

# I

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**IDENTIFICATION** - The process of determining the friendly or hostile character of an unknown detected contact. [1.1] See also **TARGET IDENTIFICATION**.

**IDENTIFICATION, FRIEND OR FOE (IFF)** - A system using electromagnetic transmissions to which equipment carried by friendly forces automatically responds, for example, by emitting pulses, thereby distinguishing themselves from enemy forces. [1.1] See also **COOPERATIVE TARGET IDENTIFICATION**.

**IDENTIFICATION TAGGANT** - See **TAGGANT**

**IGNITION SPIKE** - The initial, intense, short-duration radiative emission occurring when a **FLARE** begins burning. [10:27] **NOTE:** An ignition spike is the emission caused by the energy given off by the igniter material (e.g. a squib) rather than the energy given off by the flare which it ignites. This emission may be more intense, hence distinguishable from that of the flare, making it detectable by an **ECCM** system.

**ILLUMINATED CHAFF (ILLCH)** - A **JAFF** technique in which jamming energy is directed at deployed chaff so that the energy will be reflected to the victim sensor. []

**ILLUMINATOR** - A system designed to impose electromagnetic radiation on a designated object so that the reflections can be used by another sensor, typically for purposes of homing. [3] See also **SEMI-ACTIVE HOMING GUIDANCE**.

**ILLUMINATOR GRENADE** - A **NONLETHAL WEAPON** consisting of a grenade which provides illumination for dark rooms. [10:2745]

**IMAGE DISPLAY** - That aspect of **IMAGERY EXPLOITATION** involving pseudo-color, brightness, density slicing, registration with a reference image, addition/subtraction of two images, flicker between two registered images, stereo, overlay of graphic cues (**SIGINT** error ellipses, target symbols), image windows, split screen, and quad screen. [10:2443]

**IMAGE-ENHANCED MIXING** - An **ECCM** technique for use in monopulse tracking radars that depend on phase sensing for angle tracking. The objective is to use the repeated signal from an **IMAGE JAMMER** as a beacon for tracking the target. [8]

**IMAGE ENHANCEMENT** - That aspect of **IMAGERY EXPLOITATION** involving dynamic range adjustment, edge enhancement, smoothing/ noise filtering, and warping. [10:2443]

**IMAGE FREQUENCY** - An undesired input frequency capable of producing the selected frequency by the same process. [3] NOTE: An image frequency is a frequency which differs from, but has a certain symmetrical relationship to, that which a superheterodyne receiver is tuned. Consequently, the image frequency can be mistakenly accepted and processed as a true frequency by the receiver.

**IMAGE INTENSIFICATION** - The increasing of the intensity of a radiant image through use of optoelectronic amplification. []

**IMAGE JAMMING** - (1) A self-screening ECM technique for use against tracking radars that depend on phase sensing for angle tracking. The technique involves radiating a signal on the image frequency of the victim radar. [8] (2) Jamming the image frequency of a monopulse radar causing the antenna to be driven away from the target. Not effective if the radar uses **IMAGE REJECTION**. [4:1]

**IMAGE MANIPULATION** - That aspect of **IMAGERY EXPLOITATION** that involves image roam, zoom, and rotation. [10:2443]

**IMAGE REJECTION** - An ECCM technique incorporated as a feature in radar receiver design. The design attenuates image-signal frequencies so that **IMAGE JAMMING** methods will have little or no effect on the radar operation. []

**IMAGERY** - Collectively, the representations of objects reproduced electronically or by optical means on film, electronic display devices, or other media. [1.1]

**IMAGERY EXPLOITATION** - The extraction of needed intelligence from imagery data. Imagery exploitation consists of **IMAGE MANIPULATION**, **IMAGE ENHANCEMENT**, **IMAGE DISPLAY**, **GEOPOSITIONING**, . [10:2443]

**IMAGERY INTELLIGENCE (IMINT)** - Intelligence information derived from the exploitation of collection by visual photography, infrared sensors, lasers, electro-optics and radar sensors such as synthetic aperture radar wherein images of objects are reproduced optically or electronically on film, electronic display devices or other media. [1.1]

**IMITATIVE COMMUNICATION DECEPTION** - That division of **DECEPTION** involving the introduction of false or misleading but plausible communications into

target systems that mimics or imitates the targeted communications. [7:CJCS MOP 6, APPENDIX B]

IMITATIVE ELECTROMAGNETIC DECEPTION - That type of ELECTROMAGNETIC DECEPTION that involves the introduction of electromagnetic energy into enemy systems that imitates enemy emissions. [7:CJCS MOP 6, APPENDIX B]

IMITATIVE ELECTRONIC DECEPTION - The introduction of electromagnetic energy into enemy systems that imitates enemy emissions. [1.1]

IMMUNE BUILDING - A building, such as barracks, office, command and control center, etc.. which are protected against biological and chemical attack by point and standoff sensors capable of detecting attacks by these agents with automated systems such as DARPA's Rapid Autonomous Integrated DNA Detection System (RAIDDS), as well as having the means to provide timely warning and automatic deployment of appropriate countermeasures. [10:3071].

IMPULSE NOISE - NOISE characterized by transient disturbances separated in time by quiescent intervals. [3] Contrast with RANDOM NOISE.

IMPULSE NOISE JAMMING - Noise jamming using a very narrow pulse of high power across a wide BANDWIDTH that covers the bandwidth of the victim radar. [8]

IMPULSE RADAR - (1) A radar characterized by an extremely short pulse (around 1 nanosecond) at an extremely high peak power (in the order of gigawatts). Impulse radars may have resolutions measured in inches. [10:104] (2) A radar having a FRACTIONAL BANDWIDTH (FBW) greater than 0.25. [10:2571] Also called ULTRA-WIDEBAND RADAR, PICOSECOND PULSE RADAR, NONSINUSOIDAL RADAR, MONOCYCLE RADAR, SHOCK RADAR. NOTE: Impulse radars provide improved clutter suppression and range profiling, as well as greater penetration of foliage, earth, and water.

INBOUND RANGE GATE WALK-OFF - A fuze jamming technique used to pre-detonate a fuze that operates on target range. [4:2]

INCENDIARY GRENADE - A grenade which contains a filler that burns for approximately 40 seconds at a temperature of 4,000 degrees (F). A portion of the filler turns into molten iron that produces intense heat, igniting or fusing whatever it touches. It is used to ignite combustible materials, destroy weapons, records, or equipment, or burn holes in metal doors. [10:2780] Also called THERMITE GRENADE. See also WHITE-PHOSPHOROUS GRENADE.

INCIDENT COMMAND MANAGEMENT SYSTEM (ICMS) - A subsystem of the ENHANCED CONSEQUENCE MANAGEMENT PLANNING AND SUPPORT SYSTEM (ENCOMPASS), ICMS computer software centers the collection and distribution of data among the Incident Commander at various levels, including the first responder, scene commander, operations center, and/or the state/national emergency center. [10:2955] See also DARPA SYNDROMIC SURVEILLANCE SYSTEM (D-S<sup>3</sup>).

INCIDENT WAVE (Electromagnetic Wave) - A WAVE that impinges on a target. []

INCOHERENT INFRARED SENSOR - An INFRARED sensor which detects incident radiation as the square of the absolute magnitude of the amplitude. Contrast with COHERENT INFRARED SENSOR. [4:6]

INDICATIONS AND WARNING (I&W) - Those intelligence activities intended to detect and report time-sensitive intelligence information on foreign developments that could involve a threat to the United States or allied military, political, economic interests or to U.S. citizens abroad. It includes forewarning of enemy actions or intentions; the imminence of hostilities; insurgency; nuclear/non-nuclear attack on the United States, its overseas forces, or allied nations; hostile reactions to United States reconnaissance activities; terrorists' attacks; and other similar events. [1.1]

INDIRECT (FREQUENCY) SYNTHESIS (IS) - FREQUENCY SYNTHESIS where generation of desired frequencies is achieved through interaction of two or more frequency sources. [10:2616] Contrast with DIRECT SYNTHESIS (DS).

INDIRECT TARGET IDENTIFICATION - Target identification obtained through means other than those associated with the target itself. Examples of such indirect sources are third parties and intelligence. [] See also NON-COOPERATIVE TARGET IDENTIFICATION, TARGET IDENTIFICATION.

INDUCED ELECTROMAGNETIC PULSE (IEMP) - Induced current that is set up within a circuit that is subjected to the radiated field of an ELECTROMAGNETIC PULSE (EMP). [10:2541] See also SYSTEM-GENERATED ELECTROMAGNETIC PULSE (SGMP), NEMP COUNTERMEASURES.

INEFFECTIVE PASSWORD - See WEAK PASSWORD.

INERTIAL TERRAIN-AIDED GUIDANCE (ITAG) - An adverse-weather, precision guidance system used to accurately guide bombs to their targets. ITAG uses updates from a radar altimeter correlated with terrain elevation maps to track its position. The global positioning system (GPS) is employed to initialize the inertial navigator prior

to weapon release. [] NOTE: ITAG kits may be "strapped on" to conventional bombs to effectively convert them to precision-guided bombs.

**INFINITY SIGHT - See RED DOT SIGHT**

**INFORMATION BOMB** - A controlled flood of information directly inserted into an adversary's computer systems, sensors, or satellites. [10:2751]

**INFORMATION DISCOVERY - See DATA MINING.**

**INFORMATION FUSION** - Fully automated methods of merging data. []  
Synonymous with **MULTISOURCE CORRELATION** or **MULTISENSOR INTEGRATION**.

**INFORMATION HARVESTING - See DATA MINING.**

**INFORMATION OPERATIONS (IO)** - The integrated employment of the core capabilities of electronic warfare, computer network operations, psychological operations, military deception, and operations security, in concert with specified supporting and related capabilities, to influence, disrupt, corrupt or usurp adversarial human and automated decision making while protecting our own. Also called IO.  
[1.2] NOTE: Information Operations comprises five "core capabilities:" **Electronic Warfare (EW), Computer Network Operations (CNO), Psychological Operations, (PYSOP), Operations Security (OPSEC), and Military Deception (MILDEC) and their associated supporting and related capabilities**

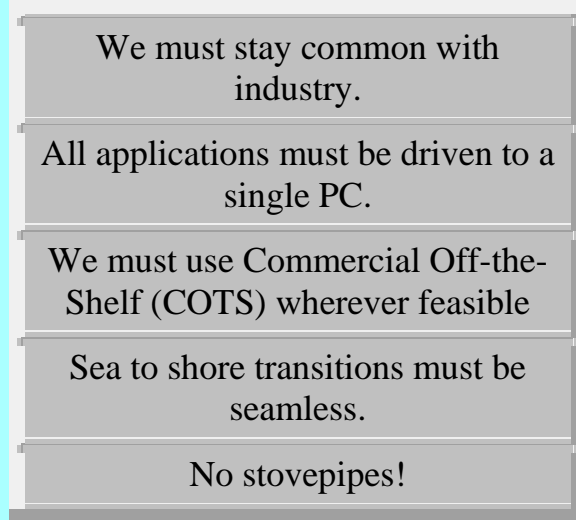
**INFORMATION SECURITY (INFOSEC)** - A collection of disciplines related to one or more areas of information protection. [] See also **ELECTRONIC INFORMATION SECURITY**.

**INFORMATION SYSTEM PRECEPTS** - The seven absolute precepts to follow in building a new fleet information system are listed below. [10:2775]

**INFORMATION SYSTEM  
PRECEPTS (from IT-21)**

If the boss doesn't use it, don't buy  
it!

Tactical and non-tactical  
applications must be integrated.



NOTE: These are also referred to as "The Seven Habits of a Highly Effective Information System."

**INFORMATION WARFARE (IW)** - Actions taken to achieve information superiority by affecting adversary information, information-based processes, information systems, and computer-based networks while defending one's own information, information-based processes, information systems and computer-based networks. [12] The critical aspects of IW are Information Denial, Information Distortion, and Protection. See also **NETWAR**, **CYBERWAR**. NOTES: (1) Manipulative, disruptive or destructive actions taken covertly or overtly during peacetime, crisis or war against societal, political, economic, industrial or military electronic information systems. The purpose is to achieve informational advantage over an adversary and to influence behavior, deter or end conflict or, that failing, to win a war quickly and decisively, with minimal expenditure of capital, resources and personnel and with minimum casualties on either side. Information Warfare includes actions taken to preserve the integrity of one's own information systems from exploitation, corruption or destruction while at the same time exploiting, corrupting or destroying an adversary's information systems and in the process achieving an information advantage in the application of force. [10:2570] (2) Information Warfare entails collecting, processing, and acting upon information faster than the adversary. Information warfare includes False Force Presentation (FFP). [] (3) The following are forms of information warfare: **Command and Control Warfare** (formerly C<sup>3</sup>CM), **Intelligence-Based Warfare** (IBW), **Electronic Warfare** (EW), **Psychological Warfare** (PSYW), **Hacker warfare**, **Economic Information Warfare** (EIW), and **Cyberwar**.

**INFRARED (IR)** - The region of the electromagnetic spectrum between the long wavelength extreme of the visible spectrum (about 0.7 micrometers) and the shortest microwaves (about 1 millimeter). [3] See also **ELECTRO-OPTIC**, **NEAR INFRARED**, **MID INFRARED**, **FAR INFRARED**, **EXTREME INFRARED**. NOTE: Sometimes referred to as "temperature radiation". Any physical object having a temperature above absolute zero degrees (Rankine or Kelvin) radiates infrared energy. Sources of infrared

radiation from an aircraft include reflected sunlight, landing lights, oil heat exchangers, and engine exhaust.

**INFRARED COUNTERMEASURES (IRCM)** - Those measures employed to counter infrared sensors and weapons. They include **INFRARED SIGNATURE** reduction (suppression), decoy targets (such as **FLARES**), and guidance deception (**JAMMING**). [4:10] See also **DIRECTIONAL INFRARED COUNTERMEASURES**, **HOT CHAFF**.

**INFRARED IMAGERY** - That **IMAGERY** produced as a result of sensing electromagnetic radiation emitted or reflected from a given target surface in the infrared position of the **ELECTROMAGNETIC SPECTRUM** (approximately 0.72 to 1,000 microns). [1.1]

**INFRARED IMAGING** - The process of sensing the natural thermal radiation emitted by a body because of its temperature. The image is formed from the temperature differences between targets and the background of the scene. [10:88]

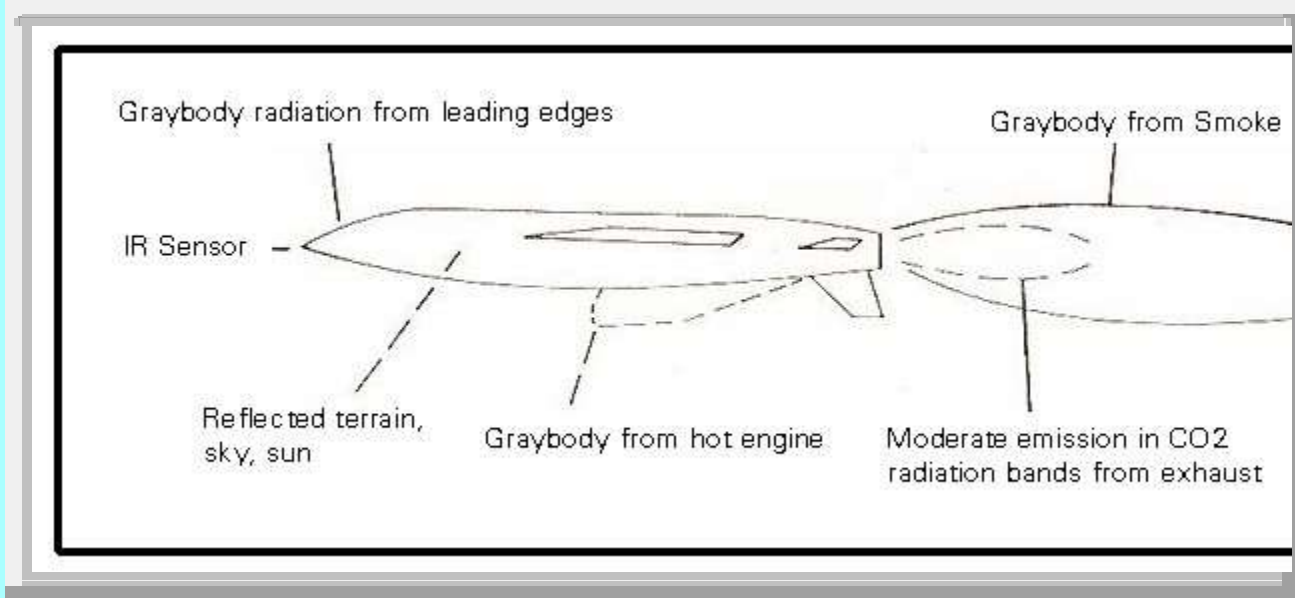
**INFRARED INTELLIGENCE (IRINT)** - Intelligence derived from the **INFRARED** portion of the **ELECTROMAGNETIC SPECTRUM**. [10:129] NOTE: IRINT is a subcategory of **ELECTRO-OPTINT**.

**INFRARED LINE SCANNER (IRLS)** - A one-dimensional **INFRARED** scanner. The forward motion of the platform provides area scan. See also **FORWARD LOOKING INFRARED**. [10:24] NOTE: Capable of scanning a swath of from 5 to 10 miles with sufficient resolution to detect and possibly identify potential targets, the infrared line scanner generates data which may be recorded on film or transmitted to the control station via a data link.

**INFRARED LINESCAN SYSTEM** - A passive airborne infrared recording system which scans across the ground beneath the flight path, adding successive lines to the record as the vehicle advances along the flight path. [1.1] See also **LASER LINESCAN SYSTEM**.

**INFRARED SIGNATURE** - Measurable radiation characteristics of an **INFRARED** source. []

**INFRARED SIGNATURE SOURCES**  
NOTE: [Link to Graybody term](#)



**INFRARED SIGNATURE CONTROL** - The employment of materials, electronics, and platform design features intended to reduce the susceptibility of the platform to detection, tracking, and engagement by an adversary using **INFRARED (IR)** sensors. This includes the use of IR paints, coatings, films, thermally or electrically activated materials, and techniques for shielding IR sensors from the platform's IR signature sources. [12] See also **ACOUSTICS SIGNATURE CONTROL**, **LASER SIGNATURE CONTROL**, **MAGNETIC SIGNATURE CONTROL**, **MULTISPECTRAL SIGNATURE CONTROL**, **OPTICAL SIGNATURE CONTROL**, **RADIO FREQUENCY (RF) SIGNATURE CONTROL**, and **SIGNATURE CONTROL**. NOTE: Modern warships employ diesel exhaust and gas turbine exhaust suppressors to effect infrared signature control.

**INFRARED WARNING SYSTEMS** - A warning system which yields automatic decisions about the state of a phenomenon based on data from observations by an **INFRARED** sensor and on predetermined decision algorithms. [4:6] NOTE: Infrared warning applications include: (1) detection and characterization of missile launchings; (2) detection of poisonous gases; (3) detection of nuclear detonations; (4) warning to military aircraft of ground fire, anti-aircraft missiles, or fighter pursuit; (5) terrain avoidance; (6) hazards from mines; (7) detection of hazardous levels of air pollution or of damage to the atmosphere by alien gases; (8) intrusion detection and burglar alarms; and (9) warning of a fire in a fuel tank.

**INFRASOUND - NONLETHAL WARFARE** measures involving very low frequency (less than 20 Hertz) sound projection to disorient, sicken or frighten people away from designated areas. [10:2648] Sometimes referred to as **LOW FREQUENCY SOUND WEAPON**. NOTE: Infrasound frequencies are characterized by long-range propagation and can penetrate ground and structures. Its effects include mild to severe discomfort, organ functional disturbance (*e.g.*, nausea), and organ disruption (*e.g.*, bowel spasms). [10:2748]



**INSECT CYBORG** - An insect having a mixture of organic and mechanical parts that could be used for military applications. Also called **HYBRID INSECT MICROELECTROMECHANICAL SYSTEMS (HI-MEMS)**. NOTE: Microelectromechanical systems would be placed inside insects during the early stages of their metamorphosis to help control locomotion; the later stages of metamorphosis would allow tissues to heal to form a reliable and stable tissue-machine interface.. [10:3087]

**INSENSITIVE HIGH EXPLOSIVES (IHE)** - High explosives (HE) which requires extraordinarily high stimuli before violent reaction occurs. [] NOTES: (1) Although IHE will not detonate when in a fire or hit by a fragment, bullet or high projectiles, the material may produce a severe burning reaction. (2) Compare with conventional high explosives (CHE), which are sensitive to mechanical or thermal energy.

**INSERTION LOSS** - A loss resulting from the insertion of a transducer in a transmission system. It is the ratio of (A) the power delivered to that part of the system following the transducer, before insertion of the transducer, to (B) the power delivered to that same part of the system after insertion of the transducer. [3] EXAMPLE: In the case of fiber optics, the insertion loss is the total optical power loss caused by the insertion of an optical component such as a connector or splice.

**INSTANTANEOUS FIELD OF VIEW** - An angular area defining limits to the volume of space within which a sensor can respond instantaneously to the presence of a target. The instantaneous **FIELD OF VIEW (FOV)** of an **ELECTRO-OPTIC** system is limited by a field stop in the focal plane (often the field stop is the physical aperture of a modulator or detector). The instantaneous field of view of an **RF** system is limited by the angular extent, or **BEAMWIDTH**, of the main beam of its antenna. []

**INSTANTANEOUS FREQUENCY MEASUREMENT (IFM) RECEIVER** -- A **SIGINT** receiver which operates by splitting the incoming signal into two or more paths of differing lengths so as to generate phase differences proportional to frequency. This type receiver simultaneously covers a wide **RF** bandwidth with good frequency resolution and no need for spectral scanning. The **IFM** receiver, however, suffers from relatively poor sensitivity and an inability to sort simultaneous signals. [10:2561]

**INSTANTANEOUS PULSE POSITION MEMORY** - An **ECCM** technique that requires a radar pulse to be received on two successive pulse repetition periods in the same range interval before processing and display of the radar signal occurs. [8]

**INSTRUMENTED MULTISPECTRAL CUE (IMC)** - An expendable replica of an actual target, such as a tank, which contains heat generators and **RADAR REFLECTORS** to realistically simulate both the **INFRARED (IR)** and radar **SIGNATURES** of the target. []

**INTEGRATED BIOMETRIC IDENTIFICATION SYSTEM (IBIS)** - A handheld system which captures and transmits forensic-quality fingerprints wirelessly for on-the-spot identification. [10:3000]

**INTEGRATED BRIDGE SYSTEM (IBS)** - An integrated collection of systems that provide ship bridge watchstanders with an enhanced degree of **SITUATIONAL AWARENESS**, allowing them to view in **REAL TIME** the current position and movement of the ship superimposed on a high-resolution electronic chart. [] **NOTE:** Component systems of IBS may include the **VOYAGE MANAGEMENT SYSTEM (VMS)**, the **ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEM-NAVY (ECDIS-N)**, the **AUTOMATED RADAR PLOTTING AID (ARPA)**, and the **SHIP CONTROL SYSTEM (SCS)**.

**INTEGRATED CIRCUIT (IC)** - A combination of interconnected circuit elements inseparably associated on or within a continuous substrate. [3]

**INTEGRATED CIRCUIT CARD** - See **SMART CARD** .

**INTEGRATED COMBAT IDENTIFICATION SYSTEM (ICIDS)** - A compact directional **INFRARED (IR) LASER**-interrogation and **RF** response system consisting of two parts: one part is attached to the soldier's helmet and the other to the weapon carried by that soldier. When the soldier spots a potential target, the **IR** laser aiming light on the weapon is activated. If the target is friendly (and wearing an operable **ICIDS**) a decoder on the target's helmet decodes the laser signal and replies with the proper **RF** code (total elapsed time is less than one second). [10:2928] See also **IDENTIFICATION, FRIEND OR FOE (IFF)**.

**INTEGRATED DECKHOUSE AND APERTURES** - A warship superstructure design (*e.g.*, for the **DDX**) featuring **Electromagnetic Compatibility (EMC)** with reduced **SIGNATURES**. Other features include · nuclear overpressure resistance; · effect minimization of externally and internally bursting conventional (blast, fragmentation) warheads; · **Electromagnetic (pulse) Protection (EMP)**; · low **RADAR CROSS SECTION (RCS)** and low **INFRARED (IR)** signatures; · all-composite superstructure; · electronically steered arrays; and · integrated multi-function mast. [Source: Navy's **DD(X)** Web site <http://peoships.crane.navy.mil/ddx/> ]

**INTEGRATED "FIGHT-THROUGH" POWER SYSTEM (IFTPS)** - Formerly referred to as the **Integrated Power System (IPS)**, **IFTPS** is the test bed for a shipboard integrated electric drive system that could be selected as the foundation for power architecture for future ships such as the **DD(X)** and **CG(X)**. [10:2988] **NOTE:** The "Fight-Through" nickname indicates the requirement that the system be capable of "fighting through" casualties to a decentralized zonal power distribution arrangement.

**INTEGRATED METEOROLOGICAL SYSTEM (IMETS)** - An automated tactical weather system which receives weather data from multiple sources and then processes and disseminates weather observations, forecasts, battlefield visualization and weather-effects decision aids to determine how weather may affect both U.S. and enemy operations. [10:3049]

**INTEGRATED NAVIGATION SENSOR SYSTEM (INSS)** - A compact system designed to provide very-shallow-water divers, such as SEAL teams and Explosive Ordnance Disposal (EOD) teams, with a visually enhanced sensor and precise navigation capability. []

**INTEGRATED PASSIVES** - Passive electronic circuit elements (*e.g.*, capacitors, resistors, and inductors) integrated into a printed circuit board (becoming part of the circuit board itself), as opposed to being "surface-mounted" as discrete elements on the circuit boards. [10:2997]

**INTEGRATED SIGHT (IS)** - A weapon or tripod-mounted sight consisting of an integrated uncooled thermal imager, eye-safe laser rangefinder, electronic compass, CCD camera and INFRARED LASER pointer. The integrated sight provides the soldier with the ability to acquire targets during daylight, darkness, adverse weather, and through battlefield OBSCURANTS to provide target position data for indirect fire. [10:2802]

**INTELLIGENCE-BASED WARFARE (IBF)** - The design and protection of systems that seek sufficient knowledge to dominate the battlespace, and the denial of such knowledge to the adversary. []

**INTELLIGENT FASTENER** - See SMART FASTENER.

**INTELLIGENT MINE FIELD (IMF)** - A rapid force projection initiative (RFPI) that uses both acoustic and seismic sensors to detect and track vehicles entering the minefield. The primary components of the IMF are the Wide Area Munition (WAM) and a Gateway Controller. The WAM consists of three major subsystems: a communications module, a ground platform module and a smart submunition/warhead (sublet module). Once deployed, the WAM rights itself and autonomously searches for a target vehicle. When ready to fire, the WAM launches a sublet over the target, using a passive infrared sensor to detect it and firing an Explosively Formed Penetrator (EFP) at the vulnerable area. The Gateway Controller is a two-way communication system capable of independently commanding each WAM under its control and providing the commander with battlefield information gathered from the individual WAM sensors. This enables the instantaneous construction of a detailed "picture" of enemy forces entering the minefield. The Gateway Controller employs

decision-aid logic to optimize minefield operations and is capable of safely disarming WAM units, allowing for easy battlefield cleanup. [10:2721]

**INTERACTIVE WHITEBOARD** - A product on which a computer desktop is displayed, and with which a user interacts to open applications, navigate websites, and write and save notes made by pen and eraser tools. [SMART BOARD™ product announcement] **COMPARE WITH** Electronic Whiteboard, which is a product used solely to save dry-erase-marker notes to a connected computer but does not display the computer desktop.

**INTERCEPTIBILITY** - A measure of the ease with which an enemy can electronically intercept and identify signals and determine the location of a friendly electronic system. [4:13] See also **VULNERABILITY**, **ACCESSIBILITY**, and **SUSCEPTIBILITY**.

**INTERCEPT RECEIVER** - A receiver designed to detect and provide visual and/or aural indication of electromagnetic emissions occurring within the particular portion of the **ELECTROMAGNETIC SPECTRUM** to which it is tuned. [1.1]

**INTERFACE** - (1) As pertaining to system components: (a) A shared boundary; (b) To interact or communicate with another system component. [10:33] (2) A boundary or point common to two or more similar or dissimilar command and control systems, sub-systems, or other entities against which or at which necessary information flow takes place. [1.1]

**INTERFERENCE CANCELING** - A passive ECCM technique which samples the interference or jamming signal, modifies its amplitude to be identical to that entering the receiver, and reverses its polarity. When the two signals are electrically summed, the interference is canceled. [4:4]

**INTERFEROMETER** - As pertains to radar, a receiving system which determines the angle of arrival of a **WAVE** by phase comparison of the **SIGNALs** received at separate antennas or separate points on the same antenna. [3]

**INTERFEROMETRIC TRIANGLE** - In **DIRECTION FINDING**, the triangle formed by a segment of the wavefront of the signal of interest, the base line (the line connecting two antennas which can both receive the signal of interest), and a line from the antenna farthest from the transmitter to the wavefront as it reaches the closer antenna. [10:2516] Note: The interferometric triangle is a right triangle with the base line as the hypotenuse.

INTERNATIONAL ATOMIC TIME (TAI) - An atomic time scale maintained by the Bureau International des Poids et Mesures, near Paris, and based on data from some 230 atomic clocks located all over the world. [10:2623]

INTERNATIONAL SIGNAL FLAGS - Flags, pennants, and burgees which denote letters, numbers, maneuvering signals, and other information. [] (Visit the Flag Home Page for this Web site.)

INTERNET - (1) A collection of NETWORKS connected by ROUTERS. (2) The worldwide internet based on the TCP/IP PROTOCOL. [10:2632] NOTE: The Internet is a three-level hierarchy composed of BACKBONE networks (e.g., Ultranet), mid-level networks (e.g., NEARnet), and STUB NETWORKS. The Internet is a multi-protocol internet. [10:2736]

INTERNET BACKGROUND NOISE - Unsolicited commercial or network control messages. [] NOTE: Probably so-called because they abound by the millions on the Internet.

INTERNET COOKIE - See COOKIE.

INTEROPERABILITY - (1) The ability of systems, units or forces to provide services to and accept services from other systems, units or forces and to use the services so exchanged to enable them to operate effectively together. (2) The condition achieved among communications-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them and/or their users. The degree of interoperability should be defined when referring to specific cases. [1.1]

INTEROPERATION - The use of interoperable systems, units, or forces. [1.1]

INTERPRETABILITY - Suitability of IMAGERY for interpretation with respect to answering adequately requirements on a given target in terms of quality and scale: a) *poor imagery* is unsuitable for interpretation to answer adequately requirements on a given type of target. b) *fair imagery* is suitable for interpretation to answer requirements on a given type of target but with only average detail. c) *good imagery* is suitable for interpretation to answer requirements on a given type of target in considerable detail. d) *excellent imagery* is suitable for interpretation to answer requirements on a given type of target in complete detail. [1.1]

IN-TIME INFORMATION INTEGRATION SYSTEM (I<sup>3</sup>S) - A global information net incorporating ARTIFICIAL INTELLIGENCE, NEURAL NETWORKS, and fuzzy logic to produce an advanced computer SYSTEM ARCHITECTURE for data collection, transmission, and analysis. [10:2750]

**INTRANET** - A LOCAL AREA NETWORK (LAN) employing communications PROTOCOLS and hypertext links identical to those used by the INTERNET; it is, therefore, an in-house Web site. Although intranet pages may link to the Internet, an intranet is not a site generally accessible to the public. [From the *Computer Desktop Encyclopedia*. Computer Language Company, Inc., 2003] Compare with EXTRANET. NOTE: Because they use the same communications protocols and hypertext links as the Web, intranets provide a standard way of disseminating information internally while extending the application worldwide.

**IN-TRANSIT VISIBILITY (ITV)** - The ability to track the identity, status, and location of Department of Defense units, and non-unit cargo (excluding bulk petroleum, oils, and lubricants) and passengers; medical patients; and personal property from origin to consignee or destination across the range of military operations. [DoD] Also called INTRANSIT VISIBILITY; also called CARGO TRACKING (CT).

**INTRUSION** - A COMMUNICATIONS JAMMING technique to confuse operators and data processing equipment. It involves the transmission of false messages on victim communication channels. [] See also ELECTROMAGNETIC INTRUSION. NOTE: In general *intrusion* is the intentional insertion of information into transmission paths to deceive or confuse the adversary.

**INTRUSION DETECTION SYSTEM (IDS)** - A computer system designed to detect attacks or attack preparations by monitoring either the traffic on a computer network, an application, or operation system activities within a computer. [10:2853] See also ANOMALY DETECTION, HOST-BASED INTRUSION DETECTION, NETWORK-BASED INTRUSION DETECTION, PORT SCAN, SIGNATURE DETECTION.

**INVENTING** - A DECEPTION technique that creates something entirely new, such as rubber tanks, false radio traffic, and false orders of battle. [10:49]

**INVERSE GAIN ECCM** - A generic ECCM technique that degrades the effectiveness of Inverse Gain Jamming and related amplitude modulation ECM techniques. [8] Examples are SCAN-ON-RECEIVE-ONLY (SORO) and HIDDEN SCAN.

**INVERTER** - In electrical engineering, a device for converting direct current into alternating current. [1.1] Contrast with RECTIFIER.

**INVERSE GAIN JAMMING** - (1) A self-screening or support ECM technique for use against radars that depend upon the target return signal amplitude modulation recovery methods for data extraction. It consists of transmitting either an on-

frequency noise signal or a repeated signal that has the inverse scan modulation characteristic of the victim radar antenna scan pattern. [8] (2) A jamming technique wherein the jamming power is inversely proportional to the received signal power. [10:55] Contrast with INVERSE GAIN ECCM.

INVISIBLE WEB - That portion of the Web that is made up of unindexable content that search engines either can't or won't index. [10:2888] See also SPIDER. NOTE: The invisible web consists largely of databases which search engines cannot access.

IONIZATION OF THE LOCAL ATMOSPHERE (IOLA) - The generating of ions in a local atmosphere in order to produce rain. [10:3028] NOTES: (1) IOLA employs interconnecting poles and wires somewhat resembling a circus tent. (2) Another method to produce rain is the seeding of clouds by aircraft with chemical agents such as silver iodide.

IONOGRAM - A display that shows the altitude of ionospherically-returned RADAR echoes as a function of frequency. [10:2778]

IONOSPHERE - That part of a planetary atmosphere where ions and electrons are present in quantities sufficient to affect the propagation of radio waves. [3] NOTE: The region of the ionosphere between about 50 and 90 kilometers is called the D-layer, and is responsible for most of the daytime attenuation of LF, MF and HF radio waves. The lowest clearly-defined ionospheric layer, called the E-layer, occurs between 100 and 120 kilometers. The ionospheric region occurring between 150 and 500 kilometers is called the F-Layer, and is partitioned into the F1 and F2 layers. The F2 layer has the higher ion density and is always present. Finally, there is the sporadic E-layer, that part of the E-layer that is thin, transient, and of limited extent.

IR CHAFF - See EMISSIVE CHAFF.

IRIDIUM SATELLITE SYSTEM - A commercial (Boeing) satellite communications system that provides mobile satellite voice and data communications with complete coverage of the Earth (including oceans, airways and Polar regions). Through a constellation of 66 low-earth orbiting (LEO) [ 780 km, or 480 miles ] satellites in polar orbits, Iridium delivers communications services to and from remote areas where terrestrial communications are not available. [*Source: www.iridium.com*] NOTE: The Iridium Satellite System began operations in 2001

IRON BOX - A special computer environment designed to trap a HACKER or CRACKER logging in over a remote connection by keeping the intruder interested long enough to be traced while unobtrusively restricting movement in the system. []

IRON HAND - See WILD WEASEL.

**ISOLUMINESCENCE** - A deception technique whereby the protected object generates - in the direction of the victim viewer - the same color and intensity of light as its background as seen by the viewer, so that it becomes indistinguishable from the background, and is thus invisible to the viewer. [] See also YEHUDI.

**ISOTROPIC ANTENNA** - A hypothetical, lossless antenna having equal radiation intensity in all directions. [3] NOTE: The isotropic antenna provides a convenient reference for expressing the directive properties of actual antennas.

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