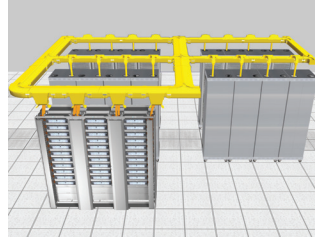


# FiberRunner® 4x4 Routing System

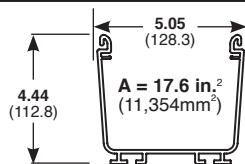
## specifications

The 4x4 routing system shall be a system of channel, fittings, and brackets designed to segregate, route, and protect fiber optic and high performance copper cabling. Channel and fittings shall be assembled using pre-assembled couplers. A selection of spillout options shall be available that easily attach using the vertical tee. Fittings maintain a minimum 2" bend radius to protect against signal loss due to excessive cable bends. Available system colors shall be yellow and black. A full complement of brackets shall be available for attaching system components to ladder rack, threaded rod, auxiliary framing, strut, equipment racks, cabinets, and raised floor pedestals.



## technical information

Dimensions are in inches  
(Dimensions in parentheses are metric)



	Cable	No. of Cables
<b>Open channel</b> <b>50% fill capacity:</b> <b>(2" pile up)</b>	1.6mm	2824
	2.0mm	1807
	3.0mm	803
Fiber Optic Ribbon Interconnect		
Category 6	5.20mm	267
Category 6A	6.35mm	179
	7.57mm	126
<b>Material:</b>	Rigid PVC (Channel), ABS (Fittings)	
<b>Flammability:</b>	94V-0	
<b>Approvals:</b>	UL Listed to 2024A Optical Fiber Cable Routing Assemblies Compliant with the applicable tests in Telcordia GR-63-CORE Network Equipment Building Systems Level 3	
<b>CSI Spec Form:</b>	LP-CSISPEC-FR	

## key features and benefits

<b>Fastest installations</b>	No bolts need to be tightened and no tools are required when installing the QuikLock™ Coupler; QuikLock™ Couplers and Brackets take less than five seconds to make a mechanically secure connection
<b>Easy to maintain</b>	Hinged channel cover installs easily and fully encloses the channel for cable protection; split hinged channel cover creates radiused 3/4" (19mm) opening for easy access to add or remove cables; the 4x4 hinged and split hinged channel covers will stay open between 30° and 90° to allow cable access even in height restricted areas  Split fitting covers allow cable to be laid in without removing the fitting cover; the covers are also designed to prevent cables from coming out of the channel as cable is pulled through  Hinged channel cover and split fitting covers protect cabling and provide fast and easy access for future cabling moves, adds, and changes
<b>System strength</b>	Robust system of channel, covers, fittings and other non-metallic system components protect cable from physical damage; system includes full range of directional and spillout fittings
<b>Versatility</b>	Multiple spill out options include spill-over fittings and the vertical tee accepts a three-sided trumpet, transition to corrugated tubing and Panduit® FiberRunner® Systems and Fiber-Duct™ Systems
<b>Cable protection</b>	A minimum 2" bend radius maintained throughout all fittings prevents excessive bends in fiber optic cabling

## applications

The FiberRunner® 4x4 Routing System is a system of channel, fittings and brackets designed to segregate, route, and protect fiber optic and high performance copper cabling. It is suited for data center applications where cable is routed from distribution areas to equipment cabinets or racks. It is used in Telco Central Offices to route fiber optic jumper cables between fiber distribution frames and equipment bays. It can be deployed over the racks or in approved under floor applications. Channel and fittings are assembled using timesaving Panduit® QuikLock™ Couplers. A selection of spillout options is available that easily attach using the vertical tee.

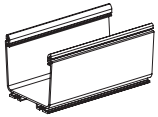
Fittings maintain a 2" bend radius to protect against signal loss due to excessive cable bends. Available system colors are yellow and black to differentiate various types of cabling. A full complement of QuikLock™ Brackets is available to attach system components to support structures found in all applications. The FiberRunner® 4x4 Routing System is part of the Panduit complete fiber distribution system, which includes the FiberRunner® 24x4, 12x4, 6x4, and 2x2 Routing Systems, the Fiber-Duct™ 4x4 and 2x2 Routing Systems, Wyr-Grid™ Overhead Cable Tray System, cable management, and racks.

<b>Channel and Cover</b>	
4x4 channel (6'):	FR4X4**6
4x4 hinged cover (6'):	FRHC4**6
4x4 split hinged cover (6'):	FRSHC4**6
Cable retainer:	FRCR4BL-X
<b>Fittings, Split Covers, and Spillouts</b>	
QuikLock™ Coupler:	FRBC4X4**
Horizontal right angle:	FRRA4X4**
Right angle cover:	FRRASC4**
Horizontal 45°:	FRH454X4**
Horizontal 45° cover:	FRH45SC4**
Horizontal tee:	FRT4X4**
Horizontal tee cover:	FRTSC4**
4-way cross:	FRFWC4X4**
4-way cross cover:	FRFWCSC4**
End cap:	FREC4X4**
Inside vertical 90°:	FRIVRA4X4**
Inside vertical 45°:	FRIV454X4**
Outside vertical 45°:	FROV454X4**
Outside vertical 45° cover:	FROV45SC4**
Outside vertical 90°:	FROVRA4X4**
Outside vertical 90° cover:	FROVRASC4**
6x4 to 4x4 FiberRunner® Reducer Fitting:	FRRF6FR4**
6x4 to 4x4 FiberRunner® Reducer Fitting Cover:	FRRF6FR4SC**
4" FR to 2" FD:	FRRF4FD2**
4" FR to 4" FD:	FRRF4FD4**
Adapter to ADC 4x4 FiberGuide*:	FRADC4X4BL
QuikLock™ Vertical Tee:	FRVT4X4**
Three-sided vertical tee trumpet spillout:	FTR4X4**
2-port spillout to 1.5" I.D. corrugated tubing:	FIDT4X4BL
4x4 hinged duct vertical cable manager kit:	FRHD4KT**
4x4 hinged duct bend radius control trumpet:	TRC4HDBL
Low profile reducer 4x4 to 2x2 for vertical tee:	FRLPR42BL
Spill-over with 2x2 exit:	FRSPJ2X2**
2x2 exit for 4x4 system:	FRSPJC2X4**
2x2 Three-sided trumpet:	FTR2X2**
1-port spillout to 1.5" I.D. corrugated tubing:	FIDT2X2**
2x2 hinged duct vertical cable manager kit:	FRHD2KT**
2x2 FiberRunner® Bend Radius Control Trumpet:	TRC2HDBL
Hinged channel 1" bend radius control trumpet:	TRC2HDBL
Spill-over with 4x4 exit:	FRSPJ4X4**
Spill-over cover with 4x4 exit for 4x4 system:	FRSPJC44**
4x4 Three-sided trumpet:	FTRTR4X4**
2-port spillout to 1.5" I.D. corrugated tubing:	FRIDT4X4**
1-port spillout to 1.5" I.D. corrugated tubing:	FR1.5IDE**
4x4 up spout:	FRUPS4X4**
<b>QuikLock™ Mounting Brackets</b>	
QL existing 1/2" thr rod bracket:	FR6TRBE12
QL existing 5/8" thr rod bracket:	FR6TRBE58
QL New 1/2" thr rod bracket:	FR6TRBN12
QL New 5/8" thr rod bracket:	FR6TRBN58
QL underfloor bracket:	FR6USB
QL adjust ladder rack bracket:	FR6ALB
QL center support bracket 1/2":	FR6CS12
QL center support bracket 5/8":	FR6CS58
QL adjust C-bracket 1/2":	FR6ACB12
QL adjust C-bracket 5/8":	FR6ACB58
QL trapeze 3/8" bracket:	FR6TB38
QL trapeze 1/2" bracket:	FR6TB12
Two-piece ladder rack bracket 1/2" threaded rod:	F2PCLB12
Two-piece ladder rack bracket 5/8" threaded rod:	F2PCLB58
QL ladder rack bracket:	FR6LRB
QL "L" wallmount bracket:	FR6LB
QL NetFrame™ Rack Mount Bracket:	FR6RMBN58
QL adjust cabinet mount bracket:	FR6ACAB
Two-piece framing clip 5/8" thr rod to 9/16" C-channel aux. framing bars:	FR6AFC58
4 post rack bracket:	FR4PRB58

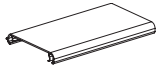
\* ADC's 4x4 FiberGuide Management System is a product of ADC Telecommunications, Inc.  
\*\*Substitute: YL = Yellow, BL = Black

# FiberRunner® 4x4 Routing System

## channel and cover



FR4X4\*\*6



FRHC4\*\*6

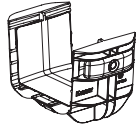


FRSHC4\*\*6

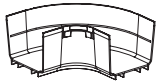


FRCR4BL-X

## fittings, split covers, and spillouts



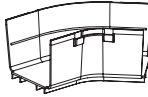
FRBC4X4\*\*



FRRA4X4\*\*



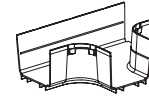
FRRASC4\*\*



FRH454X4\*\*



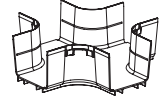
FRH455C4\*\*



FRT4X4\*\*



FRTSC4\*\*



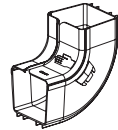
FRFWC4X4\*\*



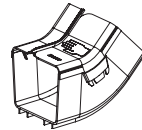
FRFWCSC4\*\*



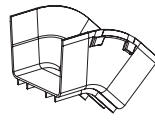
FREC4X4\*\*



FRIVRA4X4\*\*



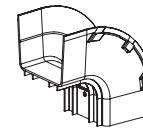
FRIV454X4\*\*



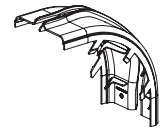
FROV454X4\*\*



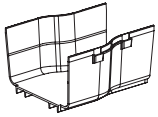
FROV455C4\*\*



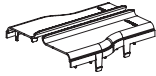
FROVRA4X4\*\*



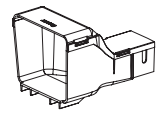
FROVRASC4\*\*



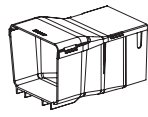
FRRF6FR4\*\*



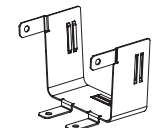
FRRF6FR4SC\*\*



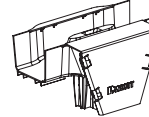
FRRF4FD2\*\*



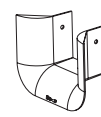
FRRF4FD4\*\*



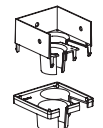
FRADC4X4BL



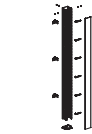
FRVT4X4\*\*



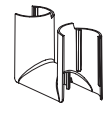
FTR4X4\*\*



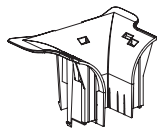
FIDT4X4BL\*\*



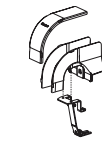
FRHD4KT\*\*



TRC4HDBL



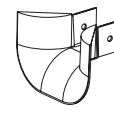
FRLPR42BL



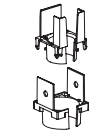
FRSPJ2X2\*\*



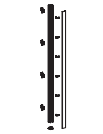
FRSPJC24\*\*



FTR2X2\*\*



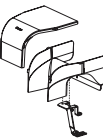
FIDT2X2\*\*



FRHD2KT\*\*



TRC2HDBL



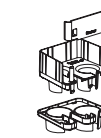
FRSPJ4X4\*\*



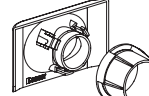
FRSPJC44\*\*



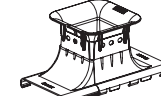
FRTR4X4\*\*



FRIDT4X4\*\*

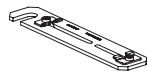


FR1.5IDE\*\*

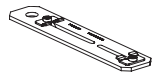


FRUPS4X4\*\*

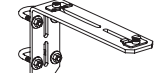
## QuikLock™ Mounting Brackets



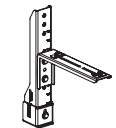
FR6TRBE12  
FR6TRBE58



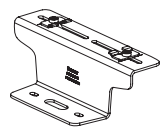
FR6TRBN12  
FR6TRBN58



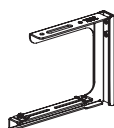
FR6USB



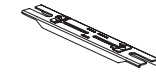
FR6ALB



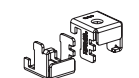
FR6CS12  
FR6CS58



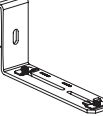
FR6ACB12  
FR6ACB58



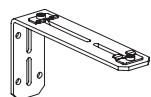
FR6TB38  
FR6TB12



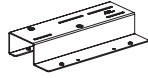
F2PCLB12  
F2PCLB58



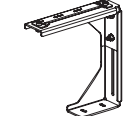
FR6LRB



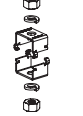
FR6LB



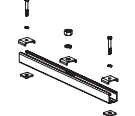
FRRMBNF58



FR6ACAB



FRAF58



FR4PRB58

\*\*Substitute: YL = Yellow, BL = Black

### WORLDWIDE SUBSIDIARIES AND SALES OFFICES

PANDUIT US/CANADA  
Phone: 800.777.3300

PANDUIT EUROPE LTD.  
London, UK  
Phone: 44.20.8601.7200

PANDUIT SINGAPORE PTE. LTD.  
Republic of Singapore  
Phone: 65.6305.7575

PANDUIT JAPAN  
Tokyo, Japan  
Phone: 81.3.6863.6000

PANDUIT LATIN AMERICA  
Guadalajara, Mexico  
Phone: 52.33.3777.6000

PANDUIT AUSTRALIA PTY. LTD.  
Victoria, Australia  
Phone: 61.3.9794.9020

For a copy of Panduit product warranties, log on to [www.panduit.com/warranty](http://www.panduit.com/warranty)

For more information

Visit us at [www.panduit.com](http://www.panduit.com)

Contact Customer Service by email: [cs@panduit.com](mailto:cs@panduit.com)

or by phone: 800.777.3300

**PANDUIT**®

© 2021 Panduit Corp.  
ALL RIGHTS RESERVED.  
FRSP16--WW-ENG  
4/2021