

CHELTON

Survival in the digital battlefield

Assured PNT from the
antenna experts.



chelton.com

Seeing through the noise

With unprecedented growth in electromagnetic transmissions across the spectrum, especially from irregular forces and criminal groups, detection and anti-jamming equipment has never been more important to 'see through the noise' and avoid being infiltrated.

GNSS signals, so vital for Position, Navigation and Timing (PNT) data, can easily be disrupted by simple low power jammers or highly sophisticated hostile intervention. So an effective and reliable jam-resistant system is absolutely essential for freedom of action and operational advantage.

In order to combat interference, Control Reception Pattern Array antennas are used in conjunction with Antenna Electronics for filtering and control of the reception pattern.



| Multi Frequency Protection

| Digital Beamforming & Nulling

| Threat Intelligence

| Superior Performance

| Platform Tailored

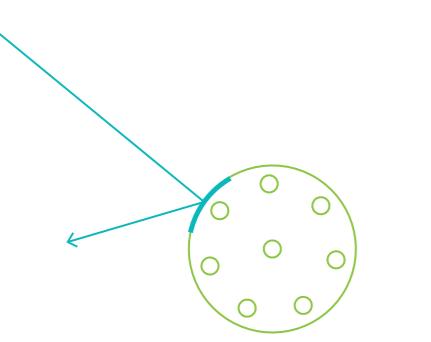
How does Anti-Jam protect against unwanted signals?

There are two types of interference, narrowband and broadband. Narrowband targets specific frequency ranges, whereas broadband intends to swamp the antenna with a broad frequency range of noise. Anti-Jam provides Assured Positioning, Navigation and Timing

Nulling

When interference is identified, the system generates a 'null' which numbs or ignores the unwelcome interference. With multiple jammers, nulls will be generated in each direction until all channels are exhausted.

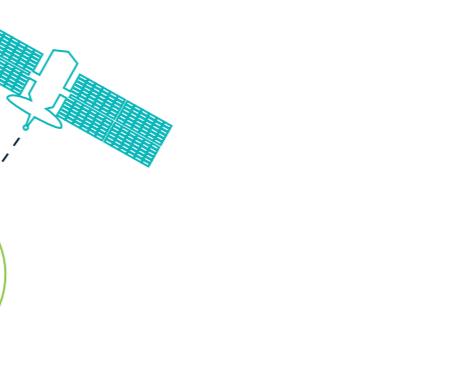
- ✓ Protects the GNSS signal from harm
- ✓ Superior performance when not being jammed



Beamforming

Beamforming or beamsteering steers a beam of RF in the direction of the known GNSS satellite. It makes jamming particularly difficult as it would be needed in the path of each satellite the antenna is looking at.

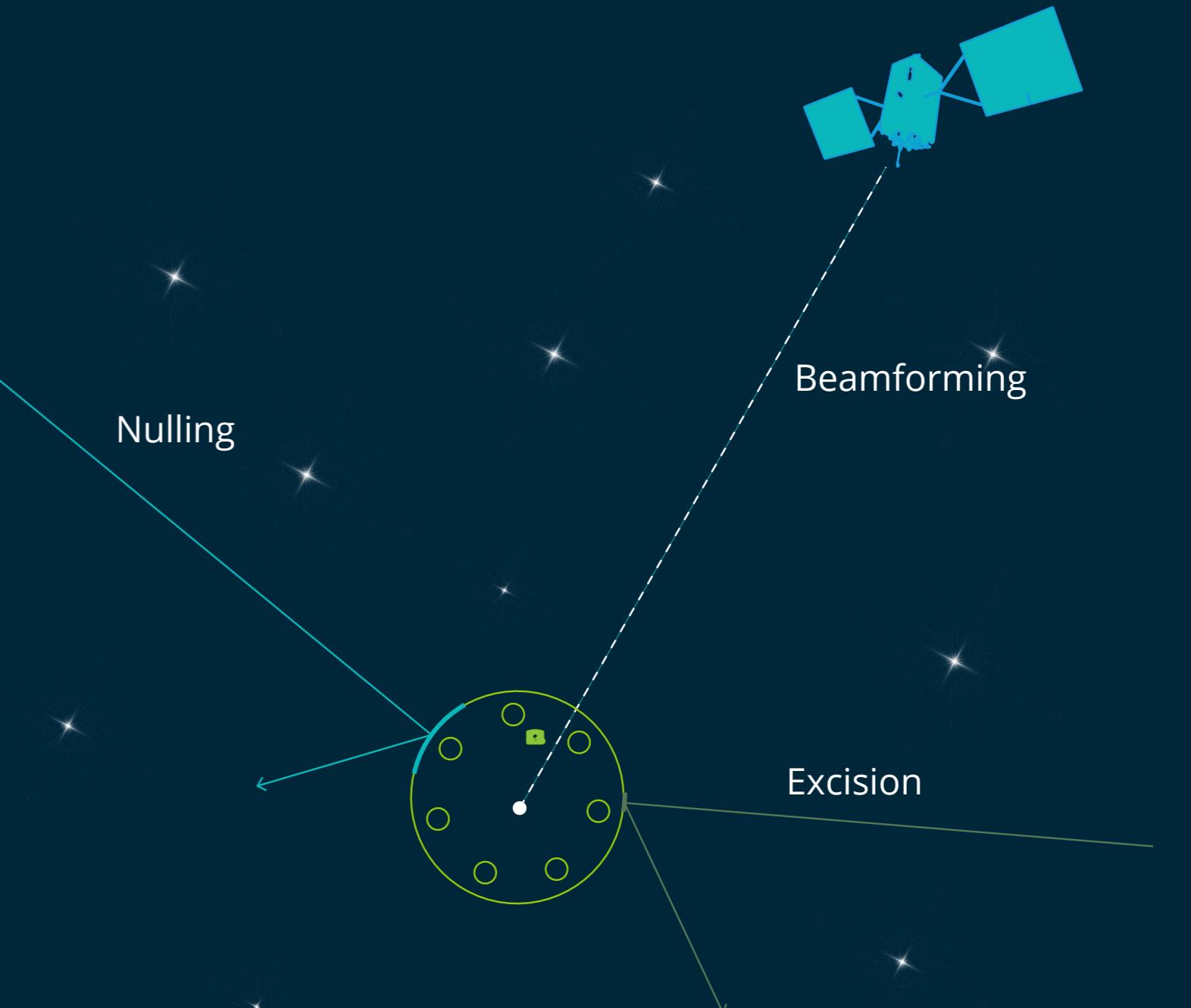
- ✓ Improved signal to noise ratio
- ✓ Higher level of protection against jamming



Excision

Excision removes all narrowband interference which exceed a threshold determined through computed statistics. Signals exceeding the threshold are removed and remaining signals are transformed for nulling.

- ✓ Removes all narrowband interference without using any of the reserved nulling channels



Getting you out of a jam



The AW159 Wildcat was the first platform installed with Chelton's first-generation DACU and CRPA.

You're on a mission and suddenly you find yourself under digital attack. Someone is trying to infiltrate your GPS antenna, but how do you detect it and how do you stop it?

Chelton have been designing and manufacturing battle-proven anti-jam technology for over 20 years and we pride ourselves in our ability to provide a complete end-to-end Assured PNT solution with compatible antennas, processors and software all individually tailored to the needs of each platform.

- ✓ Superior dynamic range
- ✓ Upgradable software-defined core
- ✓ Receiver agnostic
- ✓ Trust someone who has done it all from jammers to GPS and anti-jam GPS
- ✓ ITAR-free
- ✓ L1, L2 and M-Code simultaneously

What can Chelton offer?

We provide a proven Anti-Jam suite offering your platform a tailored solution.

1. Bespoke commissioning and support

When it comes to fitting your system, each install is bespoke, tailored made to your platform's needs and calibrated to your exact requirements. Each implementation is supported by our team of in-house experts.

2. Unrivalled performance

Superior performance for 99.9% of time spent operating in a benign environment – an important factor missed by our competitors.

3. Perfect for the present and the future

The system's modular nature and diverse range of antenna and processing options means it is perfect for new installs and retrofits.



Eurofighter with Chelton conformal CRPA.

L1 & L2

Simultaneously covers L1 & L2 bands

M-Code

Our systems are tested and approved for M-Code GPS

Beam forming

Additional level of protection with beamforming capability on our DACU8b as well as nulling

Conformal CRPA

Chelton manufacture conformal CRPA antennas that match the shape profile of your platform.

Anti Jam is our Jam

Chelton supplies the anti-jam GPS system for the Gray Eagle Extended Range (GE-ER) Unmanned Aircraft System (UAS), the U.S. Army's MQ-1C ER.

You can also find our conformal CRPAs and GPS DACU on stealthy 4.5 gen supersonic fighters and advanced swing role fighters.



Scan to read the press release

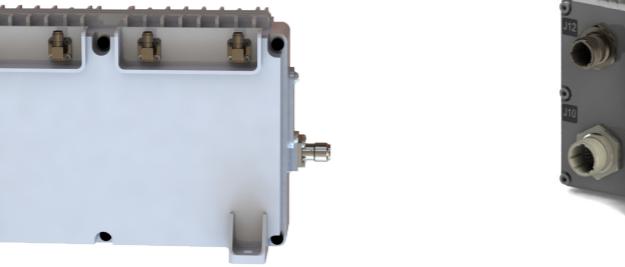
The Anti-Jam Suite

Digital Antenna Control Unit



7-6005

DACU Nulling 4-Channel



7-6008

DACU Nulling 8-Channel



7-6010

DACU Nulling & Beamforming 8-Channel

Controlled Reception Pattern Array Antenna



20-7009

Active 4 element CRPA



20-7500

Passive 8 element conformal CRPA



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