

DX Antenna Array Series

AIR-COUPLED ANTENNA ARRAYS FOR 3D STEP-FREQUENCY GPR

DX Antenna Arrays Series represents the latest innovation in three-dimensional ground penetrating radar (GPR) data collection. The air-coupled antenna array is suitable for applications where the antenna needs to be elevated off of the surface for fast road and railroad inspection, and landmine/improvised explosive device (IED) detection. Antenna arrays allow scanning of up to 41 channels over a continuous 200MHz to 3GHz frequency range. The antenna arrays collect three-dimensional GPR data with dense line spacing. DX Antenna Arrays Series provides high resolution at shallow depths and deeper penetration compared to traditional air-coupled pulse-based GPR systems.

The unique wideband antenna design consists of bow-tie monopole antennas whereby the combination of the different transmitter/receiver antenna elements allow the user to collect three-dimensional data along multiple survey lines with a channel spacing of 7.5 cm. The antenna is equipped with a standard 5/8" thread mount for easy mounting of a global positioning system (GPS) antenna or TotalStation prism.

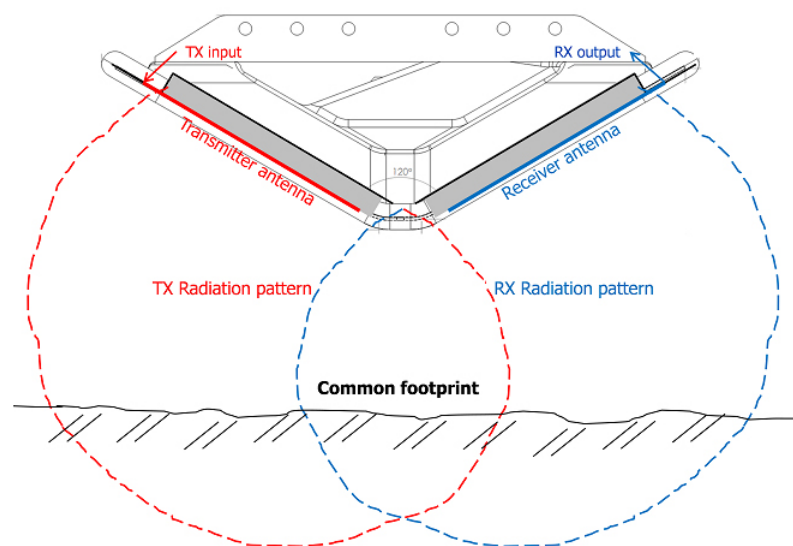


Figure1: Antenna Configuration

APPLICATION AREAS

- › Road Pavement
- › Aircraft Runway
- › Bridge Deck
- › Railroad Ballast
- › Military-improvised explosive device (IED)/unexploded ordnance (UXO)
- › Archaeology

FEATURES & BENEFITS

- › Superior resolution at shallow depths - ideal for near surface GPR data acquisition.
- › Wideband Coverage (200MHz to 3GHz) enables detailed surveys from near surface to deeper depths in a single pass with less than 2.5 cm resolution at shallow depths.
- › Capture wide swaths of survey data in one pass.
- › Support for multi-offset data recording.
- › Built-in GPS receiver for coarse positioning and precise time reference standard.
- › Delivered and stored in rugged shipping container for safe storage and transportation.

SPECIFICATIONS

TECHNICAL SPECIFICATIONS	DX1821	DX2125	DX2429	DX3341
Width	1.8 m	2.1 m	2.4 m	3.3 m
Frequency Range	200-3000 MHz	200-3000 MHz	200-3000 MHz	200-3000 MHz
Number Of Channels	21	25	29	41
Channel Spacing (Cross-Line)	75 mm	75 mm	75 mm	75 mm
Effective Scan Width	1.575 m	1.875 m	2.175 m	3.075 m
Direct Wave Suppression	> 50 dB	> 50 dB	> 50 dB	> 50 dB
Polarization	Linear (in-line direction)	Linear (in-line direction)	Linear (in-line direction)	Linear (in-line direction)
Size (meters)	1.815 x 0.58 x 0.21	2.115 x 0.58 x 0.21	2.415 x 0.58 x 0.21	3.4 x 0.58 x 0.21
Weight	28 kg	33 kg	38 kg	50 kg
Transport Container Size (meters)	1.9 x 0.645 x 0.27	2.2 x 0.645 x 0.27	2.5 x 0.645 x 0.27	3.49 x 0.65 x 0.275
Transport Container Weight	27 kg	30 kg	33 kg	55 kg

Note: Other sizes are available on a custom order basis. Contact 3D-RADAR for additional details: sales@3d-radar.com.

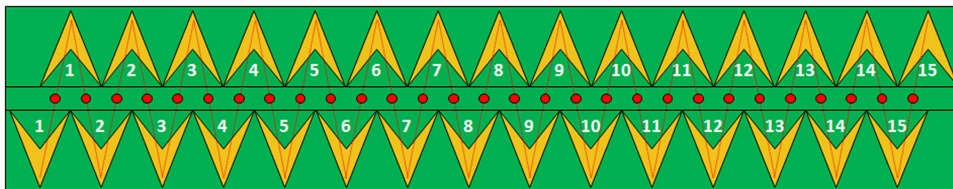


Figure 2: Displacement of elements and channels of the standard scan pattern for DX2429. Other antennas have identical spacing, but different numbers of channels that are strictly dependent on antenna width.

ACCESSORIES

- › Trailer mounting kit (not recommended for speeds higher than 30 km/h)
- › Antenna cables (up to 8 m length)
- › DMI/Odometer with wheel adapter

3D-RADAR RELATED PRODUCTS

- › DXG Antenna Array Series
- › GeoScope™ Mk IV 3D GPR
- › Examiner™ Software