



# Revolutionising Land Defence Tactical DF

In Communications Intelligence (COMINT), Direction finding systems are vital for gathering information on enemy communications and electronic emissions.

These systems enable the interception of enemy radio communications, and, through a network of spatially separated sensors reveal the positions of command posts, troop movements, and other critical assets. By tracking the locations and headings of various electronic emitters over time, military forces can build a comprehensive scenario of enemy asset placements.

Tactical Direction Finding (DF) systems, as part of a larger data fusion system, play a crucial role in a wide range of military operational scenarios, supporting a wide range of missions. These systems enhance situational awareness by providing information on both adversary and friendly electromagnetic signal sources. The mission of tactical systems is to increase the effectiveness of strategic military operations, contribute to force protection, and support mission success in complex and dynamic environments. As adversaries evolve their tactics, the role of tactical DF systems in military strategy remains.

Below are examples of operational scenarios where Alaris Antennas' Low SWaP Tactical DF antennas are utilised:

## Special missions units (SMU):

Operating behind enemy lines or in hostile areas, special operations units benefit from the situational awareness provided by tactical DF systems. These allow for detection of enemy patrols and observation posts. In covert operations, DF systems can locate enemy communication networks without alerting adversaries, thus supporting a non-intrusive battlefield surveillance strategy as compared to conventional tactical ground surveillance radar systems.

## Border Security:

DF systems help border protection forces detect communications used by smugglers and traffickers, allowing security teams to track and intercept illegal activities.

## Counter-Insurgency and Asymmetric Warfare:

Insurgent groups often use short-range radios over that of GSM device. DF systems are invaluable for detecting and locating these transmissions, leading to the identification and neutralisation of threats or communications.

As a leading supplier of Electronic Warfare (EW) antenna systems, Alaris Antennas has developed a highly effective range of wide-band compact tactical DF antennas for the military and security operations. Covering frequencies from 1 MHz to 6000 MHz, these antennas use correlative DF methods for improved accuracy and enhanced sensitivity, with active components that can be dynamically controlled based on mission requirements.

The key advantage of our manpack DF antenna range is its low SWaP, minimising the soldier's risk of detection. Additionally, our on-the-halt DF antennas are collapsible for quick stowage and deployment, ensuring operator mobility. Configured for optimal performance based on system architecture and mission needs, these antennas meet the demands of modern tactical operations.



Scan above



Product Code	DF-A0245	DF-A0254*	DF-A0257*	DF-A0269	DF-A0303	DF-A0048-01	DF-A0300
Frequency	1 - 200MHz	400 - 6000MHz	20 - 6000MHz	400 - 8000MHz	20 - 6000 MHz	1 - 30MHz	20 - 3000 MHz
OF accuracy typical	< 5°	< 5°	< 5°	< 2°	< 2°	< 3°	< 2°
Size (height x diam. &. mass)	< 700mm x 2000mm incl. quadpod < 6.5 kg	< 480mm x 101mm 1.1 kg incl. bracket	< 480mm x 101mm 1.2 kg incl. bracket	< 480mm x 101mm 1.1 kg incl. bracket	< 480mm x 101mm 1.2 kg incl. bracket	2,675mm x 1,560mm 16kg	2,900mm x 2,600mm 35kg
Form Factor							
Use Case							
DFMethod	Watson-Watt (WW) or 3-channel correlative DF**			4-channel correlative DF		Watson-Watt (WW) or 3-channel correlative DF**	5-channel correlative DF

\* Products can be used on their own or in combination with DF-A0245, DF-A0303 (20-6000MHz, 4 channel) and DF-A0268 (400-6000MHz, 4 channel)

\*\* Within a high-field environment