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SINCGARS is the best VHF Frequency Hopping Radio in the world today. More SINCGARS have been purchased worldwide than all other Frequency-Hopping radios combined. The SINCGARS that is produced today is the result of more than a decade of technological evolution. This brochure graphically portrays the advances that have occurred over five generations of SINCGARS radios.

Today’s SINCGARS radios draw on the proven success of their predecessors and incorporate the latest in performance enhancements. The SINCGARS Advanced Tactical Communications System (ATCS) continues to build on a tradition of SINCGARS excellence by drastically shrinking the size and weight of the radio while improving its performance through the use of Digital Signal Processing.

This approach guarantees that SINCGARS users will continue to have access to the latest in digitized technology for years to come. The history of SINCGARS is detailed on the following pages enabling users to trace the evolution for the “world’s best combat net radio, bar none*.”

1. First Production Year: 1987
2. Quantity Produced: 20,685
3. Performance Characteristics
   • Baseline
   • Non-Secure Frequency Hopping Voice Communication
   • Non-Integrated COMSEC Unit
4. Packaging Technology
   • Total Electrical Components: 2156
   • Total Boards: 27
     - Top-Side Surface Mount Device: 4%
     - Through-Hole: 96%
     - Commercial Parts: 0%
   • Weight With Battery: 17.8 Pounds
5. Process Technologies
   • Leadless Chip Carriers (LCC)
   • Enriched Resin PWB Material
   • Hairpin Component Forming
   • Discrete Wiring

ITT Industries
Engineered for life

Aerospace/Communications Division
ICOM RT-1702(C)/U

1 First Production Year: 1989
2 Quantity Produced: 41,980
3 Performance Characteristics
   - Secure Frequency Hopping
   - Voice Communication
   - Data Compatibility
   - Enhanced Display
   - Integrated COMSEC Device
4 Packaging Technology
   - Total Electrical Components: 2197
   - Total Boards: 28
     - Top-Side Surface Mount Device: 4%
     - Through-Hole: 96%
   - Commercial Parts: 0%
   - Weight With Battery: 18.7 Pounds
5 Process Technologies
   - Dry Film Solder Mask (Tented VIAS)
   - Solder Columns (CCMD and S-Lead)
Product Improvement
RT-1702(C)/U

1 First Production Year: 1993
2 Quantity Produced: 37,772
3 Performance Characteristics
   • Increased Battery Life
   • Improved COSITE Performance
   • Enhanced Message Completion
4 Packaging Technology
   • Total Electrical Components: 1991
   • Total Boards: 24
     - Top-Side Surface Mount Device: 4%
     - Rear-Side Surface Mount Device: 9%
     - Through-Hole: 87%
   • Commercial Parts: 14%
   • Weight With Battery: 17.7 Pounds
5 Process Technologies
   • Pin Grid Array (PGA)
   • Elimination of Conformal Coat
   • Implementation of Commercial Parts
   • Nickel/Gold PWB Surface Finish
   • Rear Side SMD Components
Tactical Communication System (TCS)  
RT-1702C(C)/U

1 First Production Year: 1996  
2 Quantity Produced: 35,402  
3 Performance Characteristics  
   • Increased Data Throughput  
   • Packet Data Capability  
   • GPS Interface  
   • Extended Range  
4 Packaging Technology  
   • Total Electrical Components: 2740  
   • Total Boards: 23  
     - Top-Side Surface Mount Device: 46%  
     - Rear-Side Surface Mount Device: 27%  
     - Through-Hole: 27%  
   • Commercial Parts: 81%  
   • Weight With Battery: 17.4 Pounds  
5 Process Technologies  
   • 25 Mil Pitch Quad Flat Pack (QFP)  
   • Paste-In-Hole Introduction  
   • No-Clean Flux Incorporation
Advanced Tactical Communication System (ATCS)
RT-1702E(C)/U

1 First Production Year: 1998
2 Worldwide orders exceed 75,000
3 Performance Characteristics
   • Half size (manpack is one third size, including battery)
   • Half weight
   • Increased battery life
   • Enhanced voice/data performance
   • Additional software enhancements under development
4 Packaging Technology
   • Total Electrical Components: 2667
   • Total Boards: 10
     - Top-Side Surface Mount Device: 41%
     - Rear-Side Surface Mount Device: 57%
     - Through-Hole: 2%
   • Commercial Parts: 100%
   • Weight With Battery: 8.5 Pounds
5 Process Technologies
   • 20 Mil Pitch Quad Flat Pack (QFP)
   • Organic Surface Protectant (OSP)
   • Ball Grid Array (BGA)