



**"Results You Can Count On"**

## **Model CFA-24 Transparent Cable Farm Automation Switch**

- **Ideal for Broadband Forum's ID-337 G.fast Certification and TR-249 VDSL2 Vectoring Testing**
- **High performance transparent solution designed to automate testing of cable farms**
- **Use additional units to expand the number of segments and channels**
- **Multiple Vectoring groups per unit or across multiple units**
- **Co-located and non-co-located test configurations**
- **Connect cables once then switch programmatically**
- **Automatically terminates unused channels and/or segments**
- **Micro-Interruptions**
- **Supports Reverse Powering for G.fast**
- **Low crosstalk/low insertion Loss**
- **Control/Power via Power Over Ethernet (POE)**
- **Embed remote commands in scripts (e.g., TCL, Python)**

Switching for up to  
five segments.

Control with User-  
Friendly Software or  
Remote Commands



Each high-frequency punch down connector accepts four twisted pairs (eight wires). For each set of four pairs, there are two connectors for CO or CPE and ten for connecting both ends of five loop segments. This provides connections for five segments of 24 pairs.

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The Model CFA-24 Transparent Cable Farm Automation Switch is a transparent, electrically neutral, switching device that allows up to twenty-four incoming cable farm lines to be switched to five different loop segments. Use your own cable or purchase cable from Telebyte (see *Ordering Information*).

Operating in a frequency band up to 212 MHz, the CFA-24 is highly suited to lab-grade testing of next-gen devices where live crosstalk is required (e.g., VDSL2 Vectoring or G.fast performance testing). Telebyte’s superior transparency delivers excellent crosstalk accuracy. Ideal for ID-337 G.fast Certification and TR-249 VDSL2 Vectoring testing.

Now you can have a flexible cable farm with micro-interruptions that is easy to automate and configure. Also supports Reverse Powering for G.fast.

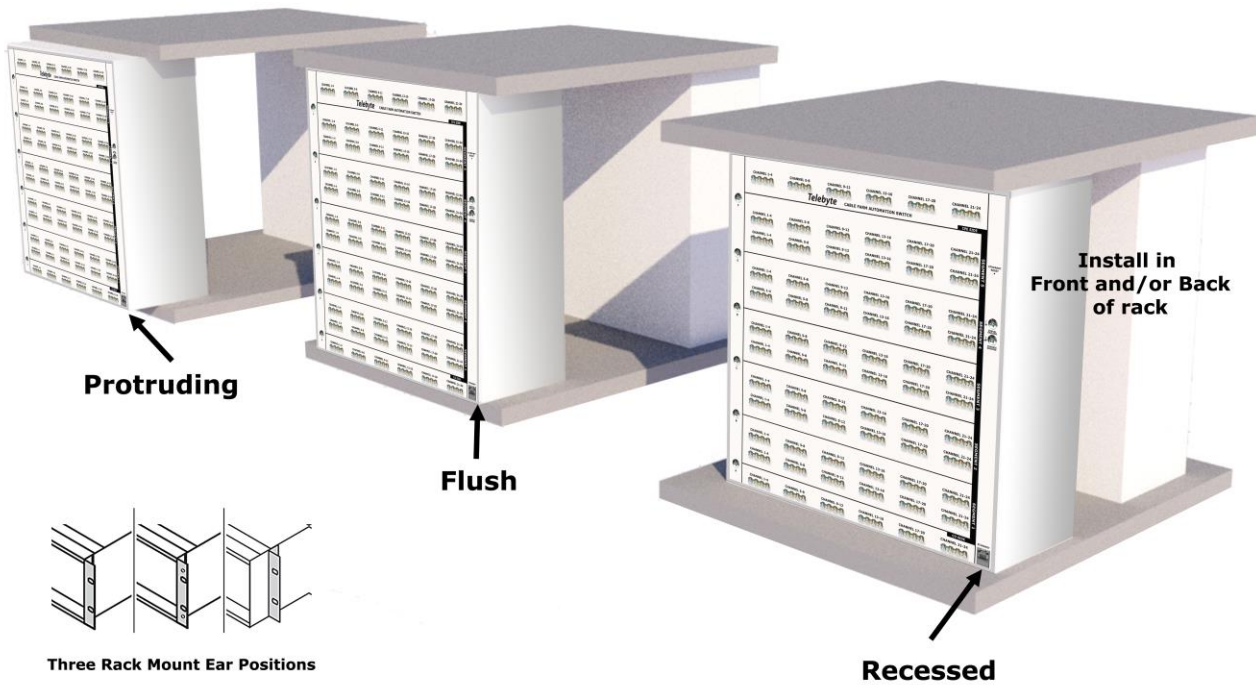
Configurations may be expanded by adding channel expander units, allowing users to scale the number of pairs that can be switched from 24 to as many as needed, in groups of 24. In addition, segment extender units can be jumpered together to add more line segments. Flexibility is further enhanced by allowing each unit to be configured for multiple vectoring groups as well as co-located and non-co-located configurations. This scalability optimizes your CAPEX budget.



The above shows an example of a dense VDSL2 Vectoring set up - 18 units used for 144 channels with 15 loop segments on all channels. To allow for dense installations, each unit may be installed in the front and/or back of a standard 19" rack.

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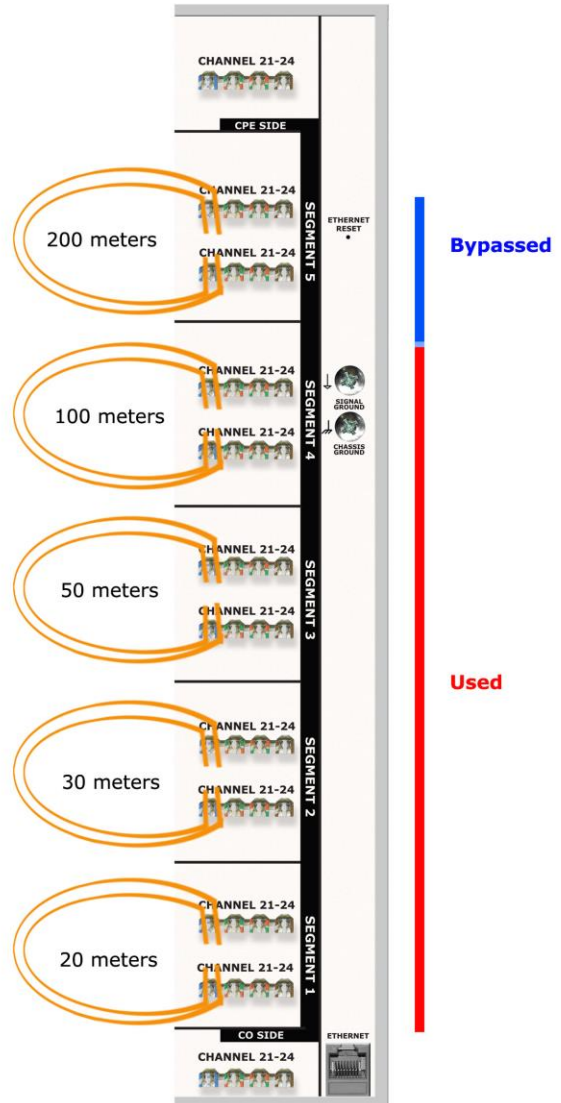
Three rack mounting options make installation customizable to your needs.

**CFA-24 Mounting Options**  
(Front and/or Back of 19" Rack)

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### Example ID-337 Test Setup (Selection of 200 meters)

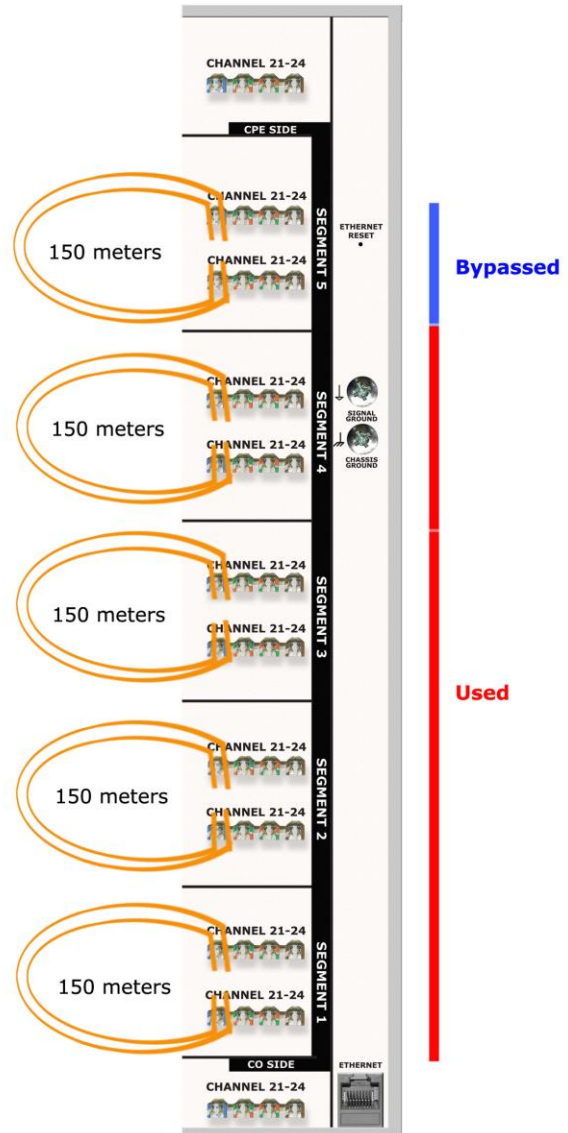
- Five loop segments of different lengths of CW1420 are each attached to one of five segments.
- The allowable loop lengths of this non-located setup are 20, 50, 100, 200 and 400 meters.
- Segments 1, 2, 3, and 4 are used to form the 200 meters. Segment 5 is bypassed.



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### Example TR-249 Issue 1 Test Setup (Selections of 150, 300, 450, 600 and 750 meters)

- Five 150-meter, 0.4mm loop segments are each attached to one of five segments.
- The allowable loop lengths of this setup are 150, 300, 450, 600 and 750 meters.
- Segments 1, 2, 3 and 4 are used to form the 600 meters. Segment 5 is bypassed. This configuration represents the Medium Loop (17 MHz profile) per TR-249 Issue 1.





## Model CFA-24 (continued)

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Specifications	
<b>Switching Capability</b>	Switching of up to 5 loop segments for 24 local loops (expandable by adding channel expanders and/or segment extenders)
<b>Insertion Loss across all 5 Segments in Bypass (from CO side to CPE side)</b>	<ul style="list-style-type: none"> <li>DC to 17 MHz: less than 0.3 dB</li> <li>17 MHz to 30 MHz: less than 0.38 dB</li> <li>30 MHz to 106 MHz: less than 0.57 dB</li> <li>106 MHz to 212 MHz: less than 0.89 dB</li> </ul>
<b>Noise Floor</b>	Less than -153 dBm/Hz
<b>Channel-to-Channel Isolation</b>	<ul style="list-style-type: none"> <li>DC to 17 MHz: minimum 81 dB</li> <li>17 MHz to 30 MHz: minimum 76 dB</li> <li>30 MHz to 106 MHz: minimum 68 dB</li> <li>106 MHz to 212 MHz: minimum 63 dB</li> </ul>
<b>Impedance</b>	100 ohms
<b>Temperature</b>	<ul style="list-style-type: none"> <li>Operating: 0°C to 50°C (32°F to 122°F)</li> <li>Storage: -20°C to 70 °C (-18°F to 158°F)</li> </ul>
<b>Operating Relative Humidity</b>	0% to 95% relative humidity (non-condensing)
<b>Connectors</b>	<ul style="list-style-type: none"> <li>CO Input/Output: 6 x 8 Way Punch Down Blocks</li> <li>CPE Input/Output: 6 x 8 Way Punch Down Blocks</li> <li>Line Segments: 60 x 8 Way Punch Down Blocks</li> <li>Control: RJ45 (Power over Ethernet)</li> </ul>
<b>Conductors Accepted</b>	<ul style="list-style-type: none"> <li>Diameters from 0.6 mm to 0.4 mm</li> <li>Solid conductors</li> <li>Shielded or unshielded</li> </ul>
<b>Dimensions</b>	Overall: 17.50”H x 16”W x 6”D (10-U High) Rack mountable (front and/or back) in 19” rack
<b>Micro-Interruptions</b>	Location: CO or CPE side - on any one channels Interrupt Time: 5ms to 100ms in 1-ms increments
<b>Power</b>	POE per 802.3af standard
<b>Cycles of Operation</b>	1,000,000 Minimum
<b>DC Rating Maximum Voltage Tip - Ring</b>	220 VDC/250 VAC, 2 amperes maximum

Specifications are subject to change without notice. Made in USA.

Ordering Information	
CFA-24	24-Channel Transparent Cable Farm Automation Switch (Controller, Channel or Segment Extender)
CFA-KIT-PPKJ	Kit to connect to CO and/or CPE side of test. Customer provides cable. Consists of RJ-45 Patch Panel (1-U high) and (24) CAT6 Keystone Jack (RJ-45) Connectors.
CFA-KIT-PPKJ-CW1420	Kit to connect to CO and/or CPE side of test when using CW1420 Loop Segments. Consists of RJ-45 Patch Panel (1-U high), (24) CAT6 Keystone Jack (RJ-45) Connectors, 24 meters of CW1420 cable.
CFA-CA-MGT	Cable Management Kit. Includes 6 rack-mountable cable-tie bars with cable ties.
CFA-POE-1	PHIHONG PSA16U-480(POE) 1-PoE Ethernet Adapter
CFA-POE-4	Linksys LGS108P 8-port switch with 4 PoE+ ports
CFA-POE-8	Linksys LGS116P 16-port switch with 8 PoE+ ports
CFA-POE-12	Linksys LGS124P 24-port switch with 12 PoE+ ports
CFA-PDTOOL-KIT	Punch down tool kit.
CW1420-400	Spool of CW1420 400 m cable (4 pairs) for ID-337 testing

All switches verified and qualified for use with the CFA-24.

Contact Telebyte to request qualification of alternate switch for use with this product.