

VirtualEdge® VE-2848C-K6 1-RU Combination Panel with 28 RJ48C Jacks and 6 Keystone Ports

CLEI* Code: NCNYAAMERA

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1. GENERAL

1.1 Document Purpose

This practice describes Westell's VirtualEdge® VE-2848C-K6 Combination Panel with six empty Keystone coupler positions and 28 RJ48C jacks, shown in Figure 1. Westell offers a variety of panels, couplers, cables, and other orderable options for terminating services for use with the VE-2848C-K6 panel or with other panels in the VirtualEdge family. See Table 4 for information.

- NOTE -

Hereafter, the Westell VirtualEdge VE-2848C-K6 Universal Panel may be referred to as "the panel" or the "VE-2848C-K6."

1.2 Document Status

Whenever this practice is updated, the reason will be stated in this paragraph. Revision B updated Table 1, Figure 3 and Paragraph 3.4 to show the lacer bar as an included item. Revision C adds the CLEI code, Table 2, Figure 4, Figure 5, and updates Figure 1, Table 3, and Paragraph 2.5.2.

1.3 Product Purpose and Description

The VirtualEdge (VE) VE-2848C-K6 is a combination panel used at the CPE point of demarcation. Signals enter the rear of the panel via two, 32-pair, female, Amphenol connectors and pass through to the 28 RJ48C jacks via an internal PCB. Located on the left front side of the VE-2848C-K6 is a detachable LGX*-type panel with 6 Keystone-type empty hole ports or positions; the exact coupler type and type of service terminated is determined per company practice and application. Different types of couplers can be combined or mixed within the VE-2848C-K6 panel, for flexible configurations and applications. A circuit identification (ID) card is provided inside a clear plastic packet, which allows installers to label each coupler and jack position. The VE-2848C-K6 comes equipped with the components shown in Table 1. Optional features include couplers, D-rings (Figure 10), and a front tray (Figure 9) for additional cable management at the front of the VE-2848C-K6.

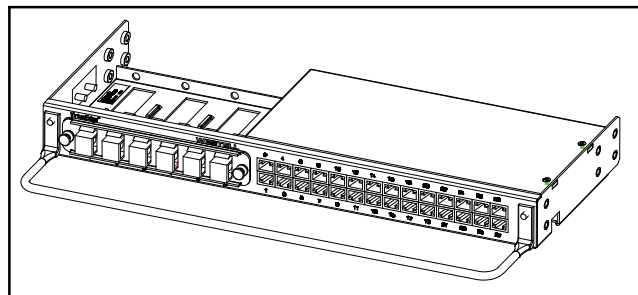


Figure 1. Isometric View of VirtualEdge Combination Panel

1.4 Product Mounting

The panels can be rack or wall mounted using the included reversible mounting ears (included in the bag of parts). These ears allow flush or projected positions in both 19" and 23" standard EIA relay racks, or they can be flipped and repositioned at the back of the panel for wall-mounting. See Part 2 and Figure 3 for more detailed mounting information.

Quantity	Component	Description
1	Panel	1.75 inches (1 RU) high panel with six empty Keystone-type ports, 28 RJ48C jacks, two 32-pair female Amphenols at the rear, bottom surface vent holes, and predrilled holes to accept optional D-rings and a front cable tray
28	RJ48C jacks	Female RJ48C jacks, connected to Amphenol connectors on panel rear via a PCB
1	LGX-type panel	Detachable LGX-type coupler panel with 6 Keystone coupler positions and 6 blank inserts
2	Mounting ears	Adjustable/reversible ear for 19 or 23" racks or for wall-mounting, shipped in bag of parts
1	Tray (rear)	Built-in cable management tray, with multiple cable tie-downs, located at rear of front panel
8	Screws	Two types; to attach ears to panel and to a rack
1	Bag of parts	Contains 2 mounting ears, ear/rack mounting screws, and a ground lug with nut
1	ID card	Circuit ID card, in a clear plastic packet, for easy customer or coupler identification
1	Lacer bar	Lacer or towel bar. U-shaped, 2.34" deep, 16.56" wide, 1/4" diameter, used to "lace" and support cables which are connected at the front of equipment mounted in 19" racks.

Note: D-rings, front tray, couplers, and cables are optional equipment.

Table 1. VE-2848C-K6 Features and Components

1.5 Applications

To enable a greater variety of service and interface offerings, service providers are putting more fiber into customer premises, either with Fiber-to-the-Premise or placing more fiber multiplexers and IP aggregation devices closer to subscribers. In business markets, the strong demand for Transparent LAN

and Virtual Private Network services creates numerous applications for Westell's VirtualEdge panels. These panels are intended to be simple, sturdy, and versatile mechanical platforms, used to terminate high-speed Ethernet, fiber, or copper services in any combination(s). Additional interfaces can also be installed on a per-circuit basis.

1.6 Product Features

The VE-2848C-K6 panel offers the following features.

- 1 Rack Unit (RU) high
- 28 RJ48C jacks
- Removable LGX-type panel with 6 Keystone-type coupler positions [accepts any combination of RJ45/48 (Cat5e for Ethernet and DS1), SC/LC (fiber), BNC (DS3) or other Keystone-type couplers]. Blank hole covers included.
- Two, 32-pair, female, Amphenol connectors at rear
- Mounts on wall or in 19" or 23" relay racks or data cabinets
- Adjustable, reversible, mounting ears
- Rear steel tray provides cable support and cable tie-downs for cables coming from the Network/Telco
- Steel construction
- Circuit identification card with clear plastic packet
- Rack mounting hardware included
- Lacer or towel bar included
- Ground lug, nut, and stud
- Optional couplers, front cable management tray, cable management D-rings, and combination kits available (see Table 4)

- PRECAUTIONARY STATEMENT -

Never install telephone wiring during a lightning storm.

Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.

Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

Use caution when installing or modifying telephone lines.

- INSPECTION NOTE -

Visually inspect the unit for damages prior to installation. If the equipment has been damaged in transit, immediately report the extent of the damage to the transportation company and to Westell (see Part 4 for telephone number).

2 INSTALLATION

The VE-2848C-K6 panel can be mounted on a wall or in 19" or 23" relay racks with standard EIA 1.75" hole spacing. When rack mounting, the panel can be installed so the front of it is flush with the front of the rack, or mounted in a projected position in the rack. The following paragraphs and Figure 3 provide further details. Screws to attach the mounting ears to the panel are provided, as well as screws to mount the panel to a rack.

2.1 Mounting in a 19" Rack

The panel is shipped from the factory pre-assembled. Each panel is equipped with two, removable, L-shaped, mounting ears (located in the bag of parts). For 19" rack mounting, the mounting ear's short flange attaches to the rack channel.

1. **Determine vertical position in rack.** Select the vertical mounting location in the rack. This panel requires one vertical Rack Unit (RU) in a standard Telco relay rack.
2. **Remove ears from bag.** Locate the bag of parts shipped with the panel and remove the two L-shaped mounting ears and the rack mounting hardware. Each ear flange has several sets of mounting holes in it.
3. **Determine horizontal position (shelf projection).** The mounting ears and the panel's side flanges have several mounting holes from which to choose, for the desired amount of projection in the rack. If a projected look or orientation in the rack is desired, the ears should be attached in the last ear hole position on the panel's side flanges, so that the panel will be projected further forward from the mounting ears. If a flush look in the rack is desired, the mounting ears should be attached in the first or forward ear hole position on the panel's side flanges.
4. **Attach long flange of ear to panel.** Attach both ears to the panel in the desired position as determined in the step above, using the hardware provided. The ear's long flange abuts the panel.
5. **Attach panel to rack.** Lift the panel and attach it to the rack channels in the correct vertical rack position. Align the holes in the ear's short flange with the proper holes in the rack channels. Insert the provided screws into the aligned set of holes, then tighten the screws. Repeat for both ears.

2.2 Mounting in a 23" Rack

The panel is shipped from the factory pre-assembled. Each panel is equipped with two, removable, L-shaped, mounting ears (located in the bag of parts). For 23" rack mounting, the mounting ear's long flange attaches to the rack channel.

1. **Determine vertical position in rack.** Determine and select the vertical mounting location in the rack. This panel requires one vertical Rack Unit (RU) in a standard Telco relay rack.

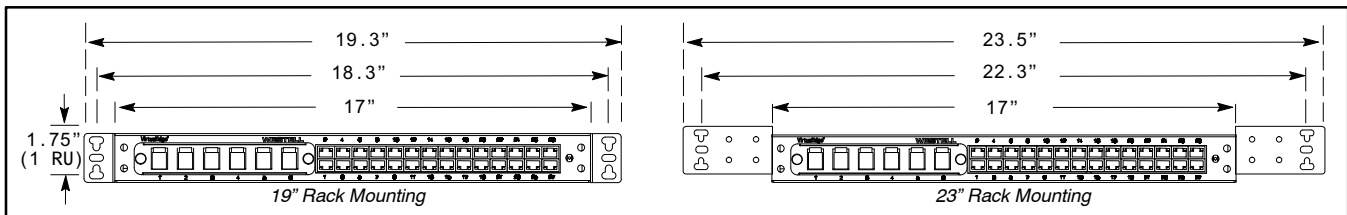


Figure 2. Dimensions for Rack Mounting

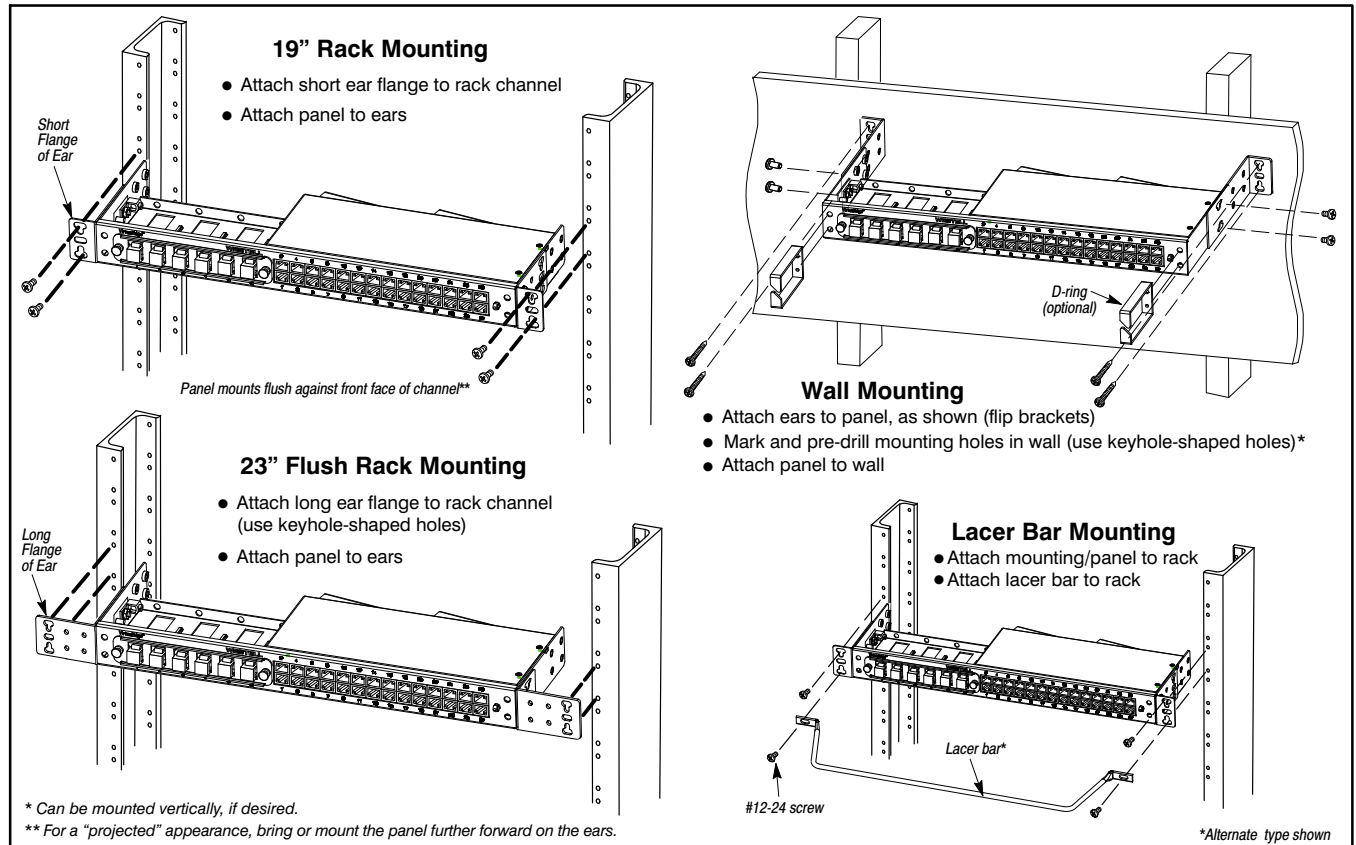


Figure 3. Mounting Views

2. **Remove ears from bag.** Locate the bag of parts shipped with the panel and remove the two L-shaped mounting ears and the rack mounting hardware. Each ear flange has several sets of mounting holes in it.
3. **Determine horizontal position (shelf projection).** The mounting ears and the panel's side flanges have several mounting holes from which to choose, for the desired amount of projection in the rack. If a *projected look* or orientation in the rack is desired, the ears should be attached in the last, rear-most, ear hole position on the panel's side flanges, so that the panel will be projected further forward from the mounting ears. If a *flush look* in the rack is desired, the mounting ears should be attached in the first or forward-most ear hole position on the panel's side flanges.
4. **Attach short flange of ear to panel.** Attach both ears to the panel in the desired projection position as determined in the step above, using the hardware provided. The ear's short flange abuts the panel.
5. **Attach panel to rack.** Lift the panel and attach it to the rack channels in the correct vertical rack position. Align the holes in the ear's *long flange* with the proper holes in the rack channels. Insert the provided screws into the aligned set of holes, then tighten the screws. Repeat for both ears.

2.3 Mounting on a Wall

The mounting ears can be attached for wall mounting. Follow local codes and company practices for the proper wall type.

1. **Determine position on wall.** Select the mounting location on the approved wall. This panel requires one *vertical Rack Unit (RU)* in a standard Telco relay rack. *Note that the panel can be mounted in a vertical position, if desired.*
2. **Remove ears from bag.** Locate the bag of parts shipped with the panel and remove the two L-shaped mounting ears and the rack mounting hardware. Each ear flange has several sets of mounting holes in it.
3. **Determine horizontal position (wall projection).** The mounting ears and the panel's side flanges have several mounting holes from which to choose, for the desired amount of projection from the wall. If a *more projected position* on the wall is desired (allows greater rear access), the ears should be attached in the last, rear-most, ear hole position on the panel's side flanges. If a *less projected position* on the wall is desired (allows more front access), the mounting ears should be attached in the first or forward-most ear hole position on the panel's side flanges.
4. **Attach ears to panel.** Attach both ears to the panel in the desired projection position as determined in the step above, using the hardware provided.
5. **Mark mounting hole locations.** Lift and place the panel on the wall in the desired final position and mark the mounting holes to be drilled in the wall with a marking utensil.
6. **Drill holes.** Set aside the panel and drill the holes. Do not make the holes too big.

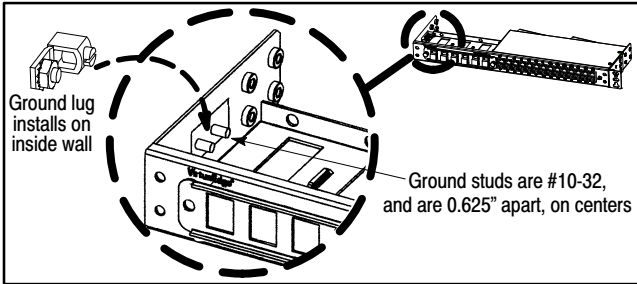


Figure 4. Ground Lug Stud Location

7. **Attach panel to wall.** Lift the panel and align the holes in the mounting ears with the drilled holes in the wall, then insert and tighten the mounting screws (not provided).

- GROUNDING NOTE -

Always follow local safety precautions and standard operating procedures for grounding the equipment when installing, upgrading, repairing or maintaining equipment. Any instructions or information contained herein is subordinate to local codes, operating procedures or practices.

2.4 Making Ground Connections

2.4.1 The Westell VE panels are shipped with a ground lug (in a bag of parts) that accepts a #6 ground wire for wall-mount applications. The installer should locate the ground lug and hex-nut from the bag of parts shipped with the panel and install the lug on the post located on the panel's inside wall, securing the lug to the post with the nut (see Figure 3). The installer then makes an earth/chassis ground connection to the lug using a #6 ground wire, per local company practice and installation procedures for equipment grounding and bonding.

2.4.2 If the VE panel is installed in a relay rack, the #6 ground lug and nut is not required, but a bond wire may be used to connect the VE panel's chassis to the common ground or bond for the relay rack or cabinet, per local procedures.

2.5 Making Installer Connections

After the panel is mounted, installer connections can be made to the VE-2848C-K6, as explained in the paragraphs below. Refer to Figure 5 as needed.

- CAUTION -
 Use care when installing and removing couplers, jacks, and connectors - *do not force into place*. If resistance is encountered, check for debris in or near the coupler or hole. Then gently re-insert the coupler, jack, or connector.

2.5.1 Installing Couplers

Provided with the VE-2848C-K6 panel is a detachable LGX-type panel which contains 6 Keystone-type coupler positions (see Figure 8) equipped with blank hole covers. Order and install couplers per the specific application, company practice, or service desired. Follow the steps below to install the couplers in the panel.

1. Call Westell to order the couplers of choice to insert into the panel for the specific application (see Table 4).
2. Remove the LGX-type panel by pulling on the two Nylatch fasteners at the side of the panel.
3. Remove (from the rear) the blank hole cover from the LGX-type panel's first Keystone-type hole position.
4. At the rear of the LGX-type panel, align the first coupler with the first empty hole, angle the back of the coupler down so its top angled tab fits under the hole's top edge, then press the coupler into the hole until it snaps in place.
5. Repeat Steps 3-4 for all couplers to be installed.
6. Re-install the LGX-type panel onto the VE-2848C-K6.
7. Order and use optional D-rings, a lacer bar, or a front tray (see Part 3) for cable management of any cable slack.
8. Use the circuit ID card to identify all coupler positions.

2.5.2 Connecting Network/Telco Cables

Network/Telco connections are made to the female Amphenol connectors at the back of the VE-2848C-K6 panel (Figure 6). See Table 2 for lead designations, pin-outs, and wire colors for the Amphenol connectors, and to Figure 5 as needed.

1. **Prepare upstream connection.** Remove the protective connector insert or cover from the back of the DS1 OUT connector at the rear of the MUX (or upstream equipment).
2. **Connect cable to panel's XMT OUT connector.** Route a male, 32-pair, Amphenol cable from the MUX (or upstream equipment) to the female, 32-pair, Amphenol XMT OUT connector at the back of the Westell VE2848-CK6 panel, then connect the connectors.

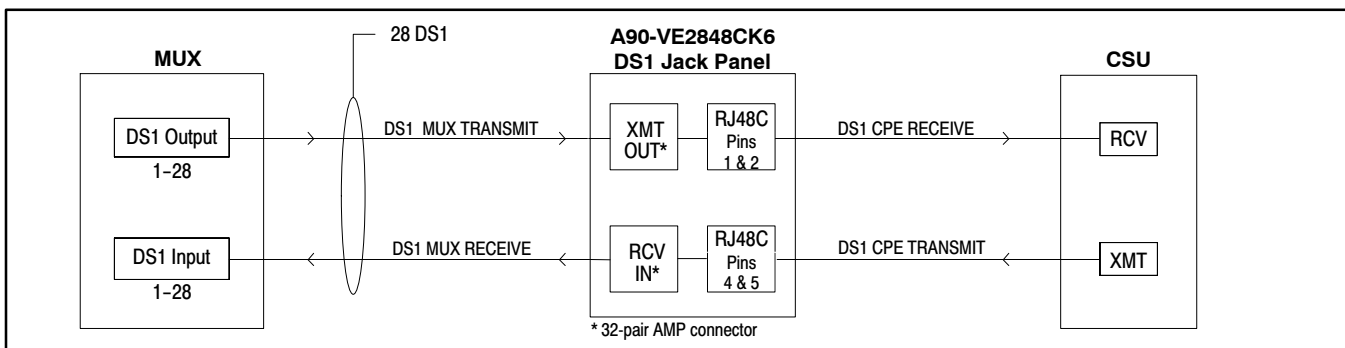
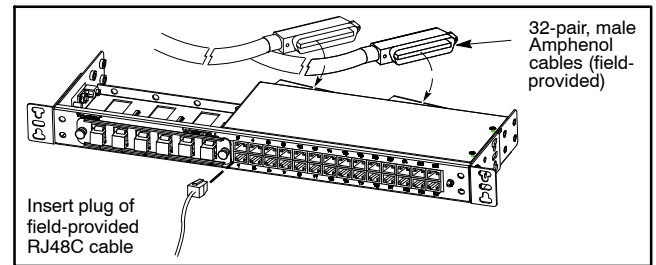
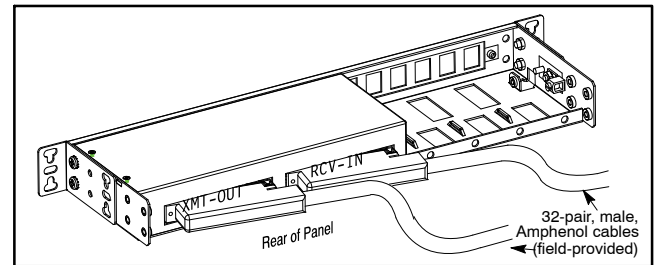


Figure 5. Cabling Block Diagram

Circuit	64-Pin Connector Pin #	NTWK RCV-IN		NTWK XMT-OUT		Wire Color Reference
		Lead	RJ48C	Lead	RJ48C	
1	33	T	5	T1	2	W-BL
	1	R	4	R1	1	BL-W
2	34	T	5	T1	2	W-O
	2	R	4	R1	1	O-W
3	35	T	5	T1	2	W-G
	3	R	4	R1	1	G-W
4	36	T	5	T1	2	W-BR
	4	R	4	R1	1	BR-W
5	37	T	5	T1	2	W-S
	5	R	4	R1	1	S-W
6	38	T	5	T1	2	R-BL
	6	R	4	R1	1	BL-R
7	39	T	5	T1	2	R-O
	7	R	4	R1	1	O-R
8	40	T	5	T1	2	R-G
	8	R	4	R1	1	G-R
9	41	T	5	T1	2	R-BR
	9	R	4	R1	1	BR-R
10	42	T	5	T1	2	R-S
	10	R	4	R1	1	S-R
11	43	T	5	T1	2	BK-BL
	11	R	4	R1	1	BL-BK
12	44	T	5	T1	2	BK-O
	12	R	4	R1	1	O-BK
13	45	T	5	T1	2	BK-G
	13	R	4	R1	1	G-BK
14	46	T	5	T1	2	BK-BR
	14	R	4	R1	1	BR-BK
15	47	T	5	T1	2	BK-S
	15	R	4	R1	1	S-BK
16	48	T	5	T1	2	Y-BL
	16	R	4	R1	1	BL-Y
17	49	T	5	T1	2	Y-O
	17	R	4	R1	1	O-Y
18	50	T	5	T1	2	Y-G
	18	R	4	R1	1	G-Y
19	51	T	5	T1	2	Y-BR
	19	R	4	R1	1	BR-Y
20	52	T	5	T1	2	Y-S
	20	R	4	R1	1	S-Y
21	53	T	5	T1	2	V-BL
	21	R	4	R1	1	BL-V
22	54	T	5	T1	2	V-O
	22	R	4	R1	1	O-V
23	55	T	5	T1	2	V-G
	23	R	4	R1	1	G-V
24	56	T	5	T1	2	V-BR
	24	R	4	R1	1	BR-V
25	57	T	5	T1	2	V-S
	25	R	4	R1	1	S-V
26	58	T	5	T1	2	W-BL
	26	R	4	R1	1	BL-W
27	59	T	5	T1	2	W-O
	27	R	4	R1	1	O-W
28	60	T	5	T1	2	W-G
	28	R	4	R1	1	G-W

Table 2. 64-Pin Amphenol Connector Wire Colors

Figure 6. Installing Amphenol and RJ48C Cables

Figure 7. Rear View, Connecting Field-provided Cables

3. Perform cable management on the cable per company practice using the cable tie-downs on the panel's rear tray.
4. **Connect cable to RCV IN connector.** Repeat Steps 1-3 for the MUX (or upstream equipment) DS1 IN connector and the VE2848-CK6's female, 32-pair, Amphenol RCV IN connector.

After installing the cables, when the Network equipment is activated, signals from the Network equipment should be present at the VE-2848C-K6 front panel, where the end-user or customer equipment can be connected.

2.5.3 Connecting End-User or Customer RJ48C Cables

Customer connections can be made to the RJ48C jacks at the front of the VE-2848C-K6 panel. Perform any customer equipment connections per company practice. See Figure 5 if needed.

1. Route the first RJ48C cable to the first RJ48C jack in the VE-2848CK-6 and insert the cable's plug into the jack.
2. Perform cable management per company practice, using the provided cable tie-downs.
3. Repeat for each jack.

2.5.4 Connecting Other Cable Types

Up to six customer connections can be made to the VE-2848C-K6 panel at the empty Keystone-type coupler positions. Perform customer equipment connections per company practice.

1. Insert the preferred type of Keystone-type coupler into the first empty Keystone position in the panel (from the rear, see Figure 8). Remove any cover from the coupler.
2. Route a cable with a matching end plug to the first coupler, and insert the cable's plug into the installed coupler.
3. Perform cable management per company practice, using the provided cable tie-downs.

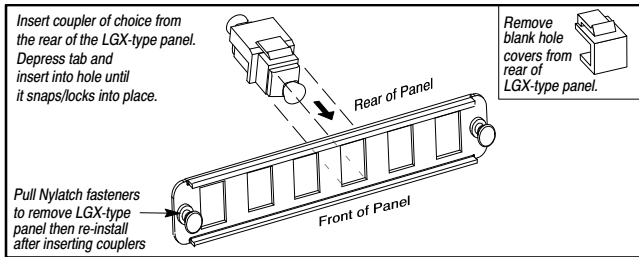


Figure 8. Installing Keystone-type Couplers into LGX Panel

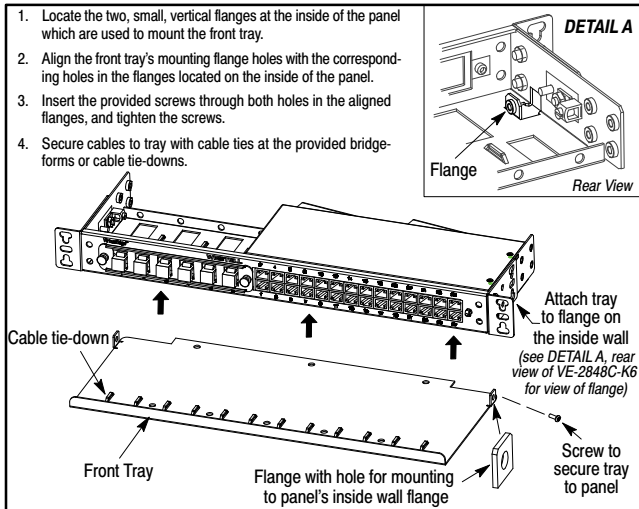


Figure 9. Installing Front Cable Management Tray

4. Repeat for each couple and cable.

2.5.5 Labelling Circuit Positions

A circuit identification card (label) is provided, inside a clear plastic packet, for quick and easy circuit labelling and identification. The ID card and packet hangs from the panel using the provided, beaded, removable, cable tie.

3 ACCESSORIES

3.1 Coupler Types

VirtualEdge® panels and adapter panels accept multiple coupler types (listed below) that can be used or interchanged within the panel. If desired, couplers can be purchased separately using the part numbers shown in Table 4.

- RJ45/48 (Cat5e for Ethernet and DS1 services)
- BNC (for DS3 service)
- SC/LC (for fiber)
- Any Keystone-type coupler

3.2 Front Cable Management Tray

To facilitate cable management at the front of the VE-2848C-K6, Westell offers a metallic Cable Management Tray (Figure 9). This tray attaches to the unit as shown in Figure 9. The tray is designed to allow jumpers and cables to cross in front of the panel without putting unnecessary down-

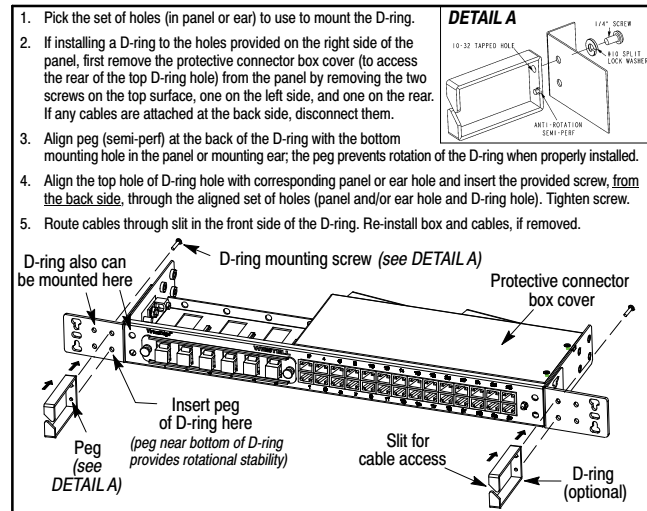


Figure 10. Installing Cable Management D-Rings to the Panel

ward force or strain on the couplers, when installed. The tray also has bridge-forms or cable tie-downs to allow technicians to dress and secure cables to the tray, if desired. The tray can be mounted to the panels at two different depths to allow customization based on the amount of cables and jumpers running across the panels. Use alone or with one or more D-rings described in Paragraph 3.3 for a customized cable-management solution.

3.3 Cable Management D-Rings

Optional, metallic D-rings (Figure 10), for installation at either or both ends of a VirtualEdge panel, provide guidance and support of the cables that run across the front of the panel to the couplers. In the front of the D-ring, a diagonal slit allows existing or newly-installed cables/jumpers to be easily inserted into the ring, without re-feeding or re-routing, and the 3" ring depth easily accommodates up to 24 or more cables. At the back of the D-ring, a shallow peg serves as an anti-rotation device when properly inserted into the bottom hole of the dual hole-set in the panel or mounting ear. The top, threaded, 10-32 hole at the back of the D-ring accepts the short screw (provided with the D-ring) that is inserted or threaded from the rear side of both the D-ring and mounting ear (or panel, if the panel holes are used). Use one or more D-rings alone or with the tray described in Paragraph 3.2 for a customized cable-management solution.

3.4 Larger Cable Lacer (Towel) Bar

The panel comes equipped with a 16.56" wide, 2.34" deep, lacer or towel bar installed on the front of the panel (as shown in Figure 1) to allow cables to be laced around or hung from the bar for proper support of the cables that connect to jacks or couplers at the front of the panel. This bar can be used whether the panel is wall or rack-mounted. Westell also offers an optional, larger, lacer bar (see Table 4) for rack mounting only, which is 4" deep and 19" wide, and which is installed on the panel's mounting ears (not on the panel itself). The larger bar can be used with or without the smaller bar, or with or without optional D-rings. Lace, hang, or tie-down cables around, from, or at the lacer bar of choice, per company practice.

4. CUSTOMER & TECHNICAL SERVICES

4.1 Customer Service & Technical Assistance

If technical or customer assistance is required, contact Westell by calling or using one of the following options:

Voice: (800) 377-8766
email: global_support@westell.com

For additional information about Westell, visit the Westell World Wide Web site at <http://www.Westell.com>.

4.2 Part Numbers

This equipment is identified by a product number (A90-VE2848CK6), which consists of three parts: the issue letter of the equipment (A), the assembly type (90), and the specific model number (VE-2848C-K6). Each time a change is made to the product which changes the form, fit, or function of the product, the issue letter is incremented or advanced by one. Be sure to indicate the issue level as well as the model number when making inquiries about the equipment.

Feature	U.S.	Metric
Height	1 .74 in. (1 RU)	4 .42 cm
Width, w/o ears	17 .00 in. (approx.)	43 .18 cm
Width, w/ears in 19" rack position	19 .20 in. (overall) 18 .31 in. (mounting holes)	48 .77 cm 46 .51 cm
Width, w/ears in 23" rack position	23 .40 in. (overall) 22 .31 in. (mounting holes)	59 .44 cm 56 .67 cm
Depth (rack-mount)	5 .30 in.	13 .46 cm
Depth (wall-mount, max.)	7 .66 in.	19 .46 cm
Operating Temp.	-40° to 167°F	-40° to 75°C
Humidity	0 to 95% (non-condensing)	

Table 3. Physical Specifications

5. WARRANTY & REPAIRS

5.1 Warranty

Westell warrants this product to be free of defects at the time of shipment. Westell also warrants this product to be fully functional for the time period specified by the terms and conditions governing the sale of the product. Any attempt to repair or modify the equipment by anyone other than an authorized Westell representative will void the warranty.

5.2 Repair and Return

Westell will repair or replace any defective Westell equipment without cost during the warranty period if the unit is defective for any reason other than abuse, improper use, or improper installation. To return defective equipment, first request a Return Material Authorization (RMA) number from Westell by calling or using one of the options shown below. Once an RMA number is obtained, return the defective unit (freight prepaid), along with a brief problem description, to the address we will provide to you when you contact us.

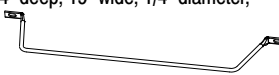
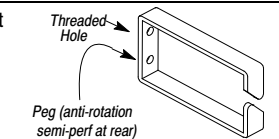
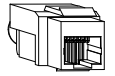

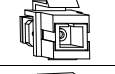
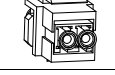
Voice: (630) 375-4457
email: rgmdept@westell.com

Replacements will be shipped in the fastest manner consistent with the urgency of the situation. Westell will continue to repair

or replace faulty equipment beyond the warranty period for a nominal charge. Contact Westell for details.

6. SPECIFICATIONS

The physical specifications are shown in Table 3. To order units, call the telephone number shown in Paragraph 4.1 and please specify a specific part number shown in Table 4.

Part #	Description
A90-VE2848CK6	VirtualEdge® VE-2848C-K6 1-RU Combination Panel w/28 RJ48C jacks, a removable LGX-type panel with 6 blank positions for Keystone-type couplers, a lacer bar and two 32-pair female Amphenol connectors at rear. <i>CLEI: NCNYAAMERA, Barcode/ECL: 461509, CPR: 214181.</i>
Other Panels, and Panel Accessories and Options*	
A90-VEUP30	Model VEUP-30 - VirtualEdge® 1-RU Universal Connection Panel for LGX-type fiber panels and Keystone couplers, with 3 LGX-118 to Keystone coupler panels.
A90-VEVP31	Model VEVP-31 - VirtualEdge® 1-RU Video Panel.
A90-VE1200	12-position, 1-RU high, VirtualEdge® Connectivity panel with 12 empty coupler termination positions.
A90-VE1212	Model VE-1212 - Same as VE-1200 but equipped with 12 Cat5e couplers.
A90-VE2400	Model VE-2400 - 24-position, 2-RU high, VirtualEdge® Connectivity Panel with 24 empty coupler termination positions.
A90-VE2424	Model VE-2424 - Same as VE-2400 but equipped with 24 Cat5e couplers.
A90-VE2424SC	Model VE-2424SC - Same as VE-2424 but equipped with 24 SC couplers.
A90-VE2424BNC	Model VE-2424BNC - Same as VE-2424 but equipped with 24 BNC couplers.
A99-VE2424BNC	Kit which contains a 24-position panel, 24 BNC couplers, a cable management tray, 2 D-rings, kit assembly hardware, and rack mounting hardware.
A99-VE2424SC	Same as A99-VE2424BNC but with SC couplers.
A90-VECMTRAY	Cable management tray (front projection).
A90-VECM LBAR	Lacer or towel bar, 4" deep, 19" wide, 1/4" diameter, used to "lace" and support cables at front of panels. 
A90-VECMRING3	Cable management D-ring (Qty = 1). Includes split washer and mounting screw(s). 
A90-VECPL5E10	CAT 5e RJ48 Keystone style coupler (Qty = 10) 
A90-VECPLBNC10	BNC COAX coupler (Qty = 10) 
A90-VECPLSC1	Fiber coupler with SC connectors (Qty = 1) 
A90-VECPLLC1	Fiber coupler with LC connectors (Qty = 1) 
A90-VECPL5EIDC10	CAT 5e couplers (IDC termination on Network side) (Quantity = 10)

*A variety of cables and fiber jumpers also are available. Call Westell for details.

Table 4. Ordering and Option Information