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E ENCYCLOPEDIA ARTICLE

Electronic warfare

Sections: Categories of ECM; Surveillance systems; Radar warning receivers; Reflectors; Infrared protection; Active ECM; ECM system; ECM aboard missiles; Trends in ECM

The art and science of preserving the use of the electromagnetic spectrum for friendly forces while denying its use to the enemy. This is accomplished via use of techniques, devices, and equipment by an adversary to deny or counteract an enemy's use of radar, communications, guidance, or other radiowave devices. The principal techniques that are employed are called electronic countermeasures (ECM). Because of the growing use of optical and infrared techniques for communications, guidance, detection, and control, they are sometimes called electromagnetic, rather than electronic, countermeasures to convey more adequately the idea that countermeasures are not confined to the portion of the spectrum where electronic techniques alone are applicable but may be used throughout the electromagnetic spectrum. Other techniques include the use of antiradiation weapons designed specifically to home on and destroy radars, and the attempts to reduce the electromagnetic signatures of aircraft, missiles, and ground vehicles.

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