VAC CSA 22.2 No. 62-93 300VAC	Elec.	El Ivory	Electrical Ivory (EI)—Matches NEMA and Lucent Electrical ivory color
Approvals	UL Listed E95425 (raceway) UL Listed E116129 (fittings)	Lt.	IG Gray	Light Gray (IG)—Matches International Gray color standard RAL7030
NEC	Article 352B	W	WH nite	White (WH)—Panduit standard bright white color

PANDUIT[®] **PAN-WAY**[™] Twin-70 Surface Raceway Components

Drawing / Dimensions	Part Numbe	r Color	Description
a b c c Snap-On Beze a = 2.75" (69.9mm) b = 3.80" (96.5mm) c = 4.50" (114.3mm)	T70BH1IW T70BH1EI T70BH1IG T70BH1WH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to mount a sin- gle 1/2 style insert on Twin-70 raceway in a horizon- tal run. Standard package quantity of 1.
a b c c Snap-On Beze a = 2.75" (69.9mm) b = 3.80" (96.5mm) c = 4.50" (114.3mm)	T70BH2IW T70BH2EI T70BH2IG T70BH2WH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to mount two 1/2 style insert on Twin-70 raceway in a horizontal run. Standard package quantity of 1.
a b c c Snap-On Beze a = 2.75" (69.9mm) b = 3.80" (96.5mm) c = 4.50" (114.3mm)	T70B1IW T70B1EI T70B1IG T70B1WH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to mount a sin- gle 1/2 style insert on Twin-70 raceway in a vertical run. Standard package quantity of 1.
a b c c Snap-On Beze	T70B2IW T70B2EI T70B2IG T70B2WH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to mount two 1/2 style insert on Twin-70 raceway in a vertical run. Standard package quantity of 1.
a = 2.75" (69.9mm) b = 3.80" (96.5mm) c = 4.50" (114.3mm)	T70PGIW T70PGEI T70PGIG T70PGWH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to mount rect- angular electrical outlets on Twin-70 raceway. Standard package quantity of 1.
a = 2.75" (69.9mm) b = 3.80" (96.5mm) c = 4.50" (114.3mm)	2 T70PIW T70PEI T70PIG T70PWH	Off White Elec. Ivory Light Gray White	For use with Twin-70 raceway. Used to mount duplex electrical outlets on Twin-70 raceway. Standard package quantity of 1.

Installation of Faceplates into TWIN-70 Raceway



Snap the device bracket into the slot on the raceway wall and then into the slot on the divider wall. Install the electrical outlet onto the device bracket.

Snap-on the electrical faceplate over the electrical outlet, and snap-on the communication faceplate over the data channel. Complete the installation by snapping in the **MINI-COM**[®] Inserts for your voice and data communication requirements.

Fill Capacities for Twin-70 Raceway

This information is to be used as a guide in selecting the proper size raceway. The maximum amounts may vary according to the wire installation methods, straightness of wires, etc.



Wirefill #3: Data Only using Device Bracket & "Screw-On" Faceplates Includes: Device Bracket, CB Vertical Screw-On Faceplate, Sloped Insert and Modules Wirefill #4: Power using Device Bracket & "Screw-On" Faceplates Includes: Device Bracket, CP Faceplate, Standard Duplex Electrical Outlet



Fill Capacities for Twin-70 Raceway

This information is to be used as a guide in selecting the proper size raceway. The maximum amounts may vary according to the wire installation methods, straightness of wires, etc.

SPEC=40% wirefill—the recommended design in cable capacity. Leaves room for future moves, adds and changes

MAX=60% wirefill—the maximum cable quantity based on cable interweaving and packing factors or UL temperature rise test for electrical

Fill Capacity Table for: •Electrical •Voice Grade 24 AWG UTP •Data Grade 24 AWG UTP															
		Elect	rical C	ables		Voi	ce Gra	de Cab	les		Data Grade Cables				
Raceway Channel	_		AWG			24 A	WG UT	P CM/	CMR		24	4 AWG	UTP C	М	
	See Wirefill	14	12	10	2	pr	3	pr	4	or	25	pr	Cat.	5 4 pr	
Configurations	#	TI	HHN/TS	90	DIA.=	0.120	DIA.=	0.150	DIA.=	0.190	DIA.=	0.422	DIA.=	=0.217	
		0.105	0.122	0.153	FI	LL	FILL		FII	L	FI	LL	FILL		
		MAX	MAX	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	
Wirefill #1: Power & Data No Terminations	1A	n/a	n/a	n/a	73	109	46	70	29	43	6	9	22	33	
wirenn #1: Power & Data No Terminations	1B	16	16	15	51	76	32	49	20	30	4	6	15	23	
Wirefill #2: One Twin-70 Channel with No Devices	2	n/a	n/a	n/a	162	244	104	156	65	97	13	20	50	75	
Wirefill #3: Data Only using Device Bracket &Screw-On Faceplates	3	_	_	_	110	165	70	106	44	66	9	13	34	50	
Wirefill #4: Power using Device Bracket & Screw-On Faceplates	4	15	13	13	117	176	75	113	47	70	9	14	36	54	
Wirefill #5: Data Only using Snap-On Faceplates	5	_	_	_	146	220	94	141	58	88	12	18	45	67	
Wirefill #6: TVSS Power Outlet using Device Bracket & Snap-On Faceplate	6	16	16	14	82	124	53	79	33	49	7	10	25	38	

Fill Capacity Table for: •Data Grade 22 AWG UTP •Data Grade 24, 22 AWG STP • 1A STP

		Data Grade Cables													
	See Wirefill	1	24 AWG	STP CN	1	:	22 AWG	UTP CN	1	22 AWG STP CM				1A	
Raceway Channel Configurations		25	pr	4 pr		25 pr		4 pr		25 pr		4 pr		22 AWG	
	#	DIA.=	0.512	DIA.=	0.250	DIA.=	0.544	DIA.=	0.234	DIA.=	0.635	DIA.=	0.286	STP CM	
		FI	LL	FI	LL	FII	LL	FII	L	FI	LL	FI	LL	FI	LL
		SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX
Wirefill #1: Power & Data No Terminations	1A	4	6	17	25	4	5	19	29	3	4	13	19	6	8
	1B	3	4	12	17	2	4	13	20	2	3	9	13	4	6
Wirefill #2: One Twin-70 Channel with No Devices	2	9	13	37	56	8	12	43	64	6	9	29	43	13	19
Wirefill #3: Data Only using Device Bracket & Screw-On Faceplates	3	6	9	25	38	5	8	29	43	4	6	19	29	9	13
Wirefill #4: Power using Device Bracket & Screw-On Faceplates	4	6	10	27	41	6	9	31	46	4	6	21	31	9	14
Wirefill #5: Data Only using Snap-On Faceplates	5	8	12	34	51	7	11	39	58	5	8	26	39	11	17
Wirefill #6: TVSS Power Outlet using Device Bracket & Snap-On Faceplate	6	5	7	19	28	4	6	22	33	3	4	15	22	6	10

Fill Capacities for Twin-70 Raceway

This information is to be used as a guide in selecting the proper size raceway. The maximum amounts may vary according to the wire installation methods, straightness of wires, etc.

SPEC=40% wirefill—the recommended design in cable capacity. Leaves room for future moves, adds and changes

MAX=60% wirefill—the maximum cable quantity based on cable interweaving and packing factors or UL temperature rise test for electrical

Fill Capacity Table for: •Coax Cables												
		Coax Cables RG6/u RG11/u RG58/u RG59/u RG62A/u										
Raceway Channel	See Wirefill		RG6/u DIA.=0.270		RG11/u DIA.=0.405		0.193	DIA.=			0.24/u	
Configurations	#	FILL		FILL		FII		FII			LL	
		SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	
Wirefill #1: Power & Data No Terminations	1A	14	21	6	10	28	42	18	27	18	27	
WITEIII #1. FUWER & Data NU TERIIIIations	1B	10	15	4	7	20	29	12	19	12	19	
Wirefill #2: One Twin-70 Channel with No Devices	2	32	48	14	21	63	94	40	60	40	60	
Wirefill #3: Data Only using Device Bracket & Screw-On Faceplates	3	22	33	10	14	43	64	27	41	27	41	
Wirefill #4: Power using Device Bracket & Screw-On Faceplates	4	23	35	10	15	45	68	29	43	29	43	
Wirefill #5: Data Only using Snap-On Faceplates	5	29	43	13	19	57	85	36	54	36	54	
Wirefill #6: TVSS Power Outlet using Device Bracket & Snap-On Faceplate	6	16	24	7	11	32	48	20	30	20	30	

Fill Capacity Table for: •Fiber Optic Cable (62.5/125mm) •Signal Cables															
		F	iber Op	tic Cabl	es (62.5	/125mm	I)	Signal Cables							
Baseway Channel	See	2 St	rand	4 St	rand	6 Sti	rand	18A	WG	20 A	AWG	22 A	WG	24 /	AWG
Raceway Channel Configurations	Wirefill	DIA.=	0.175	DIA.=	0.175	DIA.=	0.210	DIA.=	0.066	DIA.=	0.057	DIA.=	0.050	DIA.=	0.044
	#	FI	LL	FI	LL	FII	L	FII	L	FII	LL	FI	LL	FI	LL
		SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX	SPEC	MAX
Wirefill #1: Power & Data No Terminations	1A	34	51	34	51	24	36	240	360	322	482	418	627	540	809
	1B	24	36	24	36	17	25	167	251	224	336	291	437	376	565
Wirefill #2: One Twin-70 Channel with No Devices	2	76	115	76	115	53	80	537	805	720	1080	936	1403	1208	1812
Wirefill #3: Data Only using Device Bracket & Screw-On Faceplates	3	52	78	52	78	36	54	364	546	488	732	634	951	819	1228
Wirefill #4: Power using Device Bracket & Screw-On Faceplates	4	55	83	55	83	38	58	388	583	521	781	677	1015	874	1311
Wirefill #5: Data Only using Snap-On Faceplates	5	69	103	69	103	48	72	484	726	649	974	844	1266	1090	1634
Wirefill #6: TVSS Power Outlet using Device Bracket & Snap-On Faceplate	6	39	58	39	58	27	40	273	409	365	548	475	712	613	920

Raceway Cutting Instructions:

For small quantities, use a fine tooth handsaw. For larger quantities use a plastic cutting saw blade for clean burr-free cuts. Recommend: *Carbide 80T or 100T;.090" thickness,.125" kerf.*



PAN-WAY[™] Twin-70 Surface Raceway System is part of a complete line of PANDUIT Surface Raceway Products



PAN-WAY Surface Raceway System SA101N60A



Wiring Duct and Fiber Optic Duct System SA101N64B



Condensed Full Line Electrical Catalog SA101N13J

Our products are warranted to be free from defects in material and workmanship at the time of sale but our obligation under this warranty is limited to the replacement of any product proved to be defective within 6 months (for product) or 90 days (for tools) from the date of delivery. Tool warranty is void if Panduit tools are modified, altered or misused in any way. Use of Panduit tooling with any product other than the specified Panduit products for which the tool was designed, constitutes misuse. Before using, user shall determine the suitability of the product for his intended use and user assumes all risk and liability whatsoever in connection therewith. This warranty is made in lieu of and excludes all other warranties, expressed or implied. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE ARE SPECIFICALLY EXCLUDED. Neither seller nor manufacturer shall be liable for any other injury, loss or damage, whether direct or consequential, arising out of the use of, or the inability to use, the product. The information contained in this literature is based on our experience to date and is believed to be reliable. It is

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 Panduit Corp.
 Pand

 17301 Ridgeland Avenue
 Div. of

 Tinley Park, IL 60477-3091
 140 Å

 Phone: 800-777-3300, Ext. 8287
 Mark

 FAX: 815-836-1811
 Phore

 Internet: INFO@PANDUIT.COM
 FAX:

 Website: http://www.panduit.com
 WORLDWIDE SUBSIDIARIES AND SALES OFFICES

Panduit Canada Div. of Panduit Corp. 140 Amber Street Markham, Ontario L3R 3J8 Phone: 800-387-9689 FAX: 905-475-6998

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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный) **Факс:** 8 (812) 320-02-42 **Электронная почта:** <u>org@eplast1.ru</u> **Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.