

GPR Antennas — CrossOver Series

High-performance dual-channel GPR systems for professional subsurface surveys

General Description

The **CrossOver** series by **ImpulseRadar** is a GPR family designed for the professional geo-community and subsurface inspection specialists. Available in three models — **CO4080**, **CO1760**, and **CO730** — covering six frequencies in the 70–800 MHz range, ensuring maximum versatility in any survey environment.

Each system features a true dual-channel antenna with built-in electronics and internal GPS. **Real-Time Sampling (RTS)** technology delivers exceptional depth penetration and bandwidth. Wireless Android tablet control and the 12V Li-Ion battery provide up to 9 hours of operational autonomy.

Key Advantages

Dual-channel reale / True dual-channel	Un'unica antenna, due frequenze simultanee. / One antenna, two simultaneous frequencies.
Real-Time Sampling (RTS)	>100 dB SNR — superiore ai sistemi GPR convenzionali. / Superior to conventional GPR designs.
Alta velocità / High speed	>800 scan/s — >130 km/h @ 5 cm — ideale per grandi superfici. / Ideal for large-area surveys.
GPS integrato / Integrated GPS	DGPS interno + GPS esterno NMEA 0183 + encoder odometrico. / Internal DGPS + ext. NMEA 0183.
IP65 · -20°/+50°C	Protezione totale polvere/acqua. Fino a 9h autonomia. / Full dust/water protection. Up to 9h.

Applications

- Infrastructure & civil engineering
- Utility locating
- Geological & geotechnical surveys
- Road & bridge inspection
- Tree root mapping
- Law enforcement & military
- Ice & snow inspection
- Mining
- Environmental surveys
- Archaeology

Technical Sheet — CO4080

CO4080

Dual-channel — 400 MHz (CH-1) + 800 MHz (CH-2)



Centre freq.	400 MHz (CH-1) + 800 MHz (CH-2)
Time window	388 ns (LF) / 194 ns (HF)
Power cons.	1.3 A (dual) / 1.0 A (single)
Op. time	7 h (dual) / 9 h (single)
Dimensions	444 × 355 × 194 mm
Weight	6.35 kg
Cart folded	870 × 540 × 370 mm
Cart in use	1010 × 540 × 1030 mm
Cart weight	12.8 kg (cart) / 20 kg (cart+antenna+display)
Antenna type	CrossOver dual-channel
SNR	>100 dB
Effective bits	>16 bit
Scans/s	>800
Survey speed	>130 km/h @ 5 cm
Bandwidth	>120%, frac., -10 dB
Acquisition	Wheel / Time / Manual
Positioning	Wheel enc. + DGPS int. + GPS ext.
Power supply	12V Li-Ion or ext. 12V DC
Operating temp.	-20° to +50°C
Protection	IP65
Certifications	CE, FCC & IC

Compact model for high-resolution inspection of urban infrastructure, archaeological surveys, utility locating, and road pavement assessments.

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Technical Sheet — CO1760

CO1760

Dual-channel — 170 MHz (CH-1) + 600 MHz (CH-2)



Centre freq.	170 MHz (CH-1) + 600 MHz (CH-2)
Time window	1050 ns (LF) / 263 ns (HF)
Power cons.	1.3 A (dual) / 1.0 A (single)
Op. time	7 h (dual) / 9 h (single)
Dimensions	695 × 445 × 205 mm
Weight	9.5 kg
Cart folded	920 × 640 × 390 mm
Cart in use	1100 × 640 × 1030 mm
Cart weight	15.3 kg (cart) / 25.7 kg (cart+antenna+display)
Antenna type	CrossOver dual-channel
SNR	>100 dB
Effective bits	>16 bit
Scans/s	>800
Survey speed	>130 km/h @ 5 cm
Bandwidth	>120%, frac., -10 dB
Acquisition	Wheel / Time / Manual
Positioning	Wheel enc. + DGPS int. + GPS ext.
Power supply	12V Li-Ion or ext. 12V DC
Operating temp.	-20° to +50°C
Protection	IP65
Certifications	CE, FCC & IC

Mid-range model balancing investigation depth with resolution. Ideal for road & bridge inspection, geological surveys, and versatile frequency applications.

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Technical Sheet — CO730

CO730

Dual-channel — 70 MHz (CH-1) + 300 MHz (CH-2)



Centre freq.	70 MHz (CH-1) + 300 MHz (CH-2)
Time window	2500 ns (LF) / 625 ns (HF)
Power cons.	1.5 A (dual) / 1.2 A (single)
Op. time	6 h (dual) / 8 h (single)
Dimensions	960 × 760 × 270 mm
Weight	20.2 kg
Antenna type	CrossOver dual-channel
SNR	>100 dB
Effective bits	>16 bit
Scans/s	>800
Survey speed	>130 km/h @ 5 cm
Bandwidth	>120%, frac., -10 dB
Acquisition	Wheel / Time / Manual
Positioning	Wheel enc. + DGPS int. + GPS ext.
Power supply	12V Li-Ion or ext. 12V DC
Operating temp.	-20° to +50°C
Protection	IP65
Certifications	CE, FCC & IC

Low-frequency model engineered to maximise depth penetration. Ideal for deep geological surveys, mining prospecting, ice/snow inspection.

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Accessories

Pulling Kit	Pulling rods, chest harness, and waist belt. Ergonomically designed for maximum operator comfort during extended sessions in less accessible areas.
Push Cart	Push cart for efficient 2D GPR data collection. Fully foldable handle assembly. Available in two sizes (CO4080 and CO1760). External RTK GPS compatible.
Measuring Wheel	Ø250 mm odometric wheel in printed plastics, compatible with all three models. Odometer and cable housed internally.
GPS Mounting Kit	Optional GPS mounting accessories for push-cart or antenna. Poles available in different lengths as needed.
Skid Plate	Available in two types: for cart and pulling configuration. Protects antennas over the ground. Consumable item, available as spare.

Software

ViewPoint — Android	Android data acquisition app with a secure wireless interface. Industry-standard marker functionality (APWA, AS5488, or user-defined) for field annotation.
CrossPoint — Windows	Windows-based GPR data processing, interpretation, and analysis software. Tools for filtering, processing, anomaly marking, map visualisation, and CAD/GIS export.

Recommended User Interface

Display	720×1280 px o superiore / or better
OS	Android™ ≥ 5.0 (Lollipop)
Memoria / Memory	2.7 GB SDRAM o superiore / or better
CPU	Intel Atom x5-Z8550, Quad-core 2.3 GHz o equiv.
Consigliato	Samsung Galaxy Tab Active Pro o equiv.

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