



# **XENTA-C**

**COUNTER-UAS RADARS**

**WEIBEL**  
DOPPLER RADARS

# XENTA-C, COUNTER-UAS RADARS

With a long heritage of highly accurate instrumentation radars provided to test ranges all over the world, the XENTA-C product line builds on Weibel's advances in Continuous Wave (CW) radar technology.

The XENTA-C is a state of the art X-Band FMCW sensor system, developed for high-performance 3D air surveillance of all types of aerial targets. The radar is capable of simultaneously detecting, tracking, and classifying all types of aerial targets, both fast moving as well as Low-Slow-Small (LSS) targets.

The XENTA-C radars effectively distinguish hovering drones from ground clutter through detection of micro-Doppler generated from the rotors of the drone, enabling detection and classification even for drones with zero speed.



Advanced utilization of FMCW with Range Doppler processing, together with highly effective adaptive clutter mapping, provides the ability to acquire, track, and classify targets with high confidence, spanning from hovering drones, helicopters, up to high speed jets.

The XENTA C-UAS radars offer the unique feature of a combination of full 360 degree volume surveillance with high precision 3D target tracking and classification at up to 1 second update rate.

Derived associated track data and comprehensive BIT information are reported to any connected UTM or ATM system through the industry standard ASTERIX protocol, enabling remote control and system-of-systems integration.

The XENTA-C radar is a software defined radar enabling a wide selection of operational settings. This enables operational flexibility and a future proof upgrade path through software upgrades based on changing needs, or a changing environment.

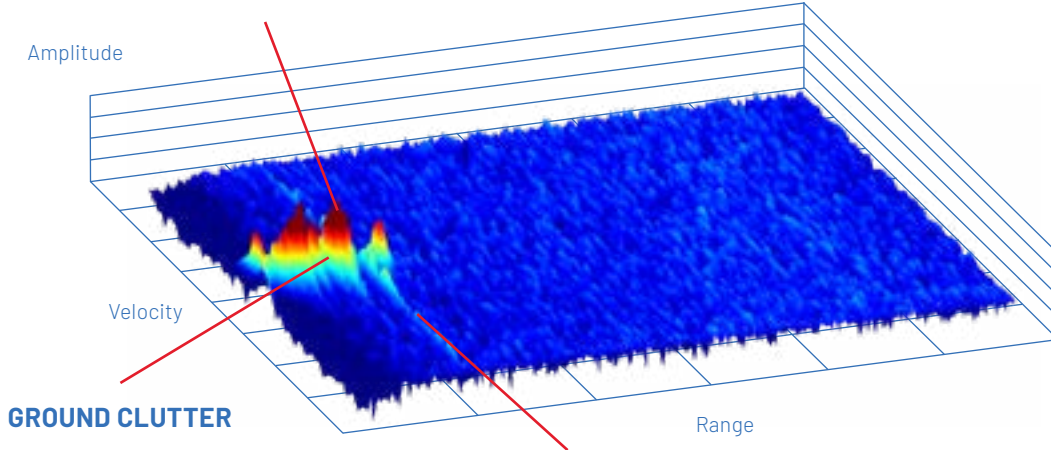




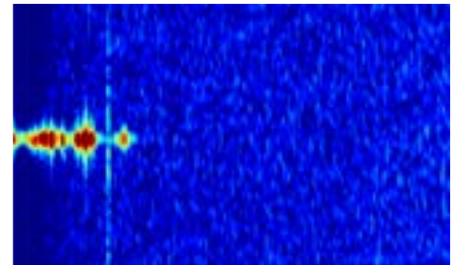
SPECIFICATIONS			
MODEL	XENTA-C3 (120/60)	XENTA-C3 (240/30)	XENTA-C5
Transmit Power	120W	240W	240W
Instrumented Range	Nominal 75 km	Nominal 75 km	Nominal 75 km
Elevation Coverage	60°	30°	60°
Antenna Type	Multiple feeding microstrip subarrays solid state GaN		
Receiver Type	Monopulse phase-phase comparison for angle tracking with digital-array synthetic-beamforming, multi-beam phased array technology		
Duty Cycle	100% nominal		
Frequency	X-Band		
Beamforming	One programmable transmit beam, multiple synthetic receive beams		
Transmission Modes	FMCW with Range Doppler processing		
Operational Modes	Surveillance, Stop-Stare (optional)		
Rotation Rate	0-60 rpm		
Operational Rate	16 profiles		
Sector Blanking/Inhibit Zones	10 sectors		
Transmit Power Management	Flexible sector-based programmable power level		
Polarization	Horizontal		
Power Input	28 VDC, 3 phase 400VAC, 208 VAC + Neutral 50/60 Hz		
Digital Data Interfaces	ASTERIX		
External Interfaces	Gigabit Ethernet		

# DRONE DETECTION IN SEVERE GROUND CLUTTER

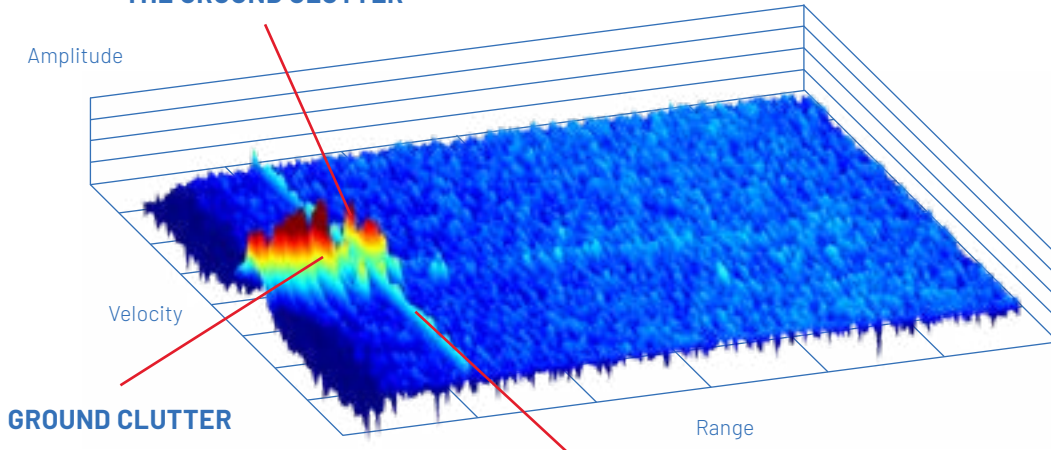
**HOVERING DRONE HIDING IN THE GROUND CLUTTER**



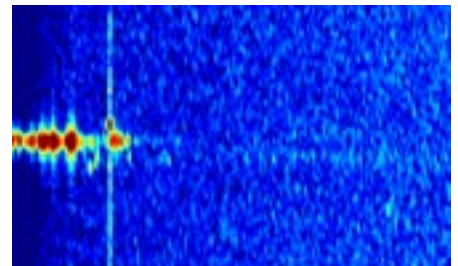
**DRONE PROPELLERS DETECTED**



**DRONE BODY SEPARABLE FROM THE GROUND CLUTTER**



**DRONE PROPELLERS DETECTED**



**The XENTA-C product series is specifically designed to respond to the growing challenges from the proliferation of Unmanned Aerial Systems.**

**HIGHLIGHTED FEATURES OF THE RADAR INCLUDE:**

- Detects and tracks all types of fixed-winged and rotary drones, including micro and nano-drones
- Detects and tracks LSS up to high-speed high altitude drones
- Target detection, tracking and classification
- Reliable target classification based on advanced Doppler processing and Machine Learning (ML)
- X-Band 3D digital-array synthetic beamforming technology
- FMCW with Range Doppler processing
- Very low false track rate
- Simple integration with UTM and ATM systems through use of Ethernet and standard ASTERIX interfacing
- High reliability with graceful degradation through multiple receive modules
- Adaptive and dynamic clutter processing

**COUNTER-UAS PERFORMANCE**

Weibel's XENTA-C radars have specifically been developed to address the need of detecting, classifying and tracking all types of aerial targets, from fast moving targets, such as jets, to low, slow, and small targets, such as fixed-wing aircraft and drones.

The XENTA-C radars feature a selectable configuration of 30-60° elevation 3D coverage, and 120-240W output power with a 360-degree azimuth angle, designed for surveillance and tracking in complex clutter environments.

The XENTA-C radars, in a high-power configuration, consistently detects DJI-P4 drones beyond 7km, and classifies the same drone at 5km under favourable conditions.



## ABOUT WEIBEL SCIENTIFIC

Danish Weibel Scientific is the global leader in the market for advanced Doppler radar systems. For more than 45 years, we have sold cutting-edge radars around the world for use in space, aerospace, defense, and missile defense systems. We have delivered more than 5,000 radars to more than 40 countries.

As a key approach to ensuring high-quality logistics support, Weibel designs and builds all critical units in-house. In-house design and manufacturing mean that with the exception of standard components, Weibel is independent of sub-suppliers for the manufacturing of both prime equipment and spares. This allows us to provide outstanding support for our products and avoid obsolescence.

Read more at [weibelradars.com](http://weibelradars.com)



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