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Researched and compiled by Joe Cyr (www.joe-cyr.com)

C^2-PROTECTION - See COMMAND AND CONTROL PROTECTION.

C^2W - See COMMAND AND CONTROL WARFARE.

C^3 - See COMMAND, CONTROL, AND COMMUNICATIONS.

C^3CM - See COMMAND, CONTROL, AND COMMUNICATIONS COUNTERMEASURES.

C^3I - See COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE.

C^3I ERASING - See COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE ERASING.

C^3-PROTECTION - See COMMAND, CONTROL AND COMMUNICATIONS PROTECTION.

C^4I - See COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, AND INTELLIGENCE.

CALMATIVE AGENT - A NONLETHAL WEAPON consisting of a chemical agent, sometimes called a SLEEP AGENT, that is transmitted through the skin and into the bloodstream. [10:2754]

CAMOUFLAGE - The use of natural or artificial material on personnel, objects or tactical positions with the aim of confusing, misleading or evading the enemy. [1.1] NOTES: (1) An interesting historical aspect of camouflage -- artists and camouflage -- is addressed in the MIT Press Web site: Art and Camouflage: An Annotated Bibliography [10:2704] (2) An online database of camouflage used by USN warships during World War II, along with descriptions of various ship camouflage schemes, are provided in detail by Snyder & Short Enterprises at their web site: www.shipcamouflage.com/warship_camouflage.htm. See also CHAMELEON CAMOUFLAGE.

CANTILEVERED CAVITY - A micromechanical feature which allows a tunable device (e.g., TUNABLE LASER) to be tuned by moving a cantilever arm to change the dimensions of the (optical) tuning cavity. [10:2924]

CAPTOR - (acronym for "encapsulated torpedo.") CAPTOR is a deep-water mine designed to be laid by aircraft or submarine. When deployed, it is anchored to the ocean floor; upon detection of a hostile submarine, the CAPTOR launches a torpedo at the target. [Navy CHINFO press release: www.chinfo.navy.mil/navpalib/factfile/weapons/wep-mine.html] See also QUICKSTRIKE and SUBMARINE LAUNCHED MOBILE MINE (SLMM).

CARABAS - See COHERENT ALL-RADIO BAND SENSOR

CARBON BOMB - See CARBON FILAMENT BOMB

CARBON FILAMENT BOMB - A NONLETHAL WEAPON (NLW) in the form of a LASER GUIDED WEAPON consisting of a bomb that disperses numerous (100 - 200) canisters, each retarded in descent by a small parachute, and which eject spools of carbon which unravel and overlap to form carbon webs that are intended to drape over target power lines to cause a surge of current which will shut down the plant without damaging toxin-filled transformers. [] Also called CARBON BOMB.

CARBON NANOTUBE - See BUCKY TUBE.

CAREFREE MANEUVERING - A flight-control mode using dynamic coupling of an aircraft's stick-control computer and flight-control computer to provide maximum performance without risking out-of-control situations. []

CARGO TRACKING (CT) - See IN-TRANSIT VISIBILITY (ITV)

CARRIER WAVE (CW) - A WAVE having at least one characteristic that may be verified from a known reference value by MODULATION. Also called CARRIER. [3]

CARNIVORE - A Federal Bureau of Investigation (FBI) e-mail wiretapping system consisting of a PACKET SNIFFER used to locate records (and only those records) in e-mail messages and INTERNET based telephony for which the FBI has received a court order. [10:2856] NOTE: (1) The origin of the codename "carnivore" is explained as "Carnivore *chews* all the data on the network, but it actually *eats* the information authorized by a court order." (2) There is (2000) some controversy about the privacy implications of carnivore.

CASED TELESCOPED AMMUNITION - Ammunition in which the individual rounds contain the projectile inside the cartridge case rather than protruding from the case as with most ammunition. [] Also called TELESCOPED AMMUNITION.

CAT EYE DETECTION - The detection of objects based on the feature of such object to reflect radiation in the reverse direction at an angle approximately equal to angle of incidence. This type of reflection is called **LIGHT REFLECTION** (**OR CAT'S EYE REFLECTION)** as distinguished from mirror or diffusion reflection. [10:3126]

CATHODE - In a VACUUM TUBE, the electrode through which a primary stream of electrons is generated, usually through THERMIONIC EMISSION. [3]

CATHODE RAY TUBE (CRT) - A display device in which controlled electron beams are used to present alphanumeric or graphical data on an electroluminescent screen. [3] Contrast with FIELD EMISSION DISPLAY (FED).

CC^2 See CYBERSPACE COMMAND AND CONTROL

CD DESTRUCTION SYSTEM - See THIN FILM PYROTECHNICS.

CENTROID HOMING - When applied to ANTI-RADIATION MISSILEs: the effect on a missile that has two or more radiation sources in its field of view causing it to home on the centroid of the power from the radiating sources. [4:5] See also POWER CENTROID.

CENTROID TRACKING - Tracking systems which discern dimensional extremities of the target and produce guidance information to cause the missile to impact in the center between two extremities. [10:95]

CEP - See CIRCULAR ERROR PROBABLE

CERES - See CLOUDS and EARTH'S RADIANT ENERGY SYSTEM

CHAD - The confetti-like residue from punched cards and paper tape. To reduce the problems associated with the dust-like chad, some tape systems employed "chadless" tape on which the rectangular holes were punched on only three sides, thus allowing the sensing pins to function while the chads remained fixed to the tape. []

CHAFF - (1) (DOD) Radar CONFUSION REFLECTORS, which consist of thin, narrow metallic strips of various lengths and frequency responses, used to reflect ECHOES for confusion purposes. [1.1] Synonymous with WINDOW. See also ROPE. (2) (NATO) Strips of frequency- cut metal foil, wire, or metallized glass fiber used to reflect electromagnetic energy, usually dropped from aircraft or expelled from shells or rockets as a radar countermeasure. [1.1] (3) An airborne cloud of lightweight reflecting objects typically consisting of strips of aluminum foil or metal-coated fibers which produce CLUTTER echoes in a region of space. [3]

CHAFF CONFUSION MISSION - A mission intended to overload the radar operator with chaff targets and interference so that he cannot accomplish timely recognition of, or provide reliable target data for, valid targets within those regions subjected to chaff induced CLUTTER. [4:3]

CHAFF CORRIDOR - A continuous three-dimensional stratum of CHAFF, laid by aircraft, and from 15 to 50 miles in length. One use is to prevent radar tracking or acquisition of aircraft within the corridor. [4:3]

CHAFF CORRIDOR MISSION - A mission intended to deny information to hostile systems regarding presence or absence of strike aircraft within the corridor and prevent tracking of air-craft entering the corridor. Synonymous with CHAFF SATURATION MISSION. [4:3]

CHAFF DECEPTION MISSION - A mission intended to generate an appearance of targets and air activity on radars to induce commitment of forces against non-existent strikes. [4:3]

CHAFF SATURATION MISSION - See CHAFF CORRIDOR MISSION.

CHAMELEON CAMOUFLAGE - Paint or uniforms that can change color to blend with the surrounding terrain. Tiny sensors and NANOELECTRONIC devices provide the color-change capability. Although intended to help minimize visibility, chameleon camouflage could also be adapted for application in the near-visual SPECTRUM, masking INFRARED SIGNATURES or other emissions. [10:2751]

CHANNELIZED RECEIVER - A SIGINT receiver which uses multiple parallel channels to filter, amplify, and detect incoming emitter signals. [4:22] NOTE: Channelized receivers allow a wide band of the spectrum to be simultaneously monitored for signal activity with excellent probability of intercept of multiple emitters.

CHARGED PARTICLE BEAM (CPB) - A DIRECTED ENERGY WEAPON (DEW) under DoD's WEAPONS SYSTEMS TECHNOLOGIES (WST). The generation, propagation and control of high-intensity electron beams designed to incapacitate the target through shock or thermal effects. [*www.dtic.mil*] See also ANTIMATTER PARTICLE BEAM (APB), GAMMA-RAY LASER (GRASER), HIGH POWER MICROWAVE/RADIO FREQUENCY (HPM/RF), KINETIC ENERGY WEAPON (KEW) and NEUTRAL PARTICLE BEAM (NPB).

CHAT - The employment of communications via computer keyboard and the Internet, as opposed to voice circuits. Chat is employed to exchange tactical information and provide SITUATIONAL AWARENESS (SA) as well as online help forums for

troubleshooting. [10:3011] NOTE: A popular (2003) protocol for chat is the Navy's Internet Relay Chat (IRC).

CHECKMATE - The USAF Operational Process Improvement Office, a high-level general planning group involved in computer-assisted air battle planning. []

CHEMICAL/BIOLOGICAL (CB) WARFARE DEFENSE AND PROTECTION - The capability to detect and evaluate the existence of a manufacturing capability for weapons of mass destruction (WMD), and to identify and assess the weapon capability of alert and launched WMD on the battlefield to permit the appropriate level of counterforce and force protection to be executed promptly. [NAVWAR Joint Warfighting Science and Technology Plan (*circa* 2000)]

CHEMICAL AND BIOLOGICAL INTELLIGENCE (CBINT) - Intelligence pertaining to chemical and biological weapons and hazards. [10:129] NOTE: CBINT is a subcategory of MATERIALS INTELLIGENCE, encompassed by MEASUREMENT AND SIGNATURE INTELLIGENCE (MASINT).

CHEMICAL LASER - A GAS-LASER DIRECTED ENERGY WEAPON which provided early lethality demonstrations, but is being supplanted by other laser devices. [5:1] See also CHEMICAL OXYGENIODINE (COIL) LASER, DEUTERIUM FLUORIDE (DF) LASER, EXCIMER LASER, FREE-ELECTRON LASER HIGH ENERGY LASER, HYDROGEN FLUORIDE (HF) LASER, X-RAY LASER.

CHEMICAL OXYGEN IODINE (COIL) LASER - The COIL laser differs from the HF LASER and DF LASER in that the excited iodine atom responsible for the lasing radiates only a single line at 1.325µm. This short wavelength reduces diffraction effects that limit the utility of other CHEMICAL LASERs. The COIL laser has been chosen for the AIRBORNE LASER (ABL) missile defense system. [10:2607]

CHEMICAL VAPOR DEPOSITION (CVD) DIAMOND - An agglomeration of small single crystals of diamond. The material is often deposited on silicon or molybdenum in the shape of a wafer about 1 mm thick. The diamond wafers then can be laser cut unto final shape. The physical properties of diamond -- very high thermal conductivity and very high surface wave velocity of propagation -- make it a useful material for thermal and microwave applications. [10:2615]

CHEMIRESISTOR - An array of miniature sensors that can detect volatile organic compounds (VOCs). Each sensor is made by mixing a commercial polymer in a solvent with conductive carbon particles. This fluid is deposited on electrodes that resemble wires that are attached to a microfabricated circuit. The polymers absorb VOCs and swell, changing the electrical resistance that the electrodes measure and

record. The polymers revert to their original state when the chemicals are removed. [10:2919]

CHIRALITY - The property of a material that enables it to polarize, FILTER, or shield ELECTROMAGNETIC RADIATION. Chiral materials may have use in stealth applications because they are broadband, and are effectively invisible over a wide range of frequencies. [10:70]

CHIRP - A technique for pulse compression which uses frequency modulation (usually linear) during the pulse. [3]

CHRISTI - An acronym for Coverage Height Reckoning Integrating Scabrous Terrain Information. CHRISTI is a computer model which calculates the upper and lower bounds of a radar's line-of-sight coverage -- radar coverage volume. It also blends target detection range as a function of cross section, altitude and the probability of detection into a geographical representation of overall radar performance. One application of CHRISTI is to assess U.S. and foreign surveillance system effectiveness. [10:2554]

CINC - See COMMANDER IN CHIEF (CINC).

CIRCULAR ERROR PROBABLE (CEP) - A measure of accuracy at a specific range, expressed in terms of the radius of the circle, centered on the target, in which 50% of the payloads impact. [12] Also called CIRCULAR ERROR PROBABILITY and CIRCLE OF EQUAL PROBABILITY.

CIRCUMVENTION - (1) In electronics, a system protection technique in which detection of the onset of nuclear radiation or an ELECTROMAGNETIC PULSE (EMP) puts a critical portion of the system in a protected condition. (2) A system-level technique using special hardware and software for recovering from a transient upset. [12]

CLASSIFICATION - See TARGET CLASSIFICATION.

CLAUSEN POWER BLADE (CPB) - A device used to clear land mines. It is basically a conveyor belt made form the track of a bulldozer and is used to clear an 11-foot swath of land mines buried up to 10 inches, removing obstacles of up to 4,000 pounds. Mines, obstacles, and the excavated material are stacked in the berm to one side of the vertical conveyor belt. [10:2791] See also WATTENBERG PLOW.

CLICK JAMMING - A type of BARRAGE JAMMING, in which the RF is shifted at a periodic rate called the "click rate". It derives its name from the "click" sound that is heard by the operator of the intercept receiver. []

CLICKSTREAM ANALYSIS - The process of collecting, analyzing, and reporting aggregate data about which pages visitors visit on a Web sit, and in what order - all determined from the sequence of mouse clicks made by the visitor (*i.e.*, the clickstream). [*From searchcrm.com*] Also called CLICKSTREAM ANALYTICS. NOTE: There are two levels of clickstream analysis: (1) traffic analysis, which operates at the SERVER level by collecting clickstream data related to the path the user takes when navigating through the site - the number of pages served to the user, length of time taken for pages to load, the frequency of use of the browser's back or stop button, and the amount of data transmitted before a user moves on; and (2) E-commerce analysis, which is the use of clickstream data to determine the effectiveness of the site as a channel-to-market by quantifying the user's behavior while on the Web site, such as which pages the user lingers on, what the user puts in or takes out of their shopping cart, and what items the user purchases.

CLOSED-LOOP INFRARED COUNTERMEASURES (CLIRCM) - An INFRARED COUNTERMEASURES system which employs a bright LASER to effectively blind incoming infrared (IR) missiles. The CLIRCM observes the MISSILE APPROACH WARNING SYSTEM (MAWS) and countermeasures-techniques generator, identifies those emitted jamming signals which cause the incoming missile to momentarily break lock on the aircraft, and then calculates the optimal jamming code to continue using so that subsequent missile locks can be broken more quickly and effectively. [10:2827]

CLOSED-LOOP SIMULATION - Simulation in which there is a two-way path between the simulator and the system being tested. Closed-loop simulation allows effectiveness evaluation. [10:2503] Contrast with OPEN-LOOP SIMULATION.

CLOSE-IN JAMMING SUPPORT - An element of TARGET AREA JAMMING SUPPORT in which the aircraft moves closer to enemy air defenses to provide more powerful jamming. [10:2521] Contrast with STAND-OFF JAMMING SUPPORT. See also AREA JAMMING SUPPORT, CLOSE SUPPORT JAMMING, CORRIDOR JAMMING SUPPORT, DIRECT JAMMING SUPPORT.

CLOSE-RANGE UNMANNED AERIAL VEHICLE (CRUAV) - Designed for lower level tactical units that those employing the SHORT-RANGE UNMANNED AERIAL VEHICLE (SRUAV), the CRUAV is relatively inexpensive with a range of 50 km and a minimum endurance of three hours. Its sensor payload would include day/night imaging, EW, meteorology and NBC. [10:2517] See also IMAGERY, IMAGERY INTELLIGENCE, UNMANNED AIR VEHICLE (UAV).

CLOSE SUPPORT JAMMING - An ECM tactic, most commonly associated with Strike Warfare, in which a dedicated ECM platform maintains COLINEARITY with primary mission platforms to minimum practical range, usually outside threat weapon envelopes. [] See also STANDOFF JAMMING.

CLOTH KEYBOARD - A 'keyboard' made fabric with indentations in place of keys, which has embedded circuitry so that it can serve as a flexible keyboard. It is lightweight and can be folded for easy storage, as in a pocket or purse. [] NOTE: The cloth keyboard can be connected to small hand-held devices, such as palm computers and cellular telephones, and used to enter alpha-numerical data.

CLOUD COMPUTING - The delivery of computing as a service rather than a product, whereby shared resources, software and information are provided to computers and other devices as a utility (like the electricity grid) over a network (typically the Internet). [Wikipidia] (In a "cloud," data are residing in one location rather than in a variety of repositories. Some claim that this increases data vulnerability)

CLOUDS and EARTH'S RADIANT ENERGY SYSTEM (CERES) - A satellite-based system which measures the Earth's radiation budget and atmospheric radiation from the top of the atmosphere using a broadband scanning RADIOMETER. [NASA] See also MISR and MOPITT.

CLUSTER - (Computers) See PROCESSOR FARM.

CLUSTER BOMB UNIT (CBU) - A weapon released from an aircraft that falls for a specified time or distance before a dispenser opens, allow submunitions to cover a wide target area. Each submunition contains its own fuze that can be made to detonate above ground, on impact, or after a given delay. The submunitions include antipersonnel, anti soft-skinned vehicle, dart-shaped bomblets for soft targets and armor, random delay fuzing to deny an area, FUEL AIR EXPLOSIVE (FAE), and COMBINED EFFECTS MUNITIONS (CEM). [10:2908]

CLUTTER - Extraneous signals that tend to obscure the reception of desired signals. [] See also GROUND CLUTTER, RADAR CLUTTER, WAVE CLUTTER.

CNN EFFECT - A term which denotes the leading of public opinion due to quick publicity around the world of a given military action, especially by U.S. forces. [10:2722*]

COAMPS - See COUPLED OCEAN/ATMOSPHERE MESOSCALE PREDICTIONS SYSTEM.

COASTAL BATTLEFIELD RECONNAISSANCE AND ANALYSIS (COBRA) - A system carried aboard an UNMANNED AIR VEHICLE (UAV), COBRA consists of three video cameras to acquire imagery of the beach zone and the craft-landing zone before assault operations. The camera group includes one forward-looking unit to deliver terrain video, and two down-looking, spinning-filter wheel, multispectral units, which overlap their imagery to create a wide field-of-view picture. The multispectral units and an ATR system detect mine-sized spectral anomalies. [10:2691] NOTE: In demonstrations, COBRA detected minefields, as well as camouflaged positions and vehicles.

COBRA JUDY RADAR - A Navy enhanced phased-array radar designed to support U.S. treaty monitoring activities. []

CODED FLUID - A fluid containing synthetic DNA-like properties which are readable by specialized scanners to positively identify the substance deposited by the liquid. [] Also called CODED LIQUID. See also SMART WATER; TAGGANT. NOTE: CODED FLUIDs are used to mark assets for later identification, for example the identification of items recovered from a theft.

CODED LIQUID - See CODED FLUID.

COGNITIVE RADIO (CR) - A radio frequency transmitter/receiver that is designed to intelligently detect whether a particular segment of the radio spectrum is currently in use, and to jump into (and out of, as necessary) the temporarily-unused spectrum very rapidly, without interfering with the transmissions of other authorized users. *[IEEE-USA Position Paper 11/13/2004]* NOTE: CR is a relatively new technology, so both technical and policy questions must be answered before full CR implementation can be realized.

COHERENT ALL-RADIO BAND SENSOR (CARABAS) - A **SYNTHETIC APERTURE RADAR** (SAR) in the VHF band (30 - 300 MHz) that possesses good ground-penetrating capability and is able to detect objects under foliage and camouflage. [10:2847]

COHERENT DIRECTED INFRARED COUNTERMEASURES (CDIRCM) - DIRECTED INFRARED COUNTERMEASURES (DIRCM) in which the emitted light is all of the same color/wavelength (i.e., *monochromatic*) for which all of the photons are in wave phase coherence. Consequently, the light can be easily directed and focused with little beam spreading, resulting in intense illumination of a distant target. [10:2559]

COHERENT INFRARED SENSOR - An INFRARED sensor which uses spatial or temporal coherence properties of the amplitude of incident radiation for detection. Contrast with INCOHERENT INFRARED SENSOR. [4:6]

COHERENT JAMMING - ELECTRONIC JAMMING which employs a SIGNAL with a fixed-RF phase relationship to the victim signal, or so nearly fixed that a COHERENT RADAR cannot use RF phase to discriminate between the jamming signal and a legitimate signal. [] See also COHERENT REPEATING

COHERENT RADAR - A LOW PROBABILITY-OF-INTERCEPT (LPI) RADAR in which the transmitted signals have a constant phase relationship to an oscillator in the transmitter. [10:2859]

COHERENT REPEATING - An ECM technique involving the receiving and subsequent transmitting of a signal that is acceptable to the receiver processor of a victim coherent radar. []

COLD CATHODE - A CATHODE that functions without the application of heat. [3]

COLINEARITY - A condition which exists when protected assets are positioned between a dedicated jamming asset and targeted threat radars within the jamming beam width of the dedicated jammer. [] Contrast with STANDFORWARD JAMMING.

COLINEAR JAMMING - See COLINEARITY.

COMB JAMMING -- A jamming technique that produces spectral lines or spots of repeater noise at pre-selected frequencies over a bandwidth up to several hundred megahertz. []

COMBAT CIDERS - A full-duplex frequency division multiplexing (FDM) multi-channel Air Force One communications link, via nuclear-hardened antennas at many of the AUTOVON switching centers. Synonymous with AUTOVON WIDEBAND. [10:2723] NOTE: As a post-nuclear attack communications system, it sometimes was referred to as COMBAT CINDERS.

COMBAT IDENTIFICATION (CID) - The capability to differentiate potential targets as friend, foe, or neutral in sufficient time, with high confidence, and at the requisite range to support weapon release and engagement decisions. [10:2941]

COMBAT IDENTIFICATION FOR DISMOUNTED SOLDIERS (CIDDS) - The CIDDS consists of two parts: a weapon-mounted laser emitter and a helmet-mounted radio receiver/transmitter system. The laser emitter, which fits on the end of the soldier's weapon, sends out an encrypted signal that can be decoded only by other CIDDS-interoperable equipment. The helmet system receives incoming CIDDS queries and checks their validity. If valid, the CIDDS sends back an encrypted response via the omnidirectional antenna mounted on the helmet. CIDDS can identify standing targets at a range of over 110 meters, and prone targets from 900 meters in daylight and 700 meters at night. [10:2694] See also COMBAT IDENTIFICATION (CID), IDENTIFICATION, FRIEND OR FOE (IFF),and LAND WARRIOR (LS) SYSTEM.

COMBAT NET RADIO (CNR) - A radio operating in a network that (a) provides a half-duplex circuit (*i.e.*, transmit or receive, but not simultaneously) and (b) uses either a single radio frequency or a discrete set of radio frequencies when in a FREQUENCY HOPPING mode. [] NOTE: CNRs are primarily used for push-to-talk-operated radio nets for command and control of combat, combat support, and combat service support operations among ground, sea, and air forces.

COMBAT SURVEILLANCE - A continuous, all-weather, day-and-night, systematic watch over the battle area to provide timely information for tactical combat operations. See also AIR SURVEILLANCE, SEA SURVEILLANCE, SURVEILLANCE. [1.1]

COMBAT SURVIVOR EVADER LOCATOR (CSEL) - A handheld radio that will (2006) allow downed aviators to provide rescuers with exact location data. It features communication and encryption techniques to prevent signals interception and decoding. It also includes line-of-sight (LOS) recovery units ant over-the-horizon (OTH) joint search and rescue centers with a two-way secure communications capability. [10:3054]

COMBATANT CRAFT RETRIEVAL SYSTEM (CCRS) - A shipboard ramp for stowage, launching, and retrieval of fast rigid-inflatable combat assault boats such as the Rigid Hull Inflatable Boat (RHIB). []

COMBINED EFFECTS MUNITION (CEM) - An aerial denial weapon for attacking "soft" targets, The CEM consists of more than 200 bomblets, each of which blasts into several hundred fragments. [10:2908] NOTE: The CEM can be a component of the CLUSTER BOMB UNIT.

COMBUSTION ALTERATION TECHNOLOGY (CAT) - A NONLETHAL WEAPON technology which develops agents that can change the viscosity or combustion characteristics of fuel to degrade engine performance or effect near instantaneous engine failure. [10:2754] See also COMBUSTION INTERFERENT.

COMBUSTION INTERFERENT - A NONLETHAL WEAPON employing COMBUSTION ALTERATION TECHNOLOGY (CAT) which exposes a diesel engine to a concentration (3% or more) of acetylene, causing severe pre-ignition quickly followed by engine self-destruction. []

COMMAND AND CONTROL PROTECTION (C^2-PROTECTION) - To maintain effective command and control of own forces by turning to friendly advantage or negating adversary efforts to deny information to, influence, degrade or destroy the friendly C^2 system. [10:2530]

COMMAND AND CONTROL WARFARE (C^2W) - The integrated use of OPERATIONS SECURITY (OPSEC), MILITARY DECEPTION, PSYCHOLOGICAL OPERATIONS (PSYOP), ELECTRONIC WARFARE (EW) and physical destruction, mutually supported by intelligence, to deny information to, influence, degrade, or destroy adversary command and control capabilities, while protecting friendly command and control capabilities against such actions. C^2W applied across the operational continuum and all levels of conflict. Also called C^2W. C^2W is both offensive and defensive: a. *Counter-C^2*. To prevent effective C^2 of adversary forces by denying information to, influencing, degrading or destroying the adversary C^2 system. b. *C^2-Protection*. To maintain effective command and control of own forces by turning to friendly advantage or negating adversary efforts to deny

information to, influence, degrade or destroy the friendly C^2 system. [4: CJCS MOP 6 -Appendix B] NOTE: C^2W is the military strategy that implements INFORMATION WARFARE, i.e., C^2W is the way we apply Information Warfare to the fight. [10:2562]

COMMAND, CONTROL, AND COMMUNICATIONS (C^3) - The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of the mission. C^3 includes the communications employed by a commander in planning, directing, coordination, and controlling forces and operations in the accomplishment of the mission. [] NOTE: This definition is adapted from that for "Command and Control" in JCS Pub 1-02.

COMMAND, CONTROL, & COMMUNICATIONS COUNTERMEASURES (C^3CM) - The integrated use of OPERATIONS SECURITY, MILITARY DECEPTION, JAMMING, and physical destruction, supported by intelligence, to deny information to, influence, degrade, or destroy adversary COMMAND, CONTROL, AND COMMUNICATIONS (C^3) capabilities and to protect friendly C^3 against such actions. C^3CM consists of COUNTER- C^3 and C^3-PROTECTION. [1.1]

COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE (C^3I) - The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of the mission. C^3I includes the communications employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. C^3I also includes timely information from intelligence sources and various sensors from which is derived a coherent understanding of the tactical, operational or strategic situation. []

COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, AND INTELLIGENCE (C^4I) - A SPACE AND ELECTRONIC WARFARE (SEW) warfare support discipline consisting of a technological, organizational, and doctrinal system that provides three functions: the doctrinal delegation of forces (i.e., command and control); information management (i.e., communications and computers); and intelligence dissemination. [10:2505]

COMMAND, CONTROL, AND COMMUNICATIONS ERASING (C^3I ERASING) - Detecting, exploiting and/or neutralizing C^3I transmissions. []

COMMAND, CONTROL, AND COMMUNICATIONS PROTECTION (C^3-PROTECTION) - Synonymous with C^3-PROTECT. (1) That division of C^3CM comprising measures taken to maintain the effectiveness of friendly C^3 despite both adversary and friendly COUNTER-C^3 actions. [1.1] (2) Measures taken to deny adversary decision makers the ability to effectively command and control their forces. [7: NWP 10-1-40]

COMMAND JAMMING - JAMMING which is controlled remotely from a command center rather than the jamming platform. []

COMMAND DETONATED MINE - A mine detonated by remotely controlled means. [DoD, NATO]

COMMAND-TO-LINE-OF-SIGHT (CLOS) - A guided munitions system in which an operator looks through a sight, searches, detects, and acquires a target, then aims and fires a missile. [12]

COMMANDER IN CHIEF (CINC). (U.S.) The President of the United States. NOTE: in a memo dated October 24, 2002, Secretary of Defense Honald H. Rumsfeld directed that the term "commander in chief (CINC) will apply only to the President of the United States. Previous "CINC" designators (*e.g.*, CINCPAC) will be replaced by "Commander"] All references to "CINC," such as CINCPACFLT, CINCLANTFLT, CINCUSNAVEUR, were changed to "COM" (*e.g.*, "COMPACFLT"). The new term is simply "commander," as in "Commander, U.S. Northern Command" and "Commander, U.S. Special Operations Command." The memo instructs officials that the changes should be done "without any undue additional cost to taxpayers," and to use old stocks and replace signs only when done in regular maintenance..

COMMON ACCESS CARD (CAC) - A "smart" identification card that features a data-storage chip, magnetic strip and bar codes, allowing for digital identification, encryption and DIGITAL SIGNATURE capabilities through the use of private key infrastructure technology. [10:2916] NOTE: The CAC is similar in size and functions to a credit card. Embedded in the card is a small computer chip that stores information, along with a magnetic strip that allows information in the chip to be electronically scanned and interfaced with other computer systems.

COMMONALITY - A quality which applies to materiel or systems: (a) possessing like and interchangeable characteristics enabling each to be utilized, or operated and maintained, by personnel trained on the others without additional specialized training; (b) having interchangeable repair parts and/or components; or (c) applying to consumable items interchangeably equivalent without adjustment. [1.1]

COMMON COCKPIT - An open architecture and commercial-off-the-shelf (COTS) technology that will provide a common helicopter cockpit for use across diverse missions, including anti-submarine warfare (ASW), anti-surface warfare (ASUW), combat search and rescue, vertical replenishment (VERTREP), and airborne mine countermeasures. [Lockheed Martin announcement 2003]

COMMON GUIDANCE - COMMON SENSE (CG-CS) - The integration of inertial measuring unit (IMU) with anti-jam global positioning system (GPS) for cannon

artillery armament. The round's GPS and IMU functions are integrated to enhance performance and reduce susceptibility to GPS jamming. [10:2949]

COMMON INTRUSION SPECIFICATION LANGUAGE (CISL) - A computer language which allows information about events and attacks from various security intrusion devices to be expressed in a platform-independent manner. [10:2726]

COMMON TACTICAL PICTURE (CTP) - A means for providing enhanced SITUATIONAL AWARENESS (SA) to tactical decision-makers from a common tactical data (CTD) set and other sources and the current depiction of the battlespace for a single operation within a CINC's area of responsibility (AOR). The CTP includes force location, real time and non-real time sensor information and amplifying information. [10:2774]

COMMUNICATION BLOCKING - Denying the enemy the ability to isolate meaningful communications from intercepts by JAMMING his SIGINT/ESM collectors. [7: NWP 34F]

COMMUNICATION DECEPTION - (1) Use of devices, operations, and techniques with the intent of confusing or misleading the user of a communications link or a navigation system. [1.1] (2) The radiation, re-radiation, or reflection of electromagnetic energy in a manner intended to mislead, confuse, or harass communications. [10:14] See also MEACONING.

COMMUNICATIONS AT SPEED AND DEPTH (CSD) - Relates to a program (*circa* 2005) for developing and untethered tactical paging buoy designed to operate on the surface and interface with one of the 66 Iridium satellites in low earth orbit. While in contact with the satellite, the buoy deploys a hydrophone to a specified depth and converts RF satellite signals into an acoustic frequency (AF) transmission to the submarine. [10:3063]

COMMUNICATIONS GRID - A SPACE AND ELECTRONIC WARFARE (SEW) concept in which communications form a grid overlaying the tactical area. See also SURVEILLANCE GRID, TACTICAL GRID. [10:2505]

COMMUNICATIONS HIDING - Preventing enemy from locating friendly forces through communications direction finding while maintaining communications capability. [7: NWP 34F]

COMMUNICATIONS INTELLIGENCE (COMINT) - Technical and intelligence information derived from foreign communications by other than the intended

recipients. [1.1] NOTE: COMINT is encompassed under SIGNALS INTELLIGENCE (SIGINT).

COMMUNICATIONS JAMMING - JAMMING that interrupts the flow of communications from one point to another by radiating ECM power that is on the communication link's frequency into the receiver at either end of the link. [8]

COMMUNICATIONS SECURITY (COMSEC) - The protection resulting from all measures designed to deny unauthorized persons information of value which might be derived from the possession and study of telecommunications, or to mislead unauthorized persons in their interpretation of the results of such possession and study. [1.1] NOTE: Communications security includes (a) crypto security; (b) transmission security; (c) emission security; and (d) physical security of communications security materials and information.

COMMUNICATIONS SIGNATURE CHANGE - Hindering enemy attempts at hull-to-emitter correlation of friendly units through intercept and analysis of radio frequency emissions. An example is rotating voice operators on radio circuits. [7: NWP 34F]

COMMUNICATOR - A Defense Advanced Research Project Agency (DARPA) Total Information Awareness (TIA) program to develop and demonstrate "dialogue interaction" technology that enables warfighters to talk with computers without ever having to touch a keyboard. [10:2969].

COMPANDING - The process of compressing (limiting the dynamic range of) a transmitted signal and then restoring (expanding) it at the receiving end so as to improve overall SIGNAL-TO-NOISE performance. [10:2816] NOTE: COMPANDING is an acronym for COMPressing and expANDING.

COMPETENT MUNITIONS (CM) -- Projectiles containing GPS/INS circuitry controlling nose-mounted canards which enable them to be guided to or inertially navigated to the target. Competent munitions projectiles may also possess antijam capabilities. [10:2660] Contrast with DUMB AMMUNITION. See Also BRILLIANT AMMUNITION, SMART AMMUNITION.

COMPILER - A computer program that converts a high level language, such as Ada, into MACHINE CODE. [10:45]

COMPOSITE EXHAUST STACK - See LOW OBSERVABLE MULTIFUNCTION STACK

COMPRESSED VIDEO - See VIDEO COMPRESSION.

COMPRESSIVE RECEIVER - See MICROSCAN RECEIVER.

COMPUTER-BASED INTRUSION DETECTION - See HOST-BASED INTRUSION DETECTION.

COMPUTER GENERATED FORCE (CGF) - A computer system that generates AGENTs in a military simulation; it can be used with trainees in simulators fighting virtual battles, or can be run autonomously for planning of tactics. [10:2595] See also AVATAR.

COMPUTER NETWORK ATTACK (CNA) - Operations to disrupt, deny, degrade, or destroy information resident in computers and computer networks, or the computers and networks themselves. [10:2764] See also OFFENSIVE INFORMATION OPERATIONS.

COMPUTER NETWORK EXPLOITATION (CNE) - Enabling operations and intelligence collection capabilities conducted through the use of computer networks to gather data about target or adversary automated information systems or networks. [1-3]

COMPUTER VIRUS - A computer program that can, like biological viruses, both infect another program and, acting through an infected program, reproduce itself and spread within a host computer system. [10:47]

COMPUTER VIRUS COUNTERMEASURES (CVCM) - An ELECTRONIC WARFARE technique that electronically inserts COMPUTER VIRUS code into a victim electronic system.. [10:47] See also DIRECT COUPLING

CONCENTRIC CANISTER LAUNCHER (CCL) - A generic and universal lightweight shipboard-missile launching system consisting of an array of concentric cylinders surrounding an inner cylinder. The inner cylinder supports the weapon and guides its initial flight, while the annular space between the inner and outer cylinders provides for gas management during the launch sequence. [] NOTE: CCL is capable of handling a variety of shipboard missiles, including Tomahawk and the Standard Missile.

CONCEPT FOR FUTURE JOINT OPERATIONS (CFJO) - An expansion of the concepts contained in Joint Vision 2010, namely, DOMINANT MANEUVER, PRECISION ENGAGEMENT, FULL-DIMENSIONAL PROTECTION, and FOCUSED LOGISTICS, in order to provide a more detailed foundation for follow-on capabilities assessments. [10:2941]

CONFORMAL ANTENNA - An antenna which conforms to a surface whose shape is determined by considerations other than electromagnetic, for example, aerodynamic or hydrodynamic. [3] See also CONFORMAL ANTENNA ARRAY , DOUBLY-CONFORMAL ANTENNA, MICROSTRIP ANTENNA, SMART SKIN.

CONFORMAL ANTENNA ARRAY (CAA) - A CONFORMAL ANTENNA incorporating a phased array as its radiating structure. [10:54]

CONFORMAL ARRAY RADAR TECHNOLOGY (CART) - A technology specific follow-on to SMART SKINs. It applies sensors directly to the fuselage of an aircraft to enhance performance of both the aircraft and its sensors. CART involves technology which allows for the tracking and detection of low observable air-breathing targets while reducing the size and power requirements for the next generation of airborne surveillance radar sets. The conformal array radar could be equipped with ELECTRONIC COUNTER-COUNTERMEASURES main beam nulling. In addition to more sensitivity, its larger antenna has a narrower beam leading to more accurate tracking and the ability to distinguish single from multiple targets at a greater distance. Such a system could potentially "see" through the beams of STANDOFF JAMMERs. [10:2542]. See also CONFORMAL ANTENNA ARRAY, DOUBLY-CONFORMAL ANTENNA, MICROSTRIP ANTENNA.

CONFORMAL AVIONICS - Avionic elements attached external (but not integral) to the aircraft's skin. See also EMBEDDED AVIONICS, SMART SKIN. [10:96]

CONFUSION REFLECTION - Reflection of ELECTROMAGNETIC RADIATION used to create ECHOES for confusion purposes. Radar confusion reflectors include such devices as CHAFF, ROPE and CORNER REFLECTOR. [1.1]

CONFUSION WEAPON A NONLETHAL WEAPON which modifies the behavior pattern of the targeted individual (TI). []

CONSOL - A long-range radio aid to navigation, the emissions of which, by means of their radio frequency modulation characteristics, enable bearings to be determined. See also CONSOLAN. [1.1] NOTE: Consol uses three radiators (radio transmitters).

CONSOLAN - A form of CONSOL using two radiators instead of three. [3]

CONSTANT FALSE ALARM RATE (CFAR) - A property of threshold or gain control devices specially designed to suppress FALSE ALARMs caused by NOISE, CLUTTER, or ECM of varying levels. [3]

CONSTANT GAIN MODE - An ECM operating mode which allocates constant jamming power to each victim radar signal (within the power limitation of the jammer). Contrast with CONSTANT POWER MODE. [10:71]

CONSTANT POWER MODE - An ECM operating mode which shares a fixed amount of jamming power among all victim radar signals passing through the system. A result is that jamming power becomes diluted as the number of signals increase. Contrast with CONSTANT GAIN MODE. [10:71]

CONSTRUCTIVE KEY MANAGEMENT (CKM) - A cryptographic key management and distribution process that provides role-based access control credentials and an authentication process based on standard public-key techniques. [GovCon Newsletter 7/19/2001]

CONTINGENCY AND LIMITED OBJECTIVE OPERATIONS (CALO) - See CONTINGENCY AND LIMITED OBJECTIVE WARFARE (CALOW).

CONTINGENCY AND LIMITED OBJECTIVE WARFARE (CALOW) - A limited struggle to achieve political, military, social, economic and psychological objectives. It often is protracted and ranges from diplomatic, economic and psychological pressures through terrorism to insurgent war. CALOW generally is characterized by the unacceptability of friendly casualties, loss, or damage, and by constraints on the geographic area, weaponry, tactics, violence level, and rules of engagement (ROE). Synonymous with Low Intensity Conflict (LIC). [10:48*] NOTE: CALOW ranges from CRISIS RESPONSE (CR) to LIMITED WAR (LW). Mission categories in CALOW include FOREIGN INTERNAL DEFENSE (FID), TERRORISM COUNTERACTION, PEACEKEEPING, and SPECIAL MISSIONS. Examples of CALOW threats include political and economic conflict; illegal cartel/alliance operations; propaganda activities; overt/covert guerilla operations; border incidents and reprisals; terrorism; rebellion/resistance; drug smuggling; insurgency; and weapons smuggling.

CONTINUOUS ASSISTED PERFORMANCE (CAP) - A DARPA program (2002) to identify approaches that extend the performance envelope of the warfighter, in particular, by preventing the effects of sleep deprivation over an extended performance of time, nominally set at seven days. [10:2955] See also ENERGY HARVESTING, PERSISTENCE IN COMBAT (PIC), WATER HARVESTING.

CONTINUOUS WAVE (CW) - Waves, the successive oscillations of which are identical under steady state conditions. [3]

CONTINUOUS WAVE RADAR - A radar which transmits continuously (therefore requiring two antennas) and uses frequency shift to resolve moving targets. An example is the DOPPLER RADAR. [10:2] Synonymous with CW RADAR. NOTE: A

CW radar uses continuous signals rather than pulses, which means that it must have multiple antennas with adequate isolation to keep the transmitter from interfering with its receiver(s). [10:2922]

CONTROLLED VARIABLE TIME (CVT) - A fuze counter-countermeasure technique universally employed with proximity fuzes. The fuze is not armed until the missile reaches the target vicinity. Electronic fuze countermeasures applied before the fuze is armed have no effect on the fuze. [4:2]

CONTROL MOMENT GYRO (CMG) - A flywheel device used to control the attitude of spacecraft. [10:2876]

CONTROL OF SPACE - The ability to assure access to space, freedom of operations within the space medium, and the ability to deny others the use of space, if required. [10:2796] NOTE: ***CONTROL OF SPACE*** implies an ability to do the following: (1) ***Operate*** in the space environment; (2) ***Monitor*** a given region of space to achieve and maintain SITUATIONAL AWARENESS; (3) ***Protect*** friendly space systems from hostile action, including unauthorized access to and exploitation of friendly space data or products; and (4) ***Inflict*** EFFECTIVE DAMAGE to hostile space systems.

COOKIE - A text file placed on a computer by a visited web site. [] Also called INTERNET COOKIE or MAGIC COOKIE. See also SESSION COOKIE, PERSISTENT COOKIE. NOTE: Because cookies contain only text, they (supposedly) cannot transmit viruses of otherwise damage a system.

COORDINATED UNIVERSAL TIME (UTC) - A time scale tied to the rotation of the earth. It has the same rate as INTERNATIONAL ATOMIC TIME (TAI), from which it differs by an integral number of seconds, called leap seconds. [10:2623]

COOPERATIVE ANGLE JAMMING (CAJ) - A jamming technique requiring the cooperative use of two or more aircraft to deceive hostile radar-guided missiles. The received signal triggers an appropriate cover pulse which is retransmitted. [10:2679] See also COVER-PULSE JAMMING.

COOPERATIVE ENGAGEMENT - The sharing among combatants of target data, weapons, and post-launch weapon control. See also FORWARD PASS. [10:128] NOTE: Cooperative engagement involves integration and coordination of combat data and action systems at the Battle Force Level across all warfare areas.

COOPERATIVE ENGAGEMENT PROCESSOR (CEP) - That component of the COOPERATIVE ENGAGEMENT SYSTEM (CES) which collects raw information (individual radar dwell returns) from shipboard sensors and weapon systems, reformats it, and sends it to the DATA DISTRIBUTION SYSTEM (DDS).

Simultaneously, the CES receives data generated by other cooperative units (CUs) which has been processed by the DDS and combines these data with the unprocessed raw sensor data into an air picture consisting of composite tracks that can be displayed and used by the sensor and engagement systems of each individual platform. [10:2666] See also COOPERATIVE ENGAGEMENT.

COOPERATIVE ENGAGEMENT SYSTEM (CES) - A system which coordinates air-defense sensors and integrates data in such a way that the network of individual systems forms a dispersed but fully interoperable air-defense system. The CES consists of two major components: the COOPERATIVE ENGAGEMENT PROCESSOR (CEP), which processes raw sensor data, and the DATA DISTRIBUTION SYSTEM (DDS), which provides the CEP with data from other cooperating units (CUs). [10:2666] See also COOPERATIVE ENGAGEMENT.

COOPERATIVE TARGET IDENTIFICATION - Target identification which depends upon the collaboration of the target, such as an IFF response to a transponder signal. []

COPERNICUS ARCHITECTURE - (1) A SPACE AND ELECTRONIC WARFARE (SEW) concept within SONATA that describes an architecture that provides a strategy for the Navy to build a command and control, communications and computers, and intelligence (C4I) system. It consists of four "Copernican Pillars": the Global Information Exchange Systems (GLOBIXS), the Commander-in-Chief (CINC) Command Complex (CCC), the Tactical Data Information Exchange Systems (TADIXS), and the Tactical Command Center (TCC), to be constructed as an interactive framework that ties together the command and control process of afloat tactical commanders with the CINCs and supporting shore establishment. [10:2505] See also WELTANSCHAUUNG, and CROESUS STRATEGIES. (2) Originally conceived as an architecture which structures C3I around four pillars: (1) Global Digital Exchange Sub-system (GLOBIXS), (2) a consolidated Fleet Command Center (FCC), (3) Tactical Digital Exchange Subsystem (TADIXS), and (4) Tactical Flag Command Center (TFCC) afloat. Also referred to as GLOBIXS/TADIXS ARCHITECTURE. [10:115] See also COPERNICUS EFFECT .

COPERNICUS EFFECT - A term referring to the shift in thinking from "technology" per se to "operations". [10:115]

COPOLARIZED REFLECTION - Identical transmitting and receiving polarizations. See also POLARIZATION SIGNATURE. [10:97]

CORNER CUBE RETROREFLECTOR (CCR) - (1) An example of SMART DUST, consisting of three gold-coated polysilicon mirrors positioned at right angles. When a laser shines on the mirrors, the light is reflected back to the source. [10:2907] (2) An

apparatus consisting of three flat mirrors in a concave configuration. When a light beam enters the CCR, it bounces off each of the three mirrors, and is reflected back parallel to the direction it entered. A CCR can send information to the base station by modulating the reflected beam by vibrating the CCR or interrupting the light path; the most suitable transmission format is on-off keying (OOK). NOTE: The CCR is attractive in many optical communication applications because it is small, easy to operate, and has low power consumption. [10:3047] See also MICROELECTROMECHANICAL SYSTEMS (MEMS)

CORNER REFLECTOR - (1) A device normally consisting of three metallic surfaces or screens perpendicular to one another, designed to act as a radar target or marker. [1.1] (2) Two (dihedral) or three (trihedral) conducting surfaces, mutually intersecting at right angles, designed to return electromagnetic radiation towards its source and used to render a target more conspicuous to radar observations. [3]

CORONA - The first U.S. satellite intelligence photographic reconnaissance system. CORONA operated from August 1960 through May 1972. [National Reconnaissance Office]

CORRELATED HOPPING ENHANCES SPREAD SPECTRUM (CHESS) - A high-speed radio system that can support a LOW PROBABILITY OF INTERCEPT (LPI) and antijamming capabilities. The transmitter changes frequency 5,000 times per second. CHESS provides redundancy into the radio's frequency pattern so that it is possible to recover lost information without having to add redundant data bits. *Correlated hopping* refers to the fact that the pattern itself, in frequency and time, has redundancy built into it. Using a FAST FOURIER TRANSFORM (FFT) chip, the receiver instantaneously monitors 2 megahertz of BANDWIDTH in the high frequency (HF) spectrum. [10:2569]

CORRIDOR JAMMING SUPPORT - An ECM tactic whereby the jamming aircraft flies closer to the enemy's defense system to jam acquisition radars in a specific sector, creating an electronic hole through which an attack group can pass. [10:2521] Contrast with AREA JAMMING SUPPORT. See also TARGET AREA SUPPORT, CLOSE-IN JAMMING SUPPORT, STAND-OFF JAMMING SUPPORT, DIRECT JAMMING SUPPORT.

COUNTER-C^2 - The prevention of effective C^2 of adversary forces by denying information to, influencing, degrading or destroying the adversary C^2 system. [10:2530]

COUNTER-C^3 - That division of C^3CM comprising measures taken to deny adversary commanders and other decision makers the ability to command and control their forces effectively. [1.1]

COUNTER CAMOUFLAGE, CONCEALMENT AND DECEPTION (Counter CC&D) - The ability to detect moving and stationary obscured targets in foliage, under camouflage, or in shallow hide, as well as those utilizing deception techniques. [10:2955]

COUNTER COMMUNICATIONS/DECISION - All efforts to deceive, delay, degrade, and destroy elements of enemy C^3 as sensory data leaves the surveillance platforms and prior to the initial arrival of enemy weapons-carrying platforms at a point where the friendly force is detectable by the on-board sensors of the weapons-carriers; similarly, actions against tactical C^3 links and nodes, other than those directly involved in a surveillance or targeting activity, are included. [7: NWP 10-1-40]

COUNTER COMMUNICATIONS SYSTEM (CCS) - A transportable counterspace jammer designed to disrupt satellite-based communications through non-destructive, reversible means. [10:3077] NOTE: Non-destructive counterspace weapons provide the flexibility to defeat enemy space capabilities without physically destroying satellites, an action that could spread debris which might damage friendly satellites.

COUNTER-CYBER (CC) A mission that integrates offensive and defensive operations to attain and maintain a desired degree of cyberspace superiority. Counter-cyber missions are designed to disrupt, negate, and/or destroy adversarial cyberspace activities and capabilities, both before and after their employment. [1-3]

COUNTERDECEPTION - Efforts to negate, neutralize, diminish the effects of, or gain advantage from, a foreign deception operation. Counterdeception does not include the intelligence function of identifying foreign deception operations. See also DECEPTION. [1.1]

COUNTERDETECTION RANGE -- The range from a radar (or missile site) at which a target has a 90% probability of detecting its illumination by the radar (or launch of a missile against it). []

COUNTER-FUZING - Measures taken to deceive or degrade fuzing devices. []

COUNTER-HOMING - Measures to deceive, degrade, evade, and attack homing devices, especially in missiles. [Patterned after the definition of COUNTER-SURVEILLANCE in NWP 10-1-40]

COUNTERMEASURES - That form of military science that by the employment of devices and/or techniques, has as its objective the impairment of the operational effectiveness of enemy activity. [1.1]

COUNTERMEASURES DETECTABILITY -- The probability that a radar system subject to a given countermeasure can detect, but not necessarily identify, the countermeasure. [] Compare with COUNTERMEASURES RECOGNITION.[]

COUNTERMEASURES RECOGNITION -- The probability that a radar system that is being subjected to a countermeasure can correctly identify the kind of countermeasure being directed against it. Compare with COUNTERMEASURES DETECTABILITY.

COUNTERPOISE SYSTEM - (1) *{Lightning protection for overhead power lines}* A conductor or system of conductors, arranged beneath the transmission line, located on, above, or most frequently below the surface of the earth, and connected to the footings of the towers or poles supporting the line. (2) *{Antennas}* A system of conductors elevated above and insulated from the ground, forming a lower system of conductors of an antenna. [3] NOTE: The purpose of a counterpoise system is to provide a relatively high capacitance and thus a relatively low impedance path to earth. (3) *{Automatic weapons}* A buffer assembly, drive spring and a counterweight which fits inside the bolt carrier of a rifle or carbine to eliminate muzzle rise and enhance accuracy in automatic and semiautomatic fire. [] NOTE: The automatic weapon counterpoise system stretches the recoil impulse over the full cycle time.

COUNTER SNIPER SYSTEM - A system that provides real time data, such as azimuth, elevation, range, class (caliber), miss distance and GPS coordinates of the origin of fire. The sniper can be detected by the muzzle blast (infrared flash or acoustic blast), the acoustic shock wave caused by the moving bullet, detection of the muzzle blast vibration, or detection of the bullet by radar or other bullet-tracking systems. Counter sniper systems also include measures for the pre-firing location of the sniper through optical means which can detect the presence of binoculars, night-vision goggles and riflescopes in any conditions at ranges exceeding 1 km. [] NOTE: Examples (1999) of counter sniper systems include AAI Corporation's PDCUE™ Counter Sniper System, and the "PILAR" mobile and portable acoustic gunfire localization system. [10:2734]

COUNTERSPACE OPERATIONS - Operations conducted to attain and maintain a desired degree of space superiority by the destruction or neutralization of enemy forces. Counterspace operations is partitioned into OFFENSIVE COUNTERSPACE OPERATIONS and DEFENSIVE COUNTERSPACE OPERATIONS. [AFDD 2-2 (Draft), 6.]

COUNTER-STEALTH - Measures to reduce the effectiveness of STEALTH technology applications. []

COUNTER-SURVEILLANCE - (1) Misdirect enemy surveillance so that the observed location of credible targets is different from the actual location. [4:16] (2) Efforts to deceive, degrade, evade, and attack active and passive sensors and sensor platforms used in detection and surveillance of friendly forces. [7: NWP 10-1-40] (3) A SPACE AND ELECTRONIC WARFARE (SEW) warfare discipline that targets enemy surveillance systems. It is the sum of all active and passive measures to prevent enemy surveillance of a selected area. [10:2505] NOTE: COUNTER-SURVEILLANCE includes EMISSION CONTROL (EMCON), COMMUNICATIONS SECURITY (COMSEC), and some DECEPTION and JAMMING.

COUNTER-TARGETING - (1) Efforts taken to confuse, delay, degrade, or deceive prelaunch weapons discrimination, designation, and targeting efforts. [7: NWP 10-1-40] (2) Actions taken to prevent the enemy from obtaining an accurate fire control solution by degrading, denying, delaying, or otherwise disrupting adversary weapons targeting. Counter-targeting actions are directed against weapon carrying platforms, third party targeting systems and missiles themselves prior to valid lock-on. [10:42]

COUNTER-WARM - Actions taken to reduce the enemy's effectiveness when using WARTIME RESERVE MODE (WARM) techniques. []

COUPLED OCEAN/ATMOSPHERE MESOSCALE PREDICTIONS SYSTEM (COAMPS) - A system used to predict changes in ocean and weather conditions in complex coastal areas world-wide. [10:2900]

COVARC VEHICLE DEFENSE - A NONLETHAL WEAPON consisting of a concealed gas dispersal system that emits gas from beneath the vehicle with control from within the vehicle. [10:2745]

COVER - Those measures necessary to give protection to a person, plan, operation, formation or installation from the enemy intelligence effort and leakage of information. Contrast with DECEPTION. See also ELECTRONIC COVER; OPERATIONAL COVER. [1.1] NOTE: A notion of COVER is to "hide the real".

COVER AND DECEPTION (C&D) - Actions taken to confuse the opposition, dilute his force, delay decisions or generate misinformation. [5:5] See also OPERATIONAL DECEPTION AND COVER.

COVER-PULSE JAMMING - A jamming technique wherein the jamming pulse is transmitted at the instant the victim-radar pulse is received. []

CRACKER - An individual who attempts to access computer systems without authorization. Crackers are often malicious, as opposed to HACKERS, and have many means at their disposal for breaking into a system. [10:2736] See also GRAY-HAT HACKER.

CRAWLER - See SPIDER.

CRITICAL CHAIN SCHEDULING (CCS) - An approach to project management similar to Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM). In CCS, rather that focusing on task estimates, intermediate milestones, and date-laden schedules for the project's component tasks, the emphasis is placed on the only date that matters: the promised completion date of the project. Thus, individual task due dates are eliminated while focus is always on the project completion due date. Each task in the project is estimated in terms of the 50% confidence level. The difference between the 50% and usual 90% confidence levels for tasks in the critical chain (the longest chain of path and resource dependencies after resolving resource conflicts) are aggregated into a "project buffer." That is, the safety factor is removed from the individual tasks and a buffer of roughly 50% of the chain length is allocated to the entire project. Tasks not in the critical chain (which, therefore, will have "slack" or "float") are also scheduled at the 50% confidence level, and the aggregated buffer is combined with "float" to provide aggregate "float" in each non-critical chain called a "feeder buffer." (Note that this methodology suppresses Parkinson's Law effects, where the work on a task with known "float" will almost surely expand to use up that float). Rather than scheduling resources needed to perform the tasks in the "critical chain," the manager ensures that the resources needed to perform any task are ready when the previous task is completed (*i.e.*, early completion of a task implies early start of the following task). The principal feature of CCS is "Buffer Management," which avoids reaction to changing critical paths characteristic of PERT and CPM; that is, the project manager deals solely with the feeder buffers and project buffer. As tasks are completed, the manager knows how much they have eaten into, or expanded, the buffers. Thus, as long as there is some predetermined portion of buffer remaining, the manager knows that all is well. [Summarized from 10:2937] Also called BUFFER MANAGEMENT or CRITICAL CHAIN SCHEDULING and BUFFER MANAGEMENT.

CRITICAL TECHNOLOGY - A technology considered by the Department of Defense to be critical to ensuring the long-term qualitative superiority of U.S. weapon systems. [] See also MILITARILY CRITICAL TECHNOLOGY.

CROESUS STRATEGIES - A SPACE AND ELECTRONIC WARFARE (SEW) concept within SONATA that proposes a new process for fielding information-systems technology molded from three steps, intended to be implemented

sequentially. The first is the notion of "Pyramidal Programming." The second is the idea of "Cyclical Production." The third, called the "Fleet Assembly Line," brings industrial techniques to bear for Government use. See also WELTANSCHAUUNG, COPERNICUS ARCHITECTURE. [10:2505]

CROSS-EYE ECCM - An ECCM technique used by tracking radars to degrade the effectiveness of Cross-Eye ECM. [8] See also CROSS-EYE JAMMING.

CROSS-EYE JAMMING (X-EYE)- A self-screening ECM technique that produces angular errors in victim radars by phase and amplitude control repeated pulses or other on-frequency signals from multiple spatially-separated antennas on the platform to be protected. [8]

CROSSOVER - The distance from a radar to a target at which the target return power in the receiver equals the received jamming power. []

CROSSOVER POINT - That range in the air warfare area at which a target ceases to be an air intercept target and becomes a surface-to-air missile target. [1.1]

CROSS-POLARIZATION ECCM - A generic ECCM technique for use on search or track radars that will degrade the effectiveness of CROSS-POLARIZATION JAMMING. [8]

CROSS-POLARIZATION JAMMING (X-POL) - (1) A SELF-SCREENING or SUPPORT ECM technique that causes angle errors in tracking radars and sensing errors in jamming suppression ECCM systems of surveillance radars by radiating a signal that is orthogonally polarized to the principal POLARIZATION of the victim radar. [8] (2) A technique used against MONOPULSE and other passive lobe tracking radars. ... Requires a strong JAM-TO-SIGNAL RATIO or the SKIN ECHO will show up in the pattern nulls. [4:1]

CROSS-POLARIZED OPERATION - With respect to waveguides or antennas, transmit/receive operation in vertical POLARIZATION (POL) simultaneously with transmit/receive operational in horizontal polarization. []

CROSSTALK - (Data transmission) Undesired energy appearing in one signal path as a result of coupling from other signal paths. [3*]

CROSS TELLING - Transferring information between facilities at the same operational level. Synonymous with LATERAL TELLING. [1.1] See also BACK TELLING, FORWARD TELLING, OVERLAP TELLING, RELATERAL TELLING, TRACK TELLING.

CROWD-CONTROL SUIT - Specialized clothing which offers protection to individuals, such as riot police, without presenting an aggressive appearance. []

CROWD DISPERSAL ROUNDS - A NONLETHAL WEAPON consisting of a munition that can stun two to three individuals simultaneously without penetrating the body by delivering a strong blow to the body. [10:2857]

CRUISE MISSILE - Guided missile, the major portion of whose flight path to its target is conducted at approximately constant velocity; depends on the dynamic reaction of air for lift and upon propulsion forces to balance drag. [1.1] NOTE: The cruise missile always strives to complete its preprogrammed mission, but may alter its course based upon on-board sensor information. [10:25]

CRYOGENICS - The study and use of devices utilizing properties of materials near absolute-zero temperature. See also MAGNETIC COOLING. [3]

CRYPTOLOGIC ELECTRONIC WARFARE SUPPORT MEASURES (CESM) - Electronic support measures intended to exploit other than radar systems. []

CRYSTAL LASER - A solid-state LASER which employs crystals as a light-emitting source. The neodymium YTTRIUM-ALUMINUM GARNET (Nd:YAG) laser is a single-wavelength laser operating at 1.06 microns, at the edge of the range in which some NIGHT VISION Goggles (NVGs) operate. Other crystal lasers include the titanium sapphire (Ti:SAF) and the chromium-doped lithium strontium aluminum fluoride (Cr:LiSrAlF) laser which emit in a broad spectral range. Through use of other optical elements in the laser system, such as a grating for wavelength selection, these can be made to lase in a narrow band. This allows near-IR color selection (tunability). Such lasers also can be made to scan through a range of output of colors, or even frequency hop, using a piezo-driven grating. [10:2559] See also DIODE LASER, DYE LASER, GAS LASER.

CRYSTAL VIDEO RECEIVER - A simple and inexpensive SIGINT receiver offering a high probability of intercept (POI) within its frequency range. Receivers based solely upon crystal video detectors have low sensitivity, poor frequency resolution and inferior simultaneous signal performance. [10:2561] NOTE: Improved frequency selectivity can be achieved, at the cost of decreased POI, with the addition of narrow bandpass filters in the front end. This variation is know as the Tunable RF Receiver.

CUEING - See CUING.

CUING - The process of passing data from one system to another to prepare it for action. []

CUING RECEIVER - An ESM receiver consisting of a coarse parameter measurement receiver and one or more fine parameter measurement receivers. The coarse parameter measurement receiver provides high probability of intercept due to its wide frequency and angle coverage, and passes the received signal to the fine parameter measurement receivers to obtain detail information about the input signal. [10:55*]

CURRENT PROGRAM - (system acquisition) An existing program having an initial operational capability (IOC) date that falls within the period covered by the Five Year Defense Program (FYDP). []

CUTOFF FREQUENCY - The lowest (or highest) reference frequency of a BANDWIDTH. [] See also BANDPASS FILTER.

CW - See CONTINUOUS WAVE.

CW INSTANTANEOUS FREQUENCY MEASUREMENT (IFM) RECEIVER SUPPRESSION - An ECCM technique used to prevent strong CW or NARROWBAND JAMMING signals appearing in the IFM receiver from interfering or jamming the entire IFM receiver bandwidth. [8]

CW JAMMING CARRIER CANCELING - An ECCM technique used by CW semi-active homing missile receivers to cancel slightly off-frequency CW jamming signals. []

CYBER ATTACK - A hostile act using computer or related networks or systems, and intended to disrupt and/or destroy an adversary's critical cyber systems, assets, or functions. The intended effects of cyber attack are not necessarily limited to targeted computer systems or data themselves - for instance, attacks on computer systems which are intended to degrade or destroy infrastructure or C2 capability. A cyber attack may use intermediate delivery vehicles including peripheral devices, electronic transmitters, embedded code, or human operators. The activation or effect of a cyber attack may be widely separated temporally and geographically from the delivery. [1-3]

CYBER ATTACK TOOL PRECURSOR AWARENESS AND WARNING SYSTEM (CATPAWS) - A system which employs a combination of NEURAL NETWORK reasoning, algorithms and ARTIFICIAL INTELLIGENCE (AI) plus visualization and graphical interfaces. CATPAWS displays intrusion patterns from various network sensors for both internal and external intrusions. [10:2914] NOTE: As the system's artificial intelligence learns these patterns, it can, with the help of a skilled operator, detect an attack in progress in REAL TIME or NEAR REAL TIME.

CYBER DEFENSE - The integrated application of DoD or US Government cyberspace capabilities and process to synchronize in real-time the ability to detect, analyze and mitigate threats and vulnerabilities, and outmaneuver adversaries, in order to defend designated networks, protect critical missions, and enable US freedom of action. Cyber Defense includes:

- Proactive NetOps: (*e.g.*, configuraton control, information assurance (IA) measures, physical security and secure architecture design, intrusion detection, firewalls, signature updates, encryption of data at rest);
- Defense Counter Cyber (DCC): Includes military deception via honeypots and other operations, and redirection, deactivation, or removal of malware engaged in a hostile act/imminent hostile act;
- Defensive Countermeasures. [1-3]

CYBER SECURITY - All organizational actions required to ensure freedom from danger and risk to the security of information in all its forms (electronic, physical), and the security of the systems and networks where information is stored, accessed, processed, and transmitted, including precautions taken to guard against crime, attack, sabotage, espionage, accidents, and failures. [1-3]

CYBERSPACE - (1) The notional environment in which digitized information is communicated over computer networks. [1.2] (2) The space of VIRTUAL REALITY. [10:2570] (3) The global information environment. [] (4) The interdependent network of information technology infrastructures and includes the Internet, telecommunications networks, computer systems and embedded processors and controllers in critical industries. [National Security Policy Directive 54] Domain characterized by the use of electronics and the electromagnetic spectrum to store, modify, and exchange data via networked systems and associated physical infrastructures. [1-3]

CYBERSPACE COMMAND AND CONTROL (CC^2) - The employment of sensors such as distributed packet sniffers, system log files, protocol traps and queries, signature-based intrusion detection systems, user profile databases, system messages, threat databases and operator commands, to observe information flowing in networks and to determine the identity, rate of attacks, threats and targets of both friendly and hostile information objects in CYBERSPACE. [10:2789] CYBERWAR - Conducting, or preparing to conduct, military operations according to information-related principles. It means disrupting, if not destroying, information and communications systems, broadly defined to include even military culture, on which an adversary relies in order to know itself: who it is; what it can do; when it can do it; why it is fighting; and which threats to counter first. It means trying to know

everything about the adversary while keeping the adversary from knowing much about oneself...turning the balance of information and knowledge in one's favor, especially if the balance of forces is not...using knowledge so that less capital and labor may have to be expended. [10:2570] See also INFORMATION WARFARE.
NOTE: The focus of cyber warfare is on using CYBERSPACE (by operating within or through it) to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability, while protecting our own [10:3091]

CYBER WARFARE (CW) - An armed conflict conducted in whole or part by cyber means. Military operations conducted to deny an opposing force the effective use of cyberspace systems and weapons in a conflict. It includes CYBER ATTACK, CYBER DEFENSE, and cyber enabling actions. [1-3]

CYCLOSTATIONARITY - A statistical property exhibited by essentially all digital signals and some naturally occurring waveforms. A stationary signal is one whose statistics do not vary with time. Therefore, a stationary signal can be sampled at periodic intervals free from concerns that the signal may be changing over time. A cyclostationary signal is periodically stationary. That is, by delaying the signal by some amount, the statistics do not vary with respect to the signal before the delay. [10:2572]