48-Port Cat6A UTP Patch Panel — Fully Loaded

48 × RJ45 Ports | Category 6A (500 MHz) | Unshielded UTP | 19" Rack Mount



1. GENERAL DESCRIPTION

48-port Category 6A UTP patch panel is a fully loaded, pre-assembled connecting hardware unit for 10 Gigabit structured cabling. It provides forty-eight RJ45 (8P8C) Category 6A jacks on the front and 110-type IDC punch-down terminations on the rear, mounted on a rugged powder-coated steel frame for standard 19-inch racks. The jack design is optimised for low alien crosstalk, giving full 10GBASE-T performance over 100 m channels and a neat, organised termination point for horizontal cabling.

2. KEY FEATURES

- Fully loaded: 48 Category 6A RJ45 ports supplied pre-assembled, ready to terminate
- Rear 110-type IDC terminals for fast, reliable punch-down of 22–24 AWG solid Cat6A cable
- Gold-plated phosphor bronze jack contacts and optimised PCB design for low crosstalk and alien-crosstalk performance up to 500 MHz
- Sturdy cold-rolled steel frame, black powder-coated, with 19-inch mounting ears
- Clear port numbering (1–48) with designation label windows for easy identification
- Rear cable management bar to support cables and relieve strain

3. APPLICATIONS

- Horizontal cabling termination in telecom rooms, data centres and equipment rooms
- 1000BASE-T and 10GBASE-T Ethernet over the full 100 m channel
- Voice, CCTV / IP cameras, access control and PoE devices
- Data centres, new builds and upgrades from Category 6 networks, PoE++ devices

4. APPLICABLE STANDARDS

- ANSI/TIA-568.2-D — Category 6A connecting hardware
- ISO/IEC 11801 — Class EA generic cabling
- IEC 60603-7-41 — 8-position modular connector, Category 6A (RJ45)
- FCC 47 CFR Part 68 — Modular jack requirements
- EIA/ECIA-310-E — 19-inch rack mounting dimensions
- UL 94 V-0 — Flammability of plastic housing materials

5. CONSTRUCTION & MATERIALS

Ports	48 × RJ45 (8P8C) Category 6A, unshielded (UTP), fully loaded
Rear Termination	110-type IDC punch-down
Wire Range	22–24 AWG solid copper, cable OD up to [___ mm]

Jack Housing	Flame-retardant polycarbonate, UL 94 V-0 — colour: [Grey / Black / Blue]
Jack Contacts	Phosphor bronze, gold-plated — [50 µin / 1.27 µm]
IDC Contacts	Phosphor bronze, tin-plated
Circuit Board	FR-4 PCB, [1.6 mm]
Frame	Cold-rolled steel, [1.5 mm], black powder-coated
Labelling	Port numbers 1–48 with transparent icon / label windows
Cable Management	Rear cable support bar included

6. MECHANICAL & ENVIRONMENTAL

Mounting	19-inch (482.6 mm) rack mount
Height	[1U — 44.45 mm / 2U — 88.9 mm] (select)
Width (over ears)	482.6 mm
Jack Mating Cycles (min.)	[750] cycles
IDC Termination Cycles (min.)	[200] re-terminations
Operating Temperature	[-10 °C to +60 °C]
Storage Temperature	[-40 °C to +70 °C]
Relative Humidity	[10 % to 90 %, non-condensing]

7. ELECTRICAL CHARACTERISTICS

Contact Resistance (jack)	[≤ 20 mΩ]
Insulation Resistance	[≥ 500 MΩ]
Dielectric Withstand (1 min)	[1000 V AC]
Current Rating per Contact	[1.5 A]
Max. Operating Voltage	[72 V]

8. TRANSMISSION PERFORMANCE

Frequency (MHz)	Insertion Loss — max (dB)	NEXT — min (dB)
100	0.2	43.0
250	0.32	35.0
500	0.45	29.0

9. INSTALLATION & HANDLING GUIDELINES

- Mount the panel in the rack using four screws and cage nuts; leave clearance for cable bend radius at the rear.
- Terminate cables with a 110 punch-down tool following the colour code printed on the panel (T568A / T568B); use Cat6A cable. Loose-bundle the cables at the rear to limit alien crosstalk.
- Untwist pairs by no more than 13 mm (0.5 in) at the termination point.
- Secure cables to the rear cable management bar with ties; do not over-tighten or crush the cable.
- Label each port and record it in the cable schedule; test every link after termination.