

1: Radio communication in the military

India and the United States signed an accord on secure military communications that both sides hailed as a breakthrough on Thursday, possibly opening the way for sales of sensitive U.S. military.

Military Customers The military space program is a significant but largely unseen aspect of space operations. Nearly a dozen countries have some kind of military space program, but the U. Military space operations are divided into five main areas: Only the United States and Russia operate spacecraft in all five areas. Several other countries have long used communications satellites for military purposes. In the s, several countries in addition to Russia and the United States began developing reconnaissance satellites. Reconnaissance and Surveillance Reconnaissance and surveillance involve the observation of Earth for various purposes. These satellites, however, cannot take continuous images like a television camera. Instead, they take a black-and-white photograph of a target every few seconds. Because they are in low orbits and are constantly moving, they can photograph a target for only a little over a minute before they move out of range. The best American satellites, which are similar in appearance to the Hubble Space Telescope , can see objects about the size of a softball from hundreds of miles up but they cannot read license plates. The Russians also occasionally use a system that takes photographs on film and then returns the film to Earth for processing. This provides them with higher-quality photos. The United States abandoned this technology in the s after developing superior electronic imaging technology. Other nations, such as France and Japan , operate or plan on operating reconnaissance satellites that can see images on the ground about one to three feet in length. From the late s until the mids, China had a film-based system, which is no longer operational. India , Israel, and Brazil also operate satellites capable of making visual observations of the ground. Some private companies operate commercial imagery satellites and sell images on the World Wide Web. These satellites are much less capable than the larger military satellites but their products have improved significantly and are in demand. They can be used to warn of missile attack and can predict the targets of missiles fired hundreds or thousands of miles away. There are also satellites that look at the ground in different wavelengths to peer through camouflage, try to determine what objects are made of, and analyze smokestack emissions. Signals Intelligence Signals intelligence satellites can operate either in low Earth orbit or in extremely high, geosynchronous orbit , where they appear to stay in one spot in the sky. These satellites listen for communications from cellular telephones, walkie-talkies, microwave transmissions, radios, and radar. They relay this information to the ground, where it is processed for various purposes. Contrary to popular myth, these satellites do not collect every conversation around the world. There is far more information being transmitted every day over the Internet than can be collected by even the best spy agency. Communications Communications satellites operate in several different orbits for various purposes. The most common communications satellites operate in geosynchronous orbit. Some, like the U. Still other communications satellites are used to relay reconnaissance pictures to ground stations or to troops in the field. Some satellites are used to relay data and commands to and from other satellites. Russia operates a number of military communications satellites, including some that store messages for a brief period before relaying them to the ground. Several other countries, such as the United Kingdom , Spain , and France, have either military communications satellites or a military communications package installed on a commercial satellite. But few countries have the global military communications requirements of the United States. Navigation and Meteorology Navigation satellites are also vital to military forces. Sailors have used the stars to navigate for centuries. Beginning in the early s, the U. Navy developed a satellite system to help it navigate at sea. This was particularly important for ballistic missile submarines that stayed submerged for most of their patrols and could only occasionally raise an antenna above the waves to determine their position. In the s the U. Air Force started operating the Global Positioning System GPS , which allowed anyone equipped with a receiver to locate his or her position on Earth to within about thirty feet or less. GPS uses a constellation of twenty-four satellites that circle Earth every twelve hours. From any point on Earth, there are usually three or four GPS satellites above the horizon at any one time. A handheld receiver detects radio emissions from these satellites.

Commercial receivers are available in sporting goods stores and in many new cars. Using a special civilian GPS signal, they provide less precise location information than the military receivers but still allow a user to navigate accurately. Civilian users can locate their position on Earth to an accuracy of about thirty feet. Accurate weather information is critical to military operations. The United States and Russia operate meteorology satellites for military use. However, since the end of the Cold War, separate military and civilian meteorology satellites have been viewed as an unnecessary expense, and the military systems have gradually been merged with their similar civilian counterparts. ASAT weapons are difficult to develop and operate and they have limited usefulness. It is extremely precarious to use a satellite to shoot down ballistic missiles. In the future, satellites may be used to intercept missiles, but it is unlikely that this will happen for a long time. During the Cold War, both superpowers studied the possibility of placing nuclear weapons in orbit, but neither country did so. A bomb in orbit will spend most of its time nowhere near the target it needs to hit, unlike a missile on the ground, which will always be in range of its target. In addition, controlling a system of orbiting bombs would be difficult. Military Role of Humans in Space There has never been a clear military role for humans in space, despite decades of study by both superpowers. During the 1960s, the United States explored several piloted military space systems. One of these was the DynaSoar spaceplane, which was canceled in 1960 after the air force could find no clear mission for it. MOL was to carry a large reconnaissance camera, and two astronauts were to spend up to a month in orbit, photographing objects on the ground. The United States canceled MOL in 1966 after it became clear that humans were not needed for the job and robotic systems could perform the task reliably and in many cases better than humans. Summary Around the world, military operations are increasingly using commercial satellites to accomplish their missions. Commercial communications satellites are particularly useful and cheap. In addition, commercial reconnaissance satellites are finding many military uses, enabling countries that cannot afford their own satellites to buy photos of their adversaries. Satellites are not required for many local military operations. But if a country is operating far from its borders or has global interests, they are a necessity. Only a few countries are willing to pay the expense of operating military space systems, but that number is growing. Day Bibliography Richelson, Jeffrey T. University of Kansas Press, Colorado Springs, CO: Government Printing Office, Cite this article Pick a style below, and copy the text for your bibliography.

2: Jam-Resistant US Military Communications Satellite Lifts Off in Midnight-Hour Launch

In United States military communications systems, commercial refile refers to sending a military message via a commercial communications network. The message may come from a military network, such as a tape relay network, a point-to-point telegraph network, a radio-telegraph network, or the Defense Switched Network.

As part of its deployment functions, JPASE provides a constant flow of timely, accurate information from combatant commanders to news organizations that set up camp wherever American forces operate. The speed of the Internet, cable news and other media all contribute to rapid shaping of public opinion of military operations. Armed forces public affairs personnel and their communication skills are indispensable to meeting this challenging information environment, according to military leaders. Preventing misinformation and setting up media access while initial public impressions are forming has been a formidable challenge for the Department of Defense, until now, according to JPASE Director Army Col. Open and independent reporting shall be the principal means of coverage of U. Media pools limited number of news media who represent a larger number of news media organizations for news gatherings and sharing of material during a specified activity are not to serve as the standard means of covering U. However, they sometimes may provide the only means of early access to a military operation. In this case, media pools should be as large as possible and disbanded at the earliest opportunity in 24 to 36 hours, when possible. The arrival of early-access media pools shall not cancel the principle of independent coverage for journalists already in the area. Even under conditions of open coverage, pools may be applicable for specific events, such as those at extremely remote locations or where space is limited. Journalists in a combat zone shall be credentialed by the U. Armed Forces and their operations. Violation of the ground rules may result in suspension of credentials and expulsion from the combat zone of the journalist involved. News organizations shall make their best efforts to assign experienced journalists to combat operations and to make them familiar with U. Journalists shall be provided access to all major military units. Special operations restrictions may limit access in some cases. Military PA officers should act as liaisons, but should not interfere with the reporting process. Under conditions of open coverage, field commanders should be instructed to permit journalists to ride on military vehicles and aircraft when possible. The military shall be responsible for the transportation of pools. Consistent with its capabilities, the military shall supply PA officers with facilities to enable timely, secure, compatible transmission of pool material and shall make those facilities available, when possible, for filing independent coverage. If Government facilities are unavailable, journalists, as always, shall file by any other means available. The military shall not ban communications systems operated by news organizations, but electromagnetic operational security in battlefield situations may require limited restrictions on the use of such systems. Those principles in paragraph 8 shall apply as well to the operations of the standing DoD National Media Pool system.

3: India set to approve military communications deal with U.S.: Indian defence sources | Reuters

An advanced U.S. military communications satellite soared into space in the midnight hour Wednesday (Oct. 17), lighting up the sky over Florida as it launched into orbit. A United Launch Alliance.

History[edit] In past centuries communicating a message usually required someone to go to the destination, bringing the message. Thus, the term "communication" often implied the ability to transport people and supplies. A place under siege was one that lost communication in both senses. The association between transport and messaging declined in recent centuries. The first military communications involved the use of runners or the sending and receiving of simple signals sometimes encoded to be unrecognizable. The first distinctive uses of military communications were called "signals". Modern units specializing in these tactics are usually designated as " signal corps ". The Roman system of military communication *cursus publicus* or *cursus vehicularis* is an early example of this. Later, the terms "signals" and " signaler " became words referring to a highly-distinct military occupation dealing with general communications methods similar to those in civil use rather than with weapons. Present-day military forces of an informational society conduct intense and complicated communicating activities on a daily basis, using modern telecommunications and computing methods. Only a small portion of these activities are directly related to combat actions. Modern concepts of network-centric warfare NCW rely on network -oriented methods of communications and control to make existing forces more effective. Military communications equipment[edit] Drums, horns, flags, and riders on horseback were some of the early methods the military used to send messages over distances. In the middle 20th century radio equipment came to dominate the field. Many modern pieces of military communications equipment are built to both encrypt and decode transmissions and survive rough treatment in hostile climates. They use different frequencies to send signals to other radios and to satellites. Military communications - or "comms" - are activities, equipment, techniques, and tactics used by the military in some of the most hostile areas of the earth and in challenging environments such as battlefields, on land , underwater and also in air. Military comms include command, control and communications and intelligence and were known as the C3I model before computers were fully integrated. Army expanded the model to C4I when it recognized the vital role played by automated computer equipment to send and receive large, bulky amounts of data. C4I STAR The advent of distinctive signals led to the formation of the signal corps, a group specialized in the tactics of military communications. The signal corps evolved into a distinctive occupation where the signaler became a highly technical job dealing with all available communications methods including civil ones. As a result, military communication is intense and complicated, and often motivates the development of advanced technology for remote systems such as satellites and aircraft, both manned and unmanned, as well as computers. Computers and their varied applications have revolutionized military comms. Although military communication is designed for warfare, it also supports intelligence-gathering and communication between adversaries, and thus sometimes prevents war. Officer using radio, There are six categories of military comms: The alert measurement systems are various states of alertness or readiness for the armed forces used around the world during a state of war, act of terrorism or a military attack against a state. Cryptography is the study of methods of converting messages into disguised, unreadable information, unless one knows of the method of decryption. This military comms method ensures that the messages reach the correct hands. Cryptography is also used to protect digital cash, signatures, digital rights management, intellectual property rights and secure electronic commerce. It is also used in computing, telecommunications and infrastructure. Commercial refile[edit] In United States military communications systems, commercial refile refers to sending a military message via a commercial communications network. The message may come from a military network , such as a tape relay network, a point-to-point telegraph network, a radio-telegraph network, or the Defense Switched Network. Commercial refile of a message will usually require a reformatting of the message, particularly the heading.

4: Category:Military communications of the United States - Wikipedia

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5: U.S., India seal military communications pact, plan more exercises | Reuters

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8: Military communications - Wikipedia

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