⭐ 1. What Is TETRA and Why the Antenna Matters

- TETRA (Terrestrial Trunked Radio) is the UK's mission-critical communications standard used by:
- Police
- Fire & Rescue
- Ambulance
- Local authorities
- Utilities & critical infrastructure
- Transport fleets
- A TETRA radio is only as good as its antenna. The right antenna ensures:
- Strong, reliable coverage
- Clear voice communication
- Fast call setup
- Stable data performance
- Compliance with emergency-service requirements

🚙 2. Step-by-Step: How to Choose the Right TETRA Antenna

Step 1 — Identify Your Vehicle or Installation Type

Vehicle / Use Case	Recommended Antenna Types
Car / Van	Roof-mount, low-profile, combination TETRA+GPS
HGV / Specialist Vehicle	Heavy-duty roof-mount, bumper-mount
Motorcycle	Compact, rugged, flexible whip
Covert / Unmarked	Internal, glass-mount, strip antennas
Static / Infrastructure	High-gain external antennas

Step 2 — Choose the Mounting Style

1. Roof-Mount (Permanent)

- Best performance
- Most common for emergency fleets
- Requires drilling or existing mount
- Works with GPS combination antennas

Ideal for: Police, ambulance, fire, utilities

2. Magnetic Mount

- No drilling
- Quick installation
- Good for temporary or leased vehicles

Ideal for: Short-term deployments, rental fleets

3. Bumper / Bracket Mount

- Used when roof mounting isn't possible
- Good for HGVs, plant machinery, buses

Ideal for: Specialist vehicles

4. Internal / Covert Antennas

- Hidden installation
- No external visibility
- Reduced performance vs roof-mount

Ideal for: Covert operations, unmarked vehicles

5. Combination TETRA + GPS Antennas

- One housing for multiple systems
- Cleaner installation
- Reduces drilling and cabling

Ideal for: Vehicles using TETRA + telematics / AVL

Step 3 — Select the Correct Frequency Band

Most UK emergency-service radios use:

- **380–400 MHz (Standard UK TETRA band)**

Step 4 — Choose Cable Length & Connector

Cable Length

- **0.5m** — roof mount with radio nearby
- **3m** — typical car/van installation
- **5m–7m** — HGVs, buses, specialist vehicles

Connector Type

- **FME** — most common for vehicle installs
- **SMA / TNC / BNC** — depends on radio model

If you don't know the connector, check the radio or ask your installer.

🛰️ **3. Types of TETRA Antennas Explained**

1. Low-Profile Antennas

- Discreet
- Rugged
- Ideal for emergency fleets
- Often available with GPS/GNSS options

Pros: Durable, unobtrusive **Cons:** Slightly lower gain than whip antennas

2. Whip Antennas

- Highest performance
- Flexible or rigid options
- Best for rural or fringe coverage

Pros: Best range **Cons:** More visible, can be damaged

3. Covert / Internal Antennas

- Hidden behind trim, dashboard, or glass
- Used by police and security services

Pros: Invisible **Cons:** Reduced performance

4. Magnetic-Mount Antennas

- Fast installation
- No drilling
- Good for temporary vehicles

Pros: Easy to deploy **Cons:** Can be knocked off in harsh environments

5. Combination Antennas (TETRA + GPS/GNSS)

- One housing for multiple systems
- Cleaner installation
- Less cabling

Pros: Professional, efficient **Cons:** Slightly higher cost

🧰 **4. Installation Tips (Installer-Friendly)**

- Mount as **high as possible** on the vehicle
- Keep the antenna **clear of roof bars, beacons, and metal obstructions**
- Avoid routing cables near **high-current wiring**
- Ensure a **good ground plane** for best performance
- Use **approved connectors** to avoid signal loss

🛡️ **5. Why Quality Matters**

Cheap antennas cause:

- Poor coverage
- Missed calls
- Slow data
- Interference
- Shorter lifespan

Professional-grade antennas (like Panorama) offer:

- Better gain
- Rugged construction
- Certified performance
- Long-term reliability
- Bumper-mount options

📞 **8. Need Help Choosing?**

Call our friendly experts at Co-Star on 01423 340066 for advice you can trust.

TETRA Antennas – Comparison Table

Vehicle & External Antennas

Model	Frequency Range	Mounting Style	Key Features	Ideal For
CD390	390 MHz	Clip-mount	Compact half-wave coax antenna	Specialist or temporary installations
BMP2-DPD-S15F	380–470 MHz	Bumper mount	Dual bumper mount, integrated power divider	Emergency vehicles, covert installs
HM-S1	390 MHz	Motorcycle mount	Vibration-resistant, compact	Police / emergency motorcycles

Low-Profile & Covert Antennas

Model	Frequency Range	Mounting Style	Key Features	Ideal For
LG390	380–430 MHz	Low-profile roof	TETRA + GPS, aerodynamic, rugged	Emergency services, high-speed fleets
LP390	380–400 MHz	Low-profile roof	Compact, discreet, high efficiency	Covert or aesthetic-sensitive vehicles
A.4937.01	380–470 MHz	Covert / hidden	Fully concealed design	Undercover operations, unmarked vehicles

Internal / Adhesive Antennas

Model	Frequency Range	Mounting Style	Key Features	Ideal For
EF-TET-3F	380–430 MHz	Internal adhesive strip	Slim, flexible, easy install	Vehicles where drilling is not allowed
EF-442-3F	420–465 MHz	Internal adhesive strip	Slim, flexible, easy install	Vehicles where drilling is not allowed

Combination (TETRA + GPS) Antennas

Model	Frequency Range	Mounting Style	Key Features	Ideal For
GPSKM-3FS-TET	TETRA + GPS	Roof mount	High-performance dual-system antenna	Fleet tracking + TETRA comms
LG390	380–430 MHz + GPS	Low-profile roof	Rugged, aerodynamic, dual-function	Emergency services, rapid-response fleets