

Marcus Sowers

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IT315

Hands On #4

Keystone jack faceplates needed to have one in each office and classroom:

- $2 + 10 + 36 + 52 + 104 + 170 = 374$ Keyston Jack Faceplates
- 10-Pack of Keystone Jack Faceplates = \$13.49
- Website Source: <https://www.amazon.com/Cable-Matters-10-Pack-Profile-Keystone/dp/B0788D5PCY>
- $374 \text{ [Keystone Jack Faceplates]} / 10 \text{ (Keystone Jack Faceplates Bundle)} = 37.4 = 38 \text{ [Total Bundles Needed]}$
- $38 \text{ [Bundles Needed]} * 13.49 \text{ [Keystone Jack Faceplates Total]} = \$512.62 + \text{Tax [Total Cost]}$

RJ45 keystone outlets needed to have two in each office and classroom:

- $(2 + 10 + 36 + 52 + 104 + 170) * 2 = 748$ RJ45 Keystone Outlets
- 50-Pack of RJ45 Keystone Outlets = \$59.95
- Website Source: [Everest Media Solutions 90-Degree Angled CAT6/5e Keystone Jack in White Color - Slim Profile, UTP RJ45 Female Ethernet Connector - Compatible with Speed Termination Tool - easyJACK - 50-Pack \(amazon.com\)](https://www.amazon.com/Everest-Media-Solutions-90-Degree-Angled-CAT6-5e-Keystone-Jack-in-White-Color-Slim-Profile-UTP-RJ45-Female-Ethernet-Connector-Compatible-with-Speed-Termination-Tool-easyJACK-50-Pack/dp/B0788D5PCY)
- $748 \text{ [RJ45 Keystone Outlets]} / 50 \text{ [RJ45 Keystone Outlets]} = 14.96 = 15 \text{ [Total Bundles Needed]}$
- $15 \text{ [Bundles Needed]} * 59.95 \text{ [RJ45 Keystone Outlets Total]} = \$899.25 + \text{Tax [Total Cost]}$

48 port patch panels in the equipment room and telecomm closets needed to terminate all of the cable runs to each office and classroom:

- $2 + 3 + 4 = 9$ [48 Port Patch Panels]
- 48 Port Patch Panels = \$200.33
- Website Source: [Amazon.com: ICC CAT6 Feed-Through Patch Panel with 48 Ports and 2 RMS : Electronics](https://www.amazon.com/ICC-CAT6-Feed-Through-Patch-Panel-with-48-Ports-and-2-RMS-Electronics/dp/B0788D5PCY)
- $9 \text{ [48 Port Patch Panels]} * 200.33 \text{ [48 Port Patch Panels Total]} = \$1,802.97 + \text{Tax [Total Cost]}$

Workgroup switches needed to make all of the outlets in the building live:

- $2 + 3 + 4 = 9$ [Workgroup Switch]
- Workgroup Switch = \$925.32
- Website Source: [Enterasys 1H582-51 | price & datasheet | refurbished & new \(it-planet.com\)](https://www.enterasys.com/1H582-51)

- $9 \text{ [Workgroup Switches]} * 925.32 \text{ [Workgroup Switch Total]} = \$8,327.88 + \text{Tax [Total Cost]}$

Needed core switch (a.k.a. aggregation switch) with enough SFP ports to connect to all of the workgroup switches:

- Core Switch must have enough ports for all the workgroup switches
- Ubiquiti Switch Enterprise XG 24 is the Core Switch that will be used
- Core Switch = $\$1,231.62 + \text{Tax [Total Cost]}$
- Website Source: [Ubiquiti Switch Enterprise XG 24 | Google Shopping](#)

Total Cost of Equipment: \$12,774.34 + Tax

Diagram that shows how the three rooms will be interconnected via trunk lines and where each switch goes:

