

High-Speed Network Switches for Lab PCs

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Network & Infrastructure



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(North_Central_Telephone_Cooperative_Rural_Broadband_keeps_TN_and_KY_High-Speed_-_RUS_(20180927-RD-LSC-1040).jpg)

High-speed network switches connect lab PCs, student machines, printers and IoT devices into a wired gigabit network with low latency and reliable bandwidth, giving the CAD and coding labs a fast, stable backbone.

Key Features

- 24-48 gigabit ports
- PoE variants for cameras and APs
- VLAN and QoS support
- Managed or unmanaged options
- Rack-mount form factors

Typical Uses in the Workshop

- Network CAD and coding lab PCs
- Serve files and prints reliably
- Connect IoT test devices and cameras
- Segment lab traffic with VLANs

Safe Operation

1. Mount in the rack or cabinet
2. Connect the uplink to the router
3. Patch the lab PC cables in
4. Configure VLANs if managed
5. Label the ports and log the layout

SAFETY NOTES

- Switch off before changing modules
- Keep the vents clear
- Do not overload patch bundles
- Earthing: check the rack ground
- Keep the cabinet locked

Maintenance & Consumables

- Update the firmware
- Check the port LEDs and logs
- Cable manage the patch panel
- Replace failing ports
- Log the network changes

Specification & Buying Notes

Gigabit managed switches with PoE suit school labs - managed VLANs control IoT testing. Quality switches run quiet and cool; budget switches throttle under load.