



XENTA-C

COUNTER-UAS RADARS

WEIBEL
DOPPLER RADARS

XENTA-C, COUNTER-UAS RADARS

IT'S ABOUT TIME

When you're faced with protecting your assets from an approaching object, the last thing you want to lose is time. The more time your radar system can give you, the greater confidence you can have in making the right decision. Developed for detecting, tracking and classifying all types and sizes of UASs, Weibel's XENTA-C, Counter-UAS radar gives you the time you need. It is specifically designed to meet the challenging requirements for monitoring low, slow and small (LSS) targets – including fixed-winged and propelled drones.



The XENTA-C product series builds on Weibel's proven expertise with X-Band FMCW/CW sensor systems and is developed for high-performance FMCW 3D digital-array surveillance. The radar detects, classifies and tracks targets of interest within the full surveillance-volume.

Track data (3D position and velocity) generated from targets is reported to UTM and C2 systems at a high data rate and with minimal latency through standard ASTERIX protocol. In this way, the XENTA-C data provides the necessary information to support a full and exhaustive situational awareness suitable for operational processing and decision-making.

The XENTA-C provides high performance 3D detection, tracking and classification with minimal false-track reports. It combines FMCW and CW digital-array beam-forms, coupled with advanced dynamic clutter-mapping and MTI-D processing. XENTA radars have the capability to detect and distinguish at long distance even the smallest micro-Doppler signals generated by propelled micro or mini-drones.



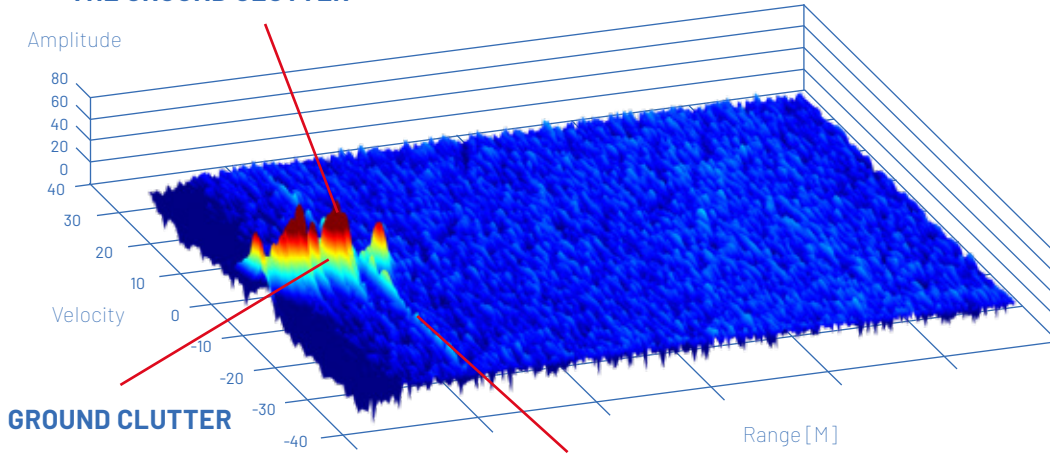


SPECIFICATIONS

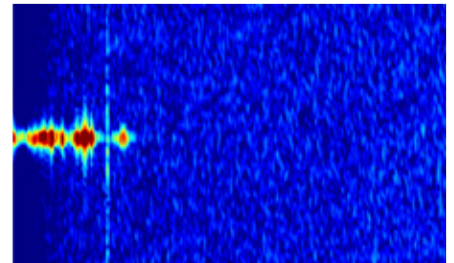
MODEL	XENTA-C1	XENTA-C3
Transmit Power	60W low-power	240W high-power
Instrumented Range	Nominal 50 km	Nominal 75 km
Elevation Coverage	30°	
Antenna Type	Multiple feeding micro-strip sub-arrays solid state GaN	
Receiver Type	Mono-pulse phase-phase comparison for angle tracking with digital-array synthetic-beamforming multi-beam phased-array technology	
Duty Cycle	100% nominal	
Frequency	X-Band 9.0-9.5 / 9.5-10.0 / 10.0-10.5 GHz	
Beamforming	One programmable transmit beam, multiple synthetic receive beams	
Transmission Modes	FMCW/CW, MFCW/CW	
RF Bandwidth	400 MHz	
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	3 phase + N: 208VAC or 400VAC, Optional 28 V DC	
Digital Data Interfaces	ASTERIX	
External Interfaces	Gigabit Ethernet	

DRONE DETECTION IN SEVERE GROUND CLUTTER

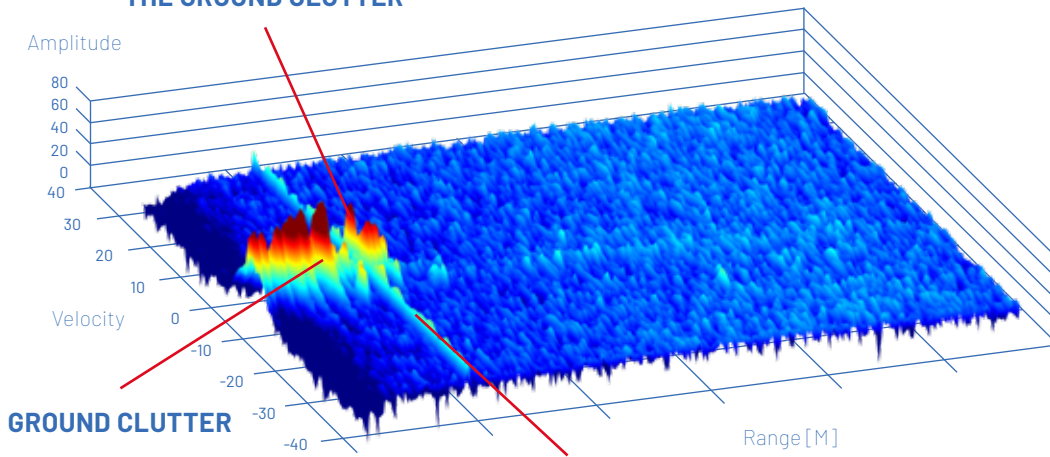
HOVERING DRONE HIDING IN THE GROUND CLUTTER



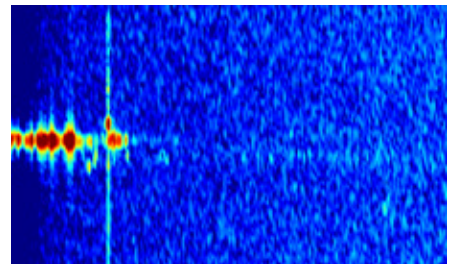
DRONE PROPELLERS DETECTED



DRONE BODY SEPARABLE FROM THE GROUND CLUTTER



DRONE PROPELLERS DETECTED



The XENTA-C product series is a specifically designed response to the growing challenge from the proliferation of Unmanned Aerial Systems.

HIGHLIGHTED FEATURES OF THE RADAR INCLUDE:

- Detects and tracks all types of fixed-winged propelled drones including Group 1 through 5, micro and nano-drones
- Detects and tracks LSS as well as high-speed high altitude drones
- 360 degree volume-surveillance with 30 degree elevation coverage
- Classification of target types
- Very low false-track rate through use of Weibel's unique micro-Doppler technology coupled with AI
- Robust performance and accuracy through use of X-Band
- Advanced clutter suppression through use of latest 3D digital-array synthetic-beamforming technology
- High reliability with graceful degradation through multiple transmit and receive modules
- Adaptive and dynamic clutter processing
- Simple integration with control systems through use of Ethernet and standard ASTERIX interfacing

COUNTER-UAS PERFORMANCE

Performance of the XENTA-C1 and XENTA-C3 radars against different types of drone targets are available, but subject to Non Disclosure Agreement. However, we can disclose that XENTA-C3 will detect and track a DJI Phantom 4 micro-drone (1,300 grams) beyond 7 kilometers with classifiable micro-Doppler signature from the propellers beyond 5 kilometers.



ABOUT WEIBEL SCIENTIFIC

Danish Weibel Scientific is the global leader in the market for advanced Doppler radar systems. For more than 40 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. In this way, we are able to offer fast and guaranteed through-life support.

Read more at weibelradars.com



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