**SINCGARS**

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**SINCGARS** (**Single Channel Ground and Airborne Radio System**) is a [Combat Net Radio (CNR)](http://en.wikipedia.org/wiki/Combat-net_radio) currently used by U.S. and allied military forces. The radios, which handle voice and data communications, are designed to be reliable, secure and easily maintained. Vehicle-mount, backpack, airborne, and handheld form factors are available.

SINCGARS uses 25 kHz channels in the [VHF](http://en.wikipedia.org/wiki/Very_high_frequency) [FM](http://en.wikipedia.org/wiki/FM_band) band, from 30 to 87.975 [MHz](http://en.wikipedia.org/wiki/Megahertz). It has single-frequency and [frequency hopping](http://en.wikipedia.org/wiki/Frequency_hopping) modes. The frequency-hopping mode hops 111 times a second.

The SINCGARS family has mostly replaced the Vietnam-war-era synthesized single frequency radios ([AN/PRC-77](http://en.wikipedia.org/wiki/AN/PRC-77_Portable_Transceiver) and [AN/VRC-12](http://en.wikipedia.org/w/index.php?title=AN/VRC-12&action=edit&redlink=1)), although it can work with them. An aircraft radio SINCGARS is phasing out the older tactical air-to-ground radios ([AN/ARC-114](http://en.wikipedia.org/w/index.php?title=AN/ARC-114&action=edit&redlink=1) and [AN/ARC-131](http://en.wikipedia.org/w/index.php?title=AN/ARC-131&action=edit&redlink=1)).

Over 500,000 SINCGARS radios have been purchased.[[1]](http://en.wikipedia.org/wiki/SINCGARS#cite_note-0#cite_note-0) There have been several system improvement programs, including the Integrated Communications Security (ICOM) models, which have integrated voice encryption, the Special Improvement Program (SIP) models, which add additional data modes, and the Advanced SIP (ASIP) models, which are less than half the size and weight of ICOM and SIP models. In 1992, the U.S. Air Force awarded a contract to replace the AN/ARC-188 for communications between Air Force aircraft and Army units. SINCGARS was expected to be replaced starting in 2008 with the [Joint Tactical Radio System](http://en.wikipedia.org/wiki/Joint_Tactical_Radio_System) (JTRS), a [software-defined radio](http://en.wikipedia.org/wiki/Software-defined_radio) that was to work with SINCGARS, [HAVE QUICK](http://en.wikipedia.org/wiki/HAVE_QUICK) and other existing radios. However, JTRS was cancelled without replacement in October, 2011.

**Timeline**



A [Marine Corps](http://en.wikipedia.org/wiki/Marine_Corps) 2nd Lt operates a PRC 119 during training in [Quantico, Virginia](http://en.wikipedia.org/wiki/Quantico,_Virginia)

* November 1983: [ITT](http://en.wikipedia.org/wiki/ITT_Corporation) wins the contract for the first type of radio, for ground troops.
* May 1985: ITT wins the contract for the airborne SINCGARS.
* July 1988: General Dynamics wins a second-source contract for the ground radio.
* April 1989: ITT reaches "Milestone IIIB": full-rate production.
* December 1990: 1st Division is equipped.
* December 1991: [General Dynamics](http://en.wikipedia.org/wiki/General_Dynamics) wins the "Option 1 Award" for the ground radio.
* March 1992: ITT wins a "Ground and Airborne" award.
* July 1992: Magnavox Electronics Systems Company develops the airborne SINCGARS AN/ARC-222 for Air Force
* August 1993: General Dynamics achieves full rate production.
* April 1994: ITT and General Dynamics compete for the ground radio.
* May 1994: ITT wins a sole-source contract for the airborne radio.
* July 2009: ITT wins RT-1523G platform development, $363 Million Dollar Contract. Partnered with Thales Communications Inc.

**Models**



US Marine calling in artillery during an exercise, 2008.

* RT-1439
* RT-1523 (ICOM)
* RT-1523A (ICOM)
* RT-1523B (ICOM)
* RT-1523C (SIP)
* RT-1523D (SIP)
* RT-1523E (ASIP)
* RT-1523F (ASIP)
* RT-1523G (ASIP)
* RT-1730C
* RT-1730E
* RT-1702F Export Version
* RT-1702G Export Version (Iraq Only)

Unit Replacement Cost: $6,500.

* AN/VRC-90F
* AN/VRC-92F

**External links**

* [ITT Communication Systems](http://www.exelisinc.com:)
* [www.fas.org: SINGLE CHANNEL GROUND and AIRBORNE RADIO SYSTEM (SINCGARS)](http://www.fas.org/man/dod-101/sys/land/sincgars.htm)
* [www.monmouth.army.mil: FISCAL YEAR 1997 COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, INTELLIGENCE, ELECTRONIC WARFARE AND SENSORS (C4IEWS) PROJECT BOOK](http://www.monmouth.army.mil/prjbk97/index.html)
* [www.globalsecurity.org](http://www.globalsecurity.org/military/systems/aircraft/systems/an-arc-222.htm) - NOTE development contractor for the ARC-222 was Magnavox in Fort Wayne, Indiana, not Raytheon as stated. See link above
* [Jane's summary of the AN/VRC-92F](http://www.janes.com/articles/Janes-Electronic-Mission-Aircraft/AN-VRC-92F-United-States.html)
* [Information on RT-1439 radio](http://www.prc68.com/I/RT1439.shtml)
* [Data sheet for the ITT-Exelis SINCGARS RT-1523 VHF Radio](http://www.exelisinc.com/solutions/SINCGARS-RT-1523/Documents/ITT-Exelis-SINCGARS-RT-1523-VHF-Radio.pdf)
* [Data sheet for the ITT-Exelis SINCGARS RT-1702 VHF Radio](http://www.exelisinc.com/solutions/SINCGARS-RT-1702/Documents/ITT-Exelis-SINCGARS-RT-1702-VHF-Radio.pdf)

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