

GUIDES & CHARTS

Structured Cabling Basics: LAN, CCTV & CATV

A quick primer on data, surveillance and cable-TV wiring for homes and offices.

Communication cabling looks similar but each type is built for a different signal. Picking the right one keeps your network fast, your cameras clear and your TV signal clean.

LAN (data / networking)

LAN cables carry high-speed data between routers, switches and devices. **Cat5e** supports up to 1 Gbps and suits most homes; **Cat6** offers more headroom and better performance for 1 Gbps over longer runs and short 10 Gbps links. Keep any single run under about **90–100 metres**.

CCTV (surveillance)

Analogue cameras use **coaxial cable (RG59) with a power pair** ("3+1" combos are common). Modern **IP cameras** run over LAN cable (Cat5e/Cat6) and can draw power over the same cable using PoE, which simplifies installation.

CATV (cable TV)

Cable-TV and satellite feeds use **coaxial cable, usually RG6**, which is thicker and better shielded than RG59 for the higher frequencies and longer runs of TV distribution.

Use	Cable	Notes
Home / office data	Cat5e or Cat6	Up to ~100 m per run
Analogue CCTV	RG59 + power	Signal + camera power
IP CCTV	Cat5e / Cat6 (PoE)	Data and power on one cable
Cable TV	RG6 coax	Better shielding for TV bands