

## A CASE STUDY ON A TOTAL TURN-KEY JOB OF DESIGN, IMPLEMENTATION, SUPPLY AND INSTALLATION OF "VHF COMMUNICATION NETWORK FOR I H Q OF MINISTRY OF DEFENSE.

We, the SANCHAR WIRELESS COMMUNICATIONS LIMITED, had a great opportunity to execute some Turn Key Projects for some government organization and out of that the following 2.9 crore TURN KEY PROJECT for DESIGN, IMPLEMENTATION, SUPPLY AND INSTALLATION OF VHF NETWORK for I.H.Q under Ministry of Défense had a great significance, in terms of Volume and Honour of supply to INDIAN ARMY.

**Volume of supply:** Sanchar had supplied – 1. 30 nos. 50-watt VHF Repeater, Model: SCR-910D each along with Duplexer, Power Supply, 6 dB gain G.P. Antenna, 30 m RF Co-axial cable, 12 Volt/65 AH secondary VRLA battery, 15 m Tubular Telescopic folding Mast. 2. 275 nos. 25-watt VHF Base station, Model: SCM-910D, each along with 0 dB gain G.P. Antenna, Power Supply, 30 m RF Co-axial Cable, External Speaker, GPS Receiver, 12 Volt/65 AH secondary VRLA battery and 15 m Tubular Telescopic folding mast. 3. 73 nos. 25-watt VHF vehicle mount set, Model: SCM-910D, each along with 3 dB gain quarter wave, Whip Antenna with 3 m RF RG-58 cable. 4. 422 nos., 5-watt VHF Hand Portable set, Model: STC-904+, each along with Helical Antenna, Battery, Battery Charger, Belt Clip and Operation Manual.

In addition, following items as spares:

- 1. 30 m. RF Co-ax cable 73 nos.
- 2. 15 m Tubular Telescopic Mast 43
- 3. 12 Volt/65 AH secondary VRLA battery 391 nos.
- 4. External Speaker 73 nos.
- 5. GPS receiver 73 nos.

**Implementation of Network.** According to the requirement of army, 30 nos. of total repeaters have supplied, with a plan to make individual network against each repeater. This means total 30 nos. network will be built up against repeater supplied, as per the following Schematic diagram.



## VHF STAR TOPOLOGY NETWORK UNDER A SINGLE REPEATER



The above similar total 30 nos. individual networks were constructed in different Army area. But these huge tusks were not at all easy to execute practically, as easily it is described in the figure. Lots of constrains, like non-Line of Sight issues had to counteract by our installation team.

Indian Army in action to communicate at different situation and scenarios':



