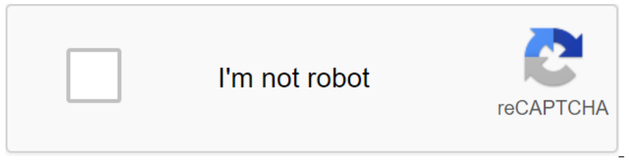

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Tactical radio quick reference guide

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Please help improve it by replacing them with more appropriate quotes in reliable, independent, third-party sources. (October 2015) (Learn how and when to delete this template message) (Learn how and when to delete this template message) SINCGARS operated under the HMMWV Unified Channel Ground and Airborne Radio System (SINCGARS) is a combat net radio (CNR) currently used by the U.S. and Allied Armed Forces. The CNR network is designed around three systems: SINCGARS, high-frequency radio (HF) and tactical satellite SC (TACSAT). Each system has different transmission capabilities and characteristics. SINCGARS is a family of owned and managed users, very high-frequency modulation (VHF-FM) CNRs. SINCGARS can transmit and receive secure data and fax transmissions through simple connections to various data terminal equipment. SINCGARS electronic attack protection features the interoperability of communication with multifunctional, army, marine, navy and air forces, thereby contributing to successful combat operations. SINCGARS complies with the requirements of the North Atlantic Compatibility Treaty Organization. The radios, which process voice and data transmission, are designed to be reliable, secure and easily maintained. Vehicles, backpacks, on-board and portable form factors are available. Joint and combined operations require the exchange of information, both voice and data, between and between the forces involved. The field capabilities of the single-channel ground and airborne electronic system (SINKGARS) provided a safe, low probability of interception/electronic voice communication in frequency hop (FH) mode. Improvements provide the exchange of protected data through the developing Army and Marine Corps infantry The Internet, which allows to raise situational awareness and more expedient participation of the enemy while reducing the likelihood of fratricide. In addition, military force uses the Advanced Position Location Reporting System (EPLRS) to provide C2 data, battlefield information, and position location services. The SINCGARS family has largely replaced synthesized single-frequency radios during the Vietnam War (AN/PRC-77 and AN/VRC-12), although it can work with them. The AN/ARC-201 airborne radio is gradually being decommissioned when? the old tactical air-to-ground radios (AN/ARC-114 and AN/ARC-131). SINCGARS is designed on a modular basis to maximize commonalities between different land, sea and air configurations. The general transmitter of the receiver (RT) is used in ground configurations. The modular design also reduces the load on the logistics system to provide repair parts. SINCGARS can operate in SC or frequency hop (FH) mode and stores both SC and FH-loads. The system is compatible with all modern American and allied VHF-FM radio stations in SC, in an insatiable mode. SINCGARS operates on any of the 2,320 channels from 30 to 88 megahertz (MHz) with a channel division of 25 kilohertz (kHz). It receives digital or analog input and sends a signal to the radio frequency (RF) of the media waves. In FH mode, input changes the frequency about 100 times per second over parts of the VHF-FM tactical range. These constant frequency changes prevent teams from detecting or disrupting friendly messages from intercepting threats and interfering. SINCGARS provides data of up to 16,000 bits per second. Improved data modes provide package data and RS-232. Improved data modes available through the System Improvement Program (SIP) and the Advanced System Improvement Program (ASIP) also provide forward-looking errors (FEC), as well as increased speed, range and accuracy of data transmission. Most SINCGARS ground-based radio stations have the ability to control power output; however, most on-board radios have a fixed power. Those RTs with power installations can vary the transmission range from approximately 200 meters (660 feet) to 10 kilometers (km) (6.2 miles). Adding a power amplifier increases the range of visibility (LOS) to about 40 km (25 miles). (These ranges are only for planning purposes; terrain, weather and antenna height affect transmission range.) Variable power levels allow users to operate at the minimum power needed to maintain reliable communication, thereby reducing the electromagnetic signature sucked out by their radios. This ability is of particular importance on the main team that operate in multiple networks. SC CNR users outside the FH network can use the hail method to request access to the network. When the network is hailed, the user outside contacts the network control station (NCS) at signal frequency. In active FH mode, SINCGARS radio transmits to the operator sound and visual signals that the external subscriber wants to communicate with the FH network. The SINCGARS operator must change the frequency of the replica to communicate with external radio communication. The network can be configured to manual frequency for the initial activation of the network. Manual frequency provides a total frequency for all members of the network to make sure the equipment is working. During the initial net activation, all operators on the network are set up to manual frequency. Once the connection is established, the network switches to FH mode and NCS transmits jump variables to the station. More than 570,000 radio stations were purchased. There have been several system improvement programs, including Integrated Communications Security (ICOM) models that have provided integrated voice and data encryption, Special Improvement Program (SIP) models that add additional data modes, and advanced SIP (ASIP) models, which are less than half the size and weight of the ICOM and SIP models, and provide improved FEC data transmission modes (front error correction), RS-232 asynchronous data, batch data formats, and direct interaction with precision devices In 1992, the U.S. Air Force contracted to replace the AN/ARC-188 with a communications between Air Force aircraft and army units. Marine Corps 2nd Lieutenant's chronology runs CHINA 119 while training in quantico, Virginia November 1983: ITT Corporation (ITT) wins a contract for the first type of radio, for ground troops. May 1985: ITT wins contract for airborne SINCGARS. July 1988: General Dynamics wins a second source contract for terrestrial radio. February - April 1989: The 2nd Infantry Division on the ground tests SINCGARS in an impromptu human-package configuration in the Korean DMH. April 1989: ITT reaches Milestone IIIB: full-scale production. December 1990: 1st Division equipped. December 1991: General Dynamics receives the Option 1 Award for Ground Radio. March 1992: ITT receives the Land and Airborne Troops award. July 1992: Magnavox Electronics Systems develops the on-board SINCGARS AN/ARC-222 for the Air Force in August 1993: General Dynamics reaches full production speed. April 1994: ITT and General Dynamics compete for terrestrial radio. May 1994: ITT wins a contract with the only source for airborne radio. 1997: ITT became the only provider of the new floor-sized RT-1523E radio for the U.S. Army. 2006: THE RT-1523F/SideHat configuration provides a two-channel capability. July 2009: ITT wins development of RT-1523G platform, $363 million contract in partnership with Thales Communications Inc. 2012: 14 Feature set to provide universal network situational incidents involving friendly fire through the air. May 2016: Harris Corp. receives a $405 million contract from the Moroccan Army for SINCGARS equipment, including supporting items, spare parts, installation kits, training and field support services. One application was requested with one received, with an estimated completion date of 21 April 2021. June 2016: Harris Corporation awards $15 million to the Middle Eastern nation's tactical radio stations. Harris Corporation (NYSE:HRS) has received a $15 million order to provide tactical radios, control systems, training and field support services to the Middle East as part of its ongoing modernization program. The contract was signed in the fourth quarter of fiscal 2016. [1] Harris.com, 2016-06-12. Received 2017-12-14 - January , 2017: Harris Corp. received a maximum contract of $403 million from the U.S. Defense Logistics Agency for the supply of spare parts supporting tactical radio systems, including SINCGARS. This is a five-year contract with no option periods, and January 5, 2022 is the completion date. Clients include the Army logistics and defense agency, the U.S. Department of Defense. Types of appropriations are the financial capital of the army 2017-2022; and defence working capital funds financed in the year of delivery orders. The contract is the Earth and Sea Defense Logistics Agency, Aberdeen Ranges, Maryland (SPRBL1-17-D-0002). [2] Defenseworld.net, 2017-01-07. Received 2017-06-16 - Model Year Models Introduced Number Produced Photo Features RT-1439 1988 16.475 SINCGARS base radio provided a non-top ECCM jump frequency and single fm channel voice and data capabilities over 30 - 87,975 MHz range. THE RT-1439 provided an interface for the external COMSEC device for secure operations. It can be deployed in a manpack configuration, and in conjunction with other equipment in automotive configuration. RT-1439 RT-1523 (ICOM) 1990 39,375 RT-1523 provided all functions in RT-1439, but also contained an integrated KY-57 compatible COMSEC module for safe frequency jumping operations. The RT-1523 included assembling a keyboard to provide advanced display and control features for the operator. RT-1523 RT-1523A General Dynamics model RT-1523B (ICOM) 1994 37,363 RT-1523B provided improved COSITE performance and increased battery life. He noted significant performance improvements with the introduction of an expanded message completion algorithm. RT-1523B RT-1523C (SIP) (AN/PRC-119C) 1996 35.152 RT-1523C (C)/U introduced several new features for the SINCGARS family. The RAILMAN COMSEC was built into the RT-1523C design. RT-1523C presented algorithms to correct Reed-Solomon's errors to increase bandwidth, improve improvements errors and improved jamming protection, resulting in improved/extended range performance. Gps position reporting has also been introduced in all voice and advanced communications data mode to ensure reporting a friendly position of strength in support of situational awareness. The new WAVEform algorithm for FH packets and channel access also involved mixed operations with voice and data packets in the common network. RT-1523C RT-1523D (SIP) The overall dynamics model RT-1523E (ASIP) (AN/PRC-119E) 1998 136.027 RT-1523E was designed to include all features of RT-1523C, at half size and weight, with virtually no RT or performance capability. RT-1523E has introduced a new frequency jumping mode called SINCGARS 2. The new SINCGARS 2 mode includes all the same Mode 1 FH configurations, but under the new TRANSEC security umbrella. RT-1523E is reprogrammed using the front-facing data connector. RT-1523E RT-1523F (ASIP) (AN/PRC-119F) 2006 273 037 RT-1523F pictured with SideHat provides SINCGARS ASIP 2-channel radio based on the design of RT-1523E. The RT-1523F program was structured in two stages. The first phase inserted the necessary physical and electrical interfaces into the ASIP RT-1523E to accommodate the support module that provides the second channel. In the second phase of the programme, an auxiliary module was developed. The auxiliary module can be attached externally to the RT-1523F chassis radio on the left side when facing the front panel. The main difference between the RT-1523F and its predecessor RT-1523E is the addition of this interface. RT-1523F also introduced the radio-receiver combat ID (RBCI). This enhancement allows the radio to work as an RBCI interrogator, RBCI RE-Relay, and allows it to add the RBCI Responder function to any of its voice or data modes. RT-1523F also introduced Radio Situational Awareness (RBSA) to enhance the existing capabilities of SA radio stations ASIP. RT-1523F with SideHat RT-1523G (ASIP) 2010 12 029 RT-1523G provides all functions and functions of RT-1523F. In addition, the RT-1523G provided crypto-modernization and compliance with the JTRS SCA SINCGARS program. The upgrade path was to bring all RT-1523E and RT-1523F radios into the RT-1523G configuration, but was not implemented. RT-1523G RT-1730C Modified RT-1523C for naval use. RT-1730E Modified RT-1523E for Naval Applications RT-1702E Export Version RT-1523E RT-1702F RT-1702F Export Version RT-1523F RT-1702F RT-1523 VHF radio configuration VRC-89, RT-1502F RT-1523 VHF radio configuration VRC-89, Two Radio Receiver Mounted Configuration Description 4 AN/VRC-87 Automotive 5 watts short-range AN/MRC-145 Automotive 50 Watts radio system with two RT-1523s and HMMWV assigned to the an/VRC-88 Automotive 5 Watt short-range removable - with manpack AN/VRC-89 Automotive 50 W long/short-range AN/VRC-90 Automotive 50 W Long-Range AN /VRC-91 Automotive 50 W Long-range removable short-range - with manpack accessories AN/VRC-9 2 Automotive 50 Watts dual long range (rebroadcast) - plus 2nd power amplifier and relay cable transmission AN/PRC-119 5 watt manpack auxiliary elements SideHat - 'SideHat' is a simple radio solution that attaches to the existing SINCGARS radio installation, offering fast, accessible and compatible broadband network to deploy the Early Infantry Brigade Combat Team (E-IBCT) and other soldier radio waveform (SRW) applications. SINCGARS Airborne - AN/ARC-201 System (SIP) airborne radio is a reliable, field-tested voice and data transmission system with network capabilities. Built-in GPS Receiver - Selective Accessibility Protection Module (SAASM) built-in GPS receiver (EGR) installed in RT-1523 (E)-(F), providing a navigation/communication system to support Warfighter's critical capabilities, which includes situational awareness, combat ID, navigation and timing and shooting capabilities. GPS FanOut System - provides six GPS formats from a single GPS source (RT-1523 with built-in SAASM GPS or PLGR/DAGR (Defense Advanced GPS Receiver-AN/PSN-13)). VRCU (Vehicle Remote Control Unit) - Designed to be placed anywhere on the vehicle, VRCU is essential in larger vehicles and those with tight quarters. VRCU allows full control on both one- and dual radios RT-1523 (models E, F and G) and RT-1702 (models E and F) from any location in the vehicle. Single ASIP Radio Mount (SARM) is the latest vehicle installation designed specifically for radio-receiving RT-1523 or RT-1702. SARM addresses issues related to the claim for space and weight related to traditional vehicle installations. The SARM runs on 12 or 24 volts allowing installation in any military or civilian vehicle. See also the Joint Tactical Radio System (JTRS) - Network Simulator Radio Network Replacement Plan for SINCGARS Further Reading of the Soldier General Task Force Warrior Skills Level 1 (STP 21-1-SMCT), Army Department Headquarters, Washington, D.C. September 11, 2012. Tactical single #113-channel radio methods (FM 24-18), Army Central Department, Washington, D.C., September 30, 1987. Radio Operator's Handbook (FM 24-19), Army Central Department, Washington, D.C., May 24, 1991. Inquiries : Erwin, Sandra I. (February 2007). Delays in the joint tactical radio program call into question the future. Nationaldephrase. Archive from the original for 2016-01-03. 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